



# EUROCONTROL History Book

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# Introduction

This History is a description of the key institutional, legal and organisational events and decisions that have determined the progress of the EUROCONTROL Organisation and its Agency through the past fifty years. It is a record, in one document, of the circumstances surrounding these events and the nature of the performance of EUROCONTROL against what was required of it.

Who makes up the audience for this history? It is principally aimed at those past and present Eurocontrollers, including State representatives, as well as those who have been involved with EUROCONTROL at different times through the consultation groups and working arrangements.

The reader should note therefore that this is a "History". It is at times a recitation of events using extensive quotations from what was actually said or decided at different times and quotes are often used for accuracy and for clarification. Some readers may find that tedious. However, I have felt a duty, particularly to our older colleagues who lived through some very difficult times, to make sure that the record of their days is as true a reflection as I can make it.

Indeed in clearing material with former colleagues I have been heartened by their responses to my approach. When one says "I wasn't aware of that" or another "I had forgotten that - it was important" or yet another "We mustn't forget that" then I hope that I have added something to the organisation's institutional, as well as personal, memory.

The History, on the other hand, is not a description of every project and programme carried out by EUROCONTROL since these are too many to cover each adequately. Neither does it contain details on budget, staff numbers, etc., since these are relatively meaningless given the changing nature of the Organisation's tasks over the years.

In more recent times the continuing discussions and negotiations with the European Commission require extensive description since they have been crucial to the Organisation. It is important to record here the continual efforts of EUROCONTROL and its Agency, beginning shortly after the early implementation of the revised Convention, to adapt to the emerging requirements of the Single European Sky.

I have also set out in some detail the work which involved Member States and the Director General in developing a solution, based on functional separation within the Organisation, to the contentious issue of separation of the Organisation's activities where even the possibility of the break-up of EUROCONTROL was envisaged. The principles agreed then seem still applicable today where, as one State then said, separation should be a means for improving effectiveness, not simply for its own sake.

I would also like to ask for the forbearance of readers more expert and experienced than I am in many of the areas covered. There will be errors and omissions for which I can only apologise while pleading in my defence the size and scope of the material covered. In addition there are many stories untold for lack of space and some events, which might be seen as important by those involved, have had to be left aside for the same reason.

In discussing with the Director General about key issues it was evident that the main one would be that of commitment, with two particular facets.

The first of these is national sovereignty versus, if that is not too strong a term, international cooperation and coordinated actions. The second is what can be achieved through expert consultation and involvement versus the force of regulatory powers and legal sanction.

Again, this is not as simple an issue as it seems, as events in the History will show. International agreements, even those founded on weighty legal agreements, are one thing; implementation is another. This question is one which has been prominent for some time in the wider global arena, and not only that of civil aviation. Events in EUROCONTROL, up to the present day, should perhaps be considered more in that context.

It is worthwhile noting, however, that while EUROCONTROL has often been criticised for its lengthy and exhaustive involvement processes these were and remain the sure means of ensuring real commitment to agreed outcomes in a dynamic and ever-changing industry like air traffic management. What is clear is that a meeting of minds on common requirements, taking into account all views and balancing them, is the most fruitful approach - even if such things can always be done more efficiently.

Since the first Convention was signed in 1960 it would not be possible to fully describe these experiences until 2010 so the decision was made to bring the History to a conclusion at the end of 2008. That in a way is appropriate since the real founding work began in 1958 with the EUROCONTROL Association.

However, while the History covers the period only to 2008 nevertheless there will inevitably be some carry-over description of EUROCONTROL's commitments to work over the next years where its unique experience and competencies have gained it a future role. This is apposite since our Organisation is yet again in search of a more appropriate enabling Convention.

## Acknowledgements

There are many former and present colleagues who have greatly aided me with their written and oral material. It would be impossible to set them all down and to choose a selection would be unfair on those not named. I will, however, make an exception and thank wholeheartedly Mr Austin Wallace whose report, "European Cooperation - The EUROCONTROL Experience 1957-1982" was passed to me by Mr Dirk Duytschaever from his private records. This not only provided information that I would otherwise have spent months finding but also gave me the opportunity to speak to one of the lesser well known "founding fathers". A copy now rests in the archives for the education of others.

**John McNally**





# Executive Summary



# Part 1 1958 - 1966

The history of our Organisation really begins with the first Convention on the safety of air navigation signed in 1919 in the aftermath of the First World War when international cooperation reached new levels. This laid down some important principles of international cooperation which would find their way into the Chicago agreement of 1944, establishing ICAO, and into the 1960 Convention which gave birth to EUROCONTROL.

In 1958 the advent of the civil jet airliner provoked serious discussions amongst concerned States, in both civil and military fora, and these led to the work on the EUROCONTROL Convention, signed in 1960 and ratified in 1963. Even between these dates work was carried out under an interim EUROCONTROL Association, perhaps the first case of “early implementation” demonstrating the willingness of the Member States to push ahead.

However, even before the Convention entered into force in 1963 there were already indications that the question of national sovereignty would be an issue for the full implementation of the founding vision of the original six Member States. The first European plan for a harmonised European ATC system was proposed by the forerunner of the Agency in 1962. However, the result was that two of the Member States, France and the United Kingdom, decided not to support the concept of an executive Agency for reasons closely linked to national military airspace control.

The other four Member States (the Federal Republic of Germany, Belgium, the Netherlands and Luxembourg) agreed in 1964 to set up a single international air traffic control centre to manage their upper airspace, finally settling on Maastricht in the Netherlands.

To manage the altered vision the States in 1966 considered the proposals of a group of senior representatives in what became known as the Moroni/Walton Report. The Member States decided on a changed concept and the result was a different future for EUROCONTROL until the end of the twenty years foreseen in the Convention.

However, in these early years much work was done which would bear fruit in later years. In June 1963 the States agreed to establish the EUROCONTROL Experimental Centre and international agreements were signed with ICAO and the Federal Aviation Administration of the USA. EUROCONTROL was involved in development work on strategic air traffic control, methods of cost recovery, satellites and aircraft separation amongst others. The Agency also began to offer advice and assistance to non-Member States whose air traffic systems capability needed development to match that in the core EUROCONTROL area.

However, by the end of the 1960s EUROCONTROL was left shorn of its founding purpose. There was a great deal of uncertainty about how the Organisation would now function to the satisfaction of the Member States, now faced with a very different scenario to that envisaged by the 1960 Convention.

## Part 2 1966 - 1986

The Four States which had set up Maastricht pressed regularly for a commitment by all to return to the original purpose of EUROCONTROL. The Permanent Commission held several meetings over 1975 and 1976 to address the issue in some depth. This resulted in a special report in 1976 by the President of the Commission who had directly consulted the governments of the Member States.

The result was again that the commitment of all of the States to the original founding vision was tested and was not supported although strong support for a substantive, non-executive, role for EUROCONTROL's future was evident. The subsequent discussions to develop this role would lead to the redefining of the Organisation's mandate and the beginning of the work to draft the amended Convention, which would take a further ten years to ratify and bring into force in 1986.

By 1986, however, the pressures on the European ATM network were such that a new mandate was already being considered for EUROCONTROL and discussions had already begun on the likelihood of a new Protocol, with much of the initiative coming from ECAC's Ministers of Transport.

The European Parliament was aware of the issues, and at the time expressed concern at the lack of clear intergovernmental accords to provide common air traffic control services. EUROCONTROL was well supported in what it had achieved with a positive future role being proposed while a working cooperation agreement was made in 1979 between the Organisation and the European Commission, taking account of the competencies of both organisations.

Some initiatives were also taken which would stand the test of time and prove to be essential to the success of future tasks laid on the Organisation, such as the establishment of the EUROCONTROL forecasting service which became STATFOR and the inchoate Aeronautical Information Service.

The UACs at Karlsruhe and Shannon were developed and built. However, the commitment of these States was difficult to maintain in the face of a lack of universal support for a common system of control in the upper airspace. The German and Irish governments later re-nationalised these last two, and the Dutch government did not hand over the Amsterdam Upper Sector to MUAC until March 1986.

Expansion of the Agency's capabilities was approved. The Institute at Luxembourg was established and the first Ab Initio course began on 05 January 1970. The EUROCONTROL Experimental Centre building at Brétigny was officially opened and the Centre played its part in the setting up of Maastricht UAC and other UACs and in the development work of EUROCONTROL.

There were several key international developments in which EUROCONTROL and its Agency played an influential role, particularly through involvement in ICAO. Flow management, route charges and the safe separation of aircraft were all growing in importance and EUROCONTROL played a key role through its experts.

EUROCONTROL's Central Route Charges Office was set up, a major achievement in developing a solution to a global issue and which would extend the CRCO's scope to other European, non-EUROCONTROL States as an example of the wider harmonisation and integration that would follow. It would also prove an invaluable source of traffic information.

## Part 3 1986 - 1997

This period was marked by the very effective partnership between the ECAC Ministers of Transport and EUROCONTROL. The products of this synergy led to a more effective definition of the problems, requirements and solutions for European ATM, and to a high level of commitment from ECAC States and stakeholders.

Through ECAC's initiatives, ATM improvement and harmonisation strategies and programmes would be aimed at the whole ECAC area, and all ECAC Member States would be urged to join EUROCONTROL.

In October 1988 MATSE/1 agreed the setting up of the Central Flow Management Unit and then in April 1990 MATSE/2 initiated the European ATC Harmonisation and Integration Programme (EATCHIP), both of which became core tasks for EUROCONTROL's Agency working in close cooperation with stakeholders.

EATCHIP saw substantial early successes and the Convergence and Implementation Programme (CIP) was set up which would prove a highly successful Europe-wide planning and monitoring system. The CFMU made significant inroads into delays, developing a strategic and tactical support role in the management of the network, and reliable strategic and tactical information began to flow from CFMU and from the Agency's Central Office for Delay Analysis (CODA).

The Organisation also realised that it needed to be adapted to meet the growing challenges. Discussions began in 1991 on changing the Convention while Director General Keith Mack gained approval in 1993 for the first major changes to the Agency's structure in almost forty years to accommodate EATCHIP and the CFMU. Director General Yves Lambert followed this with a strategic review of the Agency as a whole and site-specific reviews of MUAC and IANS.

There were strong indications at this time that EUROCONTROL had re-discovered its founding spirit and there was a palpable unity of purpose that helped advance the Organisation. As a sign of this a EUROCONTROL slogan of "One Sky for Europe" and Logo would be developed and an Agency Mission, based on partnership, would be agreed. These have stood the test of time and are still used today.

The European Commission opened up the possibility of establishing a partnership with EUROCONTROL whereby the EC's political power could be linked to EUROCONTROL's expertise towards the achievement of a "uniform system".

EUROCONTROL would establish a new relationship with ICAO, becoming the only international organisation with the right to submit amendments to ICAO Annexes.

The period would be marked by the beginning of the corporatisation of the Air Navigation Service Providers (ANSPs). While still enjoying a monopoly over the provision of services in their respective areas, they would increasingly come under pressure from their governments to adopt more commercial business-like management practices.

## Part 4 1997 - 2008

The revised Convention was signed in 1997 and EUROCONTROL looked forward with renewed optimism to a more secure future with political support at a level which surpassed even the original vision of the 1960 Convention. The target was the establishment of a uniform, performance-based air traffic management system.

The ECAC Ministers' ATM 2000+ Strategy was launched and the concept of the network was recognised for the first time in a formal document. This also brought to the fore the new tasks for the Agency of environment, airports, safety and later security. To reflect all of this EATCHIP became the EATMP, the European ATM Management Programme.

Throughout this period the Organisation and its Agency continued to adapt to the changing circumstances of European, and indeed global, ATM. Director General, Yves Lambert brought forward early initiatives on separation and a regulatory process, both required under the revised Convention and by the MATSE decisions. This work was successful and a Regulatory Committee was set up and a regulatory framework established which allowed EUROCONTROL to work successfully within that context as a functionally separated organisation.

These steps also fitted with the steps taken by the European Commission to establish its regulatory framework but the lack of ratification of the revised Convention would nevertheless mean that EUROCONTROL would not fully be able to exercise these powers and authorities. The initiative would pass to the European Commission under its Single European Sky regulatory framework.

The Provisional Council produced a significant new guidance in 2006 in setting out its "Roadmap to the Future ATM". The organisational structure of the Agency was re-focussed several times and the stakeholder consultation and involvement processes were regularly reviewed with the stakeholders and significant changes made.

There were the fatal accidents of Milan/Linate in 2001 and Uberlingen in 2002 - and the two crises of Kosovo in 1999 and the Twin Towers attack of 11 September 2001. EUROCONTROL's Agency responded rapidly and comprehensively.

The ATM operating environment became increasingly complex. The earlier experience of EATCHIP and CFMU had shown that a key characteristic of European ATM was that the improvements in capacity and cost-effectiveness could not be ascribed to one action or another. Rather it was the accumulation of a wide spread of coordinated actions which brought improvements to the network as a whole.

The Agency's focus was therefore to build upon the successes of CFMU and EATMP to further optimise the network, leading to major programmes facilitating the use of the network, including the successful RVSM and DMEAN, a system approach to maximise the utilisation of the network with deep stakeholder involvement.

EUROCONTROL's programmes and actions would deliver standards and procedures developed by the Agency in conjunction with stakeholders which would lead to their adoption by industry and globally through ICAO.

As an indication of its recognised objective expertise EUROCONTROL was also entrusted by ECAC to work with it to provide a global, societal overview of ATM's impact in its "Challenges to Growth" series of studies (2001, 2004, and 2008).

In 1999 the European Commission produced its Communication on a “Single European Sky” to the European Parliament, which was followed by two High Level Groups. Their reports led into the Single Sky regulatory Framework Regulation, the establishment of the European Aviation Safety Agency (EASA) and the reinforcement of the European Commission’s role as the sole European aviation regulator.

From an early stage in implementing the revised Convention many of the Agency’s initiatives had been specifically worded in terms of the SES proposals being developed. Nevertheless while both of these High Level Group reports would acknowledge EUROCONTROL’s technical expertise there were elements in each which seemed to place the Organisation in a more and more subsidiary role. This in turn would lead many to a general concern about EUROCONTROL’s future, and perhaps even its existence.

However, it is perhaps clearer now, with a view to the sequence of decisions taken by its governing bodies, that EUROCONTROL and its Agency had been far-sighted and had prepared much of the ground and processes for establishing the performance-driven governance of European ATM which became the watchwords of the European Commission. The work of the Performance Review Commission and the excellent support afforded to it by the Performance Review Unit would be crucial for this. EUROCONTROL also repeatedly re-aligned itself to meet the new challenges and changes in its operating environment.

The success of this ability to change was reflected in the strong support latterly asked of EUROCONTROL by the European Commission as it developed its Single European Sky proposals where the scope was the complete life cycle from development through to implementation. EUROCONTROL’s expertise across this cycle had always been critical to the success of pan-European and regional programmes and services.

The related major issue for EUROCONTROL and its Agency during this period would be the failure of some States to ratify the revised Convention and the non-ratification by the European Union of its Protocol of Accession.

However, the result is that with all the changes that have taken place the Member States, supported by the European Commission and the stakeholders, have now embarked upon a review of the Convention - previously amended and then revised as requirements changed and perhaps now to be replaced. There is clearly a future for EUROCONTROL, its Agency and all of its accumulated expertise.





# **History of EUROCONTROL**

Timeline 1910 - 2008



**1910** - First conference on an international air law code in Paris in 1910 (*Conférence internationale de navigation aérienne, held from 18 May to 29 June at the Ministry for Foreign Affairs*).

**October 1919** - First Convention Relating to the Regulation of Aerial Navigation, signed by 27 States, establishes the International Commission for Air Navigation (ICAN).

**July 1922** - First meeting of the International Conference on Air Navigation

**November 1944** - International Civil Aviation Conference in Chicago sets up the International Civil Aviation Organization (ICAO).

**November/December 1955** - Inaugural session of European Civil Aviation Conference (ECAC) in Strasbourg.

**1955** - NATO sets up its civil-military Committee for European Airspace Coordination (CEAC).

**1958** - Fourth Regional Air Navigation (EUR-RAN) Meeting for the European Mediterranean Region discussed the concept of area air traffic control.

**April 1958** - ICAO holds its first Route Facilities Charges conference.

**November 1958** - 7 European States: Belgium, France, Italy, Luxembourg, Netherlands, Federal Republic of Germany and United Kingdom set up the Technical Working Group "EUROCONTROL", composed of civil and military representatives.

**April 1960** - "EUROCONTROL" Technical Working Group delivers its Final Report to States.

**December 1960** - France, United Kingdom, Belgium, Netherlands, Luxembourg, Federal German Republic sign the "EUROCONTROL" International Convention relating to Cooperation for the Safety of Air Navigation'.

**December 1960** - Interim EUROCONTROL Association set up, with the name of *l'Association pour le perfectionnement des méthodes de contrôle aérien* (APERMECA).

**March 1962** - First "EUROCONTROL Plan for the Organisation of the Upper Airspace" drawn up by the Association and presented to States.

**March 1963** - The EUROCONTROL International Convention relating to Cooperation for the Safety of Air Navigation is ratified and comes into force.

**April 1963** - First meetings of the Permanent Commission and Committee of Management.

**June 1963** - Permanent Commission approves the establishment of the EUROCONTROL Experimental Centre (EEC).

**September 1963** - Mr René Bulin is appointed the first Director General of EUROCONTROL's Agency.

**September 1963** - EUROCONTROL moves to its new Headquarters at 72 Rue de la Loi/Wetstraat Brussels.

**February 1964** - Decision taken to establish the EUROCONTROL Upper Area Control Centre (UAC) in the Netherlands.

**October 1964** - Decision taken to locate the UAC at Beek near Maastricht.

**November 1964** - Federal Aviation Agency (FAA) and EUROCONTROL sign an agreement to increase their co-operative efforts in the area of air safety.

**November 1965** - Memorandum of Agreement signed by the President of the ICAO Council and the Director General of the Agency.

**January 1966** - Moroni/Walton Report on the future role of EUROCONTROL presented to the Permanent Commission.

**November 1966** - EUROCONTROL establishes an Intergovernmental Working Group on Route Charges.

**January 1967** - EUROCONTROL Experimental Centre (EEC) inaugurated at Bretigny-sur-Orge, France.

**April 1967** - First EEC dynamic ATC simulation, wholly prepared, manned and executed by the Agency with its own facilities and resources.

**December 1967** - Decision taken to establish the Institute of Air Navigation Services (IANS) at Luxembourg.

**October 1969** - Institute of Air Navigation Services (IANS) inaugurated in Luxembourg.

**December 1969** - Start of installation work on Maastricht Automatic Data Processing and Display System (MADAP) at Maastricht UAC.

**November 1970** - Decision taken to set up a second UAC at Karlsruhe in the Federal Republic of Germany.

**July 1971** - Permanent Commission approves plans for third UAC at Shannon in Ireland.

**November 1971** - EUROCONTROL introduces its route charges system Central Route Charges Office established.

**November 1971** - Sixth ICAO European Regional Air Navigation Conference (EUR RAN) recommends the use of "flow control" in ATC.

**February 1972** - Maastricht UAC enters into operational service.

**June 1972** - EUROCONTROL Permanent Commission approves the setting-up of the new Shannon Centre

**March 1974** - Maastricht UAC takes control of air traffic services for civil aviation in the northern half of German upper airspace.

**July 1975** - Inauguration of automatic data processing system at Shannon UAC.

**October 1975** - Decisions taken by States on future direction for EUROCONTROL; work begins on amending the Convention.

**February 1977** - Karlsruhe UAC goes operational.

**April 1978** - Jean Lévêque takes over from René Bulin as Director General of EUROCONTROL. Entry into service of Shannon UAC.

**1980** - Short-Term Conflict Alert (STCA), developed in-house by the Agency, successfully integrated into the MUAC ATC environment.

**December 1980** - KARLDAP 1 becomes operational.

**February 1981** - Protocol to amend the EUROCONTROL Convention is signed.

**July 1983** - Mr Horst Flentje becomes Director General of the Agency.

**January 1986** - Protocol mending EUROCONTROL Convention enters into force.

**October 1988** - First Meeting of the ECAC Transport Ministers on the Air Traffic System in Europe (MATSE/1). Decision taken to create the Central Flow Management Unit (CFMU).

**January 1989** - Mr Keith Mack becomes the new Director General.

**April 1990 MATSE 2 meeting** - ECAC Transport Ministers initiate the European Air Traffic Control Harmonisation and Integration Programme (EATCHIP).

**1992** - Stripless system introduced into the MUAC operations room.

**March 1992** - MATSE/3 meeting ECAC Transport Ministers initiate the Airport/Air Traffic System Interface Strategy, APATSI.

**January 1994** - Mr Yves Lambert becomes Director General.

**1995** - EUROCONTROL moves to much larger new premises at 96 Rue de la Fusée/Raketstraat, Brussels. Preliminary EUROCONTROL Test of Air/Ground Datalink (the PETAL trials) begin at Maastricht UAC.

**March 1996** - The CFMU becomes fully responsible for air traffic flow management in the whole of Europe. The concept of Flexible Use of Airspace is adopted.

**February 1997** - MATSE/5 meeting agrees ATM 2000+ Strategy.

**June 1997** - Signing of the EUROCONTROL revised Convention and the Agreement for the Central European Air Traffic Services (CEATS) Programme.

**November 1997** - ATM Surveillance Tracker and Server System (ARTAS) is delivered to its first user, the Netherlands.

**January 1998** - First meeting of the EUROCONTROL Provisional Council.

**April 1998** - Basic Area Navigation (B-RNAV) is implemented in Europe.

**June 1998** - EUROCONTROL, the European Space Agency (ESA) and the European Commission (EC) sign an agreement formalising cooperation between the three organisations in the field of satellite navigation systems and services.

**January 1999** - Negotiations begin with the European Commission on accession of European Community.

**February 1999** - EATCHIP evolves into EATMP (the European ATM Programme).

**March 1999** - Outbreak of conflict in Kosovo. EUROCONTROL provides solutions within a crisis situation.

**June 1999** - First Reports of the Performance Review Commission and SRC to the Provisional Council.

**October 1999** - Introduction of 8.33 kHz channel spacing.

**December 1999** - European Commission Communication "The Creation of a Single European Sky".

**January 2000** - MATSE/6 meeting sees formal launch of the EUROCONTROL ATM 2000+ Strategy.

**April 2000** - Provisional Council President's Bureau (PCPB) is set up.

**June 2000** - First meeting of the Chief Executives' Standing Conference (CESC).

**November 2000** - First report by EUROCONTROL's Service Provision and Regulatory Task Force (SPARF).

**November 2000** - Report by European Commission's "Single European Sky" High-Level Group.

**January 2001** - Víctor M. Aguado becomes Director General.

**July 2001** - Report by EUROCONTROL's High-Level Separation Task Force (HLSTF), successor to SPARF.

**July 2001** - First use of Controller/Pilot Data Link Communications (CPDLC) over the Aeronautical Telecommunications Network (ATN).

**November 2001** - EUROCONTROL sets up its Regulatory Committee.

**January 2002** - Reduced Vertical Separation Minimum Programme (RVSM) introduced in European airspace.

**July 2002** - Action Group for Aviation Safety (AGAS) launched.

**October 2002** - Diplomatic Conference, signature of the Protocol on the Accession of the European Community to EUROCONTROL.

**November 2002** - Transfer to the new Operations room, based on new Operator Input and Display System (ODS) at the Maastricht Upper Area Control Centre.

**February 2003** - EUROCONTROL's EAD Programme wins ATC Maastricht 2003 Award.

**May 2003** - EUROCONTROL and NATO sign Memorandum of Cooperation.

**July 2003** - PRC publishes full report on Europe/USA comparative efficiencies.

**December 2003** - First aircraft certified for CPDLC.

**December 2003** - EUROCONTROL and the European Commission sign a Memorandum of Cooperation.

**February 2004** - EUROCONTROL starts work on first mandates from the European Commission.

**April 2004** - Single European Sky Regulations (Package 1) adopted.

**January 2006** - EUROCONTROL's Regulatory Committee dissolved on its own recommendation.

**February 2006** - First meeting of Stakeholder Consultation Group (SCG).

**March 2006** - European Commission's Single European Sky ATM Research (SESAR) Programme launched by the Consortium.

**October 2006** - EATM directorates streamlined and focussed on Cooperative Network Design (CND) and SESAR.

**November 2006** - Provisional Council agrees its "Roadmap Towards the Future ATM", approves the setting-up of the Air Navigation Services Board and the Provisional Council Coordinating Committee to strengthen stakeholder involvement in decision-making.

**January 2007** - First meeting of Air Navigation Services Board (ANSB).

**March 2007** - First Meeting Operations Consultation Group (OCG).

**February 2007** - SESAR Joint Undertaking set up, European Commission and EUROCONTROL as equal founding members.

**July 2007** - Report by the European Commission's "Future European Aviation Regulatory Framework" High-Level Group .

**February 2008** - Merger of Directorates of Finance and Human Resources and Administration into a new Directorate of Resources (DR).

**March 2008** - Close-out of SESAR Definition Phase.

**January 2009** - Former EATM core business designated "Directorate Cooperative Network Design" (CND).





## **PART 1** 1958 - 1966

Genesis of EUROCONTROL, original vision,  
sovereignty defined



# Précis

This part explores the way in which international agreements on air navigation had their beginnings and traces their developments, describing the establishment of the international organisations which had the improvement of air navigation as their *raison d'être*. It shows how this led to the work to establish EUROCONTROL with a wide degree of support from States, international organisations and airspace users, the initial work of the EUROCONTROL Association and the signing and ratification of the EUROCONTROL Convention giving life to the Organisation until 1983.

The creation of EUROCONTROL in its chosen form was also an important legal decision since it did not merely bring into being an intergovernmental organisation. It also established EUROCONTROL as an international public service, a type of organisation until then seen only in international law.

The subsequent developments which led to the departure from the original vision are described. This period shows what would be the inherent fault-line of EUROCONTROL's structure. On the one hand the Member States' representatives, acting in the Organisation's governing and management bodies, would find themselves on occasions having to decide between the objectives of the Convention to which their governments had adhered and the changing political circumstances in their own countries which might require decisions apparently in contradiction to that Convention. On the other hand the Director General and directors of the Agency were duty bound to observe the guidance of the Member States but also felt bound by the requirements of the Convention as servants of the Organisation.

The underlying issue therefore would be one of sovereignty and commitment to coordinated international actions. This part will explore how this question was one raised not only in the case of EUROCONTROL but had been present for some time in the wider global arena of civil aviation development. Events in EUROCONTROL, up to the present day, should perhaps be considered more in that context.

Although the Moroni/Walton Report in 1966 has been seen as putting an end to the original vision it was in fact only the culmination of various decisions that had been taken in earlier years, even during the period of the Association, based on the sovereignty question. The result would be a changed future for EUROCONTROL until the end of the twenty years foreseen in the Convention.

This part also describes the initial developments in some key elements of air traffic management in which EUROCONTROL was already involved (e.g. strategic air traffic control, methods of cost recovery, satellite and aircraft separation), often in the wider ICAO international expert arena to which EUROCONTROL made significant contributions. The Agency also began to offer advice and assistance to non-Member States where air traffic systems capability needed development to match that in the core EUROCONTROL area, thus aiding coherence between States and smoothing the flow of traffic. In this way, the Organisation began a partnership with others who recognised the expertise and experience that lay behind the EUROCONTROL contribution, a partnership which lasts to this today.

EUROCONTROL sometimes initiated and was sometimes part of a wider international effort in developments which were essential to supporting the safe management of the increasing air traffic. These developments were often long-term and wide in scope, such that they were normally beyond the ability of a single organisation to develop alone. They required a tolerance for blue-sky thinkers and for those involved in applied research, something which many consider is still required today but which has proved, and proves, contentious in application.

# Some History on International Agreements and Developments

## 1910 Paris Diplomatic Conference

Already, in the early years of aviation before the First World War, it was realised that the advent of the aeroplane and the dirigible had added a new dimension to transport which could no longer be contained within strictly national confines. Louis Blériot's international flight of the Channel between Calais and Dover on 25 July 1909 was the first crossing of a large body of water by a heavier-than-air aircraft.

The thinking at the time concentrated on the legal status of the airspace, i.e. whether the airspace was "free" or whether States had a right to their airspace up to a certain level and other States had the right of "innocent passage" beyond that (thinking was greatly influenced by maritime law). Few at the time seemed to consider the principle of complete sovereign rights over the airspace above the territory of a State.

It was for this reason that, on the invitation of France, the first important conference on an international air law code was convened in Paris in 1910 (*Conférence internationale de navigation aérienne, held from 18 May to 29 June at the Ministry for Foreign Affairs*). 20 European States attended this conference and a number of basic principles governing aviation were laid down. Commissions were held on the four following subjects: national law; administrative and technical; customs; regulation of aerial navigation. The Conference did not succeed in its effort to draft and have agreed an international convention. However, it managed to identify and address several issues important for the future regulation of air navigation and in 55 draft articles and 2 annexes it formulated rules relating to the nationality of aircraft and their registration, certification of aircraft, rules of the air, customs procedures, etc.

The crucial disagreement which prevented the signing of a convention between the States concerned the right of foreign aircraft to overfly the national territory.

This issue of equal treatment of all civil aircraft, whether national or foreign, within national airspace was to become the obstacle beyond which the conference was unable to progress. "The Conference adjourned at the end of June on the proposal of the British delegate, Rear-Admiral Gamble, who was instructed that his Government considered the high importance of the questions treated by the Conference to be such as to make it necessary for the Government to study carefully those questions before the draft Convention was approved. The adjournment was approved and the members of the Conference arranged to meet again on Tuesday of last week; but when that date arrived nothing further was done though it was announced that the assembling of the Conference had been postponed sine die"<sup>1</sup>.

Therefore, this large diplomatic conference finished on an acknowledgement of failure, since no government took action on the ratification of the convention.

In 1911, the British Parliament passed the Aerial Navigation Act, giving Britain the power to close British airspace, including parts of the English Channel, to all foreign aircraft. Clearly at that time, Europe was preparing for war and many European countries passed similar legislation.

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<sup>1</sup> "Flight" 10 December 1910

## 1919 Paris Convention

However, all the good work was not lost and much of it was to be carried forward to the discussions in a special Aeronautical Commission formed on 6 March 1919. This was called under the auspices of the Versailles Peace Conference when States tried to set down some agreements on which international cooperation could be facilitated and the risk of conflict reduced. In 7 months, and using the groundwork laid at the 1910 Paris Diplomatic Conference, this Aeronautical Commission drew up the Convention Relating to the Regulation of Aerial Navigation, which was signed by 27 States on 13 October 1919. As Professor Michael Milde<sup>2</sup> noted “there were remarkable similarities in content, substance, and also in the precise wording” between the articles and annexes of the 1910 Conference and the 1919 Convention.

It was an important agreement, setting out what would be the basis of the international scene which we can recognise today. These covered some general principles such as the nationality of aircraft, certificates of airworthiness and competency, admission to air navigation above foreign territory, rules for departure and landing and the voyage underway, prohibited transportation, State aircraft and the establishment of a permanent commission. The Convention consisted of 43 articles that dealt with all technical, operational and organisational aspects of civil aviation and created the International Commission for Air Navigation (ICAN) to monitor developments in civil aviation and to propose measures to States to keep abreast of developments. It provided for the right of innocent passage in times of peace.

The Convention expanded from the original signing States and by 1939 had 33 members although these did not include the USA, Russia or China.

Anyone involved in civil aviation will recognise Article 1 of the Convention which prescribed that

*“The High Contracting Parties recognise that every Power has complete and exclusive sovereignty over the air space above its territory.*

*For the purpose of the present Convention, the territory of a State shall be understood as including the national territory, both that of the mother country and of the colonies, and the territorial waters adjacent thereto.”*

It is interesting that the Convention did not create the principle of air sovereignty but “recognised” it, and not just for the Contracting Parties but for “every Power”. As Professor Milde also pointed out the drafting of the Convention was carried out in the shadow of the war and reflected the security concerns of States.

Thus the issue of sovereignty, which had been the cause of the failure to agree at the 1910 Paris Conference, was brought into the public light and defined. The principle of sovereignty was thus established and the ICAN article was later repeated, almost word for word, in Articles 1 and 2 of the Chicago Convention on International Air Navigation, signed on 7 December 1944, just before the end of the next World War.

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<sup>2</sup> Professor Dr Michael Milde, Director of McGill University’s Institute of Air & Space Law 1989-1998, writing in “International Air Law and ICAO”, Eleven International Publishing (April 2008)

Article 34 set up a permanent organisation, the International Commission for Air Navigation (ICAN), which was placed under the direction of the League of Nations and held its first meeting in July 1922. To assist the Commission, it was agreed to establish a small permanent Secretariat under the direction of a General Secretary.

The duties of the Secretariat were to receive reports from the contracting States; to transmit this information to the other States; to revise the numerous and detailed rules in the annexes to the Convention so that they would meet the rapidly changing conditions of aviation; and, finally and most important of all, to provide a means for the progressive revision of the text of the Convention. It is noteworthy that the annexes were given equal status to the articles of the Convention itself. The Secretariat was thus accorded real authority and the need to hold laborious and time-consuming diplomatic conferences was avoided. It was also a recognition by States that aviation technology and procedures were rapidly changing and that the attendant legal regulation had to be updated regularly.

In December 1922 this Secretariat assumed its duties and it was located in Paris, where it remained throughout its existence. Dr. Albert Roper from France, who had played an influential role in the drafting of the Convention, was appointed as General Secretary and he would prove a pioneering figure. As the first and only Secretary General of ICAN, he was among the first to defend the principles of world cooperation in civil aviation and held this position for 25 years until ICAN was disbanded in 1947. He would be Secretary General of the Provisional International Civil Aviation Organization (PICA) from 1944 to 1947 and become the Secretary General of ICAO on 28 May 1947, a position he held until his retirement on 31 December 1951.

A series of meetings were organised, named at the beginning "*Conférences anglo-franco-belges*" and took later the, perhaps too broad, title of "*Conférences aéronautiques internationales*". The first 11 of these conferences were held between 1920 and 1922 in Paris, London and Brussels until the Convention came into force. They were made up of staff from the national aeronautical administrations. Those conferences and various other regional conferences (i.e. The Mediterranean Air Conference, the Baltic and Balkan Air Conference) were to study problems of detail and practical difficulty which arose in the operation of international airlines between the various States, and to report the results to ICAN for action by means of amendments to the annexes to the Paris Convention. When the European Office of ICAO was established in Paris it took over the offices of the ICAN Secretariat and remained there for its first 19 years until August 1965. Later, ICAO made large use of this established regional machinery in organising, for example, its own Regional Air Navigation Meetings and the Regional Offices.

## 1919 - International Air Traffic Association

1919 also saw the birth, on 28 August, of the International Air Traffic Association set up by the International Conference of Aerial Traffic Companies (of which there were six original members, all European<sup>3</sup>) held at The Hague in the Netherlands. The original "IATA" was set up to help airlines standardise their paperwork and passenger tickets and also to help airlines compare technical procedures. The IATA also created some common rights for passengers, such as the right to be paid if an airline caused a passenger loss, damage, or death. This "IATA" was, of course, the predecessor of the International Air Transport Association.

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<sup>3</sup> Nederlandsche en Koloniale Luchtverkeer Maatschappij (KLM); Aircraft Transport and Travel, Ltd. (UK); Det Danske Luftfartselskab A.S. (Denmark); Deutsche Luft Reederei (Germany); Det Norske Luftfartrederi (Norway); and Svenska Lufttrafik A.B. (Sweden).

## 1919 Other Notable Developments

All this reflected the rapid establishment of international air transport immediately after WW1 and 1919 also saw the following notable “firsts”:

**5 February:** the German airline Deutsche Luft-Reederei begins the first sustained daily passenger airline service, flying modified ex-military AEG and DFW biplanes between Berlin and Weimar in Germany and on 1 March extends that service to Hamburg.

**22 March:** the first regular international passenger service is opened between Paris and Brussels by *Lignes Aériennes Farman* using Farman F60 Goliath biplanes.

**18 April:** *Compagnie des Messageries Aériennes* (CMA) inaugurates a mail and cargo service between Paris and Lille. The service uses ex-military Breguet 14's on a day-to-day basis. Brussels and London are added to the growing network in August.

**17 May:** KLM, founded in 1919 and the oldest carrier still operating under its original name, makes its first flight, operated on its behalf by Aircraft Transport and Travel, between London (Croydon) and Schipol.

**14 June:** two British airmen, Alcock and Brown, made the first west-east non-stop crossing of the North Atlantic from Newfoundland to Ireland in a modified Vickers Vimy IV twin-engined bomber. The flight took 14½ hours.

**July:** over two weeks in July the “R-34”, a British dirigible, made the first East-West and double crossing of the North Atlantic from Scotland to New York and back.

**25 August:** the British company, Aircraft Transport and Travel, commenced the world's first daily international flight between London (Hounslow) and Paris (Le Bourget) on August 25 1919 using a De Havilland DH4A converted bomber.

## 1926 The Madrid Convention

This was initiated by Spain which had withdrawn from the League of Nations. All Latin-American countries were invited to the “Ibero-American Aviation Congress” held in Madrid on 25-30 October 1926. The Convention reproduced almost verbatim the ICAN Convention without the references to the League of Nations and it did not introduce any innovations in legal terms. It was not a success since it never came into force and indeed Spain renounced it in 1933 and joined ICAN.

## 1928 The Pan-American Convention

As noted above, the USA did not ratify the 1919 Convention, with one key reason being the authority vested in the Secretariat to amend annexes. However, in 1928 the Pan-American Convention on Commercial Aviation was adopted at the sixth Pan-American Conference held in Havana to deal with problems then emerging as international flights became more frequent in the western Hemisphere.

Agreed to by 21 western Hemisphere countries, the convention dealt mainly with the operational and technical aspects of civil aviation. It recognised the sovereignty of the Member States, guaranteed the right of innocent passage of aircraft and formulated the rules for international air navigation between the contracting States relating to aircraft identification, landing facilities, and standards for pilots. It also stated the right of each country to set the route to be flown over its territory.

It did not, however, set up a permanent organisation and it was ultimately ratified by only 11 of the signatories.



# Post-War Cooperation

## 1944 The Chicago Convention - Birth of ICAO

The consequence of studies initiated by the USA and subsequent consultations between the major allies was that the US Government extended an invitation to 55 States or authorities to attend, in November 1944, an International Civil Aviation Conference in Chicago. 54 States attended this Conference at the end of which a Convention on International Civil Aviation was signed by 32 States. This set up the permanent International Civil Aviation Organization (ICAO) as a means of securing international cooperation and highest possible degree of uniformity in regulations and standards, procedures and organisation regarding civil aviation matters.

The most important work accomplished by the Chicago Conference was in the technical field because the Conference laid the foundation for a set of rules and regulations regarding air navigation as a whole which brought safety in flying a great step forward and paved the way for the application of a common air navigation system throughout the world. Because of the inevitable delays in the ratification of the Convention, the Conference had signed an Interim Agreement, which foresaw the creation of a Provisional International Organization of a technical and advisory nature with the purpose of collaboration in the field of international civil aviation (PICAO). This Organization was in operation from August 1945 to April 1947 when the permanent ICAO came into being. Its seat was in Montreal, Canada and in 1947 the change from PICAO to ICAO was little more than a formality. However, it also brought about the end of ICAN because, now that ICAO was firmly established, the ICAN Member States agreed to dissolve ICAN by naming ICAO specifically as its successor Organization.

In the practical application of the ICAO concept of Regions and Regional Offices, PICAO in August 1946 established a temporary regional body in Paris which was located in the accommodation occupied by ICAN since 1922 (60 bis Avenue d'Iéna). With the official creation of ICAO in April 1947 this temporary regional body then became the European Office of ICAO and was made responsible for looking after air navigation matters in the European-Mediterranean Region (EUR) and North Atlantic Region (NAT) in accordance with directives from the Secretary General of ICAO and under the supervision of the Director of the Air Navigation Bureau.

## European Cooperation

After the Second World War there were several influences which led to the establishment of EUROCONTROL.

## European Economic Cooperation

The first was the impetus to establish mechanisms of European cooperation in economic and technological domains which would minimise the risk of conflict and reduce the risks of further wars between the (European) protagonists of the First and Second World Wars. Thus in 1948 16 countries formed the Organisation for European Economic Cooperation (OEEC) which grew into the 25-State Organisation for Economic Cooperation and Development (OECD).

However, the need for yet closer coordination was recognised and on 8 April 1951 the European Coal and Steel Community (ECSC) was established by the Paris Treaty. This was followed in turn by the European Economic Community (EEC) and the European Atomic Energy Community (Euratom) Treaties signed in Rome in March 1957.

## Military Cooperation

The second influence was the need for strong combined action on military defence within a framework of general cooperation, starting in 1948 with the Brussels Treaty signed by Belgium, France, Luxembourg, the Netherlands and the United Kingdom. The North Atlantic Treaty was signed in 1949 by the USA and Canada, together with the Brussels Treaty powers plus Denmark, Iceland, Italy, Norway and Portugal. Greece and Turkey acceded to the Treaty in 1951.

This began the creation of the joint command structure of the North Atlantic Treaty Organisation (NATO), which was further strengthened in 1955 when the Federal Republic of Germany joined the Atlantic Alliance as a member of NATO.

## European Civil Aviation Conference

The European Civil Aviation Conference/Conférence européenne de l'aviation civile (ECAC/CEAC) had its genesis at an air transport coordination meeting convened by ICAO as a result of a request made to it by the Council of Europe. The purpose was to consider the possibility of securing closer cooperation by the exchange of commercial rights between the European countries concerned, and methods of improving commercial and technical cooperation between European airlines.

The meeting of the "Conference on Coordination of Air Transport in Europe" (CATE) was convened in the Assembly Chamber of the Council of Europe, Strasbourg, on 21 April 1954, by Dr Edward Warner, President of the Council of ICAO, in the presence of Mr Léon Marchal, Secretary General of the Council of Europe. Mr Pierre Nottet of Belgium, who would be highly influential in the establishment of EUROCONTROL, chaired the Conference. It was attended by delegates from 17 European nations and observers from 10 non-European States and 9 international organisations. The conference agreed that a European civil aviation conference would meet periodically, working in close liaison with ICAO and governmental and non-governmental organisations "to further the orderly development air transport in Europe and to deal with its special problems".

For future development "the Conference requested the Council of ICAO to prepare for European states a draft multi-lateral agreement based on the combination of various measures for liberalization and cooperation. This agreement should not interfere with the fundamental principle of sovereignty of each state over its air space".

ECAC held its inaugural session in Strasbourg from 29 November to 16 December 1955. A Constitutional Commission considered the formal establishment and status of the "Conference", its Rules of Procedure and its relationship with ICAO and with those European governmental and non-governmental agencies whose tasks might be closely associated with those of ECAC. 19 States became members at ECAC's inaugural session.

From its establishment, ECAC took an active role in promoting the harmonisation of policies in the technical and facilitation fields. Technical subjects included rules governing the interchange of aircraft between registers, criteria for training air navigation and ground personnel, validation of pilots' licences and flight testing of navigational and landing aids.

Its first President was Mr Pierre Nottet of Belgium who would be such an influential figure in the establishment of EUROCONTROL.

## Trans-Atlantic Developments

It is worth noting, given EUROCONTROL's global role which developed through the years, that a third influence came from the United States of America where the approaching introduction of jet airliners and a series of midair collisions spurred passage of the Federal Aviation Act of 1958.

This legislation transferred the Civil Aeronautics Administration (CAA) functions to a new independent body, the Federal Aviation Agency (FAA)<sup>4</sup> and gave the FAA broader authority to combat aviation hazards. It also gave the FAA sole responsibility for safety rulemaking, for developing and maintaining a common civil-military system of air navigation and air traffic control, a responsibility the CAA previously shared with others.

The new FAA, created in October 1958, had as one of its important missions the creation of a unified system for controlling civil and military air traffic operations.

## The Technological Impact of The Second World War on ATC

There had been several advances before the Second World War on developing navigational aids and during the war these were further developed, often rapidly due to the exigent circumstances of a conflict in which aviation played such a key role. Typical of these were instrument landing systems (ILS), surveillance radar approach (SRA), non-directional beacons (NDB), VHF Omni-directional Range navigation system (VOR) and of course radio detection and ranging (RADAR) itself. These systems would be used as civil aviation began its remarkable expansion after 1945.

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<sup>4</sup> The Federal Aviation Agency became the Federal Aviation Administration when it became part of the Department of Transportation in 1967

# The Impact of the Jet Passenger Aircraft on European Planning

The arrival of the jet and turbo-jet passenger airliner had a profound effect on both civil and military thinking on the organisation and management of European airspace.

The Second World War had led to the development of aircraft that were bigger, faster and more powerful than those which existed pre-war. Experience in building high-level strategic bombers and jet fighter aircraft were the basis for the development of longer range, pressurised and faster passenger aircraft which could fly at high altitude.

The result was that civil air traffic operations would be about as twice as fast as they were with piston-and turbo-propeller-engined aircraft and their economical cruising height would be above 20,000 feet (FL200). Airlines would therefore need to be able to fly in upper levels of the airspace where, up to then, military aircraft had been free to fly without endangering civil flights. Civil and military air traffic were therefore merging in space and in time and civil air traffic was rapidly progressing to the point where it generated requirements which approximated those necessary for military air operations.

## ICAO EUR-RAN

In March 1952, France, as the host State of the ICAO European Office, invited ICAO to convene the third European-Mediterranean Regional Air Navigation Meeting in Paris and this turned out to be one of the biggest meetings that had so far been organised by ICAO. Some 350 representatives of more than 60 States were present and in 4 weeks of often hectic work they developed a Regional Plan covering all aspects of air navigation from aerodromes to search and rescue which were required to cater for international flight operations in the next 5-8 years. Refinements to this plan, especially as regards the Air Traffic Services (ATS) Route Network and ATC air-ground communications were developed in two subsequent meetings in the Paris Office in the same year and, by the end of 1952, a complete internationally agreed project for the development of international air navigation in a major area of the world was available.

Because of the numerous new problems facing the EUR Region as described above, the Fourth Regional Air Navigation (RAN) Meeting for the European Mediterranean Region was held in early 1958 in the UN premises of the former League of Nations in Geneva. This location had been chosen because, by 1958, EUR regional meetings had assumed proportions in attendance (some 450 delegates) which were only slightly smaller than the General Assemblies of ICAO. The major problems which faced the 1958 meeting were those created by the expected massive appearance of civil jet aircraft in commercial air transport, the continuous increase of air tourism during the summer period of each year (end of May to end of September) and the gradual extension of this type of traffic to States located in the eastern part of the EUR Region.

Because jet aircraft were increasingly subject to operating limitations (uneconomic flight levels, speed limitations, deviations in the route of flight, climb and descent limitations) it was generally felt that the best solution would be to create a two-layer ATS route network:

1. *the existing ATS route network in the lower airspace, up to around FL200; and*
2. *a new, upper ATS route network which should be established above FL200 and extending up to about FL400.*

The lower ATS routes were already well established and in the majority of cases solutions about their routing had been reached between the civil and military authorities. It was expected that the upper air routes, while generally following the alignment of the lower routes, could be arranged so that many of the “dog-leg” detours, required in the lower airspace to circumvent military reserved airspace, could be avoided. This would then make for a smoother, more rapid and more economical flow of air traffic.

In order to achieve the full benefits of this improved upper ATS route network, it was believed that a more effective organisation of the air traffic control services serving this upper airspace was also needed.

The reasoning here was that the existing European airspace was already sub-divided into areas of responsibility of specific ATC units: flights information regions (FIR) and associated control areas (CTA) and, within these, specific controller sectors. The size of such sectors was normally determined by the maximum number of aircraft which were likely to be simultaneously present in the sector and which could still be handled safely by one man. For pilots passing through different sectors this also involved a change of frequency in the available VHF channels because each controller required an interference-free direct means of communication with the aircraft under his control.

With the increased speeds of jet aircraft, it became apparent that, in many cases, the time spent within one sector, or even within a whole CTA (as established for the lower airspace) would not permit the controller, or even an ACC, to do more than note the entry into and, a few minutes later, the departure from the area by the aircraft concerned. This in turn resulted in an appreciable workload for the pilot because of the numerous calls and frequency changes which he had to make. In fact, it was found that, if the lower airspace organisation was retained for jet aircraft, pilots on a 250 nautical mile flight could, in certain cases, be required to make up to 30 calls and change frequencies up to 15 times. ICAO had established its “Jet Age Task Force” in 1957 and in its Report of 1958 it had said:

*“It is generally foreseen that the forthcoming regional meeting [IV EUR-RAN] will find it necessary to recommend extensive changes in the air traffic control scheme for Europe; particularly, the advent to jet transports seems to demand new provisions. It seems to us of the greatest importance that the work of the meeting, especially in the field of air traffic control, be conducted on a broad truly regional concept, unhampered by considerations of national boundaries, to meet practical operational requirements with the greatest attainable efficiency. There could be various ways of attaining those objectives: Air traffic services could be operated by a common agency established for that express purpose, or by some other internationally agreed means.”*

## The Concept of Area Air Traffic Control

It was for this reason that the idea was born to create a special upper airspace structure consisting of a number of large upper FIRs and associated CTAs. These would be served by a reduced number of upper area control centres (UACs), where the boundaries of these upper FIRs (UIR) would not be determined by political boundaries but rather by operational and technical considerations. To overcome the inevitable political and juridical problems, it was believed that this could best be achieved by the creation of an international executive organisation to which all those States wishing to participate in this venture would be parties.

The meeting minutes<sup>5</sup> particularly recognised the following:

*“Therefore as much integration as possible of the various types [civil and military] of traffic, particularly in the upper airspace, should be the immediate aim. In view of the high density of military air traffic that will continue to fly in the upper airspace, the importance of extremely close coordination and co-operation between the civil and military authorities of all countries cannot be over-emphasised.”*

The meeting went on:

*“It was agreed that an area type of area control service permitting a complete freedom of choice of track would be the most desirable system from the operators’ point of view. It was, however, recognised that technical and financial aspects precluded the introduction of such a service at the present time.”*

Area air traffic control was a giant leap forward and would require substantial technical development beyond what was available at the time. In addition, it was an ICAO meeting and thus outside ICAO’s mandate, and indeed authority, to lay down a firm line of action by the many existing civil and military control authorities, since the founding principle was that of a State having sovereignty in the airspace above its territory.

Clearly, however, discussions had previously taken place because the EUR-RAN IV Report included the following statement by the delegations of Belgium, Germany, Luxembourg and the Netherlands:

*“Belgium, Germany, Luxembourg and the Netherlands agree to organise air traffic control in the upper airspace in such a manner that the requirements of aircraft relating to expedition of the flow of traffic and safety are met in the best possible way.*

*If, after a thorough study concerning all the aspects of such an action, they are convinced that to realise fully that aim it would be advantageous to create a common international air traffic control centre, they agree to do so. In the meantime, all possible measures will be taken to coordinate the work of the centres of Amsterdam, Brussels and Frankfurt. In order to obtain a definite answer to the question of an international control centre for the countries mentioned, a study committee will be set up for which each of these countries will designate members. This study group will work in close liaison with ICAO. IATA will be invited to send advisers if they so wish.*

**Note:** *Should a preliminary study of the four countries concerned indicate that the addition of more countries to a possible extended upper FIR will be technically feasible and will not make the situation too complex, other countries (ie Austria, Czechoslovakia, France and Switzerland) would perhaps join the group.”*

The representatives of these States, who might with justification be regarded as the founding fathers of EUROCONTROL, were Mr Glunz (Director of Air Navigation Services, Federal Republic of Germany), Mr De Roode (Director of Air Navigation Services, the Netherlands), Mr Nottet (Director of Air Navigation Services, Belgium) and Mr Wenandy (Director of Air Navigation Services and Head of ATC Services, Luxembourg).

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<sup>5</sup> EUM-RAN IV, ICAO Doc N° 7870

France then made the following statement:

*“The French delegation noted the proposal by Belgium, the Federal Republic of Germany, Luxembourg and the Netherlands inviting France to take part in the study concerning a larger upper flight information region, and accepts it in principle. It will make a proposition to its Government to send a delegate to the group entrusted with that study.”*

The first steps towards setting up EUROCONTROL had been taken. It is worth noting that these preliminary agreements were based on the upper airspace. The possibility of also including lower airspace would come in during discussions on the draft Convention itself. The United Kingdom would not join the discussions with the other States until the meeting of DGCA held in Brussels on 31 October 1959.

## The Impact of the Jet Passenger Airliner on the Military - NATO/CEAC

In NATO Europe at that time, civil and military air traffic was generally controlled by two independent systems. Extensive coordination between them had been necessary to reconcile competing requirements in order to insure safe, efficient and economical operations. But the continued maintenance of two effective systems was proving time-consuming and expensive in personnel and in communications and was possible only because civil and military flights had, up to that time, been concentrated at different height bands. Action needed to be taken or two similar systems would continue to be developed at great cost when one might be sufficient.

In 1955 NATO had set up its civil-military Committee for European Airspace Coordination (CEAC), which was to play an important part in the discussions leading to the setting-up of EUROCONTROL<sup>6</sup>. It was composed of high-ranking military and civilian national representatives of allied countries, and had the active participation of the NATO military authorities. Representatives of ICAO and the International Air Transport Association (IATA) attended NATO/CEAC meetings in an advisory capacity, thus ensuring awareness and interaction with developments taking place in other fora, including the requirements of neighbouring non-NATO countries.

The creation of the NATO/CEAC was prompted, as has been earlier described, by the needs of the civil jet age and the requirement for access to the upper airspace where the military had until then been the supreme masters due to the performance of their aircraft. The task was seen as urgent and the setting-up of CEAC thus filled an important gap in international cooperation, since military aspects were excluded from the charter of the International Civil Aviation Organization (ICAO).

Straightaway the NATO Council, on the advice of the NATO military authorities, directed NATO/CEAC to study the requirements and potential feasibility of some amalgamation of civil and military ATS systems in NATO Europe, including the common use of equipment and facilities.

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<sup>6</sup> CEAC became the NATO Air Traffic Management Committee (NATMC) in 1998

# Action Starts: Developments Leading to the 1960 Convention

Following the EUR-RAN and NATO/CEAC meetings in 1958 two parallel, but interacting, initiatives were set in train which produced a wide civil/military consensus that western Europe needed better upper airspace control arrangements.

The first of these came from NATO's CEAC<sup>7</sup> which, as noted above, had wanted to study further the idea of an international agency to alleviate the impending problems expected from the introduction of civil jet operations. CEAC therefore set up a six-country working group of Belgium, France, Federal Republic of Germany, Italy, Luxembourg, and the Netherlands to define requirements for air traffic control organisation in the region formed by their States' airspace.

The second initiative came from the same six countries which met in the NATO/CEAC group and which had made their statement in the fourth EUR-RAN. A high-level meeting of their DGCA's was organised on 30 and 31 July 1958 in Luxembourg. Interestingly these were the same countries which had set up the European Economic Community in January 1958 but it was noted that non-EEC countries might become interested in a joint air traffic services agency. France and Italy were also represented.

The DGCA's agreed that a new European organisation was needed and set up three working groups - financial, technical, administrative and legal - to work towards the definition of the Convention that would be required.

## Civil/Military Interests Discussed and Developed

In the NATO discussions the NATO/CEAC work which began in 1958 had encouraged the Standing Group of the Military Committee of NATO in May 1959 to submit a memorandum to the Secretary General describing the prevailing situation and the future prospects. The Standing Group suggested a study of the possible amalgamation of the civil and military area control systems as a matter of priority since plans and programs for separate systems were advancing rapidly and it would become more difficult to achieve any desired degree of amalgamation in the future.

The problems referred to by the Standing Group were closely allied to those being studied by NATO/CEAC and consequently the Secretary General referred the paper to NATO/CEAC to undertake a study to determine if they required any additional terms of reference or guidance to enable them to proceed. It was asked to consider this at its meeting in late September 1959.

When the NATO/CEAC held its 12th meeting from 29 September to 2 October 1959 the civil and military developments began to come together. The outcome of these discussions, and the exchange of views with the Six-State Working Group set up by the DGCA's, would result in a definition of how the relationship between NATO and any future civil organisation could be effective.

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<sup>7</sup> There is an informative article from 1991 on the formation of CEAC and EUROCONTROL's relationship with it in the NATO Review Vol. 39 No. 1 February 1991, pp. 24 - 29



The first of the two "EUROCONTROL" papers contained the text of a communication from the Belgian representative concerning EUROCONTROL. The second contained an extended explanatory note on the EUROCONTROL Organisation prepared by the NATO/CEAC Chairman. This note advised the members that communications similar to that submitted by Belgium had been received from representatives of France, Germany, Italy and Luxembourg. These Member States were seeking a solution to the problem raised by the organisation of air traffic control in the upper airspace immediately above their respective territories. NATO/CEAC had been asked to examine the proposed convention in order to advise the Council on the position it should take to the proposal.

The members were very familiar with these matters as it already participated in the EUROCONTROL Working Group (described below in section 5) which was responsible for examining the technical organisation. This group was composed of military and civilian representatives in liaison with SHAPE and in any case it reported regularly to NATO/CEAC on the progress achieved in its studies.

The Chairman explained in his covering note that the internationalisation of control of the upper airspace was an imperative requirement for certain States. The simple coordination of any efforts which individual countries might make in this field would be quite insufficient to assure the effectiveness of the control when jet transport traffic reached its full development.

He pointed out that the envisioned internationalisation of control raised many financial, legal, administrative and even political problems which could be solved only by the application of an international convention. The convention proposed, therefore, was designed for accession by non-NATO countries. But this would be possible only if no severe restrictions were imposed for military reasons. The "EUROCONTROL" discussions provided for accession by countries (e.g. Austria and Switzerland) which could not join a purely NATO organisation for military reasons or because they might object to joining an organisation otherwise composed solely of NATO countries. The projected organisation provided a framework and established the institutions which would make possible the joint organisation of control in the upper airspace, but it would in no way prejudice details of technical organisation. The organising States specifically sought to harmonise the civil and military policies in the field of air traffic control and sought to promote to the maximum the joint use of specialised installations.

On the other hand, NATO/CEAC observed that the overall task proposed by the Standing Group's Report was immense. It sought to cover upper and lower airspace over (at least) the whole of NATO Europe. Even if these problems were given high priority and if the experts required were available, the task would require a very long time to complete. The most urgent need for study was in the provision of control and navigation systems for aircraft flying in the upper airspace, and most particularly, in the areas of Europe where the problems were already critical.

Following discussion the Committee concluded that EUROCONTROL as envisioned by the draft convention was a satisfactory first step toward European-wide traffic control but that it was necessary to have full guarantees from the States involved that military interests would be safeguarded. These guarantees should take the form of arrangements for the technical organisation and any subsequent modifications to the organisation should be subjected also to the agreement of the national and international military authorities. Further, that measures should be taken to ensure that information of a military character would be properly safeguarded and that any accession of non-NATO countries, or the arrangements made with such countries, should be examined from this standpoint. NATO/CEAC should continue to study these matters as they developed and report them as necessary.

A report by NATO/CEAC to the NATO Council, summing up the discussions and conclusions, was drafted and approved during the course of the meeting. The Report was submitted to the NATO Council on 18 November 1959 and was approved.

Therefore out of the discussions in ICAO and NATO there was a growing consensus not only that western Europe needed better upper airspace control arrangements but also on how that situation might be achieved. The NATO discussions at the time can be found in the declassified site at [www.nato.int/archives/tools/98-XIV.pdf](http://www.nato.int/archives/tools/98-XIV.pdf).

## Drafting the 1960 Convention

There were two working groups set up by the DGCAs: the technical working group to develop the proposals to meet the requirements enunciated by the States and the legal working group to prepare the text of the convention. The activity of the technical working group started before the UK decided to join the preparatory work. The first version of the report foresaw only two ATC centres for the entire EUROCONTROL airspace: Luxembourg and Rome.

The proposal to create the “European Organisation for the Safety of Air Navigation (EUROCONTROL)” and its Agency was the result of the “EUROCONTROL” Technical Working Group, composed of civil and military representatives of 7 European States: Belgium, France, Italy, Luxembourg, the Netherlands, Federal Republic of Germany and the United Kingdom. This group met 10 times between November 25 1958 and March 29 1960. The Chairman was *Ingénieur Général de l’Air* Mr René Bulin, Director General of Civil Aviation in France, and the secretary Mr Georges Maignan from France’s *Direction de la Navigation Aérienne*. Besides its “State” members, representatives of SHAPE, ICAO, IATA and FAA participated in the meetings.

The group delivered its third and final report on 15 April 1960.

The DGCAs had met three times to oversee the work: in Bonn (28-30 October 1958), in Paris (27-29 January 1959) and in Rome (8-9 March 1959). During their discussions the DGCAs stressed that the text should have an open character in order to permit other States which wished to accede to become members at a later date. Moreover, the Convention was to allow for close cooperation between the founder States and other States not yet able to adhere to the Convention<sup>8</sup>.

The United Kingdom had joined the discussions during the second half of 1959 and a representative attended the DGCAs meeting in Brussels on 30 October 1959. The UK involvement allayed some concerns about the civil-military cooperation felt by the USA in NATO. The United Kingdom had readily supported the Convention as envisaged by the six countries of the European Economic Community<sup>9</sup>, without proposing significant amendments. At the same time, however, Italy was considering whether or not it should join EUROCONTROL partly because air traffic control in its airspace was already civil/military and the national air traffic services were provided by the Italian Air Force.

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<sup>8</sup> The openness of the text, an indication of the willingness of the initial States to support wider cooperation, would perhaps be a source of later difficulty

<sup>9</sup> It was enlarged later to include six additional States and from 1967 it became the European Communities; when the European Union was created in 1993, the EEC was transformed into the European Community.

This work moved forward with some speed, so that by June 1960, a meeting of Transport Ministers in Rome approved, in principle, drafts of a Convention and a statute of the intended Agency.

Reflecting the strong political enthusiasm for building up European solidarity the Transport Ministers also set out some main policy points as guidance for those who would carry forward the work until the formal ratification. These were that:

1. *basic principles had been established for civil/military air traffic services coordination, including guarantees on defence imperatives;*
2. *the upper airspace of the seven Member States should be divided into five UIRs controlled from Rome, Paris, Luxembourg, London and Prestwick;*
3. *numerous studies would be needed before the desired technical organisation could be defined fully, so a Planning Directorate and an Experimental Unit should be formed early in 1961 under the "Association Protocol."*

This was followed by a first diplomatic conference<sup>10</sup>, 29 September to 10 October 1960, to agree the legal texts, which were signed finally by Ministers at a second diplomatic conference held in Brussels on Tuesday 13 December 1960. This was the EUROCONTROL International Convention relating to Co-operation for the Safety of Air Navigation of 13 December 1960 and its Article 1 established a "European Organisation for the Safety of Air Navigation (EUROCONTROL), hereinafter called "the Organisation", and it would be in force for twenty years.

The initial signatory States were Belgium, France, Germany, Luxembourg, the Netherlands and the United Kingdom who were represented by their ambassadors, virtually all the Ministers responsible for civil and military aviation in the six countries, and the Directors General of the respective national Civil Aviation Administrations in the Ministries of Transport and the Chiefs of Air Staff of the Ministries of Defence. Its provisions would become effective on 1 March 1963 to allow for ratification of the Convention by national parliaments.

At this stage sovereignty did not appear to be an issue. Indeed the general view, in those more visionary times, was perhaps that contained in the comment made by the UK Minister of Aviation, Mr Peter Thorneycroft, in the House of Commons in 1961.

*"All this is being done not for the sake of any supranational political theory but because it is the most practical way of controlling air space and preventing accidents. It is a good example of the right way to move into European partnership on practical grounds. It is not a loss of sovereignty but a pooling of sovereignty and a shift of sovereignty at the edges."*

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<sup>10</sup> It was at this stage that Italy, which had contributed greatly to the discussions, decided to postpone its accession, although it remained as an observer at the subsequent diplomatic conferences

# The First EUROCONTROL Convention - Main Elements

## Preamble and Main Articles

The preamble set out the considerations which the States had in mind in drawing up the terms of the Convention. Here it was set down that “control of air traffic at a high altitude can no longer be envisaged within the restricted framework of national frontiers” and that it was “expedient to create an international control organisation operating in respect of air space which extends beyond the limits of the territory of a single State”. It is interesting to note that, although the emphasis was on the establishment of upper FIRs going beyond national boundaries, the possibility was raised that lower airspace could also be entrusted to the new control organisation.

Thus, after the preamble, Article 1<sup>11</sup> confirmed the agreement of the Contracting Parties “to strengthen their co-operation in matters of air navigation and in particular to provide for the common organisation of the air traffic services in the upper air space”. These words would be important in the discussions which would follow later.

Article 1 then formally established the EUROCONTROL Organisation with its two organs: a “permanent Commission for the safety of air navigation” to be known as “the Commission” and “an “air traffic services Agency” to be known as “the Agency”.

As foreseen in the preamble Article 2 then stated that “Any one of the Contracting Parties may, in respect of the lower air space and having regard to practical operational requirements, request a decision from the Commission that the air traffic services for the whole or part of its lower air space be entrusted to the Organisation or to another Contracting Party”.

The high-level objective of the Commission was then described in Article 6.1.

*“The aim of the Commission shall be to promote, in cooperation with the national military authorities, the adoption of measures and the installation and operation of facilities designed to:*

- ensure the safety of air navigation
- ensure the orderly and rapid flow of air traffic

*within defined airspace under the sovereignty of the Contracting Parties or in respect of which the air traffic services have been entrusted to those Parties under international agreements.”*

In regard to military air traffic EUROCONTROL would not be allowed to control military aircraft directly, except flights complying with ICAO procedures (a small minority of the military traffic). However, Article 6, which required EUROCONTROL to “promote the adoption of measures and the installation and operation of facilities designed to ensure the safety of air navigation and the orderly and rapid flow of air traffic” also required it to do so “in cooperation with the national military authorities”.

Article 6.2 went on to set out the responsibilities of the Commission in more detail.

**Art.6.2(a):** to study standardisation of air traffic system regulations and operations for the EUROCONTROL area as a whole.

**Art.6.2(b):** to promote common policy for relevant equipments.

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<sup>11</sup> There were 42 Articles in total.

- Art.6.2(c):** to promote and coordinate relevant studies, tests and trials.
- Art.6.2(d):** to determine the airspace to be put under EUROCONTROL authority.
- Art.6.2(e):** to determine a policy for route charges to be paid for Agency services to airspace users.
- Art.6.2(f):** to study how to facilitate the financing of air traffic system facilities.

Article 6.2(d) is of relevance since it tasked the Commission with “the determination, in accordance with the provisions of Article 38 of the present Convention, of the configuration of the air space in respect of which the air traffic services are entrusted to the Agency”. Thus the airspace in question was left open to agreement amongst the Contracting States meeting in the Commission.

Article 6.2(e) covered the policy to be followed by the Agency “in respect of remuneration for services rendered to users”. This was at a time when it was not usual in international civil aviation to charge for en-route services, although airport landing charges were common<sup>12</sup>.

Article 14 was where the actual provision of air traffic services was set down. It said that “the Contracting Parties shall entrust to the Agency the air traffic services in the air space defined in accordance with the provisions of Article 6.2(d) and Article 38”.

Article 28 empowered the Agency to “construct the buildings and installations which it requires and to operate directly the air traffic services which are entrusted to it. However, “in order to reduce expenditure relating to both investment and administration the Agency shall call upon national technical services and make use of existing national installations, whenever this is possible, in order to avoid any duplication”.

## The Statute of the Agency

Article 2 of the Statute set out the purpose of the Agency.

- “1. The purpose of the Agency shall be to provide, within the whole of the airspace defined in accordance with paragraph 6.2(d) of the Convention and with Article 38 of the Convention, air traffic services, that is to say:*
  - a) to prevent collisions between aircraft;*
  - b) to ensure the orderly and rapid flow of air traffic;*
  - c) to provide advice and information useful for the safe and efficient conduct of flights;*
  - d) to notify appropriate organisations regarding aircraft in need of search and rescue aid, and assist such organisations as required.*
- 2. The Agency shall install the necessary facilities for the performance of the tasks enumerated above and shall ensure their satisfactory operation.*
- 3. To that end, the Agency shall work in close collaboration with the military authorities in order to meet as efficaciously and economically as possible the requirements of air traffic and the special requirements of military aviation.*
- 4. The Agency may inter alia establish air traffic research and experimental centres and schools for the advanced and specialised training of personnel of air navigation services.”*

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<sup>12</sup> Note however that ICAO had already organised a first Route Facilities Charges Conference on the subject in Montreal in 1958. Developments are described later.

The administration of the Agency was then set out (Article 3). This was to be carried out by a Committee of Management (CE) and by a Director. The Committee would be composed of two representatives of each of the Contracting States but only one would have the power to vote (Article 4). The decisions of the Committee would be carried by a weighted majority vote although the majority would have to include at least half of the Contracting Parties (Article 7).

The Committee's responsibilities were superior to those of the Director (Article 9). It would give decisions on the technical organisation of the Agency in respect of which proposals should be submitted to it by the Director. In matters which required the unanimous approval of the Commission the Committee had to submit these for approval, ie plans relating to the number and location of control or flight information centres and to their spheres of action, and the establishment of research and experimental centres and centres of advanced and specialised training.

The Committee had the responsibility to draw up the reports of the activities and financial position of the Organisation, prepare investment and operating programmes and budgets, and staff and contract regulations for the approval of the Commission (CN)

The Director's responsibilities were to carry out the directives of the Committee. Article 13 stated that he would represent the Organisation in legal proceedings and for all civil purposes. He could appoint officials, borrow money and enter into contracts - all within limits beyond which he had to seek the approval of the Committee.

## Decision-Making

This would be a key element in determining how EUROCONTROL would develop in the coming years. Essentially, for any major decisions unanimity was required.

Voting was to be determined by two elements. It was notable for the balance it achieved between the Member States. On the one hand, it was necessary to give greater weight to countries making the heaviest financial contributions and this was done by taking the objective economic criterion of the Gross National Product (GNP).

On the other hand, however, the interests of States having a low weighting factor had to be safeguarded. For these reasons it was stipulated that an absolute majority of weighted votes would be valid only if the proposal was accepted by more than half the States.

Article 7 set down the nature of the actions which the Commission could take in the accomplishment of its tasks and Article 8 defined how these would be taken.

For recommendations to be proposed to the competent authorities of the Member States (Article 8.1) and directives to be issued to the Agency (Article 8.3) the Convention set down that these could be passed by majority vote.

However, Article 8.2 stipulated that decisions which would be binding on the Member States had to be taken unanimously.

The scope of the objectives set out in Article 6.2 include such important strategic elements as

- *the standardisation of national regulations governing air traffic and the standardisation of the operation of the services responsible for ensuring the safety and regulation of air traffic;*
- *promotion of a common policy in respect of radio aids, telecommunications and corresponding airborne equipment.*

Any binding decision taken in these areas as for the others set out in the Convention would therefore be in essence a regulatory decision, a characteristic of EUROCONTROL which remains to this day.

Indeed the power this gave to a single State had already been foreshadowed by the UK Minister of Aviation in the House of Commons in the same 1961 debate referred to earlier<sup>13</sup> *"Decisions about the configuration of the air space or about treaties with other States must be unanimous, that is to say, we shall have a veto"*.

The requirement for unanimity is still a requirement<sup>14</sup>. While this has been seen as an inhibiting factor in the work of EUROCONTROL it has also meant that the Agency's success in its work would become dependent not only upon its own technical and operational expertise and excellence but also with the ability to coordinate and consult across the spectrum of its stakeholders. As will be shown later, this ability to bring together involved parties and to lead them to common agreement on requirements and solutions would lead to significant successes, albeit that the processes might take longer.

## Civil/Military

Given EUROCONTROL's later key role in civil-military coordination it is worthwhile recalling how this matter was dealt with in these formative years.

It has been noted already that NATO's CEAC had played a part in making the initial case for EUROCONTROL but NATO decided against EUROCONTROL having a task to control directly military operational air traffic. Still, the 1960 Convention (Art. 6.1) provided for the Commission to promote measures for a satisfactory air traffic system in cooperation with military authorities and for the Agency (Annex 1 to Convention, Art. 2.3) to work in close collaboration with military authorities to meet the special requirements of military aviation. It was provided, also, for the Commission (CN) and the Committee of Management (CE) to have two representatives from each State (with one vote) and whilst it was not said that the second representative should be military, this became the normal practice for States with significant military use of upper airspace.

These first years would see little time spent on civil-military coordination per se although Mr Nottet (DGCA Belgium) was President of both the EUROCONTROL Committee of Management as well as NATO/CEAC.

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<sup>13</sup> Hansard HC Deb 17 November 1961 vol 649 cc841-66

<sup>14</sup> The revised Convention of 1991 includes provision for majority voting but it has not yet been ratified. While there has been early implementation of several of its key elements the requirement for unanimity still remains.

# The Agency and its Staff

## The Role of the Agency

In this formative stage, the staff of the Agency was seen as having two distinct roles, different in nature yet complementary in the concept of the new Organisation.

It would have a "European community aim", i.e. to provide a headquarters and ancillary central services for the development of practical cooperation in the field of air navigation. This was in tune not only with the general European movement which had led to the birth of EUROCONTROL but also with the growing recognition of civil aviation as a primary mode of transportation. It was an industry becoming important for Europe, which was signalled in other ways by the formation of the European Civil Aviation Conference (ECAC), which first met in November 1955, and the European Organisation for Civil Aviation Electronics (EUROCAE), created in April 1963.

It would also provide the management and operational capability of air traffic services for the Member States.

When Ministers received the first draft of the EUROCONTROL Convention it described the Agency as "an organisation with the status of an International public service, having financial autonomy, within the framework of which the integration of the air traffic services of the Contracting Parties would be achieved by the "pooling" of the personnel and equipment required for air traffic control in the upper air space". The Convention would therefore be worded as follows:

*"The Agency shall be empowered to recruit personnel directly only if the Contracting Parties are unable to make qualified personnel available to it" (Statute of the Agency 1960, Article 15).*

An inter-State Working Group produced a first draft of what would become the Staff Regulations of the Agency. Several key principles were set down and accepted and these would be the basis of subsequent agreements (and disagreements) both amongst the States and between the Organisation and its staff. It is worth while repeating these as near verbatim as possible.

- 1. It would be "unrealistic to provide the Agency staff with service regulations developed especially for it, in the light of the "Public Service" nature of the organisation".*
- 2. It was preferable to keep to the tradition of the Regulations of the European international organisations with "alignment of the EUROCONTROL Regulations with one particular international organisation and the European Economic Community seemed most appropriate for this purpose".*
- 3. "The Director of the Agency is not subject to the Staff Regulations. The Director is an organ of the Agency in the same way as the Management Committee. He is, moreover, appointed for a period of five years and cannot count on the same sort of career as a civil servant in the proper sense of the word...he ought to be given the title of Director General".*
- 4. "Since the seat of the Organisation was established in Brussels, it was important that EUROCONTROL officials should be on an equal footing with those of the Common Market and EURATOM and, in particular, that both salary systems should be identical or at least very similar; in any case, the net salaries of EUROCONTROL should be roughly equivalent: to those of the above-mentioned organisations".*
- 5. The Regulations in this first stage would only be made applicable to the personnel in service at the Headquarters of the Agency and the Bretagne Centre.*



The French and the German Governments highlighted practical and legal difficulties with the proposals in regard to the problem of integrating operational air traffic services where there were disparities of working conditions between EUROCONTROL staff providing services and their own people providing other air traffic and ancillary services within the overall airspace.

The problem was resolved when the CN agreed that a proposal by Germany would be accepted so that “any Regional Service that was to be located away from Belgium would be defined to be a decentralised part of Headquarters representing the Agency on current operational matters. An addition to Article 101 of the Staff Regulations was agreed by the CN (fourth Session, 7 October 1963) saying:

*“subject to exceptions, the extent and conditions of which will be determined by the Commission, these regulations shall apply also to those permanent civilian personnel of the Agency - other than personnel directly responsible for the control of air traffic - who, by virtue of the bilateral agreements related to the introduction of services, are accredited to the national administrations.”*

## Status of the Director General

The inter-State working group conclusion that the Director of the Agency should take the title Director General was endorsed by the CE, at its first session in April 1963. It was noted that “this would permit EUROCONTROL to be on a par with the other international organisations. With only a directorate the Agency would risk being underrated, which could make it difficult to recruit the right people”.

The problem was thus recognised that a new, untried, multilingual, international organisation had to obtain staff of high quality, able to start building up a new community philosophy for air traffic system development and at the same time to create a new European organisation to undertake the execution of air traffic services over all the member countries, bringing together all the different nationalities as a successful team.

The double challenge was recognised by the appointment of a Director General outside the normal Staff Regulations with a special personal statute based on conditions applied to Members of the Commission of the European Economic Community.

As for EUROCONTROL staff generally, the Director General's statute made no reference to its relationship with European Economic Community conditions of employment but the link was well recognised. For example, when later approving an adjustment to the Director General's emoluments in 1969, the Commission (26th Session, 18 November 1969) made direct cross-references, one such being: “to render the said basic salary equivalent to that of the members of the Commission of the European Communities”.

To build an effective Agency team, the Director General had to attract experts of recognised standing, able to create the new generation of automated centres that were urgently required in the heart of NATO Europe. Such people were in short supply, especially in a period of full employment. States on both sides of the Atlantic had been finding for some years that the introduction of automation into real-time ATS processes was a substantial problem which required highly specialised and advanced expertise and was characterised by large increases in cost and time estimates - and still far from success anywhere.

With the support of the Committee of Management, which was itself experiencing these problems in their own organisations, the Director General was able to get together a compact team of system experts that quickly met the priority requirement for new control centres. This would be the nucleus of the management team of the next 20 years.

In addition, for balance and to ensure acceptance by the Member States' own organisations, the Director General needed a proportion of State officials with substantial experience in aviation, capable of leading the formation of policy with various sub-systems in advanced applications. Such personnel, by definition, were bound to be in mid-career, usually with family commitments, and they had to be offered positive attraction to join an Agency with uncertain future prospects.

## General View of the Convention

The 1960 Convention can be seen therefore, and was intended to be so at that time, as more of an enabling rather than prescriptive agreement and the scope of the vision was quite wide. This was intended to allow for further work to take place on the way in which the EUROCONTROL airspace would be organised and managed, and the necessary facilities established.

Unfortunately the very flexibility which characterised the wording of the Convention would be the means by which the original vision would be set aside.

It will be seen later, in the case of the EUROCONTROL European Plan, that while parliamentary discussions went ahead on the Convention leading to ratification, and Ministers were being briefed by civil servants, exchanges of views in the Assembly and Council were at the same time showing divergent opinions on what should be the practical application of the Convention in terms of the scope of the Agency's role as an "Air Traffic Services Agency".

# EUROCONTROL Starts Working - The Transition

## The Transitional Management Structure

To enter into force, the EUROCONTROL Convention had to be ratified by national parliaments. The six founding States signed a Protocol which would be attached to the Convention.

