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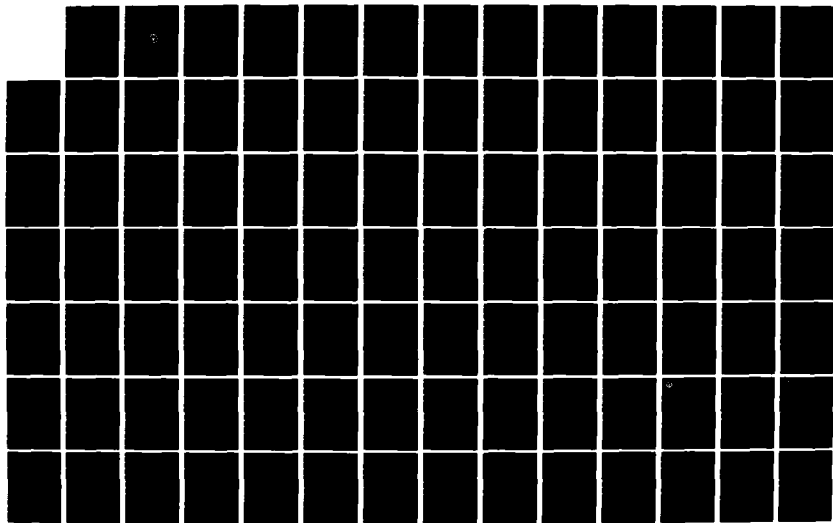
REPORT OF DEFENSE SCIENCE BOARD TASK FORCE ON  
INDUSTRY-TO-INDUSTRY INTERNATIONAL ARMAMENTS  
COOPERATION PHASE I NATO EUROPE(U) DEFENSE SCIENCE  
BOARD WASHINGTON DC JUN 83

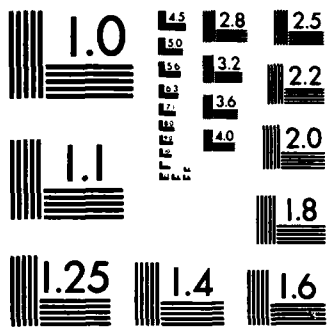
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**Report of  
Defense Science Board Task Force  
on  
INDUSTRY-TO-INDUSTRY INTERNATIONAL  
ARMAMENTS COOPERATION  
PHASE I — NATO EUROPE**



**June 1983**

**Office of the  
Under Secretary of Defense  
for Research & Engineering**

**Washington, D.C. 20301**

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**8 July 1983**

**Directorate for Freedom of Information  
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Department of Defense**

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OFFICE OF THE SECRETARY OF DEFENSE  
WASHINGTON, D.C. 20301

DEFENSE SCIENCE  
BOARD

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MEMORANDUM FOR SECRETARY OF DEFENSE

THROUGH: UNDER SECRETARY OF DEFENSE FOR RESEARCH & ENGINEERING


SUBJECT: Report of the Defense Science Board Task Force on Industry-to-Industry  
International Armaments Cooperation, Phase I - INFORMATION MEMORANDUM

This Defense Science Board report responds to a request from the Under Secretary of Defense for Research and Engineering for advice concerning the actions needed to increase industry-to-industry cooperation on NATO defense programs. A concerted effort by the allies and their defense industries is clearly needed, not only to achieve greater economy in the use of resources, but also to develop the kinds of major qualitative improvements in military systems and equipment required to cope with the sustained Soviet arms build-up.

To this end, the DSB formed a task force of experts qualified in international industrial operations, chaired by Dr. Malcolm Currie. The group was asked to recommend solutions to existing problems in industrial cooperation and suggest new incentives for increasing such cooperation on a sound business basis. This Phase I effort devoted to NATO will be followed later this year by an analysis of considerations affecting industrial cooperation with Japan.

The enclosed Phase I Report indicates that the obstacles to increased cooperation are formidable, but in most cases solvable. In his memorandum to me transmitting the report, Dr. Currie points out several fundamental prerequisites for increasing industrial cooperation, and takes special note of an essential measure for sustaining our technological edge over our adversaries--increased U.S. investments in R&D and technical education.

Some of the recommended actions will require strong action by executives of the Department of Defense. I commend Dr. Currie's remarks, and the attached report, to your attention.

  
Norman R. Augustine  
Chairman

Attachment:  
As stated

Copy to:  
DepSecDef,  
Chairman, JCS



A



OFFICE OF THE SECRETARY OF DEFENSE  
WASHINGTON, D.C. 20301

DEFENSE SCIENCE  
BOARD

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MEMORANDUM FOR THE CHAIRMAN, DEFENSE SCIENCE BOARD

SUBJECT: Report of the Task Force on Industry-to-Industry International Armaments Cooperation, Phase I

Defense Science Board

This Phase I report provides the findings and recommendations of the DSB Task Force on Industry-to-Industry International Armaments Cooperation between the U.S. and the European NATO countries. A second phase of our task activities, now in progress, will apply to cooperation with Japan. The report is made up of reproductions of the viewgraphs used to brief the Defense Science Board, the Under Secretary of Defense for Research and Engineering, and the Deputy Secretary of Defense, supplemented by amplifying text where pertinent.

The findings and recommendations, while they do not represent complete unanimity on all issues, do represent the carefully considered consensus of the Task Force. They are based on a number of meetings in the U.S., involving discussions with representatives from the Services and various elements of DoD and other agencies, special studies on the issue of technology transfer, interviews with members of Congress, and meetings in Europe with industrialists and parliamentarians. They also incorporate the suggestions of a special ad hoc Defense Science Board committee which reviewed the conclusions.

I would like to highlight several points for special emphasis:

First, the starting point for the Task Force deliberations was the stated policy for increased industry-to-industry arms cooperation with our Allies. Our job has been to advise on how to eliminate impediments to bringing about this objective. We wish to make it clear, however, that this policy assumes implicitly that a conscious trade-off has been made between the strengthened alliance that increased technology sharing may help establish and the inevitably increased competition for U.S. industry that it will also create.

Second, we concluded that there are several fundamental prerequisites for achieving a substantial increase in industrial cooperation. Our European allies must be persuaded to increase high quality investments in key military-oriented technologies for there to be a better balanced and more effective technological partnership. Perhaps we should begin thinking in terms of a "two-way street in technology" as the philosophical underpinning for industrial cooperation, rather than continuing to take a primarily economic view of the "two-way street." This of course presupposes that there will be a practical resolution of the technology transfer issue, which is a growing concern of our allies. In addition, it is essential that cooperative projects make good business sense to the industries on both sides of the Atlantic. This means taking such steps as sorting out complementary roles for governments and industries in pursuing these projects, improving DOD's international acquisition policies and practices, and reaching a better understanding with NATO Europe concerning third country sales.

cont'd

Third, and related to the above, out of all of our sixteen sets of findings and recommendations on various aspects of the subject, we feel strongly that the last one on U.S. investment in R&D is the most important by far. It essentially says that technological leadership is perishable (both through industrial sharing and, in general, in our free and competitive society); that our national technological lead is deteriorating; that it will be as fundamental to our economic and defense strength in the future as in the past; and that, by a Presidential declaration building on his State of the Union Address, our explicitly stated national goal should be world leadership both in defense and commercial technology. From this national goal will derive the climate for increased investment in R&D and technical education which must underpin our future strength as a nation—and which, in terms of this study, will alleviate most of the concerns of U.S. industry about the effects of increased industrial collaboration.

Finally, it is the reluctant conclusion of the Task Force members that, since the undertaking of this study a year ago, the amount of cooperation between U.S. and European industry has decreased and the climate for cooperation has deteriorated, making consideration of this report all the more urgent.

I thank my able colleagues on the Task Force for their contributions. On behalf of the Task Force, I also wish to thank the representatives of the North Atlantic Assembly, the Western European Union, and European industry who gave so generously of their time in cooperating with this review.



Malcolm R. Currie, Chairman  
Task Force on Industry-to-Industry  
International Armaments Collaboration



## ACTIONS REQUIRED FOR IMPLEMENTATION

This list summarizes the Defense Department actions required to implement the recommendations of the Task Force. It covers the major points made by the Task Force, some directly and some through synthesizing many of the detailed recommendations presented in the body of the report. If these major recommendations are implemented, the principal objectives of the Department of Defense for NATO arms cooperation can be realized.

### A. DoD Commitment and Organization

● Recommendation: Reaffirm DoD policy and broad objectives for increased industry-to-industry cooperation in the NATO Alliance, in terms that are clear and unambiguous to the Services, industry, Congress and Europe, and ensure that the policies of the Services conform.

Action: USDRE prepare for SecDef statements of policy/commitment addressed to Chairman, JCS, and Service Secretaries. USDRE prepare SecDef transmittal of DSB report to major congressional committees noting implementation in spirit of Roth-Glenn-Nunn amendment.

● Recommendation: Designate a high-level official (a second Principal Deputy USDRE) to act as a focus and leader for cooperative programs, working with the Services, industry, Congress, and the allies.

Action: DepSecDef task USDP and USDRE to take the actions required to create and staff this office.

● Recommendation: Transfer DSAA's management and acquisition functions to the Acquisition Executive, with policy components to remain with USDP.

Action: DepSecDef task USDP and USDRE to recommend the appropriate assignments and actions.

● Recommendation: Service Chiefs explicitly announce to their Services their support for arms cooperation, ensure that source selection procedures encourage rather than discourage foreign participation, and create high-level military positions to implement this commitment.

Action: DepSec task Military Service Chiefs to take these actions and institute periodic, formal, in-depth reviews with the Chiefs and Joint Logistics Commanders of the Service efforts and programs for international armaments cooperation.

● Recommendation: Develop closer working relations with Congress on industrial cooperation.

Action: USDRE/USDP seek early Congressional approval for major cooperative programs.

### B. DoD-Industry relations

● Recommendation: Clarify the proper roles of US Government and Industry in cooperative programs.

Action: DepSec issue and enforce revised policy directives which (1) establish that Government's role is to formulate policy guidelines within which industry negotiates and implements industry-to-industry agreements and (2) recognize and protect industry's intellectual property and licensing rights. These directives to be coordinated with industry prior to publication.

- **Recommendation:** Improve and reconcile policies and practices for offsets, third country sales, procurement practices, security impediments, and NATO forums/procedures.

**Action:** USDRE prepare detailed implementation plan on each recommendation.

#### C. Technology Transfer

- **Recommendation:** Strengthen COCOM, update annually the Military Critical Technologies List (MCTL) prepare an unclassified version of the MCTL, and, in final DoD policy directive, simplify/streamline the technology transfer approval process.

**Action:** USDP and USDRE continue actions underway to strengthen COCOM and to update the MCTL and prepare an unclassified version. Incorporate study recommendations for simplifying/streamlining the approved process in preparation of final DoDD 2040.xx. Prepare SecDef policy statement articulating DOD's positive interest in two-way West-to-West technology transfer to facilitate arms cooperation within the alliance.

#### D. US-European Actions

- **Recommendation:** SecDef advocate greater European investment in advanced military R&D as basis for a balanced technological partnership.

**Action:** SecDef continue to emphasize (as in May 1983 letter to Senator Roth) and further stress in the Emerging Technologies Initiatives within NATO.

- **Recommendation:** Explore second sourcing in NATO Europe and European participation in product improvement programs.

**Action:** USDRE explore potential programs.

- **Recommendation:** Strengthen NATO's Periodic Armaments Planning System (PAPS) and NATO Industrial Advisory Group (NIAG).

**Action:** USDRE take the lead to make PAPS an explicit part of the DoD planning and DSARC process and to give NIAG a stronger advisory role in program decisions.

- **Recommendation:** Serious consideration be given to European countries' needs for early agreement on third-country sales.

**Action:** USDRE and USDP, in conjunction with State Department, explore suggested possible changes to present US policies in order to meet their needs.

#### E. US Investment in R&D

- **Recommendation:** Strong Presidential and SecDef policy statements that technological superiority is a national goal and a cornerstone of our military and economic security. Research and development funding and incentives should support this goal.

**Action:** USDRE and USDP prepare a statement for Presidential consideration, and SecDef continue emphasis to Congress for strengthened long-range R&D budgets and incentive policies.

DEFENSE SCIENCE BOARD TASK FORCE

INDUSTRY-TO-INDUSTRY  
INTERNATIONAL ARMAMENTS  
COOPERATION

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## PHASE I REPORT OUTLINE

- **INTRODUCTION**
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  - ACTIVITIES OF TASK FORCE**
  - TASK FORCE APPROACH**
- **GENERAL TASK FORCE CONCLUSION**
- **BACKGROUND CONSIDERATIONS**
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  - IMPEDIMENTS**
  - SOME SUCCESSES AND FAILURES**
- **SPECIFIC FINDINGS AND RECOMMENDATIONS**
- **SUMMARY**

## TERMS OF REFERENCE

- **"CHANGE IN ADMINISTRATION POLICY — DIRECT INDUSTRY-TO-INDUSTRY ARRANGEMENTS WHENEVER POSSIBLE"**
- **PURPOSE — "IDENTIFY U.S. AND ALLIED GOV'T PROCEDURES AND POLICIES TO MOTIVATE U.S. INDUSTRY TO WORK MORE EFFECTIVELY WITH INDUSTRIES OF ALLIES IN ARMAMENTS COOPERATION PROGRAMS"**

### **SCOPE:**

- IDENTIFY IMPEDIMENTS — RECOMMEND RESOLUTIONS
- DETERMINE OPTIMUM USE OF COOPERATIVE MECHANISMS
- DEVELOP INITIATIVES FOR GREATER INTEROPERABILITY AND STANDARDIZATION
- IDENTIFY INDUSTRY-TO-INDUSTRY COOPERATION INCENTIVES
- DETERMINE HOW TO MAINTAIN VIABLE U.S. INDUSTRIAL BASE WHILE MOVING TO AN ALLIANCE-WIDE INDUSTRIAL BASE
- ADDRESS ISSUE OF TECHNOLOGY TRANSFER
- DETERMINE MORE EFFECTIVE ORGANIZATIONAL APPROACHES WITHIN OSD

The terms of reference of the Task Force were established in April 1982 in a request from the Under Secretary of Defense (Research and Engineering) to the Chairman of the Defense Science Board (see Appendix A). This request referred to the DoD policy to enhance armaments cooperation as reflected in a memorandum of 3 June 1981 from the Deputy Secretary of Defense to all Defense components.

This memorandum, in part, made the following points:

1. In the face of the sustained Soviet build-up of arms and the pressures on the defense budgets of Allied Nations, more effective cooperation in armaments is now imperative.
2. The Reagan Administration strongly supports U.S. and NATO arms cooperative programs and initiatives designed to better coordinate our use of research and development resources. They will provide greater interoperability and standardization of our forces so we can better fight as an Alliance.
3. Our strategy for dealing with the Warsaw Pact challenge is critically dependent both on the exploitation of our technological edge and on effective application of the industrial base on an Alliance basis.
4. The time has come for industry to take a more active role in the arms cooperation process. It can help to establish cooperative relationships on a sound business basis to the mutual advantage of the industrial base of the Alliance and NATO's military forces.

## **TERMS OF REFERENCE**

The terms of reference elucidate the change in administration policy in terms of international cooperation. The previous administration emphasized government-to-government agreements, while the present administration wishes to maximize industry-to-industry initiatives as the primary driving mechanism for international cooperation, with the government playing only an appropriate supporting role.

## TASK FORCE MEMBERSHIP

**MALCOLM R CURRIE, CHAIRMAN**  
EXECUTIVE VICE PRESIDENT – HUGHES

**GERALD SULLIVAN**  
INTERNATIONAL PROGRAMS – USDRE

**M GEN RICHARD C BOWMAN (RET)**  
VICE PRESIDENT – RBI

**DALE W CHURCH**  
SURREY AND MORSE

**H K HEBELER**  
PRESIDENT – BOEING AEROSPACE

**DR DONALD A HICKS**  
SENIOR VICE PRESIDENT – NORTHROP

**WILLIAM H HULSE**  
VICE PRESIDENT – WESTINGHOUSE

**DR WALTER LA BERGE**  
VICE PRESIDENT – LOCKHEED MISSILES  
AND SPACE

**ROBERT N PARKER**  
PRESIDENT, MISSILES/ADVANCED  
PROGRAMS – VOUGHT

**HERBERT F ROGERS**  
VICE PRESIDENT – GENERAL DYNAMICS

**DR JOSEPH F SHEA**  
SENIOR VICE PRESIDENT – RAYTHEON

**ARTHUR STANZIANO**  
VICE PRESIDENT – HAZELTINE

**DR MICHAEL I YARYMOVYCH**  
VICE PRESIDENT – ROCKWELL INT'L

The Task Force was comprised of twelve senior industry executives and the Defense Department's Assistant Deputy Under Secretary for International Programs. All of the industry members have extensive experience in international defense business, and many have also served the government in international arms cooperation.



## ACTIVITIES OF TASK FORCE

- **SIX MEETINGS IN U.S. (JUNE '82-APRIL '83)**
- **FOUR SPECIAL MEETINGS IN BRUSSELS (OCT 18-21 '82)**
  - NATO INDUSTRIALISTS (2 DAYS)**
  - NATO PARLIAMENTARIANS**
  - ARMAMENT DIRECTORS**
  - U.S. DELEGATION**
- **CONGRESSIONAL INTERVIEWS (DR HICKS)**
- **TECHNOLOGY TRANSFER SUB-GROUP (DR YARYMOVYCH)**

The Task Force met five times in the Pentagon and once in California. The initial meetings were primarily fact-finding sessions where briefings were presented by officials from the Departments of Defense and State, the Vice Chiefs of the Military Services, and others with special international expertise. The later meetings were devoted primarily to assessing the considerable body of information and opinions that had been developed and to deriving the final recommendations.

