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Innovation and Public Procurement. Review of Issues at Stake

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Executive Summary

The use of public demand to spur innovation has recently seen a very significant increase in political support. Such a policy promises improvement of public services on all state levels, combined with a contribution to innovation dynamics. It has become clear that strong efforts are needed to mobilise procurement at all state levels for innovative markets. These efforts need to be based on a better understanding of how public procurement actually can and should work – in a very practical sense – to contribute to more innovative activity in industry and to the growth or even creation of markets for innovative products and services. This is shown by the literature review.

In innovation theory, user-producer interaction and interactive learning are centrally important aspects of the innovation process. In innovative public procurement, knowledge about procurers' needs must be transferred to potential suppliers, and suppliers' knowledge of possible technological solutions must be transferred back to procurers. Regular public procurement of standardised products such as office materials does not typically require this kind of interaction, as the characteristics of these products are well known and the corresponding needs are self-evident. From this perspective, public procurement of innovations has heavier requirements for interaction between procurers and potential suppliers than does 'regular' public procurement of standard products.

Procurement of innovation can take place at different stages of market development and corresponding phases of the technology life cycle. Public procurement viewed in this dimension can occur in three different stages, initiation, escalation and consolidation. In the initiation stage there has typically not yet emerged a market for the procured technology, and public technology procurement may thus also involve the creation of a new market. Public procurement in the escalation stage takes place where there exists a market for the procured technology, but the market requires further development in order for the technology to be successfully diffused and the market expanded. Public procurement in the consolidation stage occurs in the later stages of the technology life-cycle and may involve the 'bundling' together of niche markets for a relatively mature technology.

The study analyses existing rules and current practices of public innovation procurement in a large set of countries and provides examples of good practices for concrete procurement activities. This executive summary presents general lessons from nine case studies of innovative procurements, and the key characteristics of the country analysis.

I) Lessons learned from the case studies

Our analysis of concrete procurement cases has resulted in a series of general lessons. These lessons are presented following the procurement cycle, i.e. the typical stages of a procurement process which are:

1. Identifying requirements and ensuring user readiness
2. Gathering market intelligence
3. Tendering process
4. Assessing tenders and awarding contracts
5. Managing contract delivery

The following cases were analysed:

Cases	Title	Country
CASE 1	New lighting systems (Hamburg)	Germany
CASE 2	Innovative telecommunication equipment of a municipality (Heidelberg)	Germany
CASE 3	Electronic File Management	Austria
CASE 4	Maritime Radio System	Norway
CASE 5	Procurement of regional transport system in Zaanstreek	Netherlands
CASE 6	Variable Message Signage for UK Motorway Network	United Kingdom
CASE 7	Energy Saving Procurement	Italy
CASE 8	Public key infrastructure	Netherlands
CASE 9	Benefit Card	United Kingdom

The cases presented in this study make it very clear that these stages are very interdependent. In most cases we find something like a linear model of the procurement process, where the early phases of the process determine the later ones. Thus, a major lesson is that the procurement process has to be thought of as a systemic process, in which procurers and decision makers need to think of the implications of what they are doing in a specific phase for the resulting activities, possibilities and constraints in later stages. But there are also feedback loops from later stages to earlier ones. For example, market intelligence might find that certain requirements cannot be met or that users in the organisation are not trained to apply what the market offers. This would mean that before entering the tendering process, requirements and user readiness would have to be checked accordingly.

1. Identifying the requirements and ensuring the readiness of users to apply new solutions

All our examples show that careful identification of requirements makes the procurement of an innovative technology more likely to be successful. This definition of needs requires an appropriate investment of time. The amount of time involved in successful cases of innovative procurement is likely to be large, especially for complex products. Where some prior knowledge is present through pilot or related projects, this is likely to facilitate a specification which can ultimately form the basis of a successful design.[1] Where a design competition or some other related activity takes place as in case 6 this too appears to support the identification of requirements. Without such preparation, it is likely that the understanding of what is needed, and what the suppliers are capable of delivering, will be weak. Most of our examples give evidence that users are key to the identification of requirements and that the specification of award criteria derived from the user perspective is crucial.

One of the greatest challenges in the early phase of defining the requirements is to reconcile the expectations, needs and limitations of a large number of users, especially when the category of users is heterogeneous. The case of the electronic filing system in Austria (case 3) demonstrates the importance of a sound and systematic management of the process of identifying needs in such a complex user environment. The major benefits of such an early process lie not only in a definition of needs that is specific and clear enough to be met by a supplier later on, but also in facilitating the application of the procured technology by the users in a later stage.

2. Gathering market intelligence

The cases have demonstrated that one of the major requirements for a procurement geared towards innovation is market intelligence. Market intelligence has various functions. It serves to understand what the market can deliver now and in the future. Such interaction enables the procurer to obtain early feedback on the feasibility of the project.

There is, however, an inherent danger of privileging individual market actors whenever market intelligence becomes too interactive. Therefore, procurers have to ensure transparency and strictly separate the actual tendering process and negotiations from the market intelligence activities.

The cases show it is indispensable that the procuring agency itself has very good technological knowledge. It needs to be able to understand and assess the technological solutions offered in the market. In cases in which the staff responsible for a certain technology or service internally are not directly responsible for the procurement, a clo-

[1] See for example case 2 and 4

se co-ordination of technical expertise with the procuring staff is indispensable. When internal technical expertise is not sufficient and procuring agencies need to rely on external consultants they need to make sure that an objective and broad review of market intelligence is performed.

3. Tender Specifications

Key aspects in drawing up tendering specifications include specification of needs, tender structure, defining the ability of possible suppliers, and management of risk. The specification of needs should take into account criteria for the capabilities of potential suppliers, acquired through market intelligence. If the gap between needs and capabilities is too great, innovation may not be feasible. Tendering strategies designed to mitigate risk on the part of both buyers and suppliers include sequential unbundling, in order to incorporate prototype testing prior to complete implementation of a new product or system, and parallel unbundling of complex projects into separate components.

Several of the cases highlight exemplary practices of need specification. The challenge confronted in all cases was to strike an appropriate balance between a functional specification that was sufficiently detailed or “tight” to provide clear guidance to suppliers, and a specification that was general or “broad” enough to allow for the consideration of alternative solutions.[2] In case 2 the development of a specification was based on intensive dialogue with various producers, followed by clearly structured and detailed negotiations with selected companies. In case 3 it was necessary to employ an iterative multi-stage negotiation procedure in order to cope with both complexity and risk. In order to identify the most economically advantageous tender at a later stage, the criteria must be defined by considering the specific needs and life-cycle requirements for a new technology or service which requires the input of both the users and the staff responsible for the maintenance of the system (case 2)

The cases also reveal the need to think about the composition or structure of the tender. When the buyer possessed a sufficiently high level of technological competence and prior experience it was possible to design a large-scale and complex procurement project as “a one package delivery” (case 4). When this condition was not met and “procurers were not sufficiently aware of the technical challenge … and may have had unreasonable expectations”, this approach led to at least partial failure” (case 9). Another approach taken was to opt for some form of unbundling in complex projects (case 2). This involved a two-step approach”, i.e. a first pilot installation for 100 offices and a second one for approximately 1800. A similar approach was taken in case 1 which featured “division of the procured performance … into several partial tasks to reduce the risks and the costs”.

[2] Compare cases 4 and 5

Another important consideration was the qualification of suppliers, especially emphasised in case 4. There, especially rigorous qualification requirements were imposed, since “experiences from the first attempt made the procurer careful to insure that the supplier would be able to deliver according to specification”. In several cases, successive rounds of competition, each with more demanding requirements, were used to narrow an initially wide field of competitors. In case 3 and 6 the contracting entity assured that firms would be able “to provide a product from within their own capabilities” by covering the development costs involved in a “design contest” -- in return for which it retained the IP pertaining to the winning design.

The cases showed it is necessary to think about risk management to deal with the uncertainty involved in buying innovative products or services. Care should be taken of who should bear the risk. In case 9 a more or less complete transfer of risk to the supplier brought about the withdrawal of all but one competitor leaving little option for the contracting authority. In case 8 risk was shared while “the Ministry was prepared to finance the maintenance of the PKI infrastructure for several years until the technology was mature and the market was ready to start wide scale adoption of PKI certificates” giving the supplier some certainty.

The cases reveal a wide range of other strategies for risk management, which included: (1) prototype testing prior to complete implementation of an untried system in case 2; (2) division of a complex project into separate components in case 1; (3) extended negotiation procedures with successive stages of discussion and multiple feedback loops in case 3; and (4) retention of intellectual property rights in case 6.

4. Assessing tenders and awarding contracts

During this Assessing/Awarding phase the procuring agency has to exploit all the intelligence gathered. The expert committee needs competencies in evaluating the technical, operational and economic requirements defined in the contract award criteria. In all good practices studied and as a broader general rule the standard practice is to entrust the process to expert committees with multidisciplinary skills and representing all stakeholders involved. One of the key aspects of this phase is the high degree of dependence on the quality of the previous phases, as the selection will only be satisfactory if the requirements are well defined and the procurement targets are very clear. Needed is a political will and a corresponding policy decision for innovative procurement and a focus on qualitative aspects

The higher the degree of preciseness in the technical requirements, the higher the weight that will be given to cost and price related criteria. In all cases cost effectiveness plays the dominant role but the cases show as well that cost effectiveness can be compatible with innovative procurement. Case 7 featured a performance based framework contract awarded to suppliers that offered the best price for the provision of heating services. Energy saving innovations were implemented by the suppliers ex post in

order to achieve the predetermined performance level and increase their profit margin at the same time.

The significance of qualitative criteria increases when tenderers cannot meet ex ante all the technical aspects of the technology to be purchased due to its novelty and when the product has to accomplish essential new operational needs. The issue of risk assessment then becomes essential. In Case 8 heavy emphasis was placed on the security guarantees and the supplier's consent on several legal issues, since his liability was crucial for the implementation of the project.

The need for high technical/evaluation skills becomes higher when the evaluation criteria include many qualitative and technical parameters. In Case 9 the "assessment and award of the contract was carried out by the Procurement Authority" assisted by a large number of experts "including lawyers, IT, training and other specialists." In Case 3 the horizontal nature of the project called for the involvement of representatives from different ministries in the assessment process.

5. Managing contract delivery

Managing contract delivery provides important opportunities for gathering information and conducting evaluative analyses to draw lessons for future projects. However, making good use of these opportunities depends critically upon the approach taken to monitoring and evaluation. In order to inform future policy and practice in a useful way, contract monitoring and evaluation must go beyond simply determining whether a project was completed according to the terms agreed and address broader issues such as the impacts on market and technological development – and, ultimately, on "policy thinking". The cases showed the importance of ongoing interaction between suppliers and procurers and treating the project as "an ongoing process", rather than a "one off."[3]

Many of the cases indicate the importance of precise and careful monitoring for ensuring the successful implementation of contracts. In Case1 highly detailed contracts helped to create overall transparency and facilitate close monitoring. However, subdivision of the project into "many small contracts" called for special monitoring techniques, such as random sampling.

The cases also illustrate how contract monitoring can be used for "learning". In case 5 the onus was placed on the supplier to provide extensive information which information was used as input into the design of the next procurement contract. In case 7 the experience in managing the contract is being exploited in the preparation of the new framework contract for the provision of heating services.

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[3] See for example Case 4

None of the cases show however good examples of “policy learning.” In case 3 the responsible central steering committee could gather, store, and integrate “lessons learned” from all of the organizations participating in the project providing opportunities but there was no evidence found of policy learning. Policy learning could take place in more indirect forms that do not come forward in the cases.

II) A country overview

An overview was made of innovative procurement policies and the organisation of the procuring authorities in the 15 EU-Member States, Australia, Canada, Norway and the USA. The aim of the research was not to be exhaustive but rather to pick the most interesting features on innovative procurement policies and identify trends. The overview clearly suggests that innovative procurement is systematically promoted only in very few countries and very few cases. With the exception of the USA and the UK where policies are explicit and actively pursed, innovative procurement occurs more as a result of good ad hoc policies, good culture and good people.

The only EU member state, which has started a broad strategic process for the usage of public procurement to foster innovation, is the United Kingdom. Procurement has become an integral part of the Department of Trade and Industry (DTI) innovation strategy, and structures and processes at all government levels are being adjusted in a complex implementation process. In some sectors (Health, Construction, and Sustainable Procurement) this process is well under way. In addition, a public private partnership has been formed to increase the readiness of public service to do so by providing support and expertise in the specification and development of unconventional, innovative projects. The United States have a strategic orientation in their public procurement as well but not primarily connected to innovation. In Australia agencies are encouraged to consider how they could objectively deal with innovation and how they might manage submissions that propose innovative treatment of any of the mandatory elements, such as evaluating extra features as separate criteria or conducting a two-stage process, requesting an expression of interest that allows the supplier to focus on providing the best solution.

Two EU Member States appear in the process of adopting strategic practices, namely the Netherlands and Germany. The state as a launching customer is an upcoming issue in the Netherlands where the role public procurement can play for innovation is developing into a strategic one at the present time. Many reports and lobbying papers speak in the last years about the need to activate innovative public procurement but claim that “most contracting authorities lack the experience and the knowledge to use these possibilities”.

In Germany there is a process of re-orientation under way. At the central governmental level a focus group has worked towards new recommendations for innovative procurement. This includes considerations as for supporting lead markets through public pro-

curement and having a procurement award for agencies having procured innovation. This is expected to raise awareness at all levels; however, an implementation strategy of these guidelines to make actors comply is not foreseen for the time being.

In a number of countries the debate on innovative procurement is starting. As yet there is however little evidence of increasing activities or systematic elimination of barriers. In countries like Austria and Greece it is routine for suppliers to file complaint when they did not win which leads procurers to be more risk averse because they will need to face court themselves and the outcomes are never guaranteed. For instance in Belgium there is a discussion and an explicit policy to integrate procurement and innovation in a fundamental way. The details of how this approach would work are however not worked out. Similarly, industry in Austria sees the public market as an extremely interesting potential and is committed to deliver good value for money. However, the formal guidelines in the tendering processes are perceived as being too strict, too narrow for innovative solutions. Actors in Finland stated also that there is an emerging interest for initiatives aiming at making public procurement more efficient. Innovation policy and innovations of the procurement process itself are thought to be included in this new approach.

Some stakeholders are important “drivers” for this move towards innovative procurement. The country overview highlights the role of well trained procurers but also of industry, for example via the Economic Chamber in Austria and the Society of Engineers in Denmark, or a special Innovation Council in Germany and The Netherlands. However, the most often encountered drivers come from industry. Hence, in countries with a strong manufacturing sector, in particular in high-technology areas and with many new technology based firms, it is likely that there will be more pressure towards the application of innovative procurement.

The country analysis also shows that the absence of an explicit general policy does not imply an absence of innovative procurement. Good practices are mainly observed in two areas, sustainability or green procurement and ICT. Sustainability and Green Procurement are applied in many countries: The Austrian government has created the “check it” catalogue containing criteria for sustainable (ecological) procurement. In Germany sustainable procurement aims at fostering innovative sustainable products by "buying green." The Dutch Agency for Sustainability and Innovation (SenterNovem) runs a program and supplies information on sustainable procurement. The Energy Saving Strategy of the Italian government since 1991 directly promotes sustainable procurements and energy saving related innovations. In Denmark the Ministry of Environment has published an action plan for “green” public procurement which acknowledges environmentally friendly criteria before price. Since 2003 the Swedish Agency for Economic and Regional Growth (NUTEK) and the Swedish Environmental Agency have carried out several innovative procurement initiatives focusing on the development of environmentally friendly technologies. In Belgium there is also an increasing interest for

a more coherent approach to environmental and innovation policies; recently the Flemish Government promoted a reform of the Federal Law to allow for considerations of environmental and social characteristics of products. Beyond Europe the USA is particularly active in energy saving solutions and in Japan aspects of innovation within procurement can be observed within the Green Procurement activities.

Information and Communication Technologies are also attractive for innovative procurement because of the rapid technological change in the sector. In the Netherlands there has been recently promoted a coherent strategy on IT systems and equipment in the framework of the Dutch e-government initiative. A special working group has been established in order to identify ways for government to encourage innovation in public governance. In Greece there are special provisions for the public procurement of ICT related products and systems financed by the Operational Programme "Information Society" promoting innovative ICT procurements. In Italy the National Centre for the Information Systems in the Public Sector, CNIPA, systematically encourages ICT related innovative procurements. The Belgian Federal government has an extensive innovative technology procurement experience with a large number of ICT projects being implemented. In the USA ICT innovative procurements was the by product of other initiatives on a Federal level, such as the Disabilities Act, that stated that ICTs used by government agencies must be useable by handicapped people.

Important good practices can be learned from non-EU countries as well, where the issue is equally maturing and changes in programmes, processes and policy thinking are adapting. Canada is evolving in terms of processes. Innovation is not explicitly written into the new initiatives; however, they do represent a clear move away from traditional fixed procurement criteria such as price towards one emphasizing results and outcomes, 'and innovative solutions for achieving them'. Japan possesses a strategic orientation at least in the field of sustainability.

Organisational set up

Procurement can be organised either centrally or decentralised. Although centralisation shall not be regarded as a panacea, there has been some evidence that central procuring agencies might be a way to overcome attitudes hampering the procurement of innovation, either by leading the movement towards innovation, by a strong political mandate or by building up critical mass. However, there is by far no direct causal link between centralisation and innovative policies, as sufficient counterevidence suggests. Where good networks operate, economies of scale and innovative features can appear in both centralised and decentralised systems through co-operation and coordination. Furthermore, evidence suggests that the impetus to centralise has most often been efficiency and saving money rather than more complex search for innovation in the marketplace. Thus, to bring innovation in needs investment in organisational cultures and training.

In terms of the centralisation of the public procurement at the highest administrative level, there is a division into more and less centralised countries with some countries having a clearly mixed picture. The decentralisation of the highest-level procurement in some cases reflects simply the federal structure of the state, in other cases procurement responsibility is scattered across many departments.

There are several countries with a central procuring agency. The British system, often used as a model, leaves much room for initiatives and self-organisation, but the whole procuring system is rather centralised and organised in a hierarchic way. The central government controls approximately 25% of the state's procurement budget while devolved bodies at different levels control 75%. In addition, there is a central procuring review body, the Office of Government Commerce (OCG) that supports public procurement at all levels. The OGC is beginning to influence procurement processes across government departments, including the health service and hence, and at subnational levels, i.e. regional, city and local levels. In Denmark there is one central procurement company jointly owned by different public agencies responsible for the Danish procurement processes. The situation is comparable to Greece where a single procuring authority is responsible for the implementation of annual procurement programme. Germany and Austria form a special group within the federal organised countries as there is in both countries a central procuring agency (recently established in Austria) while the main characteristic is the decentralised structure according to their federal constitutions to the point of local authorities.

Within the group of countries with a decentralised structure the Netherlands, France, Italy, Norway, Japan can be characterised by the fact that every single public agency is responsible for its procurement processes. Sweden, Belgium, Ireland, Finland, and Portugal are highly decentralised in terms of their procurement organisation with only little or even no coordination at all. Australia, Canada and the United States possess a comparable structure since the federal and the states governments – particularly the different ministries – control their own budgets for public procurement. While the degree of centralisation within this division between federal and state level is very low in Canada it is rather high in the United States.

One can observe an increasing professionalisation of procurers and procurement processes in many countries, but it is only strongly developed in the UK through such organisations as the Chartered Institute of Purchasing and Supply, but also the voluntary network of the Society of Procurement Officers in Local Government. Information sharing networks of this type, which pool resources, exist in many countries and they are worth strengthening. In the Netherlands, there are efforts to train and improve the professionalisation of public servants in charge and by spreading the knowledge about the possibilities to procure innovations given by the European laws. There are also increasingly specialised Masters' degrees offered in Public Procurement and a network for professionalisation of procurers called PIANOo.

Conclusions

There is no doubt that the case of innovative procurement is both unconventional and difficult but it is gradually coming to the foreground in many European countries and beyond them, both in terms of a political debate and with specific initiatives. However, more often than not, a generalised policy with strategic objectives is not there. Also, there is no simple correlation between an explicit statement of procurement of innovation and policy effectiveness; good cases can be found everywhere. Furthermore, both market forces and policy intervention can be found to lie behind good practices.

There are no single best practices in terms of organisation and many models can support innovative procurement. The role of individual actors is important and their opposed interests make the process sometimes very difficult. The crucial issues are intelligence gathering and risk sharing. The new EU framework is neither conducive nor prohibitive but leaves ample room for innovation oriented procurement if national and regional governments wish to do so.

Policy intervention at the national level to increase the propensity of involved actors towards innovative procurement can best be done through training to create intelligent customers. Professionalism, skills and training are important elements for this policy. However, at the level of European policies, intervention can be very effective to stimulate politics rather than policies. Including innovative procurement in the Lisbon agenda would be the most effective way to diffuse this practice.

One of the most important barriers to innovative procurement is failure to distinguish between direct purchasing cost and overall cost. The best overall value of procurement is realised through calculating life-cycle cost or even through the contribution of innovation to overall economic growth. The most economical procurement is an important clause for public funds and should by no means be eliminated but policies should highlight longer term aspects of return on public investment, like life-cycle costs, capturing high-technology markets etc. Gathering intelligence and calculating risks are inputs in this process and lead again to the crucial issues of training and professionalization.

The EU directives have now changed and a different behaviour is needed to assure more innovative procurement than in the past. The crucial issue is not whether innovative procurement is feasible but how to stimulate and disseminate its application.