*“As an interim measure pending ratification and entry into force of the Convention, the signatory States have established a temporary planning organisation, the EUROCONTROL Association<sup>15</sup>, which prefigures the future EUROCONTROL Agency.”*

It has to be borne in mind here that there were less than two years of preparatory joint discussions before Ministers had agreed in principle to set up EUROCONTROL. Full understanding on the scope of EUROCONTROL and the technical activities to be undertaken by the Agency would not be reached in that time, in particular since the parameters changed considerably when the UK joined and Italy left the discussions.

The purpose of the Association was to undertake a study of the solutions which could be applied to air traffic problems, to prepare the corresponding plans and to gauge their practical value. The EUROCONTROL Association, established as an “association” under French law,<sup>16</sup> was formally set up on 10 December 1960 with the name of APERMECA “*Association pour le perfectionnement des méthodes de contrôle aérien*”. It established its Headquarters in January 1961 in Paris at 93 Boulevard du Montparnasse in the building of the *Secrétariat Général à l’Aviation Civile*, part of the Ministry of Transport. Offices were also taken up at Orly, in offices lent by *Aéroport de Paris*. A full time nucleus of international staff was seconded to fill the gap before the Agency could come into legal existence.

Georges Maignan recalls this interim arrangement. “Even for the implementation of the Association some six to eight months were necessary. Consequently a semi-official structure, “*Le bureau d’études EUROCONTROL*”, was implemented at Orly airport, collocated with the newly created French “*Centre d’Etude de la Navigation Aérienne*”. One British official, Roland Soward, was seconded there as Head of the Bureau and two French officials were also seconded (Y. Forgeot and myself). The bureau organised a number of meetings of the former members of the technical working group to refine and complete the work of the group and to keep the pressure up. The first one was held on 16 February 1960”.

The Association was overseen by an Assembly, which met about every three months and consisted of national Directors General of Civil Aviation and Chiefs of Air Staff. There was also a Council which oversaw in more detail the work of the Association and which reported to the Assembly, and this too was a multinational and civil/military body. A Working Group of DGCA’s and Chiefs of Air Staff met regularly to supervise the work of Association (this would become a regular feature of EUROCONTROL’s structure and would be known the Study Group of Alternates).

Mr Pierre Nottet, Director General of the Aeronautical Administration of Belgium, was President of both the Assembly and the Council during this period.

The operating body of the Association was the EUROCONTROL Planning Directorate at Orly Airport, headed by *Ingenieur Général de l’Air* Mr René Bulin, formerly *Directeur de la Navigation Aérienne* in the French Civil Aviation Administration. Under his direction were three divisions staffed by specialists drawn from the various member nations’ departments of civil and military aviation. The Operations Division was headed first by Mr R Broadbent and then by Mr George Trow, formerly Deputy Director of Control and Navigation Development, Ministry of Aviation; the Evaluation Division was

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<sup>15</sup> “Protocol as to the transitional period preceding the coming into force of the EUROCONTROL Convention”

<sup>16</sup> *Application de la Loi de 1901 sur les associations*

under Dr Friedrich Hentschel, formerly Director of Navigation Services in the Ministry of Transport in Germany; and the Administration and Finance Division under Mr Gerard Dornseiffen. Regional working groups were established to ensure that the Association took into account the particular characteristics and requirements of airspace demand and organisation in the UK, France and Benelux/FRG.

The Assembly (7 times) and the Council (16 times) met frequently during the period leading up to the ratification of the Convention.

These early meetings of the Assembly and Council were mainly concerned with setting up the Association infrastructure and determining budget and staffing. For example, the second meeting of the Assembly in Paris on 3 February 1961 agreed that the EUROCONTROL HQ should be in Brussels, confirming the discussions that had taken place at the Conference of Ministers of Transport in Rome on 8 June 1960.

In these meetings some comments would be made which hinted at future difficulties. For example in the sixth Session of the Council, held in Orly on 30-31 May 1961, the meeting considered a letter received from French Ministry of Public Works and Transport:

*“While preparing the documents necessary for the Convention to be ratified by the French Parliament, it appeared that the organisation of the different types of Air Traffic in France would, for a period difficult to determine, necessitate that the boundaries between UIRs 2 and 3 be the same as the Paris FIR. Our position being mandatory regarding this matter, I should be grateful if you would take it into consideration, as I am convinced that the foregoing implications are not likely to hamper the Agency’s operation.”*

## Work Done by the Association Before the Entry into Force in 1963

### The First EUROCONTROL Plan

The Association set to work. Their first aim was to gauge the size of the problem, a task complicated by the fact that very few statistics existed on upper airspace traffic. The Association’s principal advantage was to be able to take an overall view of the wider requirements of the EUROCONTROL area as set down in the draft Convention without being restricted by national considerations, a characteristic which has continued to have advantages throughout the life of EUROCONTROL. Much of their work was based on informed estimates of routes and movements, checked by independent second estimates, with the aim of laying down the broad lines of a control philosophy.

Work was soon to start to set out what actions would take place when the Convention was ratified. At its fourth Session, held in London in September 1961, the General Assembly requested the Directorate to prepare a long-term plan for the organisation of control in the upper airspace.

There had been discussion in both the Assembly and the Council about the scope of such a Plan and Mr René Bulin had repeatedly stressed that the Association would seek to produce a plan which took account of existing facilities and future plans in order to avoid duplication of effort and unnecessary costs.

The final Terms of Reference were agreed and set down in the minutes of the fourth Session of the Assembly. This was an important matter because it was this Plan which would lead, as shall be described later, to lack of agreement over the scope of “common organisation of the airspace”, to the decision of the UK and French governments with regard to their national air space and ultimately to the Moroni/Walton Report which resulted in what became known as “EUROCONTROL à la carte” .

“The Terms of Reference for the studies to be undertaken by the Directorate with respect to the division of the UIRs and the installation of centres would be as follows:

1. *Study of the division of the upper airspace in the countries party to the agreement in such a way as to produce a Plan meeting the needs of air traffic services for the General Air Traffic, bearing in mind the studies already made.*
2. *This plan, when being formulated, shall be compared continuously with those of the national and allied military authorities so as to ensure its feasibility and to avoid incompatibility.*
3. *In studying the facilities to be set up in creating the desired organisation, the Directorate shall try to avoid any duplication in the use of the facilities which are already available, or will be available, to civil and military aviation.*
4. *The resulting plan shall be the final aim of EUROCONTROL and it shall be adapted according to changing requirements with due regard to the principles of economy.”*

The “EUROCONTROL Plan for the Organisation of the Upper Airspace” was brought forward in final draft form on 7 March 1962.

In the Letter of Transmittal of the Plan Mr René Bulin described it as a flexible one which, in accordance with the Terms of Reference, would seek to avoid duplication with existing facilities. Although he did not refer to it this demonstrated also that he was acting in accordance with Article 28 of the Convention. The Letter set out the modus operandi of consultation and coordination which would characterise EUROCONTROL’s work over the years, including its close work with military colleagues and its cooperation with the USA to ensure US/European system compatibility.

The tone of the Plan was an open one, stressing the need to address the issues flexibly and avoiding duplication and lack of compatibility with both existing national systems and future plans.

*“This Plan, which could be implemented within approximately four years (the time needed to set up new installations), has been so prepared as to give scope for flexible development in control methods and technical means employed while ensuring efficient and reliable service...*

*Another of its features is to avoid any duplication with existing facilities.*

*In preparing this Plan, contacts with national administrations, in particular through regional working groups, have been established.*

*It has thus been possible to take into account the facilities now in use, the national plans worked out by certain countries and National Defence requirements.*

*Contacts with NATO through its specialised committees have permitted optimum adaptation of the Plan to the military systems which are of particular significance wherever direction of military operational air traffic must be ensured. The Directorate has also sought to avoid any form of incompatibility between American and European conceptions. To this end the Directorate has made a study of what has been done in the United States and particularly in the light of the recent report “Project Beacon”<sup>17</sup>. Close cooperation will be maintained with the FAA. By avoiding any form of incompatibility and duplication it will be possible to implement the present Plan as economically as possible.”*

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<sup>17</sup> Following a mid-air collision over Staten Island which killed 128 people, President John F. Kennedy issued an order on 8 March 1961 requesting the FAA to “conduct a scientific, engineering overview of our aviation facilities and related research and development and to prepare a practicable long-range plan to insure efficient and safe control of all air traffic within the United States.” A task force called “Project Beacon” was established that would report its findings to the FAA Administrator.

The work had been wide indeed, and the examination of how many centres would be required showed that a determining criterion would be the cost of international telecommunications circuits. While, for example, one centre covering the whole of EUROCONTROL airspace would have been possible the cost was found to be prohibitive.

*“A study has been made of centralisation for the whole EUROCONTROL area including the United Kingdom. The theoretically ideal site for a single Centre for the area is in Northern France. There are, however, special difficulties in the provision of radar links by microwave techniques from the United Kingdom to the Continent. The greatly increased cost of international circuits from the United Kingdom to the Continent results in an excessive increase both in capital and recurrent costs for telecommunications and radars. It is therefore concluded that there is no justification for considering further this type of centralisation.”*

The main recommendations were as follows.

1. *A flexible network of predetermined air routes for the flow of general air traffic.*
2. *A civil/military coordination system enabling all civil and military aircraft to use the whole of the upper airspace.*
3. *The division of the airspace into 16 control sectors.*
4. *The setting up of four Centres<sup>18</sup> to operate with optimum economy and ensure satisfactory coordination with military units on the one hand and lower airspace control centres on the other, with the possibility of extending at a later date the areas of responsibility to include adjacent regions.*
5. *A solid radar coverage ensuring control of aircraft in the entire EUROCONTROL area.*
6. *The gradual automation of control systems to obtain improved efficiency of air traffic services to meet the foreseeable increase in traffic and finally to simplify the work of personnel while maintaining the highest degree of safety.*
7. *The establishment of air/ground communications in VHF and UHF for the control of all civil and military aircraft in the general air traffic.*

The Plan<sup>19</sup> reflected a substantial amount of preparatory investigative work undertaken by the Association. Flight International had noted at the time (28 Feb 1963) “It is already clear that EUROCONTROL has developed an independent personality and can take a detached view of the various future plans being prepared elsewhere, for example, under Project Beacon in the USA and by the Minister of Aviation for Britain.”

## **The Technical Work**

The technical work of the Association was mainly devoted to the preparation of the future EUROCONTROL Experimental Centre. Mr Georges Maignan was involved in all of this and with Mr Peter Whicher they prepared the specifications and launched the call for tender for the Brétigny digital radar simulator.

“A provisional experimental unit was implemented at Brétigny s/Orge near Paris mainly to conduct experiments on a then promising future air navigation system: the HARCO system.

In parallel, the studies and experiments necessary for the implementation of what would be the major equipment of the EEC, the real time simulator, were conducted. At the beginning, the operational requirements were for a classical radar simulator, similar to the simulator then in operation at the National Aviation Facilities Experimental Center (NAFEC <sup>20</sup>), Atlantic City USA.

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<sup>18</sup> Benelux/FRG, France, UK London, UK Preston

<sup>19</sup> A copy of the Plan is now available in the Archives of EUROCONTROL's Agency at Haren

<sup>20</sup> Later renamed FAA Technical Center (and subsequently the FAA William J. Hughes Technical Center)

However, the technical working group followed the example of digital military air defence systems, for example Semi-Automatic Ground Environment (SAGE) in the USA and the French Système de Traitement et de Représentation des Informations de Défense Aérienne (STRIDA). The work had switched from raw radar to digital transfer and similarly it was proposed to switch from an analogous simulator to a digital one. A prototype of the software was developed on the computers of the Paris ATCC; a demonstration was made at a meeting of the council and the specifications for the call for tender were written. This gave the possibility to sign the contract for the EEC simulator as early as June 1963, at the third meeting of the Commission."

## **Reaction to the Plan**

A meeting of DGCA's and Chiefs of Air Staff was held in Paris on 25 April 1962. The purpose was ostensibly to consider implications for EUROCONTROL of UK plans for an integrated national civil/military ATC system in light of the EUROCONTROL Plan of March 1962.

A paper was prepared for this by the UK entitled "EUROCONTROL Planning in relation to the United Kingdom".

Mr Wilson (Deputy Secretary Ministry of Aviation) commenced by saying that the UK would ratify the EUROCONTROL Convention in two or three weeks and went on to congratulate Mr René Bulin and Association staff in preparing the draft Plan in accordance with the directive of the General Assembly. Any comments which the UK might make, said Mr Wilson, would be purely constructive and should not be seen as intended to denigrate the Plan or the work put into it. He went on to say that a recent UK working group had recommended that all civil (GAT) and military air traffic (OAT) control in the UK airspace should be fully integrated and that this recommendation had been accepted. The UK considered that this arrangement would offer substantial advantages and that the UK would place its equipment and personnel at the disposal of EUROCONTROL for the provision of ATC to GAT in the upper airspace.

EUROCONTROL could therefore be responsible for GAT only in the upper airspace and the UK would retain responsibility for GAT in the lower airspace and for OAT in both upper and lower airspace. For the upper airspace the staff would be under the direct orders of EUROCONTROL which might, if it so wished, station a EUROCONTROL supervisor at the ATS units concerned. The UK "did not wish to usurp EUROCONTROL's functions and they were not proposing delegation of the Agency's responsibilities under the Convention".

The meeting discussed the fact that civil-military coordination was being developed in the French UIR on the basis of liaison between separate civil and military services, and in the UK UIRs on the basis of a unified service, while for the Benelux/FRG UIR no common solution had been proposed.

After some side discussions amongst the Benelux/FRG representatives their spokesman recommended that the EUROCONTROL Association and the UK should study the UK's proposals to ascertain whether they were practicable within the framework of the Convention as it stands. If the conclusions were affirmative, a further study should be made to determine whether a similar system would be feasible for the Benelux/FRG UIR.

Both the French and British representatives pointed out that their positions were effectively the same since neither intended to entrust the Agency with providing services for operational air traffic.

The meeting concluded that it recognised “that in the area corresponding respectively to the airspace of Benelux-Germany, France and the United Kingdom, different formulae for ensuring safety between general and operational air traffic might be appropriate, provided that the arrangements are in conformity with the spirit and the letter of the EUROCONTROL Convention dated 13 December 1960”.<sup>21</sup>

The EUROCONTROL/UK Regional Working Group (which as noted above had been in existence for some time already) was entrusted with a detailed study of how the arrangements proposed in the UK proposals would operate in practice and legal experts would participate as necessary.

It was also agreed that the EUROCONTROL Council’s consideration of the Plan which had been presented by the Director of the Association should be postponed. The Plan itself would never actually be considered again.

Mr René Bulin said that he would promptly organise meetings of both the EUROCONTROL/UK and the EUROCONTROL/FR Working Groups. He went on to say that he hoped that all would realise that the decision just reached would retard the development of the EUROCONTROL Organisation.

Since much work had to be done, including a revision to the budget for 1963, no date was fixed for the Assembly’s fifth Session.

It is worth noting that the Belgian representative submitted a note on the legal consequences of the UK’s proposals which appeared to put in doubt the acceptability, under international law, of the Agency not providing services itself but instead having services provided on its behalf. The Belgian note suggested that Agency could not delegate its responsibilities under Article 2. A copy of the note was attached to the meeting minutes.

The issue now went into non-recorded discussions and then surfaced again at the fifth meeting of the CN of EUROCONTROL in December 1963 (see the section on this later).

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<sup>21</sup> This conclusion would be referred to by Mr Moroni in the sixth meeting of the Commission dealing with the Future Scope of EUROCONTROL



# 1963: EUROCONTROL Starts Working Under its own Name

## First Meeting of the Permanent Commission

On 9 April 1963 the Permanent Commission, EUROCONTROL's senior governing body composed of the Ministers or their representatives, held its two first meetings in Brussels, in the Château de Val Duchesse. The first meeting took place at 11.45, with the Ministers themselves (or represented by their direct deputies) and the second one at 17.30, where States were represented at the level of General Directors of the Ministries of Transport. At the first meeting the rules of procedure were approved whereby the Presidency would be held consecutively by the States in alphabetical order in French. Accordingly Mr H C Seebohm, the German Federal Minister of Transport, was appointed as first president of the Commission (Allemagne) and Mr Bertrand, Belgian Minister of Communications, was appointed as its first Vice-President (Belgique). Annex I shows the list of Presidents and Vice-Presidents of the Permanent Commission.

An important decision was taken at that first Permanent Commission which would indicate the global reach of the Organisation. A directive to the Agency was approved so that it could, under Article 31 of the Convention, begin negotiations "to establish relations with the competent authorities of the United States and the Federal Aviation Administration with a view to concluding agreements on exchanges of information and observers".

The first meeting of the Committee of Management was held on the same day, 9 April, and also at Val Duchesse. Mr P Nottet, DGCA of Belgium, was appointed as its first President and Captain Hunt (UK) as its first Vice-President. Both organs quickly began to work, setting up their organisations: presidents, vice-presidents, schedules, working methods, etc. Mr René Bulin was confirmed as Director of the Agency. Another notable decision was that to establish an Investment Panel for the Pension Fund. Annex II shows the list of Presidents and Vice-Presidents of the Committee of Management.

The Agency set up its internal organisation with a Director General, four directorates at its Headquarters in Brussels (Operations, Engineering, Administration and Finance, and Legal and Economics), and three Regional Services (Benelux/Germany, France and the United Kingdom). Annex III shows the list of Directors General.

The Agency Headquarters moved to a rented building, 72 Rue de la Loi, in Brussels. A project for purchasing this building was negotiated and approved and the purchase was concluded in January 1965.

## Important Early Decisions

### The Experimental Centre

A notable matter at the first meeting of the Commission was the support for the setting-up of an experimental centre as envisaged in the final report of the Technical Working Group.

The Technical Group had reported in 1960 that:

*"An adequately equipped experimental Unit whose duties consist in evaluating the techniques prior to their integration in EUROCONTROL ATC system should be made available for the Planning Directorate.  
One of the first tasks of this Directorate will be to produce a practical plan for this experimental Unit."*

During the third meeting of the Permanent Commission, held on the 10 June 1963 in Brussels, this time in the *Palais des Congrès*, the Centre was officially born as shown in the minutes:

*Mr René Bulin proposed that the present Experimental Unit should be called "EUROCONTROL Experimental Centre". This would make it possible to bring this Unit into the Agency and to allow the staff to benefit from the provisions of the Agency Staff Regulations. The future development of the Centre would have to be examined thoroughly later. In pursuance of Article 9, paragraph 2 b) of the Agency Statute, the Commission unanimously approved the proposal of the Director General.*

The third meeting of the CN in June 1963 formally approved the establishment of the EUROCONTROL Experimental Centre. Two important contracts were put out to tender, one for the simulator and one for the building construction. The contract for the purchase of the simulator was signed with the consortium Thomson-CSF/Decca/Telefunken. The contracts for the construction of the EEC building and the laying out of its environment on land lent by the French Government were signed and the foundation stone was laid by Mr Bertrand, Minister of Communications of the Kingdom of Belgium and President of the Commission, on 29 September 1964.

Mr Don Lipman of the UK was appointed as its first Director.

## **Maatsricht UAC**

On 28 February 1964 the Permanent Commission took the official decision to set up the first EUROCONTROL international upper area control centre on Netherlands territory. From 3 March of the same year, the upper airspace over the Brussels UIR was placed under the responsibility of EUROCONTROL. On 19 October 1964 it was decided to locate the UAC at Beek, near Maastricht, and the foundation stone was laid on 4 October 1966.

The first meeting on civil/military coordination for the Maastricht area took place on 8-9 December 1966, an indication of how the future of Maastricht would develop and how a unique advantage of the EUROCONTROL Organisation would evolve.

## **Definition of “EUROCONTROL Airspace” - UIRs and FLs**

The Agency’s responsibility for providing air traffic services, under Articles 14 and 38, could not become a fact until the Permanent Commission had exercised its power, under Article 6.2 (d), to determine the airspaces in which the responsibility would apply. As noted above for the first period the Organisation was preoccupied with its internal arrangements, including setting up the permanent seat in Brussels as required by Article 1.

It was at the fourth Session, on 7 October 1963, that the Permanent Commission reached formal Decision No. 2 defining the upper airspaces of the EUROCONTROL area in which the Agency was to discharge its responsibility with effect from 1 March 1964.

Eight UIRs were included, as follows:

- Amsterdam at and above FL 200
- Brussels at and above FL 200
- Frankfurt at and above FL 200
- Hannover at and above FL 200
- France at and above FL 250
- London at and above FL 250
- Preston at and above FL 250
- Scottish at and above FL 250

Two years after Decision No. 2, the CN held a special session (12th Session, 26 October 1965) that started the first major review of the scope of EUROCONTROL. At that session the Federal Republic of Germany proposed to raise the base level of “EUROCONTROL airspace” over Germany from FL 200 to FL 250. The reason was the concentration of military air traffic of various NATO air forces, climbing and descending over Germany, which made necessary close civil-military coordination of air traffic control in the lower airspace. Experience had shown that this would be assisted if the top level of the lower airspace was raised to FL 250 and, moreover, this would achieve more uniformity for the EUROCONTROL area as a whole.

Consequently, CN Decision No. 5 (13th Session, 21 December 1965) established that, from 1 January 1966, the base of “EUROCONTROL airspace” should be FL 250 everywhere except for the Amsterdam and Brussels UIRs, where it remained FL 200.

No further redefinition of EUROCONTROL airspace was to be made in the remaining 17 years of the 1960 Convention. France did propose, at the end of 1976, to revise the base over France to FL 200, following changes in air traffic control dispositions, but when the Commission saw that non-operational aspects might prevent the necessary unanimous decision to extend the “EUROCONTROL airspace” over France being reached, it simply “took note of the decision of France to fix the threshold of its upper airspace at FL 200”.

## Discussion Starts on Future Scope - Differing Interpretations

The 1960 EUROCONTROL Convention provided for common organisation of air traffic services in the upper airspace and for an Agency to do it but did not say how Member State domestic air traffic services arrangements should adjust.

As was noted earlier, Article 28 empowered the Agency to set up practical facilities but said it should “call upon national technical services and make use of existing national installations, whenever this is possible, in order to avoid any duplication”. The CN Directive No. 1 (first Session, 9 April 1963) required the Agency to conclude bilateral agreements with Member States for them to provide assistance with personnel and equipment to fulfil the Agency’s responsibility for air traffic services in the upper airspace when defined. These agreements had to provide for reimbursement to the States of running costs incurred to meet the Agency’s responsibilities (which had been foreseen in Article 18 of the Statute of the Agency).

No hint of difficulty over these provisions was evident in the first four sessions of the Commission up to October 1963 but in the Committee of Management the officials representing France and the United Kingdom made a series of remarks (third Session, June 1963 and fourth Session, September 1963) to the effect that the Permanent Commission should make some longer-term policy decisions before the Agency made important commitments for direct provision of air traffic services with its own resources. This reflected the concerns expressed in March 1962 on the submission of the draft “EUROCONTROL Plan”.

### CN Fifth Session 13 December 1963

The thoughts underlining those remarks became more explicit when the United Kingdom presented the fifth meeting of the Commission, on 13 December 1963, with a paper on “the scope of the EUROCONTROL Organisation and of the operational activities of the Agency”<sup>22</sup>.

It is worthwhile quoting extensively from this paper because it framed much of the discussion that was to follow. The paper opened by saying that:

*“Now that the permanent EUROCONTROL Organisation is taking shape it seems desirable to clarify the broad lines on which it may be expected to develop, particularly in the next few years. This is a matter on which the Commission will wish to exchange views, and the United Kingdom thought that it might help towards such an exchange if it put forward its present views briefly as a basis for discussion.”*

The paper went on:

*“EUROCONTROL, through its Agency, will shortly be assuming direct executive responsibilities of the greatest importance. It will be given all the help and cooperation of its Member States to discharge those responsibilities successfully, but this should not, in the United Kingdom view, be allowed to obscure two facts:*

- 1. that EUROCONTROL is the creation and servant of its Member States;*
- and*
- 2. that the air traffic control responsibilities remaining with the Member States are much greater than are those which they are entrusting to EUROCONTROL.*

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<sup>22</sup> WP/CN/V/2, 23.11.1963

*For these reasons the development of EUROCONTROL services will necessarily be largely conditioned by the air traffic control systems of its Member States, and the aim will have to be to combine the discharge of the responsibilities placed by the Convention on EUROCONTROL with the minimum of disturbance to those systems."*

*"... so the development of EUROCONTROL services should, in the first instance, be largely conditioned by or built upon the existing systems of the Member States and should concentrate on closing such gaps as existed in upper airspace control, as a result of the unequal stages of development within its present and future Member States.*

*With that basic approach established, there would be need for principles on organisational and cost-sharing aspects of:*

- *procurement of operational equipment (in the twin cases of EUROCONTROL using an existing State facility to deal with upper airspace responsibilities and of EUROCONTROL providing, by agreement, an installation that would serve both upper airspace and lower airspace purposes),*
- *maintenance of operational equipment (making maximum use of existing State resources),*
- *personnel (especially the integration of operational supervision to assure both State and EUROCONTROL functions),*
- *equipment development and resting (ensuring particularly that the new EUROCONTROL Experimental Centre would avoid assuming tasks that could be adequately covered by existing State facilities and would rely on State establishments for any necessary basic research and development support)."*

It is worth while recollecting that throughout the discussions of the Assembly and Council of the Association Mr René Bulin had regularly made two points: the Agency should take full account of existing facilities in Member States and integrate them into EUROCONTROL proposals; and any future developments should be on a transitional basis, taking account of the need to phase in the future EUROCONTROL ATS system. This was also stated several times in the text of the Plan itself.

The Director reacted to the United Kingdom paper, with "preliminary comments."<sup>23</sup>

*"EUROCONTROL is a creation of its Member States acting collectively in conformity with the Convention, but if it tends to become the servant of each separate State, as regards its activities in that State, its over-riding purpose would seem to be largely destroyed."*

He went on:

*"In the long run the value of EUROCONTROL and its ability to perform the task for which it was created will probably be directly related to the long-term outlook of the Member States on its over-riding purpose. If EUROCONTROL is considered to be an embarrassing inconvenience, it will no doubt remain so for a long period and probably achieve no more than its Member States could have achieved without creating it. On the other hand, if the basic approach envisages that ultimately the air traffic control responsibilities entrusted to EUROCONTROL will become far greater than those remaining with the Member States, the admitted difficulties inherent in the transition period can be seen as only temporary ones and EUROCONTROL, through its Agency, will be able to assume progressively the full and normal responsibilities of an international executive air traffic services authority, not only with respect to its own members but in its external international relations."*

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<sup>23</sup> WP/CN/V/3, 23.11.1963

Mr René Bulin emphasised again that the EUROCONTROL plans took full account of existing facilities and plans in the States but he also made the point that there was a two-way responsibility in these processes. EUROCONTROL's Agency would take account of individual State's developments and plans but the individual States had also to take account of EUROCONTROL plans when making their own development and investment plans. If this was not the case then EUROCONTROL would constantly be in the position of playing an open-ended role of catch-up.

*"If the Agency had only to consider the value for upper airspace control of today's existing equipments, the way ahead would be less difficult. However, if Member States continue to commit themselves to new equipment without reference to EUROCONTROL or without agreement by EUROCONTROL, the whole future becomes concerned with considering this usefulness of "existing equipment" not provided specifically to meet EUROCONTROL needs. The Agency cannot of course commit itself to new equipment without knowledge of and consultation of the member States. The converse arrangement will need to be established."*

The CN agreed to consider fully the papers on the scope of EUROCONTROL after a report by the Committee.

## CN Sixth Session 28 February 1964

The Committee therefore deliberated and presented its report<sup>24</sup> to the sixth meeting of the Commission. Although the CE recognised that the Organisation was the servant of the group of States as a whole, consensus on long-term prospects had nevertheless been found impossible in its discussions.

The Benelux/FRG representatives had considered that the long-term aim should be to achieve the maximum possible uniformity of concept and organisation. The British delegate had not dissented from this long-term aim but felt "that its achievement was very much a matter of degree and that it was impossible to go further at this stage". The French delegate had reserved his position on the matter, saying that it was a policy subject and therefore outside the competence of the CE.

All accepted that up to about 1970 the nature of the traffic and ground environment would not change to any significant degree. The Committee therefore agreed that at that stage it was possible to consider the matter only in the short term, i.e. up to about 1970, when supersonic air travel was expected to begin.

Regarding the short-term situation there was general agreement that the relative responsibilities, both for civil and military aircraft, of the national air traffic control authorities and of EUROCONTROL would not change, and that the tasks remaining with the national authorities would accordingly continue to be much greater than those of EUROCONTROL. There was also, importantly, agreement that EUROCONTROL's prime task should be to concentrate its efforts in those areas where the situation with respect to the control of general air traffic in the upper airspace needed urgent attention and that these areas appeared to fall within the BENELUX/FRG area. Its second task should be to plan towards the developments in the long term, having regard to experience gained in the short term and to the need for a definitive plan for the BENELUX/FRG area.

The CE described this as a "first report" and proposed to have further discussions in the CE on the next steps to support the work for the short term.

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<sup>24</sup> WP/CN/VI/14, 11.11.1964

In the Commission's discussion<sup>25</sup> the divergence of opinions continued and Belgium, Netherlands and France made declarations of position. There was a strong difference of views between the BENELUX/FRG group of Four States (who of course had been the first to propose setting up such an organisation in 1958 and had invited the others to join) and the other two, France and the United Kingdom. In brief, the two attitudes were defined as set out below.

## Four States' Views

Specification of long term policy could be deferred, provided that an urgent short-term policy centred on the BENELUX/FRG region problems was agreed and applied. The Belgian representative underlined that his agreement to the short-term proposals did not detract in any way from his country's commitment to the purpose of EUROCONTROL as set down in the Convention.

He stressed the urgent requirement of the Benelux countries to find a solution to the issue of upper airspace control which were beyond the capabilities of the smaller countries. The proportion of gas-turbine and jet-engined aircraft in air traffic would grow and, when almost all controlled traffic flew high, it would be efficient and economical to place all traffic under EUROCONTROL authority outside terminal airspaces.

Both the Netherlands and Germany supported the Belgian statement.

It was emphasised that EUROCONTROL was created to serve a community purpose, not the private interest of each State: "Common organisation of the air traffic services in the upper airspace" (Article 1 of the Convention) implied the fullest possible standardisation of concepts, technical means and personnel, especially in coordination of civil and military traffic under integrated policies for control and navigation.

## Two States' Views

France and the UK restated their positions that the Organisation's development should fit the respective air traffic control concepts of the civil and military authorities of each State and that that in turn should define the operational activities of the Agency. They referred back to the positions stated in the Report of the meeting of the DGCA's and Chiefs of Air Staff in April 1962 that methods for implementing the EUROCONTROL Convention might differ according to the regions under consideration.

State tasks were heavier than those entrusted to EUROCONTROL, and this would remain so since both France and the UK intended to continue to control all military air traffic and it was unlikely that the two States would want to entrust lower airspace control of general air traffic to EUROCONTROL. In that case the direct takeover of general air traffic services in the upper airspace, as proposed by the Agency, would artificially and undesirably divide responsibilities for upper airspace services and would create serious operational, technical and staffing difficulties which would not be transitional.

The idea that such difficulties would be transitional if EUROCONTROL responsibilities were to be increased beyond those of States was sustainable only if Article 2 of the Convention were applied and States obtained Commission (unanimous) approval for air traffic services for the lower airspace to be entrusted to EUROCONTROL.

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<sup>25</sup> CN/V/1964

It would, therefore be more satisfactory for these State authorities to continue to carry out the control of general air traffic in the upper airspace, on behalf of the Agency, under Agency instructions and directives drawn up to be compatible with those the State applied to other traffic.

Agency planning should match the State civil and military plans.

In concluding the discussion the President of the CN noted the divergent approaches to how the EURCONTROL community should work in practice and that these should be the subject of further discussion. The general agreement was therefore that the CN should adopt the CE's report and the CE was invited to study further the question.

## Recognition of Urgency in Four States' Airspace

The definition of the respective responsibilities of EUROCONTROL and of the Member States was therefore a difficult issue and at the end of 1964 this had not been resolved.

Nevertheless for the upper airspace over Benelux and Germany, the direct responsibility of the Agency was approved and the implementation of the service was considered urgent.

Two control centres were foreseen to be built, one in Maastricht (urgent, for the northern part of the area), and the other in Luxembourg (for the southern part). The Rheincontrol Birkenfeld Control Centre, located in Germany and then operated by the Federal Republic's BFS<sup>26</sup> and NATO would have to be used by EUROCONTROL in the meantime, until the Luxembourg UAC became operational. Numerous studies had been made with the aim of evaluating future techniques to be used by air traffic control, mainly in the areas of navigation, radar facilities, digitalisation and remoting of radar data, automation and ATC organisation. The majority of these studies had been run under the aegis of the EUROCONTROL Experimental Centre and were the subject of the first official reports of the Centre. These would allow progress in providing services for the BENELUX/FRG area.

## The Role of EUROCONTROL - Decided Until 1970

Thus it was left that up to about 1970 EUROCONTROL's prime practical task would be to remedy deficiencies in existing State services to general air traffic in the upper airspace, with special and urgent attention to the BENELUX/FRG area, and, during this time, emphasis was to be placed on using State facilities, as distinct from creating EUROCONTROL's HQ. Further, EUROCONTROL was to coordinate with the national civil and military authorities on planning.

The accession procedures for Ireland had been put in motion and the country joined in 1965. Irish airspace was an important gateway to Europe and Irish accession gave extra weight to the efforts of the Agency. After Ireland, however, no new Member States joined EUROCONTROL for a full 23 years<sup>27</sup>.

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<sup>26</sup> BFS: Bundesanstalt Für Flugsicherung

<sup>27</sup> Portugal would be the next in 1986



# EUROCONTROL Expenditure and Members' Contributions - The Moroni/Walton Report

## Investment Costs and Burden on States - France Voices Concerns

The third President's period of office began on 1 July 1965, and the duty fell to France<sup>28</sup>. Just before that date, the Member for France wrote to the outgoing President, declaring anxiety over growth in investments for control centres under EUROCONTROL's direct responsibility, which France judged excessive by its own criteria and the cost of which Member States would have to share.

France provided a paper for discussion on "Examination of the general and financial policy of the Organisation with regard to the positions of the Member States" which, in brief, made these points:

- *Agency latest expenditure projections, two years after formation, vastly exceeded forecasts made in 1960.*
- *Separate centres for the upper airspace were not desirable.*
- *Upper and lower airspace control should be combined.*
- *EUROCONTROL centres should have a status of technical development not higher than that of State centres,*
- *Full forecasts for the operating costs of the EUROCONTROL centres were required,*
- *Staff of EUROCONTROL centres should have similar pay to State staffs in similar circumstances and should be subject to the appropriate State regulations,*
- *Possibilities for limiting the growth of EUROCONTROL commitments and for financing investments by loans should be studied,*
- *Agency (Central Services) staff growth was probably too high if allowance were made for the intention of some States to operate all their own air traffic services,*
- *Agency activities were adding to, rather than reducing, State administration work due to more meetings becoming necessary,*
- *A committee of inspection, appointed by the Commission, might be desirable at this stage to review Agency staffing and working methods.*

## Special Meeting of the Permanent Commission to Consider Issues

To discuss the subject of France's paper, the President Mr Marc Jacquet called his colleague Ministers for a special meeting of the Commission (12th Session, 26 October 1965), at which the Director General of the Agency was not represented. There was only one item on the agenda: "Examination of the General and Financial Policy of the Organisation with Regard to the Positions of the Member States".

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<sup>28</sup> Mr Marc Jacquet, Minister of Public Works and Transport of the French Republic. The Vice-President was Mr Roy Jenkins, Minister of Aviation of the United Kingdom

Given what had passed at earlier meetings of the Commission it was not surprising that differing views were aired and agreement difficult to find. However, after extensive debate the Commission supported the summary of Mr Urbain of Belgium.

*"In view of the experience gained in implementing the bilateral agreements and of the consequences of airspace organisation in the Member Countries, the entire situation would have to be reviewed with the object of recasting the Organisation's action programme. This programme should, within the framework of the Convention, render equivalent service to each of the member countries, and thus restore financial equilibrium between them. The study to be conducted before this new programme is laid down must examine EUROCONTROL's role in the establishment of operational requirements, its investment policy, its role in the implementation of control operations and the methods of financing by which a financial balance is to be struck between the Member Countries.*

*As regards investment policy, the study should be designed to:*

- a) ensure the adoption of common standards for European equipment;*
- b) promote co-ordination of ordering procedures;*
- c) enhance co-operation between the industrial firms concerned.*

*In examining EUROCONTROL's role in the execution of control, the following two cases should be taken into consideration:*

- a) the case of countries organised to exercise control at national level;*
- b) the case of countries which, in view of their geographical situation, exercise control on an international basis."*

The Ministers agreed that a Working Group of their Alternates (Directors General of Civil Aviation and Chiefs of Air Staff), assisted by the Director General, should review the whole situation in order to redefine the Organisation's programme of action. It was "to propose a solution, in conformity with the requirements of the Convention, with a view to enabling EUROCONTROL to progress towards a harmonised system which would ensure equality of treatment in all the States and restore genuine financial solidarity and adequate political equilibrium".

A high priority was given to its work as the Working Group held five plenary sessions plus one restricted session between November 1965 and January 1966. During its second meeting, on 17 November 1965, a sub-group was created to deal with financial matters under the chairmanship of Mr Walton, Director of Administration, UK National Air Traffic Control Services.

## The Working Group Produces its Report

The meetings of the Working Group saw lively exchanges on the interpretation of the Convention and on the future of EUROCONTROL itself, as Mr Moroni, President of the Working Group, himself reported later to the full meeting of the Commission and as was confirmed by comments from other participants.

Perhaps the most important conclusion of the Report was that, after recalling the mandate of the group, it drew a summary of the situation and views in the three concerned regions and then set out the following key conclusions for the future of EUROCONTROL:

*"It is apparent, therefore, that there exist different basic concepts which preclude full application of the Convention. This creates a situation which, under the continental law, could be assimilated to a "cas de force majeure"; warranting certain departures from the said Convention."*

*"In view of the present circumstances and for the foreseeable future, control should be carried out either directly by EUROCONTROL, for those countries accepting this formula or on a national or regional basis, on behalf of the Agency, in respect of those countries which are not in a position to entrust this task to EUROCONTROL."*

*"At any rate, and regardless of the formula adopted, reimbursement should be cancelled and the corresponding costs should be borne on a national or regional basis."*

The Report proposed that EUROCONTROL's future activities should essentially be redefined. It proposed that while "indirect" services should be long-lasting, the Organisation should concentrate on:

- the development of common operational methods and procedures and the coordination of upper airspace ATC systems for the various participating countries;
- a fundamental study of the best system of air traffic control over Europe after 1980 (not necessarily limited to the upper airspace alone or to the area embraced by the existing membership of the Organisation) bearing in mind that such a system, if approved, might well begin to be implemented soon after 1975;
- collaboration between Agency and States in planning air traffic system facilities, with a supporting programme of work by the EUROCONTROL Experimental Centre;
- direct provision of new facilities for upper airspace control in the BENELUX-FRG region and in Ireland;
- in the Benelux/FRG region, EUROCONTROL should assume responsibility of operating services in respect of new centres and of certain services in advance of the establishment of these centres;
- the development and execution of an agreed programme of work for the EUROCONTROL Experimental Centre at Brétigny and its coordination with the programmes of the member countries;
- the planning of equipment standardisation for the future, including the practicability and desirability of standardisation and central purchasing can be fully considered;
- coordination, relative on matters of concern in EUROCONTROL, of proposals submitted by Member States to ICAO regarding standards and recommended practices and the regional navigation plans of this Organisation.

## 14th Permanent Commission Sets the Future of EUROCONTROL

The Report of the group was presented by its President, Mr Moroni, to the 14th meeting of the CN on 28 January 1966.

The discussion was again a lively one, with many of the views expressed in the Working Group and in the 6th CN in 1963 repeated, with the difference that Ireland now joined the France/United Kingdom school of thought. The four BENELUX/FRG States wanted direct action by the Agency to implement and operate autonomous EUROCONTROL centres to control general air traffic, in the upper airspace at first but with capability to extend services to lower airspace if efficiency and economy so required. In the Four States' case, military arrangements had yet to be fully related to the general air traffic proposals.

France, the United Kingdom and Ireland, in their own cases for the foreseeable future, saw no need for EUROCONTROL to man centres. They reasserted their position that they wanted continued indirect discharge of Agency responsibilities in their airspaces such that the State would provide integrated control for upper and lower airspaces, with State staffs for both civil and military traffic.

Finally, the CN unanimously adopted the Report with the following points being made about its acceptance and the next steps to be taken.

The CN accepted, after some considerable discussion, that some departure from the strict provisions of the EUROCONTROL Convention could be accepted on grounds of "force majeure" so long as a term was put upon it, when full observance would be intended.

In the Benelux/Germany region, an international executive ATS organisation had to be brought into being, particularly because of the urgency repeatedly underlined by the representatives of the Four States.

Acceptance of the "indirect" option meant the Agency would be providing different modes of service for two groups of States for a substantial time and, therefore, problems of financial equity arose. In that respect, the CN's decision was that the Agency's statutory reimbursement of State running costs from its Operating Budget could cease but that such costs should be financed collectively through special Four State Agency budgets in the particular case of the Benelux-Germany region.

Investments were still to be reimbursed by budgeting "direct" Agency expenditure as it arose or by paying amortisation and interest payments to States that made "indirect" investments in discharging Agency responsibilities.

The Commission decided to call for a review of the Agency structure and establishment in the light of the redefined scope of EUROCONTROL<sup>29</sup>.

With a view to longer-term development, a requirement was identified for a high-level study on the political possibility of adopting common civil-military objectives in all Member States, for the organisation of a future air traffic system that would embrace the whole airspace and all air traffic. This was known as the "common operational concept" study.

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<sup>29</sup> This is dealt with in more detail in Part 2

To summarise, the Member States sought to amend the scope of the EUROCONTROL Convention in order to focus it to a greater extent on study, research and coordination activities rather than air traffic control activities, with the Organisation retaining the possibility of exercising direct operational responsibilities at the express request of Member or non-Member States.

## The Next Steps for the Agency

So, there was no lack of work for the new Agency, even if a general fabric of Organisation planning was missing. However, that wider issue was not left ignored. Even if it was hard to see how unified planning for the EUROCONTROL area could develop, still basic preparatory work could be done. The first need was to establish a picture of intentions for the development of facilities to serve the upper airspace, in as homogeneous a way as possible with due regard to States' wishes to take planning decisions alone or in groups via the Agency.

So, a series of "operational plans" for functionally separate parts of the area was put in hand. Also, in December 1963, the Director General had already set up a small group of his senior operational and engineering experts to draw up a concept of a EUROCONTROL ATS system for the middle 1970s ("EUROCONTROL ATS System Concept for the Middle 1970s").

The progress of work on this was mentioned in EUROCONTROL's annual reports for 1964 and 1965, the latter saying that an interim concept report had been circulated for comment in and outside of the Organisation. The CE (23rd Session, June 1966) asked for its members to be supplied with an updated report taking account of comments received but cautioned against further outside distribution. That request was met on 19 September 1966, when it was noted that the concept work must adjust to the CN's decision on fundamental system concept studies for the future after 1980.

Then in 1967 began the "common operational concept" study by a high-level Technical Sub-Group under the CN's Study Group of Alternates. Thereafter, there was no more mention of the Director General's group and the Technical Subgroup also faded away in 1975.

What did this mean for the morale of those who had come to work with EUROCONTROL with a European vision consonant with that of the founding principles? Dr Hansjürgen von Villiez joined the Association in 1962, becoming a Head of Operations Division between 1965 and 1967 and going on to be the first Director of MUAC (1968 - 1988). Writing in 2007 he said:

*"It was a shock for all of us and there was only one valid answer: to strive for the best possible solutions in all our activities so as to demonstrate that the European approach is more than only the sum of the indispensable elements. Indicative of this attitude was that all projects were terminated on time which presented, in itself, a highly valuable product. The commitment to success directly influenced the spirit of teamwork amongst operational, technical and administrative staff. Being part of those teams, and being able to identify my contribution in some components of the growing system, gave me a high professional satisfaction."*

# Major ATM Developments and International Coordination

## ATM Developments

### Collection of Route Charges

ICAO had already held a first Route Facilities Charges conference on the subject in Montreal in 1958<sup>30</sup> at which the basic principles to be applied by governments were formulated.

In 1965, the Federal German Cabinet, in approving a domestic programme for air traffic control services, decided to consider the possibility of users of air navigation services paying the costs of using those facilities and services. Following up on this in 1966 the Agency had contacts with ICAO reporting on its own study of a possible charging method which could be applied to Member States under Article 6(2)(e) of the Convention.

This was followed by an inter-State Working Group, held at EUROCONTROL's Headquarters on 25 October 1966, for "the examination of all aspects of the preparation of a multilateral agreement on the financing of recovering costs of ATS services for GAT in the upper airspace of the region".

Since most of the route charges developments concerning EUROCONTROL would take place after 1965 this subject is more fully dealt with in Part 2.

### Separation of Aircraft

By 1966 the Agency had initiated several studies on Conflict Detection and Resolution (CDR) Logics with four reports made by the Director General to the Committee of Management in 1966 alone. This work was developed further in later years at a strategic level while Maastricht UAC would develop its own Short-Term Conflict Alert system and implement it in 1980.

### Use of Secondary Surveillance Radar (SSR)

Already in the work of the Association there was a EUROCONTROL working group on implementation of SSR. This developed into a coordination process with Member States and IATA on a programme for progressive introduction of ground and airborne equipments in the EUROCONTROL area, taking due account of the lower airspace requirements envisaged by each State. Coordination through the new Agency ensured that consensus was built on operational requirements for SSR and on how to step up the functionality of ground and airborne equipment as system needs became clearer. A communal timetable for mandatory carriage of SSR transponders in specified airspaces, with progressive upgrading of the functions required, was created and periodically updated.

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<sup>30</sup> See Press Notice [http://www.icao.int/icao/en/nr/1958/pio195804\\_e.pdf](http://www.icao.int/icao/en/nr/1958/pio195804_e.pdf)

## **Navigation Systems**

The Agency worked in this period on the evaluation and contribution to its developments of the two competing navigation systems called HARCO (the old DECCA hyperpolic navigation system) and the VORDAC (VOR-DME area navigation system). This work would be continued through into the 1970s and contributed to the ICAO decision to standardise VORDAC as the world-wide navigation system.

## **Aeronautical Information System (AIS)**

From 1963 there was a basic AIS in place in the Agency which consolidated the NOTAMs from the Member States and circulated this as a single document.

## **The Statistics Service and of Air Traffic Forecasting**

There was no adequate base of data on current air traffic in western Europe upon which to found predictions, nor was there clarity over the way predictions should be constructed to support system planning. A tentative first step was made when States' administrations interested in EUROCONTROL cooperated in an exploratory first survey of general air traffic (GAT) in the upper airspace for one day in July 1960.

From then on efforts were directed to establishing common methods for creating statistics that would show the load of air traffic control services to be provided at the level of control sectors within any given control centre. It became clear that this would involve a considerable cooperative effort that would end with bringing together, cross-checking and analysing thousands of Flight Progress Strips from all cooperating Centres. The requirement was for special system knowledge, for coordination among Centres and for processing and analysing a large volume of data. Accordingly the EUROCONTROL Statistics Service came into being.

Annual GAT Surveys for a week in early July were conducted up to 1967. By 1966, the Agency had established an unmatched grasp of the problem of assessing air traffic control loads in terms most useful to system facility planners and the requirements for forecasting were defined accordingly. This competence would be applied to excellent effect in the priority task of creating the new Centres for the Benelux/Germany region and was crucial in the success of the real-time and fast-time system simulation methods which were being developed at Brétigny. In due course ICAO regional planning came to rely on EUROCONTROL for detailed facts on traffic development.

## **International Cooperation**

EUROCONTROL quickly saw that it could also be more effective if it were to work closely with other States. Under Article 12 of the Convention agreements were signed with Denmark, Norway and Sweden in 1964, Switzerland (1965), Italy (1966) Portugal (1966) and Austria (1967). The agreements were aimed at establishing technical cooperation, especially through the exchange of information and meetings of experts, with the clear benefit of improvements to contiguous air traffic systems.

A significant event took place in November 1964 when the Federal Aviation Agency (FAA) and EUROCONTROL signed an agreement to increase their cooperative efforts in the area of air safety. Mr René Bulin and Mr Najeeb Halaby, FAA Administrator, described the agreement as an "important step towards a harmonious, constructive relationship between the USA and the six western European nations in providing safe and efficient air traffic control service for international airspace users." It demonstrated EUROCONTROL's growing global reach when taken with the agreement signed with ICAO.

The new agreement opened the way for free exchange of technical information and air traffic statistics through designated FAA and EUROCONTROL representatives. It also provided for the exchange of technical personnel when required, and for meetings of technical experts from both organisations. Studies and experiments would be undertaken by either FAA or EUROCONTROL on each other's behalf, subject to mutually acceptable terms and financial arrangements.

### **ICAO and EUROCONTROL**

The 1960 Convention left no doubt that, as an essential principle and reflecting its influential role in the genesis of EUROCONTROL, ICAO and its well-proven codes and standards, recommended practices and procedures must be the basic frame of reference for the evolution of EUROCONTROL's policies and studies.

The working relationship with ICAO which the Organisation, and especially the Agency, should develop began to be defined in January 1964 when the Organisation recognised that there was a need for common views regarding the upper airspace to be expressed in ICAO discussions and that the Agency had a particular role to play which needed to be set down.

On 10 February 1964 the President of the Council of ICAO had informed the Director General of the Agency that "the Council of ICAO would have no difficulty in approving the inclusion of EUROCONTROL in the "list of Organisations which may be invited to certain meetings of ICAO". There was some discussion among States on whether EUROCONTROL should be represented in a body where the States were individually represented but in the end the concerns of some representatives were overcome.

As a result CN Directive No. 4 of 19 October 1964 authorised the Agency "to enter into negotiations with the International Civil Aviation Organisation (I.C.A.O.) with a view to including EUROCONTROL as an observer in the "list of Organisations which may be invited to certain meetings of ICAO". There were some months of exploratory discussions between the two Bodies, over what the new movement in Europe would mean for established ICAO practice and how much they might need to participate in each other's meetings, but eventually a joint Memorandum of Agreement, on ICAO note-paper, was signed by the President of the ICAO Council and the Director General of the Agency on 4 November 1965.



### **Arrangements for cooperation between EUROCONTROL and ICAO**

- a) ICAO will receive regularly from EUROCONTROL all information which might be of interest to its regional and world-wide activities and, in particular, the ICAO Regional Office in Paris will be informed at the earliest possible date of any operational plan approved by the Committee of Management of EUROCONTROL and of any decision or plan which might affect the ICAO Regional Plans for Europe and the North Atlantic.
- b) ICAO (Paris Regional Office) will be invited, as cases of the kind occur, to participate as an observer in EUROCONTROL meetings as well as in meetings of EUROCONTROL with its associate States or with certain Organisations when those meetings deal with questions which might affect ICAO Regional Plans or their implementation.
- c) EUROCONTROL will receive from ICAO all documentation and information regarding ICAO Regional Plans and their implementation as well as world-wide specifications or studies in which EUROCONTROL would be interested.
- d) EUROCONTROL will be invited, as cases of the kind occur, to participate as an observer in all ICAO meetings dealing with subjects related to the activities of EUROCONTROL."

## Summary

EUROCONTROL was born because of the need for international coordination due to the arrival of the jet civil airliner and the complexity of the issues raised by this.

It is interesting to look, at the end of this part, at what that impact had been. In May 1967 ICAO released its report on air transportation in 1966<sup>31</sup>. It noted the following.

"By the end of 1966 jet aircraft, though amounting to slightly less than 30% of the fleet numerically, because of the combined effect of their speed and size, accounted for about 80% of the total capacity offered in terms of tonne-kilometres available. Thus in eight years these aircraft have come to a position of complete dominance in the air transport picture. The most noteworthy facts that emerge from a review of developments in 1966 are the very large numbers of deliveries and orders of jet aircraft, the leading position of short-range and medium-range aircraft in these totals, and the first appearance in the list of orders of the Boeing 747, the so-called "jumbo" jet with a possible passenger capacity of nearly 500."

However, EUROCONTROL, which had been born out of a wide international consensus that air traffic control had to be provided on an international, cross-frontier basis due to the arrival of civil jets, had seen its original vision subsumed to national interest. However, its expertise would be successfully put to work on many of the issues arising, such as aircraft separation, that affected the whole of civil (and military) aviation in both European and global arenas.

As the European Commission noted much later on, the vision in 1960 of providing air traffic control for the entire upper airspace of its Member States "represented too great a transfer of sovereignty for some of its first member countries – even before the Convention entered into force"<sup>32</sup>. What would come, however, would be the establishment of the world's first - and today still only - multinational air traffic control centre which would, despite a difficult gestation period, prove to be best in class.

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<sup>31</sup> <http://www.icao.int/icao/en/nr/1967/>

<sup>32</sup> "Freeing Europe's Airspace" COM(96) 57 Final



## **Part 2:** 1966 - 1986

EUROCONTROL continues with  
revised/reduced mandate

## Précis

The Moroni/Walton Report left EUROCONTROL shorn of its founding purpose. There was a great deal of uncertainty about how the Organisation would function if the “force majeure” set of activities of the 14th Permanent Commission were to be managed to the satisfaction of the Member States who were now faced with a very different scenario to that envisaged by the 1960 Convention. The Organisation and its Agency still seemed to have a substantial mandate but the consequences of the decisions taken at the 14th Permanent Commission had not been thought through and this became evident shortly afterwards.

After 1966, therefore, the Permanent Commission, the Committee of Management and the Director General set to work to determine a *modus operandi* for EUROCONTROL. In Permanent Commission meetings over 1975 and 1976 this came to a head with discussions on the reports of the Study Group of Alternates and a special report by the then President of the Commission, Mr Westerterp of the Netherlands, who had consulted the governments of the Member States.

The commitment of all of the States to the original founding vision was therefore tested and was not supported although strong support for a substantive, non-executive, role for EUROCONTROL's future was evident. The subsequent discussions to develop this role would lead to the redefining of the Organisation's mandate and the beginning of the work to draft the amended Convention, which would take a further ten years to ratify and bring into force. Although it was due to be in force for 20 years by 1986, however, the pressures on the European ATM network were such that a new mandate was already being considered for EUROCONTROL and discussions had already begun on the likelihood of a new Protocol, with much of the initiative coming from ECAC's Ministers of Transport.

The European Parliament was also aware of the issues, and expressed concern at the lack of clear intergovernmental accords to provide common air traffic control services. Several resolutions were passed to encourage this and EUROCONTROL was well supported in what it had achieved with a positive future role being proposed. An exchange of letters between the Organisation and the European Commission subsequently led to a working agreement in 1979 on cooperation taking account of the competencies of both organisations.

In parallel to this the CN and the CE devoted a great deal of time in trying to set down management processes, operational, technical and financial, which would allow the Organisation to resolve the complex situation in which it now found itself. Much work was done in CE sessions on developing a planning mechanism but few practical outcomes were achieved. Nevertheless some initiatives were taken which would stand the test of time and prove to be essential to the success of future tasks laid on the Organisation, such as the establishment of the EUROCONTROL forecasting service which became STATFOR and the inchoate Aeronautical Information Service.

However, true to the founding spirit, the Four States (Benelux/FRG) went ahead with Maastricht, and Karlsruhe and Shannon were developed and built. However, the commitment of these States was difficult to maintain in the face of a lack of universal support for a common system of control in the upper airspace. The German and Irish governments later renationalised these last two, and the Dutch government did not hand over the Amsterdam Upper Sector to MUAC until March 1986.

Expansion of the Agency's capabilities was approved. The Institute at Luxembourg was established and the first *ab initio* course began on 5 January 1970. The EUROCONTROL Experimental Centre building at Brétigny was officially opened and the Centre could more fully play its part in the setting-up of Maastricht UAC and other centres and in the development work of EUROCONTROL.

There were several key international developments in which EUROCONTROL and its Agency played an influential role, particularly through involvement in ICAO. Flow management, route charges and the safe separation of aircraft were all growing in importance. This period would see the establishment of EUROCONTROL's Central Route Charges Office as a major achievement in developing a solution to a global issue and which would extend the CRCO's scope to other European, non-EUROCONTROL States as an example of the wider harmonisation and integration that would follow. It would also prove an invaluable source of traffic information.

Due to EUROCONTROL's experience in developing Maastricht UAC and Karlsruhe UAC non-Member States began seeking the Agency's help in modernising and upgrading their systems, often as a prelude to applying for membership. The strategic and institutional issues surrounding the future of the Organisation will be dealt with first since they determine the way in which the Organisation and its Agency would evolve over the next 20 years.

Directors General over this period were Mr René Bulin (1963-1978), Mr Jean Lévêque (1978-1983) and Mr Horst Flentje (1983-1988).

## The Operational Environment and Technical Challenges in European ATS

It is worthwhile recalling the situation in European ATS in the late 1960s and early 1970s, the period known as “the Cold War”.

All States with busy airspace were facing a need to provide air traffic controllers with better means to obtain and handle information on the dynamic traffic situation, as traffic demand became too heavy to deal with by the existing flight information systems and methods. There was widespread acceptance that the main theme for air traffic system development in western Europe was to apply automatic flight data processing in a demanding real-time application. Solutions would not be found quickly, easily or cheaply.

Together with the above there was ready consensus on the requirement to strengthen civil/military traffic (GAT/OAT) co-ordination, to extend a more positive but flexible kind of control service in the upper airspace and to provide a better quality of radar surveillance in coordination with airspace users. This was to be achieved through a shift towards the ICAO secondary surveillance radar system with matching ground and airborne equipments operating in unison.

All this had to be engineered with due regard to the established control systems and processes, and in a way acceptable to the controller as a human with an important safety responsibility, so that the system could, progressively, deal with more aircraft in a given space and time. This meant achieving closer but always safe spacing of aircraft under control, whilst yet reducing the need for voice communication between pilots and controllers.

These fundamental requirements are familiar today.

# Post-Moroni Development of EUROCONTROL

After the CN's 14th Session, the guidance had seemed to be that the EUROCONTROL States intended to take steps towards greater commonality in the organisation of air traffic services by about 1980, with a recognition that the eventually agreed system could begin to be implemented by 1975. However, the detail of this still had to be developed.

## Common Operational Concept

A first step was to be the working out of a "common operational concept" and the CN (16th Session, 16 November 1966) appointed a working group of the civil and military official deputies to Ministers in the Permanent Commission, which became known as the Study Group of Alternates. A report by the Group was accepted by the Commission (35th Session, 23 March 1972) which made two formal recommendations to Member States to:

- *adopt the common objectives defined by the study and*
- *cooperate on that basis to develop longer-term ATS systems planning for the air traffic system of the EUROCONTROL area after 1980.*

The Study Group of Alternates was charged to pursue studies along the lines of these recommendations. On 21 June 1972 the Study Group set up a Technical Sub-Group to advise on the further pursuit of longer-term systems planning but the work of this Study Group came to an inconclusive end in June 1975. It seems clear from the record of the Commission and the Committee of Management that this occurred because the Organisation was becoming preoccupied with its study on the "future activities of EUROCONTROL" (which would of course lead to the 1981 Protocol to amend the Convention). This made uncertain, however, what kind of planning could usefully be done in EUROCONTROL for the time being.

The Agency had attempted to anticipate the EUROCONTROL Organisation's requirement and had initiated its own work on a system concept. In December 1963, the Director General had set up a small group of his senior operational and engineering experts to draw up a concept of a "EUROCONTROL ATS System Concept for the middle 1970s". The progress of work on this was mentioned in EUROCONTROL's annual reports for 1964 and 1965, the latter saying that an interim concept report had been circulated for comment inside and outside the Organisation. The CE, in June 1966, asked for its members to be supplied with an updated report taking account of their comments but cautioned against further outside distribution. The report was submitted at the CE meeting in September 1966, when it was noted that the concept work must adjust to the Commission's decision on fundamental system concept studies for the future after 1980. This referred to the work begun on the "common operational concept" study by the Alternates' Technical Sub-Group mentioned above. Thereafter, there was no more mention of the Director General's group and, as noted above, the Technical Sub-Group also faded away in 1975.

The work on a future ATS systems concept, on which so much could have been built, was not apparently seen as a priority other than by the Agency.

## Attempts to Establish a Planning Mechanism

In December 1963 the President of the Permanent Commission had asked the Director General to make proposals to the CE so that it could in turn submit plans for the approval of the CN on the investment and operating programmes extending over several years.

For several years thereafter, due to the uncertainty surrounding what the EUROCONTROL Organisation should be doing in the short term, the CN had not raised any actions on the subject of "operational plans". However, the CE had discussed their production frequently, starting in 1964 and looking towards the period up to 1970, in line with the short-term role decided at the 14th CN in 1966. Apart from the actual provision of services in the Benelux/FRG area the main emphasis was to be on coordination and planning, and mechanisms were required to do this effectively.

In the first few years the CE directed its attention to the operational and technical compatibility of States' intentions from an Agency viewpoint. Then the CN (20th Session, 25 April 1968) considered a paper from Belgium making the case for more control on "indirect" investment expenditure. The Agency was requested to submit detailed reports on budget forecasts deriving from plans already approved by the Committee up to 1971 and for plans in draft for the five-year period 1972-1976.

That marked the start of what became a clear switch in Member States' intentions.

At first, even if only implicitly, the main purpose had been to build technical bridges of thought between planners in the States and in the Agency but, in the atmosphere of 1972 and later, interest started to focus instead on the cost-sharing aspect of programmes, the financing of which from Agency budgets had become a complex and resource-absorbing question after the "indirect" option was recognised in 1964 and confirmed in 1966. The transition of emphasis was illustrated by the modification of terms used in a sequence of CN actions that can be described briefly as follows:

- 27th Session, 19 March 1970, noted progress on an "outline operational plan" 1973 - 1977.
- 30th Session, 6 April 1971, noted progress did not yet permit a "complete plan for 1972 - 1976" to be established.
- 36th Session, 22 June 1972, noted progress with "operational and financial plans 1972 - 1976". It also approved an interim "system of financial planning" and requested a "more detailed financial planning procedure" for the "1974-1978 plan and the plans for subsequent periods".

The requirement for financial programmes under Article 11 of the Statute of the Agency had thus been invoked in 1963 by the President of the Permanent Commission but it took ten years to give it effect when the CN (38th Session, 12 April 1973) approved a CE report which proposed a procedure for drawing up what became known as "five-year plans".

The first attempt at a full "five-year Plan" for 1974-1978 had already begun in Summer 1972 but it was far from being a homogeneous document, since it had to cover not only the three regions with different operational characteristics and capabilities but also the Agency's central services. It took a long time for seven State Administrations working with the Agency to come to a thoroughly developed procedure. Indeed it was five years after 1972 before the General Directorate could produce a draft "EUROCONTROL Planning Manual" to manage this process and this was submitted to the CE in July 1978. This was generally agreed, although never fully approved, and was used as guidance only until the "five-year Plan" procedure ended in 1981.



This was the furthest the Organisation went, under the 1960 Convention, with any facet of common planning. It did, in practice, absorb a great deal of time and effort in every year from 1972 to 1981. No attempt was really made, in any substantial way, to cover the development of longer-term system concepts, nor the possibilities for better common organisation of air navigation services outside of the direct responsibilities of the Agency. By definition, it dealt only with upper airspace matters and especially the idea of financial equity among States. Thus, the development of any comprehensive policy or strategy for system development was precluded and the effort had little bearing upon the common organisation of air traffic services at the time. Instead the ICAO "Rolling Plan" mechanism was, *faute de mieux*, adopted.

Despite this lack of apparent progress, however, the principal benefit of the work on "five-year Plans" was that it established some understanding of what a future system for producing truly common plans among the Member States would involve. It produced interesting developments on the subject of studies, tests and trials financed through the Agency, which would in any event be the basis of a future comprehensive planning system.

## Review of the Agency's Structure

At its 14th Session in January 1966 the Commission had decided on a study to review the Agency's future structure and establishment post-Moroni and the task was given to a Committee of Experts.

The work of the Committee of Experts was reviewed by the Study Group of Alternates, chaired by Mr Wood, and subsequently the Alternates reported to the Commission in its 16th (November 1966) and 17th (April 1967) sessions. These discussions demonstrated the difficulty experienced by the States' high-level representatives and their experts in, first, interpreting the consequences of the Moroni/Walton Report and, second, in assessing what the Agency's resources should be to meet present and future requirements.

Before the 16th CN [date] the President, Mr Mason of the UK, had written to his colleague ministers on 8 November saying that although the work of the experts had been thorough it was nevertheless based upon interpretations of the Moroni/Walton Report which, in his view, were open to argument (NB this was barely nine months after the Commission had agreed the Moroni/Walton recommendations).

As a result of their interpretation, the experts had recommended quite sweeping reductions in actual and proposed staff levels and the Report had apparently become known within the Agency. The President stressed that without any agreement at Ministers' level about the future role of EUROCONTROL such recommendations were difficult to accept and their effect would be to damage the morale of the Agency's staff. Mr Mason proposed that the Study Group of Alternates be asked to review the Report and do so in discussion with the Committee of Management and the Director General (neither of whom had so far been consulted).

At the 16th CN, Mr René Bulin confirmed that although he had received a copy of the experts' Report in mid-October he had not been consulted by them. Mr Mason's comments and proposals were agreed, in particular that the Agency, i.e. both the Committee of Management and the Director General, should be consulted and their views taken into account by the Alternates.

At the 17<sup>th</sup> CN the Alternates presented their Report (known as the "Wood Report"). It was evident that the lack of contact with the Agency and the failure to test their findings with those concerned had meant that the Report had serious drawbacks. Although, said the Alternates, the experts had worked on the basis of the information available to them nevertheless they had underestimated both the amount of work to be done to support the Agency's new role and the resources required to carry it out. Some of the proposed cuts were "excessive" and the proposed provision of staff was "hardly sufficient", particularly with regard to the planning and commissioning of the Maastricht Centre.

In addition the Alternates said that the Aeronautical Information Service (AIS) and the Regional ATS Services should be continued, rather than wound up as the experts had recommended and that provision should be continued for the military liaison officers (MLOs). The Directors General's support team should be strengthened since the responsibility for coordination within the Agency must rest with the Director General rather than be handed to a new post of "Comptroller and Coordinator" as recommended by the experts.

The Alternates set out an organisational structure, staff plan and a budget for the Agency up to 1970 which nevertheless provided for a saving on the Agency's own proposals but reinstated many of the reductions proposed by the experts. Inter alia the Agency should concentrate more on short-term appointments and review its grading structure vis-à-vis the post requirements. A firm of consultants should be used to review the Agency's working methods and processes.

The CN agreed the proposals of the Alternates and said that the implementation of the proposals should be reviewed in 1970. Subsequently at its 27<sup>th</sup> Session in March 1970 the CN received a progress report from the CE<sup>1</sup>.

Mr Roberts, President of the Committee of Management, reported that most of the recommendations contained in the "Wood Report" had been implemented and those which had not been able to be implemented in full or within the projected time limit had either been overtaken by events or had proved difficult to put through in their original form; others had been impossible to apply owing to circumstances beyond the Agency's control. The basic assumptions concerning the Agency's tasks had undergone considerable development and as a result of certain additional tasks given to the Agency, it had not been possible to adhere strictly to the staff numbers quoted in the Wood Report, but such increases had been strictly limited, particularly for the A grades. Mr Roberts congratulated Director General Mr René Bulin on his meticulous cooperation on this work.

The CN accepted the Report of the CE and noted that the Agency had now developed a stable basis on which to do its work for the next years. Some Commission members thought that they should regularly review the Agency's staff numbers. The President of the Permanent Commission pointed out, however, that under Article 9 of the Agency's Statute, matters concerning the internal organisation of the General Directorate and the Agency's regional external services fell within the competence of the Committee of Management and the Director General. This was thus also an occasion when the CN stood back from micro-managing the Agency.

This experience showed that over a relatively short period of two to three years the States' requirements for common actions stimulated by external events, and hence their need for the Agency to be ready to take on the necessary work, was difficult to predict. Further, it was evident that short-term measures, such as had been proposed by the experts, risked bringing the Agency to the point where it could not meet the States' needs.

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<sup>1</sup> WP/CN/XXVII/ 7

Indeed, if the AIS had been wound up as proposed by the experts it is difficult to see how the Agency would have been able to develop the capacity to provide such an important common service which formed the backbone to the work later carried out in the 1990s and into SWIM which would be a cornerstone of the future SESAR Programme (see Part 4). Similarly the cancellation of the military expert posts would have led to great disadvantages for the crucial developments in civil-military coordination in later years.

## **Mr Nottet**

At the 17th Commission described earlier the President paid tribute to Mr Nottet, DGCA of Belgium, who was retiring as President of the Committee of Management after four years. Mr Nottet had always been a staunch supporter of the concept of EUROCONTROL. He had been President of the General Assembly and the Provisional Commission, as well as President of the Council of the EUROCONTROL Association until elected President of the Committee of Management at its inception in 1963. During his term of office Mr Nottet had piloted through the important Brétigny and Maastricht projects and had been in the centre of the negotiations leading to Ireland becoming a member of the Organisation, as well as encouraging cooperation with adjoining States.

Mr Nottet, in his turn, hoped that in the long run it would be possible for each Member State to apply the Convention in a way which would increase the importance of the Organisation. He paid tribute to Mr René Bulin, whom the Committee of Management had agreed to appoint for a further five years as Director General, as probably the man who was mainly responsible for EUROCONTROL's current achievements. The President supported this statement and said that all were grateful for the work of Mr René Bulin.

# “Future Activities of EUROCONTROL” - The Scope of EUROCONTROL Again Re-examined

## Questions Begin to be Asked

All this uncertainty and lack of organisational purpose made it evident that EUROCONTROL could not continue on the basis simply of the “force majeure” decision taken at the 14th Commission.

That attempt to redefine the activities of EUROCONTROL had been a result of a chain of events and decisions taken as a reaction to that draft EUROCONTROL Plan of 1962 when the implications of the vision becoming reality began to be clear. There seemed to be little thought given, however, to what would come after in practical terms. The Member States had left open too many questions on when and how the Organisation should move towards the aim of common organisation of air traffic services for the upper airspace. Attention returned to those questions when the CN (as described above at its 27th Session in March 1970) completed its review of the Agency organisation, which included new steps being taken to create the Institute of Air Navigation Services and the Central Route Charges Office. These developments are described in more detail later in this Part).

A diplomatic conference had also just been called in the month before (9-11 February 1970) to revise the Convention in regard to taxes and charges, and this opportunity prompted Belgium to send a note to the conference and a proposal to the CN (27th Session, 19 March 1970) to fix a timetable for formulation of a common policy with regard to contracts, a common operating budget and, importantly, to put full implementation of the Convention back on to the Organisation’s agenda.

Pressure was also growing from the airspace users for improvements to the system. EUROCONTROL’s Route Charge System was by then in its first 12 months of operation, with a modest recovery rate that was intended to increase progressively. However, when the CN (40th Session, 8 November 1973) agreed that the recovery rate should rise to 60% with effect from 1 November 1975, the Director General reported IATA airlines’ disquiet and their wish to know how EUROCONTROL proposed to go about promoting a more satisfactory system in return for these higher costs on the industry. He was invited to set out certain proposals for restructuring the Organisation to make it more effective. However, that action never developed because, before it could do so, the CE drew the attention of the CN (42nd Session, 27 June 1974) to the problem posed by the aim to achieve full application of the Convention by about 1986 in regard to new proposals in the 1969-1974 “five-Year Plan” then under study. This brought matters to a head.

## CN 42<sup>nd</sup> Session - Work Begins

At that session in June 1974, the CN considered that the time had come for the governments of the Member States to define the lines along which the Organisation’s activities might proceed for 1985 and beyond. It requested its Study Group of Civil and Military Alternates to review and propose criteria which could assist governments in making their choice and also requested the Agency to submit to the Study Group its views on the Organisation’s future activities.

## CN 43<sup>rd</sup> Session

In November 1974 the CN reviewed the scoping work done so far and requested the Study Group of Alternates to continue. It agreed that the study should examine the financial, administrative, technical and operational consequences of the various alternatives envisaged, and requested the Study Group to submit a final report at its session to be held in June 1975. This was a major exercise and so the Study Group of Alternates decided to set up an ad hoc working group designated “The Future Activities of EUROCONTROL Sub-Group” to undertake the required detailed examination and it was agreed that the Director General should participate in the Sub-Group’s meetings. The Study Group decided that it would not be appropriate for EUROCONTROL staff representatives to take part as full members of the Sub-Group but requested the Sub-Group’s Chairman to maintain contact with staff representatives during the course of the Sub-Group’s study. The Members of the Sub-Group were also requested to hold a meeting with staff representatives, possibly towards the end of the study.

## CN 45<sup>th</sup> Session

In May 1975, the President opened the discussion on the Alternates’ Report by stressing that the course that the Ministers took during and subsequent to the session would be “crucial for the future of the Organisation and would also be a test of their desire for European cooperation in a field of particular importance to them”.

He also read out a letter from EUROCONTROL staff who were deeply concerned about developments in the decision-making levels of the Organisation. The staff described themselves as “dismayed” at the tenor of the documents before the Commission and reminded them that “entry into service at EUROCONTROL was, for their part, an act of faith in a specific form of European cooperation”.

The Commission then considered the report, which set out the following alternatives of future activities of EUROCONTROL:

**Alternative A** *full implementation of the Convention.*

**Alternative B** *implementation of the Convention amended in the light of the Moroni Report.*

**Alternative C** *implementation of a revised Convention strengthened through integration of the lower airspace.*

**Alternative D** *revision of the Convention enabling some States to provide air traffic control on a national basis and others to combine if they so wished.*

There were serious questions posed by the presentations of these alternatives since they would, depending on the path chosen, be the basis on whether or not EUROCONTROL would continue to have a future role acceptable to all the Member States.

Alternatives A and B were ruled out in the discussions, however, on the grounds that they had been “overtaken by developments in recent years and were hence unrealistic”. In dealing with Alternative B the Alternates had pointed out that the complexity of the situation that had arisen meant that too much time and effort was being taken up by the financial and administrative mechanisms required to support it. There were substantial administrative problems arising at interfaces where national and international staffs were working at equivalent tasks. Too little of the work of the Agency was directed to the safety objectives of the Convention. On the other hand over two-thirds of the time of the Committee of Management was being spent on financial and administrative matters<sup>2</sup>.

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<sup>2</sup> As noted earlier in the section dealing with “Planning”

There was an exchange of views on Alternatives C and D<sup>3</sup>. Clearly C was, for the Benelux/FRG States, a return to the spirit of the 1960 Convention but for France, the UK and Ireland it was not acceptable for the reasons they had consistently set out. On the other hand the attitude of the Benelux/FRG on D was that this was not even simply a continuation of the post-Moroni position. The Report had failed to review the successful, often pioneering, work done on systems development for the Maastricht, Karlsruhe and Shannon UAC Centres and which might be used, inter alia, in considering Alternative C. It was almost as if the BENELUX/FRG States would have to consider de novo their position post 1983.

The Netherlands had some concerns that Alternative D seemed to foresee the renationalisation of air traffic control and it did not support this. Mr Westerterp, President of the Permanent Commission who would play a key role in the next stages, pointed out that Alternative C would require a fundamental political decision to be taken on a greater degree of European integration. His Government's position was that this issue, as well as the operational, technical and financial implications of both C and D, needed to be studied further.

It was agreed that there was a lack of substantive analysis of the operational, financial and social elements of both C and D. The Director General also pointed out that Alternative D made no reference to the permanent tasks assigned to the Organisation and it was this lack of clarity, inter alia, which had given so much concern to the Agency staff.

Clearly some words were needed to bridge the gap that had developed and Mr Cavaille (Secretary of State, French Ministry of Transport) said that the Report revealed a substantial credit balance in the EUROCONTROL Organisation's favour. It was evident that there had been many technical achievements which were recognised internationally and particularly by ICAO. The Organisation had achieved a well-deserved authority and reputation in the world of civil aviation, and one of the States' objectives should be to develop it in future. Although he felt that C was not feasible at present, nevertheless it should not be precluded because the political environment might change - after all, EUROCONTROL was looking towards 1983 - and it merited further study.

This was supported by Mr R. Goodison (Deputy Chairman of UKCAA and representing the Minister) who stressed that the UK strongly supported the case for an organisation like EUROCONTROL, that it constituted an essential factor in maintaining an efficient air traffic control system in Europe and that it should have a strong coordinating role (including the development of a common procurement policy). Although C was perhaps an ideal nevertheless any alternative adopted should leave the way open for it to be discussed and evaluated. He recognised that D had perhaps been formulated in negative terms but the UK certainly did not see it as a prescription for the demolition of EUROCONTROL or for an abandonment of the centres being set up. He recognised the concern of the staff representatives and hoped that the tenor of the CN's discussions would allay their fears.

At such a defining moment, the President summed up the discussion as having brought significant political statements to the table. Several representatives had said that before going further they wished to consult their governments, particularly in view of the wider European integration and developments that were taking place<sup>4</sup>. The President also took note of a Resolution which had just been passed by the European Parliament and which was specifically aimed at the present Commission meeting. This had expressed Parliament's concerns "at reports of possible cutbacks in EUROCONTROL and calls upon the Governments of the Member States of EUROCONTROL to ensure that that Organisation retain its capacity in the future to carry out its important work"<sup>5</sup>.

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<sup>3</sup> CN/45/Doc 76.40.36

<sup>4</sup> In 1973 the UK, Denmark and Ireland had joined the European Communities (Norway had applied and been accepted but withdrew after a national referendum). By 1975 work was advanced on monetary cooperation and on establishing direct elections to the European Parliament

<sup>5</sup> WP/CN/45/17

The Permanent Commission invited its President, Mr Westerterp (Ministry of Transport, Netherlands), to sound out the governments of the Member States in order to assess the political implications of Alternatives C and D in the current European context. The Study Group of Alternates was also requested to continue with an in-depth study of Alternatives C and D.

## CN 46<sup>th</sup> Session - High Level Guidance - Positions Set Out

This high-level political consultation was a key development. The President reported back to the 46th meeting of the Commission in October 1975<sup>6</sup>.

The three main conclusions from his discussions were the following:

1. *EUROCONTROL was to be preserved after 1983;*
2. *it had been agreed by all concerned in the course of his consultations that EUROCONTROL would continue to operate until 1983 on the basis of the Convention as it was currently applied; and*
3. *after 1983 the Organisation would operate on the basis of a new Convention and there would have to be negotiations for the purpose of forming that new Convention.*

He acknowledged that such a course was not the ideal one as far as some States and individuals were concerned. However, he had endeavoured to find as flexible a formula as possible enabling all the EUROCONTROL Member States to remain members of the Organisation and to allow other States to join the existing community.