The other activities of the Task Force are described in the succeeding pages.

## EUROPEAN INDUSTRIALISTS — BRUSSELS MEETING

<b>GISCARD D'ESTAING JULIEN-BINARD</b>	<b>THOMPSON-CSF</b>	<b>JAGER . . . . . AEG TELEFUNKEN</b>
<b>CHEVALIER . . . . .</b>	<b>AEROSPATIALE</b>	<b>WIESNER . . . . . SIEMENS</b>
<b>BRAZZELLI . . . . .</b>	<b>AUGUSTA</b>	<b>WILLEKENS } DALLEUR } SABCA</b>
<b>LYGO . . . . .</b>	<b>BAE</b>	<b>MUSTACCHI . . . . . SELENIA</b>
<b>WALSH SUTHERLAND</b>	<b>MARCONI</b>	<b>SANDVIK . . . . . RAUFOSS</b>
<b>LAGARDERE . . . . .</b>	<b>MATRA</b>	<b>FORSTER . . . . . MBB STEINBERG</b>
<b>de FONVENT . . . . .</b>	<b>FABRIQUE NATIONALE</b>	
<b>WEVERS OOSTERHOUT</b>	<b>HSA</b>	

The Task Force's four-day session in Brussels was most valuable for developing a better understanding of the viewpoints of the Europeans. The first two days were spent with senior executives of fourteen leading European firms from France, Italy, Britain, Belgium, the Netherlands, West Germany, and Norway. The meetings were cordial and informal, and the views exchanged were frank and constructive.

This was the first such multi-national industrial meeting sponsored by the Defense Department in Europe to engender industrial cooperation. It served well to define the similarities and differences in European and American views as well as to emphasize to the Europeans that the US will earnestly endeavor to find practical ways of improving industrial collaboration. Many of the findings and perspectives of the Defense Science Board Task Force resulted directly from these discussions.

## PARLIAMENTARIANS — BRUSSELS MEETING

### NORTH ATLANTIC ASSEMBLY

DUFFY ..... UK

D'AILLIERES ..... FRANCE

PETERSON ..... GERMANY

DEVRIES ..... NETHERLANDS

DIAS ..... PORTUGAL

### WESTERN EUROPEAN UNION

VALLEIX (PRES) .. FRANCE

BASSINET ..... FRANCE

McGUIRE ..... UK

TOPMANN ..... GERMANY

ADRIAENSENS ... BELGIUM

DE BONDT ..... BELGIUM

MOULIAS ..... FRANCE

To gain better insight into the political views on defense industrial cooperation, the Task Force invited representatives of the two European parliamentary organizations most active in NATO defense matters:

1. The North Atlantic Assembly, an unofficial parliamentary wing of NATO, is concerned with relations between the North American and Western European NATO members. The Assembly representatives were members of the Subcommittee on Defense Cooperation.
2. The Western European Union, comprised of seven nations, is concerned with (inter alia) coordination of defense policy and equipment. The WEU members were from the Committee on Scientific, Technological, and Aerospace Questions.

Again, the meetings were cordial, frank, constructive, and educational. We believe that both sides were enriched by the friendly interchange of ideas.

The meetings in Brussels concluded with sessions with members of NATO's Conference of National Armaments Directors and with the US Delegation to NATO. These sessions focused on the views of the various national Defense Ministries and the uniformed Services on international industrial cooperation.

A synopsis of the discussions with the European industrialists and parliamentarians is contained in Appendix B. The reader will find many of these ideas reflected in findings and recommendations throughout this report.

## **CONGRESSIONAL INTERVIEWS**

**DR DONALD HICKS, ORGANIZER**

- **10 INTERVIEWS CONDUCTED**
- **COMMITTEES REPRESENTED:**
  - SENATE FOREIGN RELATIONS**
  - SENATE ARMED SERVICES**
  - HOUSE FOREIGN AFFAIRS**
  - HOUSE ARMED SERVICES**

Several members of the Task Force took part in ten interviews of key members and staffers of the four Congressional committees most involved in the issue of international armaments cooperation. The Senators, Congressmen, and staffers expressed considerable interest in the subject and were generous with their time in our discussions. The Task Force obtained valuable insight into the opinions on and attitudes toward industrial cooperation prevalent in these key sectors of Congress.

## TECHNOLOGY TRANSFER SUBGROUP

**DR MICHAEL I YARYMOVYCH, CHAIRMAN**

### **BOARD OF "TECHNOLOGIST-STATESMEN" FOR EXAMINATION OF MCTL**

<b>MR J P MUNSON</b> .....	<b>COMPUTERS</b>
<b>DR A M LOVELACE</b> .....	<b>MATERIALS; CHEMISTRY</b>
<b>DR D N TANIMOTO</b> .....	<b>DIRECTED ENERGY</b>
<b>DR A N CHESTER</b> .....	<b>ELECTRONIC COMPONENTS; SEMICONDUCTORS</b>
<b>DR L R WEISBERG</b> .....	<b>SENSORS; INSTRUMENTATION</b>
<b>MR R L CATTOL</b> .....	<b>COMMUNICATIONS</b>
<b>MR G S SCHAIRER</b> .....	<b>VEHICLES</b>

At the outset of its deliberations, the Task Force identified technology transfer policy as the most inclusive and significant policy issue facing NATO industry today. Accordingly, a Technology Transfer Sub-Group was commissioned to further investigate the issues.

Dr. Yarymovych, the Sub-Group Chairman, established a panel of seven prominent "technologist-statesmen" who assessed the validity and the usefulness of various sections of DoD's "Militarily Critical Technologies List". The Task Force then considered the new DoD policies on technology transfer and the international mechanisms for control of technology.

## TASK FORCE APPROACH

- WE ASSUMED THE VALIDITY OF DOD POLICY FOR INCREASED INDUSTRY-TO-INDUSTRY COOPERATION WITH ALLIES, IN WHICH ADVANCED U.S. TECHNOLOGY IS TRADED OFF FOR INCREASED ALLIANCE EFFECTIVENESS
- WE RECOGNIZED THAT THIS POLICY MAY LEAD, IN TIME, TO INCREASING FOREIGN COMPETITION

While the Task Force did not question the DoD policy for increased industrial cooperation, some concerns did surface early in the discussions about the potential consequences of this cooperation in further enhancing the competitive abilities of European industry. This policy assumes implicitly that a conscious trade-off has been made between the strengthened alliance and the inevitably increased competition or U.S. industry that increased technology sharing will create. This matter was given thorough consideration throughout the study.

## TASK FORCE APPROACH (CONT)

- PRAGMATIC FOCUS ON SELECTED AREAS WHERE SPECIFIC POLICY STATEMENTS AND ACTIONS WILL ACHIEVE DOD GOAL

— VERSUS —

JUST ANOTHER GENERAL STUDY ON SUBJECT

- WE SEPARATED ISSUES RELATING TO JAPAN AND NATO
  - THIS INTERIM REPORT COVERS EUROPE ONLY
  - JAPAN — STUDY CURRENTLY UNDERWAY

The Task Force members emphasized that the objective of their efforts was to derive specific and pragmatic recommendations which the Defense Department could implement to achieve results. To work on a more open industry-to-industry basis, this cooperation must primarily make sense to industry itself. Clearly, we realized that the success of our recommendations to improve cooperation would ultimately depend on the extent to which they support the mutual interests of all of the industries involved. The detailed recommendations which follow were developed with these goals clearly in mind.

Moreover, a voluminous body of literature on international cooperation has grown up over the last decade or so. Much of this work has been theoretical and idealistic, and thus quite far removed from the world of practical interests and motivations. Our goal was not to contribute just another study to this collection, but rather to devise a feasible approach to increasing industrial cooperation with our NATO allies.

The consideration of industrial cooperation with Japan was deferred until after the NATO phase of the study because of the different circumstances of Japanese defense and trade relations with the United States. The study of Japan is now underway and will be completed later this year.

## GENERAL TASK FORCE CONCLUSIONS

- **SIGNIFICANT PROGRESS ON INDUSTRIAL COOPERATION IN LAST DECADE — A BROAD INFRASTRUCTURE FOR COOPERATION EXISTS**

— BUT —

- **MANY TRENDS AND IMPEDIMENTS OCCURRING WHICH WILL INHIBIT FUTURE INDUSTRY-TO-INDUSTRY COOPERATION**

- **STRONG SPECIFIC GOVERNMENT POLICY DECISIONS AND ACTIONS AND INVOLVEMENT OF INDUSTRY CAN REVERSE THESE TRENDS**

The study brought out the variety and scope of industrial cooperation which has developed within NATO in recent years. Much of this cooperation is well-known and publicized — particularly that which involves highly visible and major defense programs — but much is also taking place at less visible levels on a normal business basis between companies. Very significant progress has in fact been made over the last decade in creating a broad industrial infrastructure which is not readily apparent. The governmental infrastructure to support this cooperation—in the form of government-to-government agreements, national laws, procurement regulations, etc. — for the most part exists and functions.

While there still are some impediments to the flow of cooperation, the major concerns of the Task Force are the trends developing on both sides of the ocean which could become real limitations on cooperation. Fortunately, these trends can potentially be reversed by the strong governmental actions recommended in this report. DoD must have the firm resolve to accomplish its objectives if significant progress is to be made.



## **BACKGROUND CONSIDERATIONS**

The feasibility of increased industrial cooperation relies heavily upon a number of background considerations, such as the motivation of the principals; the perceived advantages of cooperation; the military, economic, and political considerations in the various countries; the governmental impediments; and the outcome of previous and current collaborative efforts. The Task Force drew upon the considerable experience of its members in NATO programs as well as upon the information volunteered by several Defense Department people on the military and governmental aspects of NATO.

## **MOTIVATIONS FOR INDUSTRIAL COOPERATION — VARY WITH THE PLAYERS**

### **U.S. GOVERNMENT (DOD):**

- **MORE COHESIVE ALLIANCE, WITH PARTNERS BEARING A GREATER SHARE OF THE COSTS**
  - **POSITIVE PSYCHOLOGICAL CLIMATE HELPS ALLIANCE RELATIONSHIPS AND "WILL TO DEFEND"**
  - **MORE EFFICIENT ALLIANCE-WIDE INDUSTRIAL BASE (LOWER TOTAL INVESTMENT)**
  - **INCREASED MILITARY CAPABILITY THROUGH STANDARDIZATION AND INTEROPERABILITY AND SUPERIOR EQUIPMENT**
- ... BUT MANY DISPARATE VIEWS: SERVICES, OSD, CONGRESS, STATE DEPT.**

The motivation of the Defense Department for increased industrial cooperation stems from the need to redress the military imbalance in Europe. Industrial cooperation among the NATO countries affords better utilization of the Alliance's technology and industrial resources, as well as helps to engender more awareness and support for the Alliance in the nations. The benefits of industrial cooperation to the military include more effective weapons and equipment interoperability and standardization among the cooperating countries.

By definition, international cooperation requires a number of different participants. The motivation for cooperation varies considerably with each of these participants. These various motivations must be understood before they can be brought into the appropriate kind of balance and alignment for success in any international cooperative venture.

## **MOTIVATIONS FOR INDUSTRIAL COOPERATION — VARY WITH THE PLAYERS (CONT)**

### **FOREIGN GOVERNMENTS:**

- **IN MODs, SAME AS U.S. GOV'T — A MORE EFFICIENT MILITARY ALLIANCE**
- **JOBS A PRIME CONSIDERATION**
- **MONETARY BALANCE OF TRADE**
- **NATIONAL TECHNOLOGY BASE**
- **DESIRE NATIONAL DEFENSE INDUSTRY**
  - **INDUSTRY PROTECTED AS NATIONAL ASSETS**
  - **MUST EXPORT TO BE VIABLE**

While the motivations of the foreign governments have much in common with those of the US Government, it was the Task Force's impression that the economic impacts of defense carry more weight in Europe than in Washington. Also, because of the lesser defense inventory requirements of their own governments, the foreign industries have an even greater need to export than does U.S. industry.

## **MOTIVATIONS FOR INDUSTRIAL COOPERATION — VARY WITH THE PLAYERS (CONT)**

### **FOREIGN INDUSTRY**

- **ACCESS TO LARGE U.S. DEFENSE MARKET**
- **BUILD TECHNOLOGY BASE AND PRODUCT BASE FOR THIRD-COUNTRY SALES — CANNOT SURVIVE ON HOME MARKET**

### **U.S. INDUSTRY**

- **PRAGMATICALLY BUSINESS ORIENTED**
  - **POSSIBLE EXPANSION OF MARKETS: PROFIT/LICENSE FEES**
  - **POSSIBLE EXPLOITATION OF EXISTING R&D INVESTMENTS**
  - **HELPS WITH INCREASINGLY TOUGH OFFSETS**
- ... BUT LONG-TERM BENEFITS TO U.S. INDUSTRY ARE VIEWED AS MIXED**

Foreign industry, in seeking export markets to make viable its defense production programs, perceives access to the U.S. defense market as a theoretical alternative to third country markets. However, foreign industry is quite skeptical as to whether the U.S. military services will really procure significant amounts of foreign defense equipment.

U.S. industry takes a pragmatic, business-oriented approach to cooperation with foreign industry, but is concerned about the longer-term effects of engendering future foreign competition.

## **INDUSTRY-TO INDUSTRY ARMAMENTS COOPERATION**

### **SOME ADVANTAGES**

- **PERMITS COOPERATION TO BE IMPLEMENTED WHERE EXPERTISE CONCERNING PRODUCTION, TECHNOLOGY AND MARKET ARE LOCATED — IN INDUSTRY**
- **PERMITS EARLY AGREEMENT ON SHARING OF ECONOMIC/ TECHNOLOGICAL BENEFITS**
- **CREATES A NATURAL POLITICAL ADVOCATE WITHIN U.S. SYSTEM FOR COOPERATIVE PROGRAMS IN THE FORM OF THE U.S. PARTNER**
- **CREATES EARLY CONGRESSIONAL SUPPORT FOR COOPERATIVE PROGRAMS**

A major consideration of the Task Force was the relative roles of the governments vis-a-vis industries in implementing cooperative programs. The experience of the Task Force members indicates that cooperative programs are generally more successful if the cooperation is defined and implemented at the industrial level and through direct industry-to-industry arrangements.

## **KEY FACTORS IN CURRENT CLIMATE FOR INDUSTRIAL ARMS COOPERATION**

### **NEGATIVE FACTORS**

- **INCREASING PROTECTIONISM ON BOTH SIDES OF THE ATLANTIC. "BUY AMERICA" IS LEADING TO "BUY EUROPE."**
- **CONGRESSIONAL OVERRIDES OF DOD COMMITMENTS**
- **IN EUROPE — EMPHASIS ON "JOBS"**
- **U.S. ACTIONS OFTEN CONTRADICT ANNOUNCED POLICIES**
  - **PROGRAM CANCELLATIONS; 2-WAY STREET PERCEIVED A FAILURE; RELUCTANCE OF SERVICES FOR JOINT PROGRAMS**
- **U.S. POLICIES ON TECHNOLOGY TRANSFER, THIRD COUNTRY SALES, WAIVERS, PROPERTY RIGHTS, ETC. UNCLEAR, FRAGMENTED, AND OFTEN UNIMPLEMENTED**
- **CONTINUED LARGE DISPARITY IN MILITARY R&D INVESTMENT BETWEEN U.S. AND EUROPE**

In addition to the motivations of the various participants, the Task Force felt it desirable to characterize the climate for industrial arms cooperation as it now exists. There are both positive and negative factors in this climate which must be recognized and understood in developing recommendations for improving industrial arms cooperation.

The negative factors for industrial cooperation derive primarily from political considerations on both sides of the ocean, from gaps between US policy intentions and execution, and from the disparity in military technology capabilities between US industry and much of the European industry, which renders cooperation difficult.

The first factor, increased protectionism on both sides, is especially significant. The specialty metals restriction, recently passed and then rescinded by the U.S. Congress, exacerbated this situation, probably unnecessarily. Certain aspects of this protectionism are justifiable, but we should also recognize that other aspects represent hardball political negotiations between nations for increasing their respective shares of the overall defense business of the alliance. In fact, U.S. actions often contradict our announced policies and intent.

The Task Force also observed that most European companies have not made the effort to understand the U.S. market and do a poor job of marketing in the United States. Nevertheless, several European companies have indeed made the necessary commitment to an effective marketing job and have achieved excellent results.

## **KEY FACTORS IN CURRENT CLIMATE FOR INDUSTRIAL ARMS COOPERATION (CONT)**

### **CONTROVERSIAL FACTORS**

- **INCREASED OFFSET DEMANDS BY NATO COUNTRIES**
- **NEW MOOD IN EUROPE**
  - **RISE OF TECHNICAL COMPETENCE OF EUROPEAN INDUSTRY**
  - **EUROPE WANTS "PARTNERSHIP AS EQUAL"**
- **CO-PRODUCTION SOMETIMES VIEWED AS OF QUESTIONABLE VALUE BY EUROPEANS**
- **THIRD COUNTRY SALES — CRUCIAL TO EUROPEAN INDUSTRY AND TO SOME U.S. INDUSTRY**

Current trends have the following mixed effects on industrial cooperation:

1. Escalating offset demands, which are increasingly difficult for the sellers to accommodate in production programs, do cause the sellers to pursue more subcontracting from the buyers' industries.
2. The "new mood in Europe" of equal partnership, successfully implemented among European companies and governments, does engender industrial sharing; however, difficulties may appear in working out "equal" sharing if technology disparity exists between the firms. The overall rise in European technical competence is really not surprising in that the U.S. has strenuously helped to rebuild European industry since World War II.
3. While coproduction has been the basis for many large and successful US-European programs, the Europeans are concerned that they end up with production facilities without the assurance of production follow-on.
4. The European necessity of assurance of third-country markets before undertaking a cooperative program conflicts with the U.S. State Department policy of not approving third-country sales in advance.