Strongly recommended measures to make sure these possibilities are made avail of are:

- Create a political commitment, which can be best promoted through a European initiative in the context of the Lisbon agenda;
- Set up a good policy including systematic evaluations and appraisals
- Create “intelligent customers” through professional training with masters’ degrees, executive courses and in-house seminars in intelligence gathering and risk-sharing
- Appropriate lobbying from industry and other stakeholders.
- Using a life-cycle assessment, including consideration of factors such as flexibility to adapt to possible changes and all relevant direct and indirect benefits and costs over the whole procurement cycle;

Main Report

1 Introduction

To use public demand in order to spur innovation has become a major political demand in the last 1 to 2 years. There are many political statements and some analytical reports demanding a systematic mobilisation of procurement for the good of innovation and competitiveness. However, it has become clear that the legitimacy of this basic idea and a general will to work towards a more innovation friendly procurement are not enough. Strong efforts are needed to mobilise procurement at all state levels for innovative markets. These efforts need to be based on a better understanding of how public procurement actually can and should work – in a very practical sense – to contribute to more innovative activity in industry and to the growth or even creation of markets for innovative products and services.

The project "Procurement and Innovation. Review of Issues at Stake" is one step in that direction. It seeks to analyse existing rules and current practices of public innovation procurement, analyse the factors affecting the promotion of technology and innovation by public innovation procurement activities at European, national, and – where appropriate – regional level, including procurement by state-owned enterprises and finally to review and highlight methodological tools used in the process of procurement in order to assess offers with a technological/innovation content.

In order to do so, the project had four methodological building blocks:

- *A literature review*, which takes into account the conceptual and empirical literature on the issue and develops concepts further. It sets the stage for the empirical parts of the study (chapter 2 of this report)
- *Case studies*, which are the major empirical building blocks of the study. Together with the Commission and the panellists 9 concrete cases have been selected, described and analysed in a uniform way. The selection has tried to provide a mix of different types of procurement cases. It is clear that even 9 cases cannot cover all the important constellations, aspects and peculiarities as regards procurement of innovative goods and services. Still, the study team is confident that important lessons can be drawn on the major aspects. The cases are displayed in chapter 3. Inspired by the empirical work on the case studies, the report discusses two issues that have been recognised as especially challenging when dealing with public procurement and innovation: risk and uncertainty on the one hand and the internal management of heterogeneous interests and perspectives on the other hand. These aspects are discussed in chapter 4.
- *Country analysis*, for the EU countries and a selection of non EU countries the major characteristics of the procurement regime and practices in the countries have been compiled and current developments to take account of the innovation dimension in the procurement process have been highlighted. The search process has been ex-

tremely problematic in some of the country cases as procurement on the national levels is organised in extremely heterogeneous ways and some countries have not even started to put innovation on the agenda. The countries are summarised in chapter 5. The country description is the result of a scoping exercise rather than an in-depth analsis of all relevant structures and practices.

- *Stakeholder views.* In most of the countries analysed contacts have been made an interviews conducted with experts in the field coming from public agencies and industry. Much effort has been put into the search for and interviewing of stakeholders who are ready and knowledgeable enough to comment in a meaningful way on the issue of this report. A basic set of uniform questions has been compiled that was adjusted to the various stakeholder groups and contexts. (see annex). Rather than providing an interview section in this report, the interviews have been integrated into the cases, the country descriptions and the two stand alone issues.

The project was accompanied by a panel of external experts advising and reflecting on the methodologies and especially the empirical results of the project. The panel has met twice and has commented on the overall approach and major analytical dimensions (March 23rd) and on the concrete cases that have been selected (September 22nd). The project team is very grateful to all the panellists that have invested much time for the preparation and discussion in the panel meetings and in individual e-mail communication. Without the insight of the panellists many aspects of the report would be far less clear. The team is also grateful to the staff of the Commission for very valuable feedback and ideas and a very open mode of communication.

The sole responsibility for the content of this report remains, of course, with the project team.

2 Literature Review: Innovation and Public Procurement: Review of Issues

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2.1 Introduction

This document summarises literature and other sources collected in connection with a project devoted to different aspects of innovative public procurement that eventually will lead to the development of a handbook of innovative public procurement. It is the revised version of the first literature review of the first interim report and has taken into account the comments received by Commission staff and panel members.

The document is organized under the following sections: Section 2 tries to position the topic of this report in relation to innovation theory, as well as briefly discuss how innovation theory may contribute to a complementary understanding, especially of the innovative aspects of public procurement. Section 3 briefly covers public procurement initiatives that have occurred in the past. In this report, the importance of institutions in order to understand innovation is acknowledged. Consequently, an overview of the international institutions of particular relevance to public procurement is provided in Section 4. Section 5 returns to a more theoretical focus, where public technology procurement as an innovation policy instruments are systematised. This discussion leads to the development of a typology. This typology is populated with recent cases of procurement initiatives in Section 6.

2.2 Public Technology Procurement Revisited

In this section, some central assumptions derived from innovation theory are briefly summarised. It demonstrates how innovation theory can contribute to a complementary understanding of public procurement and innovation.

2.2.1 Public Procurement as Innovation

One of the fundamental points of departure for this study is the understanding of innovation as “the search for, and the discovery, experimentation, development, imitation, and adoption of new products, new production processes and new organizational set-

ups" (Dosi, 1988, p. 222). Furthermore, it is recognised that innovation "is a ubiquitous process going on almost everywhere, and almost all the time", and, in a modern society "characterised by a highly developed, vertical division of labour" (Lundvall, 1992, p. 49). This means that innovation is by no means considered to be a necessarily linear process, but rather as being characterised by interactive learning and user-producer interaction (von Hippel, 1988). Put somewhat crudely, this is the same as suggesting that innovation, in most cases, presupposes interaction between innovating actors.

Adopting an interactive learning perspective on innovative public procurement leads logically to developing a systems of innovation perspective on this phenomenon. The fundamental starting point for systems of innovation approaches is this perception of innovation as a complex and interactive process influenced by many factors. Reflecting these characteristics, innovation almost never take place in isolation (Edquist, 1997, p. 1).

Systems of innovation approaches, unlike the tradition in mainstream economics, stress innovation and learning. Thus, the central activity within the system is learning and "learning is a social activity, which involves interaction between people" (Lundvall, 1992, p. 2). Another aspect of systems of innovation approaches concerns the role of institutions, involving political influence and levels of intervention. Institutions, both formal and informal, shape the innovation process. At the same time, lessons learned from studies of these phenomena can be used by policy-makers to re-shape the institutions affecting innovation. (Edquist, Hommen, Tsipouri, 2000, p. 284).

In this report, a special case of innovative activity is under scrutiny, i.e. innovative public procurement. As will be shown by the literature reviewed here, there are a number of different dimensions of public procurement reflected on by practitioners and discussed by scholars dealing with public procurement. The focal points derived from a systems of innovation approach constitute aspects that have not been stressed too much in the recent past, i.e. the interplay between innovative public procurement understood as a special case of interactive learning governed by institutions.

2.2.2 Procurement Dimensions

In a modern capitalist system, most people would agree with the statement that innovation occurs in firms. Similarly, where several attempts to innovate occur simultaneously, the most efficient solution will be determined by market exposure and competition. The role of public agencies, voices stressing supply side policies would argue, should be to provide e.g. education and infrastructure, and leave innovation to be spurred mainly by the market. Public intervention in innovation should be limited strictly to instances of demonstrable "market failure" or "problems", and even in these cases public intervention should be restricted to the supply side – i.e. investments in research and development.

A more balanced view, i.e. one that also takes the demand side into account as an arena for public intervention has been expressed as follows: “In capitalist economic systems, where markets are effective mechanisms for articulating and satisfying most economic needs or demands, the point of departure in the application of public technology procurement must be the satisfaction of *genuine* social needs - in other words, specific societal needs unlikely to be met by the market.” (Edquist & Hommen, 2000, p. 5). It is not hard to see this idea reflected in many of the public procurement projects that have involved innovation. Areas usually associated with public procurement, such as development of environmental friendly products, new energy technologies such as fuel cells, space technology and defence technology, typically have objectives corresponding to some kind of perceived societal needs.

It has also been shown that public agencies can act as competent technology procurers and play a significant role in creating multinational firms (Palmberg, 2002). In the case of the development of the telecom sector in the Nordic countries, some authors have referred to development pairs.[4] This notion is used to capture the multiplex long term relations such as those that existed between Ericsson and Nokia and their respective national public telecom operators. These relations have played an important role in promoting innovation in the Nordic telecommunication sector. In both these companies’ histories, public agencies have played an important role as sophisticated users. In some stages, the public agency actually insisted that technical development should be carried out, whereas the corresponding private counterpart hesitated (Bergren & Laestadius, 2003).

Procurement refers to the buying or purchasing of a product – i.e. a material good or an intangible service.[5] In the case of goods, at least, the product may be either a discrete product or a whole system. Procurement in this context can be defined along two dimensions; private/ public and regular/ innovative (see Figure 1, below). The former dimension obviously specifies whether the purchaser is a private firm or a public agency. In the latter dimension, regular procurement denotes that the procurement concerns ready-made already existing products whose characteristics are well known or can be readily ascertained. An example of public regular procurement would be if a public school procured 1000 pencils (this would correspond to the upper left quadrant in Figure 1). Of course, such an “of-the-shelf” purchase could also take place where the procurer is a private firm (this would correspond to the lower-left square in Figure 1).

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4 This term was coined by Fridlund and defined as ”a long-term relation between an industrial manufacturing firm and one of its major public customers related to their co-development of several new technologies” (Fridlund, 1999) [my translation from Swedish].

5 Sometimes the procurement notion is used in a way where the actor in such a process, the procurer i.e. the purchaser, is implicitly assumed to be a public agency or the government (cf. A Dictionary of Economics, 2002). Here, in order to illustrate the legal differences between private and public procurement, the procurement notion is not used in such an implicit way.

Innovative procurement occurs when the purchased product does not yet exist, but could probably be developed within a reasonable period of time, i.e. that it requires innovative work to fulfil the demands of the buyer (which correspond to the right quadrants in Figure 1). In the same way as in regular procurement, innovative procurement can be carried out by private firms (which corresponds to the lower right quadrant in Figure 1) as well as by public agencies (upper right quadrant in Figure 1).

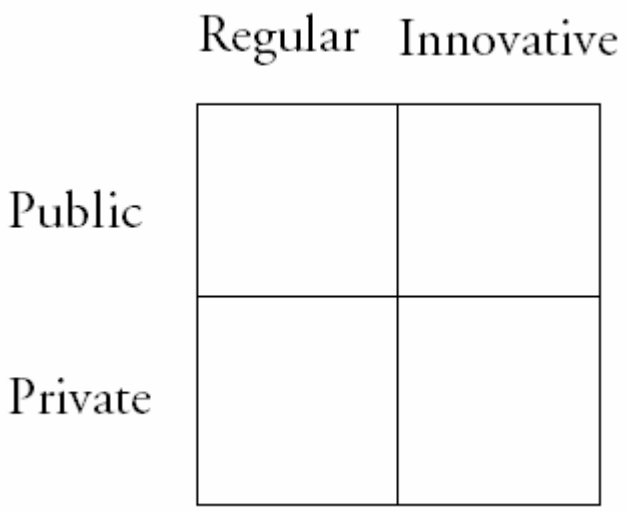

Figure 1. Procurement dimensions

The central concern in this study is with innovative public procurement, which occurs when a public agency acts to purchase, or place an order for, a product – service, good, or system – that does not yet exist, but which could probably be developed within a reasonable period of time, based on additional or new innovative work by the organisation(s) undertaking to produce, supply, and sell the product being purchased (Edquist, Hommen & Tsipouri, 2000).[6] One such example from Sweden would be the Compis project that was initiated in the beginning of the 1980s. At a time when personal computers were not available, the project aimed at creating a dedicated school computer with technical specifications that the market was at the time unable to meet (Kaiserfeld, 2000).

In the analysis of public procurement, including innovative public procurement, a useful point of departure in mainstream economics is auction theory. In such a perspective public procurement is treated as a game in which the buyer and the supplier each try to make advantage of the other's weaknesses. The supplier's supposedly superior knowl-

6 It should be noted that the notion of innovative public procurement as it is used in this report, points to the *effects* of the procurement process, i.e. whether it renders innovation; not whether the procurement process per se *is* an innovation.

edge stands against the buyer's advantage in being in control over the actual design of the auction rules. Applying this perspective to a regular procurement process would regardless of procurer (public or private), be a quite straightforward analysis: The lowest bid to meet the specifications should automatically be awarded the contract.

However, in the case of non regular public procurement, i.e. innovative public procurement, the conditions are not the same as in regular procurement. One central point is for instance, that the buyer probably holds knowledge of crucial importance about the product about to be developed that needs to be shared with the supplier. In contrast to mainstream economics, innovation theory treats public innovative procurement as a special case of user-producer interaction. This means that the process is not regarded as the result of anonymous market process as a mainstream economics perspective would suggest, but as the result of user- producer co-operation and information sharing (von Hippel, 1988; Lundvall, 1988). This understanding is also emphasized in the systems of innovation literature, where innovation is seen as a complex and interactive process influenced by many factors and due to these characteristics, "firms almost never innovate in isolation" (Edquist, 1997, p. 1). Thus, the central activity within the system is learning and "learning is a social activity, which involves interaction between people" (Lundvall, 1992, p. 2).

The basic foundation of the European Community consists of the four freedoms of the Single Market, the free movement of goods, services, capital and persons (e.g. Europarl, 2000). In line with this idea are the principles of transparency, competition and the prohibition of e.g. nationally discriminating public procurement. Many countries have attempted to stimulate aggregate demand via the use of a variety of macroeconomic instruments, but few have actively sought to link supply and demand directly via the use of instruments such as Public Technology Procurement" (European Commission, 2003, p. 64). Although it is not possible in this report to produce a comprehensive review of recent developments in innovation policy, it seems as if public technology procurement as a demand-side innovation policy instrument now seems to be under revival. An appropriate comment would be that the European lawmakers' basic concern, i.e. maintaining competition and transparency on the common market, coincides with perspectives focusing on promoting innovation.

2.3 Earlier Uses of Public Procurement

Over the years, public procurement has sometimes been used to accomplish a variety of policy objectives: to increase overall demand, stimulate economic activity and create employment; to protect domestic firms from foreign competition; to improve competitiveness among domestic firms by enticing 'national champions' to perform R&D activities; to remedy regional disparities; and to create jobs for marginal sections of the labour force (Martin, 1996).

McCrudden (2004) discusses procurement initiatives addressing social goals that took place in the 19th century. For example, in 1840, the US president Martin Van Buren issued an executive order that established the 10-hours working day for those working under certain government contracts. Similar initiatives were also made in Europe, in particular France and the UK. The same author even states that "[i]t is not too much of an exaggeration to say that modern procurement systems evolved alongside the development of the welfare State, and it is hardly surprising that the former was used in part to underpin the goals of the latter" (ibid., p. 258).

Of particular interest here is the use of public technology procurement as an innovation policy instrument, i.e. as a means of developing new technologies. This use of public technology procurement can be of significant importance in creating competitive advantages for European firms and the EU as a whole. One special area where public procurement may have a significant role in the future concerns environmental issues and the increasingly demand for sustainable technologies (Erdmenger, 2003). There are numerous historical examples that demonstrate the potential of public technology procurement as a 'demand side' instrument for innovation policy. Sweden in particular offers many examples of innovative procurement collaboration occurring through the interaction between public agencies and private firms (cf. Fridlund, 1999).

In the 1980's, studies were carried out to explore the phenomenon of technology procurement and assess its potential as an industrial policy instrument in the telecom sector in four countries (Denmark, Finland, Norway and Sweden). On a general level it was concluded that "although there are several indications that private and public technology procurement is an efficient means of generating economically viable innovations, it does not follow that government policies to stimulate public and/ or private technology procurement are easily implemented […]" (Granstrand & Sigurdsson, 1985, p. 202). In the context of this project which aims at developing guidelines for attracting innovative procurement offers, one lessons to be drawn from these authors' work is that this task is indeed not completely straight-forward. One may also take into consideration e.g. supply-side measures such as R&D subsidies and/ or tax concessions or combinations of supply-side measures and demand-side measures. It may also be important to take into consideration the present and desired industrial development when designing policies (ibid., 1985). Ove Granstrand also produced a paper providing a general framework for describing and analysing patterns of buyer/ seller-interaction with special reference to technology procurement. Cases collected from the areas of telecommunications and power transmission were presented (Granstrand, 1984).

Another author on public technology procurement during this period, Roy Rothwell, outlines a situation consistent with life cycle theory, where developing regions are stuck with 'traditional' industries and non- R&D performing branch plants as compared to the more prosperous regions where head offices and R&D departments are situated. Public technology procurement is thus approached from an innovation policy perspective

and as an instrument for helping developing regions to become more innovative. Rothwell lists several ways in which public procurement can stimulate innovations: the creation of new markets, creation of demand pull, and providing a testing ground for innovative products. He also discusses their implications for procurement activities. The paper concludes with some main points on innovation oriented procurement practices (Rothwell, 1983).

In a Swedish PhD thesis completed during the early 1990s, it was concluded that technology procurement is "a method which can give results for suitable subjects under certain circumstances" (Westling, 1991, p. 224). The thesis consists of a number of case studies from the construction sector in Sweden where objectives, organization, control instruments, interaction/ networks and user involvement are analytic entities. The actual quality and technological improvement of the products that resulted from the procurement processes are also dealt with.

A case from the semi-conductor industry points to the fact that opportunities for innovative procurement come and go over time and that it is not always obvious for governments when to use public procurement as an instrument to spur innovation. Morris (1990) describes the attempts to develop technology procurement in the US, Japan and the UK in the semiconductor industry from the 1970s through to the 1990s. The lessons are simple in the case of the UK; the British Ministry of Defence was a poor procurer, not realizing the importance of semi-conductors in defence technological development, and failed to take advantage of the opportunity to increase the size of the UK market, which was very small, by comparison with the others (ibid., 1990).

As pointed out above, several writers have acknowledged public procurement as one of many different policy options that may or may not affect innovation (e.g. Rothwell, 1983; Westling, 1991). A more recent perspective where procurement has been put at the forefront can be found in the work on Green public purchasing or eco-procurement carried out within the 5th Framework Program of the European Commission. The RELIEF project, (Environmental Relief Potential of Urban Action) (see http://www.iclei.org/ecoprocura/relief/, 4 November 2004) was initiated as a response to the fact that data on potential environmental impacts of green purchasing were not available. The idea was that after having gained quantifiable figures it would be possible to focus on priorities which can be applied elsewhere in Europe in order to achieve a sustainable society through procurement of new environmental-friendly technology (Erdmenger, 2003b).

The aim of the current EU policy on public procurement has been to create "free markets" where trade barriers have been eliminated and differences in regulations between the countries in the union evened out; i.e. objectives consistent with the over-all project of creating a common European framework for economic activity. There has been a focus , in the terminology of Edquist & Hommen (2000), on regulatory aspects of policy,

whereas the issues regarding the content (object) of such procedures , i.e. public technology procurement understood as an instrument of innovation policy, has not received adequate attention.

2.4 EU Procurement Directives under Transposition

According to the EC Treaty, the European Union can take several types of legal actions. Examples of different types of measures are regulations, directives, decisions, recommendations or opinions. All of them have different applications. Regulations for instance, are binding in their entirety, i.e. they must be complied with fully by those they concern whereas recommendations and opinions have no binding force at all. Directives are binding, too, but only in terms of the result to be achieved. This means that they must be complied with, but it is incumbent upon the (concerned) individual member states to implement the directives according to their own choice. This *transposition* of the directive into national law must be effected within a certain time period, as specified in the directive (Europarl, 2004).

One of the decision making procedures specified in the EC Treaty is the subsidiarity principle. In short, this principle reflects an ambition to avoid top-down governance from the European level, i.e. when possible, member states (or even lower levels) should themselves implement any regulations that concern them. In the case of public procurement, the European Community adopts this principle, by formulating directives that the member states have to implement.

To fully describe the evolution of the legislation over the years has not been possible within the given time frame. A crude interpretation of the “spirit” of the legislative development would however suggest that it seems to reflect an ambition to respond to the problems identified in e.g. Edquist et al (2000) and some of the other perspectives reviewed in Section 5.

The latest EU legislation on public procurement (Directive 2004/18/EC and Directive 2004/17/EC) is in the process of being implemented by the Member States. It has been produced with the objectives of modernisation, simplification, and increased flexibility as demonstrated by the following summary points:

- modernisation in order to take account of new technologies and changes in the economic environment;
- simplification to make the current texts more easily comprehensible for users, so that contracts are awarded in complete conformity with the standards and principles governing this area and the companies involved are in a better position to know their rights;

- greater flexibility in procedures in order to meet the needs of public procurement bodies and economic operators. (The Legislative Observatory, 2004.)

Directive 2004/18/EC deals with procedures for the award of public works contracts, public supply contracts and public service contracts (European Commission, 2004). Directive 2004/17/EC specifies the procurement procedures for entities operating the water, energy, transport and postal services sectors.

2.5 Characterising Public Technology Procurement as an Instrument of Innovation Policy: Towards a Typology

In this section, the different uses of public technology procurement as an instrument of innovation policy are systematised. The discussion leads to the elaboration of a typology based on two main dimensions: varieties of *societal needs* and different *market contexts*.

2.5.1 Leveraging Innovation through Public Procurement

As indicated in the foregoing discussion, public procurement is recognised in the literature on innovation policy as one of the most direct forms of stimulating innovations by means of demand. In Germany, the public purse invested in 2003 €260 billion in products and services – a figure which represents more than 12% of GDP.[7] In Europe before the enlargement (EU 15) this share was even higher, at 16% (Georghiou et al., 2003). This purchasing power of the state constitutes in certain sectors – such as construction, public health, energy in public buildings – the lion's share of demand.