His Report set out a Memorandum which he proposed as a basis for future discussion:

1. *EUROCONTROL must continue to exist beyond 1983 and the basis of a new Convention should be established well before that time.*
2. *EUROCONTROL's central tasks should be maintained and, if necessary, extended. The HQ in Brussels, the Experimental Centre in Brétigny, the Institute at Luxembourg and the Central Route Charges Office in Brussels should continue to function within the framework of EUROCONTROL.*
3. *There should be greater coordination within the framework of EUROCONTROL of air traffic control policies and greater emphasis on both joint planning and the cost-effectiveness of air traffic systems, even where the Organisation does not perform operational tasks itself.*
4. *A thorough study to be made to determine what new requirements calling for joint action may arise in the field of air navigation safety in Europe and to what extent EUROCONTROL might contribute towards these.*
5. *Considerable simplification of EUROCONTROL's financial machinery was necessary, due to the way in which the Convention had been implemented.*
6. *EUROCONTROL must be organised and managed with a high degree of efficiency, inter alia, in order to justify the route charges levied on the users. They would consider further what possible measures might be taken in that connection.*
7. *Full membership of EUROCONTROL did not necessarily entail transfer of all or part of a State's airspace.*
8. *The States which had already entrusted EUROCONTROL's Maastricht Centre with air traffic control responsibilities wished the Centre to be retained. Consultations, in accordance with these guidelines, should take place between all the States concerned regarding the retention and development of this Centre beyond 1983 for the benefit of the BENELUX States and the Federal Republic of Germany.*

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<sup>6</sup> WP/CN/46/15

He informed the Permanent Commission Members that he had also met the official staff representatives on two occasions. The staff were deeply concerned about the future of the Organisation, a sentiment that had persisted for some time and they had said that his report had not dispelled their misgivings. He had emphasised to the staff representatives that all governments had drawn attention to EUROCONTROL's high operating costs and that this was a matter to be borne in mind in the course of the subsequent discussions.

The discussion opened with words of thanks to the President for the Memorandum which seemed to Mr Grimaud (Ministry of Transport, France) to offer a basis for the further existence of EUROCONTROL after 1983 and also for a discussion amongst Member States as to the kind of Organisation they wished to have then. It took into account the inability of certain States to hand over control of their airspace in present circumstances although it did not discount that principle in the event of circumstances changing.

This position was supported by Mr John, DGCA of the United Kingdom.

Thereafter, however, the exchanges reflected the same Benelux/FRG-Other States split in positions that had characterised the various discussions on the existing and future activities of EUROCONTROL, from those in the 1963-1966 meetings up until the previous 45th CN.

On this occasion, the discussion was made more focussed by comments from the representatives of Germany and Belgium in particular. Both restated their Governments' regret that the 1960 Convention had not been implemented in full when it came into force in 1963. Both were concerned that the same fundamental issues which had prevented that needed to be resolved well before 1983. Commitment from all was required to support the principles set out in the Memorandum.

Mr Vanderpeeren, DGCA of Belgium, said that it would be unrealistic to expect Belgium to simply continue to support the Maastricht Centre until 1983 on the basis of the present Convention if the States decided to change the basis of the Convention thereafter. Without commitment on the part of other States, Belgium would not feel itself under any obligation to surrender control of its airspace to EUROCONTROL.

Mr Ruhnau, Acting Secretary of State, Ministry of Transport, Germany) was rather more lengthy but also more direct. A framework had to be found whereby everybody could work together on a jointly agreed basis. If the Memorandum was to be used as the basis for the future Convention then the Federal Republic of Germany needed to know whether one of the States which had not so far transferred executive control to EUROCONTROL proposed to do so in 1983.

Mr Ruhnau pointed out that the States which had already handed over executive functions to EUROCONTROL needed to know this before they could determine the alternatives they would adopt in 1983 and also in order to effectively study the problems of the transition period. Unless there was a change in their approach the Federal Republic of Germany was likely to adopt the same attitude as France, Ireland, the United Kingdom and the Netherlands (a position which he stated he personally deplored).

He went on to underline that it was illogical that the Karlsruhe UAC should have its jurisdiction limited to the management of the southern German airspace alone. In that event the Federal Republic was quite capable of providing control by itself. Consequently, he specifically asked France whether it was prepared to hand over executive responsibility to EUROCONTROL for the adjoining part of French airspace. If so, the position of the Karlsruhe Centre would become



quite different. He said that a clear answer concerning the other States' intentions must be forthcoming soon, since the Federal Republic had to decide in 1976 on the operation of the Karlsruhe Centre, and that decision would determine its policy after 1983<sup>7</sup>. Furthermore, he supported Belgium's position that those States' replies were essential to enable the Four States involved in the Maastricht Centre to determine the Centre's future after 1983.

Mr Westerterp, speaking for the Netherlands, replied almost immediately that his State was already contributing to the cost of the Maastricht Centre and a review on transferring the Amsterdam sector to the Centre was underway, although it could not technically take place before 1978-79.<sup>8</sup>

Mr Grimaud for France reminded the meeting that reasons of national defence had precluded the handing over of French airspace to EUROCONTROL. The French Government had indeed found it impossible to separate the civil and military air navigation systems which were interlinked and interdependent. Any transfer of executive control to EUROCONTROL would raise further problems (financial, economic, social, etc.) due to major disparities in controllers' training, and terms of employment. If the overall picture changed, France did not rule out the possibility of handing over wider functions to EUROCONTROL but it was difficult to predict what the context would be in eight years' time.

Mr John of the UK noted briefly that there would not seem to be any grounds for changing the UK's position in 1983 and that those States which wished to carry on after then using the Agency could simply do so after that date.

Mr Barry (DGCA, Irish Ministry of Transport) stated that Ireland's attitude to control of its airspace by EUROCONTROL was unchanged. If circumstances altered, Ireland might review its position.

The Agency's Director General, Mr René Bulin, pointed out to all that in the short term the question of the Maastricht and Karlsruhe Centres must be settled. Decisions on these were being taken and more would need to be taken in the near future; as a result the Commission would have to be informed of the status of those Centres not later than June 1976. With reference to the period after 1983, he hoped that there would be a clear statement to the effect that the ultimate goal was to achieve, when circumstances permitted, a Common European Agency, on the understanding that individual States would remain free to hand over control of their airspace to EUROCONTROL whenever they thought it feasible.

The Agency's Director General also asked that it should be stipulated that one of the essential objectives to be achieved after 1983 was an agreed definition of standardised systems. He described the criticisms expressed on many occasions by the users to the effect that the systems used in Europe were heterogeneous and consequently, on that score alone, more expensive than was the case in, for example, the United States<sup>9</sup>.

Finally, after these rather direct exchanges, the Permanent Commission decided to approve the recommendations and principles set out in the Memorandum submitted by the President and accepted them as the basis for resolving the question of EUROCONTROL's tasks and structure after 1983 and thus for framing the new Convention.

The Study Group of Alternates was requested to work on the Ten Point Memorandum of Principles and to report to the Permanent Commission at its June 1976 session on those points which the States wished to have had examined by that date, but it was implicit that this work would take longer. The President was also requested to inform the President of the European Parliament accordingly following the EP Resolution which had been reported at the previous Commission meeting.

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<sup>7</sup> It was the lack of a clear commitment from other States that led to Mr Ruhnau's letter of 16 June 1976 taking Karlsruhe back into German responsibility (qv)

<sup>8</sup> In fact this would not take place until 1986

<sup>9</sup> This was long before this same point would be set out in some detail by the Association of European Airlines in the 1990s, critical information which would be used by the European Commission to support its case for a more direct role in European ATM

## The Study Group of Alternates Works On

The work of the Study Group was to be long and demanding, stretching beyond 1976 into 1980 and reports (nine in total) would be made regularly back to the Commission. The Study Group began by partly delegating its tasks to three working groups:

1. *a sub-group dealing with EUROCONTROL's "Future Activities"; which would establish the principles or guidelines to be included in the provisions of the Amended Convention; this sub-group met 40 times between November 1974 and March 1979;*
2. *an ad hoc group, which established the future structure of the Organisation in the course of 3 meetings held in December 1979 and in January and March 1980;*
3. *a legal sub-group on future activities, which translated the guidelines and principles agreed by the Study Group into legal provisions, and which held 15 meetings between November 1978 and December 1980.*

As requested the Study Group reported back to the Permanent Commission at its **47th session in June 1976**. This dealt with the areas of and procedures for inter-State cooperation, the tasks and responsibilities to be entrusted to the central core of EUROCONTROL, and the future role of Maastricht, Karlsruhe and Shannon. The Permanent Commission endorsed the statements and assumptions set out in this third report, subject to the possibility of altering its decision when it had a full report on the ten points of the President's memorandum. It approved the continuation of the study by the Alternates on this basis and delineated certain specific areas for study.

At its **48th session (November 1976)** the Permanent Commission endorsed the statements and assumptions set out in the report submitted by the Study Group, which dealt with executive tasks which States might wish to entrust to EUROCONTROL, measures to ensure cost-effectiveness, and the administrative structure. It again reserved the right to review its decision once in possession of the full report. It requested the Study Group to present at its next session a timetable indicating the dates on which the various decisions would have to be taken by the CN and for the Group to commence work on the drafting of a new Convention to enter into force in 1983.

The Study Group subsequently asked the General Directorate to take on the job of framing of a draft convention based on the Future Activities Sub-Group's Report and the current Convention. It was asked to submit this draft to the Future Activities of EUROCONTROL Sub-Group.

At its **49th session in June 1977** the Permanent Commission received the Report from the study Group of Alternates which dealt with the question of the legal persona of the Organisation after 1983, the treatment in the "new Convention" of the possible future internationalisation of air traffic control, the simplification of financial procedures, the transition to a "new Convention", the Additional Protocol on Taxes and Charges, and the Multilateral Agreement relating to the collection of route charges .

This Report also recommended an outline timetable for the introduction of the "new Convention". The Permanent Commission endorsed the statements and assumptions set out in this Report, while - once again - reserving the right to review its decision once in possession of the full Report. It adopted the outline timetable according to which all decisions of substance relevant to the drafting of a "new Convention" should be taken by mid-1979 and agreed that the "new Convention" should be signed at the latest in 1980 in order to give the Parliaments the necessary time for its ratification. It urged that the tasks and functions of the new Organisation be clearly defined, together with the decision-making procedures to be adopted.

The sixth report went to the **51st Commission in May 1978**. At the same time the European Parliament was again expressing its views on the future of European ATC. It passed a “Resolution on the promotion of efficient air traffic control”. The Resolution made some strong recommendations calling for action on such diverse subjects as wind shear, fog dispersal at airports and the importance of achieving compatibility of air traffic control equipment. It was interesting that it also expressed its grave concern on the division between civil and military control of airspace and called upon the European governments concerned to achieve a common use of the same airspace by civil and military traffic where control would be effected by joint civil/military units.

The European Parliament was convinced that efficient air traffic management should be organised on a supranational basis and that close cooperation is vital in Europe because of its special geographical pattern. It called upon the Commission to study the possibility of improving cooperation between national air traffic control authorities with the aim of ultimately setting up a single European air traffic control system.

The European Parliament also paid “tribute to EUROCONTROL for its many activities which have contributed to the promotion of air traffic control in a section of air space characterised by very heavy traffic and wished to stress the important role which this organization is playing, especially in the field of training and experimentation, and the role it should play in the future in the field of coordination between national air traffic control services”. A seventh report would go to the 52nd Permanent Commission.

## The Final Stages Towards the Convention

A legal and diplomatic drafting group was created to prepare the Diplomatic Conference which was held on 12 February 1981. This group met six times between November 1980 and January 1981 under the chairmanship of a Diplomat from the Belgian Foreign Office. Governmental and parliamentary ratifications took place between 1981 and the end of 1985 with the Protocol finally entering into force on 1 January 1986.

The deliberations of the States within these numerous technical, financial, legal and diplomatic working groups responsible for drafting the Amending Protocol of 1981 were so difficult that it took over ten years from the beginning of this work in 1975 before the Amending Protocol, signed in 1981, was implemented in 1986.

It had taken ten years to develop, adopt and implement an amending Protocol to the 1960 Convention.

## The 1981 Amended Convention

The initial Convention of 1960 was originally, as we have seen, principally geared to the joint organisation of air traffic services in the upper airspace of the signatory States and subsidiarity in the case of States which so wished also in all or part of their lower airspace.

Consequently the Member States sought to amend the scope of the Convention in order to focus it to a greater extent on strengthening cooperation, common planning, and research and coordination activities rather than air traffic control activities, with the Organisation retaining the possibility of exercising direct operational responsibilities at the express request of Member or non-Member States. The other improvements made were mainly to consolidate the route charges system.

This was reflected in the change to the wording of Article 1. In the 1960 Convention the Agency had been described as “an air traffic services Agency” but that Article now read an “Agency for the safety of air navigation”.

The central emphasis for the Agency was now placed on European cooperation instead, which had in fact been the case, if not in theory then certainly in practice, since the Agency had first come into being. From here on EUROCONTROL, through its Agency, would work increasingly in the context of the ECAC area and would establish close relations with ICAO through the EANPG.

The States did, however, make one important addition to the 1960 Convention by adding a new Article 1.1(e) whereby they agreed to “coordinate their activities with regard to air traffic flow management by establishing an international system of air traffic flow management in order to ensure the most effective utilisation of the airspace”. This would be an important facilitating provision, as shall be seen in the next few years.

However, the opportunity was missed to further develop the “Common Operational Concept” which had originated in the “force majeure” report that the Commission had accepted in 1966. This simply became a statement of organisational purposes for an air traffic system, common to civil and military anywhere in the EUROCONTROL area. The 1981 Protocol would refer simply to these common objectives in broad terms, common planning, etc. The opportunity to develop a true concept was not taken up.

While EUROCONTROL's tasks were restricted in comparison with the situation resulting from the initial Convention, the protocol did not modify the Organisation's decision-making processes, which was not surprising given the nature of the discussions which had led up to the amended Convention. The Revision of the amended Convention would have to address this issue in the not-too-distant future.

# The Agency Develops its Capability

While all these high-level developments were going on the Agency continued to work on the tasks before it of developing the Organisation's own capability and working with the States on the development of Maastricht UAC and Karlsruhe UAC.

## EUROCONTROL Experimental Centre

In the early days, the EUROCONTROL Association had done much work through its Evaluation Unit, including the 1962 Plan. As was seen in Part 1, the Permanent Commission had supported the idea of an Experimental Centre in its first meeting and at its third meeting had formally approved the establishment of the EUROCONTROL Experimental Centre.

In February 1963, EEC Report No. 1 had been published, reporting on the "Simulation Trials of EUROCONTROL Sector 3, Brussels". Simulations had thus started before the laying of the foundation stone, and even before the ratification of the original Convention. The first simulation was conducted at NAFEC, Atlantic City, USA and subsequently other simulation trials were conducted at partners' premises, including ATCEU in the UK, and ENAC or CEV in France<sup>10</sup>.

The first Director of the EUROCONTROL Experimental Centre, Donald Lipman of the UK, was appointed in April 1963. The construction of the Centre started in September 1964, the building was occupied in January 1966, the first simulator installed and provisionally accepted by October 1966 and the new building at Brétigny was officially inaugurated on 17 January 1967 by Mr Roy Mason (Secretary of State, Board of Trade UK) as President of the Permanent Commission. The first EEC dynamic ATC simulation, wholly prepared, manned and executed by the Agency with its own facilities and resources, was run 17-28 April 1967 using the new digital ATC simulator, which was the result of the first major contract awarded by the Agency in 1964 (as described in Part 1). The simulation was for capacity assessment in the Brussels UIR and the results were initiated into operational service soon after.

Most of the Centre's activities in the first ten years focussed on the testing and validation of the techniques and operational organisations to be developed for the implementation of the Maastricht Upper Area Control Centre (MUAC). These activities were already based on the two pillars of simulations and studies. Equipment was progressively installed at the Centre, starting with the Telefunken TR4 arithmetic computer which was a near equivalent to the IBM 7090, one of the most powerful computers for the time. The simulator contract included all the necessary peripherals: the radar simulators, built by CSF, were the digital-analogue converters transforming the digital output of the TR4 computer into radar-like signals; the control positions were built by Plessey. In addition, rather sophisticated (for the time) preparation and analysis computer programmes were delivered.

This real-time simulator was used to evaluate the anticipated operational organisations as well as various elements being developed for the air traffic control centre in Maastricht. A mathematical model simulator was already in use, mainly to measure sector capacity.

The technical characteristics of the data processing system for Maastricht (the MADAP) were also partly developed at the EEC. The technical-operational working group which wrote the "detailed functional specifications" of the MADAP software was held at the EEC. A small-scale model of MADAP was ordered known as the "Experimental Data Processor" (EDP).

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<sup>10</sup> Respectively Air Traffic Control Experimental Unit, *École nationale de l'Aviation civile*, *Centre d'essais en vol*

In parallel to simulations, various studies were executed, most of them radar evaluations, in order to assess the quality of remote radar data which were to be transmitted to Maastricht UAC from several sites in Belgium and Germany. However, the scope of the studies being carried out had already been extended, as shown in the first EEC report on an economic study of "User Charges Application Exercises" published in February 1969 in support of EUROCONTROL's work in this field.

By the end of the 60s, the EUROCONTROL Experimental Centre had been established and recognised as an important platform for ATC testing and validation. Demand for simulations, evaluations and studies was steadily growing and the tasks to be performed not only increased but were more diverse. The ageing TR4 would soon need to be replaced and an ad hoc study group was set up by the Committee of Management to study the matter. In its report published in February 1972, the study group detailed the tasks planned for the foreseeable future in seven categories, including four for simulations (real-time and model simulations for studying ATC organisation or ATC data-processing systems) and one for tests, trials and evaluations. In addition to these traditional tasks, two new categories were added: production of computer software and running of computer programs for other services.

In order to execute all these categories of tasks, the study group recommended as the most cost-effective solution the transfer to Brétigny of the IBM 360/50 which was being replaced at Maastricht by the new generation of 370 computers. This extended scope of the Centre's tasks resulted in the initial study and development of the Karldap system for the future UAC at Karlsruhe as well as the development of the Shandap system for Shannon.

The computer programs for the Agency's Statistical Unit were also prepared and run at the Experimental Centre. Traditional tasks also experienced significant growth. In 1970, a spectacular real-time simulation, connecting the ATC simulator of the EEC to the Concorde flight simulator in Toulouse, was run and this produced a valuable insight into the consequences for ATC of the planned introduction of supersonic aircraft.

Customer demand for simulations increased greatly, coming from the Agency for the validation of Maastricht, Karlsruhe and Shannon UACs as well as from various Member States for the validation of their own organisations or developments. The number of studies increased considerably, including scientific and human-factors research, evaluation of data-processing languages and potential tools for ATC.

The main capabilities of the EUROCONTROL Experimental Centre were thus that it could simulate in real-time any realistic air traffic situation for any location, in such a way that a spectrum of possible control methods and equipments could be tested and measured in their effectiveness. That function was supported by the ability to simulate by computer, in fast-time, basic aspects of system operation using arithmetical models highly evolved from application experience. This capability was regularly employed by Member and Cooperating States and was of special value to the Centre itself because it helped to isolate those problems that could only be dealt with properly by real-time simulation, which were costly in working time of skilled people.

Through working on studies for the automation of air traffic control in a good number of Member and Cooperating States, the Centre staff had also developed a special expertise in development of application software for that purpose, covering an unusual range of system situations.

A very sad event occurred in 1981 at the Centre where Mr Donald Lipman, who had been an admired and well-liked Director, died suddenly on the stormy night of 10 July. He had been very active at the Centre until the very last evening. Jacques Nohant acted as interim Director for a few months, and Georges Maignan (who had been the Secretary of the initial Technical Working Group) was appointed Director EEC on 1 January 1982.

## Maastricht UAC Centre and MADAP System

In Belgium, Luxembourg, the Netherlands and Germany, some ten large civil airports and numerous military airbases, used not only by the national air forces but also by other NATO air forces, contributed considerably to air traffic density. When the Maastricht UAC project was planned, it was decided to divide the airspace to be controlled into the largest possible sectors with a view to reducing the control transfers and associated coordination tasks to a minimum for a given flight in the region.

The agreement to set up Maastricht UAC was reached on 28 February 1964 and the foundation stone for the Centre was laid on 4 October 1966. The first draft specification for the Maastricht Automatic Data Processing and Display System (MADAP) was developed internally in May 1967 and the formal Specification was finally issued on 14 September 1967. Dr Hansjürgen Frhr. von Villiez was appointed as the first Director and he would serve until 1988.

After having operated in a provisional location at the Brussels airport terminal building since March 1964, the Maastricht Upper Area Control Centre commenced operations on behalf of Belgium and Luxembourg.

At midnight on 29th February 1972, the first aircraft, an LTU Caravelle from Lanzarote inbound for Düsseldorf with Captain Waldsraff at the controls, was welcomed by Director Von Villiez.

*23:05 UTC, 132.85 Mhz,*

*Olno Sector:*

*"Maastricht Radar, good evening: LTU121."*

*"Good evening LTU121. Radar contact."*

On that evening in 1972, for the first time, traffic in one country was controlled from an international air traffic control (ATC) facility located in another country. The original concept of total integration of European air traffic management that lay behind the creation of EUROCONTROL became at least a partial reality with the entry into service of the Maastricht Upper Area Control Centre, the first - and still today the only - truly international and multinational ATC centre in Europe.

MUAC, true to its spirit, marked the event in a highly practical manner. A commemorative, but usable, postcard was printed.



Maastricht UAC was initially entrusted with the Brussels UIR (Upper Flight Information Region) above Division Flight Level 195. The Hannover UIR was incorporated soon after on 18 March 1974, followed on 1 March 1986 by the Amsterdam FIR (Flight Information Region).

MUAC had begun operations with MINFAP, the “Minimum Operational Facility Project” which contained features which went well beyond the bare operational minimum, the most important being the digital radar display. The Maastricht Automatic Data Processing and Display (MADAP) System became operational shortly afterwards, using what were innovative features at the time, such as multiradar tracking and tabular executive controller messages.

John Doyle, who had been on ab initio 1 at IANS, recalled when Maastricht UAC took on the control responsibility from Zaventem ACC:

*“At the time, the UAC was temporarily located at the Brussels ACC in Zaventem, for the EUROCONTROL UAC was still in construction at Maastricht. There was a shock in store when we arrived at the facilities [from Luxembourg]. The equipment on which we were supposed to work was not very advanced: two military radars on wheels displaying raw secondary data. A wooden frame had been fixed on top of each radar to protect it from the light. At the time we controlled aircraft above FL 200 and upwards in two sectors: Brussels East and Brussels West. For the first time, Brussels colleagues were suddenly confronted with different nationalities controlling part of Belgian airspace.*

*EUROCONTROL staff received quite a warm welcome. We worked at Brussels National airport until 29 February 1972, when the UAC at Maastricht became available.*

*The UAC started with the MINFAP system (Minimum Operational Facility Project) which featured labels and Mode C. The facilities were worlds apart from the temporary ones: no daylight, air conditioning, a huge control room – though only Brussels sectors were present at the time. We adapted to the new synthetic dynamic data displays without difficulty. There was an excellent team spirit, motivated as we were that we were building Europe, that frontiers were all to be broken, that nothing was set in stone. At the time, it felt like we had unlimited resources, not financial, but mainly intellectual. It was a magnificent attitude, a professional devotion of the highest order.”*

The general configuration of the MADAP system had been evolved from studies and experience gained from the Experimental Data Processor (EDP) at the EUROCONTROL Experimental Centre in Brétigny. Flight International quoted Mr René Bulin at the time that “the type of hardware and software required and the need for an extremely high degree of system reliability has set European industry problems similar in some ways to those encountered in spaceflight control centres. European industry has clearly emerged from the task with great credit,” he said.

The first meeting for to develop civil-military cooperation in the Maastricht area had been held on 8-9 Dec 1966 and 1975 marked the start of exemplary cooperation between civil and military air traffic services with the integration of the German military sectors.

Director MUAC Dr Hanjürgen Von Villiez also recalled these developments and describes “the MUAC spirit”:

*“The operational use of the full “Maastricht Data Processing and Display (MADAP) System” followed in autumn 1973, and further important steps in the development of the centre’s function kept us going at a high path. The next major project was the agreed co-location of the German Air Force ATC services for the upper airspace in the northern half of the FRG. This move became possible because of the German government’s request to get through EUROCONTROL a new control centre for the upper airspace in the southern part of Germany, later known as the Karlsruhe UAC. This decision modified the area of responsibility for the Maastricht centre, resulting in sufficient capacity to welcome the military air traffic services under its roof.*



*Both partners profited undoubtedly, as the military enjoyed the most modern system for their operational task, and we saw in their partnership an essential support for our position in the European ATC environment. The result was not only a measurable increase in safety in the then jointly served airspace but also a much better understanding of each others task and responsibility which furthered mutual respect and led to long lasting human contacts."*

On 1 August 1973 the first automated exchange of flight plan and radar data took place with an adjacent unit. The introduction of SEROS (Semmerzake Radar Operating System) by the Belgian military ATS provider enabled the exchange of real-time data from two remote centres.

In 1980, Short-Term Conflict Alert (STCA), a system developed in-house by the Agency, was successfully integrated into the ATC environment. The system provided air traffic controllers with a 128-second advance warning of possible infringements of the minimum separation standards.

An important decision was taken, after many years of negotiation, when the Netherlands Government agreed to the transfer of the Amsterdam upper sector on 1 March 1986. This was the moment which really safeguarded the future of this truly European executive service.

The transfer had been prepared by a Steering Group composed of representatives of the Rijksluchtvaartdienst, the Royal Netherlands Air Force and EUROCONTROL assisted by a number of working groups. Following the adoption of the "Operational Plan for the establishment of an Amsterdam Upper Sector at Maastricht UAC" (issued April 1985) agreement was quickly reached on a number of subjects, the main ones being:

- *personnel arrangements;*
- *ATC procedures to be followed;*
- *provision of relevant flight data to the Netherlands military Air Traffic Control Centre at Nieuw Milligen.*

The actual transfer of the air traffic control operations was preceded by a period of controller training and a period of shadow operations during which the traffic was controlled from Maastricht UAC with Amsterdam ACC in the monitoring role.

The transfer of air traffic control in the Amsterdam FIR at FL300 and above was a major achievement for the EUROCONTROL Organisation. Since then MUAC has been operated on behalf of Belgium, Germany, Luxembourg and the Netherlands by EUROCONTROL on the basis of the "Agreement, relating to the Provision and Operation of Air Traffic Services and Facilities by EUROCONTROL at the Maastricht Upper Area Control Centre (the "Maastricht Agreement")", signed at a Diplomatic Conference at the Palais d'Egmont in Brussels on 25 November 1986.

The Maastricht Coordination Group was established to facilitate decision-making by determining a common position for the Four States in all matters relating to the operation of Air Traffic Services at MUAC. Day-to-day responsibility for operations was delegated to the Director of MUAC by EUROCONTROL's Director General while each of the Four Member States retained its regulatory competence.

## Karlsruhe UAC

Two years before EUROCONTROL's first Upper Area Control Centre entered into operational service in Maastricht, the decision was taken to set up a second one at Karlsruhe in the Federal Republic of Germany for the control of traffic in the southern half of that country's upper airspace. In the late 1960s, civil aircraft movements increased to such an extent that by 1970 traffic was approximately double that forecast at the time when plans for the creation of Maastricht UAC were being made.

In order to meet this traffic increase, it was decided by Belgium, Luxembourg, the Netherlands and the Federal Republic of Germany that a second UAC needed to be built. Their intention was described in a "Declaration of Intent" which was officially approved by the EUROCONTROL Permanent Commission in 1970, and so the Karlsruhe concept was born.

EUROCONTROL took advantage of the work that had already been done in the building and setting-up of its first UAC in Maastricht and used that centre as a blueprint for Karlsruhe. As a result the second centre took much less time to complete. In 1971, EUROCONTROL staff were recruited and the building was inaugurated in 1972

ATC operations with Bundesanstalt für Flugsicherung (BFS) controllers started on 26 February 1977 with the Karlsruhe Automatic Data Processing and Display System (KARLDAP A) used for the provision of air traffic control in the upper airspace above 24,500 feet within a geographical area roughly corresponding to central and south-west Germany.

The successor, KARLDAP 1, which became operational on 7 December 1980, was modelled on the MADAP system used at Maastricht UAC and provided integrated radar data and flight plan processing. Since both systems used the same standards, an example of advantages of the EUROCONTROL multinational approach, the automatic exchange of flight data could be ensured with the aim of lowering the telephone coordination to a minimum.

However, all this took place against the change in the political environment described earlier at the 46th CN in November 1975. As a result of that discussion in 1976 the President of the Permanent Commission received a letter from Mr Ruhnau, State Secretary in the Federal Ministry of Transport.

The letter noted that the German Government regretted the past developments which had led to the situation of different interpretations by Member States of the Convention and the subsequent decision by the 46th Permanent Commission to adopt the Report of the Study Group of Alternates. The Federal Ministry reiterated its position (which had been stated very clearly at the 46th CN by Mr Ruhnau himself), that it was still in principle prepared to hand over executive functions of the national air traffic control authorities to EUROCONTROL if all the other Member States did likewise.

However, since no such commitments from other States had been forthcoming, the letter went on to describe the actions the Federal Republic intended to take in connection with Karlsruhe UAC:

- a) *The execution of operations at Karlsruhe UAC would be transferred to the BFS from about the beginning of 1977. This would involve the transfer of responsibility for operational measures at the control centre to the BFS. For this purpose the BFS would establish an operations and coordination unit as well as an administrative unit. Co-operation between BFS and EUROCONTROL would be regulated by specific agreements.*

- b) *The full takeover of responsibility for the Centre and its management, and the authority to take decisions and issue instructions would be a long-term objective for the Eighties and until then it was proposed to keep the financial arrangements (as far as investments were concerned), as well as the ownership, unchanged, and also use the opportunity to ascertain the capability to run the centre technically by keeping the competent EUROCONTROL staff.*
- c) *The takeover of responsibility for the remaining services at Karlsruhe UAC would be phased, firstly in order to allow BFS sufficient time for the purpose, and secondly to enable social problems for the EUROCONTROL staff at Karlsruhe UAC to be avoided. To this end, it was intended to give EUROCONTROL staff at Karlsruhe the opportunity to transfer to FRG service.*

The 47th CN asked the Committee of Management to study the implications - financial, technical and social - of the takeover but this was only a brief interlude before the Commission, in its 48th session in October 1976, approved the German request for the BFS to take over the responsibility of the infrastructure of the Karlsruhe UAC (in effect this happened by 1983).

There was some considerable discussion on who should bear the costs involved. This drew out the issue of whether it was the responsibility of the Organisation as a whole since those States which had not handed over executive authority to the Agency had at least a residual responsibility for the subsequent consequences, of which the Federal Government's action was one. Not surprisingly, this was not accepted by the British, French and Irish representatives.

A special contract between BFS and EUROCONTROL was agreed, whereby software development and maintenance for the KARLDAP system was to continue to be carried out by a team of EUROCONTROL staff.

## Shannon

In 1971, EUROCONTROL's Committee of Management had approved the operational plan for Ireland for 1972-1975. This provided for the construction of a new air traffic control centre at Shannon, the third EUROCONTROL UAC to be approved, to cope with the increasing traffic in this critical region of European airspace.

At its 36th Session in June 1972 the Permanent Commission approved the setting-up of the new Shannon Centre from 1 January 1976 and this was subsequently confirmed at its 37th Session in that year. EUROCONTROL would be responsible for the setting-up and implementation of the Centre, Ireland would be responsible for its operation until 31 December 1975 and EUROCONTROL would take over responsibility from 1 January 1976.

In addition to controlling all flights flying to, from and within and over Ireland, the Shannon controllers would also have the task of managing traffic travelling between Europe and North America. Flights arriving from the American continent would be received from oceanic airspace and integrated safely among European traffic. Flights departing would be put onto specific tracks and instructed to reach a certain level and speed before they began the ocean crossing.

Just as it has done for the centre at Karlsruhe, EUROCONTROL drew on its experiences in setting up Maastricht UAC in order to develop the new centre at Shannon. The SHANDAP air traffic control system installed there was also partly modelled on the MADAP system. The SHANDAP software was developed at the EUROCONTROL Experimental Centre by a joint team of Irish/EUROCONTROL analysts and programmers. A new "Programming and Analysis Division" had been created at the Experimental Centre for this software development, for KARLDAP-A and for some others under contract (France's CAUTRA IV, Spain, Portugal).

However, the President of the Permanent Commission, Mr Marcel Mart, received a letter dated 18 March 1975 from Mr Peter Barry, the Irish Minister of Transport and Power. Referring to the decision of the CN he wrote:

*"I have since given very serious consideration to the financial and social considerations which this would involve for my administration. The introduction of EUROCONTROL staff at Shannon, paid at EUROCONTROL levels, and working beside Irish control staff discharging similar duties at substantially lower levels of remuneration would increase unrest among the Air Traffic Control and related grades of the Irish Aviation Administration and this unrest, because of the established relationships with remuneration of corresponding grades in other Departments of Government, would likely extend rapidly throughout the entire Public Service and stimulate sharply the inflationary wage and salary situation. The position in this respect in Ireland is now more acute than ever.*

*I now wish to inform you that I am unable to agree that EUROCONTROL should assume responsibility for the operation of the Shannon Centre from the 1st January 1976 and, in agreement with the Director General, it is my intention that for the foreseeable future the present arrangements should continue under which the execution of air traffic control at the Shannon UAC is performed by the staff of my Administration on behalf of the EUROCONTROL Agency."*

At CN/45, on 15 May 1975, Mr O'Riordan (Secretary to the Department of Transport and Power) said that the Irish decision had in fact been made known to the CE and those involved in the Irish administration since June of the previous year. He felt it unnecessary to comment on his Minister's letter in bringing it formally before the CN. However, he did note that the decision was "in accordance with Ireland's position under the Moroni Report".

CN/45 noted the letter from the Irish Administration and asked the Committee of Management to look into the financial aspects of this situation since there had been some complex financial arrangements developed with the Irish authorities which would clearly now have to be reviewed.

There was in any case some delay in bringing the centre into operation at the end of 1975, as planned, due to a number of technical and staffing matters still outstanding. In response to questions asked about the delay in the Dáil (the Irish Parliament) assurances were given that air traffic control operations were not adversely affected. Shannon UAC became fully operational in April 1978.

## The Institute of Air Navigation Services (IANS)

Prior to the Association and the development of the Convention there had already been an ECAC Study Group on Training of Ground Personnel. The first meeting was held in Paris in May 1958 and further meetings were held in May 1960 and in March 1961. Following that a Working Group on the recruitment and training of Controllers was set up by the EUROCONTROL Association, which had already considered some form of training establishment.

This training establishment should comprise:

- a) *a school of advanced and specialized training for air traffic services staff, inter alia controllers, technicians, maintenance engineers and programmers;*
- b) *a centre for standardised staff training in accordance with jointly defined principles intended mainly for EUROCONTROL and national instructors;*
- c) *the nucleus of a documentation centre to be developed in due course; and*
- d) *facilities for training ab initio.*

Although the 1960 Convention had anticipated the probable need for the Agency to provide advanced and specialised school training for system personnel nevertheless a firm requirement was only identified later after several years' experience.

The first show of interest came when the Commission, in June 1966, was releasing credits for equipping the new Maastricht Centre. The United Kingdom suggested that there was a need for an Agency survey on the availability of personnel qualified to man automated control centres in the EUROCONTROL area. A year later, in June 1967, the Permanent Commission, when dealing with the issue of running costs for the Benelux-Germany upper airspace, was reminded by Belgium of the potential manning problems of the centres. Belgium stressed the requirement for Agency standardisation of advanced training in automation techniques.

On 9 November 1967, an unofficial exchange of views took place among all Member States under the chairmanship of the Dutch Minister who was then Vice-President of the Permanent Commission. Luxembourg did not participate since they held the Presidency. The consensus was in favour of setting up a EUROCONTROL Institute for advanced training of air navigation services personnel in Luxembourg. The Committee of Management provided an initial report on the future need for qualified air traffic services personnel and the Permanent Commission, at its 19th Session on 7 December 1967, then adopted a proposal to establish the Institute of Air Navigation Services (IANS) at Luxembourg.

Mr Gunter Krug would be its first Director.

The Institute started in October 1969 with a staff of 38 (out of 58 authorised) and, on a cold and wintry Kirchberg Plateau, the first ab initio training course began on 5 Jan 1970. The first team of ab initio students was composed of 15 young people of 5 different nationalities.

John Doyle, later Centre Supervisor at Maastricht UAC, was part of the very first ab initio class.

*"Ab initio 1 started in Luxembourg on 5 January 1970. There were in total 15 of us from various places in Europe: Ireland, the United Kingdom, France, the Netherlands and Belgium. At the time there were only two buildings on the Plateau de Kirschberg: the EU Parliament and EUROCONTROL. The roads were not even completed - only the foundations. Theory and simulator lessons were given at Luxembourg. When we moved to Brussels in October 1970 to continue practical planning and radar training, there were only 13 of us, since 2 had failed."*

Bearing in mind all the attention paid in those years to the allocation of costs to States it was not surprising that this was also a point raised on the Institute. It was agreed in the Commission that the financing of IANS should be based on the principle that capital expenditure would be jointly budgeted by Member States, while running costs would be met by fees from users of the school, after pre-financing through the Agency budget. However, as the inauguration of the Institute approached, the Commission, in July 1969, found it had to compromise on running costs and allow some continuing support from the Agency's budget for an initial period from 1970 to 1972. Later the Permanent Commission extended the compromise to the end of 1973 and then again to end 1975.

The subject was on the agenda when the CN (46th Session, 20 November 1975)<sup>11</sup> gave its crucial ten-point guideline for the study on future activities of EUROCONTROL. This included the opinion (Point 2 of Mr Westerterp's Memorandum) that the Institute at Luxembourg should continue to function and, if necessary, be extended, under an amended Convention. The objective was to provide for closer coordination of air traffic control policies and to put greater emphasis on joint air traffic system planning.

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<sup>11</sup> By 1975, the Institute was recognised as an ICAO Training Centre and had opened its doors to the world of ATC

However, the most dramatic consequence of the political and institutional instability of the decade for the Institute was that the recruitment and training of air traffic controllers were frozen and would not be recommenced until 1986 when the Amsterdam Upper sector was transferred to MUAC.

Regarding the Institute itself, the Commission accepted continuation of the existing financial arrangement, without time limit, provided that no effort would be spared to reduce the deficit in running expenses borne by the Agency budget. In reaching this decision the Commission was aware that a new standing working group of the Committee would bring together training specialists to establish more direct coordination between Member States and the Institute over training requirements.

As a consequence, controller training capacity was made available to Denmark, Switzerland, Italy, Ireland, Luxembourg, Libya and Liberia. The Institute also offered courses in a wide range of disciplines and established a niche in the market place: data processing, applied data processing (ATC automation), engineering in digital technologies, radar and display technologies and voice recognition; instructional techniques and management. The seminars brought participation from a broader spectrum of States. Computer-aided instruction was developing, as the Institute found alternative ways of using the ATC simulator processors and front-end equipment.

Subsequently, in the light of the 1981 protocol to amend the Convention, the Committee, at its 122nd Session on 23 April 1981, agreed that advanced training, provided for Member States' personnel at the Institute and which was conducive to international cooperation, should be financed entirely on a communal basis through the Agency's budget. The effect was that, without fees being charged to Member States, the decision removed any State budget obstacles to maximum communal use of Institute training potential, which was a significant factor in IANS's ability to improve European ATC performance through enhanced common understanding.

Since 1975 there had been, in any case, as is noted above, a continuous effort by the Institute to encourage attendance by fee-paying students from States outside EUROCONTROL, in order to minimise the Agency budget charge. Considerable success was achieved and ICAO often sponsored overseas students at IANS, in addition to those sent directly by non-Member States. There were also standing arrangements concluded with some non-Member European States for periodical training of both civil and military personnel.

## Advisory Services for non-Member States

As a result of the procurement and implementation of the two EUROCONTROL Centres (Maastricht and Karlsruhe) a great deal of expertise had been acquired in the General Directorate in the field of acquisition and implementation of automated ATC systems. This fact was recognised outside EUROCONTROL, and various States requested EUROCONTROL to provide an advisory service for implementing modern ATC systems in their own country. These services were provided, at various levels of complexity, to Portugal, Malta, Greece and Turkey.

This would become typical of work which the Agency does through the years to come which would help ensure that, as well as contributing the overall improvement of safety standards, contiguous States would have systems compatible with the European standard which would deliver clear benefits of ensuring harmonisation of operations over a wider European area. As will be seen in Part 3 this would grow into the European Advisory Service which would have the full support of ECAC Ministers, but use of the core skills of EUROCONTROL would come under attack from ANSPs under "competition".

## EUROCONTROL Forecasting Service

The origins of the EUROCONTROL forecasts started in May 1967. The high-level Technical Sub-Group of the Working Group of Civil and Military Alternates to the Members of the Permanent Commission, at its first meeting, recognised the serious requirement for fully developed long-term air traffic forecasts for the purposes of the EUROCONTROL Organisation, and agreed that the Director General should convene a meeting with experts of Member Administrations.

At its second meeting, in November 1967, the high-level Technical Sub-Group approved the main recommendations of the meeting of experts. These were that:

- *the Agency should provide a focal point for the study of forecasting methods and the central processing of forecasting data; and*
- *meetings of experts of National Administrations and the Agency should be held from time to time to ensure properly coordinated implementation of the EUROCONTROL Organisation's forecasting task, taking the best possible advantage of forecasting work already completed or in hand.*

The Technical Sub-Group also agreed that further meetings of experts should report on the continuing problems of forecasting to the EUROCONTROL Committee of Management.

This was the birth of the 'STATFOR Panel'. It was set up at the end of 1967 and was first called EUROCONTROL Specialist Panel on Long Term Air Traffic Forecasts (LTATF). As with every Panel at the time, chairmanship and secretariat were provided by EUROCONTROL and the Panel had to report to the Director General via a Specialist Panel on Operational Research.

In 1968, when the Operational Research Programme was approved, the Agency began to develop a series of mathematical models, covering various factors that influenced air traffic growth, with the objective of producing forecasts of greater reliability. The Agency started to provide a focal point for the study of forecasting methods and for central processing of forecast data. This link with the Operational Research Panel would be cut in 1980, because it was considered an unnecessary complication and added no value to the work.

The LTATF panel met for the first time in 1968. Thereafter it met once a year until 1987 (with the exception of 1975) and participation in LTATF meetings was, at the time, limited to National Administrations of EUROCONTROL Member States and Agency staff.

The GAT Survey system referred to in Part 1 had two great disadvantages. First, it took a long time to analyse the results with the full accuracy that should be applied in responsible statistical work and, second, it did not provide a picture of traffic evolution during each year. The latter problem was largely overcome by special measures in the early years of the Agency but it would virtually disappear once regular returns of traffic information became available from the EUROCONTROL Route Charges system.

# Key International Developments and EUROCONTROL's Contribution - Further Development of Agency Capabilities

## Route Charges: Cost-Basis Calculation and Collection

Major countries had long hesitated to impose charges on airlines that were often subsidised financially by the States. Outside the US, national flag carriers were usually nationalised while even in the USA there was a degree of protection from competition for incumbent carriers.

However, several factors combined to bring the issue to the attention of governments. The level of traffic had been increasing rapidly since the introduction of jet aircraft, the complexity of the system was growing and States were facing significantly increased costs in providing air navigation services as the requirement for more advanced automated systems became evident. In addition, States were conscious that with the expansion of the civil aviation market they were providing services free of charge to airlines of other countries, often privately owned.

### ICAO Conference April 1958

ICAO had already held a first Route Facilities Charges conference on the subject in Montreal in 1958<sup>12</sup>. The basic principles to be applied by governments were agreed:

- *Charges must be non-discriminatory: there should be no difference in treatment between users, particularly between those of the nationality of the country supplying the facilities and others of foreign registry.*
- *Charging systems should take into account both the actual cost of providing and operating the facilities and the effect of these charges on the finances of the aircraft operators.*
- *Charges should not be imposed for facilities not required or used.*
- *Charges should not be imposed in such a way as to discourage the use of facilities and services necessary for safety or the introduction of new aids and techniques.*
- *The charging system should be as simple as possible<sup>13</sup>.*

At this important Conference the future EUROCONTROL States' representation was significant. Mr Dekker, Deputy Director of Civil Aviation of the Netherlands, chaired the Conference and apart from Luxembourg all other States were represented.

The selection of a method of charging for facilities and services was found to depend significantly on the nature of the air route pattern and other variables and therefore no specific method of charging was recommended. There was also concern over the issue of cost allocation and doubts were in any case expressed about the capability of airlines to assume the full costs. The Conference recommended that "each state must therefore use its discretion as to the level of any charges to be imposed in the light of the conditions on the routes served, although in general it is probable that for some years they will not find it expedient to attempt to recover more than a small part of what they are entitled to recover in this way".

However, five main types of charging systems were discussed.

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<sup>12</sup> See Press Notice [http://www.icao.int/icao/en/nr/1958/pio195804\\_e.pdf](http://www.icao.int/icao/en/nr/1958/pio195804_e.pdf)

<sup>13</sup> These principles would be taken into the Chicago Convention as Article 15



These included a charge per flight varying according to the gross weight of the aircraft, a charge per flight varying according to the weight of the aircraft and length of flight, a charge per flight varying according to the kind of flight and nature of facilities required, a charge per flight which would be the same for all aircraft flying on a particular route, and general levies on fuel and oil provided at international airports.

### **Initiative from the Federal Republic of Germany - EUROCONTROL's Response**

In 1965 the Federal German Government, when approving a domestic programme for air traffic control, decided to consider the possibility of users of air navigation services sharing the costs. The Administration wished to proceed in understanding with EUROCONTROL's Member States and Dr Darsow, the Federal Minister for Transport, wrote to the Agency on 17 January 1966.

*"The Federal Minister of Transport is instructed to examine the possibility of users of air navigation services sharing the costs and to effect such cost-sharing on an international basis. However, since it would not be appropriate for the Federal Republic of Germany to proceed independently in this matter, I feel that the right solution would be to make use of the possibility provided for in Article 6(2)(e) of the EUROCONTROL Convention and raise the question of users' charges within the Organization.*

*In my opinion, the proper course here would be for the Committee of Management first to instruct the Agency to conduct the necessary enquiries. I would therefore propose that at one of the next Committee of Management Sessions, you submit a plan for an enquiry into charges for the use of air traffic control services.*

*If none of the existing systems appears satisfactory, the Agency could work out one or several new procedures which take account of the characteristics of air traffic and air traffic control in the European upper airspace."*

The CE's view was that this was a high level issue particularly since the matter was on the agenda of the ICAO Conference due to be held in March/April the following year. The CE therefore needed policy guidance on this issue.

CN/16, meeting in November 1966, agreed unanimously to act on Germany's proposal and so established an Intergovernmental Working Group to report on the practical problems, taking the en-route air traffic system as a whole (i.e. upper and lower airspaces together). This was set up under Mr J. E. Barnes (Civil Aviation Department, UK Board of Trade) with two sub-groups on the legal/constitutional and on the cost evaluation/charging method aspects. Mr Wolfgang Philipp (Air Traffic Services, Bundesministerium für Verkehr) was chairman of the group for the cost evaluation and charging methods and he would prove instrumental in the development of the charging formula. The Agency was ably represented by Mr Silvain (Head of Division AF1) and Mr J Taylor (Head of the Statistics Service). Messrs Douplat, Altmann and Söhnle from the Agency were also involved.

The Group would meet frequently and work urgently over the next four years, producing seven reports in all and using the Agency's simulation facilities to evaluate various potential systems. It would several times seek the guidance of the CN because of the highly political nature of the matter in question and because of the costs involved of the simulation effort required.

The Working Group was first asked to prepare a harmonised view of the Member States' position for the ICAO Conference expected in 1967 and thereafter it should proceed with a more detailed investigation of the question of user charges.

The Group provided briefing to States representatives to the ICAO Conference and then sent a report to CN 17 (22 June 1967) on this matter. Inter alia the Study Group found that less than half the ICAO Contracting States (47 out of 111) had a system of user charges for route navigation. Mostly these charges varied according to the type of aircraft but in less than half of cases (16) the charges did not vary with distance flown.

The Group found that the 1958 ICAO principles were largely applied but noted that the methods of applying them varied greatly. ICAO's position was that while it wished these systems to be more uniform nevertheless this was made extremely difficult by the increasing complexity of the route networks and the requirement to accurately assess the use made of installations and route facilities for a given flight.

These complex and difficult issues, which ICAO had difficulty in resolving, would be addressed successfully by the EUROCONTROL Working Group.

### **ICAO Conference May 1967**

This Conference early in 1967 lasted three weeks and was attended by representatives of 63 ICAO Contracting States, 2 non-contracting States and 8 international organisations.

In general, the Conference believed that States should exercise caution in their charging policy, and that the charges imposed on users should take into account the effect both on the aircraft operators and on the economy of the countries concerned. Aircraft operators and other airport users should not be charged for facilities and services they did not use, other than those provided under the ICAO Regional Plans.

For route navigation charges, the system of charges must be non-discriminatory, both between foreign users and those of the State or States providing the route air navigation facilities and services, and between two or more foreign users. Facilities and services not included in ICAO regional planning should not be charged for, unless the operators contract to use such services. No facility or service should be charged twice for the same utilisation, and charges should not be imposed in such a way as to discourage the use of facilities or services necessary for safety or the introduction of new aids and techniques.

As far as possible, there should be only a single charge per flight, and this charge should be based essentially on flight distance and aircraft weight, combined with any other aircraft characteristic capable of affecting the nature of the service rendered.

Although further studies were called for, EUROCONTROL's Intergovernmental Working Group would use these ICAO principles as the basis for their own work.

## EUROCONTROL Intergovernmental Working Group Makes Its Proposals

CN/23 (3 April 1969). At this Session the CN agreed in principle to the introduction of a system of user charges by 1 April 1971 or 1 November 1971 at the latest. The delay was occasioned by several factors. First, it was clear that time was needed to fully develop the system for calculating and collecting the charges which needed to be seen as equitable and transparent. The buildings had to be commissioned and the necessary hardware and software would need to be specified. Tendering actions were needed and thereafter installation and testing of what would be a complex system would also need time. Finally, there had to be consultation and coordination with users since the charges would have to be reflected in their fares which were usually determined in the Traffic Conferences with effective dates of 1 April and 1 November.

CN/24 (3 July 1969). The Permanent Commission took an important decision in agreeing that route charges should include those for lower as well as upper airspace. There was also some debate over whether or not the system should be outsourced and IATA was a possibility because it already managed its "clearing house" function. However, it was agreed that the management of the system should be retained within EUROCONTROL but with a high degree of transparency and State and airspace user involvement.

There were also discussions at that 24th CN about where the "Central Collection Office" (as it was then called) should be situated. The FRG, Ireland and the UK all proposed hosting the service. The proposal from the UK came in the form of a letter from Mr W. T. Rodgers (at the time Minister of State for Civil Aviation at the UK Board of Trade) which proposed London as a site<sup>14</sup> saying "I am now happy to be able to offer a piece of land in the neighbourhood of London to the Organisation at a nominal rent of £1 per annum, on which to build a combined office for a user charge collection centre and for the EUROCONTROL statistical unit should the Commission decide it wishes to proceed in this way".

However, the decision was taken at CN/24 that the DGCA's of Belgium, Luxembourg and the Netherlands should be invited to examine the issue of the siting of the service and report back to CN/25. Subsequently there proved to be no decision taken at that meeting and further work was awaited from the Working Group on comparative costs of operation at the alternatives being considered.

CN/26 (18 November 1969). The Permanent Commission examined the sixth Report of the Working Group and approved its recommendation that 1 November 1971 be finally set for the introduction of route charges. It also considered the provision of information to cooperating and non-Member States on the subject of route charges. ECAC had held a meeting in Cyprus earlier that year and had set up a Study Group on this matter. ECAC were very interested in EUROCONTROL's progress in this field and the Permanent Commission considered that extending the route charges system to other members of ECAC would be a significant step towards harmonisation and simplification, avoiding the introduction of different rates and systems of route charges.

Accordingly it was decided that its President should inform ECAC that the Permanent Commission had agreed in principle to the effect that the services provided by the Central Route Charges Office would be available to non-Member States requesting them.

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<sup>14</sup> WP/CN/XXIV/25

The Working Group was asked to examine the legal issues arising from this for which a study had already been prepared by the Agency.

CN/27 (19 March 1970). Brussels was finally selected as the site for the Central Route Charges Office. However, the formal decision on the final system would await the next meeting of the Permanent Commission.

CN/28 (25 June 1970). The Permanent Commission considered the final, seventh, report from the Intergovernmental Working Group. It decided to approve the principle of drawing up a formal multilateral agreement on common policy for establishing harmonised regional route charges system and set up a standing Consultative Group on Route Charges in place of the Intergovernmental Working Group. In so doing, the CN adopted a number of basic principles affecting the EUROCONTROL Organisation, namely:

- *no separate charging by the Agency for upper airspace services;*
- *the single charge paid for upper and lower airspace services to be shared by States only according to the partial charges required for use of the airspace within each State's competence;*
- *charges to be collected by the Agency for the whole airspace;*
- *non-EUROCONTROL States could by unanimous agreement in the Permanent Commission, be admitted to take part in the route charges system.*

The most important part of the system was that relating to the formula by which charges would be levied (relating to aircraft weight) and what could be included in the cost base. This was developed by Mr Wolfgang Philipp over his Christmas holidays, a good present to the civil aviation world. The work carried out in the Intergovernmental Working Group succeeded in developing solutions to both these questions and EUROCONTROL's achievements guided the subsequent ICAO principles.

$$p = \sqrt[2]{\frac{\text{Max. take-off weight}}{50}}$$

The multilateral agreement relating to the collection of charges for the use of route air navigation facilities and services was signed in Brussels on 8 September 1970 by the plenipotentiaries of the seven Member States of the Organisation. By this agreement the Governments of the Member States undertook to introduce route charges in their airspace on the basis of the system adopted by the CN in July 1969. Bilateral agreements were signed by the Organisation and the respective governments empowering EUROCONTROL to collect route charges levied in accordance with the Multilateral Agreement on behalf of the Member States.

The CRCO became operational in November 1971 and its first Director was Mr Claude Silvain.

Whilst the Agency moved to set up the Central Route Charges Office, the CN (29th Session, 18 November 1970) agreed how non-Member States could participate in discussions about the evolution of the route charges system. Thereafter, bilateral agreements with Contracting States were negotiated, so that when the system began to be implemented in steps on 1 November 1971, contracts already existed with Austria (July 1971), Switzerland (August 1971) and Portugal (October 1971). Spain reached agreement in 17 December 1971 and Portugal extended its contract to cover the Santa Maria airspace over the Atlantic by a supplementary agreement in May 1972.

Thus the “harmonised regional system” had by then covered the continental airspaces of 11 European States, plus a portion of North Atlantic airspace handled under a slightly different system.

In conformity with ICAO recommendations that the approach towards the recovery of full costs should be a gradual progression, the EUROCONTROL route charges recovery rate started as 15% of 1969 costs (latest available) from 1 November 1971. This was increased to 30% (of 1971 costs) on 1 November 1973 and then doubled to 60% (of 1973 costs) on 1 November 1975.

From 1 April 1977 the rates were revised annually, becoming:

- 75 % (of 1976 costs) on 1 April 1978;
- 90 % (of 1977 costs) on 1 April 1979;
- 90 % (of 1978 costs) 1 April 1980;
- 90 % (of 1979 costs) on 1 April 1981.

Finally on 1 October 1981 the rate became 100% (of 1979 costs).

The next step was to change from charges based on historical costs to a system based on forecast accounts and this was achieved on 1 April 1982 at a rate of 100% - but with a 5% abatement applied to make some allowance for difficult economic circumstances at this time. The final step to 100% recovery from the air traffic system users was set for 1 April 1983 - 11½ years from the raising of the first charges.

The charging scheme proposed by the Intergovernmental Working Group and agreed by the Permanent Commission is still applicable today. A full explanation can be found at the CRCO website<sup>15</sup>.

## Flow Management Grows in Importance

### The First Steps

The need to organise and coordinate the air traffic with regard to demand, time and geographical distribution, appeared in Europe during the late 1960s. The air traffic control system was no longer able to accommodate the ever increasing amount of traffic. The consequences were departure delays, delays in holding patterns, uneconomical flight level allocation procedures, re-routing and disturbances of airline schedules.

It became clear that it was no longer possible to concentrate only on increasing the ATC capacity through enhancement and innovation of ATC technologies, but that it was necessary to establish strategic level contractual agreements between States to allow the establishment of a system loop and to encourage the development of a concept for planning, organisation and management of air traffic flows and ATC capacity.

One of the first statements on the need for a “regional coordination centre”, responsible for planning and coordination of cross border en-route traffic, was made in the 10 Year Programme 1966-1975 of the German Federal Administration of Air Navigation Services (BFS).

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<sup>15</sup> [http://www.eurocontrol.int/crco/public/standard\\_page/establish\\_route\\_charges.html](http://www.eurocontrol.int/crco/public/standard_page/establish_route_charges.html)

A similar development had also taken place at that time among airlines with the introduction of airline scheduling coordinators and the setting-up of scheduling conferences within the International Air Transport Association (IATA) in order to balance airport capacities with airline schedules and interests. In 1971, one of the first government-empowered flight scheduling coordinators was established in Germany, for the coordination of all arrivals and departures at all international airports. Its duties were expanded in 1973 to include also the coordination of overflights over the Federal Republic of Germany.

## **ICAO European Regional Development**

As a result of French and German initiatives, the discussion on the “control” of the flow of air traffic in the ICAO European Region started with the first ICAO Informal Meeting on Flow Control Measures in 1970. The sixth ICAO European Regional Air Navigation Conference (EUR RAN) in November 1971, recommended the use of “flow control” (thus establishing a new term) as a supplementary organising element beside ATC, and acknowledged the newly developed Flow Control Procedures as a first, cautious step towards air traffic flow management.

The subsequent informal meetings on flow control measures recognised the need for a planning area larger than a single Flight Information Region and for a central point of information and coordination. The fourth meeting in March 1972 therefore recommended the setting-up of a “European Flow Control Centre” and of national flow control positions which should, together, balance air traffic demand with air traffic capacity and should organise the flow of traffic throughout the region.

However, the European Air Navigation Planning Group (EANPG) no longer seemed to support this concept and recommended instead the setting-up of national and/or sub-regional “Flow and Airspace Management Units”.

The first real air traffic flow management units were established in France (CORTA) on 1 January 1972, and in Germany (LRNZ) on 22 April 1975. They were entrusted with “airspace capacity management” and “air traffic flow control” measures for all Area Control Centres within both countries. In the years following, 12 flow management units (FMUs) with national and/or sub-regional character were set up and two sub-regional centres (west/east Moscow).

Very quickly it became clear that measures taken at local or national level to correct the situation were possibly effective at that level, but the large number of national and sub-regional ATFM units had resulted in an unmanageable situation and severe communication and cooperation problems. The imposition of uncoordinated restrictions by the 12 units had detrimentally affected the overall ATFM Service and had proved to be counterproductive. Local ATFM decisions were not based on a homogeneous, regional assessment of expected air traffic demand. Many delays had in fact been caused by inadequacies of the ATFM services involved and not by the lack of ATC capacity.

In the face of this essentially national approach a number of alleviating measures and procedures were developed by the Airspace and Traffic Management Group (ATMG), although with limited success. It became clear that any permanent solution to the problems encountered could be found only on a region-wide scale and through concerted and concentrated efforts from all States and users concerned. The European Air Navigation Planning Group (EANPG) came back to the issue and identified the main causes of these problems as follows:

- *accumulation of air traffic during specific periods of the year, during certain times of the week, due to holiday patterns and travel habits;*
- *differences between the capacities of the national ATC systems;*

- *insufficient advance notice to ATC units on likely traffic demands on a scale which would allow timely detection of potential overloading of the system at certain points, in certain areas, and/or during specific time periods;*
- *lack of proven techniques and procedures to restore, in critical situations, a reasonable balance between traffic demand and available ATC capacity by means acceptable to Aircraft Operators both from an operational and from an economic point of view.*

## **ICAO ATFM Concept - Special EUR RAN 1980**

The ICAO Special EUR RAN Meeting, in June 1980, agreed to the recommendation of the European Air Navigation Planning Group and to views expressed by a number of European DGCA's, on the need for the provision of a single integrated air traffic flow management (ATFM) service for the ICAO European Region, developed on a multilateral basis by all States and operators concerned.

The meeting noted that the differences in the traffic handling capacities of national ATC systems were caused essentially by a lack, in some areas, of radar and electronic data-processing equipment, inadequate staffing and inefficient procedures for the transfer of aircraft between adjacent ATC units due to inadequate communications.

The meeting therefore recommended increased radar coverage for busy air routes and improvements in the use of existing radar facilities to allow for reduced separation between aircraft and the establishment of high density "express routes".

The meeting also agreed that the traffic flow patterns in Europe required a substantial review of the air traffic services route network on a system basis [which becomes the later ARN Versions - refer back to this in Part 3].

Due to the air traffic flow problems encountered in specific areas of the region, it was further agreed that the ATFM service should be provided initially within an area encompassed by lines extending from Helsinki - Warszawa - Bucuresti - Istanbul - Larnaca - South of Crete - South of Sicily - South of Spain - Canary Islands - Porto Santo - 4500N 1399W - Prestwick - Bergen and back to Helsinki.

It was considered essential that all units forming part of the ATFM Service should be able to obtain compatible data and the information needed for their concerted activities from a reliable source. The meeting agreed that the most reliable and cost-effective data source would be a Central Data Bank designed to provide data and information upon which all ATFM units would base their ATFM Service.

EUROCONTROL was entrusted with the development of the Central Data Bank. Keith Mack, then of UK National Air Traffic Services and later Director General of EUROCONTROL, was appointed chairman of the Regional Planning Committee entrusted to develop this.

Finally, the meeting agreed on regional, supplementary procedures for the ATFM Service for inclusion in ICAO DOC 7030 and to review the existing procedures for ATC in order to avoid adverse effects<sup>16</sup>.

Despite the pressures for a central service, the 7th ICAO EUR RAN meeting in July 1986 was able to accept these problems but could only agree to give more attention to "an optimum degree of centralisation" by reviewing and reorganising the ATFM functions performed or by eliminating those ATFM units which were no longer necessary. The establishment of the Central Flow Management Unit would require political decisions at ECAC Ministers' level, and this will be set out in Part 3.

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<sup>16</sup> The ATFM organisation in Europe has, to this day, its orientation from that special ICAO EUR RAN Meeting.

## EUROCONTROL and the European Commission

There was a very interesting development at the 50th Commission in November 1977. Mr Clinton Davis, the UK Parliamentary Under-Secretary for Trade, wrote to the President of the Commission. The United Kingdom had recently completed a preliminary study of the long-term development of air traffic control systems in Europe up to 20 years out. The preliminary study had also shown quite clearly that a full study necessarily called for a multinational approach. The UK therefore considered how best to stimulate the interest of other European countries in the undertaking of such a study. It was not a purely technical subject but had major social, economic and environmental aspects as well. Accordingly, the UK thought that the results of the preliminary study should first be presented to the Commission of the European Economic Community which should be invited to consider whether it should sponsor the undertaking of the full study which the preliminary work has outlined.

The UK also circulated to the heads of civil aviation and air traffic services in western Europe copies of the summary of the preliminary study so that they could be aware of its scope and conclusions.

If the European Economic Community did undertake such a long-term study, Mr Clinton Davis stated that the UK would regard it as almost axiomatic that a major responsibility for its execution should be placed with EUROCONTROL. Such a task seemed to the UK to be admirably adapted to the role of the Organisation as the UK conceived it for the future. Mr Davis went on to say that the UK believed that EUROCONTROL was uniquely placed with its acquired expertise to provide a ready and effective focus for carrying out the study. It had the machinery for enlisting the contributions and cooperation of the national air traffic services and for coordinating the expert and specialist contributions from other organisations and individuals. It was also uniquely qualified to take into account the requirements of the military authorities of the Member States through the Common Operational Concept which it had evolved for the purpose of its own planning.

The Commission of the European Communities took its own first overt initiative on air transport only in July 1979 with the issue of a memorandum on "Contributions of the European Communities to the development of air transport service". This was largely in response to the initiatives on deregulation and more liberal competition in air services started by the USA in 1978, and liberalising decisions taken by the UK Civil Aviation Authority's Economic Regulation Group.

The memorandum set out its objectives and field of action and then described measures concerned "to deal with deficiencies in the present system", the fourth main heading of which was "safety". The following is the complete text under that last heading.

"The Council did not accept the Commission's suggestion to include air traffic control on the list of priorities. In fact, because of the technical nature of the subject, the military aspects of the air space problem (defence, NATO) and the fact that the Convention of EUROCONTROL does not concern all Member States of the European Economic Community, a commitment by the Community is difficult.

However, account must be taken of the fact that the European Parliament has conducted an extensive hearing<sup>17</sup> in the matter, to which the main international organisations concerned with air traffic problems were invited. The results of this hearing and the responses obtained from parties concerned, together with the resolution approved by the European Parliament, may provide the European Commission with information enabling it to better assess the advisability of submitting this matter to the Council once again with a view towards possible Community action, for instance to include cooperation between the Community and EUROCONTROL and other bodies."

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<sup>17</sup> PE 58.065 of 08.05.1979



Following the issue of this Memorandum contacts were made with the Director General of the EUROCONTROL Agency by Members of the European Commission on the subject of future cooperation between the European Economic Community and EUROCONTROL. The subject was discussed by the EUROCONTROL Permanent Commission (54th Session, 22 November 1979) and as a consequence the President wrote to the President of the European Commission to stress the necessity of ensuring close cooperation and avoid duplication of work between the organisations.

The letter asked that the European Commission "record the fact that competence in all matters connected with the safety and regularity of the flow of air traffic in the airspace of the seven Member States and in that of the two States that are not members of the EUROCONTROL Organisation but have concluded cooperation agreements with the latter, has been vested in the Organisation under the terms of the EUROCONTROL Convention and will very probably remain so in the future". The letter indicated that the Director General of the Agency was, accordingly, empowered to exchange views with the European Commission to define lines for future cooperation.

In due course, an exchange of letters between the President of the Commission of the European Community and the President of the Permanent Commission of EUROCONTROL established, from 14 November 1980, an agreement of which the following are the main terms from the Communities letter:

*"I fully agree that cooperation in areas of common interest between EUROCONTROL, with its responsibilities in matters of air navigation, and the European Economic Community, with its responsibilities for the development of European policies in matters of transport, industry, energy, research and science, will help both our organisations to fulfil their tasks and to avoid duplication of effort and expenditure.*

*The Commission, therefore, agrees to establish an initial basis of cooperation between the European Economic Community and EUROCONTROL in accordance with the following terms:*

1. (a) *Both Parties will encourage and facilitate reciprocal exchanges of pertinent information and documentation on matters of common interest, within their respective fields of responsibility, with a view to increasing the efficiency of their respective efforts in those fields.*  
(b) *To this end, both Parties will, when necessary, organise technical meetings between their respective experts, the frequency and purpose of which will be determined by common accord.*  
(c) *Both Parties are willing to put at the disposition of the other party experts and advisers to participate at their technical meetings and conferences.*
2. *EUROCONTROL will, through its Air Traffic Services Agency, at the request of the Commission, provide services or carry out studies or experiments in respect of matters of common interest falling within the respective fields of responsibility of EUROCONTROL and the Community.*
3. *The administrative and financial arrangements governing the provision of facilities and assistance by either Party as envisaged in paragraph 2 above, will be separately agreed between the Parties in writing in accordance with the established procedures of both Parties.*
4. *The channel of communications for achieving the desired cooperation will normally be between the Director General of the EUROCONTROL Air Traffic Services Agency and the Director General of External Relations of the European Commission.*
5. *Both Parties will review the terms of the arrangement whenever appropriate and at the latest two years after its entry into force.*
6. *Each Party may terminate this arrangement by giving six months' notice to the other Party.*

*I believe that this Agreement represents a very constructive step towards a meaningful cooperation between our two organisations. In the light of experience acquired we might then at a later stage decide whether it would be useful to modify or expand the agreement.*

*However, in addition to the formal terms of the present Agreement, I can inform you that the Commission of the European Communities intends to invite observers of EUROCONTROL to attend meetings which could be of interest to EUROCONTROL. The Commission is prepared to send an observer to any meeting which EUROCONTROL might find would be of interest to the Commission."*

# Civil/Military Matters

The record of Permanent Commission sessions shows that in its first ten years it had never discussed, as a specific agenda item, coordination of civil and military air traffic control. It had four times considered the relationship of EUROCONTROL and NATO but only with regard to the preservation of military secrecy and related security arrangements for the participation of non-NATO States in EUROCONTROL affairs. It had twice dealt with the implications of Article 35 of the 1960 Convention concerning EUROCONTROL installations and steps to be taken in case of emergency or war.

The Permanent Commission did recognise the need for common civil-military objectives for system planning to be defined. This important step was achieved in 1972 but it was not followed up by a methodical civil/military study of common system concept options and planning criteria.

In the development of the 1981 Protocol, no particular discussions would take place on the need for civil-military coordination and it would not be mentioned in the amended Convention. The aim of cooperation with the national military authorities, set down in Article 6 of the 1960 Convention, was not repeated. Note that this was despite the efforts of the European Parliament to advance this matter in its 1978 Resolution.

However, at the working level of detailed definition, design and programming, in the creation and further technical development of Maastricht and Karlsruhe Centres, the Agency staff had developed good relationships with the NATO air forces concerned.

Efficient new sub-systems had been jointly devised and installed to exploit traffic data available in the advanced automated systems of these two Centres, for the benefit of civil and military air traffic services, which were thus able to work in close coordination on the basis of constantly updated common data. The prime example of this was the development and implementation of the direct transfer of air traffic radar data to air defence stations in Germany and Belgium (the ADMAR<sup>18</sup> project).

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<sup>18</sup> *Abgesetzte Darstellung von Maastricht Radar Daten*

## Relations with ICAO

With regard to the Agency's relationship with ICAO, Member States' administrations tended at the time to insist that that ICAO was, essentially, an organisation of States. Within those bounds, efforts were made at EUROCONTROL to present coordinated Organisation views on relevant agenda items of ICAO conferences as they arose over the years - at world level on principal air navigation subjects or at European level on the application and coordination of specialist activities through ICAO's regional plans.

Practices evolved in the Agency on how best to prepare Member States' joint positions before ICAO meetings, to arrange Agency representation at meetings and to coordinate between delegations during meetings. Three examples illustrate the situation.

1. *When the Member Administrations saw value in submitting jointly agreed working papers for a given ICAO conference, the eventually agreed document was approved to be transmitted by the Director General under a fixed form of words "Presented by the European Organisation for the Safety of Air Navigation (EUROCONTROL) on behalf of the Member States" followed by their names;*
2. *In a case where the EUROCONTROL States, jointly, wanted to propose an amendment to ICAO regional procedures in Europe, as ICAO rules only allowed for an ICAO State to make such a proposal, the State whose member was President of the Committee would submit the proposal "on behalf of the Member States of the European Organisation for the Safety of Air Navigation (EUROCONTROL): "followed by their names;*
3. *For many years ICAO Member States ruled that ICAO technical panels could not include observers, so Agency experts could take part only as advisers to a panel member nominated by a EUROCONTROL State. Although that rule was relaxed by ICAO in 1982 there was still some hesitation in the Committee of Management before it was agreed that the Agency, as such, should provide an observer in a panel, for example to deal with SSR Mode S and related system development possibilities.*

This would remain the situation until ICAO's Special European Regional Air Navigation Meeting held in Vienna in September 1994 (this is described in Part 3).

### Summary

Much effort had been expended by the States in trying to develop an agreed future role for EUROCONTROL and its Agency. The differences of views on the implementation of the original Convention had not been overcome but a *modus vivendi* and *modus operandi* had been achieved which gave a substantive role and opened new opportunities. The Protocol signed on 12 February 1981 confirmed the *de facto* reduction of its operational role but consolidated the research and monitoring tasks of the Organisation. The consolidation of the route charges system, and its wider scope beyond the Member States, was a positive step for the future. While EUROCONTROL's task was restricted in comparison with the situation resulting from the initial Convention, the Protocol did not modify the organisation of EUROCONTROL regarding decision-making processes. This would become a major issue in the not-too-distant future as the inability of the States to agree common solutions would lead to another worsening of the traffic situation.

However, MUAC had, by 1986, become established in the form it would have until today in terms of its responsible area. It had become a successful international civil/military UACC and would be an essential component in any of the future FABs now being envisaged, either by its integration with other areas or by acting as a best-practice model.

In opening this Part the technical challenges facing Europe in the early years of EUROCONTROL's existence were described. The fundamental requirements described there would not change and finding the appropriate solutions in the face of ever-growing traffic increases would bring a new mission to EUROCONTROL and its Agency. The Agency would be present and influential in many of the fora where widespread change would be discussed and would bring its objective expertise to these discussions.

The key issue would, however, remain the necessary commitment of States and stakeholders to the solutions that would be developed.



### **Part 3:** 1986 - 1997

Amended Convention proves insufficient,  
MATSE takes key decisions,  
EUROCONTROL acts to revise Convention

## Précis

This period was characterised by the very effective partnership between the ECAC Ministers of Transport (MATSE) and EUROCONTROL. The products of the synergy that was achieved and maintained between the political will of the former and the expert objective professionalism of the latter led to a more effective definition of the problems, requirements and solutions for European ATM, and to a high level of commitment from ECAC States and stakeholders.

Through ECAC's initiatives, ATM improvement and harmonisation strategies and programmes would be aimed at the whole ECAC area, and all ECAC Member States would be urged to join EUROCONTROL. Beginning in 1988 there would be a series of key MATSE decisions, and these will be described in turn. EUROCONTROL played a central role by first providing much expert advice and support for the high level discussions and then taking up the challenge, laid upon the Organisation by the Ministers themselves, to develop and lead the strategies and related programmes.

There was also at this time strong support from the airspace users, both civil and military, for the changes envisaged by ECAC and EUROCONTROL and they would increasingly be actively involved in the process.

All these activities entrusted to EUROCONTROL by ECAC, as well as the development of current activities in the ECAC area, were the subject of formal decisions by the Permanent Commission, reflecting new levels of commitment from the Member States.

The Organisation realised that it needed to be adapted to meet the growing challenges. The tasks were becoming very wide, the stakeholders more varied and the complexity of the Organisation's processes was becoming greater. Discussions began in 1991 on changing the Convention. Commitment would be the watchword since it was recognised that greater commitment to the European Air Traffic Management System (EATMS) outcomes was necessary for success and that decision-making mechanisms needed to change.

There is a strong impression at this time that EUROCONTROL has rediscovered its founding spirit and there is a unity of purpose that helps advance the Organisation. As a sign of this unity a EUROCONTROL slogan of "One Sky for Europe" and logo would be developed and an Agency Mission, based on the theme of partnership, would be agreed. These have stood the test of time and are still used today.

There was strong support from the Committee of Management for an enhanced role for the Director General. Even before the revised Convention, Directors General Keith Mack and then Yves Lambert<sup>1</sup> carried through significant organisational development so that the Agency could reshape itself for the new challenges. Director General Keith Mack gained approval in 1993 for the first major changes to the Agency's structure in almost forty years to accommodate EATCHIP and the CFMU, giving to both an improved focus on the stakeholders and on the key products that would bring them benefits. Director General Yves Lambert followed this with a strategic review of the Agency as a whole, specific reviews of MUAC and IANS and a review of support processes to improve the utilisation of Agency resources.

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<sup>1</sup> Keith Mack 1989 - 1993, Yves Lambert 1994 - 2000



The European Commission, following from the contacts and agreements established in the previous years, opened up the possibility of going further and establishing a partnership with EUROCONTROL whereby the EC's political power could be linked to EUROCONTROL's expertise towards the achievement of a "uniform system". Notably in 1988 and in 1996 the Commission described its view of European ATM mirroring much of the discussion in ECAC and EUROCONTROL. Indeed, elements from the European Commission's work would find their way into the drafting of the revised Convention. The European Commission would highlight the issue of sovereignty in publishing its views.

EUROCONTROL would establish a new relationship with ICAO, becoming the only international organisation with the right to submit amendments to ICAO Annexes.

The period would be marked by the beginning of the corporatisation of the air navigation service providers (ANSPs). While still enjoying a monopoly over the provision of services in their respective areas, they would increasingly come under pressure from their governments to adopt more commercial business-like management practices. There would be a degree of control at national level over their charging in order to reduce costs and improve efficiency although this would vary considerably from State to State.

In the midst of all these institutional and structural changes, with major players in European ATM interacting in different fora, EUROCONTROL did not take its eye off the business in hand and the work went on to meet the growing challenges of increasing delays and saturation of airports. EATCHIP saw substantial early successes and the Convergence and Implementation Programme (CIP) was set up which would prove a highly successful Europe-wide planning and monitoring system. Indeed it would be the forerunner of the performance-based system of today. The CFMU made significant inroads into delays, developing a strategic and tactical support role in the management of the network, and reliable strategic and tactical information began to flow from CFMU and from the Agency's Central Office for Delay Analysis (CODA). All of this was achieved in close coordination with the relevant stakeholders, reflecting the spirit of partnership in the Agency's Mission Statement.

Several major organisational changes took place, indicating that the Agency was capable of recognising when change was necessary and could take the necessary steps, including efficiency improvements.

This is a period full of events. To describe them in strict chronological order would not produce a very coherent text. This Part therefore begins with the MATSE decisions and how they were implemented by EUROCONTROL; then it deals with how the Agency restructured and realigned itself to deal with its new mandate; EUROCONTROL's relationship with the European Commission and the development of the European Commission's own ATM policies are described; and finally the work leading to the revised Convention is set out.

## Increasing delays - ATC to blame?

Flight delays in the mid to late 1980s had, as has been described, become once again a live public issue, with headline stories of overcrowded airports and thousands of passengers delayed on their way to their annual holidays or stranded abroad.

From the limited statistics available at the time one can see the extent of the deterioration:

*1986: 12% of flights delayed for more than 15 minutes - attributed to Air Traffic Control reasons, mainly lack of infrastructure and controllers*

*1989: 25% of flights delayed for more than 15 minutes - again apparently due to ATC.*

Although weather and mechanical problems had always been a source of disruption, the extent of delays due to congestion during this period gave rise to political concerns. It was apparent that although the symptoms of delay - large tents erected at airports to house the numbers of passengers whose flights had been delayed - were highly visible, there was surprisingly little detailed information about the causes of delay which might be used to identify ways of reducing or eliminating the problem.