We should point out that increased offset demands are being made not only between European nations and the U.S., but also between European countries as well; these demands are beginning to create problems.

## **KEY FACTORS IN CURRENT CLIMATE FOR INDUSTRIAL ARMS COOPERATION (CONT)**

### **POSITIVE FACTORS**

- **EUROPEAN GOVERNMENTS NEED PARTNERS FOR MAJOR DEVELOPMENT PROGRAMS (E.G., TORNADO)**
- **INCREASING U.S.-EUROPEAN COOPERATION AT SMALL SYSTEM/SUBSYSTEM/ SUBCONTRACT LEVELS**
- **U.S. INDUSTRY WILLING TO SUPPORT INDUSTRIAL COOPERATION IF:**
  - **IT IS CLEARLY U.S. NATIONAL POLICY, SUPPORTED BY APPROPRIATE LAWS AND REGULATIONS**
  - **IT MAKES BUSINESS SENSE**
- **SIGNIFICANT NEW PROGRAM OPPORTUNITIES FOR INDUSTRIAL COOPERATION ARE EMERGING (BUT WILL REQUIRE STRONG GOVERNMENT ACTIONS ON BOTH SIDES)**

Offsetting the aforementioned negative and controversial factors are many positive factors that make cooperation more attractive and feasible. The Task Force found that U.S. industry generally favors cooperation provided that such a policy is supported by appropriate laws and regulations and that the cooperative projects make good business sense.

Recommendations to capitalize on the positive factors are delineated in the "Findings and Recommendations" section.



## **SOME IMPEDIMENTS TO INDUSTRY-TO-INDUSTRY COOPERATION**

### **JOINT IMPEDIMENTS**

- **LACK OF EARLY AGREEMENT BY GOVERNMENTS ON REQUIREMENTS**
- **SECURITY PROCEDURES**
- **MISMATCH BETWEEN U.S. AND EUROPEAN PROCUREMENT AND SOURCE SELECTION PROCEDURES (CHOSEN INSTRUMENTS VERSUS COMPETITION)**

Some impediments are common to both sides of the NATO ocean and are, unfortunately, long-standing. Outstanding among these are the following:

1. The inability to agree early in the development process on the military requirements for potential joint weapons fosters divergence: as a result, independent national programs often begin and progress to the stage where it's no longer feasible to merge them into a common program.
2. Bureaucratic and overly protective security procedures can thwart the best intentions to cooperate by imposing time delays in the process and by rendering the technical exchange required for industrial cooperation difficult, or even impossible.
3. The asymmetry between the U.S. and European defense procurement systems is fundamental and has led to many of the core difficulties in achieving a competitive, Alliance-wide industrial base.

These time-honored impediments have been fought in the past and have, on some occasions, been successfully overcome: thus, they may be impediments to cooperation, but they are not prohibitions.

## **SOME IMPEDIMENTS TO INDUSTRY-TO-INDUSTRY COOPERATION (CONT)**

### **U.S. GOV'T IMPEDIMENTS**

- **FRAGMENTED POLICIES ON ROLES OF GOVERNMENT VS INDUSTRY, TECHNOLOGY TRANSFER, PROPERTY RIGHTS, THIRD-COUNTRY SALES**
  - **DOD ORGANIZATION — NO SENIOR ADVOCATE; LITTLE CONTROL OVER SERVICES; DIFFICULT APPROVAL PROCESS; UNWIELDY ORGANIZATION**
  - **SERVICE ATTITUDES (BASIC REJECTION)**
  - **PROCUREMENT PRACTICES**
- ... BUT INDUSTRY WILL FIND A WAY TO OVERCOME IMPEDIMENTS IF REAL BUSINESS OPPORTUNITIES FOR BOTH SIDES EXIST**

The impediments in Washington arise partly from policies, partly from organization, and partly from bureaucracy. Over the years, many cooperative programs have been devised and have been successful because, given approval and the business incentives, industry can generally work out important cooperation projects. Nevertheless, reducing the impediments would do much to increase the overall amount of cooperation.

These impediments are detailed in the Findings and Recommendations section of the report.

## SOME SUCCESSES AND FAILURES IN NATO ARMS COLLABORATION

### SUCCESSFUL

NATO SEA SPARROW  
NADGE/AEGIS  
AIM-9-L  
AWACS  
F-16

MAG-58  
MODFLIR  
HAWK/I HAWK  
BATTERY COMPUTER  
M-113

CFM-56  
ROLLING AIRFRAME MXL  
OTO-MELARA 76 MM GUN  
M.A.N. 10-TON TRUCK  
F-104

### FAILURES

**ROLAND**  
MBT

**JP 233**  
U.S./UK VISTOL LIFT ENGINE

MALLARD  
U.S./FRG APC

### TOO EARLY TO TELL

FAMILY OF WEAPONS  
AMRAAM  
ASRAAM  
ANTI-TANK  
GPS  
MLRS/TGW

120 MM TANK GUN  
ADATS  
CCIS  
AEGIS  
JTIDS  
ACCS

IIR MAVERICK  
F-18  
STINGER  
HAWK TRAINER  
AV8-B  
USDRE "COOPERATION  
INCENTIVE" PROGRAMS

The ratio of successes to failures in NATO cooperation over the last twenty years is higher than is generally recognized. Many of the successes have been on major programs; that is, major in terms of the number of countries and companies participating, of military importance, and of the volume of European and US production. While some programs primarily involved European production of US equipments, some were joint development and production programs, and others were US procurements of European equipment in lieu of US equipment.

The failures have been fewer than the successes, but they are long remembered. Particularly disappointing were the curtailments of a major US production program for a European system, the French-German Roland air defense missile system, and the codevelopment of the British JP 233 airfield attack system.

A number of important joint programs are currently in progress, though their outcomes are still unknown. They comprise a variety of systems, with different combinations of Military Departments involved, and reflect different stages of development/production maturity, etc. These programs represent a very broad spectrum of cooperative opportunities for the Alliance if strong action is taken by both sides. If these programs are implemented, they would provide, in many cases, substantial production follow-on to the first generation of NATO cooperative production programs, such as Sidewinder, Hawk, and Nadge.

## **FINDINGS AND RECOMMENDATIONS**

**RECOMMENDATIONS CONSTITUTE A SET OF  
ACTIONS WHICH WILL VERY SIGNIFICANTLY  
ENHANCE DIRECT INDUSTRY-TO-INDUSTRY ARMS  
COLLABORATION IN ALLIANCE**

The premise of the Defense Science Board Task Force is that the Department of Defense really supports increased industry-to-industry cooperation, will commit to its success, and will bring it about through strong action.

## SUBJECTS OF FINDINGS AND RECOMMENDATIONS

1. NEED FOR CLEAR DOD POLICY AND COMMITMENT
2. PROPER ROLES OF U.S. GOV'T AND INDUSTRY
3. TECHNOLOGY TRANSFER
4. CONGRESSIONAL CONSIDERATIONS
5. DOD ORGANIZATION FOR ARMAMENTS COOPERATION
6. SUPPORT BY U.S. MILITARY SERVICES
7. TYPES OF COOPERATIVE PROGRAMS
8. OFFSETS WITHIN NATO
9. THIRD COUNTRY SALES
10. PROCUREMENT REGULATIONS AND PRACTICES
11. SECURITY IMPEDIMENTS
12. RECOMMENDED ACTIONS IN NATO
13. SECOND SOURCE AND P<sup>3</sup>/I IN EUROPE
14. SOME CURRENT OPPORTUNITIES FOR INDUSTRY-INDUSTRY COOPERATION
15. IMPORTANCE OF INTEROPERABILITY
16. U.S. INVESTMENT IN RESEARCH AND DEVELOPMENT

The Task Force deliberations developed a large body of facts and opinions about the existing hindrances to international industrial cooperation and the means to lessen them. These findings were synthesized into the sixteen subjects presented here. While this list is not comprehensive, it does summarize the most urgent and significant issues. The recommendations involve policy issues which can be addressed by a set of clear policy statements; management issues which can be addressed by straightforward management actions; and a number of procedural issues which can be corrected administratively.

The most important recommendation is number (16) which involves our basic national policy on research and development.

## **#1 NEED FOR CLEAR DOD POLICY AND COMMITMENT**

### **FINDINGS**

- **ADMINISTRATION AND CONGRESSIONAL POLICIES ON ARMS COOPERATION UNCLEAR TO U.S. INDUSTRY AND TO NATO GOV'TS AND INDUSTRY**
- **DOD'S COMMITMENT AND ABILITY TO ACHIEVE PROGRAM STABILITY ARE IN QUESTION. FEELING THAT WE WILL BREAK COMMITMENTS AT CONVENIENCE OF U.S. GOV'T AND INDUSTRY**
- **SECDEF PROPOSAL TO NATO ON "EXPLOITATION OF EMERGING TECHNOLOGIES" PROVIDES POWERFUL OPPORTUNITY TO REAFFIRM POLICY AND STIMULATE COOPERATIVE PROGRAMS**

The most widespread uncertainty overhanging increased industrial cooperation is the uncertainty as to the real objectives, policies, and long-term commitment of the US Government for international cooperation. The conflicts between policy statements that support cooperation and subsequent actions that undermine it create understandable skepticism in our European colleagues and doubts among US industrialists as to whether cooperative ventures will be good business.

It must be emphasized that a clear reaffirmation of our policy is just as important to the United States as it is to our allies: it is important within DoD to ensure coherent actions by the disparate groups that exist within OSD and the Services. Moreover, such assurance is equally important to U.S. industry, which must clearly understand the Government's policies if it is to properly respond to them.

## NEED FOR CLEAR DOD POLICY AND COMMITMENT

### RECOMMENDATIONS

- 1-1 REAFFIRM POLICY AND BROAD OBJECTIVES FOR INCREASED INDUSTRY-TO-INDUSTRY COOPERATION IN NATO ALLIANCE — MUST BE CLEAR AND UNAMBIGUOUS TO SERVICES, INDUSTRY, CONGRESS AND EUROPE, AND POLICIES OF SERVICES MUST CONFORM  
SECDEF
- 1-2 REINFORCE POLICY WITH SPECIFIC INVITATION TO NORTH ATLANTIC ALLIANCE FOR COOPERATIVE EFFORTS ON "EMERGING TECHNOLOGIES THRUST." CONSIDER OFFERING SEVERAL OF OUR WEAPONS AND C<sup>2</sup> PROGRAMS FOR JOINT DEVELOPMENT AND DUAL PRODUCTION  
SECDEF
- 1-3 SUPPORT AGREEMENTS ALREADY MADE — e.g., FAMILY OF WEAPONS AMRAAM/ASRAAM AND ANTI-TANK; MLRS/TGW; GPS. (LET EUROPEANS BE FIRST TO BREAK AGREEMENTS)  
SECDEF
- 1-4 DISCUSS THESE ACTIONS WITH U.S. INDUSTRY AS MEANS OF INTRODUCING THEM AS NEW POLICY  
USDRE
- 1-5 IMPLEMENT POLICY IN PROCUREMENT AND OTHER REGULATIONS AND SEEK ANY NECESSARY LEGISLATION  
USDRE

To reassure our Allies that the US will follow through on its declarations for cooperation, high-level reaffirmation of our policies and objectives, supported by actions to implement them, is required.

## **#2 PROPER ROLES OF U.S. GOVERNMENT AND INDUSTRY**

### **FINDINGS**

- **IN INT'L DEFENSE ARENA, INDUSTRY CANNOT "DO IT BY ITSELF" ... GOV'T MUST PLAY AN ESSENTIAL ROLE**
- **PROBLEM HAS BEEN TO DEFINE THE APPROPRIATE ROLES FOR EACH — LARGE DIFFERENCES BETWEEN SERVICES AND OSD VIEWS**
- **U.S. GOV'T SHOULD PLAY AN ENABLING ROLE VERSUS DETAILED EXECUTION**
- **GREATER PARTICIPATION BY INDUSTRY IN FORMULATING GOV'T AGREEMENTS IN COLLABORATIVE PROGRAMS**
- **RIGHTS OF INDUSTRY MUST BE RECOGNIZED AS AN INCENTIVE**
  - **REASONABLE LICENSE FEES WITHOUT GOV'T DICTATION**
  - **RECOGNITION OF OWNERSHIP OF INTELLECTUAL PROPERTY RIGHTS**

In the cooperative programs initiated so far, the relative roles of the US Government and US contractors have varied considerably. In some, the Government's function was essentially to establish a policy framework within which the contractors arranged and conducted the programs. In others, the Government took an active role in both the formulation and management of the programs. It is the strong conviction of the Task Force members that international programs are more likely to be successful if the participating governments concentrate on setting policy guidelines and delegate program management and execution to the contractors involved.

This complementary division of responsibilities is essential because the idea that industry can do the job by itself "in the old American tradition" is simply not applicable to an international program. The Task Force recognizes that Government and industry must play balanced roles; the problem, then, lies in defining those roles, particularly at the working levels of the DoD procurement community where the sentiment has often been expressed that the Government must "control" U.S. industry and "protect foreign governments".

All too often, the defense procurement community has forced U.S. industry to relinquish its intellectual property rights when international business is involved, and has dictated precisely the terms and conditions of the cooperation. These initiatives are the prerogatives of industry, not of government.



## **PROPER ROLES OF U.S. GOVERNMENT AND INDUSTRY**

### **RECOMMENDATIONS**

#### **2-1 POLICY DIRECTIVE WITHIN DOD**

- CLARIFY THE PURPOSE AND SCOPE OF GOV'T-TO-GOV'T MOUs IN ESTABLISHING COOPERATIVE PROGRAMS**
- GOV'T SET ONLY BROAD GUIDELINES WITHIN WHICH INDUSTRY CAN OPERATE**
- PARTICIPATION BY AFFECTED INDUSTRIES IN FORMULATING AND REVIEWING GOV'T MOUs**
- PROPER ROLE OF INDUSTRY IN NEGOTIATING THE IMPLEMENTING INDUSTRY-TO-INDUSTRY AGREEMENTS**
- PROTECTION OF INTELLECTUAL PROPERTY RIGHTS/LICENSING RIGHTS OF INDUSTRY**

**ACTION: DEPSECDEF**

Clarifying the roles of government and industry is concurrently one of the most important and one of simplest steps to implement in improving industrial cooperation, since it is mostly within the jurisdiction of the Defense Department. Adoption, promulgation, and enforcement of revised and clarified DoD policies could establish the framework for more effective teamwork between the government and industry.

### **#3 TECHNOLOGY TRANSFER**

#### **FINDINGS**

- **TECHNOLOGY TRANSFER IS AN ESSENTIAL PART OF INDUSTRY-TO-INDUSTRY COLLABORATION. "INVOLVEMENT" NECESSARY FOR SUCCESS (DSB 1978)**
- **SOME CONCERNS ABOUT TECHNOLOGY TRANSFERS BUILDING COMMERCIAL COMPETITORS FOR U.S. INDUSTRY**
- **LEAKAGE TO SOVIET BLOCK IS A VALID CONCERN — A LARGE CONCERTED EFFORT TO ATTAIN WESTERN TECHNOLOGY**
- **BUT . . . ISSUES OF TECHNOLOGY TRANSFER/SHARING WITH NATO AND LEAKAGE TO SOVIET BLOC ARE SOMETIMES CONFUSED. MAJOR SOVIET ACQUISITION HAS BEEN PUBLIC DOMAIN AND DUAL-USE TECHNOLOGY, NOT MILITARY-TECHNOLOGY PER SE**

Because of the fundamental importance of technology transfer to industrial cooperation, the report of the Subgroup on Technology Transfer is reproduced verbatim:

When considering the question of international industry-to-industry armaments cooperation, one must address the issue of technology transfer among the allies and the deleterious effects of leakage of critical technology to the Warsaw Block. The task is to determine how effective controls can be maintained with increased industry-to-industry contacts and yet assure that needed military technology is made available among allies. These questions posed in the current Defense Science Board study are not new, but the explosive growth of technological innovation, particularly in the electronics field, places a new sense of urgency on the development of a stable policy. In addition, our allies are now becoming very competent in the commercial field and thus provide significant competition to major segments of U.S. industry. Hence, in some circles there is concern that while we are transferring technology to aid the military readiness of our allies, we are also creating commercial competition as well as strengthening European thrust in the highly competitive third world export market. Of course, it should be also recognized that with increasing sophistication on the part of NATO industry, the transfer is not always one way, and in many respects the U.S. industry can benefit from advanced developments in European industries.

Nevertheless, the Task Force found that the major issue of technology transfer is still the large concerted effort the Soviet Union and its Warsaw Pact allies are exerting in acquiring Western technology. Clearly defined military technology can be fairly well controlled through established security procedures and there is little reason to believe that the security system of our NATO allies is less adequate than ours, or that it could not be improved if it were necessary to do so. The real concern is with Soviet acquisition of technology that is in the public domain and of dual use, where military security cannot be applied and industrial proprietary protection, although useful, cannot be totally relied upon.