The direct demand exerted by the public sector has impacts on innovative behaviour, both intended and unintended. In the 1970s, early empirical studies compared R&D subsidies and state procurement contracts without direct R&D procurement. They came to the conclusion that over longer time periods, state procurement triggered off greater innovation impulses in more areas than did R&D subsidies (Rothwell & Zegveld, 1981). The quantitative and qualitative significance of state demand eventually led Geroski to conclude that procurement policy "is a far more efficient instrument to use in stimulating innovation than any of a wide range of frequently used R&D subsidies" (Geroski, 1990, p. 183).

Explanations as to why the *state as buyer* generates, or can generate, innovations are manifold, and they can only be summarised here. Some of these reasons also apply to powerful private buyers, whereas others are restricted to the state as a buyer (Geroski, 1990; Dalpé et al., 1992; Dalpé, 1994, Edquist, 1998):

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7 Source: BMWA.

(1) As already mentioned above, the state is frequently a very "demanding" customer, which requires innovative solutions to fulfill its tasks in society. This consideration applies with equal force in both military and non-military areas. New societal needs that become state priorities frequently create opportunities and also offer leeway for innovative solutions. This is confirmed by innovation research. Dalpé et al. (1992) have determined empirically that the state develops strong demand particularly in those technology areas that are distinguished by high innovation dynamics. In the research-intensive fields in which the state assumes an important role as a buyer and user, it is often *more demanding* than the private actors who also contribute to demand. That is, the state – and, more generally, the public sector – is more often "lead user" for new innovations than private actors. (Dalpé et al., 1992, p. 258 ff).

(2) In connection with political tasks or even "missions", the state is also frequently more willing or able to pay the higher prices that are typically present at the beginning of the life cycles of innovations. Simultaneously, there is also a danger herein for the commercial failure of innovations if the political intention behind the procurement does not lead to sufficient acceptance within the public sector and no corresponding demand is found in the private market.

(3) State demand often leads rapidly to achieving a critical mass, in particular by bundling together the demand emanating from various government agencies and bodies. The concentration of public demand that is brought about by such coordination creates clear incentives for suppliers and reduces their market risk. This critical mass also structures the industries connected with production of the innovation(s) in question. This effect is especially strong for newly emerging or “young” technologies, i.e. technologies at an early stage of development, when the industry remains flexible and is therefore able to respond effectively to strong impulses from state or public sector buyers.

(4) Public demand for innovative products additionally sends strong signals to private users. These diffusion impulses are sometimes much stronger than those triggered by purely private demand.

(5) In contrast to R&D subsidies, the concrete public demand for innovations leads not only to improved technological capabilities, but also to increased *production capacities* for innovations (Geroski, 1990, p. 189).

2.5.2 General versus Strategic Procurement

Two levels can be distinguished in the organisation and administration of innovative public procurement, and thus in the realisation of its effects (as discussed above). These distinctions are not usually made in the literature. Nevertheless, we consider it useful to differentiate between *general* and *strategic* public procurement.

General Procurement. For the use of state procurement as an innovation instrument, on the one hand, government procurement can *generally* be so organised, that innovation can become an essential criterion in the tender and assessment of tender documents. Such an approach is being pursued at present by the United Kingdom. As a rule, central procurement offices are responsible for procurement in general. They are typically located in ministries of either the Interior or Finance, but not in the ministries responsible for innovation policy.

Strategic Procurement. *Strategic procurement* occurs when the demand for certain technologies, products or services is encouraged in order to stimulate a certain market. Strategic procurement is as a rule associated with sectoral policy and therefore to a large extent neither initiated nor coordinated by the ministries responsible for innovation policy. It is more likely to be located in ministries associated with specific sectors – for example, the various public utilities (or infrastructure branches), and the few remaining "natural monopolies" controlled by the state, such as national defence.

A systematic utilisation of both forms of government procurement calls for coordinated action, i.e. coordination between various ministries and authorities and their admittedly widely different targets and incentive structures. Ministries responsible for innovation policy might, with appropriate mandates, play an important role in bringing about such co-ordination.

2.5.3 Public Procurement and Societal Needs: Public vs. Private Users

Not all public procurement is carried out in order to meet the direct needs or goals of public authorities or agencies. There are also instances of procurement cases where purchasing by state or public sector actors is directed not only towards fulfilling their own (original) tasks, but also aims to influence and support certain patterns of demand on the part of private consumers. In addition, there are some instances in which the latter goal is primary. On this basis, we can distinguish three main varieties of public procurement: direct, co-operative, and catalytic procurement.

Essentially, these distinctions refer to different types of end-users and corresponding categories of societal need. The theoretical foundation for these distinctions was established in an earlier dichotomy between "direct" and "catalytic" procurement (Edquist & Hommen, 2000, pp. 22–23). In direct public procurement, the public agency or authority that carries out the procurement is the primary end-user of the product in question, and the needs that motivate the procurement are thus *intrinsic* to this procurer.

In catalytic public procurement, the procurement is conducted on behalf of end-users other than the public agency or authority that carries out the procurement, and the so-

cietal needs that motivate the procurement can thus be said to be *extrinsic* to the procurer and located primarily within the private sector, among firms or individual consumers. It is also possible to refer to a third, "mixed" type of case, where the public agency or authority that carries out the procurement is one, but not the only, intended end-user of the product in question, and the needs that motivate the procurement are thus *congeneric* - i.e., shared by the procurer and other intended end-users. This type of public procurement can be called "cooperative" public procurement.

Direct Procurement. *Direct public procurement* corresponds to the case where a government body, public agency, or authority, purchases a product for its own use – i.e., to fulfil its particular mission or mandate. The procurement of a high-speed train by a state-owned railway company provides an example of this type of procurement. Although the railway company subsequently makes use of the train to provide public transportation services, it is not the travelling public, but rather the state-owned railway company that is the primary user of the high-speed train. The societal need that has motivated the procurement can in this respect be said to have been *intrinsic* to the public sector buyer.

Cooperative Procurement. So-called *cooperative public procurement* occurs when public authorities or agencies buy jointly with private purchasers and both utilise the bought innovations. In such cases, initial demand from the public sector is very often intended to provide a "launching" market that will eventually lead to the development of an equally strong articulation of demand from the private sector.

Government purchasing of energy efficient and/or environmentally office equipment provides an example of this kind of public procurement. The same products can also be purchased and used by private firms and individuals, once they become readily available in the market, and government purchasing thus provides one important means of realising broader societal goals of energy efficiency or environmental sustainability. These goals, however, reflect needs that are broadly shared by, and thus *congeneric* to, a very broad range of social and economic actors.

Catalytic Procurement. We can speak of *catalytic public procurement* when a state or public sector actor is involved in the procurement, or even initiates it, but the purchased innovations are in the last instance used exclusively by private end-users. The crucial feature of catalytic procurement is that the state or public sector plays a key role as the initial buyer, but it does not purchase the product(s) in question for its own, direct use. Rather, the intention is to support private actors by providing them with the opportunity to buy new or alternative product(s). The real market penetration effect is eventually achieved by subsequent private demand. This type of public procurement can be exemplified by the market transformation programmes in the energy sector that were carried out in Sweden and elsewhere during the 1990s. Such programmes involved, for instance, the procurement of energy-efficient home appliances, the main end-users of

which would not be public-sector organisations but rather private individuals and households. Naturally, widespread market acceptance of such products would reduce demands for energy provision by public utilities, but the primary need that they addressed was that of private individuals and households to reduce energy costs. In this respect, the needs addressed by such procurements were external, or *extrinsic*, to the procurers.

2.5.4 Public Procurement and Market Contexts

Earlier in this discussion, we referred to the use of public technology procurement at different stages of technological development, or phases of the technology life-cycle. In that connection, we pointed out that public procurement often plays a vital role in the emergence of new or "young" technologies – a consideration which motivates the staging of public technology procurement at an early stage in the development of new technologies. However, we also noted that public demand can also play an important role with respect to the diffusion of new or alternative technologies, once they have been developed, since public demand for innovative products also sends strong signals to private users.

These considerations – i.e. that public procurement can play an important role in both the development and the diffusion of new technologies – are fundamental to the distinction between "developmental" and "adaptive" public technology procurement made by Edquist and Hommen (2000, pp. 21–22). According to this dichotomy, *developmental* public technology procurement corresponds to cases where "completely new products […] or systems are created". In contrast, *adaptive* public technology procurement occurs in cases where the product or system "is not new to the world but still new the country of procurement" or the particular buyer, and therefore still "needs adaptation to local circumstances", requiring "some amount of R&D or technical change" (ibid.) Edquist and Hommen relate these categories to a discussion of the uses of public technology procurement across different stages of the technology life cycle, elaborating policy rationales for both developmental and adaptive uses of public technology procurement. In this connection they argue in relation to the latter type that "relatively early adoption of diffusing technologies, together with the inevitable requirements for modification and adaptation to local circumstances, generates strong potentials for technological product innovation in what normally would be considered the mature stage or 'specific phase' of technological development (ibid., pp. 57–59).

To some extent, the distinction between developmental and adaptive uses of public technology procurement corresponds to the distinction we made earlier between "general" and "strategic" forms of public technology procurement. Intuitively, we might expect the "strategic" form of public technology procurement to be used more often for developmental purposes, and the "general" form of public technology procurement to

be more frequently associated with purposes related to the diffusion of new technologies. However, it is still possible to conceive of cases where technological development occurs in connection with the general form of public technology procurement, and of others where the strategic form of public technology procurement is used for technology diffusion.

Both of the dichotomies discussed above allude to or suggest very different roles that public technology procurement can play in relation to markets. However, they do not make this dimension very explicit. The developmental – adaptive dichotomy focuses primarily on technological development, and the general – strategic dichotomy refers essentially to the organisational and administrative aspects of public technology procurement.

Arguably, the market context is a neglected dimension of public technology procurement – one that has been paid relatively little, or else rather inconsistent, attention in much of the previous literature on this topic. While the market context might figure importantly in discussions of adaptive technology procurement, for example, it is not often mentioned in relation to developmental technology procurement. This omission may perhaps be due to the circumstance that in the most extreme instances of developmental public technology procurement, no established market may yet exist for the technology that is being procured. Nevertheless, it can be reasoned that the occurrence of such cases simply underlines the vital role that public technology procurement can play in bringing not only new products but also new product markets – and, with them, new branches or sectors of production – into existence. The fundamental point here is that markets, like technologies, are seldom, if ever, simply "given".

Based on the foregoing considerations, we propose to distinguish three fundamentally different roles that public technology procurement can play in relation to processes of market development. The first of these roles, and the one most closely associated with developmental technology procurement, is that of *market initiation*. The second, most commonly associated with adaptive or diffusion oriented public technology procurement, is that of accelerating or expanding markets that have come into existence, and may be referred to as *market escalation*. A third role that can be identified is that of "bundling" demand through harmonisation or standardisation across what would otherwise remain a series of fragmented "niche" markets. This role of public technology procurement in relation to market development can be referred to as market consolidation.

Market Creation. Market creation occurs when there does not as yet exist any established market for the technology that is being procured. One case in point is the Internet, which was originally procured by the US military for its own communication purposes, and which took many years to commercialise.

Market Escalation. Market escalation occurs in cases where a market has been established for a new or alternative technology but requires further development in order for the technology to succeed commercially. Many initiatives in cooperative public technology procurement - for example, targeted public purchasing of energy efficient office equipment - fall into this category.

Market Consolidation. Market consolidation occurs when technical standards or performance criteria are standardised in order to coordinate and concentrate demand within the public sector, establishing "critical" mass for the acceptance of new or alternative technologies and leading eventually to similar developments with respect to the patterning of private demand. Labelling and rating systems to support "green" public purchasing fall into this category.

2.5.5 A Typology of Innovative Public Technology Procurement

We can sum up much of the discussion in this section by elaborating a typology based on two main dimensions: varieties of *societal needs* and different *market contexts*. This typology, which addresses variation in the social and economic contexts of public technology procurement, can be used by analysts as a framework for characterising and comparing different instances of public technology procurement, and by policy-makers as a tool for identifying and assessing different contexts of possible intervention. The Typology is presented in Table 1 below.

2.6 Innovative Public Procurement Cases: Populating the Matrix

In this section, some cases of innovative public procurement are briefly summarized. The cases are collected from Sweden and elsewhere. As in any endeavour to study a phenomenon across a wide variety of contexts, a comparative framework or typology might prove useful. In Section 2.5 an attempt was made to develop such a typology based on two dimensions of innovative procurement: the type of social need motivating the procurement process and the role of the procurement in relation to the market. In Section 2.7.2 examples of public procurement will be used to populate the matrix constructed by these two dimensions.

Role in Relation to Market / Type of Social Need	Initiation (Development)	Escalation (Adaptation)	Consolidation (Standardisation)
Direct Procurement Based on needs *intrinsic* to the procuring organisation.			
Cooperative Procurement Based on shared needs, *congeneric* to public and private sector users.			
Catalytic Procurement Based on needs of other end users, *extrinsic* to the procuring organisation			

Table 1. A typology of innovative public technology procurement

2.6.1 Cases of Innovative Procurement

A Swedish electronic public sector procurement. Under the name of a 'Single Face to Industry' the Swedish Association of Local Authorities, the National Federation of County Councils, product suppliers and IT providers have formed a group that since a few years back has worked towards the development of electronic procurement in Sweden (The Electronic Public Sector Working Party, 2000; The Single face to industry, http://www.eh.svekom.se/index.html, 2 November 2002).

"24/7 agency". Since its start in the late 1990s, all levels of public administration in Sweden have, in principal, been exposed to the vision of a "24/7 agency", i.e. the idea that public services through the use of information technologies such as the internet (e.g. e-mail and the web), telephony services (e.g. push-button or voice recognition controlled applications), and television (text TV or interactive digital TV), should be available to citizens at all hours. The Swedish Agency for Administrative Development (SAFAD, or Stadskontoret, sometimes also referred to as the Swedish Agency for Public Management) developed definitions, surveyed the current state within different governmental agencies regarding the level of availability, and made suggestions regarding a focus for the further development of the 24/7 project (Stadskontoret, 2000). However, the ambition to bring all agencies through this transition has proven to be quite prob-

lematic. One problem, for instance, concerns integrating the different technological platforms used among the different authorities (Kleja, 2004). Some firms that have recently been awarded with contracts to provide components of the technologies are WM-data, Cognos (from Canada), Prodacapo and Infotool Applications (Karlberg, 2004).

Interconnected government. The initiative for 24/7 agencies also seems to induce innovation at least indirectly. One aim formulated in connection with the user requirements of the 24/7 concept concerns minimizing the number of contacts that citizens or private companies need to have with a public agency in connection with a single transaction. Instead of their being forced to contact several different public agencies and collect paper documents required for a given transaction, and also having to keep track of office opening hours and what agency to contact, etc. The system should ideally assist them, through the use of information technologies. To achieve this goal, different systems among different agencies need to be connected. In short, the vision of 24/7 agencies also implies the vision of an interconnected government (Stadskontoret, 2002).

Co-operative procurement of innovative and energy saving technologies. The International Energy Agency, IEA, an autonomous agency under OECD coordinates collaboration in research, development, and demonstration of new environmentally friendly energy technologies among its member countries. One example of such an Implementing Agreement is the 'The Demand-Side Management Programme' established in 1993 (and terminated 1999). Within this Implementing Agreement, there has been a special project devoted to collaborative procurement actions for introduction of innovative, and more energy-efficient, products that have not yet reached the marketplace. Technological development in the procurement projects has included, e.g., low power copier machines, 30% more efficient light bulbs with longer burning hours, energy-efficient TV sets, and energy-reduction opportunities for future vending machines (cold drinks and hot drinks) (International Energy Agency, 2000). The experience gained from all these procurement activities has enabled the development of a 'Market Acceptance Process for co-operative procurement of innovative, energy-efficient technologies'. This process, can according to the author, be understood as a tool that "could help countries and organizations to collaborate and to formulate functional requirements for energy use and other features that may stimulate efforts among manufacturers and facilitate acceptance and dissemination of new solutions" (Westling, 1996, p. 3).

Tunnel system in Stockholm: Södra Länken. One Swedish public procurement project that has been highlighted in the mass media lately is the "Södra länken" in Stockholm, i.e. a car tunnel and road system establishing a connection between the southwest and north-east parts of Stockholm. From the experiences gained during the project, several issues can be raised. For instance, how should uncertainty be dealt with:

in particular, who should bear the responsibility when budgets are miscalculated? Another issue concerns the division of huge projects into several smaller ones in order to attract bids from more than one company. A third issue identified concerns how tender calls should specify what weights different parameters are given (Johansson & Nilsson, 2002).

Power technology procurement. One interesting state-owned company in the Swedish context is Vattenfall. This company has since its establishment in the beginning of the 20th century, been involved in innovation in power line technology, different types of power stations including nuclear power, and seatbelts (!) for cars. (Vattenfall web site, 2004). Vattenfall is also one part in the development pair that historically also included ASEA, which is nowadays ABB. Through out the 20th century these two organisations collaborated intensively, especially in the 1940s when the development pair reached "its zenith" (Fridlund, 1999, p. 223). Vattenfall has quite recently initiated a 1.5 billion SEK project in which 48 off shore wind power plants will be built in an area 7 kilometres off the coast of Skåne (the most south region in Sweden) (Vattenfall, 2004b).

The cases described above are but a few examples of innovative procurement going on right now or the recent past. The discussion thus far has referred primarily to Swedish examples, but parallel cases can be found in many other EU member states. There has also been an emphasis on public administration and public utilities. However, the defence sector also offers an array of procurement projects that has led to innovations in computers, radar and sonar technologies. In principle, any branch of the public sector has some potential as innovative procurer.

In some countries, governments have concentrated procurement in specialized agencies that act on behalf of agencies at different levels of government, e.g., by establishing framework agreements. These centralized agencies have the potential to achieve economies of scale. They can take a larger share of total demand than if each government actor were to act individually. Thus, they are able to direct research and technological development and or require harmonization and potentially induce innovation. Cave & Frinking (2003) list several examples of such practices including the following:

- National Procurement, Ltd. in Denmark (Statens & Kommunernas Indköbsservice A/S – SKI, 2005);
- OGCbuying.solutions in the UK, the result of the merge between The Buying Agency (TBA), the Central Computer and Telecommunications Agency (CCTA), Property Advisers to the Civil Estate (PACE) and procurement units from the Treasury (OGCbuying.solutions, 2005);
- the Federal Energy Management Program, FEMP in USA (cf. Oak Ridge National Laboratory, 2004).

In Denmark, the National Procurement Ltd., owned jointly by public authorities on different levels of Danish society, negotiates framework contracts for an array of items procured by public authorities. It tries to achieve reductions in costs and purchase prices, to promote environmental friendliness and to make the procurement process itself work more efficiently by stimulating the use of electronic document interchange (EDI) technologies.

Another type of public procurement initiative that is fairly widespread internationally is "labelling". The Federal Procurement Challenge in the USA supports "best-practice" energy-efficient, renewable and water-conserving products by assigning a specific symbol – "the Energy Star" to products that meet recommended efficiency levels (Cave & Frinking, 2003). In Sweden, there is a similar practice with respect to labelling of environmentally friendly products with the "Krav" mark. However, in this example, which will be discussed further below, the label is intended primarily as a guide to individual consumers rather than public agencies.

2.6.2 Populating the Matrix

The typology that will be populated here relies on two dimensions of innovative procurement, the type of social need motivating the procurement process and its role in relation to the market. This matrix was initially developed in Section 7.

With respect to the first dimension, several different types of social needs can be identified:

The reasons for a public agency or authority to carry out an innovative procurement can be *intrinsic*, i.e. the public procurer is the user, and the procured item will in some way enhance its performance. Another situation occurs when the public procurer is not the only potential user and seeks to promote market acceptance of the procured item by other potential users. In such a situation the procurement can be said to be based on needs that are shared or '*congeneric*'. A third item on the axis of social needs is *extrinsic* innovative procurement. This notion refers to a situation when the public procurer does not obtain something that immediately is of use to itself. Instead, the public procurer acts on the behalf of other end-users, often private consumers. This type of innovative procurement is often applied in procurement of new sustainable technologies

The market dimension is this typology denotes the role of a procurement project in relation to the market, as follows:

Sometimes the outcome of procurement project creates a new market. The role of the procurement would then be market *initiation*. Although one should not underemphasize

the potential for innovative procurement to create new markets, it seems that the most common situation for innovative procurement concerns products for which a market has already started to emerge. This means that the market effect could be characterised as 'boosting'. This type then can be referred to as *escalation*. A final type occurs when the role of a public procurement process is *consolidation*. This refers to a situation when the marked is fragmented by different products and solutions and where there is a perceived need for harmonization or standardization of all or some selected aspects of a product or solution.

A combination of these two dimensions would create a matrix consisting of nine possible types of innovative public procurement. This typology is outlined in Table 2, populated with some examples discussed in the preceding text. Some additional examples are also included and discussed below.

Examples of Direct/Initiation type of public procurement are the procurement of defence technologies such as the computer, radar and sonar technologies. They did not exist previously, they were primarily developed to meet needs intrinsic to the military and they eventually created new markets.

The procurement of off shore windmills carried out by Vattenfall is one example of the Direct/Escalation type of public procurement. In this case, Vattenfall is procuring technology for its own commercial purposes, with the effect of reinforcing the market for wind power technology.

The Direct/ Consolidation type of procurement can be illustrated by the abovementioned initiative towards a 24/7 agency, where initiatives towards standardization and integration public administrations utilizing are needed in order to make the project successful. Another, as it seems more mature manifestation of this procurement type is the Danish National Procurement Ltd, where different intrinsic goals can be pursued at the same time as additional goals are imposed on the market, e.g. environmentally friendly criteria.