There were various early attempts to tackle the issue of capacity planning, both in terms of forecasting demand accurately and in organising the capacity across national boundaries. These had progressed as far as the establishment of the Central Data Bank by EUROCONTROL at the request of ICAO. However, at that time there was an apparent lack of commitment and willingness to fund any form of European approach.

However, the political pressures arising from these severe air traffic congestion problems led directly to a number of ICAO, ECAC and EUROCONTROL initiatives, all focussed towards a more effective regional solution for flow management and a means of identifying and alleviating the root cause of delays.

# The MATSE meetings

## MATSE/1 - The beginning of real change

The ECAC DGCA's met in Paris on 1 June 1988 and the European Transport Ministers held a conference in Luxembourg on 20 June 1988. The discussions and agreements achieved on these two occasions were brought forward into the plenary meeting of Transport Ministers of Member States of the European Civil Aviation Conference held in Frankfurt on 20 October 1988 (MATSE/1) which decided to take joint action on air traffic system problems in Europe.

Although this is often referred to as the "CFMU MATSE" the decisions taken were more far-reaching in their scope than simply flow management. While noting that many practical measures were being taken which would improve the situation in both the short and longer term, nevertheless the Ministers made it clear that more robust coordinated action and institutional changes were required. Accordingly it is worthwhile using extensive quotes to describe the outcomes.

The Ministers "called on the Permanent Commission of EUROCONTROL to define, by the summer of 1989, the necessary steps, costs and timetable to implement the aim, which the Ministers adopted, of a central air traffic flow management unit, and to inform ECAC Directors General accordingly; and to develop EUROCONTROL's activity, without any duplication of work or resources, by:

1. *establishing and operating a central air traffic flow management facility, in continued co-operation with ICAO and other organizations concerned;*
2. *taking further initiatives in the field of training air traffic controllers, including greater use of the EUROCONTROL training facility in Luxembourg;*
3. *developing the common air traffic control concept through harmonization of national plans, operational procedures, equipment and techniques used between and within the national air traffic control systems involved, taking due account of the EUROCONTROL common medium term plan and the ICAO FEATS concept;*
4. *possibly developing common functional specifications for the execution of air traffic control in the future common concept; and*
5. *possibly developing common technical specifications for the procurement of technical facilities required in national air traffic control systems for the future common concept."*

Mr Hudson, the Secretary of ECAC, underlined in his covering letter that the decisions of the Ministers covered both the development of the Central Data Bank of EUROCONTROL and the use of the Organisation and its Agency as a forum and tool, within the context of ICAO, for increasing the capacity of the present air traffic control system. He also noted that the Ministers had been informed by the delegation of Italy that its administration was preparing to negotiate for full membership of EUROCONTROL, and encouraged other ECAC Member States who were not yet members to follow this example. At this time ECAC had 23 Member States and EUROCONTROL<sup>2</sup>. Thus began the movement to ensure that EUROCONTROL would become a truly European Organisation in the geographic sense, a factor which has facilitated the wider and wider application of the many improvements which EUROCONTROL has brought to European ATM.

Indicating that their minds were concentrated on the future requirements, the Ministers requested ICAO to further accelerate the development of a future European air traffic system concept in order to bring forward its implementation, at that time planned for the late 1990s.

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<sup>2</sup> ECAC: Austria, **Belgium, Cyprus**, Denmark, Finland, **France, Federal Republic of Germany, Greece**, Iceland, **Ireland**, Italy, **Luxembourg, Malta**, Monaco, **the Netherlands**, Norway, **Portugal**, Spain, Switzerland, Sweden, **Turkey, the United Kingdom** and Yugoslavia. (EUROCONTROL States in bold)

The Ministers further asked that:

- *greater access should be secured to funds available for research and development in air traffic control technology and that adequate funds should be devoted to planning;*
- *co-operation between civil and military authorities on the use of European airspace should be intensified, so that when needed to alleviate congestion, there should be greater scope for use of military airspace by civil aircraft; and*
- *at peak times, public air transport should in general have priority access to busy airports and use of airspace, where this would make more efficient use of resources.*

Ministers also instructed their representatives to monitor closely the whole of this action programme through existing channels. They agreed to meet again in 1989 to review progress and thus the scene was set for the major decisions which would be taken at the later MATSE meetings.

There were several important issues thus highlighted by the Ministers. First, they recognised that what they were setting in train would require a massive planning effort to coordinate across States, air traffic service (ATS) providers<sup>3</sup>, airspace users and the manufacturing supply industry. EUROCONTROL had had the foresight to begin the development of the Common Medium-Term Plan which would provide at least a starting point for this.

Second, close civil-military cooperation was essential to develop a more efficient management of the available airspace. Again, EUROCONTROL had already set up the system of Military Liaison Officers and had established itself as a forum for joint decisions and action in this area (and in the coming years would strengthen this into a unique organisational advantage).

Third, there was a clear requirement for better coordination of R&D and its funding across Europe. EUROCONTROL would respond in 1989 by setting up, in close coordination with the stakeholders and with the involvement of the European Commission, the Programme For Harmonised ATM Research in EUROCONTROL.

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<sup>3</sup> This was the term which later became ANSP, air navigation service provider

## EUROCONTROL's Permanent Commission Takes Up the Challenge

The ground was now being prepared for concerted action on the two related issues of flow management and a harmonised system. The next two sessions of the Commission would set out significant agreements which would lead to a substantially enhanced role for EUROCONTROL with specific objectives being set out which would in turn set the scene for the next revision to the Convention.

### 73rd Permanent Commission

The 73rd Permanent Commission of EUROCONTROL, in July 1988 (i.e. between the two ECAC Ministers' meetings), saw two important discussions based on papers submitted by the Director General, Mr Horst Flentje<sup>4</sup> ("Short and Medium Term Measures to Overcome Urgent Problems in European ATC") and by the United Kingdom ("Further Development of the Central Data Bank for European Air Traffic Flow Management")<sup>5</sup>.

**The Directors General's paper** was a high-level, but nevertheless detailed, summary of the major problems causing the disparity between what the airspace users required and what the system was able to provide. Whilst noting but not dwelling on the discussions over the past years and lack of agreement within the Organisation, the paper described the actions in the very-short, short and medium term which in the Agency's view needed to be taken in a more coordinated and committed fashion than before. It set out a central role for the Agency to bring this about and it described the resources that would be required. All these measures, Mr Horst Flentje stressed, could be achieved only within the framework of a common plan which would represent "for the Member States a concrete embodiment of their commitment to a joint effort to raise European air traffic control to a homogeneous level". Mr Horst Flentje also noted that the Commission would not be surprised to learn that the Agency had already begun work on many of these elements.

The President of the Commission, Lord Brabazon of Tara of the UK, thanked the Director General for his analysis of the situation and expressed his full agreement with it. Failure to respond to the challenge, he said, "would result in others, out of necessity, taking up the work neglected by the EUROCONTROL community and EUROCONTROL would then be left behind as an irrelevance, which would be a tragic waste of its excellent, experienced staff and of the other resources devoted to it over the last 25 years".

Germany, the Netherlands, France, Belgium, Ireland and the UK all supported the paper's conclusions and recommendations, the last of these noting that any considerations of costs should bear in mind that the aircraft operators had expressed their willingness to pay for system improvements from which they would directly benefit.

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<sup>4</sup> Mr Horst Flentje was Director General from 1984 - 1988 and previously EUROCONTROL's Director of Engineering. He is the only Director General to have been previously a member of staff and Director

<sup>5</sup> WP/CN73/ 10 and WP/CN/73/13 respectively

The resulting decision laid out a renewed and vigorous role for the Agency and strengthened the rather broad statements of intent in the amended Convention of 1986, making them more precise and emphasising the requirement for commitment by the Member States to common coordinated actions. Specifically the Commission “instructed the Agency to:

1. *identify all incompatibilities having a potentially adverse effect on capacity that emerge from examination of the systems, procedures and plans elaborated, and to recommend ways of removing them;*
2. *investigate such improvements as might be made in the short term in order to relieve the major airways of congestion;*
3. *determine, within the scope of a study to be completed by the end of 1988 jointly with the civil aviation authorities of the Western European states and in collaboration with the ICAO Regional Office in Paris, the capacity in the various European airspaces likely to be available by late 1995;*
4. *expedite the development of a common medium-term plan for the purposes of air traffic control in the EUROCONTROL Member states, with particular attention to the coordination and harmonisation of national ATC systems, and quickly draw up a strategy for improving the efficiency of the system of air traffic management throughout the airspace of the Member states;*
5. *evolve specifications for the future generation of ATC systems; and*
6. *support actively the ICAO Regional Office in Paris in developing the future system concept for air traffic control in Europe”.*

**The UK’s paper on the Central Data Bank** was then considered by the Commission. This was welcomed as a significant exposé of the difficulties inherent in an environment where the flight plan processing systems of different States were designed differently and thus processed differently the plans filed by operators. The CDB’s then current method of data collection was mainly based on flight intentions from agencies which published the flight schedules of airline operators. Information on specific routes was not given. The UK’s conclusion - and recommendation - was that the CDB presented the most promising focus for further cooperative European effort in ATFM and that it needed to be able to receive and process actual flight plan data. Work should begin towards this end.

The Federal Republic expressed its full support for the UK’s initiative and further felt that the scale of the problems and the need to identify the required resources called for a rapid approach.

Mr Horst Flentje then made a very pertinent and far-seeing comment. He noted that the Agency lacked the legal means to impose upon aircraft operators the timely provision of flight intentions. Nevertheless, he stated, since aircraft operators would be the prime beneficiaries of smoother traffic flows then they were quite likely to respond favourably to an invitation to provide all the available information, particularly if the various national authorities were to do likewise. This identification of the “common benefit” as an incentive and the consequences of “non-compliance” as a sanction, would be increasingly the means for EUROCONTROL to achieve its objectives rather than a dependence upon the heavy hand of regulation<sup>6</sup>.

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<sup>6</sup> Indeed the issue of “incentive v. non-compliance” would be adroitly handled by the FDFM Working Group when it developed the simple but effective rule of “first planned, first served” for the CFMU in processing flight plans

The Commission's decision underlined the urgency of the matter. It instructed the Agency:

- *to devise forthwith a plan for the further development of the CDB;*
- *to implement the plan without delay insofar as the associated costs fell within the budgetary envelope;*
- *to evolve a concept for harmonising the collection, processing and dissemination of flight plan data in the EUROCONTROL Member States by way of support for effective air traffic management in Europe; and*
- *to report on progress to the next Commission session.*

The result of this 73rd Commission was that EUROCONTROL's input to the key MATSE meeting in October that year would be based on a high level of agreement and commitment among the Member States which had been so lacking in the Organisation in earlier years.

### **74<sup>th</sup> Permanent Commission**

At the next session, on 24 November 1988, the decisions taken by the ECAC Ministers on 20 October were the first item on the agenda. Germany observed that the Permanent Commission could not merely take note; it should endorse the actions taken and at the same time instruct the Agency to both accelerate the activities already deployed and initiate action on the new tasks assigned to EUROCONTROL.

The Director General reminded the meeting of the need to ensure that the various national sub-systems were compatible to such an extent that they could be integrated in a homogeneous system. Only from this would the airspace user obtain an equal standard of service throughout the whole area. He stressed that the emphasis should be on compatibility rather than on uniformity, but such compatibility could be attained only by first establishing common functional specifications from which common technical specifications would subsequently be derived. A homogeneous development of the integrated system could be attained only if national implementation plans were synchronised.

France shared the Director General's appraisal of the action to be taken. The decisions taken at the ECAC Ministers' meeting constituted a major step in EUROCONTROL's development; the Organisation should make every effort to meet the challenge ahead. The fact that the decisions taken at the ECAC Ministers' meeting had been adopted unanimously, and that all Transport Ministers of the EUROCONTROL Member States had been present at that meeting, constituted a guarantee that measures developed by EUROCONTROL in order to implement the ECAC decisions would receive the absolutely vital support of all national authorities. Germany entirely endorsed the statement made by France.

The Permanent Commission then formally took its decision and accepted the baton passed by ECAC. It:

- *welcomed the initiative taken and the proposals made at the meeting of Transport Ministers of the Member States of the European Civil Aviation Conference, aimed at resolving the problems facing both European air traffic and European air traffic control;*
- *accepted the appeal, contained in the decisions taken at the meeting of the ECAC Transport Ministers, for further expansion of EUROCONTROL's activities for the benefit of European air traffic control;*
- *observed that work was already in hand on several of the tasks listed in the decisions taken at the ECAC Meeting as being tasks which should be undertaken by EUROCONTROL;*
- *instructed the Agency to pursue and accelerate the activities already deployed, and to initiate action on the further tasks assigned to EUROCONTROL;*
- *requested the Committee of Management to submit a progress report to the Permanent Commission's 75th Session.*

The Permanent Commission also “instructed the Agency to prepare plans for the establishment of a Central Flow Management Unit providing services *in the entire area of the ECAC Member States*<sup>7</sup>”. It recognised that much effort would be required and set out what it would expect to be specified in the plans:

- *organisational: the responsibilities of the CFMU, the sub-regional or national units, the aircraft operators and the links between them;*
- *functional: definition of the functions of the CFMU and the units, and of the level of quality required;*
- *systems: development of a system for the CDB which will provide tactical functions, and of an integrated European initial flight plan processing system that guarantees that data used by the CDB are of the required quality.*

In preparing the plans, the Agency was also asked to invite ICAO and representative aircraft operators’ organisations to participate actively in the work of the relevant working group. An additional factor was that the number of ECAC States increased significantly during this period which added to the complexity of the planning process, requiring regular re-working to accommodate changing requirements.

Thus EUROCONTROL now had a clear mandate for action.

The decision taken by the Commission then repeated almost verbatim the decision of MATSE/1 but it differed in one important aspect: whereas the ECAC Ministers had spoken of “possibly developing” common specifications the EUROCONTROL Commission now set this out as a positive objective statement by instructing the Agency:

*“to develop common functional specifications for the execution of air traffic control and common technical specifications for the procurement of technical facilities required in national air traffic control systems for a future common concept”.*

## Achieving MATSE/1 - Air Traffic Flow Management

### ICAO CTMO Concept - Special EANPG 1988

It is necessary first to understand that, as was frequently the case in EUROCONTROL’s history, the Organisation was already deeply involved with parallel ICAO developments. The ICAO Council had been following events in Europe and had already approved a Special Meeting of the ICAO European Air Navigation Planning Group (EANPG) in November/December 1988. It entrusted the Group (chaired by Mr Keith Mack, Controller of UK NATS and soon to be the next EUROCONTROL Director General) to analyse the results of an ICAO Special ATFM/ATC meeting in June 1988, and to develop a concept for a centralised ATFM organisation in the European Region.

As a result the concept for a Centralised ATFM Organisation (CTMO) was developed by the EANPG. It would comprise two Central Executive Units (CEU), with responsibility for eastern and western Europe respectively, supported by ATFM Positions (FMPs) in all Area Control Centres of the European Region.

The CEUs should be responsible for the planning, coordination and execution of all ATFM measures. The objective would be to ensure maximum utilisation of available system capacity and balancing of traffic demand through strategic, pre-tactical and tactical measures.

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<sup>7</sup> Author’s emphasis



The FMPs should be responsible, within their area of responsibility, for demand and capacity assessments in relation to the ATC sectors, for advice to the CEUs on necessary ATFM measures, as well as for the execution of delegated tactical measures.

The ICAO CTMO concept was to be achieved through a phased development which foresaw:

- a first stage with a CEU West composed of the FMU Frankfurt, London, Madrid, Paris and Rome, and the Data Bank EUROCONTROL (DBE), working in co-operation with the other, still existing ATFM Units;
- a second stage with more centralised functions of the CEU West and a CEU East with joint operations with FMU Moscow and Prague; and
- a final stage with two CEUs supported by FMPs in all Area Control Centres and accompanied by the withdrawal of all FMUs.

This would form the basic concept for the establishment of the CFMU.

### **The CFMU: Project to Implementation: 75th Commission**

The 75th session of the Permanent Commission met on 4 July 1989. The new EUROCONTROL Director of Operations, Mr Wolfgang Philipp, had worked quickly with the CDB team within the Agency and a full plan was presented by the Director General, Mr Keith Mack, known as the CFMU Implementation Plan<sup>8</sup>. Based on its experience in developing the MADAP and KARLDAP systems, EUROCONTROL had been able quickly to work on the requirement for and the procedures for operating the Central Database, a good example of the integrated operational economies of scope and scale achievable by the Organisation. The Agency had held working meetings with the ECAC Directors of Air Navigation and with the Heads of the five air traffic flow management units. The result had been an agreed list of actions, designed to improve the pro-active role of the "CEU West", and the acceptance of EUROCONTROL as the central coordinator of the activities thus required.

The Commission congratulated the Agency on the quality of the work performed and the Plan was approved in principle. The Committee of Management noted unanimously "its appreciation of the value of the work carried out by the General Directorate in such a short time". The Plan, it was noted, would be subject to a continuous process of elaboration and development in conjunction with all the parties concerned and under the auspices of the Committee of Management. With regard to costs it was also noted that although the costs of the CFMU would progressively increase nevertheless these would be offset by the savings in the national administrations and the greater efficiency in the service provided.

The Permanent Commission was thus able to write formally to Mr Daniel Tenenbaum, President of ECAC, informing him that the approval of the CFMU Implementation Plan "constitutes a response to the request made by the Transport Ministers of the ECAC States at their meeting in Frankfurt on 20 October 1988". The letter also stated that membership of the EUROCONTROL Flight Data and Flow Management (FDFM) Working Group, which had been established to advise the Committee of Management on CFMU planning and implementation, was open to all ECAC States.

Barely nine months had passed between request and response, an excellent effort by EUROCONTROL.

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<sup>8</sup> EUROCONTROL Document N° 892005, June 1989

The Permanent Commission also recognised the need to coordinate the establishment of the CFMU with the non-ECAC States, in particular with COMECON<sup>9</sup>, within the framework of ICAO and the CTMO concept. EUROCONTROL thus continued its tradition of “managing beyond the frontiers” where its technical expertise could be used to ensure smooth flows of traffic arriving into the European airspace for which it had specific responsibility and to assist those contiguous States to improve the state of their facilities.

Immediately the Director General, Keith Mack<sup>10</sup>, created a Central Flow Management project team, to implement the CFMU Implementation Plan in consultation with the National Administrations. It was given a defined brief with a clear identification of its customers.

The project team was led by Pierre-Olivier Jeannet, with Brian Martin and Alex Vink responsible for the operational concept and tools, Peter Schmutz for the data processing systems architecture and software development aspects, Jürgen Blume for the data processing hardware infrastructure design, Gerard Lambert for the accommodation and building infrastructure, and Claude Leclerc for the telecommunications aspects. Together they produced a full report in six weeks – the famous CFMU Implementation Plan, better known as the “Bouquin Blanc”. The plan contained the entire set of blueprints for what would finally become the CFMU. This was an impressive performance in such a short space of time. Mr Duytschaever later recalled “It contained a detailed implementation plan for the CFMU, including a description of the operational functions to be developed, the building requirements, the systems to be implemented, the staff to be recruited, the appropriations required for investment and operation, and the time-scale of project execution. The document was excellently written and has been the guideline throughout the realisation of the project. Great merit is to be given to its authors”.

Pierre-Olivier remembered the challenges of the project.

“I would say that as probably in every large project, the difficulties to overcome lay in many areas: technical, institutional and operational. The first point is to get a consensus on what should be done, and this is probably the most critical success factor. What to do must be agreed, but it should not be necessarily the smallest common factor. In that case, the risk is to set up something bringing little or no benefit (as was the DBE because of the lack of ambition of the States at that time). In addition, such a project is often hampered by political agenda and side issues linked to particular interests having nothing to do with public interest nor the objectives of the project. The resistance to change is also always present.

Operationally and technically, we were largely in uncharted territories. The introduction of new operational services, like the IFPS and the centralised tactical ATFM system, were bound to impact closely the ATC and AO<sup>11</sup> operations, and it was essential to identify in advance the potential impact and the likely reactions of the partners. I think that that part was reasonably well managed, and the start of CFMU operations was rather smooth.

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<sup>9</sup> The Council for Mutual Economic Assistance (Comecon) was set up in January 1949. Members were the Soviet Union, Bulgaria, Czechoslovakia, Hungary, Poland and Romania

<sup>10</sup> Mr Keith Mack became Director General in January 1989.

<sup>11</sup> AO = Aircraft Operators

Technically, there are often problems of performance, and the CFMU did not escape that difficulty. Although we used the top of the processor range at the time, we had to optimise the software before the system could be accepted by the operational staff. Another point of concern was the system reliability. Although we had commissioned several studies to design a system meeting the stringent availability requirements imposed, the question of the software reliability remained crucial for the continuity of operations: the time to repair when there is a software bug is unpredictable with such a huge amount of data possibly corrupted (as demonstrated by the only CFMU tactical database breakdown known so far). The most critical component, namely the IFPS, demonstrated itself to be of an excellent reliability with no interruption of service."

It is also noteworthy that the airspace users gave their full support to these developments and actively participated in the working groups.

As noted earlier, the CFMU project would be based on the ICAO CTMO concept and was intended to act as the "final stage" of CEU West. However, due to the rapid and enormous political changes in eastern Europe and the delay in the setting-up of the CEU East, the area of responsibility of the CTMO concept was not fully implemented and the CFMU area of responsibility would be gradually expanded to cover all the ECAC Member States and beyond<sup>12</sup>. In addition the 172nd CE in March 1993 noted that ICAO had agreed, in order to avoid duplication, to hand over responsibility for ATFM matters previously handled by the EANPG to the FDFM, and warmly welcomed ICAO's confidence in EUROCONTROL.

### **Phased Establishment of the CFMU**

Similar to the phased implementation of the ICAO CTMO concept, the CFMU would be achieved in three main phases.

From 1989 to 1996 the CFMU gradually took over the three phases of ATFM activity from the existing national flow management units: strategic, pre-tactical and tactical operations. Indeed as soon as the 75th Permanent Commission took its decision the CFMU's strategic activities began in 1989 through active involvement with the existing FMU operators and the civil airspace users. Flow meetings were organised, pre-summer preparation discussions were held, traffic orientation schemes were developed until these strategic ATFM activities were completed with the operational implementation of the ATFM Notification Message on 17 October 1991. This was the first single, daily ATFM Notification Message, replacing a multiplicity of messages sent out by other Flow Management Units (FMUs) beforehand. By this time, development had also begun on the powerful computer systems needed to process the flight plans, provide a highly accurate demand picture and allocate the slots to the aircraft operators.

The next phase began in March 1992. The CFMU pre-tactical activities were consolidated with an improved flight database, including Repetitive Flight Plans and with interfaces to all Flow Management Positions, mostly in Area Control Centres. After November 1992, pre-tactical ATFM activities were gradually transferred from the still existing five national FMUs into the CFMU.

In 1992 the CFMU was established as a separate EUROCONTROL Directorate and Dirk Duytschaever became the first Director, after having served for two years as Head of the DBE as a successor to Kees Dieben.

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<sup>12</sup> The 172nd Committee of Management, March 1993, agreed that CFMU terminals should be established in Morocco, Algeria, Tunisia, Egypt and Israel

Pre-tactical operations for the ECAC States began in February 1994 when the CFMU moved into a new purpose-built complex, housing its offices, computers and operations rooms at the new EUROCONTROL Headquarters at Haren, next to Brussels National Airport. This provided the required system capacity and availability for the next phases of the transfer.

The CFMU started initial tactical operations on 27 April 1995 when it took over the management of air traffic flows over France and Switzerland from the Paris FMU, known as CORTA (*Cellule d'organisation et de régulation du trafic aérien*). The decision, taken by Philippe Jacquard (then president of the FDFM) that France be the first to close down and hand operations over to the CFMU was described as "momentous" by Dirk Duytschaever. The CFMU also became responsible for the reception and processing of flight plans for France, Germany and the Benelux States.

On 9 November 1995, the CFMU expanded its tactical operations to cover the airspace of the States which had previously been served by the Frankfurt FMU and its sub-units. At the same time, in anticipation of the transfer of the London FMU, the United Kingdom authorities authorised the CFMU to manage part of the international traffic flows entering their airspace. Their remaining tactical operations were transferred on 13 January 1996. This step was swiftly followed on 1 February with the transfer of the activities of Rome FMU. The Madrid FMU's activities (covering Spain and Portugal) were absorbed on 14 March, so completing the take-over of tactical operations. Brian Martin, Head of ATFM Operations, and his successor John Penwarne, were responsible for successfully conducting this transfer process.

The CFMU became entirely responsible for the whole range of air traffic flow management services with the start-up of operations of the Initial Integrated Flight Plan Processing Unit on 28 March 1996.

### **CFMU's Services and Benefits**

The full range of what the CFMU could now offer as services and products was impressive.

- **Strategic ATFM** was aimed at medium-term analysis of situations to come. It was executed mostly during winter to prepare the next summer season. The analysis was based on consultation of archived information on traffic of the previous year and simulation through forecasts. The DBE traffic forecast provided by the STRAT system of the CFMU gave a growth tendency of the traffic demands. Then, large scale ATFM plans on the orientation of traffic flows were designed, such as the Traffic Orientation Scheme.
- **Pre-Tactical ATFM** was the detailed preparation of the ATFM plan to be implemented on a date in the near future (for instance tomorrow). In that regard, detailed examination of the forecast of that day was executed in comparison with archived information on traffic recorded on a similar day. The result of this phase was the definition of the daily ATFM plan giving all measures and parameters to be applied. The final result of this exercise was the daily publication of the ATFM Notification Message (ANM) by the Central Executive Unit (CEU)
- **Tactical ATFM** was the tactical implementation and application of individual measures on the day of flight operations, prior to the departure of flights through passive slot allocation and ad hoc rerouting.

Since then, as will be noted later in Part 4, the capabilities of the CFMU have been steadily developed in full consultation with the users and ANSPs.

## Conclusion

The enormous congestion, the delays, and the consequential economic damage, had been the driving forces for an intensified European cooperation and for the setting-up of the CFMU for the European-wide organisation of the flow of air traffic. This move away from a multiplicity of national and sub-regional FMUs with the associated serious coordination problems and the sometimes counterproductive under-utilisation of available capacity, represented a significant step towards greater efficiency of air transport.

The availability of all relevant management information in a focal point, together with improvements in coordination through the creation of flow management positions in all Area Control Centres and an Aircraft Operators liaison cell in CFMU staffed by IATA and IACA, would allow quick and consistent decision-making and avoid the splitting of limited resources in a piecemeal way.

The tactical ATFM management system would ensure that no sudden overloads could arise that would be detrimental to safety and fluidity of traffic and the maximum use of available capacity in the air traffic control system. It would also ensure equity<sup>13</sup> between the various users of airspace in flow measure application and transparency through free access to ATFM information.

Furthermore, the operation of the CFMU with all its systems for full ATFM operations would trigger enhancements and new developments in ATM systems, and be a major contribution to the evolution of European air traffic management systems.

The CFMU now provided flow management services throughout the airspace of all ECAC Member States. It achieved its main objective of making more efficient use of airspace since the average delay suffered by each flight in Europe in 1989 had been halved by 1997. It also set an example in European air traffic management cooperation. The success of the CFMU in this respect is remarkable when the problems affecting integration in other areas of airspace management - political, social, financial and institutional - are taken into consideration.

## Success of the Flight Data and Flow Management Working Group

The whole process of establishing the CFMU through these important years had been managed by the FDFM Group under the able chairmanship of first Mr Jim O'Farrell of Ireland, then Mr Philippe Jacquard, Head of ATC in France's DNA<sup>14</sup> who was followed by Mr Keith Williams, Director Operations at UKNATS<sup>15</sup>. Their partnership with Mr Dirk Duytschaever, first Director of the CFMU, was a very effective demonstration of what European professional expertise could achieve given the required high-level political support which ECAC had furnished through MATSE.

IATA and IACA had very much supported the inception of the CFMU and had supplied regular input to the work in the FDFM. Indeed a key to success was the establishment, with the cooperation of IATA/IACA, of the Aircraft Operators' Liaison Cell in October 1993 to ensure close coordination and cooperation with the civil airspace users. Based in the CFMU building this has been staffed very ably over the years by Kjell Nillson, Mike Tarrant, Colin Hume and Len Hearnden. The information coming from CFMU would be used by these organisations to inform airlines of both the performance and the results of improvements in various parts of the network, proving that the investments were bringing benefits.

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<sup>13</sup> Equity, with the CFMU playing an objective, neutral role, would be a characteristic not just of the CFMU but of the Agency as a whole.

<sup>14</sup> Later author of the "Independent Study for the Improvement of ATFM"; Sept 2000

<sup>15</sup> Later Chairman of the PRC (2203-2005, reappointed 2005-2007)

However, as one problem was solved, others came along. In November 1995 the FDFM group reported that there were 20% more flight plans than actual flights as a result of airlines “trying to work the system”. This would be resolved as part of the further development of the CFMU’s systems and the strengthening of cooperation with the representatives of IATA and IACA. On a further positive note the FDFM found that “national controller staff were very positive in their attitude to the CFMU”, recognising that one of the main advantages was preventing overload.

### **FDFM Becomes EAMG**

To strengthen the development work and oversight of the process, the 181st Committee of Management, in March 1996, agreed to set up the European Air Traffic Management Group (EAMG) to replace the FDFM. Keith Williams would chair it and continue his partnership with Dirk Duytschaever. A key characteristic of the EAMG, formally recognised in its ToRs, was that all Members should have equal status. This reflected the way in which the FDFM had played its role and the CFMU had been developed. Participation in the EAMG was open to all ECAC States participating in the CFMU, to ICAO, the European Commission and to representative international organisations of the aircraft operators.

### **Continuing Achievements of the CFMU**

The CFMU went from strength to strength. By the end of 1997 the Central Flow Management Control Unit (CFMU) was handling close to 22,300 flights per day, or around 7 million flights per year. The delay in 1997 on all flights averaged just under three minutes - which translated into an average delay on delayed flights of under 19 minutes - about 8% less than the previous year. It is worth noting that between 70 and 80% of all flights were not subject to any flow restrictions, and that delays attributable to ATM include the effects of weather on ATC procedures, over which ATC had no control<sup>16</sup>. Nevertheless the high priority objective was to cut specific delays to the minority traffic that was still affected and that would form the purpose behind the enhanced stakeholder involvement meetings and the resultant development work that would follow.

## **Objectivity and Neutrality of the Slot Allocation Process**

This is a key characteristic of CFMU’s work that is not questioned by the stakeholders. The slots are allotted by the CFMU in a completely equitable way by a computer using an algorithm and there is therefore no favouritism for any airline. Aircraft are not allowed to depart until slots are clear and available. This also has the additional benefit that it is much better to keep the plane on the ground than to keep it “waiting in the air”, wasting time, burning fuel and making management much more complicated. The environmental benefit is considerable.

All professional users and in particular the airlines, and the control centres, can view this computer programme at work on their terminals. They can clearly see that there is no bias or unfairness in how slots are allocated.

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<sup>16</sup> Director CFMU had noted in the December 1992 Committee of Management that while CFMU could produce overall delay statistics no visible distinction existed between ATC or airlines as the causes of traffic delays. The ability to identify causes of delay came with the establishment in the Agency of the Central Office for Delay Analysis (CODA)

## Meetings of DNAs and DOps

A notable part of the CFMU's success, and an excellent example of EUROCONTROL's ability to ensure effective involvement of the stakeholders, was the close and active coordination achieved through meetings first of the Directors of Air Navigation (DNAs) and subsequently by Directors of Operations (DOPs) of all the participating States.

### DNAs

The first two of these meetings, in February and March 1991, were organised to prepare and manage the transition plan for the closure of the five FMUs and the implementation of the IFPS. An important decision was taken, based on analysis by CFMU staff, that a contingency plan was required based on two IFP Units.

However, it was quickly realised that they also offered an invaluable opportunity each year for the DNAs to meet to review the previous summer's performance and to produce action plans to reduce delays for the coming summer. The first of these "action" meetings, DNA/3, took place in July 1992, with France, Germany, Italy, Spain and the UK taking part. IATA and IACA were also invited to attend.

The developing sense of common trust and cooperation was described in the letter sent by Director General Keith Mack to the participants (Messrs Eckhardt, Lambert, Griselli, McLauchlan, Estaun Y Diaz de Villegas) after DNA/3: he thanked them for their support and went on:

*"The frankness with which problems were discussed and the enthusiasm with which solutions were sought contributed significantly to the success of the meeting. I note that it was agreed that the participants should meet regularly to monitor progress in implementing the recommended actions and we will make appropriate arrangements for this. I am also drawing the attention of the Directors of Air Navigation of all the ECAC States to your conclusions, as the meeting requested."*

These meetings, which thereafter were held in spring each year, became increasingly focussed on developing specific objectives such as the reduction to "x minutes" of the delays in a bottleneck. Because they were held with the senior staff who had direct responsibility for performance, and who relied on each other for cooperation in achieving solutions, the atmosphere of frank discussion noted by Director General Keith Mack also developed into one of mutual trust. It is important to point out that EUROCONTROL's own centre at Maastricht was regarded as an equal player in the round table discussions. At the end of each meeting a briefing note for ECAC DGCA's was prepared and agreed.

There was another important characteristic of these meetings. The Director of the CFMU and his team were seen as the honest brokers of the discussions, providing expert advice and taking the outcomes and turning them into agreed action plans.

The solution and action-oriented nature of this process was exemplified by the meeting held in Palma de Mallorca on 18 March 1995. This was aimed at solving particular problems experienced the previous year with the Balearic traffic flows related to the summer holiday peaks in several countries. The range of increases in traffic for the Balearics were expected to be between 8-15%. Agreements on action were significant, as was the way in which they had been agreed, so much so that Director General Yves Lambert wrote to the ECAC DGCA's afterwards to bring to their attention what the DNAs had achieved.

*"In a spirit of cooperation they have agreed on a number of national and international measures which will alleviate congestion in Summer 1995.*

*They have decided inter alia to make use of the facilities of the Central Flow Management Unit to the maximum extent possible, in order to make the most effective use of the capacity available."*

An important decision was taken at that meeting which would have beneficial effects in the years to come. The DNAs proposed to recommend to the Committee of Management that a crisis management group be set up chaired by Director CFMU. In case of a crisis any member of the group could request DCFMU to arrange a meeting at short notice.

Further, the output of this meeting was transferred directly into the EATCHIP plans then being developed. The meeting of EATCHIP Liaison Officers on 4 April 1995 took this on board thus again demonstrating the synergy gained from the scope of EUROCONTROL's activities.

## **DOPs**

By the end of 1997 these meetings were being attended more by Directors of Operation because of the nature of the business being done. Accordingly the first Meeting of Directors of ATS Operations (DOP/1) took place at Aix-en-Provence on 26/27 March 1998.

There was an important development at this time because the CFMU brought forward, for the first time, the results of the EEC's study on the Future ATM Profile (FAP)<sup>17</sup>. The objective was to identify areas in which capacity should be increased in order to achieve the overall target of a +7% increase in capacity set by the Provisional Council for 1998.

DOP/1 took the study and matched it with their empirical work and produced a more informed set of action plans. These were passed to PC/2 in April 1998 and then the same plans were put before the European ATM Flow Management Group (EAG) in the same month. Thus the different levels of decision-making and implementation were all involved within four weeks, a tribute to the integrated organisational processes which would be developed following the early implementation of the revised Convention.

DOPs meetings continue till this day.

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<sup>17</sup> The FAP had been produced by Brétigny's Performance and Economy Research team headed by Soenke Mahlich. The FAP had its origins in the work of the Maastricht Task Force and would be taken up by the PRC to be used in its highly effective analyses of delay and capacity



## MATSE/2 - “ECAC strategy for the 1990s” - EATCHIP

At this meeting on 24 April 1990 the ECAC Ministers of Transport launched their “ECAC Strategy for the 1990s”<sup>18</sup>, following on from their statements at MATSE/1 in 1988. They noted that considerable growth was forecast in the ECAC area up to the end of the century and beyond. While they recognised that considerable efforts were being deployed to expand the system and to reduce air traffic congestion nevertheless there was a need to “unite and accelerate those efforts”. The Ministers therefore adopted a new strategy to harmonise and integrate the operations of their air traffic control systems in the 1990s. They anticipated that this would prepare the way for the introduction of a new generation of air navigation technology on the eve of the 21st century. The Ministers also launched joint work in the area of airport infrastructure policy.

The strategy was wide in its scope and detailed in its analysis of the issues, requirements and proposals. It had been prepared on the basis of extensive consultation by a Task Force led by Mr Val Eggers<sup>19</sup>, Director General of Civil Aviation in Denmark, with Mr Tony Goldman, DGCA of the UK as vice chairman, and comprising many high-level policy and air navigation experts from ECAC States. It received substantial input from the EUROCONTROL team (Messrs Philipp, Fourier, Herbert, Vachier, Lemaire, Geigner, Carson and Bodenstern), and worked with the active collaboration of ICAO, the NATO Committee for European Airspace Co-ordination and the EC Commission, as well as with advice from organisations representing air traffic controllers and airspace users. The advice of the Director General of EUROCONTROL was taken on institutional arrangements.

The Ministers noted that in preparing the strategy particular attention had been paid to the views of airspace users. They cited studies published the previous year on airspace capacity by the Association of European Airlines (AEA) and The German Airspace Users’ Association and another, commissioned by the International Air Transport Association (IATA), on airspace and airport capacity in Europe.

Some of these studies had proposed a new single air traffic control system operating a small number of transnational centres in the continental ECAC area. This proposal had not been followed in the ECAC strategy because it raised major problems - including some of national sovereignty - and because the time needed to resolve them might delay the urgent practical improvements which were necessary in the system. Nevertheless, the value of these studies was recognised.

The overall objective was to urgently provide increased airspace and control capacity, in order to handle the traffic expeditiously while maintaining a high level of safety. The actions taken had to be consistent with the EUROCONTROL Common Medium-Term Plan which was described as “an essential framework within which all technical development, even on a sub-regional basis, should take place”. Importantly, EUROCONTROL was described by the Ministers as ECAC’s “managing agent”.

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<sup>18</sup> “Air Traffic Control in Europe - ECAC Strategy for the 1990s”, Meeting of ECAC Transport Ministers, Paris, 24 April 1990

<sup>19</sup> Mr Eggers would play an important role in the implementation of the Strategy, particularly as chairman of the ATM2000+ Strategy Board

The Action Programme set out Operational and Implementation Objectives, which would soon form the core of EUROCONTROL's work in support of MATSE:

### **Operational**

*"The air traffic services route network and airspace structure is to be optimised, supported by a widespread application of area navigation from 1993 onwards.*

*Comprehensive radar coverage is to be completed throughout the area by 1995 at the latest.*

*En-route radar separation of 5NM is to be applied throughout high-density areas by 1995 at the latest. Elsewhere, en-route radar separation of 10NM is to be applied by the same date.*

*Air traffic control systems are to be progressively integrated after being harmonised in high-density areas by 1995 at the latest, and elsewhere not later than 1998.*

*Automatic data communication between air traffic control centres is to be completed by 1998 at the latest.*

*A new high-precision air/ground data link system (Mode S) is to be operational in a central area from 1998 onwards."*

### **Implementation**

*"Optimize the provision and use of the radar surveillance function by installing new facilities or sharing radar data.*

*Make air traffic control communications more efficient and extend the exchange of data between air traffic control computers by applying common specifications and installing new equipment.*

*Improve airspace management by implementing new airspace and route structures, common procedures and adequate system support.*

*Harmonize the development and implementation of the various technical components of air traffic control systems by adopting common standards and specifications.*

*Define guidelines for the selection training and licensing of air traffic services staff in ECAC Member States."*

There were four phases to the action programme:

*Phase I: Appraisal and Evaluation - Completion before mid-1991*

*Phase II: Programme Development - Completion before mid-1993*

*Phase III: Acquisition and Implementation - Completion before mid-1995*

*Phase IV: Implementation of the future air traffic management system*

*Timescale: 1995-2000 and beyond*

## Civil-Military Cooperation

Although not a specific operational objective the Strategy noted the following.

*“Dialogue between the civil and military authorities on the use of available airspace is a long-standing feature of the European aviation scene. The development of this dialogue through the appropriate channels in pursuit of a better use of airspace must remain an important element in the ECAC strategy. There remains scope for improving cooperation in the use and, where possible, integration of the facilities of the civil and military authorities.”*

In order to achieve this, the European Air Traffic Control Harmonisation and Integration Programme, which became known worldwide by its acronym EATCHIP<sup>20</sup> was launched. While the ECAC decision on the CFMU had been concerned with making a maximum use of existing capacity, the central feature of EATCHIP was its work towards increasing ATS system capacity and optimisation of the network (which would become an increasingly important strategic goal for the Agency). It represented a completely new approach to European air traffic management cooperation. The initial challenge was to achieve harmonisation of European air traffic services in all ECAC States by 1998, by working towards the compatibility and interoperability of European ATM systems and procedures.

The Agency was heavily involved in the preparatory work. While the ECAC Ministers had much support from across the spectrum of organisations, providers and users the strategy document acknowledged specifically the assistance and advice afforded by the Agency’s Director General, Keith Mack, and Wolfgang Philipp, the Director of Operations.

In Autumn 1989 the General Directorate had participated in the EGERIA Task Force set up by ECAC which led to the development and promulgation of the “ECAC strategy for the 1990s”. Input on technical and operational requirements were provided by EUROCONTROL, through the leadership of Mr Wolfgang Philipp, Director of Operations, and Mr Fourier, Head of Division O2.

Much of the model for the new approach which was the result of MATSE/2 would come from the “Four States/ EUROCONTROL” concept for enhanced cooperation between Maastricht, Bremen, Düsseldorf, Amsterdam and Brussels ATCCs. This had been developed under the joint management team of Dr Hansjürgen von Villiez (DMUAC), Mr Wolfgang Philipp (Director Operations), Mr Arnold Vandenbroucke (DANS, Belgium) and Mr Paul Stalpers (DANS, the Netherlands). Since April 1990, the Director of Operations had acted as EATCHIP’s Project Leader, later supported by the formation of a Project Core Function and a Project Office. The latter had strengthened the planning and project management capabilities of the Agency’s Directorates of Operations and Engineering and coordinated the Agency’s efforts with those of the States involved in EATCHIP projects.

The Ministers, by their confidence in EUROCONTROL, developed the Organisation’s role as an air traffic management planning organisation for Europe as a whole and recognised that it provided the appropriate institutional framework to introduce common ATM facilities.

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<sup>20</sup> The acronym was created in Mr Keith Mack’s office at Rue de la Loi in a conversation with Mr Philipp and Mr Carson

## Achieving MATSE/2 - EATCHIP

Much had to be done in European ATC. Director General Keith Mack, writing in Spring 1991<sup>21</sup> after MATSE/2, noted:

*“Anyone surveying the air traffic control systems of today can observe that even the technology which has been available for many years is still far from being uniformly applied. Technically we know, for example, how to engineer automatic data transfer between air traffic control centres; such facilities are not on the “leading edge” of advanced technology. Yet controllers in much of Europe are still making telephone calls to pass boundary estimates on individual flights. Radar was in use for the Second World War: yet European air traffic control is still, fundamentally based on procedural concepts: in some areas. radar cover does not even exist.”*

The EATCHIP Programme would succeed in moving all this forward, working under the supervision of the EATCHIP Project Board chaired by Mr Tony Goldman of the UK, supported by Mr Wolfgang Philipp, Director of Operations.

By the end of 1998, EATCHIP would have delivered substantially increased ATC capacity to cope with traffic growth. Other benefits included the reduction of congestion and delay, costs savings, more efficient flight operations, the maintenance or improvement in safety levels, and an equitable route charges system.

### Scope of EATCHIP

The EATCHIP undertaking covered 65 ACCs/UACs and 24 major TMAs, with 437 en-route sectors and 115 approach sectors throughout all the States of the ECAC region.

Through this period, a number of States from central and eastern Europe had joined ECAC and EUROCONTROL, and become a part of the EATCHIP process, entering at the Phase 1 stage, and adding considerably to the complexity of the overall task. Cooperation with the FAA had been stepped up in the field of R&D and also to ensure compatibility of communications systems across the Atlantic.

EATCHIP was in itself a complex set of often interdependent lines of action. As will be noted later in the case of RVSM, these activities had to be coordinated so that the interdependabilities were identified and managed carefully to their conclusion. This required a large programme management which was the responsibility of the new EATCHIP Planning Division, headed by Jean-Luc Garnier. The complexity of the Programme required outside assistance and this was solved with the help of Sofréavia.

One key element of the EATCHIP Work Programme was that the interdependencies were mapped for the first time, underlining the requirement for commitment by all concerned to the individual parts of the Work Programme as well as to the high-level objectives.

It was also clear from this process that no one single action improved capacity or reduced delays. Rather a package of related activities was required which often carried a network benefit. In the circumstances it was sometimes difficult to show clear traceability which in turn produced challenges of justifying budgets where a State or provider might not be the immediate beneficiary.

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<sup>21</sup> Focus Issue 2, Journal of UK Flight Safety Committee

## Managing the EATCHIP

A mechanism had to be developed to support the EATCHIP Programme plan. This was the Convergence and Implementation Programme with its local counterpart (CIP/LCIP).

At the beginning of EATCHIP in 1992 Mr Jean-Louis Renteux was asked to chair the Systems Integration Task Force (SIT) which produced a report, in collaboration with a high-level group of stakeholders, called 'Open ATM System Integration Strategy' (OASIS).

One OASIS recommendation was to have very positive long-term consequences: to set up the Convergence and Implementation Plan (later renamed Programme) as a means to ensure that all National Administrations would work towards the common objectives. A similar attempt had been made a few years before EATCHIP with the Common Medium-Term Plan, led by Mr Paul Herbert, in which all States were required to define their 'Lines of Action' in order to achieve commonly agreed objectives. The innovation of the CIP was that the Agency would not wait indefinitely for the States to send their contributions, but would send contact persons to the various States to explain the requirements and obtain the information through a cooperative process.

Mr Wolfgang Philipp took up the idea and defended it consistently in the early period when the Agency was accused of inventing a "travelling circus".

Thereafter the CIP was developed by the Agency in coordination with national planners. It described a consolidated set of common implementation objectives to be achieved by the participating ECAC States, aiming mainly to improve capacity and reduce flight delays, while maintaining and where possible enhancing safety. It allowed all involved to coordinate, plan, and monitor common implementation actions between the ECAC States and their national ATC service providers.

In October 1993 the first set of CIP Objectives was published in the CIP document coordinated by the EATCHIP Planning Division, at the same time as a prototype LCIP. Mr Renteux produced that LCIP for Spain with Mr J. Carrasco (a Spanish official seconded to EUROCONTROL prior to the adhesion of Spain).

The creation of the CIP was, at that time, a major milestone in European air traffic cooperation. It built on and improved the 1980s processes of the ICAO rolling Regional Plan and the EUROCONTROL Common Medium-Term Plan. This was the first time that national plans and projects of the participating European States had been adapted in order to meet common goals and it carried a higher level of required actions, responsible actors and timelines<sup>22</sup>. By describing States' real needs through the LCIP it had become possible to provide the kind of iterative feedback needed for prioritising resources and the orientation required for the Work Programme's deliverables.

What was clear, however, was that the interdependency of the constituent projects and lines of action required commitment to the outcomes by the large variety and number of stakeholders who were now involved. Airspace users (both civil and military), air navigation service providers and the manufacturing supply industry had always been part of the process but now the width and depth of the strategic scope of EATCHIP required much more.

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<sup>22</sup> The ECIP/LCIP mechanism has gone from strength to strength. It was invaluable when ESARRs were introduced, when a readily-available and reliable means of reporting was required. Its structure and processes were used to link the planning of contiguous States to the European strategies and plans (such as the AEMFP - Algérie, Espagne, Maroc, France, Portugal - Plan). It has also been adopted by the European Commission for its Single Sky initiative, thus proving the foresight and the professionalism of those who developed it at the time

## **Overall Progress**

Phases I and II were completed on time. The existing systems had been appraised and concrete proposals to overcome the deficiencies and to achieve a similar level of performance among existing ATC systems had been developed, as well as programmes for a better interoperability of those systems. In the process, a Work Programme had been created, covering a variety of technological, operational and organisational developments.

By the beginning of 1996 European ATC delays had been halved during the first five years of EATCHIP. This improvement had been achieved despite an annual 5% growth in traffic, and industrial relations problems around Europe which peaked in the second half of 1995. The Programme had also achieved comprehensive radar coverage for en-route surveillance in all ATC centres (ACCs) in Europe's high air-traffic-density areas, and 65% of ACCs in other areas (by comparison, coverage in 1990 was 40%). As a result of EATCHIP, reduced radar-separation distances of 5 nautical miles were now applicable in 76% of high-density ACCs, compared with 21% five years earlier. New communications systems allowed the exchange of flight plans and ATC data between centres in 90% of ACCs, compared with 37% in 1990.

By 1998, progress on EATCHIP's Phase III CIP had been generally good, although there had been some slippages by national ATS providers and States. For example in high-complexity ACCs, 5 objectives were completed ahead of schedule, 5 were on time, and the remaining 16 were completed at between 65 and 90% of the ACCs. The national programmes running behind schedule had often been affected by unforeseen circumstances or technical difficulties not directly related to the implementation projects. However, the advantage of the CIP system was that these slippages, and the reasons for them, were identified and remedial actions could take place.

## **Strengthening the Infrastructure**

Between 1990 and 1998 8 new en-route centres had been built and 16 existing centres re-equipped, and others upgraded. Some 70 new secondary radars had been installed. The ground-to-ground ATM communications infrastructure has been significantly improved with data networks linking ATCs and radars. Deficiencies in R/T had been corrected in 90% of FIRs, while 8.33kHz VHF channel spacing was planned to be introduced in the core area of Europe to alleviate VHF frequency congestion and permit the creation of new ATC control sectors.

## **Developing the Management Processes**

A Programme of EATCHIP's complexity needed the combined expertise of national ATSPs, States' representatives and the Agency's staff, and so during 1994, all remaining pre-EATCHIP working structures had been reviewed and new arrangements created to allow States to participate in all policy matters and in setting the Programme's priorities.

The aim of this was clearly to achieve greater identification with, and acceptance of, the common Programme. It had still to be emphasised that in some aspects, harmonisation required not so much highly developed individual solutions as good basic deliverables on which States could build their individual needs.

The EATCHIP Project Board was set up, composed of high-ranking officials of participating States, the EUROCONTROL Director General and representation from the Commission of the European Union. The Board's objective was to exercise overall management control of the Programme, as well as to decide upon any extension of the Programme to further European States and upon relations with other countries and international organisations. The chairmanship was taken up by Mr Tony Goldman, UK DGCA.

Liaison Officers (LOs) were appointed for each State and ATS provider, and the airspace users associations provided their own focal points. Regular LO meetings were held, chaired by Wolfgang Philipp as Project leader, both to monitor overall progress and to report back as necessary to the Project Board.

## Specific Programme Achievements

**PETAL** - Preliminary EUROCONTROL Test of Air/Ground Datalink.

In 1995 trials of PETAL began at Maastricht UAC in order to assess the feasibility of introducing air/ground data link in congested continental airspace. The success of the PETAL project, conducted until the end of 2001 at the Maastricht UAC, has been widely acknowledged throughout the aviation community on both sides of the Atlantic.

**FUA** - Concept of Flexible Use of Airspace.

Phase 1 of the Concept began in March 1996, barely two years after agreement was reached on the organisational structures and procedures necessary for its implementation. FUA was adopted and implemented in 90% of ACCs, making provisions for both civil and military users to have access to the airspace as and when they need it. Its application led to a host of advantages: improved civil-military coordination, better airspace management, more efficient separation of Operational and General Air Traffic, a significant reduction in airspace segregation needs and a net gain in capacity.

The full use of the Concept would only be able to be made once aircraft were equipped with RNAV: once this has been done random routing throughout the totality of the airspace would become possible.

**ACAS/TCAS** - Airborne Collision Avoidance System/Tactical Collision Avoidance Systems.

TCAS had been principally developed in the United States as a "last resort" method of preventing collisions. In 1991 EUROCONTROL established a consultation group to coordinate ACAS evaluation in Europe where work in the UK, due to its high-intensity airspace, was most advanced and had shown that its use substantially reduced the risk of collision.

The 179th Committee of Management in May 1995 and then the 14th Meeting of the EATCHIP Project Board in November 1995 endorsed the mandatory carriage and operation of TCAS II conforming to ICAO SARPS in ECAC airspace:

- by 1/1/2000 a/c > MTOW<sup>23</sup> 15000kg /30 pax
- by 1/1/2005 a/c > MTOW 5700kg /19 pax

**ARTAS** - ATC Radar Tracker and Server.

The project was begun in 1993, a truly European project with LVB, STNA/CENA, MUAC, DFS and NATS (as observers). The 181st Committee of Management in November 1996 urged all administrations to consider use of ARTAS in their systems. In November 1997 ARTAS was successfully brought to maturity and delivered to its first user, the Netherlands. This system would not only improve the efficiency and reliability of ATM surveillance systems across Europe, but it would also provide a means for States to readily exploit new surveillance technology such as Mode S radar and Automatic Dependent Surveillance (ADS) as they became available.

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<sup>23</sup> MTOW = Maximum Take-off Weight

### **8.33kHz** - Channel Spacing.

In order to alleviate the shortage of VHF radio frequencies available to the Air Traffic Services Units involved in the congested upper airspace of the ICAO EUR region, the Special EUR Regional Air Navigation Meeting (EUR RAN, Vienna September 1994) and the Special Communications/Operations Divisional Meeting (SP COM/OPS/95, Montreal, March-April 1995) recommended the introduction of the 8.33 kHz channel spacing which would significantly increase the number of available communications channels.

On behalf of the EUR RAN and the COM OPS the EANPG/37 delegated the development of the 8.33kHz transition plan to EUROCONTROL. The plan proposed went through the standard EUROCONTROL approval process and was finally endorsed by the EATCHIP Project Board on 4 November 1996.

### **B-RNAV** - Basic Area Navigation.

Basic Area Navigation. For the airspace users more efficient route structures throughout the world were a priority at that time. In 1998 BRNAV was introduced to bring further improvements to the air traffic services (ATS) network, with the active support of the airspace users. BRNAV allowed more direct routings so that aircraft could fly directly point to point, without necessarily flying over a ground-based navaid, thus freeing up airspace and saving air miles. According to industry experts at the time, B-RNAV procedures were expected to lead to a 30% increase in capacity.

## **Safety**

EATCHIP safety policies and system safety assessment methodology had been agreed and progressively applied. As part of this, as noted above, the implementation of Airborne Collision Avoidance System (ACAS) was agreed, and the carriage of ACAS equipment in aircraft with more than 30 passengers would become mandatory after 2000 in Europe.

## **Research and Development**

The Programme for Harmonised ATM Research in Europe (PHARE) was launched. This was the first joint ATM R&D Programme before the ATM projects co-funded by the participating stakeholders and the Agency. This was before the European Commission began its Framework Programmes for ATM although the European Commission was an observer in the PHARE Management Board. PHARE developed some common methods, tools and platforms and included the air/ground integration dimension. In several ways it anticipated the ATM2000+ and SESAR ideas, in particular the 4-dimensional elements (which caused some controversy at the time). PHARE, however, did not include ASAS or SWIM and CDM.

## **Standards**

The 171st Committee of Management (27-28 October 1992) approved the Directives for the uniform drafting and presentation of EUROCONTROL Standard Documents and agreed to their application with effect from 1.1.93. That meeting also approved the establishment of the EUROCONTROL Standards Office in the Agency. This met the requirement from MATSE/1 for the drafting, structuring and wording of EUROCONTROL Standards to be carried out as homogeneously as possible.



## Training

The EATCHIP Programme also changed the strategic objectives of the Institute at Luxembourg, bringing their “global” activities to an end. Instead IANS concentrated all their resources on the larger ECAC Europe and it played a key role in ensuring that contiguous States’ ATM capability was also improved. Here the European Community assisted by funding training for eastern European States and IANS was delivering many more courses “on site” with several instructors spending many months a year away from home.

## Reduced Vertical Separation Minima (RVSM)

The successful introduction of RVSM will be fully described in Part 4 but it is worth recalling here the preparation that took place.

RVSM’s history dated from ICAO’s 6th Air Navigation Conference in April 1969 which had concluded that the reduction of vertical separation above FL 290 was then the most beneficial target for civil aviation. At the time it had been estimated that on the North Atlantic alone, which had about 70,000 movements a year, this could result in a saving of some USD 4 million. ICAO’s Review of the General Concept of Separation Panel (RGCSPP) had subsequently strongly recommended that ICAO should seriously intervene in the matter, and following a series of trials proposed that ICAO urge all Member States in a position to do so to actively come together in a meaningful, accurate radar height measuring programme. At that time, in 1980, the potential saving on fuel alone was estimated at around USD 9 to 10 million solely on the North Atlantic.

The Committee of Management, in its October 1992 session, noted that the contribution made by EUROCONTROL and its Member States over the years had been considerable, and some six years previously enough data had been assembled to be able to demonstrate that altimetry accuracy had increased to the point where all intercontinental aircraft were able to comply with the accuracy and repeatability performance of altimetry such that they could conform to the target level of safety in accordance with the relevant statistical inference criteria.

The stage had now been reached where the RGCSPP, based on this largely European data collection and analysis, had secured an endorsement that it would shortly be possible to safely implement 1000 ft vertical separation above FL 290 in the North Atlantic at least to about FL 420.

The United Kingdom representative stressed that this was not a purely North Atlantic question: its relevance to Europe could be seen in the EATCHIP work Breakdown Structure in which a number of lines of action pointed to the implementation, probably on a selective basis, of 1000 ft separation to improve the capacity and throughput of the European system. The United Kingdom had calculated that by advancing the procurement of the pre-production height-measuring unit on the lines proposed, the costs involved were likely to be recovered, in terms of savings and cost-recovery, in two months’ aircraft operation over the North Atlantic, even at existing levels of some 210,000 flights per year. This was more than merely an interesting technological challenge; it represented one of the most positive cost-benefit projects which the Committee of Management had ever been asked to consider.

Such were the anticipated benefits that Director General Mr Yves Lambert noted in an article in “Focus”<sup>24</sup> “Cost-benefit analyses have also shown that substantial advantage can be gained with the implementation of RVSM - so much so, in fact, that on the request of airline representatives we have advanced the target date from 2003 to the year 2001. This has entailed devoting more effort: more personnel and more funds were ascribed to the RVSM project than had been initially envisaged but, as ever, the users’ needs are paramount”.

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<sup>24</sup> “Focus”, published by UK Flight Safety Committee, Issue 27, Summer 1997

## EATCHIP: A Major Success for EUROCONTROL and the Industry, Pathway to the Future Systems

By the end of 1997 the major success of the EATCHIP Programme had been to achieve a 40-50% increase in ATC capacity since 1990, with the result that, while traffic in European airspace had increased by around 35%, there had been no increase in the average delay for all flights.

The Agency had progressively allocated EATCHIP Work Packages to national administrations and ANSPs to build on the cooperative aspects of the Programme as well as to encourage cost efficiencies. In the 184th Committee of Management, in March 1997, the principles of “make or buy” were discussed and it was agreed that in-house production should be considered where the internal expertise core capabilities and international understanding was paramount for the Agency’s European role, the whole process to involve the EATCHIP teams with their strong stakeholder representation.

EATCHIP can be seen today as one of the most significant milestones in the history of EUROCONTROL: it was launched and managed through consensus; it gave rise to what later became the ECAC En-Route Strategy; it implemented a radically new approach to European air traffic control management collaboration; it presaged the eventual interoperability of European ATM systems; and it paved the way for EUROCONTROL to be the driving force in ATM planning, creating an institutional framework within which the introduction of common ATM facilities would become possible. Only through a successful programme of harmonisation and integration could the different systems be prepared for the major pan-European programmes which would be necessary in the future to optimise the performance of the network.

The introduction of the EATCHIP Convergence and Implementation Programme (CIP), together with the national Local Implementation Plans was an essential first step in ensuring that implementation of commonly agreed plans and programmes was progressing according to plan. The system was developed in close coordination with the stakeholders involved and the first CIP Workshop was held at the Institute at Luxembourg on 11-12 June 1996.

For the first time the European air traffic services system had an agreed and consolidated plan. The CIP was recommended as a model for other ICAO regions. It was also, crucially, the first step towards performance monitoring.<sup>25</sup>

The Agency’s early years had been marked by long discussions, often fruitless, to achieve agreement and consensus on the principles of collaboration, harmonisation and integration. What had now changed was that the principles were agreed - indeed, they were the foundation on which most European civil aviation policy was now built - and the programmes to achieve the agreed objectives could be rolled out much more swiftly and in closer succession.

The EATCHIP programme had had a continuous impact on the role and structure of the Agency, which was now adapting itself and its internal procedures accordingly. Consistent customer feedback had also to be built up, especially as regards airlines’ airports’ and industry’s needs and expectations, and this was now being addressed. The next tasks would be to further refine priorities and deliverables for some of the programme elements, and, as regards evaluating the costs and benefits of all new systems elements, to take advantage of the current positive change in cost consciousness and develop a common solution. The development of the CIP, and in particular the commitment of States to local CIPs, marked a new and more transparent means of managing the whole EATCHIP Programme.

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<sup>25</sup> ECIP and LCIP, adopted by the European Commission’s Single Sky, continue to be managed today by EUROCONTROL as ESSIP and LSSIP

The work of the Agency was praised. The 181st Committee of Management, in March 1996, “congratulated the Agency on the excellent progress achieved and in particular welcomed the fact that the programme was becoming progressively more oriented towards the expressed needs of the constituents”. It noted that “current collaboration between itself and the Agency offered a good example of how effective collaboration could be achieved, especially on work on establishing priorities in times of crisis”. In the same meeting ICAO stated that “the progress in EATCHIP over the last 5 years has been impressive” while IATA “welcomed the progress achieved”.

This praise was echoed in CN/84 on 10 December that year by the States’ representatives. Mr Eggers, speaking as the representative of Denmark and also in his capacity as President of ECAC, congratulated the Agency on the progress achieved, especially over the last year, which he felt best paved the way for the proposals which it was hoped Ministers would adopt at the next MATSE meeting in February 1997.

The Permanent Commission’s decisions<sup>26</sup> reflected the satisfaction of all with progress achieved and CN/84 took up a UK suggestion to strengthen its recommendation when it “invited the Agency to continue its work on the future European ATM Strategy and to start developing detailed plans which could form the basis for an ATM Strategy for the years 2000+ over the whole ECAC region”.

CN/84 also “noted with approval the initiatives taken by the Agency to strengthen co-operation with other European and International Organisations in order to ensure that the development of the European ATM system remains aligned with world-wide developments”.

These expressions of confidence in the Agency were well received by those who worked not only in the EATCHIP directorates but throughout the Agency as a sign of strong support for EUROCONTROL in the future. All this had been achieved through the Agency’s well-developed consultation and involvement processes which, while always dependent upon the consensual nature of the Organisation, nevertheless ensured that final agreement had been truly tried and tested and was not an outcome imposed by regulation.

## New Director General

In January 1994, Mr Yves Lambert became Director General, having previously been one of the leading members of the Committee of Management as France’s Directeur de la Navigation Aérienne and thus deeply involved in all the work that had led to the MATSE decisions and to the reorganisation of the Agency<sup>27</sup>. He had previously been Secretary General of ICAO for twelve years.

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<sup>26</sup> Minutes CN/84, Item 4

<sup>27</sup> In 1994 Mr Yves Lambert was made an Officier de l’Ordre national du mérite and Commandeur in 2008

## MATSE/3 - APATSI, CODA, European Advisory Service (EAS)

Less than two years after MATSE/2, the Ministers met again in MATSE/3 in March 1992 when their principal decision was the rollout of the Airport/Air Traffic System Interface (APATSI) Strategy.

### APATSI

APATSI was the first project to be fully undertaken by ECAC itself, although EUROCONTROL provided the chairmanship of the project board. This Strategy had the goal of increasing the capacity of the air traffic system in and around airports in Europe and accordingly there were several interfaces to the EATCHIP Programme dealt with by EUROCONTROL.

EUROCONTROL's crucial role was to provide the framework within which several of the APATSI initiatives could be implemented. Thus EUROCONTROL dealt with upgrading and standardising the communications interface between air traffic control and airports, developed the EDAS (European Delay Analysis System) and HIRO (High Intensity Runway Operations) protocols, and developed a harmonised validation methodology for ATC procedures. All these initiatives helped to pave the way for further and more far-reaching system improvements. Later, MATSE/5 would recognise the importance of an integrated, gate-to-gate strategy and responsibility for the airport interface would be given to EUROCONTROL.

### Central Office of Delay Analysis (CODA)

MATSE/3 also took the important decision that there should be a programme to collect and report on air transport delays in Europe, covering all causes. This gave birth to CODA, the Central Office for Delay Analysis, established under the auspices of the EUROCONTROL Agency, and development work started in the early 1990s.

At the time, the airline associations were gathering and publishing aggregated delay data from their members, and EUROCONTROL was collecting ATM delay data from Flow Management units. It was decided that CODA should be developed in the EUROCONTROL Agency, and existing and new data would be combined into regular reports.

Director General Yves Lambert recognised that in such a process trust, transparency and confidentiality were essential elements but would be challenging to incorporate in the system. Accordingly, in the Committee of Management in November 1995, he proposed setting up an appropriate advisory structure which in March 1996 was designated as the European Delay Analysis System Advisory Group (EDAG). The group, consisting of airline association, airport and State representatives and supported by the Agency, would develop CODA, the Central Office for Delay Analysis, with a mandate to "provide policy makers and managers of the ECAC Air Transport System with timely, consistent and comprehensive information on the air traffic delay situation in Europe".

CODA was headed by Tim Guest, an experienced operational manager recruited from British Airways, who was able to support EDAG from first-hand experience.

The preliminary stages of its development were based on the work already in hand, such as that carried out by AEA which had initiated a data collection for a number of key airports for this purpose. This was combined with data gathered by IATA, airports and State authorities and information available from the CFMU.

The first CODA results on primary causes for delay probably surprised no one who was directly involved in day-to-day operations but certainly they presented those who had readily criticised ATC with a challenge. In fact about half of delays were due to airlines, about one quarter due to airports and approximately one sixth was weather related. En-route ATFM restrictions, which had particular importance for EUROCONTROL, contributed about the same as weather.

These first CODA reports were useful in revealing information that hitherto had not been available. However, there were requirements for even more detailed information, produced more rapidly. Whilst individual flight data was available for ATFM delay, the only way to deliver this was to collect "all-causes" data for individual flights, direct from the industry. It was also clear that detailed delay-cause data, categorised by IATA delay codes, was only available from airlines. Working with partners such as AEA's Punctuality Group, the necessary direct data collection was initiated. In order to ensure that delay reports, and the ways in which delay data were used, were impartial and fair, CODA had a team member seconded from an airline association.

Over the next few years, new delivery methods were developed based on the Internet.

The requirement was for three levels of access - public unrestricted information, then more detailed data for the industry, and finally, surrounded by the highest levels of data security, a facility for airlines supplying data to review their performance against the industry as a whole.

The most significant effect of this work was that a single source of data on specific effects of ATM capacity restrictions became available for the first time. This formed a crucial component of the work of CODA, whose brief was to report on all causes of delay.

The combination of the information flowing from CODA and the CFMU would clarify the real causes of delay and provide invaluable support to the future PRC and the decision-making across European ATM.

## EUROCONTROL European Advisory Service (EAS)

EUROCONTROL had since the 1960s offered assistance to Member States as well as to non-Member States, where there was a lack of expertise in their ATS providers, in order to improve the general performance of European ATC systems (RADAR, COM, NAV, Data Processing). Amongst the decisions taken by the Ministers at the MATSE/3 meeting, two were formal recognition of the contribution this activity had made to European ATM, and a third decision taken by the European Communities was also significant.

The first decision of the Ministers was their agreement to extend the ECAC En-Route Strategy to include the five new ECAC Member States<sup>28</sup> and the second was their request to EUROCONTROL to establish a team which would support the new ECAC Member States in the specification and acquisition of their air navigation systems. The decision of the European Communities was the announcement by Commissioner K. Van Miert of Commission of financial support for the EUROCONTROL Advisory Service.

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<sup>28</sup> Bulgaria, Czechoslovakia, Hungary, Poland and Romania

The EUROCONTROL Advisory Service was officially established within Division 03 of the Operations Directorate by the Director General, on 7 April 1992, headed by Mr Oskar Geigner<sup>29</sup> and later Mr Wulf Bodenstein. The main task of the multi-disciplinary service, including both operational and technical expertise, was to:

- *examine the existing ATC infrastructure of States requesting assistance,*
- *prepare an Outline Operational Plan for required upgrading of ATC facilities,*
- *prepare the technical specifications on which a call for tender could be made and*
- *assist in the subsequent evaluation of the offers received.*

With the Agency reorganisation of June 1993, EAS became part of the Directorate of EATCHIP Implementation and later, in 1999, of the Support to States (STS) Unit in which the EAS and CIP/LCIP responsibilities would be grouped. The EAS would play a very important part in building a level playing field for the implementation of the ECAC strategies and this would be recognised when the ATM 2000+Strategy was agreed by MATSE in January 2000 (see Part 4).

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<sup>29</sup> Oskar Geigner was a long-serving, highly experienced member of the Agency with staff number 42

# MATSE/4 - ECAC's Institutional Strategy

## Discussion and Outcomes

The ECAC Ministers of Transport held their fourth meeting on the Air Traffic System in Europe in Copenhagen on 10 June 1994. Among others present were Dr Kotaite, President of ICAO, Transport Commissioner Oreja of the European Commission and Mr Facey, Chairman of NATO-CEAC.

They began by reaffirming their “unqualified support” for the Harmonisation and Integration Strategy and undertook to make the necessary investment in their respective countries to achieve the required convergence. They then reaffirmed their commitment to:

- *Phase IV of the En-Route Strategy to define the next generation of European air traffic management systems;*
- *the successful completion of the Airports Strategy; and*
- *the successful completion of the CFMU implementation.*

The Ministers reviewed the current situation and declared themselves encouraged that the actions taken by ECAC States to alleviate air traffic congestion had continued to deliver real benefits. Delays had again decreased and there was less delay overall in 1993 than in 1991 even though traffic had increased by 9% in the same period. Despite these welcome improvements the Ministers noted that there were “still too many delays and that the situation could get worse if traffic continues to grow as expected”. They resolved “to continue work to ensure that sufficient capacity is provided to meet the growth in traffic”.

It was becoming evident at that time that the existing institutional arrangements set out in the amended Convention were not sufficiently effective to ensure the full implementation of EATCHIP as it would develop into what was already envisioned as EATMP (the European Air Traffic Management Programme).

The meeting described the wide support for major changes, stating that there had been many calls from the airlines associations (AEA, ERA, IACA and IATA) as well as from the European Commission which had supported the States’ and EUROCONTROL’s plans for change set out in their previous three major meetings.

The Ministers decided to launch a study by their own DGCA’s, in cooperation with the European Union, of the “institutional arrangements best suited to support the implementation of the various phases of the En-Route Strategy, respecting the sovereign interests of States; and taking into consideration all options including a single authority for European Air Traffic Management”. This was called “INSTAR”.

### **INSTAR**

They created an ECAC-INSTAR working structure composed of a steering committee, a working group and three sub-groups, one representing the public interest, one representing the service providers’ interest and one representing the civil airspace users’ interest. The work was undertaken in four phases by ECAC experts with consultancy support (McKinsey, the firm of strategic consultants) and input from key international organisations (JAA, European Commission, EUROCONTROL) and user organisations.

The work was carried out over two years with a budget of ECU 2 million. The Steering Committee was chaired by Mr Weck, DGCA Netherlands, and the membership was made up of the DGCAs of France, Germany, Hungary, Ireland, Spain and the UK, with the European Commission also represented. The working group was chaired by Mr Frankiss of the UK Department of Trade and membership was open to all ECAC States, the European Commission and the four main airspace user associations. This working structure examined a range of six possible institutional models, including those of several decentralised or regional authorities and also a single authority for European air traffic management.

## **Recommendations**

They concluded their work in October 1996. They did not propose a single option but instead recommended that ECAC Ministers develop and approve a European Institutional Strategy for Air Traffic Management. This should be based on the principles of the draft revised EUROCONTROL Convention (which had been developed in a separate process but clearly much cross-fertilisation of ideas was taking place amongst all the organisations concerned). INSTAR proposed introducing the best elements of a common performance model:

1. *improved ECAC-wide policy setting and planning framework and decision-making;*
2. *introduction of independent performance review and economic regulation;*
3. *improved airspace design processes;*
4. *airport/air traffic system interface and gate-to-gate system;*
5. *enhanced research, development, trials and evaluation (RDTE) coordination and the introduction of new technology;*
6. *improved standards making;*
7. *improved structure for safety regulation;*
8. *common projects and systems;*
9. *enhanced user consultation/involvement;*
10. *enhanced civil/military cooperation;*
11. *enhanced global cooperation and influence.*

The key new elements which came from the INSTAR work were the requirement for performance monitoring, safety regulation, economic regulation and the environment. The next steps would follow two distinct but closely related paths which would encapsulate all these elements: the development of the ATM 2000+ Strategy and the work leading to the revised Convention for EUROCONTROL which would be taken on into MATSE/5.

## **Other Decisions at MATSE/4**

### **Satellites**

The Ministers stated that it was essential that a European strategy for satellite navigation be developed given the advance on this elsewhere. They welcomed the cooperation between the European Space Agency, EUROCONTROL and the European Commission to develop this strategy. They also welcomed EUROCONTROL's plans to extend their satellite navigation strategy to the whole of the ECAC area.

Accordingly they invited the European Space Agency, EUROCONTROL, the European Union and Members States to develop and pursue jointly proposals for an initial global satellite system for navigation including the ground-based and space equipment with the availability, reliability and accuracy needed for aviation, as well as integrity monitoring techniques.



## Safety

There was not a formal decision here although the Ministers emphasised “that the maintenance of aviation safety must remain of fundamental importance in guiding future developments”.

This had been spurred by the UK representatives who had raised the need to expedite Airborne Collision Avoidance System (ACAS) studies so that a decision on mandating carriage could be made as early as possible. There was general support for this, particularly from Germany and although it was not a formal “decision” per se the statement by MATSE was sufficient to encourage action on this critical issue.

As a result EUROCONTROL’s Committee of Management (May 1995) and then the EATCHIP Project Board (November 1995) endorsed the mandatory carriage of TCAS II, then the standard system available and already mandatory in the US.

## Civil-Military Cooperation

The Ministers agreed to fully support every effort to enhance civil-military cooperation, including the implementation of SSR Mode S where appropriate and they endorsed the EATCHIP concept for the flexible use of airspace, while noting the reservations of Bulgaria, Cyprus, Greece and Turkey.

## EUROCONTROL Strengthens its Ties with ICAO

At this important time for European and global ATM, ICAO held a Special European Regional Air Navigation Meeting between 5-14 September 1994 in Vienna.

The meeting was aware that initiatives taken by the Transport Ministers of the ECAC States had brought into being EATCHIP and the CFMU. For the longer-term, commitments had been made for the development and implementation of the EATMS as an outcome of EATCHIP. In addition, Transport Ministers of the ECAC States had given the mandate to EUROCONTROL to act as managing agent for the implementation of EATCHIP. As these activities had to be kept coherent with ICAO Plans, at both regional and world-wide level, it had been considered appropriate to examine the role of EUROCONTROL with respect to its involvement in the relevant ICAO processes and in particular amendments to ICAO regional planning documentation.

It was noted that EUROCONTROL had been managing and coordinating EATCHIP and that this had resulted in planning and implementation activities involving more than 30 States on a scale hitherto unseen in Europe. As a consequence EUROCONTROL had been obliged to take an increasingly active role in ICAO regional planning and related matters.

The Meeting was informed that arrangements were being put in place for more effective and efficient coordination between ICAO, ECAC and EUROCONTROL in the context of each organisation’s role in the European air navigation planning and implementation process. One of the principal objects of such arrangements was to avoid waste of scarce specialist resources through duplication of effort and activities.

Furthermore, the management of EATCHIP was carried out in a partnership of EUROCONTROL and the administrations of ECAC States. Close cooperation and coordination was effected through working structures composed of civil and military representatives of ECAC States, the EUROCONTROL Agency, ICAO and international user and provider organisations.

The Meeting agreed that EUROCONTROL be authorised to submit, on behalf of its Member States and after formal approval by each of them, appropriate proposals for amendments to the ICAO European Air Navigation Plan and to the European Regional Supplementary Procedures.

Accordingly EUROCONTROL became the only international Organisation with the right to submit amendments to ICAO Annexes.

# MATSE/5 - Institutional change and steps to ATM 2000+

On 14 February 1997 in Copenhagen the Ministers met again.

They noted that the EATCHIP Programme and related actions by Member States, in particular the full implementation of the CFMU, had resulted in a 40-50% increase in ATC capacity in European airspace since 1990; and that traffic in European airspace during that period had increased by around 25%, without increasing the average delay for all flights. However, again, they were concerned that more needed to be done given the forecast increases in traffic and the capacity supply issues in Europe.

Accordingly MATSE/5 took two main sets of decisions. The first was to launch their Institutional Strategy and the second was to set in progress the steps towards a gate-to-gate comprehensive ATM strategy to follow their "Strategy for the Nineties".

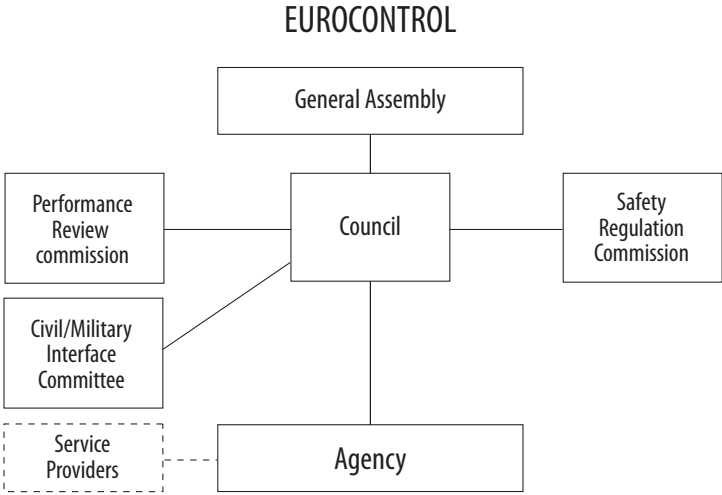
## Institutional Change

Following on from the INSTAR Report and the major issues raised through EUROCONTROL's successful implementation of the EATCHIP, the Ministers of Transport of the ECAC States agreed an Institutional Strategy for European ATM.

The principal elements of the proposed changes were set out. These had been further developed since the INSTAR Report and were already incorporated into the draft revised Convention.