### **#3 TECHNOLOGY TRANSFER (CONT)**

#### **FINDINGS (CONT)**

- **MOST NATO DEFENSE INDUSTRY RESPECTS SECURITY AS MUCH AS OUR INDUSTRY DOES AND INDUSTRY PROPRIETARY PROTECTIONS ALSO HELP**
- **NOT ALL TRANSFER ONE WAY — SOME VALUABLE EUROPEAN CONTRIBUTIONS TO U.S.**
- **COCOM CLEARLY NEEDS TO BE MADE MORE EFFECTIVE**
- **DIVIDED VIEWS WITHIN ADMINISTRATION ON SOME PARTS OF TECHNOLOGY TRANSFER POLICY**
- **INDUSTRY NEEDS TECHNOLOGY TRANSFER GUIDELINES FOR INITIATIVES**

The Task Force found conflicting views between different elements of the Administration on parts of technology transfer policy, particularly in terms of the method to be employed in control. All agreed, however, that industry needs clear technology transfer guidelines if major initiatives are to be undertaken. It was also agreed that the international control mechanism in COCOM must be made more effective.

### #3 TECHNOLOGY TRANSFER (CONT)

- **MILITARILY CRITICAL TECHNOLOGIES LIST — MCTL:**
  - WELL WRITTEN DOCUMENT
  - REFERENCE DOCUMENT ONLY, NOT A “CONTROL LIST” AND NOT PER SE BASIS FOR DENIALS TO THE WEST. CONTROL THROUGH ITAR, CCL, AND COCOM
  - PRIORITIZATION OF ENTIRE MCTL IMPOSSIBLE, BUT A START HAS BEEN MADE TO IDENTIFY EXTREMELY CRITICAL TECHNOLOGIES
  - CAN BE SIMPLIFIED (PER DSB TECH TRANSFER SUBGROUP SUGGESTIONS)
  - WOULD BE USEFUL AS A GUIDE TO INDUSTRY FOR PLANNING AND SELF-POLICING
  
- **NEW “INTERIM DOD POLICY ON TECHNOLOGY TRANSFER”**
  - DIVIDED VIEWS ON NEW POLICY
  - APPEARS BIASED FOR DENIAL RATHER THAN SUPPORT OF COLLABORATION BY INDUSTRIAL INITIATIVES
  - OMITTS MENTION OF EXPORT POLICY CONSIDERATIONS
  - CREATES LARGE NEW BUREAUCRACY WHICH COULD DEFEAT INDUSTRY-TO-INDUSTRY COOPERATION

Following the recommendations of an earlier DSB Task Force, chaired by J. Fred Bucy, the concept of a Militarily Critical Technologies List (MCTL) came into being and was incorporated into the 1979 Export Administration Act. The MCTL has been extensively reviewed and modified by several groups of technical and industrial experts. The current Task Force found the revised MCTL to be a well-written document, but noted that it should not be used as a “control list.” It should be treated as a reference document on the rationale for criticality of specific technologies. Control of know-how should be examined through the ITAR, CCL and COCOM mechanisms. The Task Force found that the MCTL cannot be properly prioritized, but that if it were properly simplified and disseminated it could become a very useful guide for government and industry for planning and a certain amount of self-policing.

The Task Force was not satisfied with the new “Interim DoD Policy on Technology Transfer” in that it appeared to favor undue denial of technology transfer rather than generating support for industrial collaboration. If left unchanged, it would lead to the creation of a large new bureaucracy which would inhibit industry-to-industry cooperation while not specifically addressing basic export policy.

## TECHNOLOGY TRANSFER

### RECOMMENDATIONS

- 3-1 STRENGTHEN COCOM BY GIVING IT RESOURCES AND PUSHING GOVERNMENTS TO SUPPORT IT**
- 3-2 UPDATE MCTL ANNUALLY WITH FOCUS ON EMERGING TECHNOLOGIES; CONCENTRATE ON PROTECTING KNOW-HOW RATHER THAN PRODUCTS PER SE**
- 3-3 DEVELOP SIMPLIFIED, READABLE, AND UNCLASSIFIED VERSION OF MCTL AND DISSEMINATE TO INDUSTRY FOR PLANNING**
- 3-4 FORMULATE SHORT LIST OF EXTREMELY CRITICAL TECHNOLOGIES, EXPORT OF WHICH WOULD REQUIRE SECDEF REVIEW AND APPROVAL**
- 3-5 FOR "FINAL" DOD POLICY STATEMENT ON TECHNOLOGY TRANSFER, . . . SIMPLIFY AND STREAMLINE APPROVAL PROCESS RATHER THAN CHOKE IT . . . INCLUDE EXPORT POLICY AS A CONSIDERATION**

SECDEF/DEPSEC

The Task Force recommended that the COCOM review mechanism be strengthened and the participating governments be encouraged to enforce it.

One method which would make the COCOM review mechanism more effective is to give its control lists more meaning by providing cross references to the Militarily Critical Technologies List (MCTL). A streamlined MCTL, which is updated annually to include new emerging technologies and to eliminate those whose criticality has been overcome by rapid progress on the other side, will make it possible to intelligently protect know-how rather than employing seemingly irrational control over designated products.

In order for the MCTL to become truly a useful and well understood tool, it must be declassified for general use. Items that make the document classified now are statements based on intelligence sources that give credibility to some criticality and timing assertions. Such items can be collected in classified background documentation which can be made available to properly cleared personnel on a need-to-know basis.

The MCTL document itself needs to be made more appealing and readable so as to avoid the undeserved criticism that it is only a tool for bureaucrats to impede the conduct of normal business. A shorter, standard format is suggested.

It is recommended that a short list of "extremely" critical technologies be identified so that export items containing them would obtain special review and policy ruling by the highest levels in the Administration while the others would get a more routine and expeditious treatment.

**TECHNOLOGY TRANSFER**  
Recommendations (Continued)

Finally, the Task Force recommends that the "Final" DoD Statement of Technology Transfer include overall export policy as a consideration and that the approval process be simplified to encourage initiatives in industrial cooperation for the military benefit of the NATO Alliance while, at the same time, properly controlling dangerous leakage to the Warsaw Pact. A streamlined procedure based on intelligent understanding of the underlying reasons for control will enhance security much more readily than choking of technology transfer through the inevitably tedious review process proposed in the "Interim" policy.

## **#4 CONGRESSIONAL CONSIDERATIONS**

### **FINDINGS**

- **CONGRESS IS AN ESSENTIAL PLAYER IN COOPERATIVE PROGRAMS**
  - **CONGRESSIONAL CONCERNS MUST BE CONSIDERED AND ACCOMMODATED WHERE APPROPRIATE AS POLICY OPTIONS EVOLVE**
  
- **MANY CONFLICTING VIEWS**
  - **STRONG PROTECTIONIST TIDE; GENERAL CONCERN OVER CREATION OF FOREIGN COMPETITION**
  - **MUCH SUPPORT FOR COOPERATION IN PRINCIPLE**
  - **BUT SYSTEMIC BIAS WILL CONTINUE TO WORK AGAINST COOPERATIVE EFFORTS WHOSE VISIBLE IMPACT ADVERSELY AFFECTS CONSTITUENT ECONOMIC INTERESTS**

Task Force members had ten meetings with members and staffers of four key Committees:

1. Senate Foreign Relations
2. Senate Armed Services
3. House Foreign Affairs
4. House Armed Services

Their findings, summarized below, constitute endorsement in principle of international industrial cooperation; however, concern and conflicting views about the specifics remain.

Congress is taking an increasingly active interest in international armaments cooperation. This interest is evidenced by repeated assurances of the general benefits of cooperation and then by recurring actions specifically to limit the cooperation. Key to the contradictory actions are the pressures felt by the Senators and Congressmen over the following conflicting issues:

1. Their recognition that international armaments cooperation more effectively utilizes the limited resources available to the United States and our Allies,
2. Their concern over the economic implications of specific cooperative programs, such as impact upon business and employment within constituencies, technology transfer, and the long-term competitiveness of US industry.

The consequence of this conflict is that support for international armaments cooperation within Congress is broad, but quite diffuse and inconsistent.

## **#4 CONGRESSIONAL CONSIDERATIONS (CONT)**

### **FINDINGS (CONT)**

- **ANNUAL CONGRESSIONAL BUDGETARY REVIEW PLACES COOPERATIVE PROGRAMS IN QUESTION EVERY YEAR**
  
- **"DOD MUST DO BETTER JOB OF COMMUNICATING AND SELLING LONG-TERM BENEFITS"**
  - **NATIONAL ECONOMIC AND SECURITY INTERESTS MUST CLEARLY BE SERVED FOR CONGRESSIONAL SUPPORT**
  
- **NUNN-ROTH-GLENN AMENDMENT SHOULD HELP**
  
- **CONGRESS HAS SUPPORTED MANY COOPERATIVE PROGRAMS WHEN BROUGHT INTO PROGRAM FORMULATION PROCESS (e.g., AWACS, F-16, ROLAND . . .)**

The strongest endorsement of NATO armaments cooperation was the amendment to the 1983 Defense Appropriations Act offered by Senators Nunn, Roth, and Glenn, which urges a "cooperative defense-industrial effort within Western Europe and North America". The full text of this key amendment is given in Appendix C.

Despite this positive "sense of the Congress" statement, the most visible specific legislative actions in the last two years have been the introduction of protectionist measures which would limit some US procurements in Europe and some European production of US developments. Most of these measures did not become law; however, both those that were enacted (such as the "foreign specialty metals" prohibition of the 1982 Defense Appropriation Act) and those that were merely introduced diminished the credibility of our stated intentions to cooperate.



## **#4 CONGRESSIONAL CONSIDERATIONS (CONT)**

### **FINDINGS (CONT)**

- **LARGE HIGH-VISIBILITY PROGRAMS MUST BE HANDLED ON CASE-BY-CASE BASIS**
- **INDUSTRY-TO-INDUSTRY COOPERATION SHOULD HELP TO**
  - **LESSEN POLITICAL CONTROVERSY**
  - **SHOW ECONOMIC BENEFITS FOR BOTH/ALL PARTICIPANTS**
  - **REDUCE GOV'T INTRUSION**
- **INDUSTRY WILL HAVE TO DEVELOP AND MAINTAIN CONGRESSIONAL SUPPORT. TRADE ASSOCIATIONS CAN HELP**
- **"DOD HAS NO HIGH-LEVEL FULL-TIME ADVOCATE AND FOCUS FOR THESE IMPORTANT ALLIANCE COOPERATION ACTIVITIES"**

International cooperation on an industry-to-industry basis offers a reasonable means of redressing these concerns. Cooperative arrangements established early on between domestic and foreign industries for the development and/or production of defense equipment create a situation wherein the US partner becomes a natural advocate within the US political system for the particular program involved. Moreover, industrial cooperation is likely to occur at a point sufficiently early in the procurement process such that incipient Congressional concerns may be anticipated and resolved. Finally, the economic impact of cooperation in the US could be ameliorated by the additional foreign market available for the system in question.

This approach offers several distinct advantages in dealing with Congress:

1. Cooperation is less likely to become a major governmental issue if it is substantially handled on an industry-to-industry basis.
2. It substantially reduces Congressional interest in the decision process: industry-to-industry arrangements are established and formalized before Congressional review.
3. It distributes economic benefits more evenly: both nations accrue benefits, which would reduce Congressional concerns.

## CONGRESSIONAL CONSIDERATIONS

### RECOMMENDATIONS

**4-1 DESIGNATE HIGH-LEVEL OFFICIAL (A SECOND PRINCIPAL DEPUTY USDRE) TO ACT AS KEY FOCUS FOR COOPERATIVE PROGRAMS AND TO SPEARHEAD INTERACTION WITH CONGRESS IN ESTABLISHING, ARTICULATING AND DEFENDING PROGRAMS**

**... THIS IS ALSO IMPORTANT FOR U.S. INDUSTRY AND EUROPEAN PERCEPTIONS**

**4-2 SEEK CONGRESSIONAL APPROVAL FOR MAJOR COOPERATIVE ACTIVITIES EARLY IN THE PROCESS**

**4-3 URGE CONGRESS TO RE-ESTABLISH OVERSIGHT SUBCOMMITTEES TO REVIEW NATO MILITARY READINESS AND BROAD ARMAMENT PROGRAMS AND POLICIES**

SECDEF/DEPSEC

Under such an approach, the responsibility for informing Congress about the value and desirability of industry-to-industry programs would have to be shared by DoD and the defense industry. Interaction with Congress should be under the personal direction of a high level OSD focal point for international cooperation if the Congress is to understand the benefits of cooperation. Active contractor support would be equally important to convince Senators and Congressmen of the desirability of such programs and of the economic benefits that would otherwise be lost. In short, contractors should offer the same aggressive support in Congress for cooperative programs that is exerted for US Government procurements.

In summary, it is apparent that Congress is taking an increasingly active interest in issues that will affect international armaments cooperation. Several individual reactions stand out against the widespread reaction against international cooperation. Most initiatives have been prompted by the tendency to defend the constituency interests that are impacted by such programs. This tendency is amplified in the present economic climate of high unemployment and recession. General support exists for the contribution which such programs make to US security interests, but it is by nature unfocused and reasonably difficult to mobilize. Thus, attempts to implement cooperative programs are likely to provoke sharp, if limited, reactions which may coalesce around broader Congressional concerns over the issues of technology transfer and the general competitive position of US defense industry. In the absence of demonstrable benefit to the national security, these reactions may succeed in inhibiting international cooperative efforts.

**CONGRESSIONAL CONSIDERATIONS**  
Recommendations (Continued)

The recurring Congressional comments that DoD needs a "high-level, full-time advocate and focus for these important alliance cooperation activities" are consistent with comments heard in Brussels and with the feelings of the members of the Task Force. The Task Force believes that this individual should be in the USDRE organization, which should have an even stronger role than at present in international cooperation activities (as described in Finding/Recommendation No. 5).

## **#5 DOD ORGANIZATION FOR ARMAMENTS COOPERATION**

### **FINDING**

- **NO SENIOR OFFICIAL TO DIRECT AND IMPLEMENT COOPERATIVE ARMAMENT ACTIVITIES — APPARATUS IS DISPERSED THROUGH DOD**
- **SERVICES HAVE AUTONOMY WHICH PERMITS EFFECTIVE VETO OVER COOPERATIVE PROGRAMS**
- **SERVICES FAIL TO DRAW ON TOTAL DOD EXPERIENCE AND LEVERAGE IN NEGOTIATING INTERNATIONAL PROGRAMS**
- **MOST DECISION AUTHORITY IS SEPARATE FROM THE PROCUREMENT/ACQUISITION CHAIN**
- **NEED ADEQUATE STAFFING TO:**
  - **EXPEDITE CLEARANCES, APPROVALS**
  - **PROVIDE ON-GOING EXPERTISE FOR INT'L MANAGEMENT, NEGOTIATIONS, CONTRACTING, REGS, DATA RIGHTS, WAIVERS**
  - **MESH WITH U.S. PRODUCTION BASE AND TECHNOLOGY TRANSFER**
  - **ACT AS EXPERIENCED CONTACT POINT FOR INDUSTRY**
- **TWO PREVIOUS SECDEF STUDIES AND DECISIONS TO MOVE DSAA TO THE ACQUISITION EXECUTIVE**

The Task Force's interest in DoD organization was limited to the NATO armaments activities, of which industrial cooperation is a part. The evolution of the DoD international organization was traced through three overlapping phases of international arms collaboration:

1. The Grant Aid/Military Assistance phase from the late 1940's through the mid-1960's
2. The FMS/commercial sales phase, from the early 1960's to the present
3. The coproduction/codevelopment/offsets phase, beginning in the 1960's and now the predominant mode for many of the NATO countries. The key difference between this phase and its predecessors is that the other countries want to participate in the programs, rather than only to obtain the hardware.

It is the conviction of the Task Force that DoD's current configuration of responsibilities is not optimum for the cooperation-oriented mode of defense assistance. While Defense Research and Engineering has the best grasp of the factors involved in dovetailing codevelopment, coproduction, and sales with DoD's own acquisition programs, the primary staff focus in DoD has remained with International Security Affairs. Also, the OSD acquisition executive, the Under Secretary for Defense Research and Engineering, is inadequately staffed to handle those aspects of international arms cooperation matters that have been migrating to USDR&E. An additional complication is that the Defense Security Assistance Agency (DSAA), the DoD agency which negotiates FMS agreements with foreign governments and is deeply enmeshed in the acquisition and logistics functions, reports to International Security Affairs rather than to the acquisition executive.

## **DOD ORGANIZATION FOR ARMAMENTS COOPERATION**

### **RECOMMENDATIONS**

- 5-1 TRANSFER DSAA MANAGEMENT AND ACQUISITION FUNCTIONS TO THE ACQUISITION EXECUTIVE AND CONSOLIDATE UNDER THE NEW PRINCIPAL DEPUTY UNDER SECRETARY FOR ARMS COOPERATION AND INTEROPERABILITY**
- 5-2 LEAVE ANY POLICY COMPONENTS OF DSAA WITH ASD (ISP)**
- 5-3 RENAME DSAA THE "INTERNATIONAL ARMS COOPERATION AGENCY" (IACA)**
- 5-4 PROVIDE ADEQUATE STAFFING INCLUDING EXPERIENCED INTERNATIONAL PROGRAM NEGOTIATORS AND MANAGERS FOR WORKING WITH OTHER NATIONS**
- 5-5 RETAIN POLICY FUNCTION IN US(P); CONSOLIDATE IMPLEMENTATION RESPONSIBILITIES IN USDRE**

**SECDEF**

The Task Force is concerned about these organizational anomalies because they weaken DoD's ability to negotiate and carry out programs. Our efficiency as a partner and supplier is obviously important both to NATO Europe and, in the case of joint development or production programs, to our domestic acquisitions. The new Principal Deputy Under Secretary could aid the Services in exploiting DoD's comprehensive experience, and could exert strong, coherent policy leadership in furthering international arms cooperation.

Appendix D to this report contains a more thorough discussion of the changing conditions in international arms collaboration which led the Task Force to conclude that DoD organizational improvements are needed.