The Co-operative/Initiation type of procurement is illustrated by the procurement of Alternative Fuelled Vehicles (AFVs) in the USA. Here, the US Government acts in response to perceived threats in relation to oil supply by making targeted acquisitions of these alternative technologies (Cave & Frinking, 2003). Once developed it is likely that organizations and individuals other than the initial public procurer will also become users of these vehicles.

In Denmark, all public agencies are forced to consider environmental issues and energy efficiency in all their procurement activities. The Environmental Protection Agency (EPA) provides assistance for all public agencies to document these environmental considerations in a public procurement plan. The objective for these measures is to

speed the development of and stimulate markets for environmentally friendly products (Cave & Frinking, 2003). Eventually this initiative shall lead to such products being used by others than the procurer. In this way it will stimulate broader markets, i.e. a co-operative/escalation type of innovation.

The listing of "best practice" products by the Federal Procurement Challenge in the USA corresponds to a Co-operative/ Consolidation type of procurement. In this case, it is possible that there are also other potential users than the procurer, and the list would also potentially create incentives for innovation in those competing products that are currently underperforming according to the requirements.

In Sweden, the Commission on Environmental Technology stimulates and facilitates the procurement of sustainable technologies. It has in collaboration with users formulated functional specifications for environmentally friendly products with the aim of creating new products, processes, and technologies (ibid.). This initiative represents an example of a catalytic/initiation type of procurement, where the procurer does not obtain anything, but potentially contributes to the creation of new markets.

Role in Relation to Market / **Type of Social Need**	**Initiation** (Development)	**Escalation** (Adaptation)	**Consolidation** (Standardisation)
Direct (Needs intrinsic to public agencies)	Computer, radar, and sonar technologies	*Vattenfall* offshore wind power plants (Sweden)	24/7 agency in Sweden, National Procurement Ltd. framework contracts in Denmark
Co-operative (Congeneric or shared needs)	Procurement of Alternative Fuelled Vehicles (USA)	EPA – procurement of environmentally processes (Denmark)	Federal Procurement Challenge (USA)
Catalytic (Needs of end-users, extrinsic to public agencies	Commission on Environmental Technology (Sweden)	IEA initiatives	KRAV (Sweden)

Table 2. A typology of innovative public procurement populated with some examples

Some of the activities carried out by IEA, as discussed above, would be examples of the Catalytic/Escalation type of public procurement. One such example would be “the IEA DSM Awards of Excellence”, where companies were challenged to develop technology meeting some environmentally friendly and/or energy saving criteria (International Energy Agency, 2000).

An energy efficient light bulb developed in a public procurement project will most likely also become useful for other buyers than the public procurer, once the technology is generally available. Another example of this kind of development would be if a public authority procures e.g. energy-efficient refrigerators with minimal Freon levels, to stimulate the market for e.g. a particular environmental friendly technology.

The last item in this typology is the Catalytic/ Consolidation type. One example of this type from Sweden would be the organization that issues the KRAV label. Any product marked with the KRAV symbol must live up to certain standards concerning environment, animal husbandry, health and social responsibility (KRAV, 2004). This means that the organization introduces standards into a mature market, on behalf of end-users.

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3 Two focal themes as for public procurement of innovation

This section highlights the challenges of two issues as for realising innovation in public procurement which we think are of extreme importance – but often neglected or not tackled systematically enough: (1) Risk and Uncertainty in Procurement and (2) Challenges of the Internal Organisation of Procurement. The first analyses what risk and uncertainty actually mean in the procurement activities of public administrations, and how the impinge upon the likelihood of innovation to occur. The second issue is also of paramount importance, and often underestimated. It shows how heterogeneous the actors that are involved in the procurement process are and how big the challenges might be for combining all legitimate interests and perspectives. [8]

3.1 Risk and Uncertainty in Procurement

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3.1.1 Introduction

Innovative procurement is inevitably uncertain because of the nature of innovation itself. This uncertainty may in some cases be able to turn into a form of calculated risk. The difference between uncertainty and risk is taken from the original definition of Knight, where the former refers to unknown outcomes, whereas the latter elaborates potential outcomes and calculates probabilities for each one of them.

Thus very different situations are faced, when deciding to proceed to procurement of products and services, which are not “off-the-shelf”. The situation may range from highly uncertain to low risk innovation procurement. We refer here exclusively to technological uncertainty, since in the case of a concluded contract there is no market uncertainty for this first step. The following typology is a first attempt to classify innovative procurement:

- *Highly uncertain procurement* refers to radically new, probably science-based products and services, for which limited scientific knowledge and information exist. If the project fails, a rather likely outcome, the only benefit for both the company undertaking it and the economy will be the advancement of knowledge and the training of the personnel involved. However, if the technical problems are resolved and the market takes off both the company and the economy will benefit from very high private and social returns on investment.

8 Both of the chapters have been "stand-alone-presentations" in the first and second interim report.

- *High risk procurement* refers to the case of radical new procurement again, however here the probabilities are roughly known. The cost benefit is similar to the one above.
- *Medium risk* occurs when the procurement deals with diffusion and cases that are already implemented elsewhere or the transfer of technical solutions from one area/sector to another; here risks are lower and the impact is likely to be lower as well compared to the above cases, although this is subject to calculations.
- *Low risk* projects appear if there is a need for minor adaptation (new to the country or company, new standards etc).

If the procurement is uncertain the whole process is difficult to design, while if the level of risk can be calculated it can be shared among the interested actors of the procurement chain and this will be reflected in the type of contract signed. Thus it should in generally be recommended to avoid highly uncertain procurement, leaving its support to other types of public intervention such as R&D subsidies at the first instance, until probabilities can be attributed to potential outcomes and concentrate on the best way to design risky procurement.

3.1.2 Analysing Risk from the Point of View of the Actors Involved

There are different perceptions about the risk that can be taken both for the companies involved and for the public agency involved. Both strategic considerations (company strategy and public policy) and the personalities involve determine the risks taken in each case. Three cases need to be discussed: which projects are worth considering for the public sector, which for the private one and how the two match.

3.1.2.1 Propensity to risk in the public sector:

The procurer usually wishes to avoid risk in order to assure the shortest and easiest (and probably cheapest way) of covering public needs in the short term. It would take either a longer term vision from the side of the agency involved, or a strong intervention from the competent ministry on industrial and technology policy; i.e. a strong political commitment with competitiveness consideration, to alter this behaviour.

However, in an ideal situation, where risks would be able to be identified ex ante, there are clear cases where the public sector should be prepared to take risks. Schematically this can be demonstrated as follows:

Overview 3.1: Differentiation of risk and impact to the economy

	Low potential impact to the economy (no further procurement of contribution to know how)	***Medium potential impact to the economy***	***High potential impact to the economy***
High likelihood of success of the innovative elements of the procurement	*Case I*: Highly probable success with limited impact: It is worth trying	*Case II*: Highly probable with medium impact, even more worth trying than Case I	*Case III:* The typical innovation procurement. It would be a mistake not to try
Medium likelihood of success		*Case IV:* It may be worth trying, depending on overall budget constraints and the potential of risk sharing	*Case V:* Worth trying as much as Case II
Low likelihood of success			*Case VI:* It may be worth trying only if sufficient information is available, risk is shared and industrial policy budget is available

From the point of view of the public sector we may thus distinguish, based on risk and impact, four categories of innovation procurement:

Case III: ***Must*** highly recommended to be organized as innovation procurement
Cases II and V: ***Try*** likely to be organized as innovation procurement
Cases I, IV: ***Maybe*** to be organized as innovation procurement only if budgetary resources available and limited alternatives to cover the public needs in a different way (price competition of older generation "off-the-shelf" procurement.
Case VI: ***Investigate*** Worth trying if budget available, ***the possibility of sharing the budget with industrial development incentives should be examined from a policy point of view.***

However, even if it is worth trying the public sector is not the only one to benefit and the risk should be shared by the companies involved. This is particularly important in the (frequent) case of asymmetric information.

3.1.2.2 Propensity to risk by private companies

Not all firms are willing to take part in complex and cumbersome procedures, partly because they do not wish to share the risk. Most firms willing to do so are suggested to be ready to do it only in the framework of their business plan. Probably some very innovative firms (NTBF characteristics) with a high risk profile and very entrepreneurial may be willing to divert from their agenda and take additional risks. However, the perception of risk by the company is different from the perception of risk of the public sector, because for private companies high appropriability would lead to increased profits, while for the public sector the potential of diffusion (low appropriability) suggests higher social returns on investment. Thus the risk/impact matrix looks very similar from the point of view of the company, and may be identical, but may also differ from that of the public sector:

Overview 3.2: Differentiation of risk and impact to the firm

	Low potential impact to the firm	**Medium potential impact to the firm**	**High potential impact to the firm**
High likelihood of success		Company Priority	Company Priority
Medium likelihood of success		Potentially justifiable, especially if combined with secondary targets	Potential company priority
Low likelihood of success			

3.1.2.3 The whole chain needs to share more or less the same attitude to risk

Whether a contract will be signed depends largely then on three factors:

- the intellectual property rights, namely the influence of the contract on the extent of appropriability, which determines for the company going beyond the initial procurement whether it will be the sole beneficiary versus the possibility that it will be its competitors reaping part of the benefits of the new technology
- potential asymmetric information.
- the propensity to risk for each actor involved

The terms of the contract should find algorithms to share the risk bearing the above mentioned problems.
One can try this way to combine the appraisal by the public sector and the appraisal by companies with the introduction of the dimension of appropriability, which is the major component differencing the two, as follows: taking the six categories, which are worth studying for an innovation procurement by the public sector and assessing them by the extent of the appropriability of results for the participating company (ies) suggests a way to share the risk in the contract:

Overview 3.3: Differentiation of risk and impact to the firm

	Highly appropriable results	***Results likely to spread rapidly to competitors***
Must	Risk to be taken mainly by the firm(s)	Risk to be taken by companies with symbolic contribution from the public sector
Try	Risk mainly to the private sector	Risk mainly to the public
Maybe	Risk more to the private sector	Shared risk
Investigate	Even if the company expects appropriable results the risk is too high and should to a large extent be taken by the public sector	

Similarly if crossing the cases with information asymmetry we come up with suggestions for the timing to be introduced to the contract:

Overview 3.4: Differentiation of risk and impact to the firm

	High information asymmetry suspected	***No information asymmetry***
All cases	Introduce milestones in different stages of the contract, where the public sector will have the right to withdraw	Smooth flow of contract

Finally the propensity to risk from the point of view of the organization (strategy and leading personalities) will determine the creation and flow of the way the procurement will be organized (or not): For instance in the case of potential high impact for the economy, low impact for the company and low appropriability a risky administration accepting to sign “cost plus” contracts would be needed, while in the case of low risk highly appropriable results with a good chance of further exploitation the risk should be to a large extent be carried out by the company.

Classifying procurement that way has one advantage: since it is clear that in general the public sector is risk averse, this typology may be used to demonstrate “opportunity costs” in the case a good innovation procurement could have resulted.

The typology developed here is a starting point to be refined in the course of the project and with the lessons learned by case studies.

3.1.3 Additional Risks

The technical risk included in the contract refers only to the first phase. It is important to mention that once the project is technically successful and the first procurement goes to the public client, new risks emerge, namely market risks, which the company will have to face alone (or with other types of support), if it wishes to attain high impact.

Other types of risk refer to the possibility of offense in court, the risk of miscalculation of timing and the political risk.

Finally one should mention that it is likely that the level of social trust in a country or among companies that work together more may be an element, which reduces risk because there are similar propensities to risk and it is less likely that there will be asymmetric information.

3.1.4 Policy Recommendations

Based on the above remarks several policy recommendations can be drawn:

1. Despite the undoubtedly very difficult exercise it is worth trying to make scenarios of risk and impact for major procurement cases, taking into consideration the technical knowledge of future breakthroughs or potential for adaptation
2. Examine the possibility of matching part of a procurement budget of a certain agency with support from industrial policy (or create a specific fund for this purpose)
3. Introduce milestones if a contract appears too risky because of perceived lack of information or information asymmetries.

3.2 Challenges of the Internal Organisation of Procurement

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3.2.1 Introduction

In the public sector the role of procurement and its potential contribution to organisational goals by improving performance, raising service levels, and developing a competitive edge has not been emphasized sufficiently. Both in the public and private sectors, procurement has often been seen as an adjunct function of the finance department, which ultimately controls it managerially, and from which all organisational resources are controlled and distributed.

It is possible to analyze and review the procurement function from a variety of perspectives. Elsewhere in our work we have concentrated on the rules of procurement – at national, EU and international level, including the legal rules, on the major institutions which affect procurement, on the potential of procurement to contribute to the firm strategy, and its economic impact on regions and the wider economy. This section of our report seeks to shed light on the complexity of the *internal* organisation in procurement, mainly due to the heterogeneity of actors and their rationales. We believe that understanding the organisational form in which procurement activity takes place is also of major importance to our study.

Procurers work in very different environments that determine their operating conditions to a large degree and thereby affect their performance. Variations in the way in which procurement decisions are made in practice are likely to result from differences in the sectors in which procurers work, the size of the organisations involved in their work, and through custom and practice. However, we concentrate on the internal organisation of procurement here.

This organisational perspective very briefly characterises the different actor groups involved in the procurement process and outlines the challenges for an effective organisation of innovative procurement. The text finishes with some empirical examples of good organisational practice.

3.2.2 The heterogeneity of public stakeholders

Procurement takes place within a complex set of relationships between different organisational groups. These may generally include the following major interests / stakeholders within an organisation:

(1) The leadership of organisations (as civil servants or politicians).

(2) Finance department.

(3) The staff responsible for a certain technology or service (not necessarily a user, but responsible for maintenance, management, human resource development etc.).

(4) The internal users of a technology:
   a) Lead users of technologies.
   b) General user representatives of products and services.

(5) Legal departments.

(6) Specialised procurers and procuring departments, procurement networks within the organisation and beyond it.

In order to understand the contextual restrictions of procuring staff in public organisation, it is important to understand the different rationales of all those actors that are involved in the process:

(1) The organisational leadership may be involved in "important" procurement decisions as regards budget, public visibility, internal change management requirements etc. Thus, the willingness of the leadership to back an innovation and to take the risk is crucial for any major procurement of an innovation. Cases where a number of different organisations are involved in a “cooperative procurement” project may present special governance problems in this respect. For example, the decisions made by inter-governmental project teams may be challenged by government departments that are not represented within these teams but can still claim the right to have input into governmental decision processes. In such cases, decisions can potentially be made “over the heads” of these projects’ organisational leaders, and effective communication with higher-level political decision-makers will be essential to securing positive outcomes.

(2) For the finance *department*, where in many cases procurement units are situated, the procurement function is often regarded as a means to further and greater control of the risk involved in purchasing goods and services. The major rationale is the cost-efficiency of the procurement, and in most cases in the public arena this is rather short-term oriented not least due to annual budgeting. The higher entry and change-over costs of innovations weigh much more than the benefits of better usability, better service to the citizen, contribution to sustainability etc. At the same

time, the finance department usually constitutes a prime source of strategy and expertise on “risk mitigation”, and can thus contribute vitally to the success of high-risk procurement projects.

(3) In many, mainly larger public organisations there are departments responsible for the *maintenance and general functioning* of certain technologies or services. These technical experts are well aware of the user needs and of their problems with (new) technologies. At the same time they are the interface to the market place, they generally know the market very well and are aware of innovations. In fact, it is most often these staff members who introduce new procurement ideas to the users and the political decision-makers. Moreover, the technical staff normally play a central role in defining the requirements and elaborating the functional specifications for technology procurements.

(4) There are two categories of actual internal *users of technologies* with very different meanings for potential innovation. First, there are *lead users* who are instrumental in the choice of technology, being able to determine better than anyone else whether the product or services offered can meet the needs of the organisation. Lead users are found in many different areas of the organisation, not only in areas of the firm where high technology is used. Lead users may be able to represent and understand the needs of customers who ultimately are affected by the procurement of new products and services. To identify lead users internally and raise their awareness as regards innovation in the organisation is a crucial challenge for successful procurement of innovation. Second, there are the *traditional users* who use a certain technology or service on a regular basis but have shown no major motivation to be a lead user. These users may very often stick to the traditional technologies as they rate the changing and learning costs higher than the potential benefit for themselves or the "customer". In cases of “catalytic procurement”, where a public agency conducts a procurement on behalf of end-users other than itself, it will be especially important to represent the motivations and needs of traditional users, not least since catalytic procurement initiatives are often aimed at consumer, rather than capital goods, markets. Where catalytic procurement aims at developing new technology, functional specifications based on multiple user requirements must be harmonised and converted into a common set of technical specifications, before technology and market development can proceed, based on producers’ understanding of user requirements.

(5) Many large public organisations also have their own internal *legal services*, which may be very helpful in exploiting all possibilities of the procurement regulations for tendering and awarding innovations. However, they may also tend to be rather conservative in the tendering process. For example, in the case of large, complex, and costly procurements involving technological innovation they may resist the “unbundling” of what might otherwise be designed as a single contract with a single,

large supplier in order to facilitate the participation of smaller firms as (potential) suppliers.

(6) The *procuring function* may be located in organisations very differently (see below). In principle, three forms can be distinguished.

a) Procurement is a specialised function in itself:

Procurers are specialists in procurement and do not have a deeper knowledge of the technologies they procure and their related markets. This is the case, for example, in many municipalities.

b) Specialised procurers who are at the same time technical experts:

Procurement may be specialised along functional terms (see, for example, the ELAK case (Austria) in the case study section), i.e. procurement specialists are also experts in certain technologies. Big central procurement agencies like the British OGC, the Austrian BBG and the German BBA can afford such a functional, technological organisation, although only at a rather aggregated level.[9]

c) No procurement specialisation, but technical leadership in procurement:

In many cases (see, for example, the survey of the Heidelberg Voice over IP case in this report) the procurement is done by technical staff responsible for a certain technology within the organisation (3) above). For this staff, procurement is only one of their tasks; their professional rationale is the most efficient application and maintenance of technologies.

Depending on the institutional setting within which a procurer operates, the incentives and disincentives to procure an innovation vary considerably. As a general rule, the more important the procurement function in relation to the technological function and internal technological responsibility, the more likely it is that disincentives (risk, uncertainty, costs) will be weighed more strongly, and less weight will be put on the incentives and benefits (long-term efficiency, user-friendliness, service provision etc.). However, in most cases it is at the same time not possible or helpful to decentralise procurement to the actors technically responsible or even to the (lead) users. While these actors know the potential net-benefit of an innovation better, they are often not professional enough to undertake the tendering process, especially its legal aspects.

3.2.3 Challenges and policy recommendations as for interaction and teaming

All of these different actor groups somehow interact in the process of procurement. All can add value to the decision to procure and to the way in which innovative products and processes can be obtained. It is not uncommon for these groups to disagree, how-

9 For an example see the organisation of the Procurement Agency of the Ministry of the Interior in Germany, in fact the central agency at the Federal Level http://www.bescha.bund.de/enid/aeda51eb5594965b36c4d49cec5b6eab,0/5j.html, for the Austrian BBG see https://bbg.portal.at/internet/beruns/Organigramm/_start.htm

ever, about the best choice of product or service for the organisation and the way in which the asset or service is to be acquired. The likelihood and ease for innovative procurement to occur thus depends very much on the organisational configuration and the attitude of the various actors towards the procurement. There is no single best practice to organise procurement in order to facilitate the purchase of an innovation and different rationales compete with each other. For example, as the expertise and backing of all the relevant actor groups is important, a unilateral decision taken by a central procurer might backfire in the implementation phase. At the same time, however, the procurement process should not be designed being too participatory and interactive, since lack of direction might endanger the decision-making process altogether.

If several organisational units have decided to procure together, the complexity multiplies. The right balance must be found, not only among procurement, technical, legal and political functions, but also among the different participating units that have been brought together in order to carry out the procurement. In this respect, the development of “organizational learning” capabilities can be of considerable importance.

Many large-scale procurement projects are “intergovernmental” in character, requiring cooperation and coordination among a number of different government departments and other public sector organisations (authorities or agencies), none of which may have a very high level of expertise or experience with respect to either the procurement process in general or the particular kind of technology that is being procured. In such cases, the procurement is normally undertaken by a project organization that will disband upon completing its task and is staffed by experts hired especially for the purpose on a short term basis – i.e., a “temporary organization” rather than a permanent one. A similar development may occur within a permanent organization, where the procurement “team” that is formed by combining staff from different organizational sub-units may have a very short life span and cease to exist after completion of the project.

One major disadvantage of temporary “project” organizations is that despite – and to some extent because of -- their high flexibility, they have a very low capacity for continuous learning. Such learning normally has to be based on recurrent and relatively stable patterns of internal and external interaction, in order to draw fully upon the largely tacit knowledge of individuals who are often highly specialised. For these reasons, temporary organizations are, by their very nature, poor vehicles for knowledge accumulation, which can be essential to both the initial and longer-term success of a large and complex technological innovation project. To confront this problem adequately, project organisations especially – but also their “parent” organisations – need to develop routines and procedures that will ensure the articulation, communication and retention of critically important knowledge. Both individually and collectively, these organizations should be able to draw upon and integrate complex knowledge bases that

are increasingly “distributed” in character, to learn from not only their own mistakes but also those of others, and to absorb and implement “best practice” models.