- *European ATM policy and planning in a single, new, Europe-wide structure established under a EUROCONTROL General Assembly at Ministerial level, and a Council at Director General level; and existing procedures streamlined and majority voting introduced to achieve more efficient decision-making;*
- *policy and planning for the airport/air traffic system interface strengthened through extension of the EUROCONTROL Organization's functions in this area as part of the "gate-to-gate" concept;*
- *an independent Performance Review System covering all aspects of ATM in the ECAC area established to put greater emphasis on performance and improved cost effectiveness, in response to objectives set at a political level;*
- *an efficient and effective decision-making process for airspace design introduced, to which Member States would be committed; it would achieve the maximum, timely and cost effective capacity for the ECAC area as a whole, and be responsive to changing circumstances;*
- *improved arrangements for research and selection of new technologies introduced at a European level;*
- *independent safety regulation of ATM co-ordinated at a European level;*
- *transparency enhanced through the participation of all interested parties, including airspace user and airport organizations and service providers, and through formal consultation processes;*
- *enhanced international civil/military co-operation and co-ordination;*
- *greater global co-operation and influence will be achieved through improved co-ordination between ECAC States and effective inter-operability with neighbouring non-ECAC States.*

**ECAC Strategy: the Institutional Structure**



To achieve early benefits, the Ministers invited the EUROCONTROL Permanent Commission to consider arrangements for implementation in advance of the revised Convention, as proposed in the Strategy. They also agreed an Action Programme which would be managed by the EUROCONTROL Agency under the supervision of the ECAC Directors General of Civil Aviation together with relevant authorities on defence and safety matters.

**ECAC En-Route Strategy**

The Ministers reaffirmed their support for Phase III of the Harmonization and Integration Programme and supported its extension to a “gate-to-gate” concept, which would help to provide a European ATM system that appears seamless to the user. In that context while they also welcomed the successful completion of the initial phases of the Airport Strategy, which they had launched in 1992, they agreed that future work in this area would be integrated with the En-Route Strategy, as part of the total system (“gate-to-gate”) concept.

They also welcomed the adoption by Member States of the flexible use of airspace amongst civil and military users and its implementation by most Area Control Centres. They looked forward to its full and early implementation throughout the ECAC area.

Then the Ministers took the important decision that re-affirmed their commitment to Phase IV of the En-Route Strategy, which would define the future uniform European ATM System (EATMS); and requested a proposal for a comprehensive, “gate-to-gate” orientated ATM Strategy for the years 2000+ as a follow-up to the En-Route and Airport Strategies for consideration at their next meeting.

## **APATSI Transferred to EUROCONTROL**

The Ministers recognised that it was the physical infrastructure at many European airports which was seen as the limiting factor to increasing capacity. Already, 15% of the 800-plus airports in the region accounted for 85% of all commercial traffic.

Prior to the MATSE meeting itself the President of ECAC, Mr Val Eggers, had written in a letter of 27 September 1996 to EUROCONTROL's Director General. He noted that at the informal meeting of ECAC DGCA's, which had taken place in Athens earlier in September, the DGCA's had "considered this matter and came to the conclusion that the best solution would be to incorporate the APATSI Programme into EATCHIP and to invite EUROCONTROL to take on responsibility for its management and staffing".

This was borne out by the MATSE/5 decision to formally close down the ECAC office APATSI office, thus signifying that EUROCONTROL would in future be responsible for the entire spectrum of ATM activities, reinforcing the gate-to-gate concept endorsed by the Ministers.

## **Implementing MATSE/5**

Director General Mr Yves Lambert had anticipated the work required for MATSE/5 and also for the follow-up. He set up a Director General Task Force, with its first meeting in December 1996, to prepare the Agency's responses to MATSE/5 and to prepare for the implementation of MATSE/5 decisions.

Seven priorities were identified:

- *Performance Review*
- *Safety Regulation*
- *Standardisation*
- *GNSS Implementation*
- *Gate-to-Gate Alignment of EATCHIP*
- *EAD Implementation*
- *ATM 2000+ Strategy*

Task Forces would work on each of these and report to Director General Task Force. Their role would be to define:

- *scope of the new activities*
- *requirements to meet them*
- *objectives*
- *timeframe*
- *structure*
- *staffing and other resources*

The Director General took the next key step in September 1997 when he set up the ATM 2000+ Strategy Board. The Board comprised senior level officials from the States, the air traffic control service providers, the airport operators, the airspace users, ECAC, EUROCONTROL, ICAO, the European Commission, JAA, NATO, FAA, AECMA<sup>30</sup> the aircraft and ATM manufacturing industry, EUROCAE<sup>31</sup>, and the professional associations.

The Board would be chaired by former ECAC president Val Eggers with the brief to tune and finalise the future strategy by end-1998 and it was supported by an Executive Committee, also chaired by Val Eggers.

The objective was to obtain agreement and commitment from Member States which could be submitted for the political approval of the Transport Ministers in mid-1999<sup>32</sup>. The focus was on the progressive introduction of a number of operational improvements which would keep pace with the traffic increase, while providing early benefits for the airspace users.

Specifically, the improvements included:

- *improved airspace design processes*
- *enhanced research, development, trials and evaluation, involving industry and communality in ATM systems*
- *better standards making: at the moment procedures are complex and time-consuming*
- *common projects and systems - again the stress is on communality. Today there is too much diversity in ATM projects, leading to a waste of resources*
- *enhanced user consultation and involvement, including organisations such as IATA, ACI and transport trade unions*
- *enhanced global cooperation and influence - with particular emphasis on GNSS*

On schedule, on 27 October 1998, the ATM2000+ Strategy document would be submitted to EUROCONTROL Director General Yves Lambert. The resulting submission by the Director General to the Permanent Commission, its acceptance by MATSE, and the work which followed will be described in Part 4.

An Airports Group was set up to report to the EATCHIP Project Board on the absorption of the APATSI work and the Airports Council International (ACI)<sup>33</sup> was invited by the Director General to participate in all relevant EATCHIP Teams as well as in the Project Board, ensuring that the voice of the increasingly important airport sector would be represented appropriately.

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<sup>30</sup> *Association européenne des Constructeurs de Matériel Aéronautique*

<sup>31</sup> *European Organisation for Civil Aviation Electronics*

<sup>32</sup> The ATM 2000+ Strategy would be submitted to the Provisional Council in October 1998 and formally launched at MATSE/6 in Brussels on 28 January 2000

<sup>33</sup> ACI is the only worldwide professional association of airport operators. ACI, headquartered in Geneva, is a non-profit-making organisation representing over 1,530 airports in 175 countries and territories worldwide

# The Agency's structure and processes

## Consequences of the MATSE decisions

Alongside all these developments, and often anticipating them, the Director General and his directors took steps to transform the Agency from the more administrative body that it had been in the past to one which was focussed on outputs and stakeholders. Over the period of this part of the history, Mr Keith Mack and Mr Yves Lambert, with great support from the Committee of Management, led the Agency through substantial changes in order to better align its focus and resources on the strategic requirements.

### Managing EATCHIP

Initially, EATCHIP had been perceived as one Programme among many and was treated, according to successful past practice, in the same way. The difficulty, experienced by the Director General, his directors and the Committee of Management alike, was that the nature and scope of the Programme changed and developed as each successive set of project and work package definitions became available and their relationships with existing programmes became clearer.

Therefore, it became clear that EATCHIP reflected not so much a Programme as the development and implementation of a concept. Mr Keith Mack, the Director General, outlined his plans to transform the Agency to the 169th session of the Committee of Management and expressed it as follows:

*"... he had on more than one occasion referred to some of the conceptual problems facing the Agency in dealing with EATCHIP. It was far more than one EUROCONTROL project among many. This was a misconception: it was essentially the core EUROCONTROL activity, comprising all the activities for which the Organisation had been established in the first instance. As such, it presented the Agency with an unprecedented challenge: to review its activities to see how far they led towards the harmonisation and integration, and development of future advanced systems, which formed the crux of EUROCONTROL's raison d'être.*

*It was thus difficult to conceive of EATCHIP as being handled in one particular Directorate or service. Inevitably, EATCHIP was drawing upon expertise provided not only by Headquarters services, but from that of the Institute of Air Navigation Services, the Experimental Centre, indeed all of the General Directorate. The Director General emphasised that all Agency services would be harnessed in a programme comprising not only the first three phases of the ECAC strategy, but also a fourth, and perhaps a fifth, phase to achieve what was generally acknowledged to be the commonly sought European objective of a European Air Traffic Management System (EATMS)".*

There was considerable discussion over several sessions of the Committee of Management. By the beginning of 1992, it was becoming accepted that EATCHIP should be considered as identical with the total mission of the Organisation and accordingly, and with the support of the Committee of Management, the Director General decided to undertake a review of all work within the Directorates of Operations and Engineering and elsewhere in the Agency in order to ensure its relevance to the EATCHIP programme. The outcomes, comprehensive proposals for the whole of the Agency's organisation structure, were presented by Mr Keith Mack to the 172nd session in March 1993.

## **Major Organisational Changes Proposed in the Agency - CE/172**

In his report to that meeting<sup>34</sup> Mr Keith Mack noted that ECAC had requested EUROCONTROL to be the “managing agent” for its European Harmonisation and Integration Programme. This would be a major commitment encompassing all the existing activities of EUROCONTROL but entailing also the coordination of work throughout the ECAC area. This role required the effective deployment of the Agency’s resources, largely led by the Director General and his management team, within the guidelines agreed by the Committee of Management and the permanent Commission. Mr Keith Mack noted that in addition EUROCONTROL had been given the task of establishing the CFMU which in itself was related to EATCHIP since it would be an integral part of the future EATMS.

Mr Keith Mack’s proposals provided the underlying principles to the required organisational development<sup>35</sup>, which focused on the need for:

- *integration of the expertise available throughout the Agency in support of both short and long term projects;*
- *a project team approach, resulting in a form of matrix organisation; alignment of the Operations and Engineering Directorates’ structures to the Agency’s new tasks;*
- *an EATCHIP Project Leader to integrate and co-ordinate the effort and resources of the “External Services”<sup>36</sup> as well as the Headquarters Directorates in a more efficient manner;*
- *categorising and prioritising “in relation to end activities” - that is, focusing on customer expectations;*
- *the need to restructure the existing working arrangements (Working Groups, Task Forces, Panels) in a more target-oriented way in order to achieve convergence and implementation.*

All this required the Director General and his directors to take a further step in developing the Agency’s structure and management capability. Particular emphasis was placed on the need to deliver practical improvements, implemented to time and cost targets.

## **Defining EATCHIP in the Agency**

The key element of the reorganisation was an analysis of what work in the Agency was EATCHIP-related and what was not, including the Headquarters directorates as well as MUAC, IANS and the EEC at Brétigny. This covered the whole spectrum of MATSE’s requirements from research and development through to implementation. This analysis, and the work to support the Director General and his directors, was carried out by an independent firm of outside consultants, P-E International. As a result, the previous vertically organised functional Directorates of Operations and Engineering were to be reorganised into the Directorates of EATCHIP Development and EATCHIP Implementation. The wide spread of EATCHIP-related work within the Agency would require the establishment of a Senior Director Operations and EATCHIP (SDOE), supported by a strong planning division, to bind all this work together and to maintain close contact across the spectrum of involved stakeholders.

Mr Keith Mack, supported by his directors, said that this would be the most productive way to structure the Agency for the coming 3-5 years, recognising that MATSE would require further work towards EATM from EUROCONTROL and that this organisation provided a sound basis for future alignments of the Agency as requirements changed. He pointed out, however, that the implementation tasks and processes were, as yet, largely to be defined; the actual capabilities and aspirations of individual States involved in each implementation programme would ensure that a number of different structures and processes would be likely to be employed. They would need to evolve during the next two or three years.

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<sup>34</sup> CE/93/172/PRIV, 12.02.1993

<sup>35</sup> The principles thus set down would form the basis for subsequent Agency organisational changes up to 2009

<sup>36</sup> MUAC, EEC, IANS



The Committee of Management gave strong support to Mr Keith Mack's proposals. The Committee recognised the growing responsibilities of the Director General, the complexity of the work involved and the requirement for improved lateral processes to bring in all the involved stakeholders and the need for better and more powerful decision-making processes within EUROCONTROL. They also understood that the Director General was becoming more and more the "chief executive" of EUROCONTROL, an important step in the development of the Organisation and the Agency. The post of Senior Director Operations and EATCHIP was created partly to reflect this, whereby the weight of responsibility on the Director General could be shared and free him for the increasingly political role he was required to play.

The roles of each Director were also presented to the Committee. These had been set out in a coordinated manner, demonstrating the clarity of the lateral relationships between directors which would ensure the integration of the Agency's EATCHIP work processes as well as their direct responsibilities to the Director General.

The Committee of Management approved the changes.

Mr Philipp, Director of Operations, would be appointed SDOE; Mr Phil Escritt of UKNATS would become Director EATCHIP Development; and Mr Cyril McNamee of the Irish ATS organisation was appointed as Director EATCHIP Implementation.

## **Implementing EATCHIP in the Agency**

The basis of the reorganisation had been first to set out the whole process of the Agency's responsibilities, then describe the two key work phases of Development and Implementation and thereafter, and most importantly, map the linkages between them. Mr Keith Mack and Mr Philipp led intensive work with the directors and heads of division in order to align the work within these phases to the key domains of ATM. These were identified as follows:

- *surveillance;*
- *communications;*
- *airspace management and ATM procedures;*
- *ATM operational requirements;*
- *ATM data processing systems;*
- *human resources;*
- *navigation.*

The next step was to use these to develop the next level of the organisational structure, leading directly to the reorganisation of the two HQ EATCHIP directorates. There was close involvement of the senior managers through a series of intensive sessions to align the work content and resources with the new EATCHIP requirements. The heads of division developed their proposals in line with outline guidance and the Director General considered these with his Senior Director and directors. It was a fully coordinated and cooperative process with a great deal of trust shown by the Director General in the ability of his senior managers to develop their own aligned structures and processes.

In addition the work content and processes of the Experimental Centre were equally aligned to the new requirements and integration with the EATCHIP Work Programme. The first steps were taken by the Director, Mr Georges Maignan, and this was followed by his successor, Mr Jean-Marc Garot: the result was a matrix-based organisation that continued to operate successfully through the succeeding years. At this time it was also recognised that as a leading research organisation the Experimental Centre should maintain a "blue-skies" innovative research budget.

This “domain” realignment of the Agency led many ATS providers in Europe to similar organisational changes so that there was across Europe a coherent and improved identification and focus on the principal work areas<sup>37</sup>.

However, It is worth mentioning that the word “implementation” would cause some difficulties in the next few years as the emerging corporatised ANSPs would strive to criticise EUROCONTROL on the grounds that it had no responsibility for implementation and should stop using the word. The Agency patiently explained, almost endlessly it seemed at the time, that this was intended to indicate work that supported implementation. Nevertheless, the complaint came back again and again and this foreshadowed the same kind of debate that would follow much later about regulation and service provision.

The EATCHIP Policy and Allocation Committee (EPAC) and the EATCHIP Coordinating Committee (ECC) were set up. EPAC agreed the priority of projects and the allocation of major tasks and resources within the Agency.<sup>38</sup> In order for EPAC to appraise projects effectively, guidelines for the drafting of project proposals for appraisal by EPAC were developed by the Agency. ECC would ensure that the directors had a forum for managing the increasingly important lateral relationships between their directorates and ensuring the timely transfer of work from one phase of the Programme to another.

Subsequently the EATCHIP Cost-Benefit Advisory Group (ECBAG) was established in 1994 following the recommendations of a Task Force set up by the EATCHIP Project Board. This drew on industry-wide experience and had stakeholder representatives as members, an excellent example of stakeholder involvement.

By the end of this period the EATCHIP directorates would begin to anticipate the direction coming from MATSE and begin the transition towards an organisation based on the European ATM Programme (EATMP). This will be described in Part 4.

### **Civil/Military Coordination - Military Liaison Officers (MLOs)**

Since the late 1960s there had been military representation at EUROCONTROL. For a long time, this took the form of the detachment of active military staff officers, the so-called Military Liaison Officers, whose principal responsibility was to their respective defence administrations.

During the 1993 reorganisation of the EATCHIP directorates, a unit had been formed to group together the MLOs who had been attached to the Agency by most of the Member States. It was positioned in the Directorate of EATCHIP Implementation but reported to the Senior Director. The role of the MLOs had developed over the years and as well as bringing military expertise and advice on defence interests they also provided guidance to EUROCONTROL staff on national security requirements. Their presence also facilitated civil-military coordination in other international organisations like NATO, Western European Union (WEU) and Supreme Headquarters Allied Powers Europe (SHAPE).

They were, however, essentially “national” representatives and the requirements coming from the Institutional Strategy were for a more cohesive, overall source of military advice. The Strategy at the same time recognised the need to meet individual State requirements dictated by national security needs and the unit had also to meet this need. Accordingly in September 1997 the 186th Committee of Management, after much discussion in its ad-hoc group, agreed to the establishment of a EUROCONTROL Military Expert Unit (EMEU) in the Agency with effect from 1 January 1998. Its first head was Colonel Rolf Storjohann and it reported directly to the Senior Director Operations and EATCHIP.

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<sup>37</sup> This was recognised by, for example, Mr Phil Escritt of UKNATS when he became the first Director of EATCHIP Development

<sup>38</sup> So as not to reinvent the wheel these were based on the UKCAA's proven “Capital Investment Appraisal” procedures

The EMEU would provide a singular source of current military knowledge and expertise on defence policies and military needs and so experienced officers of the rank of major or lieutenant colonel would be required. The EMEs would be members of the Agency's staff on a limited-term contract who would work for the overall interests of the States, the EUROCONTROL Organisation, the airspace users and the service providers. The Committee's decision of course foresaw the requirements also arising from the forthcoming revised Convention (see Part 4).

## **Other Major Changes in the Agency**

In order to align the Agency towards the new duties, the Director General and his directors introduced significant changes in the Agency through a number of away days dedicated to the purpose. In addition, new internal, coordinating mechanisms were developed by the Director General and his directors.

Top-level management processes were also established. Director General Keith Mack had begun regular meetings with all of his directors in 1989 when he arrived and this process was formalised into the General Meeting of Directors (GMD), thus meeting a need expressed by his directors for more opportunity to develop an Agency "corporate" approach and for improved lateral working. The Terms of Reference were very clearly aimed at identifying the strategic requirements laid upon the Agency, turning these into recognisable objectives and marshalling and managing the necessary resources to meet the objectives.

As well as the GMD, several steering committees were set up to:

- *act as the principal lateral working groups for the Agency's internal management;*
- *set objectives and policies in their respective areas;*
- *agree programmes of work and accountabilities for those charged with achieving them;*
- *monitor progress of the programmes; and*
- *advise the Director General and/or Senior Director EATMP.*

Director General Yves Lambert took an important decision in January 1994 (Director General Decision I/6 1994) when he gave his directors authority to organise their own directorates below division level while retaining his responsibility for the Organisation at Director and Head of Division level. This recognised the need for greater managerial flexibility for directors in the face of increased accountability for results and removed administrative procedures which had hampered them in their important tasks. This principle stands to this day.

In 1993 the previous combined Directorate of Personnel and Finance (DPF) was split into the Directorate of Human Resources (DHR) and the Directorate of Finance (DF). The Director General recognised that both these functions had become increasingly important and that the management mechanisms, particularly financial, would need considerable attention if the resources of the Agency were to be effectively and efficiently managed. In filling the finance post EUROCONTROL took a major decision in appointing for the first time a professional finance director with international board level experience from the private sector, Mr Peter Johns, and Mr Jens-Hermann Treuner (Germany) became Director of Human Resources.

## Mission Task Force

In 1996 Director General Yves Lambert set up a task force to develop a mission statement for the Agency. A cross-functional group was set up and led by Mr Phil Escritt, Director of EATCHIP Development. The Mission was based on the core principle of partnership and it was fully agreed by the Member States in mid-1997.

The wording of the Mission was an important development for the Agency. It was based firmly on the theme of partnership.

*"With our partners we serve air traffic in Europe, ensuring safety, fluidity and economy for all airspace users, and developing European solutions to common problems".*

As part of the same process, a logo and slogan ("One Sky for Europe") were selected after competition among all the Agency's people. Two young colleagues of the Agency, Carine Lion and Jackie Pysden-Jones, were the respective creators.



The poster features the EUROCONTROL logo at the top, followed by the text "EUROCONTROL Mission Statement" and the website "http://www.eurocontrol.int". Below this is the slogan "One Sky for Europe" with a sub-slogan: "WITH OUR PARTNERS WE SERVE AIR TRAFFIC IN EUROPE, ENSURING SAFETY, FLUIDITY AND ECONOMY FOR ALL AIRSPACE USERS, AND DEVELOPING EUROPEAN SOLUTIONS TO COMMON PROBLEMS". The poster lists four sections: "OUR OBJECTIVES", "OUR PEOPLE", "OUR PARTNERSHIP", and "OUR SERVICES", each with a bulleted list of points. The EUROCONTROL logo is also present in the bottom right corner.

**EUROCONTROL**  
Mission Statement  
<http://www.eurocontrol.int>

**One Sky**  
for Europe

WITH OUR PARTNERS WE SERVE AIR TRAFFIC IN EUROPE, ENSURING SAFETY, FLUIDITY AND ECONOMY FOR ALL AIRSPACE USERS, AND DEVELOPING EUROPEAN SOLUTIONS TO COMMON PROBLEMS

**OUR OBJECTIVES**

- Provide services which meet present needs.
- Plan European air traffic management to meet future needs.
- Optimise the use of airspace by matching capacity to demand.
- Promote uniform high quality services.
- Give best value to our customers.

**OUR PEOPLE**

- Our most valuable resource is our people.
- We have wide knowledge and multicultural experience.
- We are proud of our achievements and will continuously strive to do better.
- We will invest to develop our full potential.

**OUR PARTNERSHIP**

- Our activities strengthen services at national and regional levels.
- We provide a forum and stimulus for cooperation between all partners.
- We aim for trust and transparency in all our relationships.

**OUR SERVICES**

- Managing European harmonisation and integration activities.
- Providing central flow management.
- Providing regional air traffic services.
- Collecting air navigation charges.
- Conducting research and development.
- Providing training and advice for air navigation services.

**EUROCONTROL**

## National Management Experts (NME)

During this period the Committee of Management had set up a group of national management experts to assist the Director General in the changes he was bringing to the Agency. This was chaired by Mr George Paulson of UKNATS<sup>39</sup>.

A key issue was the question of managing more flexibly the Agency's human resources where both the age and skill profiles in some parts of the Agency were not considered appropriate for the coming tasks.

The NME's outline proposals were endorsed by the Committee of Management in November 1996. In April 1997 the 184th Committee of Management was asked to agree to specific proposals on:

- *improved recruitment procedure and types of employment*
- *unemployment benefit scheme*
- *voluntary early retirement scheme*
- *changed conditions of retirement in the age group 60-65*
- *Implementation and Facilitation Group to oversee this.*

However, when the Report was considered by the Committee, the representative of Germany entered a general reservation on that part of the NME Report dealing with early retirement. As a result an opportunity was missed but this development demonstrated that the Agency was being refused even a small degree of flexibility that such a scheme would bring. At this time the corporatised ANSPs were being given government assistance to manage similar staffing issues.

## The Move to Haren

As it had grown rapidly over the previous few years the Agency found itself increasingly constrained by having to work on five different sites in the centre of Brussels as well as the HQ building which was showing increasing signs of age. The CFMU, located in an office block on Avenue des Arts, needed a dedicated modern site, and key EATCHIP units were working in rented accommodation which made communications difficult at a time when the work required close integration.

On 25 March 1992 the foundation stone was laid at the Haren site by Mr Joaquim Ferreira do Amaral, Minister of Transport of Portugal and President of the Permanent Commission, and Mr Keith Mack, Director General of the Agency. In 1995 EUROCONTROL moved to the new integrated premises at Rue de la Fusée 96, Brussels, close to NATO Headquarters and Brussels Zaventem National Airport. Over several months the finished building was progressively occupied, first by the CFMU, then by the CRCO and finally by all the rest of the Headquarters directorates. All of this was carefully managed under the leadership of Mr Pedro Rosa, Director of the General Secretariat.

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<sup>39</sup> Mr Paulson would later be appointed as Director of ATM Programmes (DAP)

## The Agency reviews its strategic position

Much had happened in the past few years. It was time to take stock. Throughout 1995 Mr Yves Lambert and his directors held several strategic discussions on the future of the Agency in order to assess how the Agency was progressing against its new tasks. They recognised that EUROCONTROL was evolving in a fast-changing environment and they considered the impact on the Organisation and its Agency of these changes.

The purpose was to clarify EUROCONTROL's strategically independent activities, to review the strengths and weaknesses for each activity (including how stakeholders might see these as being "competitive") and use this to assess the future strategic position of EUROCONTROL and its Agency.

Among the main threats identified was the increasing pressure from airlines for reduced costs from providers and the way in which corporatised national ATC organisations had developed more commercial management approaches to improving their performance in providing services.

The latter would have two particular results. The relevant ministries in the Member States would lose their knowledge of ATM matters and the corporatised agencies which they set up would no longer take the same Statist attitude to their relationship with EUROCONTROL. This would in turn bring increased pressure on the Agency. Even before the signing of the revised Convention, the Director General and his directors recognised that EUROCONTROL's governance structures would have to be modified to improve the involvement of the executives from these agencies.

The relationship with the European Union was also central to the discussions. It was agreed that EUROCONTROL needed to ensure that its activities were complimentary to those of the EU. It was also recognised that attention would be needed on the separation of EUROCONTROL's executive and regulatory functions.

The main result of this for the Agency was that it became a more strategically-oriented Organisation at the top level. An Executive Board would be set up, the Agency's activities would be classified as those which were strategic business units and those which were support units. A business planning process would be begun so that the strategic objectives of the Agency would be translated into objectives for the business and support units with a clearer identification of the stakeholders and their requirements.

This would in fact prepare the way, after the signing of the revised Convention, for the setting-up of Director General consultation groups for each of the strategic business units.

Two specific reviews of strategic activities were launched. Both of the reviews, described below, would demonstrate that the Agency permanently depended to a very large extent on the political will of its Member States for its existence, either in whole or in part. Both would also indicate that the Agency was capable of change and that issues such as improved efficiency would be handled with a will.

## Review of Role of IANS

The review had grown out of the need for a complete refurbishment of the Institute's building in Luxembourg. Both Portugal and Germany had submitted papers<sup>40</sup> to the 174th Committee of Management in October 1993 providing views on the present and possible future roles of the Institute, and the consequences this had for a longer-term commitment to the Institute and its building. Part of the background to this was the result of the corporatisation of ANSPs whereby the Institute at Luxembourg had become the focus of comments that it was going beyond its role and competing - some said unfairly - with the training facilities of some of the larger ANSPs (UK NATS, Germany's DFS and France's DNA).

The Committee of Management welcomed the observations described in the two working papers, but opinions were divided as to how to proceed with defining the future role of the Institute and in this context, the size of the new building. The Committee noted that the Agency was still engaged in a review of the roles of its directorates and external services and this work could assist in the evaluation of the Institute's future role within the objectives of EATCHIP staffing, management and financing, paying specific attention to efficiency. States' opinions were also a valuable contribution and would obviously be considered provided that the meaning of certain proposed future roles, e.g. "clearing house" as had been discussed in the two papers, were defined in more detail.

The Director General asked the consultants to:

1. *establish the requirements of the Member States and the Agency;*
2. *identify the fundamental issues and enquire into them;*
3. *develop proposals for a future role (or options if more appropriate) for the Institute;*
4. *summarise the implications of items 1-3 for the Agency and the Organisation;*
5. *prepare a paper for discussion at the 175th session of the Committee of Management.*

Bearing in mind the highly political nature of the subject, the Director General arranged for the consultant to visit a number of National Administrations and, after discussions with them and with directors and senior managers of the Institute and the rest of the Agency, the Report was delivered in January 1994.

### Position of Member States

The consultants noted that the views of the National Administrations varied but there was general agreement on one proposition: the Institute should not be closed but rather it should be retained and made more effective. In explanation, all States said that if the Institute did not exist they would not create it. However, the great majority said that it did exist and the political impact of closing a EUROCONTROL facility in Luxembourg would be unacceptable to them. Closure was also interpreted as un-European.

The report noted that if the Institute was to have a long term secure role then it would have to satisfy two requirements.

- *the role must be international and one which Member States cannot satisfy;*
- *it must be integrated with and fully support the mission and tasks of the Agency.*

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<sup>40</sup> CE 93/174/88 from Portugal and CE 93/174/82 from Germany

## Short and Longer-Term Role

The options for the role were discussed and a short-term role for the next 3-5 years was proposed.

- *Provide ab initio training for MUAC*
- *Support and be part of the Agency's contribution to EATCHIP*
- *Contribute to the European Advisory Service and to other means of developing ATM capabilities in Member and other States*
- *Provide public courses for Member and other States on specialist ATM subjects and instructor courses to support these subjects*
- *Operate a "clearing house" for ATM training in Europe*
- *Manage Agency staff training*

In the longer term the consultants pointed out that there had been limited time to carry out a full consultation with the Member States who themselves were unclear on the implications of EATCHIP and the greater changes under way. Nevertheless, the short-term role proposed was also a sound basis for a longer-term role that could be developed as, for example, EATCHIP and MUAC moved on. The Committee decided that the short-term role and potential long-term role should be accepted and it supported the Director General's intention to conduct a full management review, with the aid of consultants, of the Institute's staffing, management and financing.

The Institute cooperated fully in this work, led by the Director, Anton Van Loosbroek, with the wholehearted participation of his managers.

## Results of the Management Review

An Ad Hoc Group of Senior Officials was appointed to oversee the work and in several months the Report was ready. The Ad Hoc Group reviewed the Report and recommended to the 179th Committee of Management, in June 1995, to adopt the mission and objectives relating to the long-term role for the Institute based on the principles of partnership and subsidiarity. They noted that "the result was worthy of the efforts and the dedication of those involved who realised that changes were needed".

These are set out below:

1. *ATM Continuation Training*
  - *To expand involvement in EATCHIP related training at the forefront of knowledge, reducing training delivery and increasing training development*
2. *Training Development in Support of EATCHIP*
  - *To extend training support to all key EATCHIP domains*
3. *Institutional Training for Operational Staff (ATC)*
  - *To maintain the provision of this training, both for the Agency and, on request, for smaller ECAC States*



4. *Workshops and Seminars*
  - *To expand involvement in workshops and seminars in support of EATCHIP*
5. *Library and ATM Training Documentation Centre*
  - *To maintain the present service and to develop a comprehensive bibliography and abstract service for ATM training-related Research and Development.*
6. *Training Advisory Service*
  - *To offer unbiased advice on the whole range of ATM training matters*

Following adoption of the Report and the new role, a reorientation of IANS towards its new role was set out and an implementation plan drawn up. As a result of this, 32 posts would be suppressed and 15 new posts created, a net saving to the overall cost of the Institute and an indication that the Agency and its managers did not shrink from difficult decisions.

The Training Coordination Board (TCB) was set up as a result, composed of representatives from national training organisations, and made its first report to the 182nd Committee of Management in June 1996. The TCB had reviewed the original plan, had discussed it very positively and was very supportive of the Director and his staff throughout the implementation. The UK suggested that the TCB should look at the budget and the five-year plan of IANS, a solid indication that the States were being given closer and more “expert” views of specific budgets.

Mr Henri Blunier became Director IANS in succession to Mr Van Loosbroek and he guided the Institute through the full implementation of EFQM (Recognised for Excellence by EFQM in 2001). In 1998 the Institute produced its first five-year Business Plan.

## Review of the Role of Maastricht UACC

During the Director General's strategy discussions attention had been drawn to the pressure that was coming from the corporatised ANSPs, in particular the DFS in Germany and the LVB in the Netherlands. These two ANSPs had questioned the cost-efficiency of the Maastricht UAC and indeed the Diebold study carried out for the DFS had actually foreseen the end of MUAC as an ATC centre operating in German airspace in five out of six proposed scenarios.

The Director General therefore decided to set up the Maastricht Task Force (MTF) to look into opportunities for the Centre, to analyse the potential impact of changes in the external environment and to develop a short-term and a long-term strategy.

### The Task Force

Mr Paul Stalpers, Director of MUAC<sup>41</sup>, and Mr Peter Johns, Director Finance, led a team with wide experience which consisted of Messrs Walmacq and Jacobs from MUAC, Hendricks, Sultana and Pieneman from EATCHIP, Massie from Brétigny, and Boydell and McNally from HQ. The strategic consulting firm of Arthur D. Little provided support for the Task Force.

The first MTF meeting was held on 1 March and the Report was delivered on 23 June 1995. Its work had been wide-ranging with some very honest and open discussions amongst the Agency members. As a key part of the process it had been left to the consultants to contact the Member States and the airlines to ensure objectivity.

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<sup>41</sup> Mr Stalpers of the Netherlands had taken over as DMUAC in 1988. He would be succeeded in January 1996 by Mr Arnold Vandenbroucke of Belgium

## **The Findings of the Task Force**

The findings covered both the current position of MUAC, its strengths and weaknesses, and its future.

At a strategic level, airlines recognised the advantage of having one centre for a large border-crossing area in one of the busiest parts of European airspace and generally supported MUAC as an example of integration in European ATC. They appreciated the quality of service of the centre, its social stability and its flexibility.

The existence of MUAC was also supported at the political level amongst the Member States as a symbol of ATC integration and as a unique example of a multinational harmonised ATC centre.

The directors of the Agency perceived MUAC as a good centre but no longer as the “best of class” in Europe. They viewed MUAC as important to the Agency because it supported EATCHIP and provided the Agency with operational experience and credibility.

Operationally, the motivation of those working at the centre was found to be high with a good social record; the controllers easily adapted to new tools and procedures and handled very high traffic loads. The centre had a high level of functionality due the support of the centre’s engineering staff, and it had demonstrable capability in developing and implementing new high-performing applications.

There was a perception amongst those consulted that while MUAC had a very good operational record nevertheless it was perceived to be expensive. The task force, in very open and honest discussions and interactions with those involved at MUAC, found that there were opportunities for improving productivity at the centre. For example, improved rostering would enhance controller productivity while lower staffing levels and increased productivity were achievable in the maintenance and systems support divisions. Staff were found in general to lack cost-consciousness and there was a resistance to the use of project management techniques.

On infrastructure issues, current hardware and software were no longer “best in class” but they would be replaced in 1997 by state-of-the-art technology and architecture through the new planned Operations Room which would also support the work being done in EATCHIP. This was seen as an opportunity to reduce the need for programming and engineering support.

MUAC’s interfaces with the rest of the Agency and with the outside world were seen as ill-defined and confusing. For example there were some projects managed from HQ which gave rise to a diffusion of responsibility and a feeling at MUAC that they were not in control.

## Significant Work on Measuring Performance

On comparative performance, using other European centres, there was considerable difficulty because of the lack of internationally agreed performance indicators in the ATC industry. Some indicators had been defined in the INSTAR studies and also in work done by Swisscontrol and Price Waterhouse. Using these, the Task Force found that MUAC scored:

- *best for the ratio of controlled flight kilometres per controller;*
- *second best for the ratio of controlled flights per productive controller;*
- *lower in the ratios of productive controllers to total operational staff, productive controllers to engineers and productive controllers to total staff.*

However, given the lack of transparency in information on cost breakdowns and differences in issues such as outsourcing, the team found that such simple PIs were almost worthless. In team discussions on how to produce more reliable indicators Jock Massie suggested that the EEC's facilities could be used to try to produce a model of a normalised sector against which MUAC (and others) could be measured.

The team therefore decided to reduce the comparison to the most basic common characteristics to find a limited set of performance indicators which might be capable of being used on a wider basis. The three chosen were "declared capacity", "size of sector" and "capacity utilisation". From this the team computed the characteristic of the average upper sector for ten European centres to produce the "normalised" sector against which MUAC's sectors could be measured. MUAC could also then be measured against the other upper sectors<sup>42</sup>.

## Performance Results for MUAC

The findings showed that for MUAC the:

- *average capacity mile per sector was the highest*
- *average declared capacity per sector was the highest*
- *average capacity utilisation per sector was the highest.*

The team introduced such costs as were available from other models and the result was that for MUAC:

- *the cost of an actual controlled mile was on the average (which showed that the cost of service was not higher at MUAC)*
- *the cost of a capacity mile is higher than the average (which showed that the cost of providing capacity was higher at MUAC).*

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<sup>42</sup> This work, the product of a brainstorming session amongst a multi-skilled EUROCONTROL team and intensive support from Soenke Mahlich at the Experimental Centre itself, would subsequently lead to the FAP Model used by the PRU in its work on ATCC performance in Europe

## Recommendations

There were four key recommendations arising from all this work:

1. *Maintain MAS UAC as an en-route ATCC*
2. *Improve MUAC UAC efficiency*
3. *Initiate an optimal re-sectorisation of the 4-States' airspace*
4. *Position MAS UAC to be one of the future European ATCCs<sup>43</sup>.*

On efficiency there were specific proposals to reduce overhead staff, maximise off-the-shelf procurement, improve rostering and develop and maintain proper indicators to monitor MUAC's performance.

On re-sectorisation it was recognised that MUAC's airspace structure was sub-optimal and that this led to inefficient use of the airspace. The lower boundary of its airspace should be made more compatible with climb and descend profiles. For the future, areas and centres would be larger and fully harmonised. Automated assistance to controllers, navigation systems and air-ground links would enable the introduction of new ATC concepts and procedures. MUAC was well positioned since it already had a multinational structure, it controlled one of the most dense areas in Europe at the crossing of EW and NS traffic and it had demonstrated that it was capable of excellent operational and technical performance. Developments were already taking place in the CEATS area where MUAC could contribute strongly from its experience.

## Next Steps for the Director General

There were thus several outcomes of the MTF on which the Director General could take action.

First, and most important, was recognition by the users of the excellence of MUAC's performance. Second, the work on the normalised sector demonstrated that the perception of MUAC as a high-cost centre had been put in doubt. Third, there were honest declarations from the MUAC people themselves that there was significant scope for efficiency improvements.

Out of the work came a number of specific recommendations for improvements. The Director General briefed the Maastricht Coordination Group on 26 June and on 6 July the Group of Senior Officials were also briefed. Both of these would be fully involved in the implementation of the MTF Report.

An Agency director-level steering group was set up to oversee the development of a MUAC business plan which would, inter alia, contain firm projects to improve the key cost areas identified and the opportunities highlighted in the Report. These would be successfully achieved through a series of specific projects, each with their own project plan. Mr Arnold Vandenbroucke, DANS of Belgium, would succeed Mr Paul Stalpers as Director at Maastricht and ensure that the work was carried on enthusiastically and successfully.

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<sup>43</sup> It was evident to the MTF members that the future lay in more European regional ATCCs

Particular mention should be made of the work to introduce the new Operations Room and the start of PETAL (Preliminary EUROCONTROL Test of Air/Ground Data Link) trials in 1995. The modernisation of the Operations Room would permit MUAC to develop its role as a validation centre for the European ground-breaking projects coming out of EATCHIP and EATMP of which CPDLC was an early example.

# Central European ATS Centre (CEATS)

## The Reasons for a Central European ATS Centre

The initial drive for the project came from the political authorities. The airspace in central Europe was very fragmented as a result of the new-born States emerging from the end of the Soviet Union. This had a serious impact on the traffic flow and the capacity in central Europe. Those involved saw that the example of Maastricht showed how they might work together to solve these problems and in doing so improve the flow of business and tourism as well as increasing their income from higher traffic levels. All the States involved were also eager to have an international organisation or unit on their territory.

Accordingly, the Ministers of Transport of Austria, Croatia, the Czech Republic, Hungary, Italy, Slovakia and Slovenia met in Vienna in March 1993. They decided, on the basis of recommendations from the respective Directors General, to commission a study to explore the possibility of multinational arrangements aimed at determining the most suitable manner of providing ATS within their respective FIRs<sup>44</sup>, in accordance with the spirit of EATCHIP.

A working group (the CEATS Group) was set up, under the aegis of the ICAO European Office. Representatives of the States concerned and the Agency carried out a feasibility study, whose principal conclusion was that it was both feasible and desirable to establish a common UAC for the central European area.

The Ministers of Transport met again in Crete in March 1994 and set up a working structure composed of a Legal Sub-Group, a Financial Sub-Group, and a Technical and Operational Sub-Group and these sub-groups met on several occasions to develop the basis of what would become the CEATS Agreement. A report was made on this to MATSE/4 in June 1994 where the Ministers “welcomed the progress being made” and encouraged EUROCONTROL to continue providing assistance since this would mean the States concerned would develop their air traffic systems “in accordance with the ECAC strategy”.

The preparatory work reached the stage where, at its meeting held in Vienna on 17 October 1994, the CEATS Group, meeting at the level of the DGCA, approved the legal, institutional and financial principles developed in a draft Agreement relating to the provision and operation by EUROCONTROL of a common CEATS Area Control Centre. This was based on the similar Agreement then in force for the Maastricht Centre. They decided that the proposal was now mature enough to request EUROCONTROL to examine the possibility of establishing a CEATS Area Control Centre under its responsibility.

## 82nd Permanent Commission

On 13 December 1994 the main points of the draft Agreement were put to the 82nd Session of the Permanent Commission by Dr Stadler, DGCA of Austria and Acting Chairman of the CEATS Group<sup>45</sup>. They reflected the importance these States gave to EUROCONTROL’s leadership and expertise in establishing the CEATS.

The States proposed that the Centre be established and managed by EUROCONTROL, which would also be the owner of the Centre. They considered that the management of the Centre should be undertaken according to the EUROCONTROL Convention, complemented by the CEATS Agreement, in a similar manner to the Maastricht Centre<sup>46</sup>.

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<sup>44</sup> FIR = Flight Information Region

<sup>45</sup> WP/CN/82/9

<sup>46</sup> The CEATS Centre’s activities would however be limited to air traffic services, i.e. less broad than those of Maastricht, which had an experimental and test role for the Organisation

All the administrative and technical activities undertaken by the Agency on behalf of the CEATS States would be considered of common interest for the Organisation and would be free of charge to those States. The staff serving at the CEATS Centre might include different categories (EUROCONTROL staff, military staff, consultant experts, etc.), it being understood that the majority would be provided by the States concerned.

The EUROCONTROL staff would be governed by the EUROCONTROL Staff Regulations. The decision-making bodies should be based on similar bodies to those for the Maastricht Centre. The decision-making processes should be based on those which were in force at the Maastricht Centre and should guarantee that no decision could be taken by the Organisation without the agreement of the CEATS States. The CEATS States agreed to have the same insurance system as that at Maastricht for the reparation of damage caused by the negligence of the Centre or its servants. It also agreed to have the same arbitration system to deal with possible disputes as the existing system applicable under the Convention and in particular at the Maastricht Centre. Bosnia and Herzegovina would participate in the project on condition that the CEATS Ministers of Transport formally agreed to the integration of this State into the CEATS Project.

Until that time, Bosnia and Herzegovina would participate in all future meetings of the sub-groups and the CEATS Group with observer status. Possibly anticipating the difficulties to come, Dr Stadler noted that "the Legal Sub-Group agreed to propose at a later date an appropriate procedure for the possible entry into force of the CEATS Agreement where only certain CEATS States had ratified it"<sup>47</sup>.

The Permanent Commission welcomed the initiative of the CEATS States and issued Directive No. 82/50<sup>48</sup> which invited the Agency to define, with the CEATS States, the legal, financial and operational principles to be adopted in the finalised Agreement.

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<sup>47</sup> Minutes CN/82, Annex 3

<sup>48</sup> Directive No. 82/50, dated 29.12.1994

## The European Commission develops its position

The European Commission made it clear through this period that it thought that substantial advantage would be gained from the combination of the Commission's legal powers and EUROCONTROL's technical expertise and central service provision. In papers produced in 1989 and 1996 the Commission was in favour of Community membership of EUROCONTROL so that these benefits could be achieved. Discussion in EUROCONTROL at the time showed that cooperation with the European Commission would be welcomed but it was felt that overlap and duplication of responsibilities should be avoided.

The final position of the European Commission would be very important since the Permanent Commission would bring elements from that work into the revised Convention.

### 1989 Proposals

Since the late 1980s the European Commission had been aware of the need to improve the European ATM system, principally so that the achievement of the objectives laid upon the Community in the various treaties could be facilitated.

On 16 January 1989 it launched proposals<sup>49</sup> seeking three Council decisions in the field of ATM.

It noted that although EUROCONTROL had been successful in the limited roles it had been given, nevertheless "mainly due to individual states' concern to safeguard sovereignty rights it had not been able to tackle the fundamental issue of a long term plan for a common integrated Air Traffic Flow Management system, and the concomitant plans to increase the system capacity through equipment evolution and controller training."

The proposals covered familiar ground for those in EUROCONTROL who had long laboured to bring the same elements into a formal agreed plan for action.

The Commission felt that the Community had an important role to play. It could ensure coordination of Member States' activities regarding the air traffic system with particular reference to technical harmonisation and research. It could also reinforce recommendations emanating from the international civil aviation bodies by the use of Community legal instruments.

One particular concern set out in the proposals was the failure to realise the benefits of a centralised air traffic flow management system. While it recognised what had been achieved by EUROCONTROL's Central Data Bank it noted that no executive body existed at that time which could ensure effective centralised air traffic flow management for the whole of Europe<sup>50</sup>. EUROCONTROL, which at the request of ICAO operated the Central Data Bank, might be best placed to ensure this. The choice facing the Community was whether the effort should be made to create a new organisation or whether EUROCONTROL could be further expanded to fill the need.

Having in mind the need for immediate action the European Commission described EUROCONTROL as seeming to be the most realistic possibility to achieve this.

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<sup>49</sup> COM(88) 577 Final

<sup>50</sup> This was, of course, after MATSE/1



However, this would require the participation of all Community Member States. The possibility of becoming a member of EUROCONTROL only to participate in air traffic flow management might be envisaged. The EUROCONTROL Convention would in this event need to be modified. In fact, in the opinion of the Commission, "the adhesion of the Community to the International Convention relating to cooperation for the Safety of Air Navigation is ultimately necessary for the attainment of the common air transport policy".

The Proposals were not, however, adopted by the Council which instead on 18 July 1989 adopted a resolution<sup>51</sup> on air traffic system capacity problems supporting multilateral cooperation within ECAC as the best way of resolving the issues. It also called upon the Commission to help EUROCONTROL to accomplish its tasks in this connection, using Community legislative instruments as appropriate to ensure that decisions or resolutions adopted by the competent international bodies are actually implemented.

Much useful work, based on the complementary strengths of the two organisations, would be done as a result of this: the Commission lent its support to the implementation of the ECAC strategies through various forms of financial assistance; a Directive was adopted which made the "EUROCONTROL standards" mandatory within the Community<sup>52</sup>; and, as noted elsewhere, the European Commission became a member of the PHARE Project Board (although it did not provide financial support).

## The 1996 White Paper

In March 1996 the European Commission's White Paper, "Freeing Europe's Airspace"<sup>53</sup>, gave welcome support to EUROCONTROL's efforts to improve European ATM performance and gave impetus to the changes envisaged in the institutional arrangements. This came in response to a request to the European Commission from the Community Transport Ministers who recognised that more needed to be done to achieve the Treaty objectives of economic efficiency, social cohesion and sustainable mobility. The European Parliament also supported the greater involvement of the Community in the process and had, importantly, "reminded the Commission of its powers in the event of non-compliance by a Member State with the obligations that are incumbent on it under the Treaty on European Union."

The White Paper noted the success achieved in overcoming the problems of the late 1980s. Nevertheless, by the mid-1990s, delays were returning to the critical level of the late 1980s.

The Commission described the main problems and causes besetting the industry, drawing greatly upon the data and information provided by EUROCONTROL and the users. It also described what it regarded as essential characteristics of a future system, much of which again was familiar to EUROCONTROL since much the same ground had been covered in the Organisation's work with the ECAC ministers and indeed specific developments had been worked through in the PHARE Programme.

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<sup>51</sup> OJNoC 189, 26.7.1989

<sup>52</sup> OJ No L 187, 23.1.1993, Directive 93/65

<sup>53</sup> COM(96) 57 Final, 06 03 1996

The Commission considered that these should be covered by a regulatory function which ought to be organised in such a way that it could draw up a single, unified regulatory framework, compatible with international standards and frameworks. The framework should cover the following key elements, all of which were areas of EUROCONTROL capability:

- *safety levels to be set and monitored;*
- *quantitative and qualitative objectives for the service to be provided, and timetables for meeting those objectives*
- *joint procedures and specifications to ensure interoperability and interconnection between the various components of the system, as well as methods for checking that these procedures and specifications are complied with;*
- *the collective management of available ATC capacity at peak periods or in times of crises, as well as to the allocation of airspace to its various users, civil and military;*
- *cost/benefit analyses necessary for making rational choices should be carried out in common; and*
- *a better co-operation in the field of research and technological development, to ensure that new concepts come forward, are selected and are applied in a timely manner.*

The White Paper noted the work being done in ECAC/MATSE and then set out “how the Community could best play its role in achieving these objectives while respecting the principle of subsidiarity or proportionality and taking account of the experience and expertise of the international organisations already involved.” This was an important public affirmation that complementarity was also an objective of the European Commission at the time.

There was then a very interesting comment on the CFMU. The Commission stated that it was essential to ensure that the CFMU maintained its objectivity in taking its decisions which led to redistribution of traffic because of the important effect this could have on the revenue and profitability of ATC bodies. This was a view strongly held in EUROCONTROL and it is still a valid argument today when the involvement of stakeholders in the decision-making processes is once again under discussion.

### **Options Considered by the European Commission**

As in the case of INSTAR, the Commission examined several options to achieve a single ATM system. Some of the discussion is also still relevant even today and indeed many of the arguments were rehearsed in the SESAR meetings and discussions.

- (a) *A “European Monolithic Structure” was discounted for the principal reason that establishing such a “monolithic structure” would involve transferring all the necessary powers and resources to a single entity, set up by a special Treaty - and this was felt to be impractical given the way the industry had developed in recent years.*
- (b) *A “Solution Linked to the Community” was considered in depth. However, while it was evident that the Community could use much of its legal and financial powers, Community involvement in the field of ATM had certain limits, in particular because the preparation and monitoring of action in such a specialised field require particular expertise which, effectively, at present, is only available to national organisations and EUROCONTROL. Therefore, the Community would have to set up a new executive body to prepare the decisions to be taken and to follow up subsequent developments. It was felt, however, that this would simply duplicate work being done elsewhere and while an alternative was to transform the EUROCONTROL Agency into a Community Agency this was discounted since such a Community approach would not give the complete European dimension to the action required. In addition this would imply dismantling the organisation as such in order to keep only its means and resources for regulatory tasks. The case for this was not accepted.*

*The Community could use its powers under the Treaty to conclude agreements with its neighbours, but it was not at all clear if they would want this because such agreements could not necessarily guarantee them the participative role to which they have become accustomed in the organisations currently active in ATM.*

*(c) "A Broader European Solution" was the preferred solution given the limitations of the previous options. The Commission preferred to look for a wider European framework than just the geographical area covered by the Member States of the Community. Working on the basis of such a broader coverage would be a far better way of improving the efficiency of European ATM, provided always that this approach did not have the effect of weakening the structures and mechanisms needed to achieve that objective.*

## **European Commission Selects the EUROCONTROL Option**

Given the existence of EUROCONTROL, the Commission thought it was obviously more sensible if that Organisation were to take on part of the necessary regulatory role in Europe, becoming primarily responsible for airspace management and technical specifications.

This option, said the European Commission, would certainly require "reinventing" EUROCONTROL so as to give it greater political legitimacy, and it would need to be invested with powers as well as the necessary decision-taking, monitoring and support mechanisms to enable it to carry out its tasks properly. To do so would call for a careful examination of a range of organisation models, and envisaging a range of possible decision-taking processes and control systems. This exercise should identify new structures capable of meeting fully all of these requirements. The EUROCONTROL Convention would then need to be revised accordingly to accommodate the model selected. This paper was an important addition to the discussions taking place at the time. It demonstrated the recognition by the European Commission of the issues and the fact that a properly empowered and refocussed EUROCONTROL was the best means to achieve the more performant system that all stakeholders wished.

## **Response of EUROCONTROL**

In response to the White Paper an Ad Hoc Study Group was set up and in June 1996 a paper<sup>54</sup> was prepared by the General Directorate in which institutional options for membership of EUROCONTROL by the Community were considered.

Subsequently Mr Coleman (European Commission, DGVII) would speak at the MATSE/5 Conference in Copenhagen in February 1997. He said that "we [the European Commission] want EUROCONTROL to be the single common regulator for ATM in Europe, instead of a mere coordinating body of national ATM providers... this requires the re-invention of EUROCONTROL."

## **Commissioner Kinnock Praises EUROCONTROL**

All this took place when Mr Neil Kinnock of the UK was the Commissioner for Transport (and Deputy President of the Commission itself). He was to note the following at a meeting of the Transport Ministers on 17 June 1999 in Luxembourg, perhaps foreseeing that changes at the Commission might bring other views to bear.

*"... Over the coming months, EUROCONTROL will be the target of severe criticism. I might surprise you by praising the organisation. If the situation improved after the crises of the late 1980s, it was thanks to the measures taken within EUROCONTROL and we know that a new set of measures is under way in the Provisional Council of that organisation. The weaknesses of that organisation are not the result of failings among the leadership and staff, they are direct consequences of the refusal to accept that a single market needs a single policy-maker".*

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<sup>54</sup> WP/CNS/adhoc/24/7

# Institutional developments

## Work leading to a revised Convention

As in the 1950s, where in several fora it was becoming evident that a European organisation was required to meet the challenges of air traffic, there were in this period several paths of thinking which would lead to agreement on the need for a strengthened EUROCONTROL through a revised Convention. Again, as in the 1950s, there would be cross-fertilisation of ideas between these paths which meant that the deliberations taking place on both the political and the practical issues involved would lead to a general consensus that the final result satisfied all the interests involved.

### 79th EUROCONTROL's Permanent Commission December 1991

All these developments led the Permanent Commission to consider whether the Convention was sufficient to allow EUROCONTROL to take on the responsibilities and work which was the result of decisions already taken in MATSE/1 and 2 or which would follow in the next few years. In December 1991, at its 79th Session, the Permanent Commission directed that "the Committee of Management shall report to the permanent Commission on whether the EUROCONTROL Convention requires amendment in order to secure implementation of the future... (European Air Traffic Management System)".

The next steps were taken by Director General Keith Mack and the Heads of Delegation of the Committee of Management and a meeting was held on 24 September 1992 chaired by Mr Tienstra, Director Air Navigation, Ministry of Transport of the Netherlands and then Chairman of the CE<sup>55</sup>.

The discussion was wide-ranging and although there were some differing views there was also a consensus around changes needed in some key areas: majority voting, strengthened dialogue with users and manufacturers, greater standardisation, more emphasis on implementation, and a greater executive role for the Agency coupled with strengthened accountability procedures. There was discussion of, but no agreement on, the issues of common procurement by the Agency and the issue of commitment linked to possible enforcement for non-compliance.

Some forward thinking was clear in the matters discussed: some kind of monitoring process (Mr Yves Lambert, DNA/MoT France), enforcement through partnership with the European Commission (Mr Eckhardt DNA/MoT Germany, Lambert), inclusion in the Convention of items then considered by ECAC (Mr Yves Lambert).

A key part of the discussion was on the relationship with the European Commission. All agreed that this should be on the basis of cooperation, complementarity and the optimal coordination of each body's expertise and authorities.

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<sup>55</sup> Present were Messrs Tienstra (NL, Chair), Lambert (FR), Bauchet (FR), Eckhardt (FRG), Kennedy (IRL), Van Der Haer (NL), Tredray (UK), Mack (EUROCONTROL)

## 80th Permanent Commission December 1992

At this 80th Session the Permanent Commission considered these two important - indeed seminal - documents<sup>56</sup> which set the course for the next revision of the Convention, and provided much of the requirement which subsequently became codified in the Protocol. For this reason it is worthwhile to quote extensively from them.

The Director General's paper described the requirements to develop the post-EATCHIP future EATMS as set out by MATSE/2. He set out the infrastructure requirements.

*"Implementation of the EATMS strategy will call for technical arrangements based on a range of facilities which have already been the subject of considerable development individually but whose integration into a total ground/air system will be a major international task. The advanced computer systems available for navigation and flight management in the cockpits of modern aircraft will need to communicate with the ground ATC services by direct data links using satellite, SSR Mode S, VHF time sequenced, data links.*

*ATC clearances and full information on the performance of aircraft in flight will then be the subject of automatic two-way exchanges between aircraft and the ground. All this information will also require to be circulated simultaneously to all ATC Centres involved so that their computer systems can cooperate in monitoring flights and in presenting processed information displays to controllers."*

He then described in broad terms the institutional aspects that would be required.

*"For transparency of ATC Sector and National boundaries, the design of EATMS will require common application in each State. The degree of cooperation required between States in EUROCONTROL, and from other States in ECAC, will therefore need to be of a very high order. Production of an acceptable design is unlikely to be achievable through the usual processes of international working groups and task forces. The Director General believes that it will require an international team in which States' representatives participate continuously for significant periods of time.*

*The Agency is already liaising closely with the Commission of the European Communities in order to seek close co-operation in the avoidance of duplication of effort and diverging aims. Close cooperation will also need to be maintained with ICAO, ECAC, Industry, civil and military administrations, airspace users' organisations and other interested parties."*

The Committee of Management's paper then described more fully the implications of the Director General's paper for the EUROCONTROL Convention. The language was at times tough and direct.

*"For the EATMS to provide the European air traffic control capacity needed to meet traffic demand in the early years of the next century (forecast to be at least twice the demand experienced in 1986) there will be a need to introduce the necessary advanced techniques to a common timescale in all the states concerned. Failure to implement the system in any part of Europe affected by the traffic levels envisaged will restrict the potential increase in capacity elsewhere. Furthermore, since the System will need to provide air traffic control clearances across national boundaries, with the related data being circulated automatically between all the air traffic control centres involved, it is apparent that the cooperation required between the states concerned will need to be extremely close. The Committee envisages that firm commitment to common implementation time-scales will be essential, together with the procurement in common of at least some of the attendant equipment and software, so as to ensure compatibility and economy.*

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<sup>56</sup> WP/CN/80/4 and WP/CN/80/5

*It is also evident that planning of the System must be focussed, with the role of the Organisation (and therefore the Agency) clearly recognized and respected. In particular, the relationship with the Commission of the European Communities must be complementary. Conflicting or overlapping of activities in the field of air traffic management should be prevented by those states who are members of both the Organisation and the European Communities.*

*The Commission will recall that the amending Protocol of 1981 changed the Agency's role from an executive to an advisory function. This amendment was undertaken in a very different environment from the present one and the Committee believes that there is now need for the Agency to be given an Air Traffic Management development function. This function and, in particular, the responsibility for developing an EATMS, should be included in the Convention, so as to make the Member states intentions clear throughout Europe regarding their agreed focus of international activity for all air traffic management matters.*

*These intentions should then be upheld by the states in all their international relations, including those within the European Communities. Having made Member States' intentions clear, the Convention should also facilitate efficient realization of those intentions. In this connexion it appears desirable to strengthen decision making within the Organisation, especially as the membership of EUROCONTROL could eventually comprise some thirty or more states. Hitherto, there has been a "pick and choose" attitude towards utilisation of air traffic management elements developed for the Organisation. There is now need for a greater degree of standardisation based upon more than just the lowest common denominator capable of securing the unanimous agreement required under the present Convention. Furthermore, airspace users should be represented in the decision making processes.*

*It is relevant in this context to note that those Member States who are also members of the European Communities may soon be bound to a "Council Directive on the definition and use of compatible technical and operating specifications for the procurement of air traffic management equipment and systems". The intention of the European Commission is to make EUROCONTROL technical specifications mandatory for EC Member States by such a Directive. It seems likely that the proposals being made by the European Commission will - after some amendments by the Council Group of Experts - be accepted by the Council next year and that they will therefore lead to a stronger legal commitment under the EC Regulations .*

*The Committee also believes that the Convention should make appropriate provision for encouraging, where this would be beneficial, common procurement of equipment by the Agency for installation in states. There are economic benefits to be gained by such common procurement and for some functions it may be the only sure way of achieving system compatibility across national boundaries."*

As a result the Permanent Commission mandated their civil and military Alternates:

- *to investigate in what manner the EUROCONTROL Convention may require to be further amended in order to strengthen the Organisation's ability to give practical expression to agreed actions in the field of European Air Traffic Management;*
- *to carry out a review of the decision-making machinery within EUROCONTROL to facilitate effective action for the improvement of Air Traffic Management in Europe, including EATMS, making more extensive use of decisions, in these domains, by majority rather than unanimity and ensuring adherence to all rules, standards and specifications developed by the Organisation; this review is to address improvement of the representation of the users in the decision-making processes. The possibility for States which so request, for reasons of overriding national importance, to take back the provision of all or part of the ATM services in the airspace for which they are responsible should also be taken into account."*

The work to be done was not underestimated by those concerned and the experience of previous institutional changes weighed heavily on many of those now involved. On that past experience the Permanent Commission considered that the modifications envisaged by the Study Group and the General Directorate were likely to be of the same magnitude as those adopted in 1975, which had led to the implementation of an amended Convention ten years later, and the changes would again involve the whole text of the amended Convention, including the Statute of the Agency, and possibly also the Multilateral Agreement relating to Route Charges.

## The Study Group of Alternates

The President of the Study Group was Mr Pedro Rosa (DANS Portugal and former Director of the General Secretariat), and the representation from States mirrored the importance of the subject. Discussions were conducted on a wide range of issues and debate was vigorous.

At its 83rd Session, on 5 December 1995, and its 84th Session, on 10 December 1996, the Permanent Commission approved in principle a first draft of the revised Convention, subject to further refinements on the basis of appropriate solutions to be agreed on outstanding questions of principle and of inclusion in the texts of the relevant outcome of the White Paper published by the European Commission and of the ECAC Institutional Strategy.

## The Reasons for and the Changes in the revised Convention

In their final report to an ad hoc meeting of the Permanent Commission in June 1997, the Study Group set out a detailed summary<sup>57</sup> of why the Organisation and its Agency should change and how this should be achieved by a revision to the amended Convention. The inputs from the Director General and the Committee of Management to the 82nd Commission were much in evidence.

### Reasons for Change

They first summarised the main reasons justifying the revision of the Convention which had emerged from the deliberations in ECAC, EUROCONTROL itself and the European Commission.

“The need to give EUROCONTROL a new, stronger and simpler institutional and legal framework to reflect the current and possible future activities of the Organisation and enable it to perform its proposed role of managing satisfactorily the major European air navigation programmes within the political context defined by the States. It was noteworthy that nowhere in the previous Amended Convention was there any reference to the activities of air traffic management, harmonisation and integration with regard to air traffic management, and air traffic management in the vicinity of airports or by means of satellites, all of which corresponded to what had by then become the current or potential future requirements and hence activities of the Organisation.

The urgent need to improve the Organisation’s decision-making process to extend the use of majority voting to almost all of the Organisation’s actions and to ensure adherence to all rules, standards and specifications developed by the Organisation. This was of particular importance since EUROCONTROL would be required to encompass the ECAC area of 35 States, making the unanimity rule difficult to apply. However, special provisions would be included to protect States’ vital interests and, before the Organisation takes any decision, the appropriate users’ organisations would also be consulted on all matters where they have an interest.

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<sup>57</sup> WP/CN/Ad Hoc/3

The need for European States to confirm that EUROCONTROL is the European Organisation which has the expertise and resources required to plan complex programmes for the improvement of air traffic in Europe and to supervise their implementation (CFMU and EATCHIP/EATMP, SAT/NAV, EAD and Regional ATM programmes). In order to avoid any duplication of effort in Europe, the Organisation was therefore required to provide a working framework adapted to the needs of all those involved, viz. the Member States and Cooperating States, the European Community, the relevant international organisations and the recognised user associations."

## **The Changes**

The Protocol now laid before the Permanent Commission was the outcome of five years' work during which all aspects of European cooperation (operational, technical, financial and legal) had been thoroughly examined. The Protocol stipulated and defined the Organisation's sphere of activity. The key elements were:

- *The re-formulation of the Organisation's tasks, which clearly entail the harmonisation and integration of European air navigation systems with the aim of establishing a uniform European air traffic management system and are associated on the financial level with the definition of a common route charges policy.*
- *The reaffirmation of national sovereignty in clearer terms than in previous Protocols. Article 1 would include the words "the principle that every State has complete and exclusive sovereignty over the airspace above its territory."*
- *The strong desire to take account of military requirements in all future developments.*

In more detail the changes were as follows.

## **Expanded objectives and tasks (Articles 1.1 and 2)**

Whilst EUROCONTROL had been previously almost exclusively concerned with ATM activities for the en-route segment, the revised Convention considerably extended the scope of its activities to include the entire spectrum of air traffic services. The changes enabled:

- *the introduction of independent performance review and target setting;*
- *improvements to the structure for safety regulation;*
- *enhanced civil/military co-ordination and co-operation;*
- *strengthened policy and planning for the airport/air traffic system interface as part of the 'gate-to-gate' concept;*
- *improved airspace design processes;*
- *improved standards making;*
- *the provision for common design and procurement of systems where there is added value in doing so;*
- *enhanced research, development, trials and evaluation, and more effective introduction of new technology;*
- *coordinate the research and development programmes of the Member States relating to air navigation; ;*
- *enhanced user consultation/involvement;*
- *minimisation of any adverse environmental impact; and*
- *enhanced global co-operation and influence*

## **Separation of regulation and service provision (Preamble and Article 2.4)**

The Preamble underlined that "the safe and efficient realisation of the Organisation's tasks will benefit from the separation where practicable of its regulatory and service provision functions".



Article 2.4. said that the “Organisation shall, as far as is practicable, ensure that its service provision functions... are exercised independently of its regulatory functions”.

### **More streamlined organisational arrangements (Article 1.2)**

The revised structure was simpler and more business-orientated, following directly the ECAC Institutional Strategy, with only three levels of executive power:

- *General Assembly: a high-level senior political body replacing the Permanent Commission and enlarged Commission. This would be composed of Ministers of Transport and Defence who would be responsible for defining the general policy of the Organisation;*
- *Council: a body to orientate and supervise the Organisation’s activities comprising the representatives of the Contracting Parties at Director General of Civil Aviation level. This would be tasked with adopting objectives, resolving conflicts and supervising the EUROCONTROL Agency’s activities. The Council would be supported by two independent bodies reporting to it, a Performance Review Commission (PRC) and a Safety Regulation Commission (SRC) – and, in an advisory capacity, by a Civil/Military Interface Standing Committee (CMIC);*
- *an Agency under the exclusive authority of the Director General (Director General) who would have increased managerial autonomy.*

### **More effective decision-making based on majority voting (Article 8)**

The previous unanimous decision-making structure within EUROCONTROL was unwieldy and under the revised Convention most decisions could be taken by a majority vote (Article 8)<sup>58</sup>. Moreover, Article 9 gave a right of derogation where a Contracting Party could not act on a decision adopted by a majority vote for overriding reasons of national defence or security.

### **Enabling power for Community membership of EUROCONTROL (Article 40)**

The new Article 40 of the Revised Convention allowed for “regional economic integration organisations”, such as the European Community, to become members of the EUROCONTROL Organisation.

### **Establishment of an Audit Board (Article 7.5)**

The new arrangements provided for the setting-up of an Audit Board. This would be independent of the Agency and would be tasked with reporting to the Council on the transparency of the Organisation with regard to its decisions, actions and procedures.

### **Alternative Institutional Options (Article 2.5)**

This Article set out the possibility of managing certain tasks in a more commercial private context taking account of the major changes in national air traffic control services which had a greater measure of managerial and financial authority. The revised Convention left the door open to joint and privatised ventures, according to developments in that area. This was not, as was noted at the time, a motivation for the separation discussion but an open door for the future.

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<sup>58</sup> There were by now 21 Member States

## The revised Convention is signed

On 27 June 1997 the EUROCONTROL revised Convention was signed at a Diplomatic Conference in Brussels. Formally it is known as the “Protocol Consolidating the EUROCONTROL International Convention Relating to Co-operation for the Safety of Air Navigation of 13 December 1960, as variously amended”. It was the most important milestone in the history of the Agency since the signing of the original Convention.

It introduced a new institutional structure, changed the basis of decision-making from unanimity to majority, set up new and powerful advisory bodies to the Organisation’s top level, gave new responsibilities and powers to the Director General of the Agency and brought in wide involvement of stakeholders’ representatives.

One of its most significant elements allowed for the expansion of EUROCONTROL’s authority to include the airport taxiway and runway as well as the en-route, research and coordination aspects of air traffic management. This was to become known as the “gate-to-gate” concept. Other features included the cooperation with other European institutions, the introduction of European ATM performance review and target-setting systems, a more efficient decision-making process based on majority voting and the reinforcement of cooperation between civil and military authorities.

However, each Member State had its own views and specific national concerns, which made the revised Convention a challenge to finalise. It also meant that it would not immediately be ratified in each Member State.

Because of this, the EUROCONTROL Member States in the Diplomatic Conference agreed on a transitional period that would allow the Organisation to implement some of the major elements early.

The Resolution was as follows:

*“The Conference, Assembled at Brussels on 27 June 1997 for the purpose of adopting the Protocol consolidating the EUROCONTROL International Convention relating to Co-operation for the Safety of Air Navigation;*

- Having unanimously adopted the aforesaid Protocol;*
- Having noted the decisions taken by the Ministers of Transport of the member States of the European Civil Aviation Conference (ECAC) meeting in Copenhagen on 14 February 1997 regarding the ECAC Strategy;*
- Having noted the invitation by the ECAC Ministers of Transport to the EUROCONTROL Permanent Commission to consider arrangements for the implementation in advance of the revised EUROCONTROL Convention as proposed in the ECAC Strategy;*
- Recognising the need for an early implementation, where appropriate, of certain provisions in the revised Convention in order to entrust the EUROCONTROL Organisation and in particular its Agency with the roles and duties as reflected in the ECAC Institutional Strategy;*
- Reconfirming their commitment to attain, through the provisions of the revised Convention and in close cooperation with all parties concerned, a safe and efficient European air traffic management system as well as an efficient common route charges system.*

*Urges all Contracting Parties to participate, to the fullest extent possible, in the realisation of the early implementation of certain provisions in the revised Convention.”*

The Early Implementation contained three major decisions:

- *Expansion of the scope of the Organisation's activities;*
- *Establishment of the provisional Council and advisory bodies to it (including the Performance Review Commission, the Safety Regulation Commission, the Civil/Military Interface Standing Committee, and the Audit Board); and*
- *Delegation of broader executive powers to the EUROCONTROL Agency and its Director General for the day-to-day running of the Organisation.*

The steps which were immediately undertaken to implement these will be described in Part 4.

## The CEATS Agreement

On the same day as the signing of the revised Convention, the CEATS agreement was signed, aimed to provide for an air traffic control centre which could manage the combined airspace of Austria, Bosnia and Herzegovina, Croatia, the Czech Republic, Hungary, Slovakia, Slovenia and part of north-east Italy.

CEATS would comprise the UAC in Vienna, expected to be operational by 2007, and three supporting units:

- *the CEATS Strategy Planning and Development Unit (CSPDU) in Prague, Czech Republic;*
- *the CEATS Research, Development and Simulation Centre (CRDS) in Budapest, Hungary, and*
- *the CEATS Training Centre (CTC) in Forli, Italy.*

The existence of CEATS would allow for common regional ATM planning for all the States concerned, bringing financial benefits and harmonisation. By introducing common systems, working practices, training and procedures, levels of safety in the area would be increased. Current restrictions imposed by national frontiers were to be lifted with regard to sectorisation of the airspace and traffic routings. The CEATS UAC would also provide a unique opportunity for civil-military integration.

## The Consequences for the Agency

Director General Yves Lambert explained the key elements on a Management Day in July 1997.

*"The Council would not be like the Committee of Management but would be made up of DGCA's. The present "parallelism" of the Director General and Committee of Management would not continue. The Council would be assisted directly by two Commissions on Performance and Safety Regulation, a Standing Committee on Civil/Military Interfaces and the Audit Board. One role of the Council would be broadly to guide and the Agency would work to that guidance. At the Agency level, the interesting development was the dotted line with Service Providers as had been set out in the ECAC Institutional Strategy. The best way to build the necessary links still had to be found. This was complicated by the "separation" in many Member States between the Ministries and the, often corporatised, service providers where there was sometimes a difference of views at national level on international questions.*

*The Agency now had the right to initiate proposals over the wide range of the Organisation's activities. Some international organisations, like ICAO, were mere fora in which the members tried to reach consensus. Others, like the European Commission, had been given exclusive "proposing" powers by the Community. Between these two extremes lay the right to initiate of the Agency and the appropriate skills and processes now had to be applied. This was one of the most important outcomes. The "Early Implementation" proposals were all part of this.*

*The European Commission would become a member of EUROCONTROL. This was a historic step for the Agency where some Members ceded competence to one single body to represent them. The EC's exclusive competence was in R&D, TENs and Standardisation. The area of mixed competence might be further developed."*

On the following Management Day in January 1998, after the revised Convention had been signed, he set out for managers some key elements in the Agency's Statute that all had to understand since they formed the basis of the way in which the Agency now had to act.

- *Article 2.1: the Agency "shall initiate and submit proposals..." EUROCONTROL was no longer a traditional international organisation, a club of constituents where the Agency had a role of mediator. The Agency now had an obligation 'to do.'*
- *Article 2.3: "the Agency shall act as the focal point for intergovernmental cooperation and coordination..." Again the obligation was there.*
- *Article 3.1: "the Agency shall be managed by a Director General who shall enjoy wide management independence..." This was different from the co-management of the past and was perhaps the most important and delicate of all. It meant that the "buck stops on the Director General's desk" and that the Director General was the institutional entity representing the Agency, assisted collegially by the Directors and managers."*

## Summary

So the period finished with very positive signs for EUROCONTROL. The results of the five MATSE Conferences so far (MATSE/6 would be held in 2000) and the revised Convention presaged a future for EUROCONTROL that had been developed in close consultation with both the political world and the main stakeholders in the industry. The EC White Paper of March 1996 showed a high degree of support for EUROCONTROL's technical prowess linked to its (potential) institutional improvements which would mesh with the Commission's regulatory powers.

It can be seen that there was considerable cross-fertilisation of ideas in the deliberations taking place in various fora on the need for a new Convention. The general consensus at the time was that the final result satisfied all the interests involved and that both the political and the practical issues had been resolved. What was also noteworthy was the relatively short and rapid process of gaining agreement amongst ECAC Ministers, the acceptance of those decisions by EUROCONTROL's Permanent Commission and their transformation into practical plans and programmes through EUROCONTROL's advisory and consultative groups, supported by a wide network of working groups bringing together stakeholders at the appropriate levels.

From a practical operational standpoint the period had gone well for EUROCONTROL and the industry it served. Airspace users' support, for example in the establishment of the CFMU and in key EATCHIP/EATMP programmes, had been critical to their success and strong benefits had been achieved.

EUROCONTROL and its Agency had proven themselves capable of meeting a complex challenge, much greater in scale and in scope than anyone involved in the industry could have foreseen ten years before. The Agency's core of professional, expert staff had risen to the challenge and looked forward to deploying their skills in the way in which they knew best: in an objective approach, bringing stakeholders at different levels of technical, operational and managerial abilities to the same understandings and capability to act on common issues. This period had proved the efficacy of this EUROCONTROL process without the requirement for regulation.

Throughout this period EUROCONTROL, together with its stakeholders, constantly strove to get the best result out of the network. Although the scope had grown enormously, the benefit of improvements had also been felt over a wider area. Optimisation of the network through achievable, practical work would be the platform for the next phase.

It is worth noting that these results were achieved through EUROCONTROL's consensual approach which would later be criticised on the basis that it was ineffective. Nevertheless the successful development and implementation of the CFMU and the successes of EATCHIP through the programmes described herein had all been achieved by EUROCONTROL's traditional means of developing agreement on common requirements and their solutions through reiterative dialogue with the stakeholders.

However, as events unfolded in the next few years the support of the European Commission would be replaced by a more EU-centred policy which would lead to a diminution of ECAC's influence. Further, the failure of States to ratify the revised Convention would leave EUROCONTROL with the same decision-making mechanism as before and this would ultimately be used as the argument for creating another process based more on the EC's regulatory authority. The European Commission would also promote the separation of regulatory and service provision which would lead to a re-definition of EUROCONTROL's activities but which would fail to satisfy the urgings of some stakeholders for a more radical organisational solution.

The corporatisation of the ANSPs and the changes in EUROCONTROL's institutional structure would mean that new ways had to be found to involve the CEOs of the ANSPs in the decision-making processes of the Organisation. While the Agency would make continuous efforts to effect this, the increasingly commercial stance of the ANSPs would bring pressure on the very existence of what were regarded as key elements of the integrated set of activities, from research through to implementation and even post-implementation, that made EUROCONTROL a complete organisation. Nevertheless the ANSPs remained de facto, if not de jure, monopoly suppliers of air traffic control services even if some of their peripheral activities were either outsourced or wholly privatised.

Several times during this period EUROCONTROL was either asked to "re-invent itself" (as in the European Commission's 1996 White Paper) or took the initiative to adapt its organisation. The Director General, SD and directors (together with their managers) understood that what had previously been a relatively simple Organisation was now neither single nor simple but instead a mix of "businesses" with often complex relationships with a wide spread of stakeholder interests. The need to change had been - and would continue to be - a regular feature of its existence. The fact that EUROCONTROL and its Agency succeeded then in adapting itself demonstrated its willingness to change, something for which it has not always been given credit.



## **Part 4:** 1997-2008

Early Implementation,  
EUROCONTROL Adapts to Single European Sky,  
Growing Concentration on the Network

## Précis

The revised Convention had been signed and EUROCONTROL now looked forward with renewed optimism to a more secure future with political support at a level which surpassed even the original vision of the 1960 Convention. The target was the establishment of a uniform, performance-based air traffic management system.

The decision of the Member States on Early Implementation encouraged this optimism and much work was quickly initiated to bring this to fruition. The new Provisional Council and the high-level advisory bodies met quickly, and performance, safety and civil-military coordination received rapid attention.

The ECAC Ministers' ATM 2000+ Strategy was launched and for the first time, in a formal document, the concept of the network was recognised. The Agency's core business of EATCHIP was realigned towards this which brought to the fore the new tasks on the Agency of environment, airports, safety and later security.

Reflecting the requirements of the revised Convention and the MATSE decision the Director General also brought forward early initiatives on separation, a regulatory process and a modus operandi with the European Commission. This work was aimed at ensuring convergence with the steps taken by the European Commission to establish the Single European Sky and its regulatory framework. This led, inter alia, to EUROCONTROL working successfully as a functionally separated Organisation. EUROCONTROL would also later support the Single Sky Committee and successfully manage those mandates accorded to it.