## **#6 SUPPORT BY U.S. MILITARY SERVICES**

### **FINDINGS**

- **A WIDESPREAD PERCEPTION THAT SERVICES DO NOT WANT INDUSTRIAL COLLABORATION WITH NATO**
- **SERVICES MUST SUPPORT OR CONCEPT WILL FAIL**
- **SPLITS BETWEEN OSD AND SERVICES ALSO ALLOW CONGRESS TO KILL PROGRAMS**
- **SOME LEGITIMATE SERVICE CONCERNS**
  - **PRESSURE FROM CONGRESS — “PROGRAMS HELD HOSTAGE”**
  - **WANT “BEST” MILITARY CAPABILITY**
  - **VICE CHIEFS — “NEED COHERENT U.S. STRATEGY FOR TECHNOLOGY SHARING”**
- **SERVICES (NOT OSD) ARE THE CUSTOMERS OF U.S. INDUSTRY SO THEIR SUPPORT FOR COOPERATIVE PROGRAMS MUST BE CONVINCING**

While cooperative programs are frequently initiated at the Defense Department/Ministry of Defense level, the Military Services consummate and conduct the programs. Therefore, the Services' attitudes and motivations are crucial to the implementation and success of these cooperative programs.

Because of the widespread perception that the Services are opposed to cooperative programs with other countries, the Task Force sought the views of the Vice Chiefs of Staff of the Services. They expressed both interest in cooperation with the Allies and concerns about some of the difficulties (as expressed in the viewgraph). Also, they voiced concern about the potential limitations on cooperative programs deriving from limitations on technology transfer.

Recognizing the Services' very real concerns about the additional complications and hazards created in the acquisition process by opening a new program to international cooperation, the Task Force questions how well the Services can assess objectively the benefits that accrue from "internationalizing" a program (such as increased military effectiveness for the Alliance as a whole), rather than from restricting it to US Service only. No opportunity was presented to pursue this important question (refer to recommendation No. 15-2 about assessing the value of interoperability).

## **SUPPORT BY U.S. MILITARY SERVICES**

### **RECOMMENDATIONS**

- 6-1 SERVICE CHIEFS EXPLICITLY ANNOUNCE SUPPORT FOR ALLIED ARMS COOPERATION AND INSURE THAT SOURCE SELECTION PROCEDURES ENCOURAGE RATHER THAN DISCOURAGE FOREIGN PARTICIPATION WHEN IT IS COMPETITIVE AND APPROPRIATE**
- 6-2 CREATE HIGH LEVEL MILITARY POSITIONS UNDER THE SERVICE SECRETARIES, ON SERVICE STAFFS, AND WITHIN ACQUISITION COMMANDS TO COORDINATE/ESTABLISH COOPERATIVE PROGRAMS AND INSURE INTEROPERABILITY**
- 6-3 SEMI-ANNUAL SECDEF/SERVICE COUNCIL MEETINGS TO REVIEW COOPERATIVE EFFORTS**

**SERVICE CHIEFS  
SECDEF**

The Task Force concluded that high-level policy and organizational measures must be taken in both the Defense Department and the Military Departments if cooperative programs are to become a truly significant mode for U.S. acquisition. Policy statements alone are unlikely to generate the desired increase in cooperation.

## #7 TYPES OF COOPERATIVE PROGRAMS

### FINDINGS

#### COLLABORATION CAN TAKE MANY FORMS:

- **TWO-WAY STREET ON MAJOR SYSTEMS**
  - REGARDED AS FAILURE BY NATO
  - MAY NOT BE REALISTIC FOR MAJOR SYSTEMS
- **CO-DEVELOPMENT**
  - TOUGHEST TO IMPLEMENT
  - PREFERRED BY EUROPE
  - REQUIRES BALANCED PARTNERSHIPS AND RECIPROCAL TECHNOLOGY SHARING
  - DISPARITY IN R&D FUNDING (U.S.-EUROPE) MAKES DIFFICULT
- **CO-PRODUCTION**
  - ATTRACTIVE — PROVIDES JOBS, STANDARDIZED EQUIPMENT

#### BUT

- SOME IN EUROPE INCREASINGLY VIEW CO-PROD. PER SE AS "WORST KIND OF COOPERATION"; HAS OFTEN CREATED CAPACITY WITH NO FOLLOW-ON BUSINESS

The Task Force assessed the pros and cons of the various modes of cooperation which have taken place within NATO industry in the last twenty years. There has been a considerable variety in the modes of cooperation, ranging from straightforward licensed production to coproduction to codevelopment. The general feeling, among both American and European industrialists, is that any of these modes—or adaptations thereof—can be worthwhile and can be worked out on a case-by-case basis, if the particular arrangement makes good business sense to the partners.

The following comments were offered on the different modes:

#### Two-way Street

The difficulties (from the US standpoint) for two-way trade on major systems include:

1. The timing for shared requirements is usually different in different countries.
2. US military policy requires that equipments be usable through the world, which usually necessitates expensive adaptation of foreign-developed equipments.
3. US national security policy requires that the US not be completely dependent upon foreign sources for major defense equipments, thus requiring at least some domestic production.



## TYPES OF COOPERATIVE PROGRAMS

### Findings (Continued)

4. Procurement of a major system off-shore has significant impact upon US industry and therefore is of concern to Congress.
5. The Task Force is concerned that, if the two-way street is adopted as a continuing national policy and is viewed primarily on an economic basis as it has been in the past, there may eventually be heavy political pressures upon the Services to accept weapon systems that are not optimal from the military standpoint. This eventuality is a matter of explicit and serious concern by the Services. Therefore, for major systems, the Task Force believes that continued emphasis on the two-way street per se should not be the Government's major thrust.

### Codevelopment

Codevelopment is the most difficult mode to implement for the following reasons:

1. The need for maximum technical transfer at a very early stage.
2. Concerns of both US and European industries about proprietary rights and eventual third country markets.
3. The need for the companies to invest money for an unsure program with an uncertain set of requirements.
4. The difficulty often experienced by the European company in determining which of several American competitors to team with.

### Coproduction

The coproduction mode is attractive because it concerns a clearly defined product and clearly defined markets, but is unattractive because it does not necessarily lead to further programs. In fact, European industrialists view quite critically some coproduction programs which were once considered highly successful, largely because they created a considerable industrial capacity and investment with no follow-on production to use them. The U.S. must be sensitive to the special problems that can result from this form of cooperation.

## #7 TYPES OF COOPERATIVE PROGRAMS (CONT)

- **LICENSED PRODUCTION**
  - TEACHING OF "KNOW-WHY AS WELL AS KNOW-HOW" PART OF LICENSE AND BASIS FOR GENERATING FOLLOW-ON BUSINESS
  - ACHIEVES KNOW-HOW FOR LIFE-CYCLE SUPPORT
  - ALSO CREATES NEW CAPABILITY AND FUTURE COMPETITION FOR U.S. INDUSTRY
  
- **SUBSYSTEMS VERSUS MAJOR SYSTEMS**
  - MAJOR SYSTEM COOPERATION INVOLVES UNIQUE POLITICAL SITUATIONS. DEAL WITH ON CASE-BY-CASE BASIS
  - SUBSYSTEMS AND SUBCONTRACTING — MUCH POTENTIAL FOR EXPANDING INDUSTRIAL COLLABORATION INFRASTRUCTURE
    - — COMPETITION EASIER; EASIER TO INVEST IN AND BE TECHNICALLY ADVANCED
    - — SERVICES WILL ACCEPT MORE READILY
    - — OF LESS CONCERN TO CONGRESS
  
- **ONLY MORE INVESTMENT IN MILITARY R&D BY EUROPE CAN CREATE TECHNOLOGICALLY BALANCED PARTNERSHIP AND A TRUE ALLIANCE-WIDE INDUSTRIAL BASE**

### Licensed Production

In this mode, the entire technical package is transferred, including know-how and know-why for design, production processes, and support services. It also gives capability for product improvements. The distinction between licensed production and coproduction was drawn by the European industrialists. In licensed production, a follow-on capability, from a technical point of view, is established.

### Subsystems versus Major Systems

There has been and there currently is much more industrial cooperation at the level of subsystems and small systems than there is for major systems. Such cooperation has been particularly notable in aircraft subsystems and now is taking place in at least one US advanced missile program (AMRAAM). A number of European industrialists understand that cooperation at the subsystem level is a very good strategy for penetrating the U.S. defense market. This also applies to cooperation on small systems, such as this "nine small programs" designated by Dr. De Lauer as test programs for cooperation.

## TYPES OF COOPERATIVE PROGRAMS

### RECOMMENDATIONS

**7.1 SECDEF ADVOCATE GREATER EUROPEAN INVESTMENT IN ADVANCED MILITARY R&D IN NORTH ATLANTIC ALLIANCE AS BASIS FOR A BALANCED TECHNOLOGICAL PARTNERSHIP, WITHOUT WHICH EXTENSIVE CODEVELOPMENT IS UNREALISTIC**

SECDEF

**7.2 ENCOURAGE GREATER COOPERATION AT SMALL SYSTEM/ SUBSYSTEM/SUBCONTRACT LEVELS. INITIATE ACTIONS IN SERVICES TO INSURE THAT SOURCE SELECTION, PROCUREMENT AND SECURITY PROCEDURES SUPPORT RATHER THAN IMPEDE THIS GOAL**

USDRE

**7.3 WHERE APPROPRIATE, EMPHASIZE "LICENSED PRODUCTION" WITH LESS RESTRICTIONS ON OTHER USES OF THE TECHNOLOGY AND ON THIRD-COUNTRY SALES**

USDRE

It must be made clear to the Europeans that a truly balanced industrial partnership inevitably requires from them much more investment in basic military R&D.

The increased R&D investment recommended here would be for "advanced development", the relatively inexpensive effort which demonstrates technological feasibility and prototype possibilities. It falls short of the enormous investment required for full-scale engineering development, but it would nevertheless provide a more balanced technological base across the alliance and therefore make cooperation much easier. This issue was discussed with the European Parliamentarians and Defense Ministries and generally understood, and the Task Force believes that, with sufficient dialogue, increased European investment is a practical possibility.

At present, more cooperation at levels below major programs is already feasible but will depend largely upon the Defense Department's removing many of the impediments in the US source selection and security processes. Also incumbent on the US Government is the modification of the current policy restrictions on the additional uses of technology and on re-export to third countries.

## **#8 OFFSETS WITHIN NATO**

### **FINDINGS**

- **INCREASING USE OF DIRECT OFFSETS ON A PARTICULAR PROGRAM OFTEN A PROBLEM (U.S.-EUROPE AND WITHIN EUROPE). USED AS TOOL TO ESTABLISH NATIONAL INDUSTRIAL CAPABILITIES AND TO BALANCE MONETARY FLOW (JOBS)**
- **CREATING OVERCAPACITY IN DEFENSE INDUSTRY IN NATO — PRESSURE IS THEN TO EXPORT MORE TO USE CAPACITY**
- **GENERAL FEELING BOTH IN U.S. AND EUROPE THAT IT MAY BE GETTING OUT OF HAND**
- **"SPECIALTY METALS" RESTRICTION SEVERELY LIMITS BOTH ABILITY TO COMPLY WITH OFFSET COMMITMENTS AND COOPERATIVE EFFORTS**

With European defense budgets growing by about 2 percent in real terms every year since 1970, the funding allocated to equipment and weapons has become steadily more important to national economies. As a result, most European governments are insisting that their national industries participate in some way in defense production.

To avoid inefficient direct offset requirements, the US negotiated bilateral MOUs with most of its European Allies in the late 1970s. These general MOUs were designed to permit European industry to compete for US defense contracts, thereby providing a more efficient form of offset. The resulting effort to achieve free trade in the Trans-Atlantic defense market appears to be working well for the UK and France. However, the MOUs have not succeeded in improving the situation very much for other European nations, either because of inadequate R&E budgets or because of the continuing difficulty of obtaining fair treatment from the US procurement system.

With the overall US-European defense trade balance running at about 7 to 1 for the past several years, the smaller countries are requiring direct offset arrangements through production of components in Europe. The result is often a considerable increase in the cost of armaments for these countries and the creation of overcapacity in defense industry.

While efficient licensed production is considered both necessary and useful, there is a general feeling in both the US and Europe that the offset process may be getting out of hand. Moreover, it is not likely that the smaller countries will go on spending as much on armaments as they are today without appreciable offsets of one type or another.

**OFFSETS WITHIN NATO**  
Findings (Continued)

One solution to the problem is to make the general MOUs work by ensuring that European industry has a fair chance to compete for US prime and subcontracts. But US protectionist legislation, such as the prohibition against importing "speciality metals" and other specific defense products, prevents European industry from competing fairly in the US and results in greater offset demands and in outright cancellation of European procurements from the US.

## OFFSETS WITHIN NATO

### RECOMMENDATIONS

- 8-1 INSTALL A MECHANISM FOR DOD TO ATTAIN AFTER-THE-FACT VISIBILITY ON ALL DIRECT PROGRAM OFFSETS INVOLVING DEFENSE PRODUCTS, INCLUDING COMPONENT AND SUBSYSTEM PROCUREMENTS**
  
- 8-2 DOD SHOULD INITIATE A DETAILED STUDY ON THE LONG-RANGE BURDENS AND BENEFITS OF OFFSETS**
  
- 8-3 PROVIDE STRONG SUPPORT FOR CONGRESSIONAL RESTORATION OF THE "FOREIGN GOV'T AGREEMENT" EXEMPTION TO SPECIALTY METALS AMENDMENT**

USDRE AND USP

To eliminate the inefficiencies of offsets, DoD should establish a mechanism for providing after-the-fact visibility on all direct program offsets. DoD should then conduct a detailed study of the long range burdens and benefits connected with direct offset, as a step toward structuring more efficient Alliance defense trade and licensed production arrangements. In the meantime, DoD should increase its efforts to eliminate US protectionist obstacles, such as the "specialty metals" legislation, as well as to assist Allies in making use of the MOU mechanism rather than of direct program offsets. Such mechanisms should also be extended to other countries with large deficits in their defense balances with the United States.

## **#9 THIRD COUNTRY SALES**

### **FINDINGS**

- **AGREEMENTS ON THIRD-COUNTRY SALES CRITICALLY IMPORTANT TO ARMS COLLABORATION INITIATIVES**
- **REASONABLE ACCESS TO THIRD-COUNTRY SALES MUST BE ASSURED TO ENHANCE VIABILITY OF COOPERATIVE PROGRAMS**
- **STATE DEPARTMENT'S RESTRICTIONS ON ADVANCE APPROVAL OF THIRD-COUNTRY SALES ARE BASED ON POLICY, NOT STATUTE**
- **A TOUGH PROBLEM!**

European arms producers can only count on a small national market compared to US producers. If they are very fortunate, they might make sales to other Allies in Europe or even to the United States, but usually they must compete with similar European and US armaments. Therefore, to provide economical production runs, European countries must capture a share of Third world defense markets.

When a number of European countries cooperate with the United States, either by producing US equipment in Europe or by joint R&D on a common system, they may still have difficulty achieving economical production runs. The cost of R&D and production engineering for high technology items is so great that even the US, with its large national market, needs third country sales for more economical production runs. As a result, Europeans will often reject cooperation with the US and proceed with their own developments simply because they know that the US will often refuse to authorize third country sales of US technology and, in any case, will not give the advance authorization necessary for economical production planning.

### **THIRD COUNTRY SALES**

#### **Findings (Continued)**

Under foreign military sales legislation, Congress must be notified thirty days in advance of US major armament sales and can vote to deny sales if it wishes. Therefore, the State Department, in approving munitions licenses for the sale of US equipment produced under license, is reluctant to give advance approval for sales for fear of creating a conflict with US government policy. Advance approval will usually be given for NATO, Japan, Australia, and New Zealand, but this is not a large enough market since there is usually more than one NATO system. Moreover, the US has sometimes withdrawn previously granted sales licenses for specific sales when US policy is changed.

If the US wishes to increase Alliance cooperation in armaments, it should go further in authorizing third country sales in advance and should specify tightly limited guidelines for later withdrawal of authorizations.



## THIRD COUNTRY SALES

### RECOMMENDATIONS

#### 9-1 DOD AND STATE DEPARTMENT MEET PARTNERS HALF WAY AT TIME OF PROGRAM MOU BY —

- OFFERING SALES WITHIN NATO (WHEN PERTINENT)
- IF NECESSARY, OFFERING ALSO ADVANCE AGREEMENT ON ADDITIONAL ACCEPTABLE COUNTRIES, SUBJECT TO USG REVIEW AND APPROVAL BEFORE SALE IS CONSUMATED (WITH SPECIFIED LIMITED CRITERIA FOR LATER WITHDRAWAL OF APPROVAL)
- DSB ENSURES USE OF TIME-PHASED RELEASE OF PRODUCTS INVOLVING SENSITIVE TECHNOLOGIES FOR SALE TO SPECIFIED THIRD-COUNTRIES

USDRE/USP

With the conviction that the third-country markets problem is a major obstacle to industrial cooperation in NATO, the Task Force urges that serious consideration be given to compromise approaches, and proposes some possible steps for consideration.

In cases where sensitive technology prohibits sales to third countries, the US and its partners in a cooperative program should work out a suitable time-phased release schedule for specified third countries, based on an evaluation of the risks involved. The combination of widest possible advance authorization, strict rules for withdrawing authorization, and time-phased release schedules for sensitive technology should make cooperative programs much more attractive to our Allies.