From all the information gathered so far in this study, several *organizational principles* can be formulated. To fulfil these following principles is a major challenge for all procurement activities, and especially those that are geared towards innovation:

- Those responsible for the procurement should have a clear mandate from the leadership to create legitimacy and acceptance in all other actor groups. This eases the interaction of all actors involved. While the final decision-maker does not have to be involved in the procurement team directly, he or she should signal his/ her commitment very openly and directly in the kick-off phase of the process.
- The requirements and desires of all users need to be known and users need to be integrated in the definition of the whole process, especially in the definition of requirements and also the MEAT criteria.
- The staff member responsible for a certain technology or service within an organisation should be a main player in the whole process, even if he/ she can or will not be the procurer. In some of the success stories of this report, the staff responsible for the maintenance of a certain technology also procured and was able to negotiate appropriate functionalities and good conditions at the same time. Their involvement also created internal acceptance. It is very clear that especially as for the procurement of innovations the role of technical experts in drafting specifications is crucial. Specifications should be comprehensive and well defined. Although functional specifications are normally applied, especially in cases of innovative procurement, they should not be so loose as to create confusion or lack of direction on the part of suppliers. Rather, these specifications should be clear and rather tight, providing little latitude for deviation from what is intended by the procurers. In order to develop “tight specifications”, procurers must possess clear and detailed knowledge of their needs and requirements. The technical staff usually plays a centrally important role in this respect, and its members should therefore be assisted to develop expertise in writing specifications. As an alternative to their own specifications, procuring organizations may also rely more extensively on technological standards, which they must be able to select intelligently. Here again, the technical staff can be expected to play a key role.
- It is crucial to involve legal expertise or professional procurers in all kinds of innovative procurement, since one major obstacle to such undertakings are the perceived legal bottlenecks. Procurers and/or technical staff engaged in procurement are often not aware of all the possibilities offered by the existing procurement law, and are therefore deterred from taking new or different initiatives that depart from standard or customary practice. Others may be unaware of legal constraints and may thus endanger the whole process from a legal standpoint.

- If several organisational units have decided to procure together, one major principle to be observed is that the leaders of all units should commit themselves and teams should be built which combine key actors of all units (lead users, opinion leaders, most knowledgeable experts etc.). While the technical requirements and expertise of all units should be represented, the legal and financial advisors might be centralised. A multiplication of these particular functions should be avoided.
- A balance is needed between representation of the various functions, on the one hand, and effectiveness and efficiency of the whole process on the other hand. Thus, the organization of teams should be flexible and should be governed by applying clear decision-making rules accepted by each of the participants from the beginning.
- Project communication, both internal and external, should be structured to ensure effective coordination. Without clearly defined lines of communication, multiple points of contact between the procurer and supplier organizations can lead to a situation where no one has control over the development of the system or product development process. This problem can be solved by ensuring that all procurer-supplier communication goes through the project manager. There should be strict management of communication and strong resistance to making changes later in the project.

The case of the procurement of an electronic filing system in the box below illustrates many of these organisational principles.

A best practise case: The characteristics of the internal organisation for the ELAK-Procurement (Austrian Federal Government, case 3 of this study)

The Austrian government has procured and implemented a new, totally electronic file management system including workflow management for all federal ministries (ELAK). The decision was taken by the Chancellor, and a centralised procurement procedure was set up in order to include all federal ministries and, even more important, to implement standardised software and processes.

The procurement process, especially the definition of requirements and the decision-making process, was organised in inter-ministerial working groups. Thus, the ministries themselves decided who to delegate to these steering and working party meetings. Altogether, 60 people from all ministries joined in the process, which was organised with several sub-groups and hearings dealing with the various lots and with different horizontal aspects. The participants were technicians, human resource developers, and organisation developers, as well as ordinary civil servants interested in good tools to use for their daily jobs (lead users). Therefore, not only the technical side, but also the application and implementation sides were represented, since one major obstacle to innovation is the unwillingness of individuals, who tend to stick to their traditional systems and solutions.

No ministerial procurers were included in the teams. Rather, the central procurement agency took over the tasks of the tendering process from the individual ministries, and also moderated some of the key negotiations, especially in the decision stage. Thus, the discussion in the groups was led by the technical experts and users, rather than the procurement people of the ministries, and the legal issues were much easier to handle.

The process was facilitated by an external consultant who took care of minutes, document production etc., but who did not influence the decision making process in any sense. In that regard, he was strictly neutral.

In order not to produce stalemates and endless discussions, the decisions were taken with majority voting of all parties and members involved. An efficient decision-making rule was combined with broad participation.

This process facilitated a uniform tendering – and thus uniform product and service – and at the same time took into account peculiarities and preferences of the individual ministries. Moreover, the inclusion of users enabled the process to define an implementation and change management plan along with the procurement activities. These features improved acceptance considerably and at the same time ensured the roll out and implementation.

The alternative to that approach – according to the staff responsible for the whole procurement process - would have been a top-down process with a central decision for a unitary system and management, which would have accelerated the process, but endangered the implementation – and thus killed the innovation for years to come.

4 Case Studies

The presentation of these cases follows a uniform structure in order to combine comprehensive information with quick readability:

- Short description
- Procuring agency and policy background
- The success and impact
- Procurement cycle (different stages)
- Success factors
- Major impediments overcome

Overview 3.1: List of cases

Cases	Title	Country
CASE 1	New lighting systems (Hamburg)	Germany
CASE 2	Innovative telecommunication equipment of a municipality (Heidelberg)	Germany
CASE 3	Electronic File Management	Austria
CASE 4	Maritime Radio System	Norway
CASE 5	Procurement of regional transport system in Zaanstreek	Netherlands
CASE 6	Variable Message Signage for UK Motorway Network	United Kingdom
CASE 7	Energy Saving Procurement	Italy
CASE 8	Public key infrastructure	Netherlands
CASE 9	Benefit Card	United Kingdom

4.1 Short Characterisation of Cases

The first case deals with the procurement of new lighting systems in the state and city of *Hamburg* to meet objectives in terms of saving energy as well as sustainability. These systems were procured for all 1,500 public buildings. This created effects of scale and critical mass. Furthermore, the procuring agency has been allocated its own item of the budget and an according competence for all questions referring to energy consumption, which produced a situation where the agency was able to work independently. This was backed by the well-developed life-cycle oriented evaluation culture, a clear political mandate and support by the highest authorities. The major lesson to be learned from this case lies in the usage of first the interposition of a large and well

experienced local enterprise (i.e. to use their knowledge, connections and experience) und second preliminary talks strictly separated from the actual procuring process to ensure the process could be coped and to get information on the available properties as well as opportunities for cost reduction. Moreover, the spill over effect towards private businesses created by the environmental partnerships and the according support programme is remarkable.

In the second case, the *City of Heidelberg* has procured a "most modern" *voice over IP* system for its administration, especially as for the interface with the citizen. The procurement process is characterised by an Innovation-friendly culture and clear political mandate. On that basis, the unit responsible for the ICT equipment in the city organised the procurement itself, exploiting a sound technical and market expertise. The procurement is a good example of the importance of in-house technical expertise, permanent market and technology monitoring, including a routine and direct contact to market players, an intensive – highly confidential (formal confidentiality clause!) – dialogue with potential suppliers to reconcile concrete needs with technological possibilities of suppliers. Furthermore, the innovation was procured in a first step with a limited number of installations to reduce the risk; subsequent units may be bought in the open market.

The third case – a national procurement for the *electronic legal act (ELAK)* in *Austria* - is an example of how to bundle the need of different departments and overcoming impediments of risk aversion and change complex management needs. All ministries of the Federal Austrian government – with a clear mandate for the chancellor – have together procured and implemented a new, electronic file management system including workflow management for all federal ministries, which simplifies processes and is a trigger towards electronic government. The process was managed by an inter-agency task force led by the federal chancellery, compiled of technical and administrative experts and not departmental procurers and governed by majority voting with little power to veto. The legal aspects were taken care of by the central procurement agency of Austria as member of the task force – rather than by a collection of the procurers of each ministry. The procurement was organised as a complex two-stage procedure, with 6 feedback circles in stage two in order to enable a successive movement towards the most suitable and realistic solution. Investing this time and effort in the tendering phase saved time and costs in the implementation phase.

The fourth case, Telenor's procurement of innovative *maritime radio technology* in Norway seems in many respects to qualify as a textbook example of how to procure innovations in compliance with the EC directives on public procurement. As this case shows, the framework provided by the EC Directives on Public Procurement allowed interactive learning critical to innovation to take place. In the pre-procurement phase of the project, extended world-wide search was carried out for potential suppliers, which

eventually led to the contract being awarded to the Austrian firm, Frequentis GmbH. Reasons given for the success of the procurement project were the competences attached to the project, including general knowledge of the procurement law, special technical competences, in particular to be able to write specifications, and what might be referred to as general project management skills.

The *Zaanstreek Public Transport Procurement – case five* - in the City of Amsterdam is the first public transport procurements in the Netherlands following the Transport Act of 2000. The process of privatization and liberalisation of the market for transport provides transport firms such as Connexxion and Connex and Arriva with the opportunity to meet functional specifications set by regional and municipal transport authorities. The Zaanstreek procurement provides some evidence that functional specifications can work to provide innovation in public transport, mainly as for business process innovation in order to make the system more efficient.

The sixth case displays the *Procurement of Variable Message Signage for UK the Motorway Network*. The Highway Agency routinely procures large amounts of technically sophisticated equipment and is concerned constantly with technological development and innovation. It is also concerned however with the need to ensure that future innovation is not hampered when suppliers become too dominant. Its procurement methods promote innovation involving design competition – in which the prototyping is financed – as a means for specific market intelligence and feasibility testing and its sourcing and delivery practices attempt to prevent supplier dominance and manage risk through the control of the supply chain and the IP generated within contracts. The message signage developed in that procurement was subsequently sold to foreign markets.

Case seven, *"Energy saving procurement"* in *Italy* shows how a performance-based contract for a large number of administrations may become a tool to combine cost efficiency (size) and incentives to innovation in public procurement (performance standards). Consip, the Italian central procuring agency, was assigned with the task to organise, implement and monitor the procurement of heating services for the public administration. The performance-based contract was promoted as the best alternative given impediments such as the complexity of the market, the lack of skills and market intelligence in many of the public agencies and the high level of expenditure in energy procurement. The contract helped to overcome these impediments effectively, encouraging innovation to the suppliers and transferring the responsibility of skill intensive tasks to either Consip or suppliers. Lessons refer to the difficulties and merits of performance contracts.

In the eighth case "Procurement of public key infrastructure" a central e-government infrastructure was procured in the Netherlands for the issuing and use of Public Key Certificates (PKCs) that allow safe transactions between citizens and the public as well

as among the public services. It is a good example on how the risk inherent in nascent technologies may put into question the procurement and become subject of policy debate and criticism. In such a context government sponsorship, political support and early adoption of the new technology by many different government agencies especially at a higher level (e.g. Ministries) may become critical factor of success. However, political support raises the issue of what is optimum time-to-performance and how government can ensure ex ante a minimum set of performance guarantees.

Finally, case nine delivers the description of the attempt to procure a *new electronic benefit card in the UK*. The Benefits Agency payments card project was a massive UK Government IT project provided by a private sector supplier through a special purpose vehicle. The project only succeeded in delivering half its objectives. The case provides extensive evidence that, despite good systems and high levels of professionalism, the need to rush the project, the decision to select a supplier who could take the off-balance sheet risk of benefit card fraud and the focus on costs led to a project that was not wholly successful.

CASE 1: New lighting systems:
Modern technologies for energy efficiency **FhG-ISI**

Country / region
Germany / state and municipality of Hamburg

Short description (what was procured, what was innovative about it)

The city and state of Hamburg procured new lighting systems (state-of-the-art, most modern technology) for its public buildings in order to save energy, improve the lighting quality and lower lifetime costs of lighting. The project had an economical and a sustainable dimension, i.e. it was backed by a strong normative political mandate.
Budget (state October 4th 2005): 19.3 Mio €

Procuring agency and policy background

The procuring agency is the agency for city development and environment of both the state and the city of Hamburg. This combination of being a state and a municipality at the same time enhanced the leverage and the degree of freedom for the procurers. The state agency has 2,000 employees and is responsible for public construction, city development, mobility, environment, and flood safety systems. Within this agency, the department of energy was responsible for the procurement as it takes care of the overall energy management of 1,500 public buildings.
The policy background was a decision by the state government to contribute to the city's energy efficiency objective and saving resources. One of the measures is that each investment in energy equipment must be cost-efficient in the long term, i.e. as a principle the agency supports the purchase of advanced technologies under the conditions of life-cycle efficiency. Each procurement process is organised in a programme that takes into account the systematic impacts of new technologies *and services* and defines a procurement and maintenance strategy.
The procuring agency has been allocated its own item of the budget and the exclusive competence for every question referring to energy consumption. This means not only a possibility to decide relatively independently according to the laws and rules of the state and the city of Hamburg, but at the same time to allocate its own funds.

The success and impact

This case is one of many examples of energy management success in Hamburg, i.e. the exchange of lighting systems in public buildings. The basic idea was to combine anti-climate change measures with economic efficiency by building up critical mass for energy-efficient lighting systems.
The procurement process defined a standard solution applicable for many job spaces, and the energy saving per office space is 60%. This standard solution was a modification of existing systems, i.e. the suppliers and service providers had to invest in innovative activities in order to meet special needs. The economic impact was first on the city (life-time efficiency), on the suppliers of lighting systems (companies from outside the state of Hamburg) and on service providers within the state (installation

and maintenance, learning). This linkage between the EU-wide tender and local economic effects in terms of a participation of local businesses was not intended since the price of all services connected to the procured property had the highest priority. However, the market for new lighting systems and the related services were upgraded in Hamburg.
Moreover, there was a spill-over to private industry: the exchange of lighting systems along with other measures regarding the improvement of energy efficiency and environment protection - e.g. increasing usage of recycled paper in public offices and private enterprises – has had effects on the private businesses. Following the public example, and encouraged by a public support programme (3 million € p.a.), many enterprises in Hamburg have increased their efforts to reduce their energy consumption and their environmental impact, respectively. To enhance the spill-over the procuring agency provided the usage of its agreement with the suppliers for private enterprises and the possibility to finance the investment in new lighting systems by a credit granted by the local electricity supplier that could be repaid along with the electricity bill ("en passant"). Therefore, the financial burden for private investors was minimised. Furthermore, the city of Hamburg started an initiative called "Umweltpartnerschaften" (environmental partnerships). Enterprises that proved that they are already contributing to some extent to any kind of environmental protection - e.g. via energy efficiency - can be part of this initiative. The main advances are investment assistance (a demand subsidy) of between € 1,000 and € 50,000 and a significant price deduction for enterprises when buying energy-saving lighting systems similar to those procured by the city itself (size effect!). The costs for these systems are nearly halved and one euro (per bulb) of this discount is paid by the city. Moreover, it provides a first check of businesses' potential for saving energy as a free-of-charge service. The firms can use the "Umweltpartnerschaften" emblem to promote their endeavours in environmental protection. In addition, the participating enterprises were qualified to take part on the EU-initiative "green light" programme where they did not get any actual funding but an additional opportunity to make their efforts public (http://www.eu-greenlight.org/). Through this diffusion-oriented, catalytic procurement approach in connection with an image campaign (the above mentioned "Umweltpartnerschaften") for both the city and the local private enterprises, the state and city of Hamburg created major effects of scale. These effects enabled the supplying companies to make concessions to the agencies regarding the price of the lighting systems for the associated businesses (via the environmental partnerships).

Procurement cycle

Identifying the requirements

- There were experiences within the city and state of Hamburg with similar energy-saving lighting systems already 10 years ago (due to a pilot scheme), so the potential to save energy was clear to the responsible agencies, and the potential suppliers were already known. The centralised agency has the very duty to identify the energy-saving requirements. The bundled competence for

all energy-saving measures enabled the procuring agency to ascertain the overall need in terms of quantity.

- As the product to be purchased (lighting) does not need involvement of the end user (no special operation requirement), building a team with the officials in the various departments was not needed, and in fact not done, the process was organised independently.
- To ensure that an innovative and affordable solution can be found, the agency for city development and environment organised informal preliminary talks with all potential suppliers, in order to inform the market about the needs of the city. These took place about 6 months before the actual procuring process started to make sure first that the size and complexity of the process could be coped *and* second to strictly separate these negotiations from the procurement process to ensure that the preliminary talks did not affect the process itself. Otherwise, potential suppliers could have complained about an unfair advantage for those being part of it and therefore stop the process. In addition, the preliminary talks were conducted in two separated turns. In the first, a single potential supplier has been part of a pilot project. This particular supplier has then been interviewed about possible reductions of purchasing costs, e.g. the direct sale to the procuring agency leaving any broker or wholesaler aside. After having analysed these opportunities, in the second turn the process has been opened up to all potential suppliers who at this point had to face the concrete ideas of the agency about the systems to be procured, the price of the solution and its maintenance and the possible way to get to this price (e.g. price reduction via sheer mass of the order, leaving wholesalers aside, using the city's logistics etc.).
- Two years of forerun before the actual project was started.

Market intelligence

- Own technical know-how from daily routine and resulting from the pilot scheme conducted 10 years ago.
- Usage of external know-how e.g. from the local electricity supplier. At the centre of this cooperation stands the usage of the supplier as both a purchaser and contractor for the state and city of Hamburg. This created a situation where the supplier's and the procurer's know how could be combined in order to meet the requirements made by the procurer. This was possible due to a long-term partnership (additionally the company has been owned by the state and city of Hamburg at least partly until 2003) with this supplier and the fact that the procuring agency actually bought services from it, which included consultancies useful to this procurement process as well. Furthermore, the supplier's strategic purchasing staff pursued their own personal interest by encouraging such policy. Besides, sustainability and environmental protection are declared goals of the companies' business activities.

- Complete transparency even in the preliminary talks spread the knowledge about solutions and problems to all interested and involved parties.
- Intensive interaction with suppliers and service providers even before the tender was issued, in order to learn about performance, price and conditions in the market in a very general sense. Strict confidentiality of these talks as to price and special performance.

Tendering process

- MEAT criteria had been specified before the tender was issued.
- Division of the procured performance (e.g. into engineering inputs, logistics, lighting systems, disposal etc.) into several partial tasks to reduce the risks and the costs.
- Europe-wide procurement of all partial tasks (different lots).

Assessing / awarding

- As the procurement aimed at diffusion of new technologies (and not the generation of new products), the costs were the major factor in evaluation.
- However, the costs were strictly calculated as cost-benefit ratio across the whole life cycle of the product, with cost defined as initial price plus installation and maintenance, and the benefits calculated from the energy savings.
- For each lot several suppliers were chosen in order to distribute the risk and benefit.
- The technical (e.g. the efficiency of the systems) requirements were clearly defined a priori so that the assessment only had to follow predetermined characteristics.

Contract and managing contract delivery

- The division of the tasks produced a situation where many rather small contracts had to be managed.
- The contracts included agreements on milestones and contract penalties.
- Controlling and monitoring of the supplier's work based on a random sample.

Major reason for success

- Critical mass: an agency that is responsible for the management both of city and state buildings could easily achieve critical mass for its procurement. Moreover, the electricity supplier acted as the contractor for the procurement of the lighting systems purchased similar systems for other federal states, which increased the sheer mass of the systems bought.
- The city agencies have a culture of life-cycle efficiency.
- Global purchase in combination with local maintenance and installations: profit from world market efficiency and at the same time local providers and thus the local economy benefits (combination of product purchase and ser-

vice). The latter was not intended though. Clear definition of interfaces between suppliers and service providers within framework contracts for both service providers and suppliers.

- Horizontal approach: the investment decisions – as all investment decisions in this area – are taken based on a technological solution (applicable to many buildings) rather than based on a single building that is in need of new technologies. By concentrating on the technological rather than the object dimension (one single building), the leverage for critical mass, scale and scope effects in the procurement are in-built. This is called "horizontal process". This programmatic, technological approach has clear advantages: technological solutions are optimised, external expert knowledge and investment in advanced technologies is affordable (critical mass), economies of scale in the whole procurement and implementation process as well as in maintenance, and enhanced environmental effects through the broad application of solutions.
- Very strict investment plan and efficiency analysis at the beginning of the process, with clear and objective argumentation vis-à-vis all traditional suppliers, service providers and users (on that basis, a very concrete definition of the requirements could be formulated).
- Centralisation of the process management in the hands of the major agency, very few transaction costs within the public agency.
- In the end the centralised competence created a win-win situation where all participants (the public buildings equipped, the city itself, the companies winning one of the tendered lots, the local economy etc.) had positive effects on their particular objectives.
- Agency is relatively independent because of its own dedicated budget item.
- Relatively low risk because of only slightly innovative solution, which was procured. Moreover, the increased economic efficiency to be expected has been analysed and approved even in case of declining energy prices to ensure that there will be a long-turn effect legitimating the investment.
- Extended know-how within the agency in terms of both economics and technical requirements.
- A priori specification of the technical requirements with the support of the expertise of the local electricity supplier.
- Strong cooperation with local enterprises, primarily the local electricity supplier, to use their expertise as a psychologically important backing of the agencies' own expertise to ensure the political authorities as well as the private businesses trusted in the target solution. This company has been used as a contractor to make use of their knowledge as well as their connections to potential suppliers for the systems sought.
- Exploitation of grey areas in the procurement guidelines, e.g. preliminary talks with potential suppliers.
- Complete transparency of the procuring process even in the preliminary talks.

These talks were conducted chronological and technical 'outside' the procurement process to ensure their legitimacy referring to German laws.

- Long-term forerun.
- Controlling and monitoring based on random samples during the project.

Major impediments overcome

The attitude of the public and Hamburg industry was negative as the lighting systems:

- meant high initial investment costs and only very long-term cost efficiency (the energy prices were rather low, energy saving for economic reasons not that high on the agenda!), and as
- the contract for the systems went outside the state and city of Hamburg.

The first problem was overcome with a clear investment and efficiency plan, the second through the integration of local service providers – although even the service lots were tendered across Europe.