The Performance Review Commission and the Safety Regulation Committee quickly met and produced reports which would open the way to significant improvements for European ATM in both fields. In both cases the support and involvement of Agency specialists was important. Civil-military coordination and cooperation also showed considerable improvement, strengthening EUROCONTROL's unique role in this area.

The European Commission requested two reports dealing with European ATM and a regulatory structure from high-level groups. The European Commission also signed its Accession Protocol but this would not be finally ratified. However, a Memorandum of Cooperation was agreed and under this EUROCONTROL carried out important work to support the Single European Sky.

Throughout this period the Organisation and its Agency continually sought to adapt to the changing circumstances where a single European regulator was clearly required and to find a future role for EUROCONTROL in supporting that regulator while maintaining its original founding vision, including the successful provision of pan-European services and increasing its focus on optimising the network.

To that end the Provisional Council produced a significant new guidance at its pivotal 26th meeting in 2006 when it set out its "Roadmap to the Future ATM". This would set out the path leading to major changes in the Agency's organisational structure and the consultative procedures and these in turn provided the basis for the important rapprochement between EUROCONTROL and the European Commission some two years later.



The background to this was the increasing agreement by all parties that a European Master Plan was needed. This had begun as a general requirement from the manufacturing supply industry for a more comprehensive and coherent plan for ATM research and development. Support for this broadened amongst other ATM stakeholders and this in turn led to the recognition that a Master Plan was needed to manage the full cycle from research through to implementation. The result was that the European Commission sought EUROCONTROL's help in launching the Single European Sky ATM Research (SESAR) Programme which would produce just such a Master Plan and lead to a more fruitful relationship between the two organisations.

During this period the ATM operating environment became more and more complex. The Agency's experience through EATCHIP and CFMU had shown that a key characteristic of European ATM was that the improvements in capacity and cost-effectiveness could not be ascribed to one action or another. Rather it was the accumulation of a wide spread of coordinated actions which brought improvements to the network as a whole.

The Agency's focus was therefore to build upon the earlier successes of CFMU and EATCHIP to further optimise the network. The Global Action Plans, managed by the CFMU, and the early work by the Agency's Capacity Enhancement Function were directly aimed at this. These would lead to DMEAN, a system approach to maximise the utilisation of the network with deep stakeholder involvement. The core directorates were increasingly oriented towards cooperative network design.

EUROCONTROL took on the "new" domains of safety, environment, airports and security and the success of these is described. EUROCONTROL's major programmes would bring considerable improvements to performance and in general its projects and services, developed and delivered by the Agency in conjunction with stakeholders, would deliver standards and procedures which would lead to their adoption by industry and globally through ICAO.

There were the fatal accidents of Milan/Linate (October 2001) and Überlingen (July 2002), the two crises of Kosovo in March-June 1999, and the Twin Towers attack of 11 September 2001. These unfortunate events demonstrated the Agency's ability to respond quickly to manage and minimise the impact on European ATM while at the same time producing long-term solutions for safety.

The major issue for EUROCONTROL and its Agency during this period would be the failure of some States to ratify the revised Convention and the non-ratification by the European Union of its Protocol of Accession.

By the end of 2008 there was a real rapprochement between EUROCONTROL and the European Commission due to the Organisation's success in the SESAR Project and in realigning itself. However, institutional issues would remain since the revised Convention and the Accession Protocol remained unratified. This would leave EUROCONTROL where it had been several times; seeking an appropriate mandate from its Member States.

This period was probably the most eventful in the life of the Organisation and as such this Part is lengthy. It has been divided into several sub-parts since to deal with events in a simple chronological order risks confusing the reader.

# Early Implementation Decisions

## Permanent Commission No. 85

### Key Decisions on the New Structure

Work began immediately on early implementation, and the Permanent Commission, CN/85, met on 9 December 1997 to consider the report from the Study Group of Alternates on this<sup>1</sup>.

The Study Group had done much work across the wide spectrum of EUROCONTROL's new responsibilities and, based on submissions from Director General Yves Lambert, had set up five sub-groups to assist it. Each of these was chaired by a senior State representative:

- *Top Management Structure: J. Dopagne (France)*
- *Financial and Audit: L. Wedback (Sweden)*
- *Performance Review: B. P. Schuh (Germany)*
- *Safety Regulation: R. Profit (United Kingdom)*
- *Civil and Military Coordination: Colonel G. Iscra (Italy)*

This would be an important session since the decisions would set down what was intended to be a transitional institutional structure but would in fact be the organisational framework of EUROCONTROL until the present day.

The Permanent Commission agreed the proposals of the Study Group and set out the roles and responsibilities of the bodies responsible for gathering all relevant advice and contributions from stakeholders and other involved parties and then preparing proposals for decision-making.

A General Assembly would not be established to replace the Permanent Commission and the enlarged Commission since both these bodies would, for legal reasons, need to remain in function. The Council would be "Provisional" In the transitional period before full ratification of the revised Convention although a number of the Provisional Council's decisions would need to be formally approved by the Commission in order to take legal effect. Given that the membership was identical it was agreed that there be one combined meeting and that the Commission would continue to make its decisions based on Article 7 of the amended Convention (i.e. unanimity in most cases).

The 85th Permanent Commission then took Decisions 71, 72 and 73 on early implementation of certain provisions in the revised Convention on, respectively: the roles and duties of the Organisation; the establishment of a Provisional Council, including the establishment of its subsidiary bodies; and modifications to Annex 1 to the amended Convention relating to the Statute of the Agency.

In this way CN/85 approved the Terms of Reference of the Performance Review Commission (PRC), the Safety Regulation Committee (SRC), the Civil/Military Standing Committee (CMIC) and the Audit Board. They also approved the ToRs for the Performance Review Unit (PRU) and the Safety Regulation Unit (SRU).

CN/85 also agreed the principle that the PRC should not be made up of representatives of each Member State but rather it should be limited to twelve members selected from nominations made by Member States. These would not be restricted to State officials but could include representatives of users' organisations and experts from industry but with the overriding qualification that they would act as independents. The independence and transparency of the PRC would be an early and continuing hallmark of its own performance.

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<sup>1</sup> WP/CN/85/10

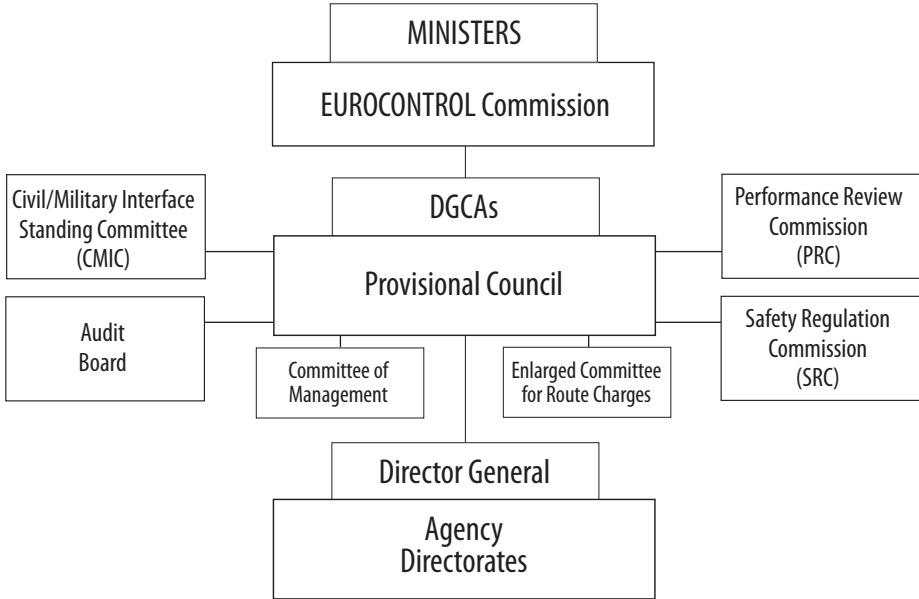
In the matter of safety the considerations were rather different from those of performance and the Permanent Commission agreed that representation on the SRC should be on a national level.

The Permanent Commission also set down the conditions for success for the PRU and the SRU: they should have an appropriate level of independence within the Agency while establishing effective working relationships with the rest of the Agency and other parties.

The new responsibilities accorded to the Director General were also approved, thus marking the end of co-management of the Agency.

As a result, the organisational, decision-making and decision-preparation structure shown below was established.

### The Organisation's Institutional Structure



Through these new arrangements the Organisation would now be able to more clearly and quickly focus on the major elements of performance, safety and civil-military coordination which had been growing in importance and merited more concentrated effort and more direct expert support.

## **Commitment - EATCHIP and ATM 2000+ Strategy**

CN/85, in considering the progress reports on EATCHIP and the development of the ATM2000+ Strategy, also invited the Agency to look into the lessons learned from the implementation of EATCHIP projects and to examine ways and means of securing, in future, the commitment of the States and airspace users to agreed programmes and implementation dates. Commitment therefore would be a key word in the Terms of Reference of the Director General's consultation groups as they were set up.

The Agency was also asked to continue its work on the future European ATM Strategy for the period 2000+ in order to identify high-level objectives and ensure that Europe had a common ambition and roadmap for future ATM systems. The work would be a major contribution to the SESAR ATM Master Plan in the future.

## **The New Provisional Council Meets**

The Provisional Council held its first meeting on 30 January 1998 and Mr A.J. Goldman (United Kingdom) was appointed the first President of the Provisional Council<sup>2</sup>. In his inaugural remarks, Mr Goldman emphasised the need to maintain the momentum carefully built up over recent years which had culminated in the revised Convention.

Much of the meeting was spent on the procedural issues which would determine how effectively and efficiently the Provisional Council would work. Reflecting the new Organisation's more open processes the Provisional Council agreed that the organisations set out below should be allowed to participate, with observer status, in all or part of the meetings of the Provisional Council, the Committee of Management and the enlarged Committee for Route Charges:

- *ECAC Member States which were not EUROCONTROL Member States;*
- *European Commission, ECAC and ICAO;*
- *IATA, IACA, IAOPA, AEA, ERA, EBAA/IBAC;*
- *Airports Council International Europe;*
- *International organisations of ATM service providers.*

The Provisional Council noted the Terms of Reference of the Director General's consultation groups, particularly the references to the need for securing commitment. They also noted with satisfaction the work so far carried out in setting up PRC, SRC and CMIC.

## **The Requirement for a Regulatory Process**

This first meeting had an important discussion on the matter of regulatory powers. This arose in the discussion when Mr Philipp, Senior Director Operations and EATCHIP, introduced his paper on RVSM. The President considered that RVSM was one of the most significant developments in tackling airspace problems, and the commitment of both States and airspace users was of prime importance. Mr Philipp emphasised that in view of the substantial investment which aircraft operators would be called upon to pay for, it was essential for each State to prepare for national regulatory measures to ensure implementation as early as possible.

The Provisional Council noted that the Director General was preparing proposals on this key matter and reaffirmed the strong commitment made by the EUROCONTROL and ECAC Member States to the actions required to introduce RVSM in accordance with the agreed timescales.

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<sup>2</sup> A list of all Presidents of the Provisional Council from 1998 to date is at Annex 4

## **First Meetings of the Advisory Bodies**

The first meeting of the Performance Review Commission (PRC) was held on 18-19 May 1998, the Safety Regulation Committee (SRC) on 10 February 1998 and the Civil/Military Interface Standing Committee (CMIC) on 11 February 1998. Each of these would draw upon the substantial professional experience of the Agency's staff and the network of existing and new stakeholder consultation and working groups. These new bodies would provide an invaluable source of wider experience and would give the Provisional Council the unparalleled ability to take decisions based on a balance of the wide interests at play.

The momentum continued with the first reports to PC/5 in June 1999 by the PRC and SRC. These two had collaborated closely since safety was a key issue in the first PRC Report which covered the performance of European ATM in the calendar year 1998. The PRC's annual and specific area reports would demonstrate its independence, with EUROCONTROL itself and the European Commission's Single European Sky proposals being the subject of review and proposals for improvement. The SRC would follow the same path with its objectivity and expertise.

CMIC's developments are described in a separate section covering the entirety of the Organisation's civil-military activities.

## **The Provisional Council Improves Focus on Decision-Making**

At its 6th Session in November 1999 the Provisional Council, meeting in private session, approved the principle of appointing three Vice-Presidents, designated as the Provisional Council President's Bureau (PCPB). This was confirmed at its 7th Session on 13 April 2000 and exists today as the inner core of PC decision-making.

At its 10th Session, the Provisional Council adopted a set of objectives for the year 2001 which had been developed by the PC President's Bureau in order to form a working framework for the Provisional Council's business and thus shape its agendas.

Following the Provisional Council's adoption of a set of goals for the year 2001 - one of which was the future approval of a set of mid-term goals for the Provisional Council - the PC President's Bureau then drew up a set of draft objectives as a working framework for the Provisional Council's business over the medium term, which was agreed by the Provisional Council at its 12th Session.

Thereafter PC Objectives were established at the same time for the next year and for the next five-year period. Strategic objectives were particularly aimed at establishing strong working relationships with the European Commission, indicating the willingness of EUROCONTROL to recognise the arrival of the European Commission as the principal European ATM regulator. Papers to the Provisional Council would be required to indicate which of these objectives the paper's recommendation supported.

These objectives would also undergo a series of iterative development together with the Director General who required more targeted and measurable objectives in order to build the Agency's KPIs. Directors and senior managers were involved in this process.

These were then integrated with the Agency's internal top management processes and regular reports were thereafter made to the PC on the achievement of the short- and medium-term objectives.

## The Agency Acts to Support Early Implementation

### Director General Consultation Groups

After PC/1 the Director General moved to set up the new consultative groups dealing with each of the key areas of the Agency's activities. At the same time the EATCHIP working group structure was realigned towards the strategic objectives of the ATM2000+ Strategy. The Consultation Groups would advise the Director General and they were the key means by which the stakeholders could initiate proposals, consult both with the Agency and amongst themselves and provide fora where plans and actions would be better coordinated.

- *Advisory Financial Group (AFG)*
- *ATM/CNS Consultation Group (ACG)*
- *European Air Traffic Flow Management Group (EAG)*
- *Experimental Centre Consultation Group (ECCG)*
- *Training Consultation Group (TCG)*
- *European ATM Research and Development Programme Review Group*

The most generic of these was the ATM/CNS Consultancy Group (ACG). Its scope was the whole of EATCHIP, and this had been discussed with the EATCHIP Project Board, the Liaison Officers and the Study Group of Alternates. A key word in its ToRs would be "commitment".

*"To ensure public support and commitment of relevant stakeholders to draft proposals relating to all aspects of ATM Policy and Planning developed by the Agency for decision by the Provisional Council."*

### Involvement of the CEOs - Filling The Gap in the Institutional Structure

The revised Convention meant that the Provisional Council would be the key body overseeing EUROCONTROL's activities and preparing decisions for the Permanent Commission. The Agency's Director General had been given more freedom and authority and the role of the Committee of Management in co-managing the Agency had been taken out. As a result the Chief Executive Officers (CEOs) of the Air Navigation Service Providers (ANSPs) had lost their place at the table and the Director General was asked to make proposals to ensure that these key stakeholders were involved in EUROCONTROL's decision-making processes. This reflected the "dotted line" drawn in the institutional diagram included in ECAC's Institutional Strategy agreed at MATSE/5 (see Part 3).

The first contacts were made in late 1998 between Mr Yves Lambert and Mr Bill Semple, CEO of UKNATS, the informal coordinator of the ANSPs' CEOs. As a result a first exploratory CEO Conference met on 31 March 1999 to discuss their relationship with the Agency within the new institutional structure. From this there emerged a clear agreement to improve the involvement of ANS providers within the EUROCONTROL decision-making processes in order to achieve improved ANSP commitment to decisions adopted at the political level.

A DG/CEO Task Force was established to examine ways of achieving these aims on a more formal basis comprising the Directors General of EUROCONTROL, the Czech Air Navigation Services, and AENA, and the Chief Executive of UKNATS. This resulted in a proposal to set up a "Chief Executive Standing Conference" (CESC), a forum providing a partnership on strategic planning and implementation of plans and programmes. This was put to the second CEO Conference on 10 November 1999, when Terms of Reference were discussed and agreed to be put forward to the PC.

The 7th Session of the Provisional Council, meeting in April 2000, endorsed the establishment of the Chief Executive Standing Conference (CESC) without formally approving the ToRs. The CESC therefore held its first formal meeting as an official EUROCONTROL body on 13 June 2000. It examined a range of issues including the summer 2000 situation, short- and medium-term capacity enhancement, developments at the European Union and the question of the separation of regulatory and service-provision functions.

Shortly after this, Mr Bill Semple, CEO of UKNATS, was invited to the Agency's Management Day in July 2000. In his discussion with the managers he commented that "although EUROCONTROL consults widely, it is often at the technical expert level. Most of those do not have a business view: they could find the plan very good but you really need the opinion of the CEOs; they are the only ones who can tell you if it will work from a business point of view!"

However, these first ToRs of the CESC would not be easy to agree. Several times they were brought forward to the Provisional Council by the Director General on behalf of the CEOs. The definition of "involvement in decision-making" proved difficult for several Member States and it was not until PC/9 in November 2000 that discussions led to a consensus on the revised ToRs and these were approved by correspondence on 11 January 2001 with the European Commission invited as observer to the CESC.

The CESC continued to discuss its relationship to EUROCONTROL and the principles behind the service providers' role in the EUROCONTROL decision-making and consultation processes. The general mood among the CEOs was that they should be represented directly at the Provisional Council. However, when this subject was mooted at the Provisional Council there were some doubts expressed that this risked creating a parallel decision-making process with different competencies alongside the Council.

There followed significant redrafting efforts by the CESC and the Director General. As a result a major decision was taken by PC/13 on 11 April 2002 when it agreed to extend a standing invitation to the Chairman of the CESC to attend the meetings of the Provisional Council and present directly the views of the CESC.

The CEOs would now have a greater influence in the conduct of programmes, since they would be able to intervene at an earlier stage in the process. The question of the Agency's precise interaction with the CEOs was a complex one, and would demand further consideration and definition in the next years. The central issue would be the definition of "decision-making" in EUROCONTROL.

## **Agency Changes - EATCHIP Adapted to Manage EATMP**

In line with the decisions of MATSE/5 and anticipating MATSE/6 the EATCHIP directorates began working on their adaptation into the EATM directorates in early 1999. The changes were based on the role of the Agency as the ATM 2000+ Strategy Manager and the EATM Programme would be the means by which ATM2000+ would be achieved. Specific actions were taken to focus on the stakeholders' requirements and to manage the increasingly important lateral interfaces within the Agency.

On 15 February 1999 Director General Yves Lambert approved the new Organisation of the European Air Traffic Management Programme (EATMP) directorates:

- *a Principal EATMP Directorate consisting of the Senior Director and direct support staff - Mr Wolfgang Philipp*
- *A Directorate Infrastructure, ATC Systems and Support (DIS) - Mr Jan Van Doorn*
- *A Directorate Safety, Airspace, Airports and Information Services (DSA) - Mr George Paulson*

The Agency would be the programme manager for the forthcoming ATM 2000+ Strategy and as such it would need to translate the strategy into concrete action by developing a programme structure so that the links were clearer from strategy down to objectives. Much work would be done in the EATMP directorates to develop the necessary processes to achieve this.

### **Solving Core Area Problems - CHIEF**

The Director General did not just act on consultative or organisational processes. He also took direct action in response to issues such as the lack of core area capacity that had been highlighted in the second Report from the Performance Review Commission. Much effort has been directed by the Four States involved to address the problems, for example the implementation of improved route structures (ARNV3), more flexible sharing of airspace with the military and some airspace reorganisation and resectorisation.

However, the problems persisted and the EAG reported to the Director General that it had encouraged the ATS providers of Switzerland, together with France, Italy and Spain to pursue their efforts, with the help of EUROCONTROL, to explore all measures to improve the provision of ATC capacity in their very congested area.

Director General Yves Lambert proposed to establish a senior level operations task force comprising Director of ATM Operations (or equivalent) level from France, Italy, Spain and Switzerland. The Four States asked EUROCONTROL to lead and so the chairmanship was entrusted to Mr George Paulson, Director Safety, Airspace, Airports and Information Services.

At the first meeting cooperation was reported as "excellent, with all focussed on the capacity constraints and bottlenecks identified". Agency input was from several units, including CFMU, the EATMP planning office and the EATM simulations function. There was strong agreement that the target must be a plan for resolution of the problems. Thereafter a subgroup took on the specific task of developing an optimised airspace and route structure and enhanced civil-military interfaces for the area covered by the ACCs of Barcelona, Bordeaux, Geneva, Marseille, Milano, Padova, Roma and Zürich.

The subgroup closely examined traffic increases and specific traffic flows; reviewed weekday and weekend variations in traffic flows; examined the effectiveness of the use of existing capacity; develop an optimised airspace and route structure specific to the CHIEF area; proposed enhanced civil and military interfaces with a view to more efficient use of airspace; and considered the possibility of ATS delegation to adjacent centres, independent of national FIR borders. The outcome, after a year of hard work by all concerned, was a revised airspace structure that took the bottlenecks out of the network. This was implemented by the Directors of Operations and the CFMU, with the military requirements resulting in a greater application of the Flexible Use of Airspace (FUA) concept.

The key benefit here was that the Agency had shown that it could be a partner with the stakeholders in a pragmatic manner, marshalling the resources of the Agency itself to help them to arrive at decisions that they had perhaps been unable to achieve without an objective expert partner at the table.



# MATSE/6

## ATM2000+ STRATEGY

### Preparing the ATM 2000+ Strategy

#### **Provisional Council Reviews the Strategy**

At PC/3 in October 1998 Director General Yves Lambert presented his paper on "Development of the ATM 2000+ Strategy". This summarised all the efforts so far in the Project Board under the chairmanship of Mr Val Eggers to provide a strategy that would support the revised Convention.

The Mission of the Strategy was confirmed as:

*"For all phases of flight, to enable the safe, economic, expeditious and orderly flow of traffic, through the provision of ATM services which are adaptable and scaleable to the requirements of all users and areas of European airspace. The services shall accommodate demand, be globally inter-operable, operate to uniform principles, be environmentally sustainable and satisfy national security requirements."*

The aim was for air traffic planning and management to become coordinated over the entire European airspace, to create a seamless uniform, gate-to-gate oriented European ATM system. It would lay out an evolutionary road map of short-, medium- and long-term aims, which would shape air traffic management over the next 15 to 20 years.

The Strategy was performance-oriented and the strategic objectives covered the whole spectrum of ATM: safety, security, capacity, cost-effectiveness, environment, national security and defence requirements, uniformity, quality and human involvement and commitment.

Under the proposed ATM2000+ document, the road map of change in the period 2000-2005 would lead to improved airspace management (seen as providing the biggest gain in capacity), the optimisation of route structures, including further development of B-RNAV and PRNAV, reduced vertical separation minima (RVSM), new data processing systems, better ground movements control, enhanced ATM working practices, progressive involvement of airports in ATM planning processes, and free routings in the upper airspace.

Beyond 2005, ATM2000+ anticipated enhanced conflict prediction and trajectory planning supported by data-link communications, integrated arrivals and departure management, extended free routing airspace, better involvement of users in real-time decision-making to improve flexibility of operations, the optimised use of runways and CNS/ATM infrastructure, enhanced airport capacity in low visibility conditions, and gate-to-gate operations.

In the timeframe 2010-2015 and beyond, when Europe's ATM system was expected to be handling 12 million flights a year, the aim was a redistribution of roles and responsibilities between air and ground, gate-to-gate collaborative planning and conduct of flights, enhanced all-weather operations, and the introduction of autonomous aircraft operations, which would maximise freedom of movement.

Other initiatives of the strategy included cost reduction, airport capacity, the effect of air traffic on the environment and enhancing civil and military cooperation. Each of these, in their own right, would lead to substantial further developments and the Agency would respond to each.

The Director General's paper set out the new aspects of the Strategy which took it beyond EATCHIP and fully integrated the work of APATSI.

These were as follows:

- *"An ATM network" with the airspace users and the airports networked with the CFMU and the ATC Systems, an indispensable approach if maximum capacity of the available means was to be achieved;*
- *A gate-to-gate continuum for the management of ATM and use of the airspace of the ECAC States, not constrained by national boundaries;*
- *A consistent, high-quality management process with a systematic top-down approach, collaboration between all partners and transparent collaborative decision-making where interests were in conflict;*
- *Enhanced uniform safety standards, practices and safety regulations, compatible with ICAO safety objectives;*
- *A regulatory framework to provide effective and timely common rules governing ATM service application and provision by all States;*
- *Cost-effective, seamless ATM services tailored to users' requirements and tied to monitored performance targets;*
- *Cost reduction through improved operational efficiency and the optimising of the structure and organisation of service provision;*
- *Concurrent enhancement of air traffic control, airspace and airport capacity;*
- *Recognition of the importance of the environmental impact of aviation;*
- *Focus on delivering early and lasting ATM performance improvement.*

It is important to note here the new elements of the concept of the network, the need for gate-to-gate integrated planning, the environment and a regulatory framework to ensure application. The Director General would act quickly on each of these new elements.

The Director General's paper particularly stressed that "the success of the strategy will depend on the commitment of all stakeholders at all levels to loyally implement the changes agreed upon". The expectation of all involved for a better system, stressed Mr Yves Lambert, could only be fulfilled if the Strategy was implemented effectively and in good time.

The President expressed the Provisional Council's appreciation of the quality of the work achieved by the General Directorate and the efforts of Mr Val Eggers, Chairman of the Strategy Board.

### **CESC Support**

The ATM 2000+ Strategy was also discussed at the first CEO Conference on 31 March 1999 and had received the support of the ANSPs. It was recognised in the Conference's conclusions that the CEOs' ownership of the project was considered to be of the utmost importance for taking the requisite business decisions sufficiently promptly.

Mr Dieter Kaden, CEO of DFS, said at that meeting

*"From our point of view, the ATM 2000+ Strategy is a step into the right direction. We believe that this first approach must be further developed into a strategic programme. This includes, among others, a clearly structured scenario process, strategic guidelines, the development of options, a segmentation into sub-strategies and strategic controlling".*

## **Submission to the ECAC Ministers**

The work had involved a wide representation of States, ANSPs, airspace users, airports, supply industry, controllers, military plus the European Commission and the FAA. It had been as exacting as such a complex subject required.

Despite the wide range of interests and differing requirements of all these parties, Mr Val Eggens noted in his covering letter to the President of ECAC that “the proposal as now presented is supported by all members of the Board”. He noted that the call for a Strategy - not only by Ministers but across the spectrum of ATM stakeholders - had been met speedily and effectively.

“There is now an expectation” he wrote “especially amongst the airspace users, that the Strategy will be adopted and implemented without delay. Any failure to meet that expectation will undoubtedly generate strong criticism”. He then stressed that “the expected effects of applying the Strategy will be fulfilled only if it is implemented effectively and in good time; in view of the increasing gap between the demand and the available capacity, this means as soon as possible.”

IATA also commented at the time “It is essential that ECAC Ministers of Transport adopt the ATM 2000+ Strategy in full at MATSE/6; accelerate its provisions on airspace and rule-making; commit to implementing common design and management of European air-space, in particular by developing large upper air-space control areas covering complex cross-border areas; and commit to solutions that are cost-effective and which increase capacity, productivity and efficiency on a European scale.”

## **MATSE/ 6 - the Formal Launch of the Strategy**

On 28 January 2000, ten years after they had first launched their pan-European improvement programme for air traffic management, the Transport Ministers of the Member States of the European Civil Aviation Conference met in Brussels. This meeting marked the end of the ECAC Strategies for the Nineties, which had increased airspace capacity in Europe by 40% and had made progress towards the integration of European ATM, and formally launched the ATM 2000+ Strategy.

MATSE/6 was a success for EUROCONTROL. It was of symbolic significance that it was held in EUROCONTROL. Dr Kotaite (President of ICAO) and Madame de Palacio (the new Vice-President of the European Commission and Commissioner for Transport) were both present.

At that meeting Madame Loyola de Palacio also announced the European Commission’s intention to create a high-level group, combining both civil and military personnel, with the task of establishing a time plan and programme of work for the eventual realisation of a single European sky. She stressed that the completion of that task would require the help and expertise of EUROCONTROL .

The Chairman of the MATSE/6 meeting, Mr Leuenberger (Swiss Federal Counsellor for Transport), noted that the Conference had enabled ECAC to align their points of view with the European Commission with the aim avoiding duplications in their future work. The Ministers therefore welcomed Madame de Palacio’s announcement of the creation of a high-level group and stated that the outcome of the Transport Council’s subsequent decisions would be integrated by EUROCONTROL in its policies.

They invited EUROCONTROL, in cooperation with the European Community, to establish a proper mechanism to reinforce the implementation, by all the parties involved, of the collective decisions taken through EUROCONTROL. The Agency would be the programme manager for all of this.

### **Global Impact of ATM 2000+**

The global importance of what was happening in ATM in Europe was shown by the presence of Doctor Kotaite, the President of ICAO.

It is widely recognised that the Strategy and the related concept work were later a major input to the ICAO Global ATM concept adopted by the 11th ICAO Air Navigation Conference in 2003 and one of the ingredients in the preparation, under the auspices of IATA, of the Industry Road Map which then found its way into the ICAO CNS/ATM Global Plan.

The Strategy would be updated in 2003 to accommodate traffic demand up to 2020. Together with the converging analyses of industry and the European Commission and with the lessons learned from the difficulty of making change happen in ATM, it was one of the vectors that allowed the launching the SESAR Programme.

### **Increasing Complexity of the System**

It is worth noting at this stage that throughout this period the complexity of the European ATM network, airspace and infrastructure, increased markedly. The anticipated consolidation of ANSPs would not take place and although the number of ATCCs in EUROCONTROL's Member States would diminish somewhat<sup>3</sup> the expansion of the network coverage and the post-Soviet era in eastern Europe would see the establishment of new ATCCs as some countries sought to demonstrate their new-found freedoms. In 2002 there were 61 ATCCs operated by the 32 ANSPs participating in the PRC's ACE<sup>4</sup> analysis but by 2008 there would be 64 ATCCs in the European ANS system operated by the 36 ANSPs.

The separation of regulation and service provision through the corporatisation of ANSPs would bring unforeseen challenges. Not only would the ANSPs be at different levels of operational and technical capability but there would be significant differences between the Member States in their ability to regulate their ANSP. To this had to be added the growing weight of ATM and economic regulation required by the European Commission through the SES Regulations, the resulting Implementing Rules, the establishment of National Supervisory Authorities (NSAs) and the arrival of the European Aviation Safety Agency (EASA).

As a result the number of relationships between the Commission, as the highest-level regulator, and all the other players involved, expanded dramatically. This in turn produced severe resource challenges for the stakeholders, particularly for the airspace users as their representative associations tried to keep their level of involvement at a meaningful level. The complexity of the ATM network required that the plans for achievement be as clear as possible. However, this task was made more difficult by the nature of the system itself with many inter-relationships required between the programmes and projects if the strategic objectives were to be achieved. The complexity of EATCHIP was now almost simple in comparison to that of the gate-to-gate ATM 2000+ Strategy agreed at MATSE/6 in January 2000 and SESAR would add to this.

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<sup>3</sup> The following would close: Sundsvall in Sweden; Trondheim in Norway; Manchester in UK; Berlin & Dusseldorf in Germany

<sup>4</sup> PRC ATM Cost-Effectiveness (ACE) 2008 Benchmarking Report, June 2010

# Important Strategic Issues for EUROCONTROL

## Regulatory Framework, Separation of Functions, Working with the European Commission, Airspace Design

### **Concept of Regulation Becomes More Important**

The Early Implementation and the ATM 2000+ Strategy caused Director General Yves Lambert to bring forward several strategic initiatives. The outcomes would take some time to resolve but the results would lead to a substantially improved effectiveness of the Organisation and greatly assist the European Commission in the implementation of the Single European Sky.

“Regulation” as a practical concept underpinned each of these developments. The underlying principle behind each of these was that “regulation” was not a driver in itself. Instead it was an outcome of a tried and tested process of establishing real ATM requirements, exploring possible solutions, achieving agreement on a common solution and finally implementing it in a coordinated manner, with attendant and appropriate regulation, to achieve maximum network and stakeholder benefit.

Stakeholders needed to be aware what kind of regulatory regime would be required to support implementation and they would need to be involved in its development so that “regulation” was an outcome of this common effort. This was an area where EUROCONTROL’s Agency, throughout all of its life, had developed unrivalled experience in an increasingly complex integrated operating and technical environment. This would now need to be transferred to a more formal basis. These proposals had necessarily to take account of several factors which made the task of the Agency’s Director General very challenging indeed.

The first was the clear need for EUROCONTROL to have its own regulatory process to meet the requirements of the revised Convention, a priority for the Organisation and its Agency. This was the Director General’s main driver.

The second was the development by the European Commission of its Single Sky regulatory proposals which mirrored the same operating and technical challenges faced by EUROCONTROL.

The third was the need to ensure that the regulatory processes of EUROCONTROL and the European Commission were compatible and complementary. The two organisations had common ground and the Director General’s proposals would strive to build effective links between them.

The fourth factor, which had to be taken account of in all the above, was the fact that EUROCONTROL had members who were not members of the European Community and whose interests had to be protected.

The fifth was that EUROCONTROL had to coordinate its rule-making with other intergovernmental organisations, principally ICAO.

Finally there was the great difficulty of ensuring the contemporaneous development and agreement on key issues, given the differences in institutional and decision-making processes between EUROCONTROL and the European Community.

Although the Agency brought forward significant proposals in each of these areas the attitude of some Member States was often that because the same matters were being pursued by the European Commission’s High-Level Groups therefore the Agency should await these developments. In fact the preparatory development work instigated by the Director General was often used by the European Commission as part of their implementation plans so that the work on these initiatives was not lost.

## EUROCONTROL Regulatory Framework

### The Requirement

There was a clear requirement for a EUROCONTROL regulatory process in Article 1(f) of the revised Convention and this had also been highlighted by MATSE/6.

That this requirement was also urgent was demonstrated when, as described earlier, the third Provisional Council in November 1998 considered papers from the Senior Director Operations and EATCHIP on the major programmes of RVSM, ACAS and 8.33 kHz. These underlined the need for a means of ensuring commitment to implementation and the Provisional Council requested the Director General to submit proposals for setting up rule-making procedures for the planning and development of future European-wide ATM implementation programmes.

The result was a series of Provisional Council meetings to consider the proposals as they were developed.

### The Early Proposals - PC/5 and PC/6

At PC/5 and then at PC/6 (July and November 1999), the Director General outlined initial proposals for a regulatory process for the EUROCONTROL Organisation. This included the setting-up of a Regulatory Task Force to develop proposals for implementing a regulatory process, including the means for enforcing decisions taken by the EUROCONTROL decision-making bodies at national, European Community and EUROCONTROL level.

IATA supported the initiatives and fully agreed with the need to strive for direct applicability of technical regulations and decisions in Member States' national law. It supported the proposed consultation process which was comparable to the existing processes applied by FAA and JAA. It believed that the European Community's membership of EUROCONTROL and the transposition of EUROCONTROL regulations into Community law would greatly assist in the rapid implementation of such regulations.

The European Commission said that, on accession to EUROCONTROL, the European Community would take part in the EUROCONTROL Regulatory Process and would thus be committed to EUROCONTROL's objectives. It was essential that regulations and decisions adopted by EUROCONTROL were drawn up in accordance with agreed standards enabling them to be incorporated into Community Regulations without further amendment, as was currently the case with EUROCONTROL Standards.

### PC/7 -13 April 2000

This was an important session of the Provisional Council. The debate was a wide one and it was clear that the question encompassed issues such as:

- *the powers afforded by the revised Convention, particularly those of enforcement;*
- *the need to develop proposals compatible with the legislative requirements of the European Community (particularly co-decision making involving the European Parliament);*
- *the requirement for domestic, national legislation that rendered regulatory decisions by the members of the Provisional Council and Commission directly applicable in their national legal order.*

The proposals were in general welcomed by the Member States as necessary and timely. The UK in particular noted that if developing a sound enforcement tool meant further amending the revised Convention then this should be considered. However, several Member States pointed out that the issue of regulation was being addressed by the European Commission's High-Level Group and that no decisions should be taken until the High-Level Group had reported.

The European Commission itself welcomed the Task Force's report since it detailed the role of a regulator and linked it with the separation of EUROCONTROL's regulatory and service provision functions, an important issue being studied within the EC's High-Level Group. However, it found that there was still a lack of clarity in EUROCONTROL's decision-making process and the distinction between the consultation phase and the decision phase of a EUROCONTROL rule was still a matter for concern.

Finally, however, PC/7 made several important decisions which would allow EUROCONTROL and its Agency to move forward.

It agreed that a Regulatory Committee to advise the Commission should be set up and that this was consistent with the rule making provisions of the revised Convention. EUROCONTROL was seen as having both service provision and regulatory roles and an independent Regulatory Committee (RC) was seen as providing protection against the risk that conflicts of interest could occur between those two functions.

The Provisional Council considered that Member States could introduce domestic legislation to facilitate the implementation of regulatory decisions taken by EUROCONTROL. Full advantage should be taken, where appropriate, of the integration into European Community law of EUROCONTROL rules and regulatory decisions. Further mechanisms for cooperation in the preparation of the regulatory decision-making process should be developed in both EUROCONTROL and the European Community.

The Director General was invited to further develop and, where appropriate, implement the actions proposed in the report, and to report further to a later session.

## **The EUROCONTROL Regulatory Committee**

In November 2001, after much discussion including lengthy negotiations with the European Commission, the Provisional Council accepted the proposals of the Director General and recommended to the Commission that a Regulatory Committee (RC) should be set up. This was done by Decision No. 89.

The defined role of the RC was to advise the Permanent Commission through the Provisional Council on all matters related to the regulatory process, notably on the EUROCONTROL Regulatory Work Programme (RWP) and on draft rules. Mr Ole Asmussen, a former President of the Provisional Council, was the first chairman of the RC and the European Commission and CMIC were invited as observers.

The Director General was asked to take the necessary steps to ensure that the Regulatory Committee could start its activities without delay, and the Regulatory Unit was formally established as from 1 January 2002 under Mr Jean-Luc Garnier.

Much preparatory work was carried out by the Regulatory Unit and at their first meeting on 12-13 September 2002, the Members of the Regulatory Committee (RC) agreed the content of the first EUROCONTROL Regulatory Work Programme (RWP) which was approved by the Provisional Council in November 2002.

This was particularly aimed at supporting the implementation of the ATM 2000+ Strategy and of the Single European Sky. The Regulatory Committee also agreed to a request from the European Commission to expand its Work Programme in the key SES areas of economic regulation and Functional Airspace Blocks.

Over the period of its existence the RC notably supported the development of the main tools of the EUROCONTROL regulatory process. These were the EUROCONTROL Notices of Proposed Rule-Making (ENPRMs), Advanced ENPRMs, EUROCONTROL Regulatory and Advisory Framework (ERAF), and the Regulatory Work Programme. It initiated regulatory work in various technical areas (mainly air traffic flow management, interoperability aspects such as aeronautical data integrity, and data-link services) with the close support of the Regulatory Unit. Advanced ENPRMs were issued particularly on end-to-end integrity of aeronautical information and on ATFM, and were widely supported.

It is important to note that all these technical areas were subsequently the subject of SES mandates issued to EUROCONTROL.

### **Developing the EUROCONTROL Regulatory and Advisory Framework (ERAF)**

The Regulatory Committee and the Regulatory Unit set out to create a framework for ensuring the effective preparation of the necessary regulations, plus attendant rules and guidelines, with a hierarchy addressing the various levels of requirements from binding rules down to guidelines

The result was the EUROCONTROL Regulatory and Advisory Framework (ERAF) which was developed through extensive consultation with stakeholders, the European Commission and Agency directorates. The ERAF was designed to facilitate the development of EUROCONTROL regulatory material that took into account ICAO regulatory provisions, and which could be easily transposed into the legal order of EUROCONTROL Contracting Parties. This would include, where appropriate, the legislative requirements of the Single European Sky (SES).

Through the Regulatory Committee and Unit EUROCONTROL would also have a very influential role in the organisation and management of regulatory workshops across Europe so that all involved, States and stakeholders, would have a voice in the development of ATM regulation and ensure consistency between EUROCONTROL, the European Commission and State processes. .

### **EUROCONTROL Notice of Proposed Rule-Making (ENPRM)**

Before the establishment of the Regulatory Unit the Agency had seen the need for a formal process to forewarn stakeholders of impending rules. This was also suggested at the same time by IATA based on its experience in the United States. PC/7 had received the first proposals in April 2000 on what would become the ENPRM and indeed IATA assisted in the drafting of this paper.

The proposal had been designed to anticipate the outcome of parallel developments such as the separation of regulatory and service provision activities and the identification of interfaces with key stakeholders such as ICAO and the JAA. Contacts had also been made with ICAO in Paris and in Montreal.



The Provisional Council therefore agreed that EUROCONTROL's regulatory functions would be strengthened by the ENPRM process and that work should continue on its development. This was taken on with the establishment of the Regulatory Unit. The ENPRM would go on to form an essential part of the European Commission's Implementing Rule process where the Agency's tried and tested experience was invaluable to the success of the process.

### **Dissolution of the Regulatory Committee**

With the development of the SES regulatory framework, however, the requirement for the Regulatory Committee was reviewed by the RC itself.

The RC, whilst acknowledging that Article 2.1 of the revised Convention included clear provisions related notably to safety regulation and regulation in the area of route charges, found nevertheless that there would be very little room for specific EUROCONTROL regulatory initiatives outside the SES. Accordingly the Regulatory Committee, on its own proposal, was dissolved with effect from 1 January 2006 by Decision No. 106 of the EUROCONTROL Commission.

However, the RC found that the process used by EUROCONTROL for developing draft SES implementing rules represented existing best practice and should be retained as a critical component of the SES arrangements.

As a result the Regulatory Unit continued under the Director General and was refocused on its support to development of SES material. This was an easy transition bearing in mind that the development of EUROCONTROL's processes had always been aimed at compatibility with the emerging European Commission requirements. The RU was later reborn as the SES Framework Development Unit in the Cooperative Network Design Directorate set up in January 2009.

## **Separation of Regulation and Service Provision in EUROCONTROL**

### **Background**

The question of the separation of the regulatory and service provision functions was included in the ECAC Institutional Strategy and it had been included in the revised Convention.

The European Commission had raised this question In March 1996 in its White Paper, "Freeing Europe's Airspace".<sup>5</sup>

Developments here would be initiated by the Agency's Director General and then successively further developed by two task forces of the Provisional Council. The result would be agreement on the principle of functional and organisational separation within the EUROCONTROL Organisation within the terms of the revised Convention. This separation would be implemented and would be effective in achieving the objectives of the Organisation.

### **Director General's First Proposals - November 1998**

At PC/3 in November 1998 the Director General presented his paper<sup>6</sup> on the modification of the structure of the whole Agency to take account of any potential conflicts between regulatory and service provision functions.

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<sup>5</sup> COM(96) 57 Final, 06 03 1996

<sup>6</sup> PC/98/3/2

It was a comprehensive document covering the whole process of how regulation evolved and how different parts of the Agency interacted both internally and externally to develop rules and standards, including notification to stakeholders of rule-making.

The Director General's paper argued that a particular strength of the EUROCONTROL Organisation was that under one roof it provided an ATM focus and core of expertise across a broad band of activities which embraced elements of regulation, service provision and ATM coordination.

An internal analysis had been undertaken by the Agency to categorise its activities between regulatory and service provision functions. The study showed that EATCHIP directorates, the CFMU, CRCO, the Brétigny Experimental Centre, the Luxembourg Institute and the Maastricht UAC were in general exercising service provision functions but also rule-making activities in support of regulatory functions. The Director General highlighted the transparency of the Agency's processes, e.g. in the CFMU and CRCO where support to regulation as well as service provision were linked in a synergistic manner with the close involvement of stakeholders.

It was doubtful, said the Director General, whether it would be possible - or indeed advisable - to separate their activities along a clear-cut line between regulation and service provisions. This could also introduce the risk of destroying the synergies that now existed.

There were three areas of activity where potential conflicts of interest between regulatory and service provision functions could arise and in these areas the Director General had decided to modify the internal structure to establish the independence of the following specific units:

- *Performance review unit (PRU)*
- *Safety regulation unit (SRU)*
- *Agency internal Safety Regulation and Assurance Unit (SRAU)*

The Director General had raised many key issues and his comprehensive paper had covered several important elements highlighting that "separation" was not an easy issue. He set out clear definitions of Regulation and Service Provision, and the related activities of validation, verification and certification.

The Provisional Council, taking into account the wide scope of the work done and the breadth of the Director General's proposals, agreed to defer final consideration of his proposals to a next session.

### **7th Provisional Council - 13 April 2000**

1999 had proved a demanding year and therefore it was not until its 7th meeting that the Provisional Council received further papers on this key issue.

The Director General's papers<sup>7</sup> again constituted a full description of the issues affecting the whole Organisation (in the meantime the European Commission had sent its Communication to the European Parliament and set up its High-Level Group).

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<sup>7</sup> PC/00/7/2, PC/00/7/19

Mr Yves Lambert stated that it had seemed appropriate to more fully define the regulatory and service provision functions and to identify the respective roles in this context of the Organisation and the Agency before making some recommendations on possible separation models.

Regulation of ATM was a complex activity, he noted, the objective of which was to find the optimal balance between the level of requirements formally imposed upon regulated parties and the freedom left to them to operate their services. This required proper involvement of both sides, the regulator and the regulated. The latter brought his knowledge of the field and of the day-to-day constraints of service provision, and provided, in doing so, a direct support to the regulatory function. The former represented public interest but needed appropriate inside understanding of the matters to be regulated, otherwise he would be unable to properly handle the dialogue with regulated parties.

Basic roles of regulators and service providers needed to be clear but it must be acknowledged that part of the activities undertaken by the service provision function should be considered as directly supporting the regulatory function. Experience in those States with mature regulatory regimes in ATM supported this type of analysis.

The Provisional Council found that the matters raised were serious ones and worthy of further in-depth study. It agreed to set up a Task Force of the Council - the Service Provision and Regulatory Task Force (SPARF) - to take the work forward on the basis of the discussion. Mr M. Dambæk (DANS of Denmark) would be its chairman and the European Commission was invited to provide an observer.

### **Service Provision and Regulatory Task Force (SPARF)**

The SPARF made its first substantive report<sup>8</sup> to PC/9 in November 2000. It had identified and classified of all EUROCONTROL activities based on the Director General's first findings. It had consulted with the Chief Executives' Standing Conference (CESC/3) which had noted its work "with appreciation".

The SPARF delivered its final and comprehensive report<sup>9</sup> to PC/10 in April 2001. It had, said Mr Dambæk, taken into account the provisions of the revised Convention, the positions expressed by the various stakeholders, the papers submitted at the Provisional Council's 7th Session on the issue, as well as the report from the European Commission's High-Level Group published in November 2000.

It contained a list of all the EUROCONTROL activities and the result was a classification of EUROCONTROL's activities which took further the Director General's the concept of "support to regulation" and "support to service provision" functions, and described more fully the regulation and service provision functions themselves.

The Task Force was convinced that, in order to achieve better efficiency in the short term of the Pan-European ATM system, separation of service provision and regulatory functions should be introduced in the shortest possible time. Institutional separation would take time to deliver and could not be achieved within the revised Convention with the possible exception of Maastricht UAC and CEATS. In the latter instances other means might be available, for example under Article 2.5 of the revised Convention<sup>10</sup>.

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<sup>8</sup> (PC/00/9/14)

<sup>9</sup> PC/01/10/11

<sup>10</sup> "In order to facilitate the execution of its tasks, the Organisation may, by decision of the General Assembly, create undertakings governed by specific articles of association governed either by public international law or by the national law of a Contracting Party, or acquire majority holdings in such undertakings."

The Task Force believed that, as a first step, the most pragmatic solution was to adopt a combination of functional and organisational separation, similar to the structure already created and implemented for Safety Regulation in EUROCONTROL.

Further, the Task Force believed that implementing separation of service provision and regulatory functions in EUROCONTROL in this manner provided a way to avoid conflicts of interest and enhance transparency and efficiency. The proposals were also aimed at serving all EUROCONTROL States while the regulatory structure should be based on the existing SRC/SRU model, which had proven its viability, independence and efficiency.

The proposals created significant debate.

Germany broadly supported the report's recommendations, but pointed out that Article 2.5 of the revised Convention could be implemented only if the national legal systems of the States concerned allowed it. In the case of Germany and the provision of ATC services, this was questionable. Germany wished it to be formally recorded that it viewed the issue of separation as one which had to be considered as a means for improving effectiveness, not simply for its own sake.

AEA and IATA supported the report's recommendations bearing in mind the need for pragmatism and short-term improvements, and emphasised the need to fully involve the airlines as customers of the ATM system.

There was general support for the pragmatic proposals in the report and Member States stressed the need to ensure compatibility between the proposals and the provisions of the revised Convention. They also supported the view that the solutions proposed needed to satisfy the needs of all 30 Member States, not just the 15 Member States of the European Community.

The European Commission paid tribute to the work of the Task Force on such a complex issue involving so many divergent views. It observed, however, that the Task Force had only addressed the issue of rule making, leaving aside the important issue of enforcement, and felt this could be explored further. It was looking forward to working more fully with the Agency on the Single European Sky initiative.

The Director General described the importance of launching pragmatic and concrete actions given the pressing requirement evidenced from all major players. In particular, with reference to the importance of the Single European Sky initiative, and within his own Single Pan-European Sky (SPES) work, the Agency and the European Commission were working to draft a Memorandum of Cooperation in order to better achieve the necessary synergies.

Further discussion focussed on the compatibility of the revised Convention's legal framework with the idea of stating institutional separation as the ultimate objective. Germany pointed out again that separation had to be within the legal framework of the revised Convention which was the existing legal authority. France supported this view, adding that the concept of institutional separation went even beyond the findings of the European Commission's High-Level Group.

The Provisional Council therefore decided that for the time being functional separation within EUROCONTROL was the most feasible while institutional separation was a longer term objective "depending on legal, political and technical evolution in Europe". It requested the SPARF, henceforth composed of special representatives of the EUROCONTROL Member States, to make concrete proposals to the 11th Session, for early implementation of the above.

## High-Level Separation Task Force (HLSTF)

As a result the EUROCONTROL High-Level Separation Task Force was set up. The European Commission was again invited to provide an observer as for SPARE.

The HLSTF provided a comprehensive document to PC/11 on 12 July 2001. Its objective was the implementation of separation *"through a combination of a functional and organisational/structural reform"* within EUROCONTROL.

It proposed the identification of a regulatory function separate from service provision and support functions in EUROCONTROL that could be put into effect without further delay while respecting the provisions of the revised Convention.

The HLSTF noted that the Director General had already taken significant steps on many of the issues that had been discussed in order to improve transparency and implement functional and organisational separation

For example the core ATM directorates within the Agency (EATMP, CFMU, CRCO, IANS, EEC, Maastricht UAC) had been designated as Strategic Business Units and each would elaborate a specific Business Plan aimed at increasing transparency, visibility and accountability across their functions.

In describing these developments, the HLSTF noted, importantly, that there were no legal impediments in the revised Convention for functional separation; that proposals for organisational separation would have to respect the conditions and provisions of the revised Convention; that institutional separation in the regulatory field was not possible under the revised Convention; and that Article 2.5 might be used for a more visible separation of the "pure" service provision activities.

The HLSTF then set down the Regulatory objectives and activities for EUROCONTROL. These were to:

- a. *establish and manage a rule development and consultation process;*
- b. *initiate and manage the development (using the ENPRM process whenever required) of regulations in the CNS/ATM area concerning airspace, ATFM, performance, economic, environment and interoperability matters;*
- c. *propose objectives for the regulation of CNS/ATM;*
- d. *develop on a yearly basis a regulatory work programme;*
- e. *ensure proper involvement of stakeholders in the development of regulations;*
- f. *ensure close co-ordination with other organisations having a regulatory function such as ICAO, EC and JAA, in order to achieve consistency of regulatory requirements;*
- g. *establish procedures, where necessary, for the uniform national application of regulatory requirements for adoption by the Council and General Assembly;*
- h. *review compliance with regulations, and advice on corrective measures as appropriate;*
- i. *monitor and enforce EUROCONTROL rules by Contracting Parties;*
- j. *encourage the development, where appropriate, of voluntary practices, specifications or guidelines within the overall EUROCONTROL Regulatory Framework; and*
- k. *integrate, where appropriate, in the EUROCONTROL regulatory process any relevant material developed by other recognised standardisation bodies.*

This was an important set of recommendations, the effect of which would be to give EUROCONTROL and its Agency extensive authority in rule-making. The High-Level Task Force noted that the well-established role of the ICAO Air Navigation Commission performed a number of functions similar to those proposed for the EUROCONTROL Regulatory Committee.

The proposed structure therefore contained a Regulatory Committee organisationally/structurally separated from other bodies of the Organisation and the Agency, and a Regulatory Unit functionally separated from the other activities of the Agency. As with the SRC/SRU the HLSTF was satisfied that this would increase transparency, clarify accountabilities and avoid the risk of conflict of interest.

The Task Force was aware of the Provisional Council's statement "that institutional separation should be borne in mind as the long-term goal, depending on legal, political and technical evolution in Europe". For this reason, the Task Force's recommendations were aimed at being adaptable to future developments. Particular attention had been given to the "Single European Sky" initiative, and great care was taken that no measure was proposed which could hamper the development of future relations with the European Commission.

### **Decision of PC/11**

The HLSTF Report was presented to the 11th meeting. The President confirmed that, bearing in mind its significance for the Organisation, it had been debated and approved in restricted Session.

The Provisional Council accepted the principles of separation that had been successively put forward by the Director General, the SPARF and finally the HLSTF. It agreed to adopt, as the most appropriate framework for rapid implementation, the model proposed by the HLSTF.

It requested the Director General to take the appropriate measures for the creation of the proposed new structure based on the indications given in the Report. This structure and process should be kept under review and the Director General should report to the Provisional Council on a regular basis.

## **Working with the European Commission - Single Pan-European Sky (SPES)**

Director General Yves Lambert was fully aware of the desirability of working in partnership with the European Commission and as noted earlier he had been asked by PC/7 to progress this matter. He therefore presented a paper to PC/9<sup>11</sup> in October 2000 which set out the principal elements in an attempt to "join forces". The working paper, he noted, was complementary to the forthcoming report from the European Commission's High-Level Group. The proposal was to join forces and stimulate synergies in order to implement a "Single Pan-European Sky" (SPES) by setting up a joint regulatory mechanism between EUROCONTROL and the European Community.

Germany, Italy and Denmark welcomed the proposal, which provided a good basis for future debate. They felt that this work should now be pursued together with the European Commission in order to elaborate a joint approach. Switzerland agreed and added that the last version of the High-Level Group Report was much closer to the Agency's proposals than the previous ones, which boded well for future collaboration.

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<sup>11</sup> PC/00/9/9 "Single Pan-European Sky: EC/EUROCONTROL Cooperation"

The European Commission also welcomed this timely and useful contribution. However, it felt that “it portrayed an over-simplified view of the European Community’s decision-making processes; and moreover was based on the assumption that the High-Level Group Report and the ATM 2000+ Strategy were completely in harmony”. This was not the case and the European Commission “stressed that there could only be collaboration between EUROCONTROL and the European Community in areas where political goals were similar”. It nevertheless confirmed its readiness to work together with EUROCONTROL to take matters further and to work out a joint proposal.

Once again in the Provisional Council’s deliberations it was felt that no real progress could be made until the ratification of the revised Convention and also of the Accession Protocol of the European Community, although there was support for the general objectives of the proposal.

Accordingly the Provisional Council agreed that the Agency and the European Commission should work together on the elaboration of this document to come to a collaborative process to develop regulations; and again confirmed the need for EUROCONTROL Member States to accelerate the ratification process for the revised Convention, as well as the need for completion and signature of the EC Accession Protocol.

The initiative of the Director General would be subsumed into the discussions with the European Commission on the Memorandum of Cooperation (these are described later).

## Airspace Design

The PRC, in its PRR2 Report, had identified the need for improved airspace design and had proposed a form of Airspace Commission to provide policy and leadership with a European rather than a national face. The Provisional Council, in its 6th session, requested the Director General to follow this with more detailed proposals.

At PC/7 in April 2000 Mr Yves Lambert presented his paper<sup>12</sup> on Airspace Regulation, Design and Management which set out the necessary regulatory inter-relationships at European and national level. The European Commission’s High-Level Group had recognised the same requirements for an airspace regulator and had included them at various places in its final recommendations.

The Director General’s paper proposed several models for a body to undertake this work. It also said that EUROCONTROL’s Regulatory Committee should be an important influence in developing the airspace regulatory roadmap. This which would integrate the political and technical directions of the Airspace Strategy for the ECAC States and the EC Single Sky regulations, and would facilitate the provision of cross-border ATM service provision. This would be linked in turn to the Dynamic Management of Airspace Programme demonstrating the integrated nature of EUROCONTROL’s work.

The Provisional Council felt that this again was a weighty matter, in particular having regard to the activities being carried out in the European Commission’s High-Level Group, and that more consultation was required. Therefore at PC/8 in July 2000 a further Director General paper<sup>13</sup> proposed a pan-European regulatory authority, a model based strongly on the subsidiarity principle linking regulatory processes at the European, Member State and ANSP levels.

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<sup>12</sup> PC/00/7/3

<sup>13</sup> PC/00/8/13

Discussions on this showed strong support from the airspace users but mixed opinions amongst the Member States, and again the European Commission's High-Level Group work was cited as a factor. Nevertheless, the discussion showed a general underlying support for taking further airspace regulation, design and management using a pan-European approach at the highest level. The Director General was asked to continue development of the item and report back but in the event the work would be subsumed in that of the High-Level Group and the proposals therein for airspace regulation.

However, all this preparatory work would not be lost and indeed would be indispensable when the European Commission turned to EUROCONTROL to take this matter under mandate process. Action would be initiated on a number of draft Regulations related to airspace where the Agency's consultation processes and expertise, such as the Air Navigation Team, would be invaluable. The mandates were on the establishment of a European Upper Flight Information Region (EUIR); airspace classification in the lower airspace; and common principles for route and sector design.



# Performance, Safety, Civil-Military Coordination

These were the three principal strategic issues on which the revised Convention had focussed and where high-level advice was required to guide the Organisation. The following pages describe how these were developed.

# Performance Review Commission

Mr Victor Veres, DGCA of Portugal, was the first PRC Chairman (1998-2000). He was succeeded by Mr Philip Hogge (2001-2002), Mr Keith Williams (2003-2005 and 2005-2007), Mr Jean-François Vivier (2007-2009) and Mr John Arcsott (2009 to date). Mr Xavier Fron was appointed Head of the Performance Review Unit, a post he still holds.

## The Work of the PRC

The ECAC Ministers and the EUROCONTROL Member States had made it clear that the future ATM system had to be one based on performance as the lead criterion of success. The establishment of the PRC would prove to be the most important decision taken in order to achieve this since it would not only monitor performance but also propose targets for improvement. It would not only highlight particular areas of concern but would also describe the network context so that all concerned could understand the wider consequences of non-implementation or delay of key programmes.

Its first report set the scene for all of this. PRR1 was published in June 1999 and the PRC noted that it had been possible to agree ten primary Key Performance Areas (KPA's) and to use three of them, namely Safety, Delay and Cost-effectiveness, in the analyses in the Report.

PRR1 was a ground-breaking first and it is worth dwelling on it. It made it clear that the purpose of Performance Review Reports was neither to praise nor to criticise but to help everyone involved in effectively improving future ATM performance. The role of the PRC as an independent and expert "mirror" rather than a regulatory policeman was therefore established.

The PRC's work went beyond what had been done before by applying deeper analysis to publicly available data and putting the results into a wider context in a public arena. For example on delays it pointed out that reactionary delays, i.e. late departure due to late arrivals, were the largest single category (37.7%) of departure delay causes, figures which were available from the Central Office for Delay Analysis. The PRC stressed that the lack of information in key areas, particularly safety and cost, had prevented deeper analysis. It identified the provision of more and better information as a key objective for improving performance of the network as a whole.

PRR1 also showed that although individual capacity targets set by the EUROCONTROL Organisation had been met or exceeded in some centres nevertheless there had been no measurable increase in overall capacity. This was primarily due to a lack of ATC capacity in a small number of sectors: fifteen sectors (3%) caused about 45% of the ATFM delays during summer 1998. Of these fifteen, only two were in lower airspace (below FL 245). This showed the requirement for a network approach to complement individual target-setting.

PRR1 described the general lack of consistent Europe-wide information on ATM costs, the use of factors of production (human resources, assets) and plans, which had prevented the PRC from making an in-depth analysis. Where data was available, there were large variations in the selected cost-effectiveness performance indicators among the States.

The cooperation between PRC and SRC was evident when the PRC noted in PRR1 that the SRC had already identified the lack of consistency and availability of safety data at the European level. This had prevented meaningful conclusions being drawn on the performance of ATM safety across the ECAC area. PRC Reports would continue to support the work of the SRC by highlighting the need for States to implement SRC recommendations and report on progress in this key issue.

The Report called for specific actions to be taken and outlined a methodology for improving the monitoring of performance and developing solutions. Later reports would follow up in each of these key areas. In particular the success of the PRC would be measured by the establishment of sound information on which system and stakeholder performance would be more easily identified. The Agency would play a major role in supporting all of this.

The PRC then produced their next Review Report, for 1998, which indicated the likelihood of increasing delays in 1999. This was followed by the PRC Special Performance Review Report for 1999 (PRR2), published after wide consultation in November 1999, which identified the wider structural problems behind the increasing delays. It made specific proposals to improve ATFM and airspace redesign, and to solve bottlenecks identified in PRR2 (particularly in Switzerland, Italy, Spain and France - the "CHIEF" region). PRR2 also set the scene for improved information across Europe by asking the Provisional Council to require ANSPs to publish five-year capacity plans annually together with evidence that these plans have been consulted with airspace users.

EUROCONTROL itself, in line with the independent role of the PRC, was criticised. PRR2 noted that "it is important to recognise a discrepancy between MATSE decisions and their implementation by the EUROCONTROL Organisation. In the planning of ARN-V3<sup>14</sup>, the present international boundaries were accepted as given, and the new route networks and airspace configurations were largely based on improvements within national airspace. Improvements were certainly made, but the EUROCONTROL Organisation did not fully exploit opportunities offered by a more radical redesign of European airspace".

Existing European airspace design processes, said the PRC, had to be reinforced, and freed from national considerations, at least in upper airspace where the capacity shortfall was highest. Such airspace design processes should ensure that a proper balance is maintained in satisfying the needs of air transport, military and general aviation users. One way forward would be to create an Airspace Policy Commission, with the objective to make best use of European airspace and ATM resources and to offer strong, transparent and independent advice to the Provisional Council on airspace matters.

The PRC therefore recommended that the EUROCONTROL Organisation should take action urgently to implement the Ministerial decision to strengthen airspace design processes (ECAC Institutional Strategy, June 1997, appendix 3).

## US/Europe Efficiency Comparisons

In its two Reports, PRR4 and PRR6, the PRC carried out a comparison of ATM performance between Europe and the United States of America. The first tranche of that work in PRR4, published in April 2001 covering the year 2000, showed clearly that, on a continental scale, the USA was twice as efficient as Europe. Faced with such a strong finding the Provisional Council asked for further studies. Mr Philip Hogge, then Chairman of the PRC, was pleased for the PRC to do this, and the work was carried out in 2002 and reported in PRR6 in July 2003. The findings confirmed in even more detail what had already been said in PRR4.

Mr Hogge considers this as one of the most important pieces of work that the PRC did. "First, it proved beyond any shadow of doubt that there were huge gains to be made if European ATM really could be made to work as a cohesive network across the whole continent, and second, it helped to develop the benchmarking studies that matured into the ACE reports."

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<sup>14</sup> ATM Route Network Version 3

## Fragmentation in ATM/CNS

In 2006 the complex subject of fragmentation in ATM/CNS clearly needed further detailed analysis. Therefore, the PRC commissioned a report "The impact of fragmentation in European ATM/CNS", which was presented to the EUROCONTROL Provisional Council in April 2006. Mr Keith Williams, then PRC Chairman, explained that the main conclusions were that fragmentation in European en-route ATM/CNS costs up to € 1.4 billion annually. The main causes of these costs were fragmentation of Area Control Centres (ACCs) and of the different ATM systems as well as the support costs associated with them.

The results of this Report, which drew extensively on the experience of EUROCONTROL Agency staff and bilateral discussions with a number of ANSPs and user representatives plus three Stakeholder Consultation meetings, would be used by the European Commission's later work that year on reducing fragmentation and would lead towards the Single European Sky vision.

Together with PRR5, this work also pointed towards the requirement for an agreed European Master Plan.

## The First Chairman's Views

In 2002 Mr Veres set out how the PRC had developed its work processes, a model of independence and expertise.

*"PRC Members do not represent States, national or international organisations. They act independently of States, the Provisional Council, the EUROCONTROL Agency, ATM Stakeholders or any interested party. As a collegial body, the Commission operates by consensus amongst its members. PRC views are the responsibility of the Commission, not of any one of its members. All members are equally committed to the work of the Commission. The Chairman steers and co-ordinates the work of the PRC and the Secretariat and, in close co-operation with the Vice-Chairman and the Head of the Performance Review Unit, follows up the regular and timely implementation of the PRC Work Programme, ensures the working liaison of the PRC with the PRU and the EUROCONTROL Agency between PRC meetings and represents the Commission in its external relations with States, ATM Stakeholders or any other interested party."*

Mr Veres also described the context within which the PRC worked, underlining the importance of ratification of the revised Convention for the optimal implementation of the PRC's recommendations.

*"Until the implementation and enforcement mechanisms foreseen in the new EUROCONTROL Convention are in place, concrete action to ensure the required performance of the European ATM system will depend on their acceptance by the individual States concerned. It will take some time until all States are willing to recognise that PRC contributions are intended to be a useful tool to help them in contributing to the improvement of European ATM System performance."*

These insightful remarks hold true today.

## Impact of the PRC and PRU

High-level key performance indicators would be agreed that would be adopted across the range of the Organisation's business and would later form the basis for SESAR's work in this area. The expert and objective analyses carried out by the PRU would support the PRC's work in identifying the critical areas for improvement and making firm, often tough, recommendations for corrective action. For example it would measure and stimulate actions to improve the maturity of the European Safety Management System being developed by SRC, SRU and the Agency's Safety Group, an invaluable support in gaining commitment to change.

Above all the PRC and PRU would be trusted, a reflection of EUROCONTROL's objectivity and professionalism. At PC/26 in November 2006 the United Kingdom representative stated, *em. con.*, that "the PRC had always fairly and independently reported both on good or bad news in ATM". In relation to its 2008 study on the effectiveness of Functional Airspace Blocks (FABs)<sup>15</sup> the Chairman of the 27th Single Sky Committee thanked the PRC for their presentation and "congratulated them for the quality of the work performed". He indicated that "this report and its conclusions would be precious to the Commission for the development of the SES II package" (final minutes, Single Sky Committee, 30.9.08).

Such would be the success of the PRC that it would be seen as a model for the "Performance Review Board", the body considered essential for ensuring the success of the Single European Sky initiatives of the European Commission after the development of the second package of legislative measures in 2008 (the SES II Package).

Director General David McMillan spoke at the PRC's 10th anniversary dinner on 16 May 2008. He recalled that the ECAC Institutional Strategy adopted in 1997 included a performance-based approach, which was institutionalised through the creation of the Performance Review Commission. This was now established practice, he noted, but it was a revolution at the time and the foresight of our predecessors should be acknowledged.

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<sup>15</sup> "Evaluation of FAB initiatives and their contribution to performance improvements"

## Safety Regulation Commission

Mr Arne Axelsson, Sweden, was appointed the first Chairman of the SRC (1998-2000). He would be succeeded by Mr Philip Griffith, UK (2001-2003); Mr Martin Radosch, Germany (2003-2005); Mr Ron Elder, UK (2005-2007); and Mr Jos Wilbrink, Netherlands (2008 to date, ending 2010). Mr Peter Statsny was appointed Head of the SRU and he would be succeeded by Mr Juan Vazquez Sanz.

The establishment of a pan-European Safety Regulatory System (SRS) was challenging because of the changes that had taken place through separation at national level. It would present as many issues as the establishment of a performance-based system. An unfortunate common feature with the work of the PRC would be the lack of meaningful information and the requirement to build effective and comparable national systems from which both national and European decisions could be formulated. As in the case of the PRC and PRU, this would require confidence in the expertise and objectivity of EUROCONTROL's Safety Regulation Committee, and the supporting Safety Regulation Unit, to be established and maintained.

There was a particular issue in the case of safety. The corporatisation of providers meant that responsibilities for safety regulation often had to be clarified while the liberalisation of air transport frequently meant that the ownership of carriers (or even the actual airline used by a passenger on the day of travel) might not be clear. In addition, although ATM only accounted for about 5% of accidents, reliable indicators did not exist, hence the need for an SRS. There was also, in some areas, little distinction between the two elements of the SRS, i.e. safety regulation and safety management, and even an understanding of the distinction.

The SRC was therefore given the first full European brief to develop safety regulation including the monitoring and certification of ATM systems and procedures. Like the PRC it would be composed of senior industry expert figures whose major product would be the EUROCONTROL Safety Regulation Requirements (ESARRs). The objective here would be to establish safety regulatory objectives and requirements for European ATM and to ensure their effectiveness through the measurement of safety performance. The fact that the ESARRs would be transposed into European Community law would underline how important this aspect of EUROCONTROL's work would become.

The SRC also acted quickly. In June 1999 the SRC reported to the PC<sup>16</sup> that between November 1998 and March 1999, it had undertaken a complete review of data at the ECAC level, either made available by States (in conjunction with the previous work of the Agency's Safety Group), or published in national or industry sources. The results of this review had been used to provide the necessary input to the first Performance Review Report referred to earlier.

The SRC's review showed an urgent need to implement national schemes for ATM safety occurrence reporting in the significant number of cases where these were not known to exist; to harmonise the national approaches of all ECAC States in this area; and to provide for summary information to be available for use at the ECAC level under agreed confidentiality arrangements. To address this, the SRC had undertaken an initial development of a Safety Measurement Programme, intended for harmonised implementation within the ECAC area. This would be rolled out over the following period as the series of ESARRs.

As the SRC was developing its role, the European Commission foresaw the establishment of a future European Aviation Safety Agency (EASA) in its 1999 Communication to the European Parliament. In the meantime, however, the ECAC Institutional Strategy had made it clear that ATM Safety Regulation should be given to EUROCONTROL. This represented a real opportunity for showing initiative on the part of the Agency since it would support the SRC through the SRU and the Agency's own safety management unit which would work closely with stakeholders on implementation.

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<sup>16</sup> PC/99/5/5

The support would be aimed at achieving the right level of regulation, generic rather than prescriptive; and at agreeing indicators of performance rather than imposing means of achieving.

As a measure of this support it was agreed at PC/2 in April 1998 that EUROCONTROL and its Agency, in close cooperation with the SRC and SRU, would develop the first Safety Case for RVSM.

## Balance Between Safety Regulation and Safety Management

The careful balance between these was described by Mr Philip Griffith, Chairman of the SRC, when PC/14 in July 2002 approved the launch of the Action Group for Aviation Safety (AGAS).

The SRC Chairman supported the need for clarity in distinguishing between safety regulation and safety management: in the first instance it was for the service provider to implement safety initiatives as part of the service provision function, with the regulator intervening whenever it became clear that these fell short of requirements; and the entire process required a constant dialogue between the two sides.

This balance is one appreciated in EUROCONTROL since the Organisation's roles in support to both mean that it helps maintain that balance by being able to bridge the gap and ensure understanding on both sides.

## ESARRS

The SRC and SRU developed these through close and expert consultation with the stakeholders. They then supported their implementation through a wide range of activities which include the development of guidance material, safety performance monitoring, support to Member States in the context of various EUROCONTROL programmes and the development of specific training in cooperation with the EUROCONTROL Institute of Air Navigation Services. The ESARR Implementation Monitoring and Support Programme audits the ATM safety oversight capabilities of the Member States and the implementation of ESARRs, and works in very close cooperation with the ICAO Universal Safety Oversight Programme.

National Application of ESARRs was as follows:

ESARR 1	Safety Oversight in ATM	05-Nov-2007
ESARR 2	Reporting and Assessment of Safety Occurrences in ATM	01-Jan-2000 (Phase 1) 01-Jan-2001 (Phase 2) 01-Jan-2002 (Phase 3)
ESARR 3	Use of Safety Management Systems by ATM Service Providers	13-Jul-2003
ESARR 4	Risk Assessment and Mitigation in ATM	05-Apr-2004
ESARR 5	ATM Services' Personnel	10-Nov-2003 through to 11-Apr-2005
ESARR 6	Software in ATM systems	06-Nov-2006

ESARRs are now in the process of being transposed into European Community law in accordance with Regulation (EC) 550/2004.

## Impact of the SRC and SRU

The SRC has influenced the enhancement of safety both by the development of regulatory requirements and also by playing a major role in EUROCONTROL's safety enhancement programmes such as the Strategic Safety Action Plan (2003-2006) and the European Safety Programme. The SRC worked with State regulators to help them meet the requirements of those programmes.

The maturity of the safety regulatory framework within ECAC States improved from an average of 52% maturity in 2002 to 70% maturity in 2008 (although some regulators and ANSPs missed this target). One of the SRC's achievements is undoubtedly to have raised the profile of regulatory requirements so that States now understand what is required of them, which was certainly not the case when the SRC and SRU began their work. EUROCONTROL, through the SRC, has also developed a productive relationship with EASA so that there is no duplication of effort in the work to achieve the Single European Sky.

## PRU/SRU

The PRU and SRU were an early example of EUROCONTROL's ability to separate functionally and organisationally. Their relationship with Agency units would be a template for the setting-up of the Regulatory Committee and Regulatory Unit.



# Civil-Military Coordination and Consultation

The revised Convention had significantly strengthened the role of EUROCONTROL as an intergovernmental civil-military Organisation and as such this gave EUROCONTROL a unique position in the European ATM environment. Article 1 stated that one of the objectives was *“to support the improvement of efficiency and flexibility in the use of airspace between civil and military users”*.

At the highest level the EUROCONTROL Commission was to be composed of the Ministers of Transport and the Ministers of Defence. The Provisional Council would be composed of representatives of the Member States at the level of Director General of Civil Aviation and in order to allow the interests of national defence to be represented, each Member State could appoint a military representative.

At working level, effective civil-military and military-military coordination had already been established as a key element in all Agency activities aimed at improving European ATM and steps would be taken to improve this still further.

## EUROCONTROL Consultation With the Military

### CMIC

The revised Convention created the Civil/Military Interface Standing Committee (CMIC) as an advisory body to the EUROCONTROL Council to gain early benefits from the enhanced level of civil-military collaboration. CMIC was to be composed of civil and military representatives at senior executive level. Air Vice-Marshal R. Elder was the first Chairman of the CMIC<sup>17</sup>.

As such CMIC became an integral part of the decision-making process of the EUROCONTROL Organisation. With its high-level civil and military officials of the Member States it has provided advice to the Council on civil-military interface issues and ensures that the requirements of civil and military users of ATM/CNS are met in a balanced way with due regard to national security and defence interests as defined at political level. Furthermore, CMIC has the right to initiate any issue it wishes to deal with and to address such issues to the Council.

Examples of its impact are the adoption by the Provisional Council of the “Policy Guidance for the Exemption of State Aircraft from Compliance with Specific Aircraft Equipage Requirements”, developed by CMIC in 2002 and finalised in early 2003. The Provisional Council also adopted, in November 2003, a milestone document worked out by the CMIC’s subgroup, the Military Harmonisation Group (MILHAG), and endorsed by the European Air Chief Conference, entitled “Determining Future Military Airspace Requirements in Europe”.

Thus the CMIC has reflected the civil-military coordination role which EUROCONTROL had always had but which it raised to a higher level. CMIC has also produced a better, wider understanding of the needs of national and international air defence and would be a key factor in the establishment of the Directorate of Civil/Military Coordination within the Agency.

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<sup>17</sup> PC/99/5/5

## **EURAMID**

In April 2004 a meeting was organised in Paris between some of the military regulators to exchange ideas on creating a body that would enable the military per se to speak with one coordinated voice in all ATM forums. They were concerned that there was no such unified military voice that could express their particular concerns. There were three main conclusions from this meeting:

1. *The creation of the EUROpean ATM Military Directors Conference (EURAMID) that would meet 2/3 times a year to discuss and coordinate military views on all ATM strategic matters.*
2. *The need to create a Directorate in EUROCONTROL's Agency to bring more visibility to the military needs in this area.*
3. *To "institutionalize" EURAMID to enable intervention with one military voice in the PC and in meetings with the European Commission to support military views.*

The States at this first meeting were the UK, France, Germany, Belgium, the Netherlands, Switzerland and Italy. The second meeting took place in June 2004 in Switzerland when ten States<sup>18</sup> decided formally to create EURAMID.

In November 2004 the 21st Provisional Council considered a proposal by Germany which described the outcomes of these meetings. The objective of this new body would be to establish a common approach on ATM subjects and to steer the strategic military issues for further consideration in other activities. In the light of the evolving European ATM situation the military Directors would meet to enhance the effectiveness and efficiency of ATM with specific consideration of any appropriate military aspects.

The proposed status of EURAMID was important given the existence of CMIC.

EURAMID would be an informal forum of senior officers responsible as national heads of military air traffic management and it was stressed that no official decisions would be taken by States during the sessions. EURAMID might decide to invite senior representatives from other organisations as full members. This had led the Conference members to fully associate the chairman of CMIC, Chairman of MILHAG and the Head of EUROCONTROL DG/Military Business Division from the beginning. Additionally, a limited number of additional nations could apply to join EURAMID every year.

The Provisional Council took note of the creation of the EURAMID Conference in the private Members' Session. EURAMID has continued to meet ever since with a representation today of some 14 States.

### **Military ATM Board (MAB)**

Later, at the pivotal 26th session of the Provisional Council in November 2006, the German and Italian military representatives supported a call by EURAMID for an Agency initiative to establish a Military ATM Standing Committee as a high-level consultation body of the Provisional Council and the Director General to advise on all matters of civil-military interest.

This led to the creation of the Military ATM Board (MAB) whose TORs were agreed by the Provisional Council in May 2007. Members were nominated by the appropriate Ministers of Defence in time for the inaugural meeting in November 2007.

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<sup>18</sup> Belgium, France, Germany, Italy, the Netherlands, Switzerland, the United Kingdom, Austria, Spain and Denmark

The Chairman, and in his absence the Vice-Chairman, represents the MAB at the Provisional Council and in the PC Coordinating Committee.

The setting-up of the MAB would also complement the establishment of the Air Navigation Services Board. Indeed the MAB Chairman, and in his absence the Vice-Chairman, represents the MAB in the Air Navigation Services Board in a non-voting capacity. The MAB is also represented in the Agency's Supervisory Boards for CND and DCFMU.