## **#10** PROCUREMENT REGULATIONS AND PRACTICES

### **FINDINGS**

- **DOD POLICIES/DIRECTIVES/INSTRUCTIONS/REGULATIONS ON COLLABORATIVE PROGRAMS ARE COMPLEX, AMBIGUOUS, AND BURDENSOME**
- **SOME OF THE SIMPLIFICATIONS AND WAIVERS ON THE F-16 PROGRAM WORKED SUCCESSFULLY BUT MORE NEEDS TO BE DONE FOR FUTURE SUCH PROGRAMS**
- **ON FMS COPRODUCTION PROGRAMS, DOD TENDS TO SELL THE TECHNICAL DATA PACKAGE AND MANUFACTURING RIGHTS IN COMPETITION WITH THE U.S. CONTRACTORS**

Based on the lessons learned in past collaborative projects, the Task Force believes that stronger action is needed to improve DoD's acquisition policies and procedures regarding international programs. Practical recommendations to this end were presented in February 1982 by the DoD Task Group to Review International Coproduction/Industrial Participation Agreements, (The Denoon Report), but these recommendations have not yet been implemented.

In addition, the DoD practice of selling technical data packages and manufacturing rights to foreign governments in competition with U.S. contractors places U.S. firms at a severe disadvantage in dealing with their foreign counterparts. Instead, the technical and business arrangements required for a collaborative project should be devised by contractors involved. This practice should explicitly be made DoD policy (see Recommendation 2-1).

**#10 PROCUREMENT REGULATIONS AND PRACTICES (CONT)**

**RECOMMENDATIONS**

- 10-1 MAKE SIMPLER AND MORE COHERENT DOD'S POLICIES/DIRECTIVES/INSTRUCTIONS/REGULATIONS ON COLLABORATIVE PROGRAMS, AS RECOMMENDED IN THE DENOON REPORT**
- 10-2 COMPLETE NEGOTIATION OF UPGRADED, COMMON QUALITY CONTROL DOCUMENT AQAP-1**
- 10-3 PROMULGATE AND ENFORCE DOD INSTRUCTIONS THAT, IN COLLABORATIVE PROJECTS, THE GOVERNMENT-TO-GOVERNMENT MOU ESTABLISHES THE FRAMEWORK FOR THE INDUSTRY-TO-INDUSTRY ARRANGEMENTS BUT LEAVES THE TRANSFER OF THE DATA PACKAGE AND RIGHTS TO THE INDUSTRIAL PARTNERS**

USDRE

The excellent recommendations for improving procurement regulations made in February 1982 by the DoD Task Group to Review International Coproduction/Industrial Participation Agreements (The Denoon Report) should be implemented without delay. In addition, as a first step toward developing greater compatibility among NATO government procurement practices, the negotiation of an upgraded version of the NATO quality control specification for major systems, (Allied Quality Assurance Publication One (AQAP-1), which is acceptable for use by DoD in international programs without supplementation) should be completed as soon as possible.

Certainly the most important step DoD could take to recommend collaborative projects as attractive business ventures for U.S. industry is to curtail the practice of selling technical data and manufacturing rights to foreign governments. Close-knit technical and business partnerships among the participating contractors are absolutely vital to the success of collaborative projects. The sale of data and rights, which are in themselves insufficient to establish production, weakens the incentive to collaborate and unfairly handicaps the U.S. firms that may try to negotiate such partnerships.

## **#11 SECURITY IMPEDIMENTS**

### **FINDINGS**

- **CUMBERSOME AND LENGTHY SECURITY PROCEDURES ARE A SIGNIFICANT IMPEDIMENT TO TECHNICAL EXCHANGE AND COOPERATION**
- **LACK OF CLOSE WORKING RELATIONSHIP AND INCOMPATIBILITY OF POLICIES AND PROCEDURES BETWEEN THE ACQUISITION AND SECURITY ORGANIZATIONS**
- **SPECIAL PROBLEM — FOREIGN-OWNED SUBSIDIARIES IN U.S.**
- **USD(P) TAKING STEPS TO SIMPLIFY AND IMPROVE SECURITY PROCEDURES INVOLVING INDUSTRIAL COOPERATION AND FOREIGN OWNERSHIP**

Certain information security policies and procedures designed for U.S. defense procurements have not kept pace with our growing participation in international collaborative programs. The lengthy visit clearance process, and the lack of disclosure policies tailored to the special circumstances of jointly-funded codevelopment programs are examples of problems which illustrate the need for strengthened coordination between acquisition and security officials.

A particularly irritating problem for the European is the requirement that European companies owning U.S. subsidiaries must forego direct management of the subsidiaries if they are to have access to U.S. classified business. This problem is in the process of being solved for some NATO countries by DoD's negotiation of reciprocal security agreements which facilitate transmittal of classified data to the subsidiaries.

The Task Force feels that, in all cases, the security process can be streamlined considerably; significant and unnecessary impediments to international industrial cooperation can be alleviated by strong positive actions.

## **#11 SECURITY IMPEDIMENTS**

### **RECOMMENDATIONS**

- 11-1 COMPLETE WORK ON SIMPLIFICATION/IMPROVEMENT OF PROCEDURES AND IMPLEMENT THEM**
  
- 11-2 ANALYZE CURRENT POLICIES, PRACTICES, AND RESPONSIBILITIES OF THE ACQUISITION AND SECURITY ORGANIZATIONS WITH GOAL OF IMPROVING COORDINATION AND EXCHANGE OF IDEAS BETWEEN THEM**
  
- 11-3 INVESTIGATE AND ALLEVIATE TO THE EXTENT POSSIBLE THE PROBLEMS OF FOREIGN-OWNED SUBSIDIARIES. CONSIDER USING THE RECIPROCAL SECURITY AGREEMENTS AS BASIS FOR CLEARING FOREIGN-OWNED COMPANIES AND THEIR PERSONNEL.**

The recommendations are to continue at high priority the measures under way to minimize the security obstacles to international industrial cooperation.

Specific recommendations on the problems of foreign ownership, visit clearances, and foreign participation in classified activities are presented in Appendix E.

## **#12** RECOMMENDED ACTIONS IN NATO

### **AGREEMENT ON REQUIREMENTS**

#### **FINDINGS**

- **SHARED COMMON REQUIREMENT FOR A CLEARLY DEFINED PRODUCT IS A KEY BASIS FOR COOPERATION**
- **EARLY AGREEMENTS ON MILITARY REQUIREMENTS SIGNIFICANTLY STIMULATE INDUSTRIAL INITIATIVES**
- **THE "PERIODIC ARMAMENTS PLANNING SYSTEM" (PAPS) IS RIGHT-ON AND SHOULD BE SUPPORTED**

#### **RECOMMENDATIONS**

- 12-1 PUT STEAM BEHIND PAPS. MAKE PAPS AN EXPLICIT AND ACTIVE PART OF THE DOD/SERVICE PLANNING AND DSARC REVIEW PROCESS**

USDRE

Major obstacles in the twenty-five years of NATO efforts for armaments cooperation have been the difficulties in reaching agreement over (1) military requirements, (2) the characteristics of the equipment to meet those requirements, and (3) the timing of the procurements for the equipments. Several approaches to these problems have been tried, with limited success. The current approach, formulating a joint "Periodic Armaments Planning System" upon which the individual nations can then base their explorations for cooperation, will be very useful and productive if it is strongly supported. It certainly should be reviewed periodically, at least in an essential summary form, by the Defense Resource Council, in reaching major program decisions. The DSARC should actively address the correlation between specific programs and the NATO Periodic Armaments Planning System.

## RECOMMENDED ACTIONS IN NATO (CONT)

### NIAG

#### FINDINGS

- **NIAG IS THE ONLY OFFICIAL NATO INDUSTRIAL FORUM**
  - **PROVIDES MECHANISM FOR EARLY INDUSTRIAL DIALOG AND ADVICE TO NATO AUTHORITIES**
- **BUT NIAG IS NOT INFLUENTIAL IN NATO PROGRAM ACTIONS**

#### RECOMMENDATION

**12-2 STRENGTHEN NIAG; MAKE IT ATTRACTIVE FOR PARTICIPATION BY SENIOR EXECUTIVES BY GIVING IT A STRONGER ADVISORY ROLE IN PROGRAM DECISIONS**

**"INDUSTRIAL COOPERATION STARTS AT THE TOP"**

USORE

The NATO Industrial Advisory Group (NIAG) was created in the late 1960's to serve as a counterpart group to the Army, Navy, and Air Force Advisory Groups. These groups had proven to be very useful forums wherein the militaries of the different countries could exchange ideas on plans and requirements and to bring the military views on these matters to the National Armaments Directors and their organizations. NIAG was conceived as a way of similarly bringing the views of industry to the NATO authorities on armaments matters in which industry plays a key role.

While in recent years NIAG has performed many useful studies and has advised on some of the major technical issues confronting NATO, it was not constituted to play a major role in NATO program decisions. The Task Force recommends that NIAG be empowered to take this larger role.

## RECOMMENDED ACTIONS IN NATO (CONT)

### NATO INVESTMENT IN TECHNOLOGY

#### FINDINGS

- COLLABORATION WORKS BEST WITH BALANCED PARTNERS AND STARTING WITH COLLABORATIVE EFFORTS IN RESEARCH
- IMBALANCE IN MILITARY R&D INVESTMENT BETWEEN U.S. AND REST OF NATO WILL CONTINUE THE STATUS QUO
- MUTUAL TECHNOLOGY IS A POWERFUL CATALYST FOR COOPERATION
- EUROPE IS INVESTING SIGNIFICANTLY IN CIVIL TECHNOLOGY

#### RECOMMENDATION

**12-3 SECDEF PROPOSE GOALS OF TECHNOLOGICAL LEADERSHIP ACROSS THE ALLIANCE ALONG WITH A POLICY OF TECHNOLOGY EXCHANGE. PROPOSE GREATER NATO INVESTMENT IN EXPLORATORY R&D AS THE CATALYST**

SECDEF

Throughout this report, many references have been made to the necessity of greater European investment in military technology to achieve a better balanced and more effective technological partnership.

This recommendation does not mean to require massive financial investments, but rather investments of high quality in basic technologies applicable to military systems. Eventually, we should be able to think in terms of a "two way street in technology" between the United States and our European allies, which is based on balanced technological capabilities at an advanced level, and which would provide the most powerful form of natural incentive for alliance-wide, industry-to-industry, cooperated initiatives.

The need for greater European investments in technology was discussed with European parliamentarians and defense ministry officials in several nations, and there was general agreement with the concept. The concept needs greater understanding and better articulation in appropriate NATO forums. We propose that the Secretary of Defense at NATO meetings, and the Under Secretary of Defense for Research and Engineering at CNAD meetings, should promote this case as forcefully as possible. We believe that the concept will be accepted by NATO and in time will engender a balanced partnership.



## **#13 SECOND SOURCE AND P<sup>3</sup>I IN EUROPE**

### **FINDINGS**

- **THE OPPORTUNITY TO PARTICIPATE AS POSSIBLE SECOND SOURCES AND IN EVOLUTIONARY PRODUCT IMPROVEMENTS WOULD SIGNIFICANTLY INCREASE NATO'S ADOPTION OF U.S. SYSTEMS AND ENHANCE STANDARDIZATION AND INTEROPERABILITY**
- **WOULD BE A POSITIVE MOVE TOWARDS ALLIANCE-WIDE INDUSTRIAL BASE (NUNN-ROTH-GLENN AMENDMENT)**

### **RECOMMENDATIONS**

- 13-1 EXPLORE SECOND-SOURCING IN NATO EUROPE IN SITUATIONS WITH FOLLOWING CONDITIONS:**
- **CO-PRODUCTION FOR EUROPEAN MARKET**
  - **SECOND-SOURCE COULD SUPPLY LIMITED PERCENTAGE OF U.S. REQUIREMENTS. TOGETHER WITH EUROPEAN MARKET, COULD BE COMPETITIVE**
- 13-2 REQUIRES LEGISLATIVE ACTION**
- 13-3 AS AN INDUCEMENT FOR CO-PRODUCTION, OFFER SIGNIFICANT PARTICIPATION IN PRODUCT IMPROVEMENT PROGRAMS**

USDRE

The designation of a European licensed production center as a second source for US procurement would provide greater motivation for European adoption of US systems as well as for participation in cooperative development of new systems. The results would be stronger Alliance defense through standardization and interoperability of weapons and equipment as well as better use of available European defense funds through the reduction of unnecessary duplication in R&D expenditures. Ultimately, the corrolary improved use of European R&D money may yield more opportunities for US licensed production of European systems.

In addition, use of European production as a second source, in the same way as second sources in the US, would afford a competitive alternative to ensure lower costs. However, European governments would provide the investment money necessary to establish the European second source, thus permitting the US to avoid a major outlay of defense funds.

Congress should be willing to support legislation to permit second sourcing in Europe, since this sort of arrangement would be an important step toward the Alliance-wide industrial base proposed by the Nunn-Roth-Glenn Amendment to the 1983 Defense Authorization Act. The US could provide another inducement for European coproduction of US equipment by permitting European participation in follow-on product improvement programs. This approach would mean continuing work for European defense industry, including long term participation in third country sales.

**#14 SOME CURRENT OPPORTUNITIES FOR  
INDUSTRY-TO-INDUSTRY COOPERATION**

- SECRETARY WEINBERGER INITIATIVES ON "EMERGING TECHNOLOGIES"
  - DELAUER INDUSTRY-INDUSTRY SOURCE SELECTION INCENTIVE PROGRAMS ("NINE SMALL PROGRAMS")
  - AWACS EVOLUTION INCLUDING GROUND ENVIRONMENT
  - GPS NAVSTAR USER EQUIPMENT AND MISSILE GUIDANCE
  - NATO FRIGATE
  - AMRAAM AND APPLICATIONS OF AMRAAM
  - ASRAAM
  - NEXT GENERATION ANTI-TANK
  - MINESWEEPER HUNTER (MSH)
  - AIR COMMAND AND CONTROL SYSTEM (ACCS)
- } FAMILY OF WEAPONS

Many major programs now beginning within the NATO countries present excellent opportunities to establish and benefit from industrial cooperation. Some of these fall into four general categories:

1. C<sup>3</sup>/I programs, including AWACS evolution, GPS Navstar, ACCS, which by their nature are "macro systems" and cross national boundaries
2. The "Family of Weapons" programs, undertaken explicitly as related and cooperative programs
3. The new group of programs for second echelon attack
4. USDRE's "nine small programs," wherein proposing contractors receive extra proposal credit for having international partners.

This variety of programs offers many opportunities for the next generation of industrial cooperation.

Secretary Weinberger has given his personal support to NATO cooperative programs. Last fall he proposed that NATO investigate the possibility of incorporating some five different types of "emerging technologies" into weapons systems, fieldable by the end of the decade, which could improve the Alliance capability to withstand attack.

## **#15 IMPORTANCE OF INTEROPERABILITY**

### **FINDINGS**

- **THE PRIMARY PURPOSE OF NATO-WIDE PROGRAM COLLABORATION IS INCREASED MILITARY EFFECTIVENESS FOR THE ALLIANCE**
- **INTEROPERABILITY OF SYSTEMS AND EQUIPMENT IS OF PARAMOUNT IMPORTANCE**
  - **THERE HAS BEEN OVER-EMPHASIS ON STANDARDIZATION PER SE**
  - **SOME PROGRESS BUT NOT ENOUGH. MORE SUCCESS IN COMPETITIVE COMMERCIAL WORLD THAN IN DEFENSE EQUIPMENT**
  - **WILL BE EVEN MORE IMPORTANT IN THE FUTURE**
- **STRONGER DEMAND FOR INTEROPERABILITY WOULD ENHANCE A SUPPORTIVE CLIMATE AND INFRASTRUCTURE FOR INDUSTRY-TO-INDUSTRY INITIATIVES**

It was the strong and unanimous belief of the Task Force that the primary equipment goal of the Alliance should be interoperability rather than standardization per se; however, optimum interoperability has not been achieved as yet. This perception is heightened by comparing military equipment interoperability with the high degree of interoperability achieved in commercial equipments, such as telecommunications. In addition to its military benefits, achieving interoperability would also enhance cooperation among the industries involved.

The Task Force believes that interoperability must be constantly and consistently demanded at the highest levels of the allied governments to counter the many forces in opposition to that end. This issue should be placed high on the agendas of the Secretary of Defense and the Ministry of Defense of our NATO partners, because in the final analysis the military effectiveness of the alliance could well depend on achieving interoperability. Despite the significant studies made during the past ten years, there remains a very long way to go.

## **IMPORTANCE OF INTEROPERABILITY (CONT)**

### **RECOMMENDATIONS**

#### **15-1 DEMAND INTEROPERABILITY WHEREVER IT IS MILITARILY IMPORTANT**

- ADDRESS IN EVERY SERVICE AND DOD SYSTEM DEVELOPMENT AND REVIEW PROCESSES AND IN NATO**
- EMPHASIZE INTEROPERABILITY OVER STANDARDIZATION**
- ESTABLISH APPROPRIATE INTEROPERABILITY CRITERIA FOR VARIOUS CLASSES OF SYSTEMS IN NATO**

#### **15-2 SPONSOR ON-GOING DEVELOPMENT OF ANALYTICAL MODELS AND SPECIFIC OPERATIONAL ANALYSES FOR SCENARIOS WITH AND WITHOUT INTEROPERABILITY OF SYSTEMS TO DRIVE HOME THE POINT TO ALL NATO GOVERNMENTS AND INDUSTRIES**

USDRE

The NATO Governments should make interoperability the prime requirement for all equipments where it is militarily important. The Governments should require analyses of military effectiveness of equipments with and without interoperability.