Major lessons to be learned

- Clear political message: combination of long-term economic and social (climate) benefit.
- Professional, centralised process management.
- Horizontal approach: a given technological solution for a horizontal problem (in all buildings) is sought after, not procurement for one single building.
- Framework contracts with clear interfaces, combination of global markets and local services.
- Clear political mandate and budget for innovative technologies in combination with a sectoral policy aim (sustainability, efficiency).
- Organizational specialisation: technical expertise and normative commitment (sustainability) determines the procurement process (rather than intra-organisational worries about budget and usability).
- The practices of public procurement with significant size effects transferred to private business (bundling, normative appeal).
- Appropriate attitudes, political intentions and an elaborated handling of the city's options to organise the procuring process (including the ability to use certain 'grey zones') merged in a conducive way.

CASE 2: Innovative telecommunication equipment of a municipality to increase service quality and effectiveness **FhG-ISI**

Country / region

Germany, city of Heidelberg

Short description

The city of Heidelberg had to replace telecommunication infrastructure after a fire had destroyed the former installation. The old telecommunication equipment was a collection of various more or less old and traditional systems and a couple of advanced systems. The replacement was new VoIP (voice over IP) telecommunication equipment (Alcatel Omni PCX Enterprise); the aim was a uniform system on that basis which was labelled "most modern" technology. It entails a Call Centre-Device (Alcatel Omnitouch CCD) to optimise the communication with, and service orientation towards, the citizens (the "clients") of the municipality.

The benefit of the system is:

- better service for the citizen (utilise organisational slack in various departments, virtual one-stop shops and virtual departments),
- more flexibility for the citizen,
- integration of IT with voice communication,
- much more effective tele-work (computer-assisted telephone).

The innovation was the combination of traditional and new systems, some adaptation had to be developed especially in the voice area and the diffusion of the most advanced technology.

Winning company: Alcatel

Date of decision: April 2004

Budget (of the first contract, 100 units): 48.000 EURO

Criteria for the decision: Flexibility in meeting the specific needs of combining a traditional and a modern system, follow up maintenance and lowest costs.

Procuring agency and policy background

There is a specialised city agency responsible for personnel and technological organisation of the municipality. Up to a certain amount this agency can decide independently on procurement, there is no central procurer in the city, only legal advice as needed by the procuring technical experts. Above the monetary threshold, the experts have to obtain permission from the political decision-makers (city council, mayor). In the instance of VoIP, the agency technically responsible also took the purchasing decision, because of the very complicated technological backgrounds (expertise) and because of the time pressure, given that a fire had destroyed parts of the system. The technical experts thus had the mandate from the political decision-makers to buy an innovative solution in line with the city's general strategy to be

equipped with innovative technologies in order to deliver effective service and to uphold an innovative image. Thus a political principle ("citizen satisfaction") is the leverage for technical decision-makers while deciding on a new procurement.

The success and impact

The innovation – i.e. voice over IP control in combination with traditional systems – enables much more cost-efficient services for the citizens. Especially the decentralised service – a trademark of the city of Heidelberg – is cheaper and more effective. Furthermore, tele-working in an efficient way is made possible. The costs for the system are far below the regular market price, due to very intensive interactions and due to the city's willingness to act as an official lead user of the company's technology and also the very positive image of the city of Heidelberg as regards administration (innovative, service-oriented).

Technically speaking, the system integrates voice and data streams into one system (IP platform). The supplier has invested in innovative aspects such as integration of the new technology into the older technological context – without further costs for the city. Thus, new and improved services are possible without writing off old investments. As it turned out, this – technologically speaking – demanding integration of technologies was only available from one specific supplier, which was the reason for choosing him. For the supplier, this was a possibility to demonstrate his capabilities in an innovative telecommunication device that is still waiting for its breakthrough and diffusion, and to further develop the integration of new and old technologies. The most important impact on the supplier lies in the image building in the market as being able to deliver complicated integration of technologies fast. In addition, the regional contractor of the ICT company that provides the installations and maintenance is also contributing to innovative solutions to be used for other clients as well.

One important characteristic of the organisation of this procurement is that the procuring department and staff is neither a specialised procurer nor a prime user of the procured technology, but responsible for the maintenance and functionality of the telecommunication system. Thus, they are fully influenced by the cost-benefit considerations for all potential users in the administration – and can anticipate potential reluctance to apply the new system. This implies provision for an in-built change management.

Procurement cycle

Identifying the requirements

- The requirements were defined with a strategic commitment of the city to deliver effective service to the citizens through modern ICT solutions. A fire made quick decisions necessary, thus this strategic decision was the major guideline for the internal decision-making process. In addition, there is a policy to enable tele-working and organisational backup via ICT solutions. There was no systematic survey of the needs of all the hundreds of users in the or-

ganisation, but a central definition led by strategic decisions and long experience in everyday maintenance of the IT system.

Market intelligence

- Knowledge of the market is given through the functional specialisation within the administration. It is the daily task of the technical personnel responsible for the maintenance and procurement of systems to monitor the market and test new applications. Intensive contacts with potential suppliers existed long before the concrete tendering process. All necessary intelligence could be provided internally.
- The procuring team was extremely small, given the unity of procurement and technical expertise. Legal expertise was considered necessary, but did not drive the process, an external IT expert was consulted who assisted in drafting the requirements, but who was not responsible for the selection of companies to be contacted.
- Long before the tender was issued intensive dialogue with all major providers of VoIP-Systems was conducted. The procurement team had organised – in addition to permanent monitoring – workshops with all the major players in which it signalled the potential future requirements and in which it learned about the competencies and future developments of the companies. For the suppliers, a confidentiality clause was signed to ensure that no sensible market and technology information was disclosed to competitors.

Tendering process

- The tender budget was below the EU threshold to procure European wide. It was dealt with according to a restricted procedure; the tender decision was directly contracted.
- Intensive dialogue with various producers in order to work towards a specification and to monitor the market for technological possibilities. This period was important for all relevant suppliers to get to know the technological context of the client Heidelberg.
- The market knowledge and search had led to a couple of potential suppliers who had signalled to be able to supply what was needed.
- On the basis of the information gathered in the market, a limited call for tender was issued on that basis. The tender implied a two-step approach, i.e. a first pilot installation for 100 offices and a second one for 1500 to 2000 offices in an incremental approach driven by the actual need to modernise step-wise. This means that the explicit call stated a limited volume of 100 units. Out of five tenderers, three survived the knockout criteria ("must").
- Negotiations were opened with these selected companies following a clear, uniform and differentiated set of requirements. An external consultant was used for these negotiations who contributed to the market intelligence and

improved the technological competence and standing of the municipality.

- The supplier was selected on the basis of the flexibility and the MEAT criteria he provided.

Assessing / awarding

- The assessment was based on the criteria given in the tendering documents. The supplier who demonstrated best flexibility and integration with the traditional system won the contract. Moreover, the first decision on the 100 units also took into account potential the follow-up costs for further installations.
- As technical solutions for the complex task of combining the traditional with the new system differed between the various suppliers, a simple low cost approach was not possible.

Contract award and managing contract delivery

- The contract was awarded to an international supplier, but with a regional service provider to deliver and take care of the roll out and maintenance.
- The multiple step-approach (to install 100 units in a first roll out and then consecutively to install up to 2000 units) facilitated testing and lowered the risk. The idea was to initially buy 100 installations and then procure up to 2000 in a step-wise approach, not as one big tender, but as a continuous process (see below).
- In addition, the city agreed to act as a *lead user and reference customer* for the producer, who would report on the experiences with the innovative device. This also contributed to a favourable overall agreement.

Success factors

The greatest success factor seems to be the intensive market knowledge, both of technologies and actors (companies), provided by a permanent market intelligence, in the specialised team and, above all, the direct and structured interaction with all major providers – even before a concrete tender process was started. For the suppliers, this was crucial as this enables them to learn much better about the needs and the readiness of the public body to buy high end technology or even demand innovation.

Furthermore, the independence of these technical experts who are responsible for procurement and for the maintenance of the system within a clear political mandate to buy innovative equipment is seen as the major asset. If users had been involved too much, they would have hesitated to buy innovative devices, as organisational learning is involved; if procurers had decided, the legal and short-term budgetary aspects would have weighed too strongly.

Major impediments overcome

The risk of buying a well functioning system with 2,000 units was systematically lowered through the multi-step approach of having a test–installation of 100 units within

a relatively informal tender process (below threshold). The subsequent installations were not bought in a package, but have been and will be bought as needed by the administrative users, still taking advantage of the technological paradigm change done in the first procurement. If the pilot phase works well – and indications are it does – the supplier of the first units may get the contracts for all the successive units. However, subsequent units could be bought from other suppliers "off the shelf" as well, there is no technological path making the City dependent from the initial supplier, and the innovation, i.e. the combination of the old with the new technology, was in the first service contract of the 100 units. Thus the City has procured an innovative system without making itself dependent from the innovative supplier, i.e. securing the open market for subsequent units.

Major lessons

- Innovation-friendly culture and clear political mandate (Heidelberg has a prime reputation here).
- Decision made by the technologically knowledgeable procurers on the basis of a flexible council decision, the political decision-makers did not intervene in the technological and economical considerations of the procuring agency, which, however, had to justify their decisions on the basis of MEAT and functionality.
- Strong market and technology knowledge and monitoring of the procurers.
- Structured *direct* technical dialogue with all major producers in very early phases of the process. In most cases of public procurement, an external consultant organises even the early stage of a procurement, which hampers innovative solutions and tends to lead to standardised products. Confidentiality clauses are helpful for an open discussion on technological competences and future developments.
- Flexibility of the supplier and strong interaction with procuring agency.
- In-built change management as the technical staff responsible for the internal maintenance and training for the users was responsible for the procurement.

CASE 3: Electronic File Management [ELAK]	**FhG-ISI I**

Country / region

Austria

Short description (what was procured, what was innovative about it)

The Austrian government has, as a leader in international comparison, procured and implemented a new, totally electronic file management system including workflow management for all federal ministries. The procurement comprised special software as well as the organisation of the implementation, the management of the system and the organisational and human resource developments linked to it. Thus the procurement was partly of innovative technology, but to a large degree also of innovative services.

The electronic file enables a comprehensive e-government approach, as in most cases, e-government is electronic for the citizen, but physical (on paper) for the official files in ministries. Now the files are electronic even within ministries. This means the *benefits* envisaged are:

- a simplification and acceleration of processes,
- a uniform documentation of files and thus a better traceability,
- modernisation of archiving,
- a more flexible and efficient internal organisation,
- simplification of internal re-organisations,
- a comprehensive e-government approach,
- a simplified co-operation and exchange between ministries due to uniform standards,
- a knowledge base for one-stop government in the future.

The technical organisation of the system is centralised for all ministries, and the implementation is supported by Web technologies. The operational rollout of the system started in February 2004 with about 800 users and was finished at the beginning of this year with about 8.500 users in all Federal ministries. Two ministries, the Chancellery and the Ministry of External Affairs, had implemented individual electronic file management systems before, but simpler and not co-ordinated with external interfaces. The solution procured now is innovative both in its software and in its service performance. Especially the unification of standards and the cross-sectoral co-ordination demanded innovative solutions, as it would have been impossible to transfer the existing solutions of the two ministries to the overall system. The technical innovations needed were so complex that the supplier struggled with it and this caused a slight delay.

Winning company: ARGE-ELAK (a consortium out of Bundesrechenzentrums-GmbH, IBM and FaBa-Soft)

Date of decision: January 4, 2003 (start of process: June 2001

Budget:
Criteria for the decision (MEAT):

- Functionality 40 %
- Operating 20%
- Organisational support (including 8%)
- Data Migration 8%
- System Integration und Implementation 6%
- Overall Project implementation 6%
- Implementation of the Pre-Configuration 2%
- Support und Maintenance 4%

8 Hotline / HelpDesk 6%

Procuring agency and policy background

In the government declaration in 2001, the Chancellor stated that the introduction of an electronic file system was a high priority, for reasons of efficiency and effectiveness (internally and for e-government). It was soon obvious that a centralised procurement procedure would be necessary in order to include all federal ministries and, even more important, to implement standardised software and processes. All ministers agreed formally to participate in such a centralised procurement procedure that was led and co-ordinated by the Federal Chancellery (led by the chief information officer) and assisted by the Central Federal Procurement Agency BBG, who finally issued and organised the tender process.

The procurement process, especially the definition of requirements and the decision-making process, was organised in inter-ministerial working groups. Each ministry delegated technical and organisational experts to these working groups. The discussion in the groups was led by the technical experts rather than the procurement people of the ministries. In order to not produce stalemates and endless discussion, the decisions were taken with majority voting of all parties and members involved. Thus, an efficient decision-making rule was combined with a broad participation.

The central procurement agency thus took over the tasks of the tendering process from the individual ministries. This process meant a uniform tendering – and thus uniform product and service – and at the same time took into account peculiarities and preferences of the individual ministries.

The success and impact

For the *public administration*, for the first time interoperable file management between departments is possible and the electronic office has made a step forward. Other administration levels will most likely follow. In general, all the benefits men-

tioned above in the short description are not fully measurable yet, but begin to show in the administrations.
The whole tendering process from the start (requirements, model design) to the awarding of the contract took only slightly more than a year, the roll out and implementation is largely on time.
For the *supplier*, the success is long-term. The cost-benefit only for this project was apparently not exactly overwhelming, however, the supplier was able to sell this software also to the regional government of Bavaria and thus exploit international markets.
In international comparison, this Austrian application of the software is avant-garde, thus the signal sent to the world was strong. Together with bundling the requirements of 12 ministries, the suppliers had a great incentive to deliver exactly what was needed. Thus, the investment in the software promised to be exploitable in other markets as well.
Furthermore, ELAK triggered a new market for electronic file management systems for the public arena. It signalled to suppliers that demand was there, it signalled feasibility to other agencies. It has become clear that this effect is connected to the very fact that one government has demonstrated its willingness to apply an electronic file management system. In the perspective of a public agency, "pilot studies are not enough, the test of real life implementation" is needed for suppliers to intensify their innovation efforts.

Major impediments overcome

In the perspective of the centralised procurement agency that co-ordinated this process, the Austrian procurement regulations are in some respects too inflexible and make it difficult to successfully procure within a reasonable time innovative solutions. The problem in Austria is that the award criteria need to be defined in a very detailed way in order to avoid attacks from companies that have lost. Thus, at the very beginning the award criteria are to be defined, making refinement over the course of the tendering process problematic. Due to this fact the transaction costs on both sides (contracting authority and suppliers) are very high. Deviations from the specifications within the tender documents are principally not allowed, except where variants are allowed. While variants are in principle allowed, in most cases they cannot be specified by the contracting authority as requested by the procurement regulations – as they have not demonstrated functionality yet. In order to have a realistic chance against the well documented standard solution established in markets, as those can very well be calculated. For suppliers, this means a disincentive as regards proposing an innovative solution, as the calculation is much less "solid". The two-stage approach is only a very weak solution, as it does not allow for strong, creative ideas but rather asks for a clear cost-benefit ratio based on good and sound experience. In general, the fist step asks for competencies in order to deliver clearly specified tasks, but not for creativity that might even alter the whole solution envisaged.

Still, these impediments to innovation were overcome with a complex process that tried to include as much innovation as was needed, and tried to minimise risks at the same time.
The risk aversion of procurers was reduced as the BBG was used instead of 12 ministerial procurers.
One of the major impediments to innovations that need intra-organisational changes is the lack of acceptance and competence of those using the innovation. Thus, a sound implementation plan, an integration of key representatives in the tendering process and a human resource development plan are crucial for those innovations that are used within the organisation.
Moreover, the multitude of requirements spread over 12 ministries could be combined without slowing down the whole process too much.
Finally, the suppliers were highly optimistic as to the organisational competences, but the liability clauses put pressure on them to develop processes quickly and effectively enough to meet the implementation plan.

Major lessons to be learned

- Political mandate needed, top-down, for the basic decision to purchase radical innovations.
- An appropriate team needed, especially important to include technical experts and users and to agree on efficient decision-making rules.
- Professionalization of the whole process by using technical experts and centralised legal experts, but no dominance of the legal expertise in the decision-making process (except for veto where the law sets the limits).
- Utilisation of distributed technical and market expertise within and across organisations.

Complex two-stage procedure, with 6 feedback circles in stage two in order to enable a successive movement towards the most suitable and realistic solution. Investing this time and effort in the tendering phase saves time and costs in the implementation phase.

CASE 4: Procurement of Maritime Radio System	**LUND Univ.**

Country / region
Norway

Short description

This case concerns the procurement carried out by one branch of Telenor A/S and delivered by Frequentis of a system that facilitates different types of communication between ships situated close to the coast and other land-based entities, i.e. the technology used by maritime coast radio stations in Norway.
The procurement included:

- approximately 30 operator positions, equipped PC/Terminals in a Windows based environment (standard office equipment,
- digital switches (8-9) with direct access to the public ISDN network, and interconnected via WAN and audio network.

One of these switches was to be set up at each coastal radio station. The switches were to be used to mediate communication between sea (i.e. radio traffic) and land based communication networks. According to the tender document the system should support:

- distributed operational control (DOC) of any radio channel to all coast radio stations within the network,
- radiotelephony on VHF, MF and HF, calls to/from PSTN,
- automatic connections to/from PSTN using DSC-signalling (VHF and MF/HF),
- send and receive text messages (telex, e-mail),
- handling of Morse telegraphy on MF and HF,
- internet access towards coast stations and possible to/from ships,
- distress and safety recommendations, SOLAS-74 and SOLAS-88 from IMO, must be fulfilled,
- accompanying databases,
- multiplexing and compressing equipment for data and audio,
- installation of the equipment shall also be part of the delivery.

With this system, DOC would allow any radio traffic to be handled from any radio station in the country, and thus allow flexibility and e.g. less sensitivity to personal shortage.
In the mid 1990's a first attempt to procure technology for the maritime radio stations was made. The contracted supplier was not successful in deliver according to what was agreed upon and the project was eventually terminated.

Winner of contract

Frequentis

Budget of the contract

N/A

Date of decision

March 10th, 1998: Tender call published

July 15th, 1999: Contract signed

Award criteria

Frequentis, the company which finally won the contract had out-performed its competitors on a number of criteria, as follows:

- Date of delivery
- Profitably
- Technological assistance
- Services after delivery
- Price
- Operation costs
- Quality
- Technical value
- Aesthetical and functional values. In this case, this mostly concerned functional values.

Procuring agency and policy background

The procurement was carried out by Telenor A/S, at the time 100% owned by the Norwegian state. Originally, Telenor had a monopolistic position, but the developments of the last decades had however meant that the company had to adapt to a competitive environment. Although Telenor still retained a monopoly over the maritime radio, competitive considerations were central in the definition of features of the new system. One central goal was to reduce the number of employees and gain greater flexibility in operations; another was to introduce new commercial services.

The success and impact

The procured system changed the maritime radio network operations all over the country, facilitating the introduction of new services and the automation of existing ones. Through the application of distributed operational control (DOC), it was now possible to provide and maintain radio services from remote locations. Basically this meant that it became possible for one station to “take over” operations from another station, i.e. all the coast radio stations in Norway become interconnected. This also

meant that a small station could have one person on duty and if something happened that required the engagement of several radio operators, the operator could be assisted by other stations, the neighbouring station or the main station. It would also be possible to close down a station temporarily for the weekend or the night, e.g. in low peak periods. These features also made it possible to reduce the number of manned stations and thus the number of operators without jeopardizing operations.
Regarded as a direct procurement, this procurement is a success; the technology was delivered as scheduled, within budget frames, as specified, and has proven its usefulness in practice. No system of exactly the same type has been built anywhere else.

Procurement Cycle

Identifying the Requirements

- Already 1990, the Norwegian government had instructed Telenor to introduce new technology that would facilitate rationalisations and reduce number of employees working at the coast radio stations
- Within Telenor, engineers had discussed the possibilities of the emerging digital technology.
- The preparation of the procurement that eventually became successful started in the autumn of 1997. As will be further discussed below, experiences from a first attempt to procure new technology for the coast radio may have assisted this work, in terms of both knowledge about the system that was about to be procured and general procurement management skills.

Market Intelligence

- In the first attempt, the contract was awarded to a company that at the time was owned by the procurer. It seems as if the search for alternative suppliers had been very limited.
- In the second attempt, the procurer carried out a world-wide search for potential suppliers to ensure the highest number of participants in the tender, as well as finding the most competent one. Several intermediate organisations were used for this purpose such as embassies (e.g. the Japanese, as well as the American embassy) and trade commissions (e.g. the Australian trade commission). As another source of information, other public users of similar technologies were consulted on this matter for instance, what was then called the Swedish Civil Aviation Administration. The “yellow pages” directories for some countries were also consulted.

Tendering Process

- The tender in the successful procurement project was designed as a one

package delivery (as described under the heading Short description, above). The Negotiated Procedure was used, after tenderers had been pre-qualified.

The experiences from the first attempt made the procurer careful to insure that the supplier would be able to deliver according to specification. In the second attempt, in order to qualify as a potential supplier, several requirements had to be met: These requirements were stated as follows:

- The tender should be able to show a certificate of enrolment on the professional or trade register under the conditions laid down by the laws of the state in which (s)he is established and, where applicable, statement of the registers classification.
- The tender should also be able to show that he had fulfilled obligations relating to the payment of social security and taxes in his country as well as providing appropriate statements from bankers, presentation of the undertakings balance sheets or extracts from balance sheets;
- Statements of the firm's overall turnover in respect to the services/works/supplies to which the contract relates for the previous 3 financial years where also required;
- Details of technicians or technical services available, whether or not they were related directly to the undertaking, with special reference to quality-control arrangements.
- Samples, descriptions and/or photographs of the goods to be supplied
- Certificates drawn up by official quality-control institutes or agencies.