The MAB can also elect a representative and alternate, each from a different State, to attend the SESAR JU administrative Board (SJUAB).

## **NATO**

On 10 April 2003 the EUROCONTROL Commission, on the recommendation of the Provisional Council, took Measure No. 03/94 concerning the conclusion of a Memorandum of Cooperation between EUROCONTROL and the North Atlantic Treaty Organization as proposed in Provisional Council Working Paper PC/03/16/8.

On 11 November 2003, EUROCONTROL played host to NATO the Organisation's Air Traffic Management Committee (NATMC) with Partners. This was the first time a NATO meeting had taken place at EUROCONTROL Headquarters.

Then the Provisional Council at its 26th session in November 2006 approved the request for the Secretary General of NATO to allow the Chairman of the NATO ATM Committee to attend PC sessions with observer status.

## **Civil-Military Coordination in the Agency**

### **Military Experts**

In March 2002 Colonel Luc Vervoort succeeded Colonel Storjohann as Head of the EUROCONTROL Military Experts Unit (EMEU). Exactly three years later, the EMEU was reassigned to report directly to the Director General and became the DG/Military Business Division.

### **The Directorate of Civil-Military ATM Coordination (DCMAC)**

On 1 October 2006 the Directorate was created and Brigadier General Jean Robert Cazarré, the then President of CMIC, was appointed Director CMAC after retiring as Head of the French Military Air Traffic Services Directorate.

The mission of the Directorate was, and remains, to promote and facilitate the accommodation of national security and defence requirements in ATM strategic planning, to develop specific activities in order to enhance civil-military and military-military coordination and cooperation and to support the civil and military stakeholders in civil-military-related ATM/CNS matters.

The initial organisation of DCMAC consisted of three units, the Civil-Military Strategic Coordination Unit, the Civil-Military Harmonisation and Support Unit and the Agency Security Office. To better align DCMAC with the requirements emerging from SES and SESAR and the establishment of CND, DCMAC was later reorganised into five units at the end of 2008 with one wholly dedicated to SES/SESAR.

The later establishment of the CND Directorate on 1 January 2009 further expanded the responsibilities of Mr Cazarré to include the leadership of the SES-Implementation Support Pillar and he was also appointed Deputy Director CND. The five former DCMAC Units then formed the DCMAC Division, which also included also a SESAR Military Programme Management Cell. Lt Colonel Michael Steinfurth was appointed as Head of DCMAC Division and tasked to manage civil-military coordination under the overall leadership of Mr Cazarré.

DCMAC has consistently provided effective and sustainable enhancement for the European ATM Network with the aim of mutually improving the accommodation of both civil and military requirements.

This is reflected in its performance, for example, within the DMEAN Framework, where emphasis has been placed on the harmonisation of military procedures from airspace booking to airspace use, and on the monitoring of overall performance with regard to airspace use. A tool was developed which would allow more efficient airspace management as well as the provision of data enabling the definition of KPIs as well as performance monitoring and analysis.

### **DCMAC Achievements**

Major achievements consist of the Civil-Military ATM/CNS Interoperability Roadmap, EUROCONTROL Specifications for harmonised OAT-IFR Rules (EUROAT), the Local and Regional ASM Support System (LARA), the Military Liaison Officer (MILO) function inside the CFMU, Specifications for UAVs flying OAT outside segregated Airspace, Guidelines for Civil Use of Military Aerodromes (CUMA), Guidelines for incorporating military Requirements when developing a FAB, Guidelines for SES Legislation Implementation by the Military and establishment of the NATO-EUROCONTROL Airspace Security Group.

In order to measure civil-military ATM performance across Europe, the Agency through DCMAC launched PRISMIL, the Pan-European Repository of Information Supporting Military Key Performance Indicators Programme. This constituted a service of automated data collection, KPI aggregation and online presentation of performance measurement results with initial operating capabilities in 2008. In 2010 DCMAC would win the Janes' ATC Global Award for PRISMIL, the only operational system that is able to provide an assessment of the performance of the Flexible Use of Airspace for civil and military users.

DCMAC proactively contributed to the SESAR definition phase to ensure appropriate consideration of CNS interoperability issues. DCMAC identified operational and technical solutions requiring the integration of military and civil stakeholders' needs. To facilitate this, DCMAC established and chaired the CNS Focus Group (CNS FG), consisting of civil and military planners, procurement agents, standardisation bodies, industry members, air navigation service providers and other stakeholders. It also proposed a programme of work for the development phase, focusing on civil-military interoperability issues.

DCMAC also provides direct support to European States on specific civil-military coordination issues.

Military involvement will be required for the next phases of SESAR in order to validate the Operational Concept from a civil-military standpoint; participate in the development of a secure System-Wide Information Management (SWIM) environment; contribute to cost-benefit analyses/financial studies; and support the definition of civil-military interoperability solutions for avionics and ground systems.

# Accession of the European Community Accession Protocol Memorandum of Cooperation

## Negotiations Begin on Accession Protocol

The revised Convention, in Article 40, had opened the possibility of accession to EUROCONTROL to “regional economic integration organisations”. Much work had been required of EUROCONTROL in order to put in action the early implementation of the revised Convention and so it was not until 5 May 1998 that Director General Yves Lambert wrote to Mr Coleman (DGVII) on the matter. On 20 July 1998, the EU Council of Ministers mandated the European Commission to negotiate that accession on behalf of the European Community.

On 8 October 1998 Commissioner for Transport Mr Kinnock wrote to the President of the Permanent Commission informing him of the European Community’s intention to become a member of EUROCONTROL and to negotiate the relevant Protocol to this end. EUROCONTROL set up its own negotiating team, led by Mr J. Van Lieshout (NL) and Director General Yves Lambert, which held its first meeting on 1 December 1998.

The first Negotiation Session with representatives of the European Commission, led by Mr Coleman, took place on 29 January 1999, signalling the willingness of both parties to pursue this highly important matter. By the second negotiation session, on 11 March 1999, the European Community tabled a first draft of the Protocol. A third session took place on 26 May and Director General Yves Lambert and Mr Van Lieshout reported to PC/5 in early July that discussions were progressing satisfactorily and that the fourth negotiating session would shortly be held on 22 July. Among other things, this would examine the issue of the European Community’s legal competence for ATM matters, particularly research and development issues. The Director General believed that an agreement might be reached before the end of 1999.

While these events were taking place, the Transport Council of the EU met on 17 June 1999 and by its Resolution of the same date the Council invited the European Commission to “gain in advance the benefits of the revision of the Convention and to increase the effectiveness of EUROCONTROL within this organisation”. The Resolution’s wording in effect represented a political declaration of subsidiarity from the European Union to EUROCONTROL.

Further, the European Parliament, at its sitting on 6 July 2000, passed a Resolution<sup>19</sup> which stated, inter alia, that the European Commission “should represent the interests of the EU Member States on the Council of EUROCONTROL and should work in conjunction with all EUROCONTROL Member States to reform and reestablish EUROCONTROL as a regulatory and technical authority”.

## A Key Issue Arises

Discussions carried on through the latter part of 1999 when it became evident that the question of the European Commission’s legal competence in certain ATM matters was a serious issue. By the 6th Provisional Council Meeting in October 1999 it was clear that there were still a lack of agreement over this matter. Nevertheless it was hoped to organise a Diplomatic Conference at the beginning of 2000, possibly on 27 January 2000, the day before MATSE/6.

At PC/6 in November the European Commission welcomed a paper by the Director General describing the issues and acknowledged these, appreciating the constraints involved. However, it believed that if 27 January 2000 should for any reason turn out to be unworkable for the Diplomatic Conference, the date might still be maintained for a meeting to review the final version of the text, as a fallback position, with the Conference taking place later on in the year.

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<sup>19</sup> A5 - 0141/2000

## **Negotiations are Suspended**

Therefore it came as some surprise when, on 6 December, the European Commission cancelled the sixth Negotiation Session scheduled for 13 December 1999. The European Commission considered that it could not sign a declaration of Community non-competence in military matters and in RTDE coordination and that a decision of the Council of Ministers was required. No new date was offered.

During 2000 and 2001 there was little formal discussion between EUROCONTROL and the European Commission on the Protocol. The reason was explained in a letter of 19 October 2000 from Madame de Palacio, Vice-President of the European Commission and Commissioner for Transport, to Mr Víctor M. Aguado, the Agency's Director General.<sup>20</sup> The contents stated that "the disagreement between the United Kingdom and Spain concerning Gibraltar airport is the sole reason for the delay in the negotiation process".

This factor was also noted in the November 2000 Report of the High-Level Group which, however, stressed that "the accession remains necessary because EUROCONTROL has developed unparalleled expertise within its organisation and because ATM measures have to be developed in the largest number of countries possible". Further "the accession of the European Community to EUROCONTROL will help to secure convergence and coherence at European level".

This disagreement between two EU Member States was an unfortunate indication that political issues peripheral to ATM now had the potential to seriously delay important decisions even within the European Union. Despite the Resolutions of the Transport Council and Parliament noted earlier these political issues apparently prevented any further progress.

## **Parallel Developments in the European Community**

However, other developments had taken place that would have a significant effect on EUROCONTROL.

Director General Víctor M. Aguado reported to PC/12 in November 2001 that at the Transport Council held in Luxembourg on 16 October the European Commission had presented, as an information item, a package of regulatory proposals on air traffic management aimed at creating a Single European Sky. It was, he noted, the intention of the European Commission to launch the co-decision procedure and to submit these regulatory proposals to the European Parliament and the Council. At the same time, the European Commission intended to invite the Transport Council to give the Commission a mandate to restart the negotiations with EUROCONTROL on the Community's accession.

Finally on 8 February 2002, reflecting some apparent resolution of the Gibraltar issue, Director General Víctor M. Aguado wrote to the Provisional Council informing them that the EUROCONTROL Negotiating Team was being reconvened to resume the negotiations "interrupted in December 1999". On the same day he wrote to Mr François Lamoureux, Director General of Transport and Energy, proposing a negotiating session on 17 March 2002. This took place, co-chaired by Director General Víctor M. Aguado and Mr Ayrat of the European Commission.

## **The Protocol is Signed**

A settlement was finally reached in April 2002 and a Diplomatic Conference for the signature of the Accession Protocol was held on 8 October 2002 at the EUROCONTROL Organisation's Headquarters in Brussels, under the Presidency of the Belgian Minister for Mobility and Transport, Mrs Isabelle Durant.

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<sup>20</sup> Mr Víctor M. Aguado served as Director General of the Agency from 2001 to 2007

The Plenipotentiaries of the 31 Member States of EUROCONTROL and the European Community, represented by Madame de Palacio and the President of the EU Transport Council, Mr Fleming Hansen, signed the Protocol on the accession of the European Community to EUROCONTROL.

Madame de Palacio highlighted the high significance of this adhesion: *“The Community’s contribution to EUROCONTROL will be of first importance and will allow more synergies with this organisation, on the basis of strong co-ordination between the EU member states. It will also pave the way for a smooth setting up of the European Single sky project which cannot be developed without the expertise of EUROCONTROL” she explained. “I wish that today’s event removes the obstacles to the ratification and the entry into force of the revised Convention of EUROCONTROL, which is strongly needed by all the air transport actors”.*

In signing the Protocol, the Community thus committed itself to becoming a Contracting Party to another International Organisation. By Council of Ministers’ decision (2004/636/EC) of 29 April 2004, the Council approved the Accession Protocol on behalf of the Community and authorised the deposit of the instrument of ratification with the Government of the Kingdom of Belgium as the depositary under Article 40.2 of the revised Convention.

However, to date the Protocol is still only provisionally applied since there has been continuing difficulty experienced by the European Union (successor to the European Community after the Lisbon Treaty) in ratifying its accession. There has also been the related issue of whether accession by the European Union was a condition of the ratification by EU Member States of the revised Convention. This was the subject of an exchange of legal views between the European Commission and EUROCONTROL, but to no resolution of the issue.

## Memorandum of Cooperation

On EUROCONTROL’s side, in November 2003 and following Director General Yves Lambert’s initiative on a Single Pan-European Sky (SPES) the Members States issued a Directive to the Agency charging it to conclude on its behalf a Memorandum of Co-operation with the European Commission. <sup>21</sup>

On 22 December 2003, a Memorandum of Cooperation was signed between EUROCONTROL and the European Commission. This covered five potential areas of cooperation:

- a. *implementation of the Single European Sky;*
- b. *research and development;*
- c. *data collection and analysis in the areas of air traffic and environmental statistics;*
- d. *satellite navigation, including Galileo; and*
- e. *international cooperation in the field of aviation.*

The Memorandum complemented the accession of the European Community with provisions that would facilitate cooperation between the Parties, in particular making sure that duplication of effort was avoided. The MoC established the conditions for a successful implementation of the SES regulations at a pan-European level and close cooperation with the Community on matters of joint interest and responsibilities.

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<sup>21</sup> Directive No. 03/61 of 6 November 2003

## **Outcomes of the MoC**

A tangible example of the cooperation came in 2005 when the Agency and the European Commission agreed to a Framework Agreement for the European Commission to support financially the Agency with € 1 million for 2005 for the delivery of activities performed on the basis of the MoC such as the organisation of workshops for the implementation of SES, the use of specific resources or the participation of EUROCONTROL staff in international or regional initiatives launched by the European Commission, i.e. China, SES implementation in the Western Balkans and others.

At that time EUROCONTROL was also supporting the European Commission initiative on the SES implementation in the south-east of Europe Working Group on Functional Airspace Block Approach (FABA) with Albania, Bosnia-Herzegovina, Croatia, Romania, Serbia and Montenegro, FYROM and Unmik for Kosovo.

## **Mandates to Support the Single European Sky**

The most significant field, however, was the work entrusted to EUROCONTROL and its Agency on mandates.

In February 2004 the Director General received authorisation from the EUROCONTROL governing bodies to start working on the mandates received. This would have five steps using much of the Agency's proven consultation processes, including the ENPRM process.

To manage all this the Director General established a structure based on a steering committee chaired by the Senior Director and, for each mandate, a director responsible and a mandate manager. The mandate manager will identify its supporting team within the Agency in order to achieve the mandate on time.

## **The Mandates**

In 2004 the European Commission issued seven mandates to EUROCONTROL, all of which would draw on the Organisation's unique expertise and skills. These were:

- *Airspace Design and Classification (AD);*
- *Flexible use of airspace (FUA);*
- *Functional airspace blocks (FABs);*
- *Common charging scheme (CS);*
- *Interoperability on initial flight plan (IFP);*
- *Interoperability on flight message transfer protocols (FMTP);*
- *Interoperability on coordination and transfer (COTR).*

Subsequently, at its May 2005 meeting, the SSC agreed to deliver to EUROCONTROL three additional requests on interoperability (aeronautical data integrity, data-link services, air-ground voice channel spacing).

Since then there have been further requests reflecting the unique expertise of the Agency and the growing involvement of EUROCONTROL in the general work supporting the Single European Sky is described later.



## **Galileo**

This was a specific subject included in the Memorandum of Cooperation with the European Commission. The Council of the European Union, in November 1994, had much earlier adopted a Resolution on the European contribution to the development of a Global Satellite Navigation System.

However, satellite navigation had also for been an area where EUROCONTROL had a long involvement and EUROCONTROL's role was formalised at MATSE/4.

Then EUROCONTROL's Permanent Commission adopted a measure for the Agency to open negotiations with the European Commission and the European Space Agency regarding a tripartite cooperation agreement.

This Tripartite agreement was signed by the three parties (ESA / EC / EUROCONTROL) in 1998 with the final objective "...of establishing a satellite navigation and positioning service for Europe as a contribution to a global effort." Specific targets were to achieve a GNSS1 (EGNOS) full operational capability and a mature definition/design of GNSS2 (Galileo).

A fruitful relationship has grown over the years between the parties and EUROCONTROL has been involved in many space related activities on behalf of ESA and the European Commission. The relationship would be particularly pertinent as GNSS would play a key role in the technical development of the Single European Sky.

# Developments in the Single Sky

## High-Level Group Reports

### SES Legislation

#### Prelude to the High-Level Groups

As noted earlier the Transport Council of the European Union had met on 17 June 1999 and passed its Resolution supporting the accession of the European Commission to EUROCONTROL. The same Resolution also invited the Commission to submit to the Council in 1999 a communication on recent and ongoing measures aimed at reducing air traffic delays and congestion in Europe.

Accordingly on 6 December 1999, and coincidentally with the decision of the Commission to cancel the sixth Accession negotiation session, the European Commission published its Communication "The Creation of a Single European Sky"<sup>22</sup>. This recommended, inter alia, the establishment of a High-Level Group by the Commission to explore the modalities of establishing the Single European Sky. This would be chaired by Madame de Palacio herself and as noted earlier she announced this shortly afterwards at MATSE/6 on 28 January 2000.

#### High Level Group - Single European Sky

##### The Report

The High-Level Group was set up with the objective "to examine the way in which the European Union, with its legal system, its decision-making process, its political control mechanisms and its responsibilities could meet the need for harmonisation of the rules governing airspace usage".

It comprised senior civil and military representatives from air traffic control authorities from the Community plus Norway and Switzerland and it consulted widely across industry and with the social partners. It reported in November 2000<sup>23</sup> and EUROCONTROL was consulted on aspects of this Report, with Director General Yves Lambert asked to provide input in his "expert advisory capacity". Madame de Palacio herself noted that "we must develop synergies with EUROCONTROL as well as the Community's own capabilities to establish an agenda for reform and to implement these changes".

The HLG Report set out a series of required reforms for which Madame de Palacio, in her introduction, promised enabling legislation. Mechanisms to optimise the performance of European ATM as a whole needed to be reformed; a European airspace needed to be established as a single continuum, managed for overall system efficiency; sufficient access to airspace for both civil and military purposes had to be ensured, as well as the development of a coherent approach to ATC across Europe and a coherent ATM system design across Europe. High-level rules at European level for safety and system performance should be established with strong and independent regulators; implementation needed to be backed up by effective enforcement; respect national security and defence requirements for the use of airspace had to be respected in a process consistent with the international framework.

It was clear that much of the discussion in the Report reflected the concerns expressed in previous European Commission papers and in the MATSE findings. As has been described earlier, EUROCONTROL had also anticipated some of these issues and the Director General had already brought forward proposals in several of the key areas of concern (e.g. improved regulatory processes and airspace design).

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<sup>22</sup> COM(1999) 614, 06.12.1999

<sup>23</sup> European Commission, "Single European Sky - Report of the High-Level Group", Luxembourg: Office for Official Publications of the European Communities

The civil-military character of EUROCONTROL was recognised when the HLG said that there was a requirement to “improve the cooperative process with both civil and military actors for the development and enforcement of the Community regulation, in cooperation with EUROCONTROL”.

## Single European Sky Legislation

As foreseen in the Report, the European Commission submitted on 10 October 2001 four legislative proposals to the Council and the European Parliament for the creation of the Single European Sky (SES). This step would see the establishment of the legislative package required to empower the European Commission to lay the regulatory foundations of the SES before the signing of the Accession Protocol took place in October 2002.

In formulating the legislation, EUROCONTROL and its Member States were involved in the discussions in the Transport Council as well as the negotiations in the European Parliament that resulted in the SES regulations. Due to those interventions, changes were introduced that aimed at avoiding duplication and developing the highest level of cooperation between both Organisations.

The legislation also covered the HLG’s proposals for an advisory and consultative structure to support the European Commission, including the Single Sky Committee (SSC) and an industry consultation body (ICB) at European level, with both of which EUROCONTROL was to be associated. While this could appear a duplication of the existing and developing processes within EUROCONTROL the case was made that the various EU treaty requirements required particular consultative arrangements of its own. Nevertheless this would put a strain on the resources of the stakeholders who also had to be represented within EUROCONTROL.

## The SES Regulations In Force

The four SES Regulations were adopted in early 2004 and entered into force as of 20 April 2004<sup>24</sup>: one established a framework for the creation of the SES (the Framework Regulation); one dealt with the provision of air navigation services (the Service Provision Regulation); the third one related to the organisation and use of airspace (the Airspace Regulation); and the last one regulated the interoperability of the European air traffic management network (the Interoperability Regulation).

In each of these areas EUROCONTROL had considerable expertise and experience to offer and this was recognised in several parts of the Regulations themselves. EUROCONTROL also looked to paragraphs 13 and 14 of the Preamble to the Framework Regulation, both of which were the result of the negotiations that had taken place in the European Parliament.

*“The accession of the Community to EUROCONTROL is an important component in the creation of a pan-European airspace.” (para 13)*

*“In the process of creating the single European sky, the Community should, where appropriate, develop the highest level of cooperation with EUROCONTROL in order to ensure regulatory synergies and consistent approaches, and to avoid any duplication between the two sides.” (para 14)*

EUROCONTROL therefore looked forward to working with the European Commission across the spectrum of SES activities.

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<sup>24</sup> OJ C 362 E, 18.12.01, p.251; OJ C 25 E, 29.01.02, p.496; OJ C 25 E, 29.01.02, p.506; OJ C 25 E, 29.01.02, p.512

## The Separation Issue

Out of the HLG Report also came recommendations on the separation of regulation and service provision which built on earlier developments in both the revised Convention itself and the 1996 European Commission White Paper. EUROCONTROL had, as was noted earlier, set out to address this issue in a positive way by establishing first the Service Provision and Regulatory Functions Task Force (SPARF) and its successor, the High-Level Separation Task Force (HLSTF), to both of which the European Commission was invited to provide an observer.

However, the HLG Report now noted what would be the main difficulty for EUROCONTROL.

*“The revised EUROCONTROL Convention intends to give EUROCONTROL powers of a regulatory nature in a number of areas, including those for which Member States have transferred their competences to the Community. As a result, EU Member States cannot ratify the convention without the EC also joining. As a result the Community has negotiated the terms for its accession as a full member to EUROCONTROL, so that it can actively participate in the preparation of relevant legislation and commit itself to adopting such legislation. Notwithstanding efforts made by all Community institutions it has so far not been possible to secure agreement of all Member States for the Community’s accession to the EUROCONTROL Convention. At the same time as the Community joins the organisation, Member States should ratify the revised convention. The dispute between the United Kingdom and Spain over Gibraltar airport prevents the other Member States from approving Community accession to the EUROCONTROL Convention.”<sup>25</sup>*

Later in the Report:

*“The Community will participate fully in the regulatory activities of EUROCONTROL, as a member of the organisation. This participation will involve the possibility to promote the methods of functioning of the single sky and will entail the obligation to transpose into internal Community law the rules that have been adopted.”*

However, these conditions would not exist since the European Community would itself be unable to ratify its Accession Protocol.

## HLG on “EASA”

The HLG Report also noted that the European Commission had made a proposal<sup>26</sup> in 2000 for the creation of a European Aviation Safety Agency (EASA). As agreed in the Transport Council the first priority of this Agency would focus on the certification of the aircraft with the objective to extend this activity in particular to the safety aspects of air traffic management. Depending on the timetable of the creation of such an Agency, it might be possible to transfer to this organisation responsibilities for safety regulation of air traffic management by 2005.

However, noted the HLG Report, “these developments cannot affect in the meantime the present regulatory activities of the EUROCONTROL Safety Regulation Commission within the limits of the power and competence attributed by the Revised Convention”.

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<sup>25</sup> Footnote 10, page 19, HLG Report.

<sup>26</sup> COM(2000) 595 final

## High Level Group - Future European Aviation Regulatory Framework

Later, in November 2006, European Commission Vice President Barrot appointed a second High-Level Group to simplify and increase the effectiveness of the aviation regulatory framework with a particular focus on air traffic management, and to provide a road map with practical next steps.

The High-Level Group was composed of representatives from across the aviation community. It was chaired by Ms Jacqueline Tammenoms Bakker (Director General Civil Aviation and Freight Transport, Netherlands) and experienced members represented a wide spectrum of ATM interests:

- *Mr Thilo Schmidt (Chairman of Management Board European Aviation Safety Agency – EASA and Director General Civil Aviation, Germany)*
- *Mr David McMillan (Director General Civil Aviation, UK)*
- *Mr Raymond Cron (Director General Federal Office of Civil Aviation, Switzerland)*
- *Mr Michel Wachenheim (President of European Civil Aviation Conference – ECAC)*
- *Mr Victor M. Aguado (Director General EUROCONTROL)*
- *Mr Fritz Feitl (Chairman, Industry Consultation Body)*
- *Mr Alexander Ter Kuile (Secretary General, Civil Air Navigation Services Organisation – CANSO)*
- *Mr Jeff Poole (Director International Air Transport Association – IATA)*
- *Mr Olivier Jankovec (Director General Airports Council International Europe – ACI - Europe)*

### Main Recommendations

The High-Level Group's Report, "A framework for driving performance improvement", was published in July 2007<sup>27</sup>, concentrating on the two main themes of performance and governance. It made proposals for clear roles for the European Commission, the Member States and the EUROCONTROL and EASA organisations, and also proposals for concrete actions to address the current and expected bottlenecks in performance.

There were ten recommendations in total:

1. *EU as driving force in aviation regulation in Europe*
2. *Greater responsibilities for industry*
3. *Better regulation*
4. *Drive improved performance*
5. *Deliver the Single European Sky*
6. *Empower and focus EUROCONTROL*
7. *Address airport capacity*
8. *Deliver continuously improving safety*
9. *Deliver environmental benefits*
10. *Commit Member States to deliver*

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<sup>27</sup> [http://ec.europa.eu/transport/air\\_portal/hlg/doc/2007\\_07\\_03\\_hlg\\_final\\_report\\_en.pdf](http://ec.europa.eu/transport/air_portal/hlg/doc/2007_07_03_hlg_final_report_en.pdf)

Although EUROCONTROL was mentioned in only one of these recommendations it was evident that it had wide experience and expertise, plus proven procedures and processes, to support each of the others. In areas such as airports, environment and safety, EUROCONTROL had already established unique European-wide expertise and consultative processes. There were many in EUROCONTROL and its Agency who therefore saw that this Report opened up a significant window of opportunity.

Recommendation 6 merits being described in full.

***“Empower and focus EUROCONTROL.** Empower EUROCONTROL to play a key role in delivering the Single European Sky and SESAR objectives within the strategic and regulatory framework set by the EU. Focus its activities on excellent pan European functions and ATM network design, and support to regulation as requested by the European Commission and member states. Transfer the responsibility for safety regulatory activities to EASA. Invite the EUROCONTROL governing bodies to give industry an appropriate role in the governance of the pan-European functions and facilitate the unbundling of activities through corporate structures or undertakings where appropriate to allow the EUROCONTROL organisation to evolve in line with industry developments while ensuring that the interests of employees are considered. Prepare for the appropriate pan-European ATM governance and operational structures for the post 2013 SESAR deployment phase.”*

Equally, Recommendation 10 was one which was close to the heart of EUROCONTROL:

*“Commit member states to deliver: Require more systematic implementation of existing commitments by EU member states, in particular the defragmentation targeted by the Single European Sky initiative. States should address inconsistent guidelines for ANSPs, performance shortfalls in oversight, bottlenecks in airport capacity and safety management, and the new challenges of mitigating and adapting to climate change. Encourage regulatory authorities to exchange best practices and develop common approaches.”*

In its subsequent Communication<sup>28</sup> of December 2007, the Commission noted that it supported the HLG Report’s recommendation concerning the reform of EUROCONTROL with respect to separation of selected functions, the transfer of safety regulation to EASA; greater transparency and performance review of all EUROCONTROL functions and a reinforced role for industry in its governance.

However, it went on to note that “the ratification of the revised EUROCONTROL Convention should only take place after the necessary internal reforms of EUROCONTROL are achieved and an appropriate institutional framework is established which clarifies its role in the SES architecture, including the possibility for EUROCONTROL to carry out certain tasks for the Community in the achievement of the SES”. This was now a further element for the Organisation to absorb and an indication that once again, as several times in the past, EUROCONTROL was being asked to “re-invent itself”.

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<sup>28</sup> “First Report on the implementation of the Single Sky Legislation: achievements and the way forward” COM(2007) 845 final, 20.12.2007

## Problems of Commitment

### Failure to Ratify the Revised Convention - CEATS Agreement Unwound

#### Ratification

In the face of all of these issues, ratification by individual States of the revised Convention would proceed very slowly and complete ratification would not be achieved. Some States would ratify the Convention but would not deposit their instruments of ratification with the Belgian Government as required by the terms of Article 39.3 of the revised Convention.

Another difficulty was that in the absence of majority decision-making some stakeholders would feel that they need not comply with what were simply statements of intent from EUROCONTROL's authoritative bodies.

In addition, although the European Commission had signed its Accession Protocol with EUROCONTROL, and agreed to the early implementation of certain elements, the fact that EU ratification would not take place was not encouraging when viewed against the slow pace of ratification of the revised Convention by some States<sup>29</sup>.

#### CEATS

The CEATS project concept had been based on the successful experience of EUROCONTROL at Maastricht UAC but the ATM world had much changed since the decision to set up Maastricht was taken in February 1964. Then ATS was a State activity and the Four States who had set up the Maastricht Centre had supported the general concept even since 1958.

Now, at the turn of the century, the situation was more complex: ATS had become ATM; many EUROCONTROL and ECAC States had either "separated" their ANSPs or were in the process of doing so; the involvement of airspace users and others as stakeholders was much more important in the decision-making process; and the European Commission had become involved through both their general policy for the Balkan region and their growing support for the Functional Airspace Block (FAB) concept.

Over a period of several years after the agreement was signed there were several attempts by some of the Member States involved to keep alive the vision of the original concept.

However, in 2007 the CEATS Coordination Group decided to launch a FAB Feasibility Study to be conducted jointly by the ANSPs of Austria, Bosnia and Herzegovina, Croatia, Czech Republic, Hungary, Slovakia and Slovenia, their military experts and the EUROCONTROL Agency.

The FABCE Memorandum of Understanding was signed in Bratislava on 18th November 2009 between the Ministries of Transport of the Republic of Austria, Bosnia and Herzegovina, the Republic of Croatia, the Czech Republic, the Republic of Hungary, the Slovak Republic and the Republic of Slovenia.

Finally, on 12 June 2008 in Luxembourg, the Ministers agreed to begin the process to terminate the CEATS Agreement. The Parties stated that they intended to strengthen their efforts towards the establishment of Functional Airspace Block(s), in accordance with the Single European Sky regulations.

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<sup>29</sup> Annex 6 - shows the dates of ratification by Member States and also the dates when the instruments of ratification were lodged with the Belgian authorities

# EUROCONTROL and Agency Adapt Agency Reorganisations Pivotal Provisional Council Guidance Improvements to Stakeholder Involvement

Through all of these developments, EUROCONTROL and its Agency had regularly reviewed its organisational structure and stakeholder involvement processes to match the changing requirements, not only from the emerging SES developments but also the increasing complexity of European ATM and the needs of the stakeholders.

The next pages describe chronologically how, after the initial 1999 changes to Agency structure and consultation processes, the Directors General, working closely with the Provisional Council, sought to realign the Agency and adapt the consultation groups in close cooperation with the stakeholders. The CESC was much involved in these discussions which would bring the top-level stakeholder representatives much closer to the decision-making level.

It also describes the crucial changes brought through the strategic guidance which came from the Provisional Council at its 26th session. This recognised that fundamental changes were required for EUROCONTROL to take its place beside the European Commission as an expert and objective partner to support the European ATM regulator.

## 2003 - Agency Adaptation

### Reorganisation of the Core Business

In 2003 there was an increasing requirement to accommodate the scope of the tasks which were proving increasingly complex with the rising traffic demand, the greater exposure of the issues coming from PRC and SRC and the Single European Sky developments in the European Commission. A firm of consultants, Cap Gemini, had aided the Agency with this reorganisation and they were also asked to carry out an objective stakeholder survey, the results of which were used to improve focus, reinforce strengths within the Agency and point the way towards overcoming weaknesses.

As a result the EATMP directorates were further developed into the top post of Senior Director EATMP (Mr Wolfgang Philipp), Director ATM Strategies (Mr Bo Redeborn) and Director of ATM Programmes (Mr George Paulson). Mr Guido Kerkhofs was appointed Director and Programme Manager for CEATS.

Mr Wolfgang Philipp retired at the end of May 2004 after having chaired his last ACG. He had been only 33 when he became the youngest director the German Air Traffic Service provider has ever had, before or since. It is now well over forty years since he first developed the formula on which the Route Charging system is still based. As one of the people behind the Four States/EUROCONTROL Integration Project in the 1980s, Wolfgang Philipp was one of the first to develop the concept of Functional Blocks of Airspace. On 3 November 2004, ATCA presented him with the Glen Gilbert Award, its most prestigious honour.

On Mr Philipp's retirement Director General Víctor M. Aguado took on the responsibilities of Senior Director as an interim measure.



## **Strategic Business Unit Management Boards**

In 2003, Director General Víctor M. Aguado also established internal management boards for each of the Strategic Business Units set up by Director General Yves Lambert. They were chaired by Mr Víctor M. Aguado to maintain a corporate oversight of the strategic issues arising from the activities of the Agency's directorates, to review the SBU business plans and performance against plan, and to advise the Director General accordingly. They were also intended as a source of corporate advice and guidance to the Director concerned.

The Management Boards were an essential part of the Agency's strategic management cycle to ensure the cascade of the Organisation's objectives and KPIs set out by the Provisional Council in November of each year and the fit to them of the Agency's own strategic objectives and KPIs.

## **2005-2006 Stakeholder Consultation and Involvement**

### **PC/23 July 2005 - Evolution of the Consultation Groups**

Throughout 2002-2005, Director General Víctor M. Aguado worked with the CESC to further clarify and strengthen this key relationship, with particular support from Mr George Paulson. In July 2005 the Director General put a paper to PC/23 with strengthened ToRs for the CESC with the full support of the CESC Chairman. These were endorsed by the Provisional Council.

At the same meeting Mr Víctor M. Aguado also set out his proposed top-level consultation arrangements for airspace users through the Airline Consultation Forum (ACF). The role of the main social partners was further developed in the European ATM Staff Representatives Conference (EASC).

These proposals were welcomed by the European Commission and by the stakeholder representatives concerned. The EASC had its first meeting on 21 November 2005 and the ACF first meeting was on 21 February 2006.

### **Proposals for a Stakeholder Consultation Group (SCG)**

At that 23rd Provisional Council the Director General proposed to develop the existing ATM/CNS Consultation Group (ACG) into a much more strategically focussed group which would bring together all stakeholders plus States' civil and military representatives, including those responsible for regulatory matters.

This would be the major change to these arrangements since the Early Implementation. The scope would encompass all relevant matters relating to an overall ATM strategic framework, including the strategic direction of ATM through the ATM Master Plan: R&D, medium-term planning of the European ATM network, major investment plans, and advanced training amongst others. It should cover the complementary roles of support to service provision and support to regulation.

A working group of high-level State, ANSP and airspace user representatives ("SCG Arrangements Group" - SAG) was set up under the chairmanship of Mr George Paulson, Director ATM Programmes. SAG held only two meetings (13 October and 2 December 2005) but much work was carried out in focussed sub-groups to develop the working processes which would support the new body. The members of the SAG consulted in their own organisations and the group reported back to ACG with frequent email contacts by all concerned.

The final draft ToRs were put to ACG/27 in October 2005. It was proposed that membership of SCG would be from: civil aviation and military authorities of ECAC Member States; ANSPs within the ECAC region; the European Commission; intergovernmental organisations (e.g. ICAO, NATO); organisations representing civil airspace users, ANSPs, airports, the manufacturing supply industry; organisations representing the social partners.

A rolling Cooperation Plan was proposed which would map the key European ATM strategic decision-making schedules and likely issues over a time period of, say, up to two years so that State regulators would have time to organise their programmes and ANSPs, users and airports would be able to anticipate the impact of forthcoming regulation.

This plan would also set out the Provisional Council's objectives and timings and aid the stakeholders to propose and discuss their own priorities, identify where they should best direct their resources and ensure consistency of their stances across all EUROCONTROL dialogue.

The SCG held its first meeting in February 2006 and Mr Philippe Rochat, Executive Director of ATAG (Air Transport Action Group), was nominated for one year as Chairman (May 2006 to May 2007). Mr Andries Verburgt (NL) took over in 2007 and then Mr Phil Roberts (UK) in 2009.

### **Operations Coordination Group (OCG)**

As these developments were going on those involved in the European ATM Group (EAG) and DMEAN Steering Committee (DSC) reviewed the close inter-relationship between them in coordinating the various network elements arising from ATFCM and DMEAN.

They felt that this needed to be reflected in a more effective way. Accordingly a similar proposal was made to the Director General to integrate the EAG and the DSC into a high-level forum to match the SCG with the responsibility of managing collectively all the operational issues connected with the network and collaborative decision-making.

The Operations Coordination Group (OCG) was therefore established and had its first meeting in March 2007 chaired by Mr Massimo Garbini (Italy).

Rationalisation and simplification of the working arrangements were therefore reasons behind the establishment of the OCG. However, the long-standing and highly effective meeting of Directors of Operations would, at their insistence, continue to meet twice a year to tackle informally issues requiring a formal decision in the OCG.

### **SCG - OCG Lateral Links**

With the establishment of the SCG and the OCG, conditions were created to manage in these two multidisciplinary fora all aspects of Agency activities across the business life cycle, from long-term planning and strategic orientations (SCG) to coordination of operations and related deployment (OCG).

### **Efficiency Savings**

This streamlining produced considerable efficiency benefits. A first assessment of the results indicated around 40% reduction in groups of a permanent nature and 20% reduction in non-permanent groups with an estimated 30% overall reduction (around 2000 man/days) in stakeholder effort for 2007, compared to 2006.

## 2006 - EATM Adapts for Cooperative Network Design (CND)

The Director General had of course been involved in the discussions in the PC's President's Bureau that would lead to the pivotal 26th session of the Provisional Council described next.

It was evident that once again the Agency needed to adapt and align its structure to meet the coming changes and so Director General Víctor M. Aguado decided in October 2006 on a significant further reorganisation of the core EATM organisation. In particular EATM's focus was to be on the planning of the future Cooperative Network.

The Senior Director post was removed and the ATM directorates streamlined. The Directorate of ATM Strategies was put in charge of the overall cohesion of the CND processes. It was responsible for ensuring consistency of the full cycle of activities from Strategies, Policies, R&D, and Programmes through to Implementation, by adapting the function more closely to SESAR.

Improvements were also introduced in the Directorate of ATM Programmes through better grouping of the programme domains and implementation processes.

Mr Redeborn continued as DAS and Mr Kerkhofs was appointed DAP on Mr Paulson's retirement. An innovation was that the post of Deputy Director was instituted to take some of the responsibilities of the directors. Mr Lex Hendrickx became DDAS and Mr Erik Merckx DDAP.

Since CND was an overall Agency responsibility it was decided, as had been done originally for EATCHIP, to identify the contributions that all directorates made to it. This showed that EATM, DCMAC and EEC were 100% dedicated to CND, the proportion for IANS was 60%, for CFMU 7% and for MUAC 1%. In order to bring all this together the Agency produced a specific business plan for 2008-2012 showing how all of this "joined up" with the mission of managing the cooperative development of the European ATM Network, in partnership with the stakeholders.

## 2006 - Provisional Council Responds to High Level Group Reports

With all the issues coming from the European Commission's High-Level Groups it was clear that EUROCONTROL should respond. Indeed, for some time it had been clear to all involved that a realignment towards the SES proposals was the way forward. Already the 2003 Agency reorganisation had been aimed in part towards that and then the 2006 adaptation had gone even further.

Thus began the most important review of EUROCONTROL's role since the MATSE meetings and the drafting of the revised Convention.

Work on this had started when PC/21 in November 2004 had considered the report of an informal high-level group chaired by the Netherlands. This had provided an initial analysis of priorities to assist the Agency in developing its Strategy and Business Plan, and had at the same time taken the evolving regulatory environment and the implementation of the Single European Sky (SES) into account. The PC President's Bureau was then given the tasks of monitoring developments in the regulatory environment and presenting proposals for change to the PC as appropriate. The Bureau undertook this work with the representatives of the ANSPs, airspace users, airports and others.

Interim reports were presented to PC24 and PC25 and, in order to test and share ideas, a PC Workshop was organised on 6 July 2006 chaired by Mr David McMillan, by then President of the Provisional Council.

### **PC/26 - November 2006**

This session of the Provisional Council would later be described as “the turning point for change” by the President at the 30th session in November 2008.

The Final Report of the enlarged Bureau was presented. It put the focus on EUROCONTROL’s role in pan-European ATM and submitted proposals for reinforced governance and consultation/involvement arrangements.

The PC Workshop had brought to light that States and ANS providers held different views on how ANS should be provided in future. A key finding, agreed by all, was the need to focus on objectives rather than on structure. Therefore the Bureau recommended putting the focus on ANS systems’ output rather than on the eventual organisational structure of the entities responsible for service delivery.

EUROCONTROL’s DMEAN and the European Commission’s SESAR were identified as the two major programmes that would have to deliver the required network capacity. There was much work to do on the transition mechanism and the timing between these programmes.

The Bureau noted that EUROCONTROL’s current role was laid down in the revised Convention. Member States therefore had the duty to provide planning certainty to the Organisation in the short term. However, the Organisation would also need to adapt to the changing regulatory ATM environment in Europe in the longer term if it was to meet the challenges of the future and the expectations of its many stakeholders.

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The Bureau had spent a considerable time addressing EUROCONTROL’s governance and consultation arrangements. It was clear that the industry partners desired a greater involvement and engagement in EUROCONTROL’s work, in particular with regard to the process leading up to PC decisions. The Bureau had therefore prepared three principal sets of recommendations in this area, all intended to bring about a step-by-step change in the way in which EUROCONTROL works, and designed to fit within the limitations of the revised Convention.

### **PCPB Recommendations for Decision-Making and Consultation**

Firstly, the Bureau proposed establishing a new **Provisional Council Coordinating Committee** (PCC) in order to advise and facilitate PC decision-making and to strengthen stakeholder involvement within EUROCONTROL. It would be an important clearing house for such decisions even though this body would not take the final decision away from the Council. It would in addition bring together representatives from the key stakeholders in a new way.

Secondly, an **Air Navigation Services Board** should be set up to enable high-level involvement of ANSPs, airspace users and airports in the Organisation's work. It would be able to assist the Director General and the PC in moving operational and technical projects forward for decision. It would replace the current CESC and Airline Consultation Forum (ACF)<sup>30</sup>. The ANSB would be composed of: CEOs of the ANS Providers, senior representatives of airspace users, airports, and the Director General of EUROCONTROL. The Chair and Vice-Chair would represent the ANSB at the Provisional Council (PC) and the PC Coordinating Committee (PCC).

Other existing high-level coordination arrangements such as CMIC and EASC would need to be strengthened and aligned to meet the improved governance and consultation.

Thirdly, **the Agency would have to thoroughly review its present technical and operational consultation arrangements** in order to remove possible duplication, clarify reporting lines, and ensure optimal use of available resources, both in the Agency as well as within the Member States and stakeholders. The aim was to achieve a very significant reduction in the number of permanent groups, and a recognition that ad hoc groups should remain just that, with no tendency towards permanence.

The Director General, upon the request of the military representatives in the Provisional Council, was asked to propose also to the Provisional Council a new working arrangement for the military at an equivalent level to the ANSB, namely the Military ATM Board (MAB).

## **Recommendations for the Role of EUROCONTROL**

The Bureau had recognised that in the ATM framework which would soon start to emerge under the Single European Sky, EUROCONTROL needed to adapt its tasks and priorities but would maintain its key position in the European ATM community through four core functions. These were as follows:

- *cooperative network design including civil-military coordination (DMEAN; participation in SESAR);*
- *pan-European functions (CFMU/ATFM, CRCO route charges, EAD, etc.);*
- *supporting the EU and its Member States in their regulatory activities;*
- *regional ATC service provision; specific task exercised by EUROCONTROL at the request of the relevant Member States.*

The priorities in these areas would be carried out in line with the Agency's Business Plan giving the greater clarity to the Agency that the PC workshop had established as a priority.

Although not being a permanent task for EUROCONTROL, regional ATC services, provided at the request of the States involved, would be provided under modernised governance arrangements, with the enhanced involvement of the ANS providers and under new institutional arrangements (for example, through Article 2.5 of the revised Convention).

## **Comment of the European Commission**

The European Commission applauded the report which it noted had the merit of making concrete proposals that would significantly improve the governance of EUROCONTROL and it called for the Provisional Council to adopt these forthwith, and without reservation.

## Decision

The Provisional Council endorsed the Final Report of the Bureau on the roadmap towards the future European ATM.

It approved the creation of the Provisional Council Coordinating Committee (PCC) and the Air Navigation Services Board (ANSB), the dissolution of the Chief Executive Standing Committee (CESC) and ACF, and the alignment of the existing European ATM Staff Representatives Standing Conference (EASC) with the proposed new governance arrangements (each of these with effect from 1 January 2007).

Finally, it endorsed the new role for EUROCONTROL's Agency and approved its overall Road Map for the short, medium and long term to give a timeframe and milestones to the Organisation.

## Air Navigation Services Board Meets

The ANSB held its first meeting on 30 January 2007 and Mr Eamonn Brennan (IAA) was appointed Chairman for the first year and Mr Marc Hamy (DSNA FR) was nominated as Chair-elect to succeed Mr Brennan in 2008.

The second session, on 13 March 2007, handled business dealing directly with the decisions of PC/26, in particular those regarding the efficiency of the Agency's consultation processes. The ANSB welcomed the work ongoing in the new SCG to reducing the numbers of both permanent and ad hoc groups.

## Support Grows from the European Commission and High-Level Representatives

There were, as a result of all of these changes, clear indications of political recognition of the efforts that EUROCONTROL and its Agency were making to adapt and of EUROCONTROL's unique expertise.

At the third Aviation Conference<sup>31</sup> in Brussels on 22 January 2008 Mr Thilo Schmidt, presenting the work of the High-Level Group, said that "functions and tasks of EUROCONTROL were essential for future success" and he noted that the result of the work of the HLG "was a system of recommendations".

Vice-President Barrot at the same Conference also said that "EUROCONTROL should remain a key player - but we need to empower the organisation to focus on its strengths of network oversight and pan-European work". Mr Reute, DG Energy and Transport, said that the Community Method should also "build on the unique expertise of EUROCONTROL in ATM matters".

By the time of this Conference Mr David McMillan had been appointed Director General of the Agency. He took the opportunity to summarise the steps that EUROCONTROL was already taking when he set out the Organisation's "Change Priorities" that had been adopted following that important 26th meeting of the Provisional Council. These were:

- *Recognise EC's increasing competence in ATM*
- *Make EUROCONTROL expertise available to regulators*
- *Strengthen involvement of ATM stakeholders in EUROCONTROL*
- *Improve transparency and partnership*
- *Closer alignment between budgetary and business planning processes.*

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<sup>31</sup> Third European Aviation Conference "Towards a more performing European Aviation System"

After Director General David McMillan informed Agency staff that at the Conference people saw a need for convergence between EUROCONTROL's intergovernmental approach and the Community method. The European Commission in its turn had clearly acknowledged the need to build on the Agency's unique expertise and asked the Agency to support them in the preparation of the second SES regulatory package.

However, improved decision-making processes were a must and EUROCONTROL should strengthen stakeholder involvement in these and provide better transparency. EUROCONTROL's institutional arrangements should, he said, be reviewed accordingly.

## 2008-2009 Further Changes

When Mr David McMillan became Director General he was asked by the Provisional Council to further improve the Agency's consultation arrangements and as a result the 30th Meeting of the PC (12-13 November 2008) approved his proposals on the following:

- *A streamlined Air Navigation Services Board (ANSB) reinforcing stakeholder involvement and setting up new governance processes;*
- *New and more efficient working arrangements between the Director General, the ANSB, the Standing Committee on Finance (SCF), the Civil-Military Interface Committee (CMIC) and the Provisional Council;*
- *The creation of Supervisory Boards, including Members external to the Agency, for the Cooperative Network Design (CND), Central Flow Management Unit (CFMU) and the Central Route Charges Office (CRCO) organisational units.*

### Supervisory Boards

In 2008 Director General David McMillan developed the SBU Management Boards set up by Director General Víctor M. Aguado into Supervisory Boards. These would now include external membership as a clear indication of EUROCONTROL's willingness to further involve the stakeholders in management decisions taken in the areas which had an impact on their businesses.

### 2008 EATMP Evolves into CND

After much work during 2008 including roadshows to discuss organisational issues with stakeholders, the new Directorate of Cooperative Network Design was developed to meet the requirement from stakeholders for a fuller alignment of the Agency's work with the Single European Sky and with SESAR, avoiding duplication and streamlining the relevant processes.

As such CND would combine in one organisational entity the activities in support of Cooperative Network Design previously carried out in EATM, EEC, DCMAC, IANS and RU.

The new Directorate would significantly improve the focus on CND within EUROCONTROL, and in particular on the requirements of SESAR, SES Implementation and short-term network improvements. In addition it would improve the transparency of the work to be carried out and of the related resources through a single work programme; the engagement of the stakeholders in the processes of development and delivery of CND; and the civil-military and military-military coordination and cooperation.

Mr Bo Redeborn was appointed Director CND on 1 January 2009. To assist him Deputy Director posts were created with the following responsibilities:

- Deputy Director CND/SESAR Contribution
- Deputy Director CND/Network Development
- Deputy Director CND/Centre of Expertise
- Deputy Director CND/Central Management Functions

### **Agency Support Directorates - Directorate of Resources**

Also in 2008, DG McMillan took a major step in rationalising the support activities of the Agency when he decided to merge the Directorates Finance and Human Resources & Administration (DHA) into a new Directorate of Resources. DHA had previously absorbed the responsibilities of the Directorate of the General Secretariat so this led to a significant reduction in top-level costs.

As Mr McMillan noted “the final result should render the Agency more efficient, and consequently, help us to demonstrate that the Agency efficiently provides its added value to the European ATM system”.

## **Recognition of EUROCONTROL’s Efforts**

### **Single Sky Committee’s Positive Reaction**

The European Commission had regularly expressed the need for EUROCONTROL to modernise itself. Accordingly DG McMillan described progress of the modernisation process to the Single Sky Committee (SSC 28) in November 2008. He highlighted in particular the positive outcome of the 30th Meeting of the Provisional Council and stressed that all these reforms had the objective of reorienting EUROCONTROL towards the fundamental objective of implementing the Single European Sky.

The Chairman “congratulated the EUROCONTROL Agency for this remarkable success, which would enable the Organisation to become a key enabler of the Single European Sky, and confirmed the Commission’s intention to cooperate very closely with this reformed and modernised EUROCONTROL”.

It is worth noting that at that same SSC it was described how the European Commission was meeting the same problems as EUROCONTROL regularly experienced.

*“As far as procedures were concerned, the Commission had to express a serious concern: the rules set by (EC) Regulation No 1794/2006 (the charging Regulation) to ensure appropriate user consultation had not been complied with: Seven Member States had given the information on their 2009 en route costs and charges less than a week before the consultation hearing organised under the auspices of EUROCONTROL’s Enlarged Committee for Route Charges (while Article 15 of the Regulation required that such information be provided three weeks in advance). Two of these Member States had still not given all the required information at the date of the present meeting, two days after the consultation. Beyond the regrettable infringement to European legislation, such delay made it impossible for EUROCONTROL to organise the detailed and comprehensive consultation user organisations were entitled to.”*

Perhaps an indication, given EUROCONTROL’s long experience, that “*plus ça change, plus c’est la même chose*”.



# EUROCONTROL and its Agency - Major Achievements

To describe all the work that EUROCONTROL has done during the 1997-2008 period would require a document on its own.

The full scale of EUROCONTROL achievements are in any case fully described in its regular Skyway publications, as well as other material published by the Organisation. These are all available on the public website at

[http://www.eurocontrol.int/epr/public/standard\\_page/publications.html](http://www.eurocontrol.int/epr/public/standard_page/publications.html)

The following pages, therefore, will concentrate on the:

- *key "new" domains which came from the revised Convention*
- *network management support services in ECIP/LCIP and Capacity Enhancement*
- *two major programmes of RVSM and DMEAN and*
- *pan-European service achievements of the CFMU and MUAC.*

## The “New” Domains

### Safety, Security, Environment, Airports

They were not entirely new at the time since they had been elements, to a greater or lesser extent, in the work of EUROCONTROL since its establishment. However, the impact of the revised Convention meant that the Agency had to build competence rapidly where the requirement demanded not just a core skill in the area but also a multidisciplinary approach across the Agency given the growing complexity of ATM. This often also required the development of new ways of working with stakeholders. Much use would be made, for example, of focussed workshops rather than the traditional “team” method.

Above all these “new” areas required lateral working, giving greater scope for the Agency’s traditional skills of achieving agreement through interactive and iterative processes across an increasingly complex range of stakeholder interests.

They are also areas where there is a future role for the Agency’s recognised objectivity, coupled with its expertise, to make the essential bridge between the requirements of the regulator and the means of implementing those regulations through standard, commonly developed, procedures and practices.

### Safety

The revised Convention brought an enhanced emphasis on safety with the establishment of the SRC and the Agency’s work grew in importance as the need for better and wider safety management became more and more significant throughout the wide scope of first EATCHIP and then the EATMP.

#### **Milan/Linate - Runway Safety**

The Agency’s expertise was required when a Runway Incursions Group was set up after the Milan/Linate accident of October 2001. This initiative by EUROCONTROL, the JAA, ICAO and the Group of Aerodrome Safety Regulators (GASR) produced the “Action Plan for the Prevention of Runway Incursions”, a plan that was later adopted by the Action Group for ATM Safety AGAS (see below) and was incorporated into the Strategic Safety Action Plan (SSAP).

The first recommendation of the Action Plan, to set up a runway safety team at each airport, was implemented and had an immediate effect on raising the awareness of the runway incursion problem.

#### **Überlingen**

Whilst the runway work was still in progress European ATM was shocked by the Überlingen accident on 1 July 2002. The Provisional Council met soon afterwards on 12 July 2002 and it requested Director General Víctor M. Aguado to set up a High-Level European Action Group for ATM Safety (AGAS). The group was established under the co-chairmanship of the SRC and the Agency<sup>32</sup>.

By gathering together experienced safety experts from across the industry to scrutinise all aspects of ATM safety, AGAS would identify the areas where most benefit would be gained by improving safety in the short term. At the same time, it was intended that the longer-term requirements would be clearly identified and a pan-European Safety Action Plan for the ECAC area be produced.

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<sup>32</sup> AGAS was co-chaired by Mr Phil Griffith, President of the SRC and Mr George Paulson, Director of Safety in the Agency.

The Group would produce a full and effective report in nine months, working quickly and expertly.

### **PC/16 - AGAS Produces its Report**

At PC/16 on 10 April 2003 AGAS presented its final report and the Provisional Council launched the Strategic Safety Action Plan (SSAP) which AGAS had developed during its work.

The study drew two fundamental conclusions. Firstly, leadership and commitment to safety in many States - for both regulation and safety management - needed to be strengthened. Secondly, resources, particularly trained and qualified personnel, also required strengthening. Until these issues were resolved little substantial progress could be made on the key problem areas.

The SSAP set out concrete actions for implementation to further enhance ATM safety. The strategic lines of action which AGAS considered to have a direct impact on ATM safety formed the substance of the Plan. These were as follows:

1. *Safety related human factors/human resources in ATM;*
2. *Incident reporting and data sharing;*
3. *Airborne Collision Avoidance Systems (ACAS);*
4. *Ground-based safety nets;*
5. *Runway safety;*
6. *Enforcement of ESARRs and the monitoring of their implementation;*
7. *Awareness of safety matters;*
8. *Safety and human factors research & development (R&D).*

AGAS also endorsed the *Action Plan for the Prevention of Runway Incursions*, referred to above.

At that session of the Provisional Council the Chairman of the CESC reported that the CESC had reviewed the AGAS Report and runway incursion action plan and fully endorsed its recommendations. The European Commission commended the Report, and felt that all involved should work together to address weaknesses in the regulatory structure.

### **SSAP**

The Provisional Council therefore agreed to adopt the "*Strategic Safety Action Plan for Enhanced ATM Safety in a Single Pan-European Sky*" and the "*Action Plan for the Prevention of Runway Incursions*". The EUROCONTROL Commission then approved them and urged States to implement the action plans as soon as possible, in particular the areas of immediate focus, and to seek the support of the Agency and SRC when required;

The Provisional Council then tasked the SRC and the Agency to develop a more detailed action programme and to establish proper mechanisms to monitor the timely implementation of the SSAP and an implementation programme was agreed in February 2004. It covered the eight high-priority areas identified by AGAS and provided a structured and time-based approach to implementation of the many actions required to enhance ATM safety in the high priority areas.

A key decision was then taken at the ACG/23 Special Workshop in May 2004 to merge SSAP Actions with ECIP Objectives which would support the next stage of this important work.

Considerable progress was made over the next three years in raising the awareness of ATM safety needs within the ECAC States and in creating strengthened safety frameworks. However, there were still gaps and there had also been additional issues that emerged from the Linate and Überlingen accident investigation reports which needed to be addressed.

### **Next Steps - European Safety Programme**

The next development therefore was to set up the European Safety Programme (ESP) for ATM which would continue to focus safety enhancements into areas where the greatest benefits will be gained. ESP was a continuation of the improvements started by the SSAP, and set out further the detail of the required actions. It also addressed ongoing safety challenges, in particular those presented by the introduction of the Single European Sky.

The European Safety Programme for ATM was approved by PC/24 in November 2005 and it was launched in February 2006 to run until December 2009, although some follow-on activities are not expected to be completed until 2013.

The aim of the ESP was and is to strengthen the ATM Safety Management and Safety Regulatory Frameworks of all ECAC States to a minimum of 70% maturity by 2009. This would require the completion of a wide-ranging coordinated array of activities by EUROCONTROL and the different stakeholders in the ECAC States.

EUROCONTROL's safety achievements were recognised at ATC Maastricht in 2007 when it was awarded the European ATM Award for "Contribution to European ATM".

### **Safety Maturity as KPI**

Since 2002, the EUROCONTROL Agency has conducted safety maturity surveys of ECAC States' ATM Safety Regulators and ANSPs.

In 2003, the EUROCONTROL Provisional Council set an objective for each Member State to reach a maturity score of at least 70% by end 2008. Target setting has contributed to significant improvement in safety maturity.

The average safety maturity at the end of 2008 was 82% for ANSPs and 76% for Regulators. Between 2002 and 2009 the average ANSP maturity increased by 27% to 82% and the average ATM Regulator maturity by 23% to 76%.

However, the PC target of all Member States was not met by 11 Regulators and 7 ANSPs.

In 2009, it became clear that self-assessment was no longer sufficient and that the safety maturity assessment methodology needed to be revised to satisfy the new SES II and EASA requirements. The Agency will be deeply involved in this work.

# Security

## The Requirement

Before 11 September 2001 security was primarily focussed on classical Annex 17 matters, such as operational aspects of interceptions and emergency handling of aircraft. It was an indirect element in various EUROCONTROL domains including civil-military collaboration.

The attack on the World Trade Centre's Twin Towers changed the aviation environment for good and all segments of the industry came together to respond.

There were two principal security areas that needed to be addressed (these remain the same today):

- *Airspace Security: safeguarding the airspace from unauthorised use, intrusion, illegal activities or any other violation.*
- *Air Traffic Management (ATM) Security: securing ATM assets and services, to prevent threats and limit their effects on the overall aviation network.*

## How EUROCONTROL Acted to Meet the ATM Security Requirement

NATO and EUROCONTROL together established the NATO/EUROCONTROL ATM Security Coordinating Group (NEASCOG) to provide a coordinated focus on airspace security and on the coordination of national defence and security requirements related to airspace security.

For EUROCONTROL, airspace security was therefore primarily dealt with by DCMAC under NEASCOG. Site/facility security specialists were grouped together with airspace security resources to form the Agency Security Office within DCMAC.

The Agency's ATM Security Unit was then set up in 2003 within the Directorate of ATM Strategy as DSA/Safety & Security Management (SSM). As a top priority it addressed one of the Strategic Objectives identified under the umbrella of NEASCOG's decisions in the aftermath of 9/11 when the Unit was established as the regional focal point for ATM Security. Dr Bernd Tiemeyer is the ATM Security Domain Manager.

In December 2006 an important workshop, "Improving ATM Security Together", took place at EUROCONTROL Headquarters at Haren chaired by NATO and EUROCONTROL. It was organised to debate strategic objectives for airspace and ATM security in Europe and its aim was to identify stakeholders' roles, requirements and contributions to ongoing and future developments. More than 200 people attended the event from over 35 nations, including the USA and Israel. The audience was made up of representatives from air navigation service providers, air forces, civil aviation authorities, government ministries (Transport and Defence), police forces, the European Commission and other associated aviation and security organisations.

This identified the scope and dual nature of ATM Security:

1. *self-protection/resilience of the ATM System and service provision;*
2. *support to aviation security incident management.*

The workshop called for the establishment by EUROCONTROL of a dedicated ATM security team to address ANS security-related matters for which NEASCOG did not provide the right platform.

In January 2008, the ATM Security Team (SET) was established as a formal EUROCONTROL stakeholder consultation mechanism and it has since become the principal European governance platform for the security of the air navigation system. It brings together rulemaking, oversight and implementation of ANS Security regulation and it continues to play this role today.

The Security Team is co-chaired by EUROCONTROL and a stakeholder representative. The Team is made up of ANSPs, National Supervisory Authorities (NSAs), the European Commission, ECAC, NATO, some manufacturing industry and specialised security agencies.

### **The Work of the ATM Security Unit**

The work programme and portfolio of activities of the Unit is identified, prioritised and endorsed by the ATM Security team. This breaks down into four major threads and associated deliverables for which SET and the Security Unit are responsible.

- *Framework and enablers for ATM Security/Resilience*
  - *Security Management System Framework*
  - *Enablers: Security Risk Assessment Methodology, Critical Asset Identification Method, Threat Modelling*
  - *Security Risk Management Toolkit: merging enablers into one document; set of practices*
  - *targeted topic-specific workshops*
- *Support to Agency activities and stakeholders*
  - *Agency risk assessments*
  - *SES Implementation activities*
  - *Functional Airspace Blocks*
- *Pan-European/international collaboration*
  - *NEASCOG: coordination of NEASCOG activities; regular briefings on ATM Security/SESAR developments, input to NEASCOG deliverables, contribution to task forces; harmonisation and consolidation of ATM Security Risk Assessment Methodology*
  - *EUROCAE: contribution to standardisation, eg Aeronautical Information System Security; Unmanned Aerial Vehicles*
  - *ECAC: close collaboration with ECAC Guidance Material Task Force, regular participation to ECAC Security Forum; input to Security Management System discussion*
  - *ICAO: briefing to ICAO Air Navigation Board; participation in the ICAO Working Group on ATM Security*
- *ATM Security Culture, Training and Awareness*
  - *ATM Security Awareness Material*
  - *ATM Security Training: pilot course ; development and delivery initial ATM Security Risk Management Course*

As can be seen from this international institutional collaboration is a major responsibility of the ATM Security Unit and there is a high level of buy-in and recognition of the performance and impact of both the Security Unit and SET mechanism. There is strong support from the European Commission and SET stakeholders, both NSAs and ANSPs, that SET represents the appropriate discussion platform for those applying ANS Security rules and those supervising their implementation.

## **The Agency's Multidisciplinary Approach in Security**

The dual nature of ATM/ANS Security requires a close cooperation with DCMAC. This includes monthly coordination meetings aiming to align the activities of both units to the extent possible.

Within EUROCONTROL both Safety and ANS Security share common objectives (e.g. continued provision of services) and resources. Hence, work on the alignment between Safety and ATM Security has been led by the ATM Security Unit.

The human role is also well recognised. The Security Team identified a requirement to further investigate human factors (e.g. insider threats) and organisational measures (e.g. establishing an ATM security culture). In this context targeted activities with the collaboration of the Agency's human performance experts were carried out.

The preparatory action for SESAR required the development of an aligned and joint approach in the Agency to transversal areas. The Security Unit coordinated across safety, ATM security, environment, human performance and business case domains.

There has also been close collaboration with the Agency's SES Implementation Service (SEIS) on support to Member States in the implementation of the European Commission's Common Requirements (CRs) and these activities ranged from single-State support to multi-State projects.

The deliverables of the Security Unit and Security Team have been used in full by ICAO, ECAC and the European Commission.

## **Security - Results Achieved**

The NATO/EUROCONTROL ATM Security Co-ordination Group (NEASCOG) and the EUROCONTROL ATM Security Team (SET) are the only fora in Europe dealing with airspace and ATM security respectively.

EUROCONTROL has as a result become the focal point for the development of material to support regulatory interpretation and associated implementation guidance.

EUROCONTROL shares best practices with its stakeholders on implementing security measures, develops new concepts and analysis methods, and organises workshops on airspace and ATM security. EUROCONTROL also ensures that security is built into the design of the future European air traffic management system.

On the international level, the Security Unit is a recognised centre of expertise regarding ANS security, security management systems, and cyber security in aviation/ATM.

## **Future Role for the Agency**

In 2009, the DGCAAs tasked ECAC to develop an amendment to ECAC Doc 30 regarding ATM Security. The close collaboration between ECAC and EUROCONTROL resulted in a new Doc 30 recommendation specifying general requirements for ATM Security and associated guidance on establishing a Security Management System and protecting critical ATM infrastructure, systems, personnel and operational data. There is further demand for developing guidance material for the oversight of ANS Security.

Based on the findings of the SESAR Definition Phase, ANS security is a recognised performance area and enabler of the future ATM System. In the European ATM Master Plan, ANS security is a recognised transversal area directly supporting the overall SESAR Business Case. Although all projects in SESAR will have to address security, the Agency will lead the specific WP16 focussing on the development of an ANS Security Framework for SESAR and associated methods/tools and guidance material.

As well as being involved in the SESAR Definition Phase there has been a growing requirement from the European Commission for support to ANS security rule development and implementation support, including a request for development of a comprehensive ANS security strategy.

All this demonstrates the added value of EUROCONTROL as a centre of expertise for ANS Security, providing not only regulatory support but also acting as a stakeholder communication facilitator.

## The Environment

### The Requirement

Article 1 of the revised EUROCONTROL Convention described the commitment of the Contracting Parties to the environment: *"...taking into account the need to minimise, where this is feasible, inter alia, in operational, technical and economic terms, any adverse environmental impact"*.

Additionally, the ATM 2000+ Strategy set out as one of its major objectives: *"To work with ICAO and its Member States to obtain improvements in ATM, in particular the accelerated implementation of CNS/ATM concepts, procedures and systems which help to mitigate the impact of aviation on the environment."*

This reflected to a large degree the continual political pressure on aviation from the European Parliament and non-governmental organisations to reduce its environmental impact which feeds back into the responsibilities of the Agency.

In an early response to these requirements, Director General Yves Lambert established an environmental focal point at HQ, Mr Arthur Lieuwen, and at the EEC the first dedicated environmental research group was set up under Mr Ted Eliff, building on some initial work on airport environmental research at Manchester. Work began on preparing a strategy.

### Environmental Strategy Approved

In April 2001, the PC approved by correspondence the "EUROCONTROL Environmental Policy and Strategy" which set out why the Organisation was involved in this issue, and also what the role of the Agency should be in order to meet the growing demand for regulatory support, operational, research and policy work streams. That has provided the framework for activities ever since.

The Environment Domain was established in 2003 and then with the establishment of CND a single Environment Unit (ENV) was set up under one manager, Mr Andrew Watt.

The unit contains a mixture of scientists, engineers and air traffic controllers, with the emphasis mainly on scientific knowledge. The Agency has built one of the most effective groups of expertise on environmental ATM issues, and the quality of the staff is recognised externally.



## Meeting the Requirements

The Agency's ENV unit has created three world-class CNS/ATM environmental impact assessment models for fuel burn/greenhouse gas emissions; airport local air quality and aircraft noise. The Advanced Emissions Model, the Airport Local Air Quality Model and the STAPES<sup>33</sup> Regional Noise Model all successfully passed the stress tests for modelling established by ICAO's Committee on Aviation Environmental Protection (2002-2009).

The Unit established, hosts and manages:

- *the Aircraft Noise Performance database on behalf of ICAO which is used by over 200 aircraft/airport noise modellers world-wide (from 2006 onwards);*
- *the ICAO Common Operations Database, together with the FAA under the overall joint MoC, providing reliable record of global air traffic movements, underpinning global aviation emissions analyses (from 2006 onwards).*

It carried out the environmental impact assessments of introducing RVSM and 8.33kHz channel spacing (above FL195) in 2002 and 2003.

It incorporated its Advanced Emissions Model in the SAAM tool for airspace analysis, so that SAAM-based assessments of airspace changes automatically generate fuel and emissions impact information. Such information is now published for every airspace change proposed by EUROCONTROL from 2008 onwards.

The Agency published the world's first harmonised Continuous Descent Approach guidance, in 2007. <sup>34</sup>

In coordination with IANS, and as a reflection of the Institute's new role, the Unit organised the first ever aviation environment training courses through eLearning in May 2006. There is now a triannual classroom course at IANS from May 2008.

## Working with the European Commission

Beginning in 2004 the unit supported the European Commission in establishing the aviation element of the EU Emissions Trading Scheme (EU ETS), which would enter into legal force in 2009. The role for EUROCONTROL foreseen in this legislation is to support aircraft operators and States with data to meet their Monitoring, Reporting and Verification requirements.

The Agency concluded two cooperation agreements, in 2008 and 2009, with the European Commission to support DG-ENV (now DG CLIMATE ACTION). The Agency will also support the European Commission in meeting its own regulatory obligations for aviation under the ETS; namely, the creation and maintenance of the "list" associating aircraft operators with the State that should regulate them, and the calculation of the historical aviation emissions for 2004-2006. This work has required cross-Agency cooperation by CND, CFMU and CRCO.

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<sup>33</sup> STAPES (the System for Airport Noise Exposure Studies), a multi-airport noise model capable of providing valuable input into both European and international policy-making assessments, in particular ICAO's Committee on Aviation Environmental Protection (CAEP).

<sup>34</sup> The Agency later launched, with IATA, CANSO and ACI EUROPE, the European Joint Industry CDA Action Plan at the Global Aviation Environment summit, Geneva, on 31.3.09. It would lead the roll-out of Continuous Descent Approach in Europe, securing its introduction at over 20 airports in 2008-9, with a further 60 or so committed to do so, to reach a target of 100 airports by 2013 (2008-2013).

## **PAGODA**

Following the Kyoto Protocol on climate change, the European Commission sought EUROCONTROL's assistance in estimating the amount of CO<sup>2</sup> resulting from European aviation activity. To meet this requirement the ENV Unit led the key development of the "PAGODA" portal to provide the environmental view of flight data.

Hitherto the conventional method for making such estimates was based on the monitoring of national bunker stocks of fuel. However, by using the flight plan records held in PRISME<sup>35</sup>, the EUROCONTROL ATM data warehouse, which contains trajectories and aircraft types for all flown flights, it was possible to calculate an estimate of the fuel burned in each flight and hence the amount of CO<sup>2</sup> created.

This was an innovative approach and, when it confirmed the earlier estimates from the bunker fuel monitoring, the EUROCONTROL method gained considerable credibility. Furthermore, while the original aim was to determine a single figure, it was now possible to do much more detailed analyses based on time windows, aircraft types, geographical locations etc. This new facility, along with the various analysis tools, became known as PAGODA, the name reflecting "Kyoto" as well as the multi layered data base. It has since formed the mainstay of EUROCONTROL's environmental monitoring effort and has provided EUROCONTROL with the ability to add true value in the aviation environment field.

When PAGODA is combined with forecasts of traffic from STATFOR the Agency will be in a position to make long and short term forecasts of aviation emissions.

As another example of the synergy of EUROCONTROL the flight efficiency and environment indicators, developed within PAGODA by cross-Agency groups, are the basis for much of the relevant analyses within the Performance Review Reports.

## **International Global Partner**

The Agency works with ICAO's Committee on Aviation Environmental Protection (CAEP) to provide technical support and has the lead on greenhouse gas modelling in its Modelling and Database Group. It also supported the work of ECAC's environment group ANCAT (Abatement of Nuisances Caused by Air Transport), contributing strongly to updated airport noise contour methodology<sup>36</sup>.

The Environmental Unit led the first work in ICAO to assess environmental operational goals for ATM and that to undertake a high-level assessment of environmental benefits that could come from ATM measures.

Agency staff are regularly requested to contribute presentations and articles, to attend international meetings, to chair conference sessions, and, reflecting the Agency's expert objectivity, to provide independent advice to States and the EC on aviation environmental issues.

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<sup>35</sup> PRISME = Pan-European Repository of Information Supporting the Management of EATM

<sup>36</sup> ECAC Doc. 29 Third Edition, published in 2008

## **Future Role for the Agency**

A key focus of the Agency is increasingly on flight efficiency, essentially an operational issue. The role of the Agency's environment experts will be to provide support and advice in this area, increasingly focussed on processes and methodologies for assessing the environmental impact of ATM improvement initiatives. It will also support operational work in the CFMU and MUAC on fuel burn/emissions awareness. Training will also be an increasingly important part of this work, covering continuous descent approach and fuel management awareness as new courses.

From the research perspective, the focus will be on delivering the four projects that the Agency will lead within SESAR's Deployment Phase covering next generation assessment models; next generation indicators; environmental risks on ATM and legislative risks on ATM. In addition, the Agency will lead the work package to drive environmental awareness and assessment processes into the overall SESAR Work Programme.

On the regulatory side, the ENV Unit supports the Member States, the European Union and ICAO as required, working closely with both DG MOVE and DG CLIM within the EC, as well as EASA and the JRC, building on the excellent relations that have been nurtured now for some years. The work with STATFOR to deliver ENVFOR (providing the fuel/emissions view of traffic forecasts) will become increasingly important.

Its regulatory work on the ETS should also support States directly through the provision of an ETS Support Facility to allow States to manage their own regulatory responsibilities concerning monitoring, reporting and verification within the scheme. This should be approved by the PC in May 2010 and go operational from late 2010 onwards.

Overall, the need for environmental data, impact assessment modelling and indicators is expected to continue its strong growth as the EU's performance scheme for the SES comes strongly on-stream and regulatory pressure builds on a regional and global basis.

## **Unique Value from the Agency**

The ENV Unit is typical of the ability of the Agency to adapt itself to new tasks and to use the breadth of its expertise and experience to bring integrated responses. The ENV unit has lateral contacts within both the Agency itself and external bodies and stakeholders, demonstrating that the Agency works successfully in an open partnership, still fulfilling its original Mission.

## Airports

### The Requirement

The revised Convention set down in its Preamble and in Article 2.1 specific mention of the need for the uniform air traffic management system to include airports and for coordinated policies to improve air traffic management at and around airports.

The ATM 2000+ Strategy was “gate-to-gate” and an integral and important element of this strategy was airports. It was obvious that EUROCONTROL, working closely with stakeholders, had achieved considerable success in creating and managing significant en-route capacity. What was not known was the capacity of the airport network. Was it sufficient to deal with this extra traffic and at what point would it become saturated? Would airports become a constraint to growth and if so which airports and in what timescale?

### How EUROCONTROL Acted to Meet the Requirement

In response EUROCONTROL’s Airport Unit was formed in 1999, headed first by Mr Michael Loghides, then for an interim period by Mr Jaime Valadares (seconded via ACI-Europe from ANA-Portugal) and since 2001 by Mr Paul Wilson, previously General Manager UKNATS at Stansted Airport.

Paul Wilson noted that the early years of the EUROCONTROL Airport Unit were, however, not easy.

*“The stakeholders felt that airports, with their huge variety of ownership permutations, were not understood by EUROCONTROL, and the perception was that gold-plated solutions, that were not really required, were being proposed. There were some difficult early Airport Operations Team meetings, much of which was primarily due to mutual misunderstanding, but we have to remember that the period had seen a great deal of change in the aviation industry, mainly with the coming into force of the European Community’s so-called Liberalisation package. Airlines saw their ownership structure profoundly modified, airports were progressively privatised or corporatised and some ANSPs went along a comparable process. This greatly influenced the perception of EUROCONTROL’s role and stakeholders’ expectations were sometimes extremely difficult, if not impossible to satisfy.”*

*“Eventually however, a robust cooperation structure was agreed upon, which materialised in the creation of an Airport Cell and improved cooperation with the Airport Council International (ACI). The next few years were a major learning curve for EUROCONTROL. The complex nature of airports was realised, the key problems facing airports were better understood and the relevant Work Programmes were initiated to address these issues. Most importantly, the need to forge strong links with airport stakeholders and airport associations was deemed a priority action, and considerable efforts were expended in establishing these relationships.”*

### The Airport Programmes - Airport and Runway Capacity Improvements

The first EUROCONTROL programme was focussed on the most urgent operational problems facing airports - the projects related to safety and capacity - but also with an increasing emphasis on efficiency as the downward pressure on airport costs continued to grow. The need to involve the airport associations and airspace users in the workings of the unit was also of prime importance, so much so that representatives from both the ACI EUROPE and IATA both spent several days per month working with staff of the airport unit.

The first programme was completed and achieved all the objectives set by stakeholders.

The second programme (which is still continuing) was again devised primarily by stakeholders and addressed many of the outstanding issues that were not addressed in the first tranche of work. It was clear that as airport capacity was gradually used there was a pressing requirement to enhance airport throughput at some locations.

It was first necessary to make optimum use of available infrastructure and then invest in new concrete. This latter option can be extremely time consuming in terms of obtaining the necessary building permission and also very costly. Not only are new runways extremely expensive to construct, but any decision on this is clearly outside the responsibility of EUROCONTROL. The option of maximising the usage of the existing airport runway systems, however, was addressed by the Airport Unit with considerable success, and the methodology which it developed has subsequently been employed at many airports across the European region.

The first stage therefore was to produce a modelling methodology that would allow the actual capacity of a runway to be determined. These assessments are very site specific and depend on facts such as the layout of the runway and taxiway system and the types of aircraft that use the airport. The assessment methodology used one of the first products of the airport unit known by the (rather) difficult name of CAMACA - the Commonly Agreed Methodology for Airside Capacity Assessment<sup>37</sup>. Many airports, including in India and China, have used this highly accurate process to define their existing capacity and help with planning and achieving future requirements.

The EUROCONTROL contribution to capacity from this point onwards followed two broad lines based firmly on collaborative decision-making (CDM) processes. Firstly staff from the Airport Unit, working with many stakeholders, devised a methodology for the existing runway systems to be used to the maximum extent possible. This methodology involved the airport stakeholders (representing ATC, the airport operator itself and the airlines) working closely together in order to fine tune existing methods of operating, and where appropriate, implement new capacity enhancing procedures.

The second line of work involved integrating airports fully into the network capacity planning process. The need for fully integrated planning is obvious - there is no point in enhancing en-route capacity if the traffic has nowhere to land. Equally, why should an airport spend millions on improvements if the aircraft are constantly delayed at the gate due to en-route restrictions.