## **#16 U.S. INVESTMENT IN R&D**

### **MOST IMPORTANT OF ALL!**

#### **FINDINGS**

- **U.S. FEARS THAT IT IS LOSING TECHNOLOGICAL LEAD ARE WELL FOUNDED. WILL AFFECT DEFENSE AND NATIONAL ECONOMY IN THE LONG RUN**
- **TECHNOLOGY DIFFUSION IS AN INHERENT PART OF A FREE AND COMPETITIVE SOCIETY**
- **WE CANNOT MAINTAIN OUR TECHNOLOGICAL POSTURE BY CONSERVATION AND PROTECTION ALONE — WE MUST RUN FASTER THAN THE OTHER GUYS**
- **IR&D IS A KEY TO U.S. INDUSTRY TECHNOLOGICAL STRENGTH**
- **AN AGGRESSIVE NATIONAL POLICY ON TECHNOLOGICAL GOALS AND COMMENSURATE INVESTMENT WILL ENCOURAGE INDUSTRIAL INITIATIVES INVOLVING TECHNOLOGY TRANSFER AND CREATION OF COMPETITION**
- **OUR INDUSTRIAL BASE IS A NATIONAL ASSET AND SHOULD BE RECOGNIZED AND SUPPORTED AS SUCH**

United States industry is concerned about the loss of technological preeminence and productivity leadership which had established a crest of prosperity and security for our nation. This loss is obvious in all too many important sectors of commercial technology; furthermore, early manifestations of a similar diminution of clear leadership in defense technology are becoming increasingly apparent.

What then of the future? What is the combination of industrial initiative and governmental policy which can reverse these trends and restore to the United States the priceless position which had been achieved and which is being eroded by international competitors? These competitors have emulated our success, perhaps because they understand its foundations more clearly than we; they have implemented governmental/industrial/educational policies and mechanisms which may relegate us to second place in the future. What is the right formula for us? This is a burning national issue of the moment. All sectors—including Congress, labor, industry, and the public—are concerned and are searching for a path that will restore the foundations for an acceptable future for our posterity, in terms of both economy and security.

In the context of this particular study, the Defense Science Board Task Force has concluded that international industrial initiatives that involve sharing technology and accelerating the building of powerful technological competence abroad in the interest of alliance-wide military security will be facilitated if US industry is confident that an assured way exists of replenishing its own reservoir of technological capital to retain technological leadership.

## U.S. INVESTMENT IN R&D (CONT)

### RECOMMENDATIONS

- 16-1 PRESIDENTIAL STATEMENT THAT A NATIONAL GOAL IS TO ACHIEVE AND MAINTAIN CLEAR SUPERIORITY IN CIVIL AND MILITARY TECHNOLOGY
- 16-2 SECDEF STATEMENT THAT A CORNERSTONE OF OUR NATIONAL SECURITY STRATEGY IS, EXPLICITLY, TECHNOLOGICAL SUPERIORITY
- 16-3 INVESTMENTS IN IR&D, RESEARCH, EXPLORATORY AND ADVANCED DEVELOPMENTS SHOULD MATCH THIS POLICY. IN DOD SUBSTANTIAL INCREASE IN "6.1, 6.2, 6.3A" FUNDING
- 16-4 IR&D FUNDING FOR INDUSTRY MUST BE MAINTAINED FREE FROM DETAILED CONTROLS. TOTAL IR&D CEILINGS SHOULD BE INCREASED

THE PRESIDENT  
SECDEF  
USDRE

In addition, the DSB Task Force concludes that, in this search for the survival of our national economic and military vitality for the future, understanding and direction from the highest governmental level must act as a vital catalyst. We also feel that the stage has been set for such a declaration of national policy, and that this policy will be embraced by all segments of our society as a result of the recent period of economic recession and national introspection. In short, the timing is right for immediate action.

What should this national policy or goal be? Simply stated, our goal should be to achieve and maintain clear superiority in advanced civil and defense technologies as a basic element of our strategy for our future. In the past, we have shield away from the term "technological superiority" for fear of offending our friends and perhaps inciting our adversaries. Perhaps, in the process, we have only confused ourselves and our own sense of purpose. We feel that it is time to state unambiguously a goal which can create the climate for increased investment in advanced research and development and technical education which can underpin the revival of our clear leadership and which, as a result, will alleviate most concerns about increased industrial collaboration with our allies.

The DSB Task Force therefore recommends that the goal be stated by Presidential declaration in much the same manner that the goal for major lunar exploration was established. From this declaration will flow the needed focus for coalescing the many elements of the nation's research and development programs, which will be the basis for assuring our future prosperity and security.

## **SUMMARY**

**INDUSTRY-TO-INDUSTRY INITIATIVES  
CAN BE ENHANCED SIGNIFICANTLY BY  
REDUCING SPECIFIC IMPEDIMENTS  
AND CREATING POSITIVE INCENTIVES**

**REQUIRES UNAMBIGUOUS POLICY AND  
A NUMBER OF DOABLE ACTIONS BY  
DOD ... AND STEADFAST COMMITMENT**

**APPENDICES**



**APPENDIX A:  
TERMS OF REFERENCE**



RESEARCH AND  
ENGINEERING

THE UNDER SECRETARY OF DEFENSE  
WASHINGTON, D.C. 20301

27 APR 1982

MEMORANDUM FOR THE CHAIRMAN, DEFENSE SCIENCE BOARD

SUBJECT: Defense Science Board Task Force on International  
Industry-to-Industry Armaments Cooperation

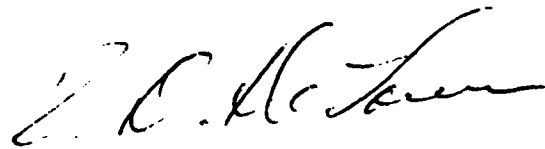
You are requested to form a Defense Science Board Task Force on International Industry-to-Industry Armaments Cooperation. The DoD policy to enhance armaments cooperation is reflected in Deputy Secretary of Defense memorandum dated June 3, 1981 (Enclosure). This Administration's policy is to achieve the implementation of this cooperation through direct industry-to-industry arrangements whenever possible. This is a change in policy from that of the previous Administration which was assisted in formulating its implementing direction by prior Defense Science Board studies.

The purpose of the Task Force is to identify U.S. and allied government procedures and policies that will provide incentives to enable U.S. industry to work more effectively with the industries of our allies in armaments cooperation programs. The scope of the effort should include, but should not be limited to:

1. Identifying policies, procedures and generic problems which are impeding or might impede such cooperation from taking place. Recommend appropriate resolutions thereto.
2. Determining optimum use of existing cooperation mechanisms, e.g., general MOUs, co- and dual production, families of weapons, and codevelopment.
3. Identifying industry-to-industry cooperative program initiatives which would provide greater interoperability and standardization among our forces and those of our allies.
4. Determining how to build and maintain a viable U.S. industrial base and to provide a suitable mobilization capacity as well as to move toward an alliance-wide industrial base.
5. Addressing the issue of technology transfer among the allies and the deleterious effects of leakage of critical technology to the East in terms of how effective controls can be maintained with increased industry-to-industry contacts and yet assure that needed military technology is made available among the allies. Commercial impacts of technology transfer are, of course, also factors requiring consideration.

6. Determining more effective organizational approaches within OSD.

The findings and recommendations will be presented as an interim report by 1 December 1982, and in a final report by February 1983. This Task Force will be sponsored by the Deputy Under Secretary of Defense (International Programs and Technology), Mr. Michael Lorenzo. Dr. Malcolm R. Currie, Senior Vice President & Group Executive, Hughes Aircraft Company, has agreed to serve as Chairman of the Task Force and Mr. Everett D. Greinke, Director, NATO/European Affairs, USDRE, will be the Executive Secretary. Colonel Wayne B. Davis, USA, will be the Defense Science Board point of contact on the Task Force.



Enclosure:

3 June 1981 DepSecDef Memo, Subject:  
Armaments Cooperation with out NATO  
Allies



THE DEPUTY SECRETARY OF DEFENSE

WASHINGTON, D.C. 20301

ENCLOSURE

JUN 3 1981

MEMORANDUM FOR THE SECRETARIES OF THE MILITARY DEPARTMENTS  
CHAIRMAN OF THE JOINT CHIEFS OF STAFF  
UNDER SECRETARIES OF DEFENSE  
ASSISTANT SECRETARIES OF DEFENSE  
DIRECTORS OF THE DEFENSE AGENCIES

SUBJECT: Armaments Cooperation with our NATO Allies

In the face of the sustained Soviet build-up of arms and the pressures on the defense budgets of Allied Nations, more effective cooperation in armaments is now an imperative. The Reagan Administration strongly supports U.S. and NATO arms cooperative programs and initiatives that are designed to better coordinate our use of research and development resources and provide greater interoperability and standardization of our forces so we can better fight as an Alliance.

Our strategy for dealing with the Warsaw Pact challenge is critically dependent on the exploitation of our technological edge and effective application of the industrial base on an Alliance basis. The Defense Department will continue to stress our existing general MOU's with each of our Allies calling for close cooperation on policy, support dual production of weapons on both sides of the Atlantic, and our family of weapons approach to conducting development tasks. We will strive for cost effective cooperative programs, wherever possible, which can meet U.S. and NATO Alliance requirements.

The time has come for industry to take a more active role in the arms cooperation process. They can help to establish cooperative relationships on a sound business basis to the mutual advantage of the industrial base of the Alliance and NATO's military forces.

  
Frank C. Carlucci

46130

**APPENDIX B:  
BRUSSELS MEETINGS**



OFFICE OF THE UNDER SECRETARY OF DEFENSE

WASHINGTON D.C. 20301

RESEARCH AND  
ENGINEERING

8 DEC 1982

MEMORANDUM FOR DISTRIBUTION:

**SUBJECT: The Defense Science Board (DSB) Task Force on International Industry-to-Industry Armaments Cooperation Meeting on 18-21 October 1982 in Brussels, Belgium**

Dr. Malcolm Currie, Task Force Chairman, called the meeting to order at 1100 hours on 18 October 1982 (attendees and agenda are attached). Dr. Currie welcomed the representatives of European industry and introduced Dr. James P. Wade, Principal Deputy Under Secretary of Defense for Research and Engineering. Dr. Wade observed that about five years ago the NATO Conference of National Armaments Directors (CNAD) initiated efforts to improve the defense resources of the Alliance. Most activities resulting from this initiative focused on governmental processes. Memoranda of Understanding were negotiated; Families of Weapons concepts were promulgated; and, in NATO, the Periodic Armaments Planning System (PAPS) established. It was Dr. DeLauer's view, however, that though these efforts have been beneficial, the involvement of the private sector had been neglected in the process. As it is industry not government that develops and produces defense equipment, Dr. DeLauer believes the role of industry in arms cooperation and improving defense resources is crucial and should be expanded. For this reason the DSB was asked to bring together a group of experts from industry to examine how to improve the process of industry and government cooperation and thereby improve the defense posture of NATO. The DSB Task Force was in Brussels to obtain the European perspective on defense cooperation. Dr. Wade then welcomed the group and expressed his interest in the forthcoming discussions.

After welcoming the group on behalf of the Task Force, Dr. Currie described the purpose and functioning of the DSB. As the senior independent advisory board to the DoD, the DSB undertakes studies and makes direct recommendations to the SecDef and the top policy makers in the department. Stressing the independence of the DSB, Dr. Currie noted that the views and judgments of its members were those of individuals not government. The same was true for the Task Force members. The Task Force itself had decided to come to Europe to meet with senior industrialists who have grappled with the problems of international defense cooperation for years. Most of the Task Force members were industrialists with similar experiences. The purpose of the

present meeting was to discuss and try to understand the difficulties of cooperation and to make realistic recommendations which could be acted upon. The hope was for constructive recommendations--not on how to change the US Government (USG), but how best to perform the work of industry. US industry would not respond to government merely because government wished it. Industrialists and businessmen could only respond if there was an element of self-interest. Task Force recommendations must of necessity contain an element of self-interest. While there are many other reasons for industry-to-industry cooperation, the mutuality of business interests has often been neglected in the past and the Task Force intended to take a fresh look at the entire picture.

Specific Task Force objectives are: to identify policies and problems impeding cooperation; to determine the optimum of existing cooperative mechanisms; to identify industry-to-industry cooperative program incentives; to determine how to build and maintain our industrial base; to address the issue of technology transfer among allies and technology leakage to the Warsaw Pact.

The Chairman invited selected European industrialists to make opening statements on their views of international defense cooperation. The following major points were made in these remarks:

- o US defense markets need to be opened to European products; restrictive elements in the US need to be harmonized, e.g., duties, restrictions, government subsidies for industry, etc.
- o There is a lack of clear US policy vis-a-vis third country sales outside of NATO. Restrictions often come only after a program has begun. After the fact restrictions cause serious difficulties. Europeans can never be sure an agreement will not be changed.
- o USG procedures need to be simplified. Many were for F-16 co-production programs; these need to be institutionalized.
- o Shared common requirement for a clearly defined product is a key basis for cooperation.
- o Program continuity requires mutual, reciprocal interaction with and benefits for the industrial partners; responsibility as well as costs must be shared.
- o Volume of governmental procedures causing delays; delays in the decision making process adversely

affect defense and even threaten some industry itself.

- o Industry can help government in the evaluation of solutions, but must demonstrate objectivity and responsibility.
- o In Europe cooperation of industry implies government cooperation. Industry cannot cooperate without government.
- o Government involvement is essential; provides funding, defines requirements; simplistic to think otherwise.
- o US industry and USG patronizing in attitudes toward European industry.
- o Proliferation of defense industries is a serious problem--national practices encourage this and offset agreements tend to exacerbate it.
- o US security requirements and visit notification procedures have an unnecessarily complicating and inhibiting effect on cooperation, particularly in the early stages of exploring cooperative opportunities.
- o The two-way street should connect the US with European collectively, not individual countries. Europe in this sense, however, was still a concept.
- o Clear distinction between co-production and licensed production; the latter preferred, provides the needed transfer of technology/know-how.
- o Cooperation in development would lead to fuller use of European potential.
- o US failure to cooperate with Europe will result in closure of European markets to US--and higher costs/less modern weapon systems in NATO.

On 19 October 1982, informal discussion focused and expanded on a selected number of the points raised in the prepared statements of the previous day:

- o Industry-to-industry cooperation was essential to the achievement of government objectives, but not sufficient. Government cooperation is needed to define and harmonize requirements, provide funding.



Industry can contribute to requirement definition/harmonization by recognizing a need before government. Early discussion/cooperation is essential, but US security/visit notification procedures slow and often prevent exploratory contacts and dialogue, particularly when there is not yet an existing program to "justify" such visits and exchanges.

- o US/European cooperation could be increased if the European side were more unified; greater balance and equality would result. IEPG is viewed as not being particularly effective in rationalizing a European position. European industry sees US industry as patronizing, but smaller European nations find the same true of their larger neighbors.
- o There have been some successful cooperative efforts on medium sized programs, AIM-9L, SEA SPARROW for example. Experience with SEA SPARROW indicates that a genuine need/requirement coupled with a well defined program are key elements for success. Joint government and industry cooperation is needed. Success requires an open flow of information and a cooperative prime contractor.
- o Cooperation on the subsystem level is easier and more successful than cooperation on the larger weapon systems. Smaller efforts have lower visibility and attract less political attention. Competitions for these requirements are decided largely on economic and technological considerations. Though unit prices are small potential volume produces interest. Investment in technology and marketing produce high pay-offs in the subsystem area. US Military Services have biases on international procurements which must be dealt with.
- o Proliferation of defense industry and over capacity are serious concerns. National practices and offset requirements encourage over expansion. Excess capacity produces pressures for export. Definition of third country sales policies must take place early and be adhered to. The Falkland Island experience conversely has put into sharp focus the implications of dependence on an offshore partner/supplier for key weapons or crucial components of indigenous products. This may encourage protectionism and wasteful duplication.

- o Concern in the US over technology leakage to the Warsaw Pact is having an effect on cooperation. Could result in Europeans turning more to each other to avoid complications. Opinions were mixed as to present impact of increased USG sensitivity to technology transfer.
- o Interviews with US Congressional leaders and key staff/committee assistants were described and results indicated that national economic interests must be served in cooperative programs if they are to be supported in Congress. Interoperability was generally understood and not controversial. It was clear US industry had not convinced Congress of the benefits to the US from defense cooperation. In Europe labor unions as well as politicians were aware that cooperation produced jobs and it is necessary for industry to demonstrate this to be the case on a transatlantic basis as well.
- o European second sourcing for a portion of US requirements would make that source competitive if combined with European requirements. Interoperability would be enhanced. Directed second sourcing would require change in US law, and there is some support for this in US Congress, based on interoperability and the economics of competition. Such a change would enable the US to overcome the current obstacle of not being able to commit in advance to procurement of specific quantities in cooperative programs. It is not clear that US military would support European second sources.
- o Interoperability required more attention; push for standardization had adversely affected interoperability, which is easier to attain and more beneficial. More cooperation needed on standards. Much greater success in commercial world than in military area. Industry executives should perhaps get together and resolve standards issue which are impeding interoperability--not leave it to NATO.

On 20 October 1982 the Task Force met at NATO Headquarters with European Parliamentarians from the North Atlantic Assembly and the Western European Union. In the afternoon session this group was joined by a number of National Armaments Directors (NAD's) from various nations. Dr. Currie reviewed for the Parliamentarians and NAD's the Task Force's charter and its purpose for being in Europe. He then summarized the highlights of the discussion with European industrialists on the preceding two days.