A special requirement was also formalised:

- Documentation that the customer adapted equipment within switches and radio telecommunication had been delivered and functioned satisfactorily at another customer, was required.

Assessing / Awarding

The company which finally won the contract had out-performed its competitors on a number of criteria, as specified under the heading 'award criteria' above. A noteworthy remark made by Mr Fredheim was that Frequentis already from the start had in a significant way demonstrated that they understood the requirements from the buyer.

Contract Award and Managing Contract Delivery

- The contract specified several milestone deliveries. After each delivery was made, the supplier received corresponding payment.
- The contract also specified the conditions regarding contract penalties. Penalties were never an issue, as the supplier delivered as agreed upon.
- After the contract was awarded the interaction between supplier and pro-

curer was quite intense in order to implement the system.

During a period of 10 months, after the contract had been signed, intense interaction took place between the procurer and the supplier in order to come up with a design specification, i.e. a document specifying exactly how the system should be implemented.

Major reason for success

Experiences from an earlier attempt that ended in failure:

- Specification too general. The specification of the system to be procured was too general, and not specific enough. To some extent, it was left to the supplier to come up with solutions to specific problems. This led to a number of changes having to be made in the design of the system and things consequently to be re-done several times and the procurers faced severe problems in controlling the development process.
- Too poorly structured project communication. Another related problem concerned the coordination of communication. There were no clearly defined lines of communication within the project. For instance, developers from the supplier could contact radio operators in Telenor without contacting project managers in Telenor. This eventually led to a situation where no one had control over the development of the system.
- Although being a qualified company, the supplier in the first attempt had not delivered the same technology elsewhere before. It was only after the project had been running for a while that both procurer and supplier realized that the distributed feature was one aspect which the underlying switch in the delivery did not support.

Reasons for success in the successful project:

- Extensive worldwide search for potential suppliers in the pre-procurement phase (beyond already known suppliers) and a rigorous selection process of the proposals submitted by the tenders.
- Great emphasis on being able to show that the supplier finally chosen had previous experience in delivering the technology to be developed. As Senior Procurer Ellen Sande put it,”before appointing a supplier, we wanted to be sure that we had chosen one that would be able to deliver.”
- Thorough and ‘finalised’ specifications. Although the specifications were functional as far as practically possible, they did not leave much room for deviations from what in practice was intended by the procurers. The specifications had, following Project Manager Mr Fredheim, ”described exactly what we wanted ”.
- The procurers possessed clear knowledge of the needs and requirements of the procured system; they knew what they wanted.

- Strict management, communication and resistance to making changes later in the project, i.e. the management 'stuck to the plan'.

Major impediments overcome

The first attempt to procure new technology for the coast radio had some impediments, as follows. The most critical impediment is the fact that the supplier failed to deliver according to specification. The supplier had very strong links to the procurer which may have delayed the termination of the project. Three major issues that were significantly improved in the second attempt were, as discussed above, the specification of the system to be procured, project communication and verification of the supplier's competence and earlier experience. Considered in isolation from the earlier, unsuccessful attempt, the second successful procurement project does not reveal many impediments that were overcome. It suggests that successful public procurement projects are the result of careful compliance with the law and rigorous application of what might be called public procurement project management skills. One aspect emphasised (as mentioned above) was for procurers to be assured that the requirements of the system could actually be delivered by the supplier. Emphasis was also placed throughout the process on treating all tenders equally, and making sure that all were given the same information.

Major lessons to be learned

The case suggests that the EC procurement directives do not impede innovative procurement. On the contrary, the respondents indicated that they would, apart from some bureaucratic practicalities, act in a similar way without a requirement to comply with the public procurement directives. Thus, the case seems to offer lessons to be learned on how innovative public procurement can take place under the public procurement directives. Very briefly, the important success factors derived from this case can be summarised as follows:

- Tight specification. Although functional specifications should be applied, the specification must be clear and rather tight, i.e. the procurer need to know what is required, in order to avoid confusion at the supplier side.
- Well-structured communication. In the second attempt, all procurer-supplier communication went through the procurer's project manager, which meant that the project developed in a coordinated manner instead of, as in the first attempt, into several uncoordinated activities.
- Verification that the supplier had earlier successful experiences in delivering the procured technology in order to avoid negative surprises late in the project.
- Procurement competence, both technical and managerial, should be attached to the project. Technical skills concern knowledge about the requirements of the procured good and ability to write adequate specifications, as

well as being able to assess tenders. The director of Telenor Maritime Radio, Mr Haktorson also emphasized that, ”we need to be able to say what we want”, especially in a situation where in-house R&D activity is low. The managerial competence includes knowledge of the EC procurement directives (or their country-specific implementation) and how to comply with them throughout the procurement project.

- General project management skills such as meeting deadlines and avoiding deviations from already made decisions.
- Organisational learning. Although there were some changes of employees after the first attempt, it is clear that experiences from the first attempt contributed critical input into the second successful project.

CASE 5: Zaanstreek Procurement

Country / region
Netherlands

Short description (what was procured, what was innovative about it)

The exclusive right to operate a public transport service was procured by the Amsterdam Regional Authority for the Zaanstreek, an area comprising two municipalities: Zaanstad and Oostzaan. This procurement arose as a result of the requirement for public transport services to be procured through a tender procedure, although there has been procurement for around 10 years in The Netherlands, this was the first time that private operators were providing a transport service to a regional authority. *The Innovation* that resulted was a more cost-effective and broader public transport service concept, broader than what had been provided under public management of the service. This was achieved by a set of functional definitions for the service and a general cost-cutting target. The procurement took place through the Open Procedure.

Chapters 4 and 5 of the Statement of Requirements (SOR) give the baseline or minimum requirements and “added value” requirements of the invitation to tender respectively. It is stated in the ITT that the extra requirements are optional.

Chapter 5 is a very broad statement of additional requirements. In fact it is quite unspecific, but follows the original outline requirements of coverage, “reachability”, and accessibility and requests higher levels of performance in each of these respects.

In the opinion of the procurers, the innovation comprises the following: - 1) an improved level of service within the area, despite the fact of a 13% cut in the budget, with much of this increase in use arising from improved links to Amsterdam which are actually more than doubled; - 2) Connexxion’s cutting of costs and that the revenues will be more than 20% higher in a period of 6 years; - 3) all vehicles now in use within the franchise are brand new and are equipped with climate control and with traveller information.

Procuring agency and policy background

This is a case study of the procurement of public transport services for the Public Transport Zaanstreek, one of the municipalities of the Amsterdam region. These authorities collaborate in the provision of services through the “Regionaal Orgaan Amsterdam” or the 'City Region of Amsterdam'. Provision of the following services is coordinated to varying degrees by the 16 municipalities in the following areas: spatial development, traffic and transport, economic affairs, housing and youth welfare.

This is the first time that tenders have been offered for public transport. More and more tenders are now being offered. In the past, the public companies provided the service to the areas; now private companies are being used to provide the service. The procurement regime is closely related to the privatization of the Netherlands bus and public transport system and the creation of 35 new transport authorities in 1998. Through the Passenger Transport Act 2000 a significant amount of turnover of urban and regional transport (by 2003, at least 35%) will have to be opened to tender.

The policy background in relation to Zaanstreek is one of attempting to achieve the following:

a) to increase coverage (public transport serves to provide coverage for as many residents as possible in the region so that they can participate in social and economic activities. This transport is meant for everyone and not for any specific target group. However, the primary users will likely be those who have no alternative but to use public transport."

b) "through improving reachability: At various locations in the region, car traffic is suffering greatly from congestion. There are also (major) parking problems in the city centres. Public transport should thus be applied as an important alternative to the automobile. Because traffic jams are only expected to increase even more strongly in the years ahead, this SoR requires that this issue be addressed in considerable detail."

c) Improving the degree of cost effectiveness: Partly due to substantial cost-cutting targets imposed on ROA, the level of cost effectiveness of public transport must be sharply improved. A major increase of the rates for travellers will not be the answer. The solution will be found by giving the operator the freedom to identify demand for transport, which will generate higher occupancy and thus higher revenues. Also, because public transport is being procured via competitive tenders, operators will be forced to work more efficiently."

The success and impact

There was within this procurement a financial target to save money – a 13% savings target – but this arose from an expectation of what might be possible. It was not a political target, but one that they thought might be reached. In the end, it was exceeded and 30% was attained.

However, the innovation dimension of this procurement is also important and the way that the procurer dealt with the functional specification is an important measure of the innovation taking place.

However, the view of the procurer is that the emphasis has been more upon cost cutting. From the Connexxion Annual Report of 2004, it is clear the Connexxion, which won the Zaanstreek tender, believes the Transport Act 2000 has reduced its turnover. “At the present stage of the liberalisation process, the public transport market has not reached a state of stability: those awarding contracts get what they ask, i.e. more service for a lower price. Operators cannot afford to be selective, partly as a result of the high exit barriers. All operators have to tender for all the concessions on offer, so as not to lose any of their market share. The result is a squeeze on margins. If Connexxion Public Transport is to continue to submit competitive tenders in the future, it must do its very utmost to achieve its objectives of passenger growth, cost control and quality assurance.”

Connexxion also identify a number of other problems with the procurement of public transport services: it believes that the maximum duration of a concession, which is at the present time is no longer than six years should be increased to eight years at the least in order to provide greater flexibility both the procuring agencies and to the suppliers.
[Connexxion Annual Report of 2004, page 12]

Procurement cycle

Identifying the requirements

- The procurement team, which is part of the Zaanstreek authority (ROA – the Amsterdam Regional Authority), developed a specification which is known as the Schedule of Requirements of SOR.

Market intelligence

- The tender was established to meet a number of basic requirements, to specify some optional requirements and with the intention that the supplier meet a 30% cost cutting target.

Tendering process

- The Official Journal of the European Union was used to advertise the procurement and the form of the process. 22 firms did respond to the notice in the Official Journal of the EU and all were sent an early version of the SOR. Three firms attended a meeting at the offices of the ROA and two further firms sent their comments in by letter. These comments were then used to build and advance the specification. The 3 firms which submitted tenders to the invitation were the 3 which attended the meeting at the ROA offices.
- The specification was broad – and mixture of MEAT and cost with a large cost saving target. The specification was reached under probably what was the old system of “technical dialogue” – there was some negotiation about the specification before the tender was written and then released.

Assessing / awarding
The assessment and award of the tenders was according to the following three main dimensions:

1. transportation aspects (- coverage function - reachability function);
2. Quality aspects (- quality of material and reliability – accessibility – implementation plan;
3. Financial aspects (- revenues - Timetable hour price additional/less work).

The period between the deadline for the supplier to send in their offer and the time when the decision of the Executive Committee of the ROAs was made was 9 weeks. The tender team needed around 7 weeks to come to their conclusions.

Contract award and managing contract delivery (and contract performance)

- The supplier is meant to monitor his progress against the contract – and if it does not provide the information, it will face a heavy fine. The ROA will employ a company to monitor the performance of the contract. The emphasis of monitoring is that the contractor provides the information. The monitoring is not done by the ROA itself; the ROA examines the material which is sent in by the franchisee.
- They are obliged to make a review after four years but they would not wish the contract to end at that point as the minimum number of years for which a contract like this should run is eight years. The supplier is obliged after four years to provide a substantial amount of information about the transport in the concession area as input for the next tender procurement. The concession period in the Zaanstreek is 6 years. Dutch law will be changed soon and then an eight years concession period is possible, but only for the next concession period.

The amount of the contract is 7 million Euro for each year for a period of 6 years. The expected revenues for the first year are just over 5 million Euro, so the subsidy will be around 7-5 million Euro for this year. Over the life of the contract, the total contractual amount is set at around 75 million Euro.

Contract performance details are enforced through any combination of the following sets of procedures and remedies. [from the Zaanstreek Procurement Draft Schedule of Requirements)

“Financial sanctions

ROA has three financial sanctions at its disposal. Firstly, the penalty for services not

provided or for inadequate performance as mentioned above (see paragraph 7.2). Secondly, a subsidy, once granted, may still be withdrawn or reduced. Thirdly, it is possible for ROA Executive Committee to issue an order to the registered operator to remedy the violation on pain of forfeiting a penalty.

Other sanctions

In addition, ROA has two other means of enforcement. The first is the enforcement of an administrative order under the General Administrative Law Act. In this case, ROA Executive Committee will itself remedy the violation and will recover the costs from the operator. The second sanction is withdrawal of the concession. These two sanctions - enforcement of an administrative order and withdrawal of the concession – will be applied with reticence and only as an ultimum remedium."

Major reason for success

In some respects the success is dependent upon the creation of a team. The procurer built a team by bringing in expertise, particularly legal expertise. He hired a legal firm in order to ensure that the tender process which they designed complied with the law and that it gave him the chance to make the best deal for the authority.
This creation of teams is however difficult and the requirement for legal expertise varies a lot between organizations and even within an organization the level expertise can differ per department or per person. It would appear that, on the basis of the experience of the legal team working for Zaanstreek, most contracting authorities need external legal advice in order to be able to set up and conduct a tender procedure that complies with EU law.

Furthermore, it is important that the client has a good knowledge of the technology which is or could be applicable. He was aware of the importance of new technologies which have to be anticipated, in particular the Chip Card ,which is sometimes known as the Octopus card and which was first widely used in Hong Kong, will be introduced at 2007. The bus mounted computer systems to provide knowledge of bus use and journeys made and which would use the card are already installed in the buses of the firm which won the contract (Connexxion).

However, it is clear in a general sense that Connexxion is not entirely convinced as a firm that the procurement of transport services has been successful entirely in providing more services to passengers and ensuring more use is made of public transport. From the Annual Report Connexxion Holding, 2004 "On the other hand, it [the government] has failed to bring about the desired growth in the number of passengers using public transport and to ensure that the tendering procedures strike the right balance between price and quality. It is worth pointing out that the main reason for the failure to achieve any substantial growth in passenger numbers is the cuts made by central government in spending on public transport."

Major impediments overcome

The national regulations which still apply are difficult in that, in this area of transportation, they provide a great deal of protection to the workforce. The regulations are vague, but they do stifle innovation. The EU regulations are more open – and naturally – are more favourable to innovation.

In the Netherlands, most conflicts concerning public procurement are being decided by the civil (private law-) courts in the Netherlands; however, public transport is an exception: conflicts regarding the procurement of public transport concessions (such as Zaanstreek) are being decided by the public law courts.

Major lessons to be learned

- Importance of teams.
- Legal advice central.
- Use of private and contractual law as well as the guidance of the directives.
- In the opinion of legal team advising, the Netherlands have implemented the EU procurement directives by simply stating – in the law – that these directives apply. There is no further law in the Netherlands that could stimulate or hamper the procurement of goods and services which are innovative.

CASE 6: Procurement of Variable Message Signage for UK Motorway Network

Country / region
United Kingdom

Short description (what was procured, what was innovative about it)

Motorway signage with variable messaging based on Rigel display technology.

From the confidential documents of the pre-qualification process obtained from the Highways Agency.

"PREAMBLE

The Highways Agency is seeking to purchase and install a number of Motorway Signal Mk3 (MS3) for use throughout the English Motorway network

The MS3 is an existing Highways Agency design and comes in three forms. MS (2 x 12) which has two lines of 12 320mm characters, MS3 (2x16) which has two lines of 16 400mm characters and the MS3 (3x18) which has three lines of 18 400mm characters. MS3's have a dual area of display which can be used for either text or matric aspects. The MS (2x12) is designed for mounting on a portal gantry provided by others. Both the MS3 types are mounted on cantilever gantries provided as part of this contract.

The signs will be driven by RS485 circuits from the Highways Agencies communications network.

The contractor will be required to develop both the sign and support from Highways Agency specifications install them and provide second and third line maintenance cover for a twelve month period. First delivery of signs will be required within 5 months of the award of any Contract.

It is expected that the contractor will manufacture electronic messages signs as part of their core business."

Procuring agency and policy background

VMS entered a design competition organized by the Highways Agency three years ago (2002) to develop a prototype sign technology for the UK. It won the competition and went into production with a sign for the Highways Agency. The contract was for a "high resolution, full matrix and fully programmable, dual Colour LED display" (VMS Ltd.).
The use of variable signs on UK motorways is the result of a need to manage traffic

flows more effectively. The need for better management arises particularly from the limited scope for expansion of the motorway network in terms of motorway widening, extension of existing routes, and the creation of new links.

The success and impact:

The technology which was developed as a result of the design competition has been sold to the Athens Olympics. The technology has also been sold in New Zealand. There is no technology which has the sophistication offered by VMS other than in the UK, according to the company.

"Following on from the important role that VMS played in the driver information systems surrounding the Sydney Olympics in 2000, this latest contract is for the installation of 24 large variable message signs, at strategic locations around Athens." (VMS)

Procurement cycle

Identifying the requirements

- This was achieved through a quasi design competition (although this was not a strict design competition) which VMS won. There was one other firm in the competition. The first contract with the Agency was very open. There was a great deal of freedom and they came up with a type of sign that had not used before. It was a graphics based sign – not just text – and nothing like it had been used before. There are some pictogram signs in other countries, but the ones used in Germany are less flexible than the UK system which VMS developed. The procurer put up the funds to allow the competition to take place.
- The Highways Agency was particularly interested in signs with high levels of visibility.

Market intelligence

- The supplier firm respondent thought that the role of consultants is very important – for the procurement process because they influence the specification and often it is they who draw up the specification. The reason why consultants are so very important is that the Agency may not have in all areas the technical skills that it may have done in the past. Consultants often "have their own agendas" and wish to keep the public sector dependent upon their expertise. This interferes with the procurement process, in his opinion.

Tendering process

- Prequalification took place via the issue of questionnaire which asked for details concerning the following information about the firm: Experience in the following areas: Optical Technology, Message Sign Control Electronics,

NMCS2 Interface, Software Development, Enclosures, Cantilever Structures (Including Mounting Brackets & Interface Frames), Installation, Traffic Management. In addition, the questionnaire asked for information about a the importance of the turnover from message signs from the business.

- When they advertise within the OJEU, they aim to give a prospective supplier enough information to know what it is they wish to order and to ensure that a supplier is going to be found that will provide a technology that is compatible with the core business of that firm. Some firms will bid for work that will be system integrators but it is vital for the HA that these firms will provide a product from within their own capabilities. This is because quality and resilience are important issues for the HA. Once the PQQ has been returned, the HA normally chooses 5 suppliers; sometimes it can be fewer.

- In the case of the signs, the Agency paid for the firms to come up with the design. The firms did not have to pay for the research they carried out from their own budgets, but had their development costs met. This was a "Development Programme for two Firms". This became the specification which the Agency then used – and VMS had the contract to manufacture. In MJ's view, the line has to be drawn at some point – the specification has to be established and the design competition is a good time to do this.

- Linked to this is the fact the IP was then allocated to the Highways Agency. In most cases where VMS Ltd provides for the Agency, it will retain the IP. On this occasion however, the HA kept the IP as the HA had supported the design context.

- The tendering process for the design was linked to and part of the same contract for the right to manufacture the sign system itself and to deploy it on the road network. The contract was for a five year period.

Assessing / awarding

- The design was reviewed in house and involved mainly the Technology Equipment Procurement Directorate of the Agency. Another directorate, the Safety Standards and Research Directorate is meant to be closely involved with the innovative aspects of highways technology: in practice, the TEPD is very closely concerned with the procurement of new technology and with innovation and the issues which arise from it, including the IP aspects. The tender evaluation panel were therefore just HA staff (Andy Wilkins, Ken Brooks, Phil Whitham) and a consultant (WSP). The MS3 is an existing Highways Agency design. The contractor was to develop (manufacture) both

the sign and the support, install, plus provide 2nd and third line maintenance.

Contract award and managing contract delivery

- As noted above, the contract was awarded to VMS Ltd and they took the right to manufacture the major share of the work. The IP however was then lodged with the Highways Agency, which then licences VMS to use the technology should VMS wish. The IP relating to hardware and software became the property of the Highways Agency. The HA requests a minor amount for licensing.

Major reason for success

The design competition, which demonstrated the superiority of the design produced by VMS Ltd. gave the Agency a good product. The technical sophistication of the product, which won a Queen's Award for Enterprise in Innovation, is clearly to develop a good technology. This then prepares the way for further and related sales, mostly to public procurers.

Major impediments overcome

The role of consultants is important in procurement. In the view of the supplier, standards imposed by consultants are not always helpful. In this case, the role of consultants was not a major barrier to the development of a successful technology; more generally though, it can be a barrier.

Major lessons to be learned

- The Agency, in the view of firms is often too prescriptive in what it asks for. The private sector is far more open and flexible. The private sector tends to ask "what can you do for us", whereas the public sector tends to say what it wants.
- It should be noted, that within the UK, these further sales, which provide the justification for public procurement of innovation activities, are often sales to agencies or consortia, funded by public money, but which are privately managed. We should note that many procurers working to procure goods or services for the public sector are in fact private firms operating under contract to the public sector.
- When prototyping is required, the HA will normally pay these costs – it is the case however that in some circumstances, the HA will defray the costs of some but not all of the competitors in order to ensure that no one supplier becomes too dominant. The dominance of suppliers is an important issue for the Highways Agency and it clearly has a view about how to avoid market dominance.

Control of Risk

- The award of contract is often done on a quality to price ratio. In a q to p ratio, the rating of the proposal is carried out according to whether the client needs a highly reliable product or service. The example of consultancy service is one where the q to p ratio is likely to be for a higher premium on quality; whereas with manufactured, commodity items, the premium is likely to be on price. In the VMS case, it was not possible to find out what the rating had been.
- The Highways Agency has had difficult experiences trying to access important technology in a field where suppliers go out of business. It has the view that design rights are important and it attempts to obtain these where possible in order to control risk. This is not of course risk in the short term, but risk in the longer term, which may arise when the procurer seeks to procure again the same or a similar item.