## **The Impact of the Airport Unit's Work**

Both of these lines of action have been successful. The capacity enhancement process has delivered increases of up to 20% where it has been implemented. Taxi times are being reduced by 10%. In 2007 a CDM project at Munich airport alone produced fuel savings at Munich of €2.65 million per annum (18,700 tonnes of CO<sub>2</sub>).

Likewise, data from airports, both strategic and tactical, is now inserted into the network plans through airport collaborative decision-making procedures to ensure a fully coordinated and synchronised operation is planned and implemented. To date this has proved to be extremely important and within the Dynamic Management of the European Airspace Network (DMEAN) concept it is considered essential information that must be included in the Network Operating Plan, a pre-requisite for obtaining maximum usage and efficiency of the European network.

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<sup>37</sup> Which has been further developed as PIATA (Performance Indicators Analysis Tool for Airports)

The ACI is also represented on the ANSB, thus ensuring not just that the airports' voice is heard at high level but also that the integration of airports into the overall network planning process is facilitated.

In recognition of the importance of the Airport Unit's work the Airports Programme won the 2008 Jane's Airport Review ATC Global Award for its contribution to European ATM.

### **Future Role for the Agency**

Looking at the increases in traffic that are forecast, the future role of EUROCONTROL in airports is clear. The requirement will be to achieve a maximum and consistent throughput in all weather conditions. The pan-European coordination effected by EUROCONTROL, involving many stakeholders, will aid this goal to be achieved and eventually the ICAO standards to be updated.

In the first programme procedures for capacity enhancement and collaborative decision-making were successfully produced and validated. These are now becoming available to stakeholders for local implementation and in the future little or no assistance will be required from EUROCONTROL as these are introduced at various airports.

The focus for the future will be to develop new processes or amend existing ones that will allow every runway to be used to its maximum potential in the most efficient way by addressing any outstanding problem areas. Areas of work are, for example, the updating of the wake vortex separation standards, for which the technology is now becoming available. The possible benefits may be enormous if this project can be successfully concluded.

At the same time the safety of runways, which are more and more engaged in high-intensity operations, needs to be improved. Here the Airports Unit works closely with the Safety Unit in the Agency.

There are an average of two runway incursions per day recorded in the ECAC area. Local Runway Safety Teams and their parent organisations are actively engaged in devising and implementing initiatives that will enhance the safety of runway operations, and the majority of the recommendations contained in the European Action Plan for the Prevention of Runway Incursions have been implemented at many airports across the European region. Even so, with these levels of incidents and rising levels of traffic, the associated potential for another collision means that there is a clear need for a new generation of safety nets, such as a ground based collision avoidance system that will remove the danger of runway incursions.

The next stage therefore is to tackle some of the more difficult problems that continue to have an adverse impact on the network. The duration of these work streams will be larger than those employed in the first programme, and as the Agency seeks to change and update ICAO standards this work will increasingly involve enhanced collaboration with other organisations such as the FAA. Much work remains to be done to focus on the full integration of airports into the European Air Traffic Network.

# Major Programmes - RVSM and DMEAN

## RVSM

### The Requirement

As described in Part 3, Reduced Vertical Separation Minima (RVSM) had a long pedigree. It was first introduced on a trial basis across the North Atlantic in 1997 and implementation across the Pacific followed.

However, European airspace is far different to the oceanic environment. North Atlantic traffic is characterised by similar types of aircraft and uni-directional traffic flow, while Europe has a very large number of different aircraft types, high traffic density, a large percentage of climbing and descending aircraft and a complicated route structure full of major crossing points.

### The Decision

The first meeting of the Provisional Council in January 1998 instructed the Agency to produce a draft RVSM Master Plan and agree it with the 38 National RVSM Programme Managers by the end of 1998. This was then proposed to the RVSM Programme Management Board in January 1999 and the ACG in March 1999.

Mr Joe Sultana was appointed as EUROCONTROL's programme manager.

The Master Plan was approved by the PC at its fourth session in April 1999 which also set the implementation date of 24 January 2002 for RVSM between FL 290 and FL 410 within the European Area. IATA and AEA congratulated the Agency on the excellent work carried out.

### A Complex Task

It was a programme that took all the Agency's experience in handling the sensitive political issues of such a widespread implementation, its technical expertise and a considerable investment of time.

By reducing the minimum to 1,000 ft (330 m), 6 extra flight levels would be created, bringing the total to 13. This would allow more aircraft to fly at the most fuel-efficient cruising altitudes while reductions in fuel consumption would also provide benefits for the environment. RVSM would also increase safety by reducing the number of aircraft forced to share potentially conflicting routes on the same flight level. It was expected that capacity would increase by up to 20%, helping airlines to meet rising demands for flights.

The RVSM Programme was also the first European programme where a safety critical part of the ATM system would be implemented at the same time across so many States. This required close and constant cooperation between national RVSM Programme Managers and the Agency Management Team.

European RVSM took more than four years of planning, which included an extensive aircraft height-monitoring programme. The 6,000 controllers of all 41 States and the pilots and flight planners of 2,300 operators had to be trained and prepared for its implementation. The height-monitoring programme was necessary to ensure that aircraft types met strict height-maintenance requirements, vital when separation standards between aircraft were just 1,000 ft. That system allowed more than 8,000 aircraft, comprising over 100 different types, to be approved to fly in RVSM airspace - and it also highlighted which aircraft required modifications to allow them to fly in the RVSM zone.

## Implementation

The programme came together on 24 January when an EasyJet Boeing 737 flying from London to Athens became the first aircraft to fly in European RVSM airspace. By 1300 hours on 24 January more than 6,000 aircraft had flown through RVSM airspace with no problems reported.

EUROCONTROL had established an RVSM Response Cell specifically to handle any problems during the move to RVSM and in the early days of its implementation. During the first four days of RVSM, regular reports were received by the response unit from all of the countries involved and selected aircraft operators.

"Everyone reported positively, with only minor issues being raised. The Response Cell was closed after four days of RVSM operations," Joe Sultana reported afterwards.

Capacity reductions of 15-20% were put in place during the implementation to ensure that controllers could handle the new procedures and to ensure the introduction went smoothly. But in most cases sector restrictions were lifted by 29 January, with many removed just hours after RVSM implementation.

This was much earlier than expected and in some cases capacity restrictions were not needed at all. By 20 February there were no capacity restrictions remaining.

This was the biggest change to air traffic management (ATM) on the continent in 50 years. Nevertheless, RVSM was introduced on time and within budget. Director General Víctor M. Aguado described the programme as the biggest change in Europe's airspace for 50 years. He also noted, at the European Commission's HLG Workshop on Aviation Regulation in 2006, "RVSM was not driven by regulation, but carried out as a pan-European implementation programme through one coordinating agency."

## Costs and Benefits

RVSM had cost Europe € 150 million with about € 60 million spent by airlines on modifying aircraft and training crew, € 60 million invested by air navigation service providers and a further € 30 million spent on the aircraft height monitoring system.

But in return RVSM was expected to save € 3.9 billion a year through delay reductions and fuel economy. The addition of six new flight levels meant that more aircraft could fly at the most fuel-efficient cruising altitudes. It is estimated that on average 80 kg less fuel would be needed for each flight in the RVSM environment. Based on 10,000 flights a day using European airspace, this added up to more than 290,000 tonnes a year, yielding huge cost savings and environmental benefits.

EUROCONTROL won 2002's "Flight International" Aerospace Industry Award for its Reduced Vertical Separation Minima (RVSM) Programme.



## **First Use of Safety Case**

RVSM was also the first programme that used a full EUROCONTROL safety case analysis. The Pre-Implementation Safety Case (PISC) showed that all aspects of safety had been considered during the Programme's development. The PISC was a comprehensive assessment of the many safety facets surrounding the RVSM Programme. With some 41 States involved, it was a formidable task that was achieved to demanding milestones.

The PISC was thoroughly scrutinised by the SRC, which was satisfied that the RVSM safety objectives would be met and therefore recommended to the PC that RVSM implementation should proceed as planned. There were no safety-related incidents associated with the implementation.

## **The Monitoring Programme**

While much of the attention was on the introduction of the reduced separation, the technological challenge of maintaining height separation has not received the same attention. Nevertheless the Agency was equally responsible for ensuring the effectiveness of the monitoring programme.

Accordingly it established a height-monitoring infrastructure, based on International Civil Aviation Organization (ICAO) requirements and North Atlantic RVSM experience. The EUROCONTROL Regional Monitoring Agency (RMA) has been continuously monitoring aircraft height keeping performance in European Airspace since RVSM was introduced.

This was contracted out to ANSPs until the end of 2004. However, in 2003 the Provisional Council in its 18th session noted that consultation with EUROCONTROL's stakeholders, as well as the recommendations of the ICAO EANPG, focussed on the operation of the existing RVSM Height-Monitoring Arrangement beyond the year 2004 by the EUROCONTROL Agency.

The 18th Provisional Council therefore agreed that the Agency should act as the RMA for the present European RVSM area and since then EUROCONTROL has carried this out on behalf of ICAO, ensuring the application of ICAO's Annexes 6 and 11. The Agency therefore reports annually to ICAO's EANPG.

Here the Agency has demonstrated again its expertise and impartiality in ensuring that European ATM performs in a safe and efficient manner. The RMA is operated in a manner acceptable to global airlines and manufacturing industry as a European public service.

As a result of this positive experience EUROCONTROL has been asked to mentor Russia's monitoring agency as it develops its systems and processes.

## DMEAN

### The Requirement

In November 2002 this key activity of EUROCONTROL had its genesis when the Director General and Senior Director proposed to the 15th session of the Provisional Council a new pan-European initiative to bring together the ATFM Action Plan, the Flexible Use of Airspace Action Plan and the ATM Domain Strategies.

European ATM capacity had increased by 50% over the previous five years and had absorbed the growth in demand. Nevertheless the planned network capacity increases of 3-4% over the next five years would not be enough to accommodate the future traffic forecasts of a 3.75-5.3% increase and meet the PC's delay target. Therefore a network annual capacity increase of 5% was required.

This new "dynamic management of the European airspace network" (DMEAN) was aimed at providing specific ATM improvements associated with some of the concepts of the Single European Sky. The key aspect in DMEAN was to make better use of the airspace as a whole by relying on existing technologies and using it to release latent capacity in European ATM. It was estimated that 75% of the necessary work was already available within existing EUROCONTROL programmes.

It was another important step towards improving the performance of the European ATM network as a whole.

### Involving the Stakeholders

After that 15th session the ACG, CMIC and the CESC all gave their support with the CESC (March 2003) affirming the need for European airspace to be managed in a coherent way as a network with the involvement of all the key players and asking the Agency to work closely with the ANSPs in this.

The DMEAN Steering Committee (DSC) was then set up by the Director General comprising high-level State authorities, ANSPs, civil airspace users, the military and the European Commission. It was chaired by Mr Bernasconi, DOps Skyguide, who said that "without a collaborative approach to network improvements, we will not be able to serve our customers". The DSC held its first meeting in February 2004 and thereafter a Master Plan was developed and endorsed by ACG, EAG and CESC, as well as with the military specialist bodies, including CMIC.

### The Framework Programme is Established

Subsequently the Provisional Council, at its 21st Session in November 2004, expressed full support for this Agency initiative and agreed to the establishment of a framework programme. DMEAN was fully supported by the European Commission which recognised that a pragmatic, cost-effective approach, based on current concepts and reasonable enhancements to current systems, would allow European ATM to align with SESAR.

Mr Joe Sultana, who had so ably managed EUROCONTROL's RVSM Programme, took over as DMEAN Framework Programme Manager.

In September 2005 the DMEAN Framework Programme developed an Operational Improvements Action Plan for 2006-2007 and this was linked to the CFMU's Network Operations Plan (NOP). The Summer 2006 NOP therefore offered a unique overview of the network as a result of this successful operational partnership approach involving the Agency and main ATM partners.

## **DMEAN Benefits**

The first operational improvements were delivered in 2006.

Agreement had been reached on airspace design and management plans to implement more conditional routes, providing reduced route length, and improvements to airspace use planning on the day before. There were also plans for optimised coordination between the military, air navigation service providers and the CFMU to address airspace availability changes. These included improved notification to the aircraft operators, and flight planning processes which supported airlines in dealing with changing airspace availability.

By early 2008 the operational integration of airports into the ATM network, another DMEAN cornerstone development, was progressing well with more and more airports recognising that being a full network partner was essential for both themselves and the network. Airport CDM was now accepted as a major next step for airports in meeting many of their complex requirements and that work by the Agency is described elsewhere.

It was not only planning but realisable benefits coming from action. The potential for the resultant short-term wins was described by Fred Bloem, FMP Manager and ATFCM Expert, LVNL/ATC Netherlands. "For LVNL it was very important to assess integrated ASM/ATFCM processes during the real-life trials in order to test the concepts which were developed on the basis of the DMEAN principles. The benefits coming out of these trials were considered an eye-opener."<sup>38</sup>

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<sup>38</sup> Skyway 47, Spring 2008

# Network Support Services

## ECIP/LCIP and Capacity Enhancement

### ECIP/LCIP

The ECIP/LCIP system had demonstrated that it fulfilled the requirement from the managerial adage that “you cannot manage what you cannot measure”. Since its inception, the European air traffic management system’s good performance had depended not just upon regular operational improvements but also upon ECIP/LCIP as a means of measuring implementation of those improvements.

LCIP documents had since been produced every year. They had shown:

- *how States integrated agreed implementation actions into their national plans;*
- *to what extent they complied with the deployment dates of the implementation objectives;*
- *how far they were meeting the European Performance Targets set by the Provisional Council.*

The prescience of the earlier years, when the ECIP/LCIP mechanism was strongly promoted by Mr Wolfgang Philipp, and the effectiveness of the system built up over the years by a strong Agency team, received full recognition when the European Commission needed a similar mechanism to support the SES proposals.

### Essential Tool for SES Requirements

In early 2008 the ECIP/LCIP process was reviewed by both EUROCONTROL and the European Commission and a revised format was developed for the Single European Sky. Agreement was reached in June 2008 between the Commission services and the Agency on new reporting templates and processes. The results were presented at a joint Commission-EUROCONTROL Workshop held on 10 September 2008 and the new documents were discussed by a very large and representative group drawn from the Member States, including Members of the Single Sky Committee (SSC) itself, and all stakeholders. The new process would be called the European Single Sky Implementation (ESSIP) and the local document the Local Single Sky Implementation Plan - LSSIP.

As a result of this work, at the 27th Single Sky Committee in September 2008, the SSC Chairman thanked the Commission services and EUROCONTROL for the quality and efficiency of the work done. He welcomed the outcome of this collaboration, which would generate important synergies at both National and European levels, make use of EUROCONTROL expertise, and set up clear and single reporting mechanisms and documents.

### An Important Duty for the Agency

The European Commission then officially requested EUROCONTROL to take the responsibility of collecting, validating, and analysing on behalf of the Commission the States’ Annual reports on SES and FUA implementation. The LSSIP would henceforth be used for the States’ annual reports on SES implementation and on the Flexible Use of Airspace (FUA).

Thus EUROCONTROL has the important duty of analysis on behalf of the European Commission which is a strong recognition of its independence and expertise. It monitors progress made in the regulatory implementation of the Single European Sky, integrating the data provided by European Union Member States. All relevant EUROCONTROL local implementation plans and progress data continue to be collated and inserted into the LSSIP document.

Initial assessments made in 2009 by both the EUROCONTROL Agency and the ATM community would indicate that this first cycle of SES local reporting through the LSSIP had been a success. European Union Member States and associated States are able to fulfil their reporting obligations to the European Commission, and to benchmark their level of implementation against other States. For non-EU ECAC States, it allowed them to demonstrate how far they have implemented the EUROCONTROL Regulatory Requirements and Specifications.

The LSSIP can, however, only be as good as the information it contains and so it is essential that States provide the right quality and quantity of information. All parties involved need to have a clear, complete picture of the status of implementation actions on a European level. They can then identify emerging issues and suggest potential corrective measures - as stipulated in the European Implementation Progress Report and the EUROCONTROL Report on SES Legislation Implementation.

The responsible Agency team will ensure continual involvement of the stakeholders in this important task, as it has done since the first CIP and LCIP reports were produced.

## Capacity Enhancement

### The Requirement

The need for a strategic assessment of capacity in the medium-term was agreed at the third Provisional Council meeting in November 1998 when discussion on the future showed the clear need to put the Organisation on to a proactive rather than a reactive footing. This led to the establishment of a Medium-Term Capacity Enhancement Task Force (CETF) as a first step in creating a capacity enhancement support function within the European Air Traffic Management Programme (EATMP).

### The Agency Acts to Meet the Requirement

A proposed methodology was developed by the Agency for identifying potential capacity shortfalls, utilising the EUROCONTROL Experimental Centre's Future ATM Profile (FAP) model simulations<sup>39</sup>. This was endorsed at the ATM/CNS Consultancy Group's fourth meeting in early 1999. Some early intermediate FAP results were presented at the ACG/5 and PC/5 meetings in June and July 1999 respectively and these early pilot study results indicated that there were likely to be continuing capacity shortfalls in a number of ECAC airspace areas in the period under consideration.

The Agency's proposed methodology was endorsed at an ACG workshop dedicated to this purpose. This was a joint approach with the Agency's stakeholders, and especially ANSPs, which would bring the combined expertise and experience of all concerned to this common problem. The objectives were to

- *Identify the capacity shortfalls over the 2002-2005 timeframe by analysis of future traffic forecasts compared to the future expected ATM capacity for each FIR within the ECAC area.*
- *From this to examine where additional capacity was needed and develop proposals to address these outstanding shortfalls.*

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<sup>39</sup> FAP had been developed from the work done to support the MUAC Task Force described in Part 3

Working through the ACG and the ATM/CNS focal points in the ECAC States, data was then consolidated in the national and international plans and programmes for capacity enhancement.

The Provisional Council at the fifth session then received the Agency's proposals to include medium-term capacity planning in the new European Convergence and Implementation Plan (ECIP)<sup>40</sup> process. The Agency also outlined the further initiatives that were being taken to maintain the momentum of the capacity enhancement process, including the Director General's initiative to work with the States and ANSPs in the core Four States (CH, I, E, F) Task Force described earlier.

### **Establishing the Capacity Enhancement Function**

Thereafter the Provisional Council, in its sixth session in November 1999, welcomed the Director General's initiative to establish the proposed capacity enhancement function within the Agency. This cooperative process, based on lateral working within the Agency, would be established as a highly successful example of the Agency working with stakeholders in a productive partnership. This work was led by Mr George Paulson, Director of ATM Programmes, who had also chaired the successful CHIEF Task Force.

The importance of this work should not be underestimated. It underpinned the purpose of the EATMP programme as a whole to enhance system capacity while, at least, maintaining safety levels. The medium-term planning mechanism would assist directly in quantifying where and when capacity was required. It also provided a direct link to the Provisional Council's ongoing strategic objective of improving capacity.

This process of aligning the EATMP's 22 component programmes for delivering medium-term capacity also took into account the objectives of ATM 2000+ so as to ensure consistency with the long term. In this way the implementation of the 22 programmes was the start of the roll-out of the ATM 2000+ Strategy.

### **A Successful Partnership**

Thus began the successful partnership of the European ATM network capacity planning process in which National Authorities, ANSPs, aircraft operators, airlines and the EUROCONTROL Agency would work together to ensure the timely delivery of ATM capacity by identifying existing bottlenecks and forecasting future capacity requirements.

### **A Clear Link to Strategic Objectives**

The partnership also provided a direct link to the Provisional Council's on-going strategic objective of improving capacity.

The partnership approach delivered results:

- *In 2000, the first 5-year capacity requirements were prepared for each of the European ACCs for the period 2001-2006;*
- *In 2000, the first consolidated information on future capacity plans was prepared by the CEF for the Directors ATS Operations (DOPs);*
- *In 2001, for the first time, EUROCONTROL held bilateral discussions with all European ANSPs, promoting a good understanding of the capacity planning process across Europe and initiating the timely preparation of the first 5-year capacity plans at ACC level – now a fundamental part of the cyclical annual process. These first meetings were key to ensuring that the implementation of RVSM one year later would bring the expected capacity benefits;*

- End of 2001 – publication of the Summer 2002 Capacity Planning Report, that incorporated in one single document all the network and local plans, including a delay forecast, for the ATM community. This was an essential building block for the Summer Network Operations Plan (NOP) that was produced five years later in 2006 by the CFMU.
- End of 2002 – the first End of Summer Capacity Report, a consolidated assessment of local and network capacity achievements. In 2004 this report evolved, through a co-operative approach with the CFMU and all ATM partners, towards an ATFCM and Capacity Report that made a detailed assessment of en-route and airport capacity and of ATFCM network performance. In 2007 it became the Network Operations Report, incorporating new information on flight efficiency, civil/military operations and selected airports;
- 2005 – the first Medium Term (5 year) European ATM Network Capacity Plan Assessment was produced, consolidating for the first time all local and European network capacity plans into one single document and providing an annual outlook of the expected network performance in the medium term.
- 2001-2007 – the gradual implementation of a fully interactive capacity planning process supported by the provision to all European ANSPs of common capacity planning tools (initially NEVAC, later SAAM<sup>41</sup>) and supporting airspace and traffic data. Within a relatively short period, the capacity planning process ceased to be a “black box” and became the fully transparent interactive process it is today.

## Capacity Benefits

Between 1999 and 2007, there was a 50% increase in European ATM capacity for a traffic increase of 26%. Over the same period, the average summer en-route air traffic flow management (ATFM) delay per flight decreased from 5.5 minutes to 1.6 minutes. Over the full year, the average en-route ATFM delay per flight decreased from 4.6 to 1.2 minutes.

What the Capacity Enhancement Function demonstrated here was how this achievement was not the result of any single action but rather the product of a comprehensive coordinated capacity enhancement process in which both stakeholders and EUROCONTROL had complementary roles.

At ACG/23 in May 2004 ACG Members expressed their appreciation of the well-established processes between the Agency, the ANSPs and the airspace users, leading to the development of robust ATC capacity plans for the coming years. ACG also undertook to continue to support the European ATM network capacity planning process and work with the Agency in ensuring the development of clear and comprehensive medium-term local capacity plans substantiated by concrete actions, including the planned ANSP resources to achieve these.

By 2008 the SCG (successor to ACG) would use the Capacity Enhancement Task Force mechanisms to orientate the efforts and resources of all stakeholders towards the longer-term strategic goals coming out of SESAR.

Reflecting the continued trust in the Agency's efforts and capabilities in this key area the Agency has continued its cooperative planning efforts and offers direct support to ANSPs for the development of local medium-term capacity plans through an interactive approach based on data and tools, including assessments of sector capacities in a safe and cost-effective manner.

Until 2012-2013, capacity enhancement will focus on actions to improve airspace organisation and management, the availability and deployment of controllers, flow and capacity management and the implementation of new or upgraded ATC facilities.

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<sup>41</sup> NEVAC = Network Estimation Visualisation and Analysis of Capacities Tool;  
SAAM = System for traffic Assignment and Analysis at a Macroscopic level (Airspace Modelling)

# EUROCONTROL's Pan-European Services CFMU and Maastricht UAC (including Karlsruhe)

## CFMU

### Expanding the Role

The CFMU became increasingly effective as the linch-pin of European network operations.

At the request of the Provisional Council in late 1998 DCFMU led the work in coordination with the stakeholders on establishing the global capacity action plan based on the use of the Agency's Future ATM Profile (FAP) model. This identified likely shortfalls in capacity and set up agreed targets by each State/ANSP. The CFMU was in the forefront therefore of adopting a true network approach, although in so doing they would be drawing upon other parts of the Agency to present the complete picture.

With more effective links to EATMP's airspace design and ATM strategy development the CFMU would widen its scope to cover Air Traffic Flow and Capacity Management. This in turn would lead to what would be effectively a facility to optimise the utilisation of the network and which would strongly support Agency initiatives such as Capacity Enhancement Function and the Dynamic Management of the European ATM Network (DMEAN).

The CFMU would also prove its ability to handle effectively and efficiently crises such as those caused by Kosovo and 9/11.

### Air Traffic Flow and Capacity Management Strategy (ATFCM)

The established role of Air Traffic Flow Management had been largely limited to slot allocation mechanisms. However, the operating environment was changing rapidly and the requirement was identified to extend this role to the optimisation of traffic patterns and capacity management with the emphasis on maximising the network capacity through the collaborative decision-making process.

Under the leadership of Director CFMU Mr Jean-Robert Bauchet (2000-2005<sup>42</sup>) the CFMU developed the Air Traffic Flow and Capacity Management Strategy, which moved the European system from focusing on avoiding saturation towards optimising the overall efficiency of the system. The Strategy was approved by the EUROCONTROL Commission on 1 April 2004 in the context of the ATM 2000+ Strategy. ATFCM was complementary to other Agency activities such as the Advanced Airspace Scheme (AAS) and Enhanced Flexible Use of Airspace, another indication of the way in which the Agency's various units worked together towards the achievement of the common goals of European ATM.

The role of the CFMU now became even more important in its function as a facilitator within the process and as a central repository for relevant flight and airspace data. This provided it with an overview of the network implications of any particular constraint. It enabled CFMU to take on a co-ordination role, in close collaboration with the other actors in seeking to identify an optimal ATFCM solution for any given set of circumstances. It also enabled it to perform a key co-ordination role in any unplanned crisis or contingency situation.

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<sup>42</sup> He would be succeeded by Mr Jacques Dopagne



## **NATO action in Yugoslavia**

The CFMU was advised on the afternoon of 24 March 1999 of the imminent commencement of air operations by NATO air forces in and around Yugoslavia. Following a few hours' notice, the CFMU, as the focal point, had to find solutions to meet the interests of all concerned.

The airspace and airports of the Albania, Bosnia Herzegovina, Croatia, FYROM and Federal Republic of Yugoslavia were to be completely closed. The airspace of Bulgaria, Hungary, Romania and Slovenia would be partially affected. The CFMU issued an AIM based on the advice and warning received from NATO. The closure of most of the Adriatic and a large part of the east coast of Italy including Bari and Brindisi airports was notified by Italy in a separate NOTAM. The CFMU closed all the affected portions of air routes in its Environment database thereby ensuring that flight plans that tried to use these routes would be rejected.

All this resulted in an increase in delays of between 30% and 42%.

During the crisis, it was the job of the CFMU to work in close cooperation with ICAO and NATO to ensure the safe re-routing of traffic and to minimise as far as possible the impact of the crisis upon it. The situation made it clear that very close coordination between civil and military ATM organisations was vital in the planning and carrying out of emergency measures.

In order to handle the situation more efficiently, a NATO cell was set up inside the CFMU, while CFMU terminals were installed at NATO Headquarters and in Vicenza in Italy immediately after the outbreak of the conflict. When the conflict came to an end the airspace was reopened. EUROCONTROL took advantage of the opportunity to work with the States concerned on the ICAO European Regional Air Navigation Plan with the objective of achieving normalisation rapidly and to make maximum use of an airspace that had been volatile even before the crisis.

These events showed that the Agency was capable of reacting well to and providing solutions within a crisis situation. It also had a permanent consequence for the CFMU itself in terms of civil-military cooperation, as it was decided that from then on a representative of NATO would always be present in the Operations room.

## **World Trade Centre - 11 September 2001**

In the 9/11 crisis, the CFMU gave clear proof of how effective a centralised system could be. Immediately upon receiving the notification that US airspace had been closed, the CFMU informed each European air traffic control centre, airport control tower and 250 aircraft operators of the fact. Within just four minutes of the original announcement, each flight scheduled to depart from Europe to the United States was prevented from leaving and those aircraft already in mid-flight were either diverted to safe landing places – in Canada and the Caribbean – or returned to their original airports.

Airspace had to be made available to accommodate the returning aircraft, so the CFMU prevented other flights from taking off and allowed the homeward bound aircraft to fly through European skies safely. Over the next few days, the CFMU adjusted the traffic flows to the gradual opening of oceanic airspace. In order to ensure that the new arrangements were complied with, the CFMU filtered each flight plan received, singling out those which had filed to fly in domestic US airspace. Each aircraft operator was then contacted individually and instructed to reroute the flight.

After September 11th, DCFMU Bauchet insisted that the links between the FAA Command Centre and NavCanada be enhanced and that regular e-conferencing be introduced as both a crisis management tool and a management communication tool.

In large measure due to the CFMU's successful handling of the 9/11 crisis, it was decided to expand its portfolio of tasks to incorporate a crisis management cell to deal with any future large-scale emergencies.

## **ETFMS**

When the Enhanced Tactical Flow Management System (ETFMS) was proposed it had the primary objective of ensuring safety, fluidity, best use of capacity, equity and transparency. The concept would enable the CFMU to take decisions based on real, rather than planned, traffic. The Project manager was Yvan Fischer.

Through ETFMS the CFMU would collect position information on flights in the CFMU area. This information would then be combined with flight plan data (e.g. type of aircraft, flight plan route), ATFM information (e.g. the slot or the re-routing which has been attributed to the flight) together with detailed airspace information to produce a highly accurate real-time database of the traffic situation and forecast.

ETFMS would then provide the ATFM specialists in the CFMU and the FMPs with updated, accurate, sector loads for the current situation and the near future. This allows careful monitoring of the ATFM situation to be carried out and allows ATFM partners to adapt measures to fit changing circumstances. The tool is extremely useful in that it not only helps avoid potential overload in good time, but also ensures that traffic regulation measures are only applied for just as long as is necessary. Moreover, by having accurate information, unused capacity could be freed.

ETFMS went on stream on 7 February 2002. Altogether, the benefit of better use of the available capacity and the resulting reduction in delays has paid off the development costs of ETFMS. It has been particularly useful in the crisis situations managed by CFMU and its partners and the value of ETFMS was recognised by the ATC 2004 award received by CFMU at the ATC Maatsricht Global Conference.

Mr Bauchet personally received international recognition at the 50th Air Traffic Control Association Annual Conference and Exhibition held in the United States on 1 November 2005. He was awarded the "David J. Hurley Memorial Award" for his "outstanding achievement in the field of Aviation Traffic Management and his contribution in maximizing airspace and airport use".

## **CFMU Produces the Network Operations Plan**

In May 2006 the CFMU released the first Network Operations Plan (NOP) Summer 2006. It was designed as a single document that incorporated all the existing information on traffic demand and capacity plans for summer 2006, identifying bottlenecks and presenting the ATFCM and ASM measures developed to counterbalance them. The NOP offered a unique overview of the network as a result of a successful operational partnership approach involving the Agency and main ATM partners. It was also adopted in the DMEAN Concept of Operations (ConOps).

This first document was given the support of the 25th Provisional Council in April 2006 which agreed to continue to give priority to the European ATM network planning and capacity management processes, including airport CDM.

The ultimate goal of the NOP is to enable collaborative decision-making between all actors involved in the planning of ATFCM operations in order to optimise the efficient use of available resources. There are two releases each year for summer and winter.

This bi-annual exercise has evolved into the more dynamic NOP Portal as part of DMEAN. On 17 February 2009 the CFMU launched the NOP Portal to as one of the main vehicles to share the Plan's operational information dynamically, in real-time.

### **Enhanced Role of CFMU**

Today the CFMU is a key actor at European level. As it has become increasingly interconnected with the other continents, the CFMU has gradually embraced a more global dimension. There are ATFM units in the US, Canada, Japan, Russia and China. The CFMU enjoys close cooperation with the African continent where Morocco and Algeria are part of the CFMU network as very active partners.

### **Maastricht UAC**

Throughout this period the Centre dealt with increasing traffic levels with an increasing level of efficiency. It built on its long-standing experience as a successful validation centre and as a pioneer of new systems and concepts, all of which have been deployed into the Operations room.

It is Europe's second busiest ATC centre, after London, with an extremely complex air traffic environment. Reflecting its truly international nature, some 250 controllers from 38 European countries are employed at the Centre.

Alongside the crucial infrastructure and technology improvements to cope with the traffic the Centre's efforts towards enhanced efficiency have brought public recognition in the PRC's ACE reports.

Mr Arnold Vandenbroucke was Director until the end of 2003 and in January 2004 Mr Karl-Heinz Kloos was appointed to succeed him.

### **Meeting the Demand**

On 8 December 1998 the Centre reached a milestone when the one million flight threshold was passed by SN753, a Boeing 737, from Brussels to Helsinki. By 2008 this had reached one and a half million, with over 5,000 flights a day in the summer.

Between 1996 and 2002 six new sectors were implemented: the Brussels High (30 March 96), Münster (16 May 97), Delta High (16 August 98), Hannover High (20 May 99), Coastal High (15 July 99) and the Brussels East High Sector (16 February 2002). The resultant significant capacity increase has allowed the Centre to keep pace with a traffic growth of more than 40% in that period.

"The most exciting development at Maastricht", in the words of Mr Arnold Vandenbroucke at the time, "was the change-over to a new control room and its supporting systems in November 2002. Featuring one of the most advanced display systems, the new control room provided for a flexible, state-of-the art ATC environment capable of handling increased traffic loads in Europe's core area. The transition passed nearly unnoticed for our stakeholders because of the tight and successful project management, an indication of the Centre's improved performance".

## **Flight Data Processing System (FDPS)**

The next major infrastructure programme to be carried out at the Centre was the new FDPS, the heart of the next-generation ATC system. The contract was signed with the Spanish company Indra in April 2003 and deployed in December 2008, within budget and above the original specifications.

It is a trajectory-based system, as opposed to the classical route-based systems used until now. A trajectory is now continuously updated by the flight behaviour (given by radar data and inputs from the controller) whereas in a route-based system the Flight Plan Route would remain quasi-static in the system. Building further on the effective civil-military cooperation already in place in the area, trajectory data is also provided in real time to the military controllers who handle military traffic in Belgium, Luxembourg, the Netherlands and Germany.

This highly automated system introduced various significant safety and performance-enhancing tools. For example coordination between ATC sectors or centres now requires less telephonic action as most of the coordination processes are carried out electronically. More CPDLC messages are now fully integrated into the controller's tools, leading to a reduction in workload and less risk of verbal misunderstandings or miscommunications. As such, it will play a major part in MUAC meeting future customer demands in a safe, performance-driven and cost-effective manner.

This work has also been a fundamental step towards the Single European Sky's objective to reduce the fragmentation of ATC systems by increasing the interoperability between the systems. It would also offer a unique platform capable of supporting the pre-operational evaluation and validation of future concepts in support of the SESAR development phase, in or close to a real operational environment.

## **MUAC's Role in Validation**

In previous years Maastricht had successfully validated several key systems such as a true stripless system and Medium Term Conflict Detection (MTCD) trials.

The ground-breaking Short Term Conflict Alert (STCA) system introduced in 1980 was replaced in January 2007 with a new tool which predicts potential conflicts in the next 120 seconds and warns the controller by means of a visual alert.

It had played a key role in EATCHIP in validation and in 2001 Director Arnold Vandenbroucke was in no doubt that this ranked amongst the Centre's and EUROCONTROL's greatest achievements. "It is essential", he said "to recognise the role of Maastricht as a validation platform for both new technology and advanced ATC/ATM concepts."

Thereafter Maastricht UAC was the pioneer air traffic control centre for CPDLC within the EUROCONTROL LINK 2000+ Programme which was expected to deliver an 11% capacity gain and would be part of a series of the programmes that EUROCONTROL was driving to improve the overall efficiency of Europe's air traffic management system.

## **Implementing the Maastricht Task Force Report - Improving Performance**

Alongside these crucial infrastructure and technology improvements the Centre also made great strides towards enhanced management efficiency.

The centre's managers and staff, led by Mr Arnold Vandenbroucke, worked hard to build on the proposals set out in the Maastricht Task Force Report, and in particular those relating to improving their cost base performance.

Beginning in 1996, the Centre introduced yearly business plans setting out its mission, strategy, objectives and required resources within a one to five year spectrum. These business plans were developed around a number of core objectives against which the performance of the Centre could be measured. The Maastricht Business Plan was then used as a blueprint for the other Agency directorates and the EUROCONTROL generic business planning process.

Since the PRC began its annual ACE Reports MUAC has scored very well indeed on the key indicators of unit cost and average delay. Since 2004 air traffic controller productivity has been steadily increasing and Maastricht is consistently rated as one of the most cost-effective ANSPs in Europe as measured by the PRC's ATM Cost-Effectiveness (ACE) benchmarking reports.

## **European Certification**

On 8 November 2006 Maastricht UAC was formally certified as compliant with European Community requirements for the provision of air navigation services by the Dutch Transport and Water Management Inspectorate (Inspectie Verkeer en Waterstaat). Following the outcome of the audits and in coordination with the national aviation authorities of Belgium, Germany and Luxembourg, the Inspectorate officially declared the EUROCONTROL Maastricht UAC compliant with European legislation for the provision of air navigation services in the European Community.

As well as being the only international centre to be certificated the process also provided invaluable experience in international coordination amongst the Four Member States' authorities. Thus even indirectly MUAC proved its value as a unique building block towards the SES.

The fact that in addition it was one of the first to be certified under the Single European Sky legislation demonstrated EUROCONTROL's commitment to being in the forefront of providing high standard air traffic control services.

## **The Future**

Director General David McMillan reported in the Agency's Annual Report for 2008, "a great deal of effort has been invested over the past year in all areas of MUAC's business. This work has sustained MUAC's hard-won and justifiable reputation for market-leading performance as witnessed by the latest PRC ATM Cost-Effectiveness Benchmarking Report. MUAC continues to enjoy a position among the top best performing air navigation service providers in Europe".

The Maastricht Centre and its partners have now been working together on the creation of the functional airspace block "FAB Europe Central" (FABEC) which aims at implementing multinational management of the airspace of six countries (Germany, Belgium, France, Luxembourg, the Netherlands and Switzerland). When this comes to fruition MUAC will be the largest ATC centre within the FABEC area which in turn represents some 55% of all European traffic.

## Karlsruhe Software Team

In 1976 the Permanent Commission had approved the Federal German Government's request for the Bundesanstalt für Flugsicherung (BFS) to take over the responsibility for the infrastructure of the Karlsruhe UAC by 1983. However, a special contract between the BFS and EUROCONTROL had been agreed, whereby software development and maintenance of the KARLDAP system was to continue to be carried out by a team of EUROCONTROL staff.

In 1993 the German ATC was corporatised and the German air traffic control organisation, Deutsche Flugsicherung GmbH (DFS), became the national service provider. The Software Team continued to perform ATC tasks in Karlsruhe until 1995 when the agreement between EUROCONTROL and DFS changed. Although DFS took over responsibility for the system, EUROCONTROL was still asked to supply staff to maintain KARLDAP. After 1995 DFS staff and contractors joined the team in order to replace EUROCONTROL staff who left on retirement.

On 26 February 2007, the Karlsruhe Software Team celebrated 30 years of successful software development and maintenance of the KARLDAP system. It marked an impressive partnership that has worked well over the decades.

# Towards a European Master Plan Research and Development: the Driver EUROCONTROL and the European Commission Come Together

## **Towards a Research and Development Master Plan**

The revised Convention, in Article 2.1.(h), had given EUROCONTROL the new task of coordinating the research and development programmes of the Member States.

An earlier attempt to do this had been made in the Agency reorganisation of the early 1990s by the setting-up of the ATM R&D Review Group. ARDEP<sup>43</sup> was set up shortly afterwards to monitor ATM R&D. As a result by the time discussions were firming on what would become the SESAR Programme there was already some ten years' worth of records covering R&D projects.

In 2000-2001, there was a net acceleration of developments in this field with the publication of the ATM2000+ Strategy, the work of the European Commission's High-Level Group and the Vision 2020 Report produced by the newly-established Advisory Council for Aeronautics Research in Europe (ACARE), of which EUROCONTROL was a member.

The Agency took the opportunity to reinforce the dialogue with the ATM industry through AECMA, the European Association of Aerospace Equipment Manufacturers<sup>44</sup> and seek better alignment of the projects within the forthcoming sixth Framework Programme of the European Commission, in line with its European Air Traffic Management Programme (EATMP).

A more formal cooperation body, known as the EUROCONTROL/AECMA Bilateral Steering Group, began meeting in 2002 and focussed primarily on:

- *cooperation on the definition of the 6th Framework Programme;*
- *developing a Master Plan together;*
- *cooperating on the ACARE Strategic Research Agenda giving support to the ACARE process.*

The idea of a Master Plan was rapidly gaining widespread support, which is not surprising since many of the key figures were represented at the same time in the major fora where the key strategic issue of how to manage the complexity of European ATM was being discussed.

The concept was proposed in the fifth report of EUROCONTROL's PRC covering the year 2001, itself published in July 2002. At around the same time the Strategic Aerospace Review for the 21st century (STAR 21) was published in July 2002. This recognised the need to establish a Master Plan on ATM development and investments, as initially proposed in the Single Sky High-Level Group Report. In EUROCONTROL, the road map that was being developed for the ATM Strategy 2000+ also made a useful basis for thinking about the Master Plan.

Such a Master Plan was seen by all these parties as a necessary and hitherto non-existent plan for investment cycles and their timing, on which industry could base its development activities and airlines and air navigation service providers their investment plans.

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<sup>43</sup> Analysis of Research & Development in European Programmes

<sup>44</sup> now ASD – Aerospace and Defence

## **ACARE's Strategic Research Agenda Supports a Master Plan**

Carrying on from its Vision 2020 Report, ACARE prepared a Strategic Research Agenda which spread across six Working Teams (WTs). WT/4, "Efficient Air Transport", was co-chaired by Director General Víctor M. Aguado and Mr Cees Gresnigt, European Director Operations for IATA, with Messrs Van Doorn and Ky of the Agency as rapporteurs.

Through this the Agency was able to work with many of the key figures in industry to better align EUROCONTROL's research and development with the lines that were emerging from the European Commission's Framework Programmes.

However, the main conclusion of the work undertaken was that the Vision 2020 objectives would not be reached unless there was a "paradigm shift" in the way the air transport system was conceived and operated.

WT/4 set down the research and development paths which would pave the way towards these changes, the basis of an R&D Master Plan. The Agency had the opportunity to greatly influence this work through good contacts established with the manufacturing industry.

## **A Special Opportunity for EUROCONTROL**

These events coincided with the start of the EC's sixth Framework Programme and the preliminary discussions on this created a unique opportunity for EUROCONTROL. There was a meeting between the Agency and the European Commission on 28 October 2002 when the possibility was raised by the European Commission that the whole ATM part of the sixth FP would be delegated to EUROCONTROL provided that appropriate safeguards were in place to avoid conflict of interest where EUROCONTROL also provided some of the Work Programme. This offer was considered very positively at the Agency's General Meeting of Directors held on 19 November 2002.

It was also proposed, under the Memorandum of Cooperation recently signed between EUROCONTROL and the European Commission, to establish a Joint Programme Board (JPB) composed of senior officials from EUROCONTROL (HQ, EEC) and the European Commission (DG TREN and DG RTD). Its role would be to address the implementation of the ATM component of the ACARE Strategic Research Agenda and the research component of the overall European ATM Master Plan. The JPB would submit its strategy and priorities to the appropriate decision-making bodies of the European Commission and EUROCONTROL and would consult with stakeholders through the respective consultation mechanisms of the European Commission and EUROCONTROL.

However, in further discussions with the European Commission it was felt that at that time it would not be appropriate politically to delegate the sixth FP ATM work as had been first proposed. Nevertheless the JPB went ahead and had its first meeting in October 2004. This was an important development for EUROCONTROL since it meant recognition of the fact that suitable controls could be in place to allow the Organisation and its Agency to carry out three interrelated roles: development of an R&D programme, management of the related work programme; and provision of some of the work programme itself.

However, the work of the JPB, so promising for EUROCONTROL, would be overtaken in turn by wider developments on a European ATM Master Plan.



## A Full ATM Master Plan

All these discussions had focussed on the notion of a European Master Plan from an R&D perspective. However, it soon became obvious that such a Plan could only make sense in the perspective of the full life cycle up to implementation in order for the research efforts to be connected to needs and therefore able to fill the observed gaps. Some preparatory work and thinking on this had already taken place in the Agency led by Mr Jan Van Doorn.

While EUROCONTROL was fostering and supporting the idea of an ATM Master Plan, the industry continued the STAR 21 discussions, concentrating efforts on the budgetary aspects and generating proposals for handling the crucial subject of financing such a plan. Preliminary approaches were made to the European Commission and the Agency worked with the industry until mid-2003 to prepare initial supporting material.

This cooperative work led to the identification of three notional phases for the progressive implementation of the underlying operational concept vision for 2020:

- *2007 - Foundation: in the shorter term there would be no time to undertake new research; available options needed to be confirmed and then implemented;*
- *2012 - Single European Sky deployment: although options would be identified for the medium term, they needed to be the subject of extensive validation so as to envisage their timely implementation and application in industry; for this they required a well organised overall plan;*
- *2017 - Collaborative high-performance ATM: in the longer term there would still be time to explore more innovative options, but nevertheless with a strong focus on evaluation of the alternatives and concentrating on those that deserve a more detailed validation.*

These stages corresponded, from an R&D perspective, to specific goals, purposes, tools, and ultimately decisions which all involved hoped would make it easier to improve the focus of efforts.

These phases are recognisable by those familiar with the later SESAR work since these ideas were in fact then injected into the preparatory work for SESAR which began in spring 2004.

## Development of SESAR

Discussions were now being held widely amongst a variety of parties to see what the Master Plan could look like. All agreed that there was no point in having a Master Plan unless there was a programme to underpin it, to make it a reality. Industry - not just the manufacturing industry (AECMA) but others, too, like airline associations - were keen on the idea but said that it was not their primary business to develop it. It was also realised by all concerned that the future systems would require large amounts of public funding with the only likely source being the European Commission.

By that time the SESAME (Single European Sky Implementation Programme) proposals from AECMA and EUROCONTROL were becoming more concrete, so much so that Madame de Palacio organised a High-Level Group meeting on 13 July 2004 in order to raise the profile of the project and ensure support and buy-in from all actors. In her speech she said:

*"The governance of SESAME is crucial for its successful launch. I will from my side designate a personality to explore the various organisational issues and to develop the right structure for this project.*

*We should work towards a joint undertaking, in which the Commission and EUROCONTROL can work together and organise the implementation of the programme. Therefore I would suggest that EUROCONTROL and we create a steering committee to ensure that public interest considerations in this initiative are respected”.*

### **Single European Sky ATM Research (SESAR)**

SESAME officially became SESAR when its launch was announced by the European Commission on 17 November 2005 at a press conference at EUROCONTROL's Haren Headquarters. The Programme was described by the European Community at the time as one of the most ambitious research and development projects it had ever embarked upon.

SESAR's key performance targets for 2020 reflected the scale of the challenge:

- *enable a threefold increase in capacity;*
- *improve safety by a factor of 10;*
- *reduce by 10% the environmental impact per flight; and*
- *cut ATM costs by 50%.*

Joining forces, the European Commission and the Agency launched the study that became the SESAR Definition Phase.

The story of the Programme is well told in other places. It would be the technical and operational means to deliver the European Commission's vision of a Single European Sky, a vision which was shared by EUROCONTROL since it was its own founding concept.

SESAR would provide a Master Plan to cover three phases corresponding to those described earlier:

1. *Definition of European ATM Master Plan (2005 - early 2008)*
2. *Development (2008 - 2013)*
3. *Deployment (2014 - 2020)*

### **The SESAR Definition Phase Project**

The Definition Phase was led by EUROCONTROL, and co-funded by the European Commission under the Trans-European Network Transport (TEN-T) programme. Both organisations formed the Joint Steering Board to which reported the EUROCONTROL Programme Office. The Agency's responsibility as the managing agent was two-fold: to manage the Work Programme and to provide operational and technical consultation.

This Phase would deliver the shared air transport industry ATM Master Plan together with the corresponding Work Programme for the first six years of development and implementation. Its recommendations and defined set of actions would be the foundation for future implementation activities.

The contract to carry out the Project to deliver the Definition Phase was signed in November 2005 with the SESAR Consortium. Led by Airbus, the consortium joined the forces and expertise of 29 companies and organisations together with 20 associated partners: from airspace users, airports, air navigation services providers, supply industry and many others, including safety regulators, military, pilots and controllers associations and research centres as well as significant expertise from EUROCONTROL to support the Project<sup>45</sup>.

## The Work Begins

The consortium began the Project with a launch meeting at EUROCONTROL's Headquarters in March 2006. The Project would last two years, cost € 60 million and take up 300 man/years of resources. The role of EUROCONTROL and its Agency were key. EUROCONTROL's expertise and resources would, as the consortium acknowledged, prove crucial to the success of SESAR.

The Agency carried out its work as it would be expected to do. The Agency's staff showed real commitment to making SESAR a success through its dedication to managing the ATM changes. It worked in the core Work Packages at the centre of the Definition Phase in close partnership with all Stakeholders' Groups. The staff in these areas worked with the objective expertise that has been the trademark of the Agency's work throughout its existence.

All in all the SESAR Definition Phase produced six main Deliverables over the two-year period of the Project covering all aspects of the future European ATM System, including its supporting institutional framework. The scope of the Deliverables were:

- D1: Air Transport Framework – the current situation;*
- D2: Air Transport Framework – the Performance Target;*
- D3: Definition of the future ATM Target Concept;*
- D4: Selection of the "Best" Deployment Scenario;*
- D5: Production of the ATM Master Plan;*
- D6: Work Programme for 2008-2013.*

## Delivery of the Definition Phase - the ATM Master Plan

Deliverable 5, the ATM Master Plan itself, was endorsed by the European Council of Ministers on 30 March 2009.

The plan identified the actions, from research to implementation, needed to achieve SESAR goals.

It now defined the strategic performance objectives for ATM, the main aspects of the future concept of operations needed to meet the performance targets and the general evolution of the supporting architecture and technologies.

It provided the road maps towards the progressive realisation of the targeted ATM system and as such represented the confluence of the work carried out over the previous ten years in different fora by all the ATM stakeholders, including EUROCONTROL.

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<sup>45</sup> **Consortium partners:** AEA (Association of European Airlines), Aéroports de Paris (ADP), AENA (Aeropuertos Espanoles y Navegacion Aérea), AIRBUS, Air France, Air Traffic Alliance E.I.G./G.I.E., Amsterdam Airport SCHIPHOL, Austro Control GmbH, BAA (UK airport group), BAE Systems, Deutsche Flugsicherung GmbH (DFS), Deutsche Lufthansa AG, DSNA (Direction des Services de Navigation Aérienne), EADS, ENAV, ERA (European Regions Airline Association), FRAPORT, IAOPA (International Council of Aircraft Owner and Pilot Association), IATA (International Air Transport Association), Iberia, INDRA, KLM, LfV (Luftfartsverket), LVNL (Air Traffic Control The Netherlands), Munich International Airport, NATS (National Air Traffic Services), NAV Portugal, SELEX Sistemi Integrati, THALES ATM, THALES AVIONICS.

**Associated partners:** ATC EUC, Boeing, CAA UK, ECA, ETF, EURAMID, IFATCA, IFATSEA, Honeywell, Rockwell-Collins, Dassault. Research Centres: AENA, DFS, DLR, DSNA/DTI/SDER, INECO, ISDEFE, NLR, QinetiQ Limited, SICTA, SOFREAIVA.

The SESAR Development Phase (2008-2013) would produce the required new generation of technological systems, components and operational procedures as defined in the SESAR ATM Master Plan and Work Programme.

The SESAR Deployment Phase (2014-2020) would see the large-scale production and implementation of the new air traffic management infrastructure, composed of fully harmonised and interoperable components guaranteeing high-performance air transport activities in Europe.

The Definition Phase also produced Deliverable 6, the Work Programme for 2008-2013. This was important for EUROCONTROL since it described Implementation Package 1 (IP1) consisting of the deployment out to 2013 of much of the work already in train under EUROCONTROL's existing programmes, essential enablers for the Work Packages coming down the line post-2013 from Implementation Packages 2 and 3. Its stakeholder involvement processes, such as the very effective Stakeholder Consultation Group, would play a key role in allowing the main players to determine priorities and in the allocation of scarce resources across the whole spectrum of the industry.

D6 also included work on the future institutional processes that might be required to manage the delivery of the subsequent phases of the ATM Master Plan, with significant emphasis on the involvement of the stakeholders.

The total estimated cost of the development phase of SESAR was estimated at € 2.1 billion, to be shared equally between the Community, EUROCONTROL and the industry.

### **SESAR Joint Undertaking (SJU)**

Given the size and complexity of the Programme, a legal entity was founded by the European Commission and EUROCONTROL to coordinate and concentrate all relevant research and development efforts in the Community.

The SESAR Joint Undertaking (SJU) was created under European Community law on 27 February 2007, with EUROCONTROL and the European Community as founding members, in order to ensure the modernisation of the European air traffic management system by coordinating and concentrating all relevant research and development efforts in the Community. The Joint Undertaking would also foster cooperation with similar programmes around the world.

The SJU had 15 members from the aviation, aerospace, airports and air navigation industries forming the administrative board with the founding partners: AENA, Airbus, Alenia Aeronautica, the DFS, the DSNA, ENAV, Frequentis, Honeywell, INDRA, North European ATM Industry Group (NATMIG), NATS (En Route) Limited, the North European and Austrian Consortium (NORACON), SEAC (a consortium of the core European Airports), the SELEX Consortium and Thales.

Mr Patrick Ky, formerly of EUROCONTROL, was appointed as its first Director.

The SJU held its inaugural meeting on 8 December 2008 and the SESAR Programme was launched on 3 June 2009. EUROCONTROL's Agency would have a major role in leading some key work packages and in contributing its expertise and resources to others.

## **EUROCONTROL Meets the Requirement**

SESAR had already had a major impact on the Agency, starting right from the early days of the Definition Phase. The impact of SES and SESAR on work organisation culminated in the 2008 reorganisation, resulting in the establishment of the Directorate Cooperative Network Design, specifically designed to provide the most transparent and direct support to SES and SESAR activities through two of its Programme pillars.

In addition, the participation in the SJU projects had resulted in significant changes in working practices, in particular an increased partnership with the members of the SJU. In this evolving context, EUROCONTROL had taken a significant step towards full alignment of its activities with the European ATM Master Plan.

This had required a general increased focus on partnership and transparency in handling activities, rather than a change in technical orientation. The aim was overall consistency and synchronisation of information, capitalising on the efforts deployed during the Definition Phase, which were needed even more now in the Development Phase.

With the Air Navigation Services Board, the Stakeholder Consultation Group (SCG), the newly created CND Supervisory Board and the other streamlining actions taken by the Director General, tools were now available to the entire ATM community to ensure that they were fully involved in helping the Agency to deliver its best possible contribution to SES and SESAR.

As a result, at the 31st Provisional Council meeting in May 2009, the President noted

*“EUROCONTROL would now, as founding Member of the SESAR Joint Undertaking, and as a major contributor to the development and timely delivery of several work packages of the S JU Work Programme, be crucial for the modernisation of Europe’s ATM system”*

Together with the positive statements of the 28th Single Sky Committee, EUROCONTROL seemed finally to have completed its journey. However, more adaptation would be required, as these last pages will describe.

# Post-SESAR Definition Phase

## Institutional Challenges - Impact on EUROCONTROL

### Future Role

#### Institutional Challenges

It was clear during the Definition Phase that the industry's main concern was not so much with the technical and operational challenges as with the institutional issues. For the first, so much had already been developed and the consortium had brought together so much expertise that it was possible to bring all the work together and fill in the gaps.

However, the importance of the second became clear at the launch meeting of the second part of the Definition Phase (D2) when the SESAR Executive Committee spokesman said "This is not a technical issue – this is about decision-making".

Madame de Palacio, in her speech to the High-Level Group in July 2004 when she effectively launched SESAR, had said the same thing: "in my view the problem is essentially one of organisation. There is no lack of ideas or of products".

Therefore, although the Master Plan had been delivered, the questions remained of how to manage its implementation in the Development Phase from an institutional, governmental perspective.

The challenges were substantial.

*Appropriate governance and leadership functions were necessary to ensure the deployment of short term initiatives to deliver the required performance for 2013.*

*The performance based approach needed to be implemented with the participation of all stakeholders to define and agree on common performance targets.*

*The future governance structure needed to be developed that would ensure the successful deployment of the later, post-IP1, ATM Master Plan Service Levels.*

*A comprehensive regulatory framework needed to be formed, especially regarding safety, that was capable of keeping pace with and enabling the changes needed to implement the Target Concept. There was a limit to the rate of changes that could be brought about in legislation and regulation.*

There would have to be agreement on the future defragmentation of the European Airspace which would be critical for success, particularly with regard to meeting the cost-effectiveness targets.

#### The Convention Again the Centre of Attention

All these institutional issues, crucial for the future of EUROCONTROL and its Agency, came together at the 31st session of the Provisional Council held on 7 May 2009 when Director General David McMillan brought them to the table for discussion.

Mr David McMillan pointed to the fact that EUROCONTROL's role had evolved since its establishment and wondered whether its present revised Convention, still subject to Member States' ratification, was the right instrument to meet the ATM needs of the years to come and for the modern-day tasks EUROCONTROL is already facing today.

The changes introduced with the revised Convention signed in 1997 had been implemented essentially on an ad hoc basis, like the system of mandates received from the European Commission. In addition, the funding mechanism for the SESAR development phase had been a pragmatic working arrangement as well as the work being done for the European Commission such as the performance review tasks exercised under the PRC.

Even the new governance arrangements which had been approved at the 26th and 30th sessions of the Provisional Council, and further improved in earlier discussions at that 31st session, were examples of pragmatic working arrangements, and the mandates given to these new bodies were at the edge of what could be achievable under the current institutional arrangements.

These arrangements had so far contributed to EUROCONTROL's success stories, but more was needed. Mechanisms needed to be developed to ensure that, in particular, those EUROCONTROL States which were not a member of the EU family had their interests properly taken into consideration.

EUROCONTROL also needed to evolve its governance further to establish the ANSB mandates on firmer ground and to reflect the evolving military dimension. In doing so it had also to take due account of the fact that, on the service provision side in Europe, service providers had been privatised or corporatised and subsequently had a different view of EUROCONTROL and thus functioned differently in the ANSB.

Possibilities were also emerging from the European Union's Single European Sky II package. However, the main mechanisms for working with the European Community some years ago, i.e. the Accession Protocol of the European Community to EUROCONTROL, was a major step forward, but it was unclear whether that would be sufficient as the scope and nature of the work change.

## A New Convention?

For all of these reasons, the Director General proposed that it was now time to start considering the future beyond the current early implementation of the revised Convention. It would be easier to do that if the revised Convention was ratified which would open up new possibilities such as the creation of undertakings or formal delegations of power.

This thinking would need to happen in any case, even if EUROCONTROL would not eventually have the revised Convention. Given the complexity of these institutional matters (it had taken over three years to get the revised Convention signed) the Provisional Council needed to start that work quickly.

Any such considerations would require a very open and inclusive process in order to take a high-level strategic outlook of EUROCONTROL's institutional position in Europe's changing ATM world. This would have to be supported by more formal processes that would have to be put in place to ensure proper consultation and involvement in these discussions.

## Reaction of States and European Commission

The views from States were highly supportive.

The general feeling was that the Director General's proposal was chosen at the right moment and according to an approach that would enable all parties concerned to voice their views and contribute to the new thinking. EUROCONTROL was deemed crucial in the current and future European ATM theatre with its pan-European membership, and its function as the European centre of ATM expertise and its service provision functions would be crucial to the European Community in the further implementation of the Single European Sky. In return, EUROCONTROL could benefit from the Community's strengths.

All States were happy to contribute to these discussions.

The European Commission also fully subscribed to the Director General's vision, in particular because the overall institutional context had changed. It was essential to ensure a clear link between the Community and EUROCONTROL and to build further on both organisations' strengths. The European Commission would be honoured to participate in these deliberations and, given the timetable underlying the implementation of the SES II Package, these discussions should start as soon as possible. The pan-European aspect of EUROCONTROL's role was fully accounted for in the SES II Package.

There was also support from the ANSPs. CANSO supported this initiative, in particular because it responded to the cultural change which was taking place in the European ATM the involvement of industry in SESAR through the SJU. CANSO considered it of utmost importance that any new institutional setup of EUROCONTROL takes due account of the need to ensure a good coordination and a well-defined role between all actors. There would soon be nine FABs established in Europe and the entire stakeholder value chain could contribute to discussions reinforcing, for instance, EUROCONTROL's present CFMU, CRCO and network functions. CANSO was therefore very willing to participate in this work, either formally or informally.

The Provisional Council's formal decision noted the strong support for these initial views from the Director General, in particular from the States, ANSPs and the European Commission. It underlined the importance of starting these deliberations immediately, building on the technical and operational strengths of EUROCONTROL and focusing on the close relation of this work with the SES II Package (including FABs, SESAR and the role of the Network Manager). The preparatory deliberations proposed by the Director General should be conducted in full coordination with all parties concerned, while respecting the pan-European dimension, and ensuring industry and military involvement.



# Postscriptum

The question which might be put by some is: "if EUROCONTROL did not exist today, would it be set up?" The question could perhaps more appropriately be phrased: "if EUROCONTROL had not been there, would the capacity and the safety achievements of the past 20 years have been achieved?".

It is perhaps clearer now, with a view to the sequence of decisions taken by the Provisional Council, that EUROCONTROL had been far-sighted and had prepared much of the ground and processes for establishing the performance-driven governance of European ATM which became the watchwords of the European Commission.

EUROCONTROL had also repeatedly refocussed itself to meet new challenges and changes in its operating environment. The success of this ability to change was reflected in the strong support latterly asked of EUROCONTROL by the European Commission as it developed its Single European Sky proposals where the scope was the complete life cycle from development into implementation. EUROCONTROL's expertise across this cycle had always been critical to the success of pan-European and regional programmes and services.

The related major issue for EUROCONTROL and its Agency during this period would be the failure of some States to ratify the revised Convention and the non-ratification by the European Union of its Protocol of Accession. This would mean that the Agency's traditional consultation methods and EUROCONTROL's consensual decision-making process would continue to be relied upon to ensure commitment. The effect would be mitigated by the existence of an agreed overall ECAC-wide strategy, the introduction of an effective regulatory process including a robust consultation mechanism and the existence of ECIP/LCIP which allowed an increasingly transparent monitoring of performance.

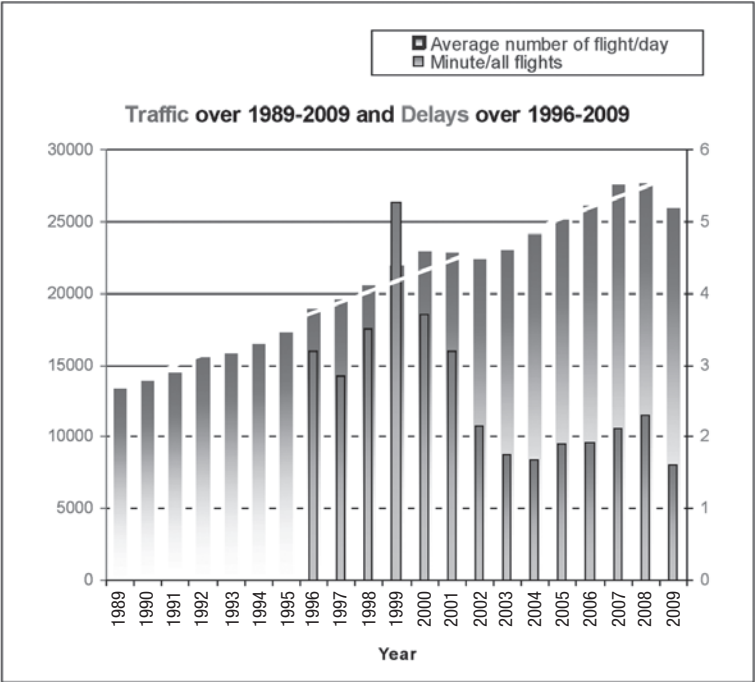
However, there is now a new impetus, with wide support, to consider again a new Convention for EUROCONTROL and its Agency which will allow it to fully play its role.

So to the question above can now be added another "Can the future of European ATM be assured without the knowledge and expertise of EUROCONTROL as an independent objective public organisation?"

This History has taken a long view of the developments in European ATM. It is perhaps worthwhile finishing with an examination of the growth in traffic and delay figures over the past twenty years since the decisions were taken to set up the CFMU and embark on truly European-wide solutions to the ATM requirements through EATCHIP, EATMP and their successors.

The following chart shows traffic and delay information for the period 1989-2009 and delay information for 1996-2009. Delays only began to be recorded and analysed in any meaningful way when the CFMU and CODA began to provide results so that strategic decisions could finally be taken on the basis of valid information and performance measured in a meaningful way.

Performance - Traffic and Delays 1989-2009 (Source: CFMU)



Bearing in mind lead times of three to five years for the effect of implementation of major decisions to work through the system, the reduction in delays post-2000 is evident, as is the stabilisation, more or less, of average delays since then. It is worth noting that this has been a result of the coordinated actions of all stakeholders in European ATM where EUROCONTROL and its Agency played its role as network support, programme manager and provider of pan-European services.

All this was achieved through EUROCONTROL's tried and tested processes without regulation and pre-SESAR so the expectation should now be that delays will be significantly reduced in the future.

Annexes



## Annex 1 - Presidents and Vice-Presidents of the Permanent Commission

Date	State	President	Vice-President
1977	Germany	E. HAAR	J. CHABERT
1978	Belgium	J. CHABERT	J. LE THEULE
1979	France	J. LE THEULE	N. TEBBIT
1980	United Kingdom	N. TEBBIT	J. BARTHEL
1981	United Kingdom	W.C. WOODRUFF F.F.	
1981	United Kingdom	I. SPROAT	
1982	Luxembourg	J. BARTHEL	J. C. Th. VAN DER DOEF
1983	The Netherlands	N. SMIT-KROES	J. MITCHELL
1984	Ireland	J. MITCHELL	A. BAYER
1985	Germany	A. BAYER	H. DE CROO
1986	Belgium	H. DE CROO	W. VANDERPERREN
1987	France	J. DOUFFIAGUES	D. TENENBAUM
1988	Luxembourg	The Lord BRABAZON of TARA	Air Marshal T. STONOR/K. MACK
1989	The Netherlands	J. WILSON/S. BRENNAN	N. MCMAHON
1990	United Kingdom	R. GOEBBELS	F. KESSELER
1991	Ireland	H. MAIJ-WEGGEN	
1992	Portugal	Eng. J.M. MENDES ANTAS	A. VIÇOSO
1993	Greece	Y. HARALAMBOUS	S. LEDAKIS

## Annexes

Date	State	President	Vice-President
1994	Turkey	M. KÖSTEPEN/TURKTAN F.F.	Dr E. TURKTAN
1995	Malta	Dr M. FRENDU	Dr J. VASSALLO
1996	Cyprus	A. ADAMIDES	M. HERODOTOU
1997	Switzerland	K. LOTZ	O. SKONDA
1998	Austria	C. EINEM	Dr G. STADLER
1999	Norway	O.E. DORUM - D.J. FJAERVOLL	O. LIAVAAG
2000	Denmark	J. BUKSTI	O. ASMUSSEN
2001	Slovenia	J. PRESECNIK	J. SLANA
2002	Sweden	L. REKKE	B. BERGLUND
2003	Czech Republic	J. TURECKY	P. MATERNA
2004	Italy	P. LUNARDI	S. SCIACCHITANO
2005	Romania	G. DOBRE	S. STOICESCU - D. ANDREI F.F.
2006	Slovak Republic	P. PROKOPOVIS	B. KVASNICA
2007	Spain	M. ÁLVAREZ ARZA - S. SCIACCHITANO F.F.	M. BAUTISTA PÉREZ
2008	Croatia	M. STEPANIC	D. VINCE - D. BREGLEC
2009	Bulgaria	P. MUTAFCHIEV	V. GOSPODINOVA - K. KITCHEV
2010	Monaco	G. TONELLI	H. BAYOL
2011	FYROM	M. JANAKIESKI	G. MIHAJLOVSKI

## Annex 2 - Presidents and Vice-Presidents Committee of Management 1963 – 1997

### Presidents

P. NOTTET (Belgium)  
*April 1963 - April 1967*

V. A.M. HUNT (United Kingdom)  
*May 1967 - April 1968*

G. GLUNZ (Germany)  
*May 1968 - October 1970*

L. LANSALOT-BASOU (France)  
*November 1970 - April 1971*

J. LEVEQUE (France)  
*May 1971 - October 1972*

Niall A. O'BRIEN (Ireland)  
*November 1972 - October 1974*

A. DE ROODE (Netherlands)  
*November 1974 - June 1975*

J. SMIT (Netherlands)  
*July 1975 - October 1976*

G. PAUL (Germany)  
*November 1976 - October 1978*

J. VERSTAPPEN (Netherlands)  
*November 1978 - October 1980*

R. AUCOUTURIER (France)  
*November 1980 - October 1982*

F.A. WHITE (United Kingdom)  
*November 1982 - October 1984*

J.S. SMIT (Netherlands)  
*November 1984 - December 1985*

J.V. FEEHAN (Ireland)  
*January 1986 - December 1986*

H. ECKHARDT (Germany)  
*January 1987 - December 1987*

G. VERHOEVEN (Belgium)  
*January 1988 - December 1988*

L. PAILHAS (France)  
*January 1989 - December 1989*

M. GAMESTER (United Kingdom)  
*January 1990 - December 1990*

B. McDONNELL (Ireland)  
*January 1991 - December 1991*

M. TIENSTRA (Netherlands)  
*January 1992 - December 1992*

M. SARAMENTO (Portugal)  
*January 1993 - December 1993*

V. PAPPAROUSSOS (Greece)  
*January 1994 - December 1994*

K. KABADAYI (Turkey)  
*January 1995 - December 1995*

A. GEORGIADES (Cyprus)  
*January 1996 - December 1996*

J. FÜLÖP (Hungary)  
*January 1997 - December 1997*

H. BAUER (Austria)  
*January 1998 - December 1998*

G. INGEBRETHSEN (Norway)  
*January 1999 - December 1999*

M. DAMBÆK (Danemark)  
*January 2000 - December 2000*

## Presidents

M. KRAJNC (Slovenia)

*January 2001 - December 2001*

B. BERGLUND (Sweden)

*January 2002 - December 2002*

P. MATERNA (Czech Republic)

*January 2003 - December 2003*

S. SCIACCHITANO (Italy)

*January 2004 - December 2004*

I. ORBESCU (Romania)

*January 2005 - December 2005*

M. MIHALUS (Slovak Republic)

*January 2006 - December 2006*

J. PÉREZ BLANCO (Spain)

*January 2007 - December 2007*

M. STEPANIC (Hungary)

*January 2008 - December 2008*

E. RADEV (Bulgaria)

*January 2009 - December 2009*

H. BAYOL (Monaco)

*January 2010 - December 2010*

## Vice-Presidents

V. A.M. HUNT (United Kingdom)

*April 1963 - April 1967*

G. GLUNZ (Germany)

*May 1967 - April 1968*

L. LANSALOT-BASOU (France)

*May 1968 - October 1970*

Niall A. O'BRIEN (Ireland)

*November 1970 - October 1972*

A. DE ROODE (Netherlands)

*November 1972 - October 1974*

G. GLUNZ (Germany)

*November 1974 - June 1975*

G. PAUL (Germany)

*July 1975 - October 1976*

J. VERSTAPPEN (Netherlands)

*November 1976 - October 1978*

M. GIRAUD (France)

*November 1978 - October 1980*

A.P.J. FLYNN (United Kingdom)

*November 1980 - October 1982*

J.S. SMIT (Netherlands)

*November 1982 - October 1984*

J.V. FEEHAN (Ireland)

*November 1984 - December 1985*

H. ECKHARDT (Germany)

*January 1986 - December 1986*

G. VERHOEVEN (Belgium)

*January 1987 - December 1987*

L. PAILHAS (France)

*January 1988 - December 1988*

M. GAMESTER (United Kingdom)

*January 1989 - December 1989*



B. McDONNELL (Ireland)  
*January 1990 - December 1990*

M. TIENSTRA (Netherlands)  
*January 1991 - December 1991*

A. VICOSO (Portugal)  
*January 1992 - December 1992*

V. PAPPAROUSSOS (Greece)  
*January 1993 - December 1993*

K. KABADAYI (Turkey)  
*January 1994 - December 1994*

A. GEORGIADES (Cyprus)  
*January 1995 - December 1995*

J. FÜLÖP (Hungary)  
*January 1996 - December 1996*

D. KUNZ (CH)  
*January 1997 - December 1997*

G. INGEBRETHSEN (Norway)  
*January 1998 - December 1998*

M. DAMBÆK (Danemark)  
*January 1999 - December 1999*

M. KRAJNC (Slovenia)  
*January 2000 - December 2000*

L. JÖNSSON (Sweden)  
*January 2001 - December 2001*

P. MATERNA (Czech Republic)  
*January 2002 - December 2002*

R. LI BASSI (Italy)  
*January 2003 - December 2003*

I. ORBESCU (Romania)  
*January 2004 - December 2004*

M. MIHALUS (Slovak Republic)  
*January 2005 - December 2005*

J. PÉREZ BLANCO (Spain)  
*January 2006 - December 2006*

M. STEPANIC (Hungary)  
*January 2007 - December 2007*

E. RADEV (Bulgaria)  
*January 2008 - December 2008*

H. BAYOL (Monaco)  
*January 2009 - December 2009*

Z. KRSTEVSKI (FYROM)  
*January 2010 - December 2010*

## Annex 3 - The Directors General of the EUROCONTROL Agency

René Bulin  
*1963 – 1978*

Jean Lévêque  
*1978 – 1983*

Horst Flentje  
*1983 – 1988*

Keith Mack  
*1989 – 1993*

Yves Lambert  
*1994 – 2000*

Víctor M. Aguado  
*2001 – 2007*

David McMillan  
*2008 to date*

# Annex 4 - Presidents and Vice-Presidents of the Provisional Council 1998 to December 2010

## Presidents

Anthony J. GOLDMAN (United Kingdom)  
*January 1998 - October 1999*

David McMillan (United Kingdom)  
*January 2005 - December 2006*

Ole ASMUSSEN (Denmark)  
*November 1999 - December 2001*

Nils BILLINGER (Sweden)  
*January 2007 - December 2009*

Mikko TALVITIE (Finland)  
*January 2002 - December 2004*

Patrick GANDIL (France)  
*January 2010 to date*

## Vice-Presidents

Ingemar JOERSS (Germany)  
*April 1998 - March 1999*

Per-Arne SKOGSTAD (Norway)  
*January 2004 - December 2005*

Ole ASMUSSEN (Denmark)  
*April 1999 - December 1999*

Jules KNEEPKENS (Netherlands)  
*January 2006 - July 2008*

Dimitrios GEORGARAKIS (Greece)  
*April 2000 - December 2000*

Luis António FONSÉCA DE ALMEIDA (Portugal)  
*January 2006 - December 2007*

Luís Jorge da COSTA LOPES (Portugal)  
*April 2000 - July 2001*

Raymond CRON (Switzerland)  
*January 2007 - December 2008*

Pierre GRAFF (France)  
*January 2001 - December 2002*

Salvatore SCIACCHITANO (Italy)  
*January 2008 - October 2010*

André AUER (Switzerland)  
*January 2001 - November 2004*

Patrick GANDIL (France)  
*January 2009 - December 2009*

Michel WACHENHEIM (France)  
*January 2003 - December 2006*

Cătălin RADU (Romania)  
*January 2009 - December 2010*

László KISS (Hungary)  
*January 2003 - December 2005*

Eric Kroese (Netherlands)  
*January 2010 - to date*

## Annex 5 - Chairmen of the Civil-Military Coordination Committee and Military ATM Board

### Chairmen - Civil-Military Coordination Committee

AVM Ron D Elder (RAF)	11/02/1998 - 31/05/1999
AVM John R D Arscott (RAF)	01/06/1999 - 31/12/1999
Brig Gen François Rivet (FAF)	01/01/2000 - 31/12/2001
Brig Gen Antonio Pilotto (ItAF)	01/01/2002 - 31/12/2003
Brig Gen Wolfgang Baltes (GAF)	01/01/2004 - 31/12/2005
Brig Gen Jean-Robert Cazarré (FAF)	01/01/2006 - 30/09/2006
Col Ian Logan (Swiss AF)	01/10/2006 - 31/12/2007
Grp Capt John Clark (RAF)	01/01/2008 -

### Chairmen - Military ATM Board

Major Gen Peter M.A. Vorderman (NLAF)	Nov 2007 - 31/12/2008
Major Gen Fanica Carnu, RomAF)	1/1/2009 - 31/12/2010

## Annex 6 - Ratification of the revised Convention

Contracting Party	Date of signature	Date of deposit of the instrument of ratification, acceptance or approval
Albania	04.02.2002	04.02.2002 (R)
Germany	27.06.1997	
Austria	27.06.1997	
Belgium	27.06.1997	
Bulgaria	27.06.1997	22.05.2001 (R)
Cyprus	27.06.1997	08.06.2001(R)
Croatia	27.06.1997	03.11.2005 (R)
Denmark	27.06.1997	12.07.2005 (R)
Spain	27.06.1997	
The Former Yugoslav Republic of Macedonia	01.03.2000	26.01.2001 (R)
Finland	28.01.2000	08.11.2000 (Acc)
France	27.06.1997	08.09.2003 (R)
UK and Northern Ireland	27.06.1997	25.02.2003 (R)
Greece	27.06.1997	12.05.2005 (R)
Hungary	27.06.1997	22.12.2004 (R)
Ireland	27.06.1997	26.11.2008 (R)
Italy	27.06.1997	25.09.2008 (R)
Luxembourg	27.06.1997	29.01.2003 (R)
Malta	27.06.1997	13.11.2003 (Acc)
Moldova	23.11.2000	11.01.2002 (R)

## Annexes

Contracting Party	Date of signature	Date of deposit of the instrument of ratification, acceptance or approval
Monaco	27.06.1997	22.01.2003 (R)
Norway	27.06.1997	21.05.2003 (R)
The Netherlands	27.06.1997	28.06.2004 (Acc)
Portugal	27.06.1997	12.07.2001 (R)
Romania	27.06.1997	12.07.1999 (R)
Slovak Republic	27.06.1997	20.09.1999 (App)
Slovenia	27.06.1997	17.05.2004 (R)
Sweden	27.06.1997	
Switzerland	27.06.1997	05.05.2000 (R)
Czech Republic	27.06.1997	04.05.2000 (R)
Turkey	27.06.1997	
Ukraine	20.12.2001	17.03.2004 (R)
Bosnia and Herzegovina	18.03.2003	21.01.2004 (R)
Poland	17.11.2003	29.07.2004 (R)
Serbia and Montenegro	26.03.2004	27.10.2004 (R)
Armenia	10.12.2004	26.01.2006 (R)
Lithuania	05.04.2005	27.07.2006 (R)
Montenegro		27.10.2004 (Succession 03.06.2006)
Latvia	12.05.2010	10.11.2010 (R)