The Parliamentarians expressed appreciation for the opportunity to meet and express their views with the Task Force. Major points made by the Parliamentarians:

- o Concern whether US was retreating from cooperation with Europe--citing Congressional restrictions on Administrative Use Vehicles, Specialty Metals, etc.
- o Absence of a key figure in the Reagan Administration responsible for defense cooperation indicated that the current administration did not view cooperation as important as did its predecessors.
- o There was a sea change taking place in public opinion about nuclear weapons; this is giving a new dimension to strategy. Non-nuclear options and tactical improvements being investigated more. Improving/increasing conventional defenses will cost more; parliamentarians must sell this to the public. Industry must advise whether these (conventional) options are viable, affordable.
- o Industrialists and politicians on both sides of the Atlantic need to cooperate more.
- o In Europe reaction to US domination, restrictions, unwillingness to cooperate fuels "this fashionable pacifism."
- o American industry will be the victim if Europeans are forced to cooperate only among themselves. Europe is now more capable than even of supplying its own defense needs.
- o Increase in European defense budgets unlikely--thus cooperation more important.
- o Interoperability preferred to standardization for a variety of reasons.
- o Parliaments should not take decisions contrary to that of governments on cooperation. "We" should encourage government's positions on cooperation.
- o Burden of effort for cooperation lies with both government and industry. Early dialogue and proper timing are important. Investment in technology is crucial.

After the Parliamentarians were joined by the NAD's and the Assistant Secretary General for Defense Support (Dr. Garber), discussions highlighted the following:

- o Despite many problems, there has been much progress over the past ten years. An infrastructure for cooperation had been created.
- o Technology transfer concerns had to be rationalized with industry collaboration, which cannot take place without transferring technology.
- o US security/access restrictions causing problems. Some requests for review of US National Disclosure Policy (NDP). Five percent foreign ownership rule is a US problem (Chairman noted that Mr. Arthur Walsh, CEO Marconi, had agreed to prepare a White Paper on US security issues).
- o The NATO Industrial Advisory Group (NIAG) is the only industry body in NATO; past criticisms not altogether unfounded, but industry's challenge is to review how to improve NIAG. Task Force should consider recommendations on NIAG.
- o Annual (Congressional) budgetary review places cooperative programs in question every year. This area needs more review and evolution.
- o The pace of weapons development needs to be increased. Conservative decisions on new weapons caused by concern over technology leakage will inhibit cooperation and delay introduction of improved systems in the Alliance.

On 21 October the Task Force met in the US Mission at NATO Headquarters, and discussed the F-16 and NATO AEW programs with representatives of CASEUR and the NAPMA. The meetings in Brussels were concluded at 1130 hours, 21 October 1982.



GERALD D. SULLIVAN  
Executive Secretary  
DSB Task Force on Armaments  
Cooperation

Attachments: a/s

DISTRIBUTION: (attached)

**APPENDIX C:  
NUNN-ROTH-GLENN AMENDMENT**

**1983 DEFENSE APPROPRIATIONS ACT  
(NUNN-ROTH-GLENN AMENDMENT)**

**NATO DEFENSE INDUSTRIAL COOPERATION**

**Sec. 1122 (a) The Congress finds that —**

**(1) the United States remains firmly committed to cooperating closely with its North Atlantic Treaty Organization (hereinafter in this section referred to as "NATO") allies in protecting liberty and maintaining world peace;**

**(2) the financial burden of providing for the defense of Western Europe and for the protection of the interests of NATO member countries in areas outside the NATO treaty area has reached such proportions that new cooperative approaches among the United States and its NATO allies are required to achieve and maintain an adequate collective defense at acceptable costs;**

**(3) the need for a credible conventional deterrent in Western Europe has long been recognized in theory but has never been fully addressed in practice;**

**(4) a more equitable sharing by NATO member countries of both the burdens and the technological and economic benefits of the common defense would do much to reinvigorate the North Atlantic Treaty Organization alliance with a restored sense of unity and common purpose;**

**(5) a decision to coordinate more effectively the enormous technological, industrial, and economic resources of NATO member countries will not only increase the efficiency and effectiveness of NATO military expenditures but also provide inducement for the Soviet Union to enter into a meaningful arms reduction agreement so that both Warsaw Pact countries and NATO member countries can devote more of their energies and resources to peaceful and economically more beneficial pursuits.**

**(b) It is the sense of the Congress that the President should propose to the heads of Government of the NATO member countries that the NATO allies of the United States join the United States in agreeing—**

**(1) to coordinate more effectively their defense efforts and resources to create, at acceptable costs, a credible, collective, conventional force for the defense of the North Atlantic Treaty area;**

**(2) to establish a cooperative defense-industrial effort within Western Europe and between Western Europe and North America that would increase the efficiency and effectiveness of NATO expenditures by providing a larger production base while eliminating unnecessary duplication of defense-industrial efforts;**

**(3) to share more equitably and efficiently the financial burdens, as well as the economic benefits (including jobs, technology, and trade) of NATO defense; and**

**(4) to intensify consultations promptly for the early achievement of the objectives described in clauses (1) through (3).**

**APPENDIX D:  
DOD ORGANIZATION FOR ARMAMENTS COOPERATION**

**DEFENSE DEPARTMENT**  
**ORGANIZATION FOR INTERNATIONAL ARMS COLLABORATION**

The providing of arms to our friends and allies has since World War II gone through three distinct phases. As is usual, the phases overlap. First the period from the late forties to the early to mid-sixties was characterized by Grant Aid Programs or Military Assistance Programs (MAP). However styled, the emphasis was on the no-cost (to the receiver) transfer of equipment directly from U.S. Forces' inventories, surplus stocks developed as result of modernization of our own forces, or additional new production of systems being produced for U.S. Forces.

These programs were funded by the U.S. Congress. They were implemented by the acquisition and logistics elements of DoD with the workload centered in the procuring service (Army, Navy or Air Force). An office in OASA/ISA, initially Office of Programming and Control, reporting to the Principal Deputy Assistant Secretary-International Security Affairs, and later to a new position in ISA called Director of Military Assistance, was responsible for programming MAP funds. This was appropriate since the MAP had a high international political aspect. Further, the ISA programmers did not manage the execution of the programs, leaving those aspects to the acquisition and logistics chain.

These arrangements worked well. Service hardware Program Managers had few if any complaints. The equipment being furnished was standard U.S. The requirements were easily folded into contracts for equipping U.S. forces, the funding was U.S. obligation authority and there were no problems of R&D recoupments, asset use charges, agent fees, co-production, offsets, MOUs, etc., that became commonplace in current programs for providing U.S. arms to friends and allies. The second phase of our international arms program was a shift from MAP to sales on a government-to-government basis usually referred to as Foreign Military Sales (FMS), and to direct commercial sales. The term FMS applies exclusively to government-to-government sales. Responsibility for FMS was taken from the Director of Military Assistance and given to a new position of DASD/ISA/INTL LOG negotiations.

These FMS transactions first developed with the stronger economies of European NATO. Secretary MacNamara launched an aggressive FMS campaign in the interests of sharing defense loads with the allies obviously able to pay their own way.

MAP procedures continued for most other countries friendly or allied to the U.S. and also for some European NATO allies. In the case of active fighting in Southeast Asia, the program was shifted about FY-1966 from MAP to Military Assistance Service Funded (MASF). This latter program funding was managed by ISA and the OSD Comptroller, even though the funds were distributed throughout the several line items of the DoD budget rather than a lump sum item as in the case of MAP.

Responsibility for the MAP/FMS programs, and subsequently MASF program, was consolidated in the Defense Security Assistance Agency, which was established in 1971. The Director of the Agency reported directly to the Secretary of Defense and had full authority over the execution of the programs. He was "dual-hatted" as the Deputy Assistant Secretary (ISA) for Security Assistance. In this latter role, he reported to the Assistant Secretary of Defense (ISA). The combined organization came to be referred to simply as DSAA although properly it was DSAA/DASD (ISA) SA. The emphasis on this organization increasingly shifted to FMS. Map grant aid programs were under attack in the Congress and FMS credits became the transitional device for individual countries to progress from MAP to cash sales.



As noted above, the advent of FMS was initially accommodated by adjustment in the ISA structure through divesting FMS from the responsibilities of the Director of Military Assistance and centralizing FMS and the DASD/ISA/ILN, and then later by merging MAP and FMS into DSAA because the FMS program tended to be very much like MAP only with the recipient paying instead of the U.S. Contracts were for standard U.S. equipment or as in the case of the F-5, a standard U.S. Government developed and produced program being purchased for MAP.

The system did begin to change as customer countries either with cash or FMS credits began to assert the usual prerogative of a customer. The DASD/ISA/ILN and later DSAA no longer was only a fund manager and interface with ISA and state on the political military aspects of the international arms program. The DASD/ISA/ILN, and later DSAA, became the prime negotiator of FMS arrangements with friends and allies. DSAA became, in effect, a "Using Command" in the parlance of the DoD acquisition and logistics system. DSAA represented the foreign governments to the DoD acquisition system and logistics system and vice versa. DSAA was, therefore, by that time, firmly astride and enmeshed in the acquisition and logistics function, but at the same time, DSAA was subject to increasing control of ISA. The direct reporting line of DSAA to the Secretary of Defense became fuzzy in practice. Acquisition and logistics staff agencies and Service Commands demanded and received a greater voice in international arms matters. Program direction became diffused and controversies were common.

Secretary of Defense Rumsfeld directed a review of the Security Assistance (read arms sales) relationships and management in OSD. The resulting report rendered by the DoD General Counsel recommended DSAA be removed from ISA and report instead to the Acquisition Executive. This report was not rendered until 14 January 1977 and no action was taken by the incoming Carter Administration since its focus was on greatly reducing arms sales.

The third phase of providing arms to our friends and allies was and is the emphasis on co-production and offsets. Co-development, to a lesser degree, is also a feature of this third phase. Interestingly, the grant aid segment has increased but mainly under the guise of FMS credits the payment for which are forgiven. The recipients of this type grant aid treat their total funds; credits not to be repaid; credits to be repaid; and their own cash as one pot; i.e., they act like a customer on all arms programs regardless of the source of funding. Further, as a result of a fairly recent change in the law, MAP appropriations themselves are now transferred and merged into the FMS trust fund and are processed under FMS rather than MAP procedures. International arms programs are, therefore, becoming increasingly concerned with quid-pro-quo arrangements in addition to political-military considerations. In fact, the efficiency or inefficiency with which our international arms programs are negotiated and implemented have impact on the political-military considerations. Our image as a reliable supplier of defense equipment, and logistics to our friends and allies, is important. Said another way – the efficiency of the acquisition and logistics systems is paramount.

In spite of the shift from MAP to FMS to co-production and offsets, the primary staff focus in DoD has remained with ISA. The primary focus and expertise of ISA personnel is not in the acquisition and logistics area. ISA cannot supervise adequately the acquisition and logistics details of the complex international arms collaboration programs. The OSD acquisition executive, on the other hand, is inadequately staffed to handle the international arms collaboration matters that have been migrating to USDR&E.

It is important to recognize at this juncture all grant aid programs, FMS, co-production, co-development, dual production or whatever are arms collaboration programs. The recipients view them as such. They want to participate and will. The political-military rationale for ISA primacy in arms collaboration programs has been overtaken by events. It is time that the primacy be shifted to USDR&E with ISA retaining a coordinating role.

USDR&E has the best grasp of the factors involved in dovetailing co-development, co-production, sales, etc. of international arms programs with DoD's own acquisition programs. The Deputy Under Secretary R&E for International should be consolidated with DSAA. Other staff elements concerned with international programs in USDR&E should be transferred to DSAA. The Director DSAA should report to USDR&E and should sit on DSARC's and other review bodies of programs having an international component.

The newly-constituted DSAA should be re-named the International Arms Collaboration Agency (IACA). The connotation of "assistance" in these programs is inappropriate in most cases and the name change would remove an irritant to our allies and focus attention in the U.S. (DoD, State, Congress, public) on the necessary cooperative nature of these programs.

The IACA should be the DoD focal point for all international arms programs, including DoD clearances of State Department Munitions Control licensing of direct commercial sales. A team of experienced negotiators should be integral to the IACA for co-development programs (MOU's should be minimized for co-production as is necessary at the government level to achieve licensed production abroad). The agency should be in charge of negotiations on international arms programs including interface with State and the Military Services. IACA by being an integral part of the DoD acquisition and logistic system will be in the best position to insure proper planning of international arms programs and the meshing of those programs with U.S. production, industrial base, and technology transfer considerations. National disclosure policy on weapons system should also be the responsibility of the IACA. Foreign attaches' point of contact for plant visits and other foreign disclosure activities on international arms matters would be IACA. The agency would be responsible for referring the attaches' to a specific Service or other OSD office if appropriate.

Similarly, the point of contact for U.S. or allied industry would be IACA. The use of industry advisory panels on a continuing or ad hoc basis would be encouraged.

A high-level Security Assistance Council, such as that proposed, and recommendation V.B.3. of the Denoon Report, should be unnecessary if DSAA responsibilities and organizational location are changed as outlined above. DoD has twice in the past established such a council only to find out that the council was unnecessary and ineffective. Principals rarely attended the meetings and representatives were poorly prepared. The DSARC should suffice for the policy issues that are the primary concerns of DoD.

The above-described shifts would place the international arms programs in an organizational setting where the expertise is available to work the most difficult aspects of arms programs.

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REPORT OF DEFENSE SCIENCE BOARD TASK FORCE ON  
INDUSTRY-TO-INDUSTRY INTERNATIONAL ARMAMENTS  
COOPERATION PHASE I NATO EUROPE(U) DEFENSE SCIENCE  
BOARD WASHINGTON DC JUN 83

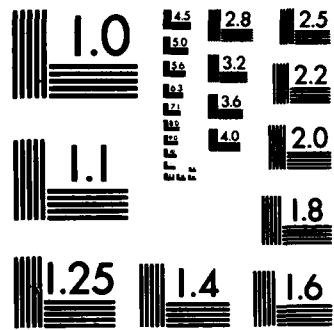
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**APPENDIX E:  
SECURITY IMPEDIMENTS**

## SECURITY IMPEDIMENTS

The Task Force would like to make specific comments on three categories of security impediments to international industrial corporation: (1) broader security access in foreign ownership, control, and influence (FOCI) cases where the FOCI arises from a country with which the U.S. has a Reciprocal Security Agreement; (2) more extensive use of extended visit approach; and (3), strict adherence to Enclosure 5, "Access by Foreign Contractors to Technical Information" of DOD Directive 2010.6, "Standardization and interoperability of Weapon Systems and Equipment within the North Atlantic Treaty Organization."

In the FOCI situation, there have been two practical ways by which the affected U.S. company or subsidiary could be granted a facility clearance. The first is to set up a voting trust or proxy agreement whereby the foreign owners are completely isolated from the entity holding the clearance. Unfortunately these agreements also remove the owner from control and management, which creates an undesirable and in some cases unworkable solution. It is particularly unworkable where technology is being transferred from the foreign parent to the subsidiary, and the foreign management must participate in the transfer through direct contact with persons in the subsidiary. In all cases, the foreign owners have found it objectionable to be completely removed from management of the U.S. subsidiary.

The second mechanism is only applicable when the U.S. has a Reciprocal Security Agreement with the country of citizenship of the owners. In these cases, the U.S. company under FOCI can attain classified material to the level at which the material is releasable to the applicable country, and then only through that country. This mechanism is workable, albeit somewhat slow, in those cases where the classification is secret or lower; however, it breaks down when the key data required to prepare a proposal are not releasable to the applicable country.

There is technically a third approach which involves obtaining a waiver or exemption from the National Disclosure Policy, but it has never been used and it is not realistic to expect that it ever will be used.

Various proposals have been advanced to liberalize the voting trust and proxy agreements. It is generally accepted that this situation could only occur if the U.S. has already concluded a Reciprocal Security Agreement. Several versions of corporate governance mechanisms have been suggested. Under such arrangements, the foreign owners and managers would be excluded from classified materials or management data which could reveal classified data, but would still be allowed access to unclassified facilities and data. A security committee, consisting of U.S. cleared persons, would handle the classified aspects of the corporate affairs. It is believed that DOD security officials might consider such arrangements, at least on a case-by-case basis.

The Task Force recommends the use of these special facility agreements when the FOCI comes from a country which has a Reciprocal Security Agreement. As a minimum, these agreements should provide for a facility clearance and the clearing of all personnel who are clearable U.S. citizens. In addition, clearances, on a case-by-case basis, should be granted to those key foreign citizens who are cleared by their own country and who are essential to the transfer of technology to the U.S. Under an Operating Agreement, the foreign owners should, wherever possible under proper security safeguards, be allowed access to unclassified management data. The corporate structure should be allowed to conform with U.S. corporate tax laws concerning affiliation and consolidated filing statements.

In all other respects, all DOD personnel and industrial security procedures routinely applicable to holders of industrial security clearances would be fully implemented.

Extended visit requests are those arrangements whereby a foreign citizen can visit U.S. installations or companies with 72 hours notice through his Embassy. These requests can be granted for periods up to one year for unlimited visits. The main problem with their use has been the requirement to spell out in considerable detail the justification for the visits. But it is often difficult to predict where exploratory discussions will lead. The Task Force recommends a more flexible approach to requiring specific justifications for extended visits, particularly when the discussions are of an exploratory nature.

The NOFORN classification is by its very definition and application a very difficult obstacle to overcome in industry-to-industry cooperation. Each time it is used, it should be reviewed to ensure its proper application. Enclosure 5 to DOD Directive 2010.6 requires that "decisions to deny these foreign sources access to installations; participation in symposiums, conferences, and briefings; participation in individual contract actions, including pre-solicitation and pre-award conferences; and data relating to the above, must be made at a level no lower than the office of the Service Under Secretary or Director of a Defense Agency." (emphasis added). The directive further provides for advance notification of proposed denials of classified military information related to equipment standardization or interoperability in NATO.

It is not clear that this directive is being followed. To ensure that this obstacle to industry-to-industry cooperation is applied only where absolutely necessary, DOD should closely monitor compliance with this important directive by the Military Departments.

**END**

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