- Highways Agency procurement used to employ retentions, but this is no longer the case and the Agency now uses a dual supply route in which a failure to supply by one party will give a commercial opportunity to the other supplier. Hence, retentions are no longer needed as the contract, by providing a benefit to the second supplier, provides an incentive to comply with the first supplier.
- In relation to question of whether the loser in a design competition gives its IP to the HA, this is not the case. If a tenderer has copy-righted any of its tender submission, then if they are unsuccessful, they would retain this. Also tenders are often submitted on a commercial in confidence basis which the HA invariably respects. The HA does not retain IPR on tender submissions.

CASE 7: Energy Saving Procurement Uni. Athens / CERES

Country / region

Italy (Consip Activities)

Short description

CONSIP has adopted a strategy to save energy in public administrations across the country via energy performance contracts. The basic idea is that the supplier of the energy services is motivated and encouraged to optimise energy consumption and resource management to improve his profitability.

In July 2002 the first "Consip" national frame contract for the provision of heating services to a large number of public buildings was signed. The main feature of this performance contract was a settled temperature (i.e. 20°C) to be preserved for 5 years inside the buildings (public offices, schools, prisons, universities, etc.). The services included in the contract are the following:

- Fuel supply
- Operation and maintenance (O&M) of the heating facilities
- Remote control
- Outsourced legal responsibilities
- Outsourced technical and administrative issues
- Regulatory and technological upgrade
- Improvement of energy efficiency and consequently pollution reduction

The maximum amount specified in the contract was 855 Million Euro divided into 12 geographic areas covering the whole Italian territory, for 5 years. The regional breakdown of the budget and the corresponding suppliers selected after the public call is the following:

Lot	Regions	Suppliers	Max value of the frame contract (Millions €)
1	Val d'Aosta, Piemonte, Liguria	Cofathec Servizi SpA; Carbotermo SpA.	155
2	Lombardia	Dalkia sca; Siram SpA; Elyo Italia Srl; Sircas SpA; Smirscesi Srl; Milano Petroli SpA; Olicar SpA; Petrolifera Estense SpA; Eredi Campidonico SpA; FEN Energia SpA	181
3	Veneto, Friuli Venezia Giulia	Siram SpA; Consorzio Cooperative Costruzioni; CPL Concordia Soc. Coop. a r.l.; Manutencoop Soc.; Coop. a r.l.; Orion Soc. Coop. a r.l.; Cefla Soc. Coop. a r.l.; Cofathec Servizi SpA; Energy Services Srl; Teckal Srl; CSI Consorzio Servizi Integrati; Focalia SpA	139
4	Trentino Alto Adige	Meta SpA; Sinergas Srl; Ambrogio Moro SpA;	23

5	Emilia Romagna, Marche	Siram SpA; Consorzio Cooperative Costruzioni; CPL Concordia Soc. Coop. a r.l.; Manutencoop Soc. Coop. a r.l.; Orion Soc. Coop. a r.l.; Cefla Soc. Coop. a r.l.; Cofathec Servizi SpA; Energy Services Srl; Teckal Srl; CSI Consorzio Servizi Integrati; Focalia SpA	129
6	Toscana, Umbria	Cofathec Servizi SpA; Restiani SpA	52
7	Lazio	Siram SpA; Consorzio Cooperative Costruzioni; CPL Concordia Soc. Coop. a r.l.; Manutencoop Soc. Coop. a r.l.; Orion Soc. Coop. a r.l.; Cefla Soc. Coop. a r.l.; Cofathec Servizi SpA; Energy Services Srl; Teckal Srl; CSI Consorzio Servizi Integrati Focalia SpA	72
8	Abruzzo; Molise	Meta SpA; Sinergas Srl; Ambrogio Moro SpA	22
9	Campania	Dalkia sca; Siram SpA; Elyo Italia Srl; Sircas SpA; Smirscesi Srl; Milano Petroli SpA; Olicar SpA; Petrolifera Estense SpA; Eredi Campidonico SpA; FEN Energia SpA	26
10	Basilicata, Calabria, Puglia	Siram SpA; Consorzio Cooperative Costruzioni; CPL Concordia Soc. Coop. a r.l.; Manutencoop Soc. Coop. a r.l.; Orion Soc. Coop. a r.l.; Cefla Soc. Coop. a r.l.; Cofathec Servizi SpA; Energy Services Srl; Teckal Srl; CSI Consorzio Servizi Integrati Focalia SpA	31
11	Sicilia	Siciliana Carbolio SpA; Servizi Energia Calore Srl.	21
12	Sardegna	FCP Srl; Farnos Srl	7

Procuring agency and policy background

The agency responsible for the preparation and the implementation of the procurement, as well as the elaboration and the monitoring of the contract was Consip. Consip Spa is a limited company under the Ministry of Economy and Finance (MEF), in charge of the implementation of the *Rationalization Program on Public Spending* for goods and services, in the context of which Consip can organise the purchases of public agencies and bodies in the sectors of public administration, health and education.

Energy saving procurements is part of the objectives of Consip's overall mission. Consip's Energy Unit, through its systematic involvement in relevant research and study activities, realised that there is sufficient space for action in the area of the procurement of heating services as they absorb 47% (about 1.5 billion Euro per year) of the expenditure on energy of the public sector and accounts for about 5% of the Italian energy market. So in 2000 the Energy Unit of Consip prepared and presented to the management of the company and to the MEF its strategy for energy saving pro-

curements accompanied with extensive demand and supply analyses. The follow up of these documents was the decision to promote performance-based contracts as a means to enhance energy saving and cost efficient procurement. The procurement of heating services in the entire public sector through performance contracts was initiated in 2001 to cover on a mandatory basis all ministries and local authorities and on a voluntary basis the rest of the public sector[10]. The supplier is compensated only after supplying the service, respecting the predetermined levels of performance.

The first contracts including ministries, local authorities and other interested public agencies were signed in 2002 to cover a period of 5 years. An amended frame contract is now being prepared for the implementation of a new round of procurement of heating services in the public sector.

The success and impact

The overall results may be summarised to the following table:

Maximum value of the frame contract	855 Millions €
Signed contracts	> 770 Millions €
Building volume	44.343.540 (m3)
Number of Buildings	4.832

According to one of the firms selected, Elyo, which supplies heating services in the areas of Lombardia and Campania, the frame contract triggered innovations in two main operational areas: First, innovations for the modernisation of the plants in order to comply with the requirements of the contract and the national regulation. Second, technological innovations that improved further the performance of the plants and facilitated the monitoring and maintenance operations. These innovations include low temperature plants and incorporation of burn control, thermo - regulation control and wireless control features.

As a result individual customers as well as the entire public sector benefited in terms of:

- Compliance with the ongoing regulations (national energy strategy);
- Savings of energy expenditure;
- Modernisation of the heating plants in order to achieve high level performance;
- Pulling down the CO_2 emissions;
- Streamlining of the procedures, since energy services were entrusted to a

[10] The alternative approach was a procurement entirely led by the customer. In this case the execution of the procurement was to be undertaken by the Energy Management of the interested public agencies.

small number of suppliers, each one of them responsible for a large number of public buildings allowing economies of scale.

Many of the suppliers benefited to the extent that they could exhibit significant know how, gain reputation and acquire a leading position in the market of heating services in the public administration.

Procurement cycle

Identification of requirements

Before proceeding to the elaboration of the frame contract Consip had a clear overview of the energy requirements of the public administration. This was achieved through an extensive demand analysis in cooperation with all public authorities and through the use of the records on prior energy consumption. A specialised team in the context of the energy unit of Consip undertook this task, as well as to elaborate and submit to the MEF a detailed report.

Market intelligence (market research etc.)

The same team conducted the supply analysis and the market research. In this context, Consip's team prepared and published a market consultation document to make the scope of the procurement transparent for all interested suppliers. Market representatives and potential suppliers were invited to participate in the consultation. As a result Consip acquired good knowledge of the available technologies in the national and international markets and was able to set the price and quality benchmarks for the procurement.

Tendering process

For the purposes of the procurement, the country was divided into 12 geographic areas, with a fixed number of companies selected to supply the public agencies in each of these regions.

For the calculation of the most economic advantageous tender (MEAT) Consip set three cost drivers. Namely:

a. The difference between inside and outside temperature, given that the temperature in every building should be fixed on the level of 20^{o}C.
b. The volume of the building, measured in cubic meters.
c. The number of hours supplying the service on a daily basis (e.g. more or less than 8h/day).

Consip prepared the tender material with the three drivers being the determinants in the formula for the evaluation. Innovation was not among the prerequisites, but indi-

rectly the tender was providing incentives to technological innovations needed for the required performance levels to be satisfied.

Assessing/awarding

The tenders were evaluated by a special committee appointed by the MEF and composed of external experts. Since the performance requirement had been set ex ante, the price per unit of supplied service (given the cost drivers' levels) was the main criterion complemented by the experience and expertise of the tenderers.

Contract and managing contract delivery

The contracts for the supply of heating services were signed between Consip on behalf of all public administrations (following the contract terminology these are called Contracting Administrations) and the suppliers. After the signing of the contract individual Contracting Administrations could send (until 31st December 2002) to the contractors their supply orders, under the conditions of the contractual agreement between Consip and suppliers. After the acceptance of the order individual supply-operation contracts between suppliers and Contracting Administrations were singed and verified by Consip signalling the initiation of the supply.

The payments of the suppliers are made on a monthly basis. A temperature monitoring mechanism is established and Consip verifies the good execution of the contract based on monthly monitoring reports. Consip interacts with the contracting administrations, collects complaints and all the relevant information enriching its know-how and experience in managing such contracts. Based on this experience the Consip team prepares the new framework contract for the provision of heating services beyond 2007.

Major reason for success

The project so far has been proved to be quite successful in terms of response, participation, geographic coverage and cost saving. The major reasons for the success of this procurement are the following:

1. The contract provides high incentives to the suppliers to innovate introducing cost saving heating facilities, which improve their profitability without lowering the quality of the services provided. This is achieved through the performance-based reward of the suppliers.
2. The administration of the procurement by a single authority that had both the skills to design and implement such a contract and the knowledge of the demand and supply conditions to manage the entire procurement cycle.

Major impediments overcome

The major impediment to overcome by the contract relates to the market complexity of the specific sector, especially after the energy market deregulation, as well as the different levels of awareness in the public agencies. Additional impediments originate from the need to comply with a variety of requirements, i.e.:

- Promotion of environmental friendly technologies;
- Reduction of costs (COST = QUANTITY * PRICE);
- Provision of financial resources for the technological modernisation of the plants;
- Limited reductions in power and gas supply price and the complexity of the market required high level skills on contracting and regulatory issues, not available in all public agencies.

At the supply side the key difficulty was the fierce competition in the energy supply market leading to low margins and the need to change mind sets towards value added services and the provision of built-in solutions.

Major lessons to be learned

- Performance contracts may be very efficient in cases where high quality of services and cost effectiveness need to be combined with the lack of technical skills and competences in the procuring agencies. It may be seen as an indicative way for the procurement, installation and operation of integrated systems without allocating many resources in the ex post control and surveillance of the equipment. In such a context the supplier bears full responsibility for the good operation of the systems and has many incentives to innovate in order to secure on the one hand his payment and on the other a higher profitability.
- The central procuring agency needs to dispose of significant skills in order to conduct the necessary extensive market research and demand analysis, which lead conclude to a well designed tender and contract. The centralisation of the highly skill-intensive stages of the procurement cycle constitutes an effective means to stimulate innovative procurements without loosening the cost effectiveness requirement.

CASE 8: Procurement of public key infrastructure **Uni. Athens / CERES**

Country / region

Netherlands

Short description

This is the case of an integrated central e-government infrastructure for issuing and using Public Key Certificates (PKC). These certificates allow any type of electronic transaction

- between citizens and public services or
- among the services of the public sector

validated by electronic signature. The procurement involved the development, installation and maintenance of a top level system aiming at servicing the entire public administration.

The innovative aspect of the procurement was that an integrated infrastructure was set up, allowing each public employee and each citizen to be e-authenticated in order to access this infrastructure using public key certificates. Another innovative aspect is that the infrastructure was consistent with both the European (developed by EESSI) and international standards (mostly developed by IETF). This condition allows the generalised use of the service, while it assures full compatibility, meaning that any authorised certificate service provider (CSP) can join the system. The technology existed by the time of the procurement, but the standardisation process was still evolving and it was the first time that a system like that had to be developed to serve applications of such a large scale.

The company selected to implement the project is the PinkRoccade. The budget allocated was 760.000 Euro (excluding VAT) including:

- the initial investment for the creation of the PKI root infrastructure and
- operational costs for a 6 year period.

Procuring agency and policy background

The procurement was part of the actions of the Dutch government for the modernisation of the public sector. A task force, PKIoverheid, was set up in 1999 to develop the requirements (Programma van Eisen) for the public key infrastructure (PKI). The introduction of such an infrastructure was mandatory according to the Directive 1999/93/EU for the application of electronic signatures in the public sector. The standards were developed by the ICT Standards Board (ICTSB) in the context of the European Electronic Signature Standardisation Initiative (EESSI).

The PKIoverheid was later incorporated into a broader organisation created in 2001 by the Dutch Ministry of the Interior named ICTU (Information and Communications

Technology Unit). The ICTU was entrusted with the structural development of e-government. Its main aim is to advise the public sector on ICT applications and to implement large scale ICT projects on behalf of the Dutch government. Each one of its programmes focuses in the interaction between government and citizens enabled by ICTs. In this context, ICTU is responsible for the organisation and implementation of ICT public procurement, complying with the European Directives and the national legal framework.

The success and impact

The project succeeded in technological terms and the diffusion of the system in the entire public sector is now taking place:

- The PKI is increasingly being used in securing websites of the municipalities, government agencies and other public sector sites.
- PKI government certificates are currently being used by the healthcare personnel (400,000 people) and all Defence Department personnel (100,000 people), while by 2006 PKI certificates will be included in the electronic citizen ID card and a rollout of several million people is expected.

An additional indication of success (leading to higher utilisation) was the inclusion of the certificate of the Dutch government PKI in the most recent versions of the most popular web-browsers (MS Internet Explorer, Mozilla Firefox) as a trusted certificate.[11]

The management skills and the expertise of the ICTU have been well recognised and ICTU experts are frequently invited to speak in seminars and expert groups on PKI and e-authentication.

Procurement cycle

Identification of requirements

The Taskforce PKIoverheid during 1999 – 2001 conducted a demand analysis in the public sector. This information was utilised for the establishment of the technological requirements, along with the list of requirements set up by careful analysis of the European standards of EESSI (where members of the Taskforce participated actively). The final description of the technological requirements was prepared by the Taskforce PKIoverheid in cooperation with external experts.

Market intelligence (market research etc.)

Taskforce PKIoverheid during 2000 – 2001 made the necessary market and product

[11] Not all public key certificates are supported by the web browsers, which means that they don't allow the encryption to take place in the corresponding computer. Including the Dutch certificate demonstrates both its potential and the determination of the Dutch government to make it as user friendly as possible.

research. The Taskforce cooperated with the TTP.NL project, which constituted a voluntary accreditation scheme for electronic signature service providers in the Netherlands and also performed trial audits in several organisations. Through the TTP.NL project, the Taskforce PKIoverheid was kept informed on market developments.

The authentication mechanisms of the new infrastructure constituted at that time an untested technology. Despite the technological risks associated with the early stage of the standards, ICTU supported the procurement based on the assessment that the full exploitation of the potential of the new technology would lead to the minimisation of bureaucratic processes and the effective transaction within and with the public sector. The establishment of a secure system allowing for the electronic exchange of official public documents and their verification with electronic signature was considered as an integral part of this effort. This assessment was based on a demand level analysis.

A working group composed of legal and technical experts was set up in order to tackle all technical issues concerning the establishment of the infrastructure and to secure the feasibility of the project in terms of compliance with the legal and institutional framework (governing public sector operations and data protection etc).

Tendering process

The tendering process was implemented 2001 – 2002 by Taskforce PKIoverheid in cooperation with the Ministry of Interior (BZK). The Taskforce first determined whether the installation, maintenance and operation of the PKI could be assigned to an existing government organisation, but eventually it was decided to proceed with a public tender. Potential suppliers were asked to provide a plan for implementing a secure PKI root infrastructure.

In cooperation with internal and external experts employed in the project for nine months, the Taskforce organised the tendering material and process. The set of technical requirements was already prepared, so, more effort was placed upon the preparation of a *model agreement* that was describing all legal requirements, including security guarantees and liability qualities of the tenderer. The degree of compliance of this model agreement was part of the selection criteria (see below). An international call for tenders was published in the Journal of Official Publications of the European Union at the end of December 2001.

Assessing/awarding

For the assessment of the contract the Taskforce PKIoverheid in cooperation with the Ministry of Interior employed a number of internal and external evaluators. The set of the evaluation criteria was divided into three sections:

1. *Accomplishment of the technical requirements*: The tenderer should prove his

experience and provide a coherent proposal on how he was going to fulfil the technical and operational requirements of the project.

2. *Financial issues:* For the financial evaluation two separate cost drivers were considered: (a) costs related to the initial provision and overall technical support on PKI and (b) variable costs depending on to the amount of certificates issued.
3. *Compliance with the model agreement*: The tenderer should prove how he could accomplish the requirements of the articles of the agreement, especially as far as liability and security guarantees are concerned.

The security guarantees by the service provider (rather than cost effectiveness) was the most significant criterion for the selection of the supplier.

Contracting and management of the contract

From the received tenders the company of PinkRoccade Infrastructure services was selected to host the root infrastructure, due to their proven track record of secure and reliable e-government services and PKI technology. The contract (in the form of a Service Level Agreement) was signed in August 2002 between the PinkRoccade and the Ministry of Interior. PinkRoccade had to supply the root certificate (a kind of electronic authentication seal attached to each new key certificate produced) and the central infrastructure. The duration of the contract was 6 years. A few months later, in December 2002, the root certificate for the Dutch government PKI was generated at PinkRoccade and used to sign the domain certificates of the Government, Business and Citizen domains.
The monitoring mechanism includes the following:

- The submission to the PKIoverheid of monthly reports by PinkRoccade in which the company provides detailed evidence on its compliance with the Service Level Agreement.
- There are periodic meetings (about 2-3 times per year) between PKIoverheid and PinkRoccade representatives to discuss the status of the infrastructure. During these meetings PKIoverheid also checks the log files (track record of log-ins and certificates issued) kept by PinkRoccade.
- Independent auditors conduct annual WebTrust audits of the root infrastructure. Since the PKIoverheid infrastructure is also used for confidential electronic communication within the government, the Dutch Intelligence Service (AIVD) periodically audits the root infrastructure to ensure its security.

Major reason for success

1. The system conformed to the requirements set by the 'Programma van Eisen' aiming at wide scale applications. This had not been done before elsewhere since most other national PKI's were based on a single, government owned

monolithic certificate service provider, issuing certificates to the public.

2. The root certificate of the Dutch government PKI was recognisable and operational over web browsers such as Microsoft Internet Explorer and Mozilla, allowing for the wide diffusion of the technology among users. It is the first time that a national government root has been granted this feature. This is proved to be a very user-friendly characteristic in order to make the Dutch government PKI a widely used and trusted infrastructure.
3. The fact that the Ministry was prepared to finance the maintenance of the PKI for several years until the technology matures and a market emerges.

Major impediments overcome

For the procurement, the ICTU and the PKIoverheid had to work with standards and specifications which were still under development and not yet finalised by the European standardization institutes. The internal assessment helped overcome this impediment.

It took time for the PKI to become a technology that was actually considered useful and necessary. At earlier stages PKIoverheid taskforce accepted significant negative publicity; it was not until very recently that the policy authorities and the wider public endorsed this innovative public spending.

Major lessons to be learned

1. When implementing a large project involving the procurement of a nascent or unproven technology, government sponsoring and political support is of great importance. In this case the Ministry of Interior was prepared to finance and promote the project long enough, until the technology matured. A crucial question is *how patient the procurer should be.* Although there is no general optimum level of time-to-performance for a technology involving public spending, some guidelines are needed as to how patient clients could and should be. This is a major trade off that innovative procurement is required to look at.
2. When implementing an e-government tool for (in this case) e-authentication, it is very important for the success of the project that there are also practical business-cases in which the tool can be used. If there are no previous applications of the tool before its roll out, there is a very large likelihood of failure. PKIoverheid faced this problem until in recent years a stronger focus on user authentication and security has created viable business cases.
3. In the case of projects aiming at the development of tools or standards for digital security, it is very important that government bodies at a higher level stimulate the use of these tools / standards or (preferably) that their use is mandated in laws or regulations as a means to create a market. Otherwise government organisations will be very slow to adopt new security measures for which they see little usefulness and which they consider as expensive and

restrictive.

Case 9: Benefit Card Procurement **PREST**

Country / region

UK

Short description (what was procured, what was innovative about it)

The Benefits Card Project was launched in 1996. Its aim was to develop a benefit card system for two customers, the Benefits Agency (then the Department of Social Security DSS) and the Post Office Counters Ltd. The system was to be provided by Pathway, a company owned by ICL, the computer firm. The Benefits Agency was concerned with ensuring that benefits payments were paid to benefit claimants. The project sought to create an information technology system that would connect the Post Office to the Benefits Agency and provide a means of transferring payments from the Agency to claimants through the Post Office. The project was carried out as a public finance initiative (PFI) project and was one of the first IT projects operated by the Government.

This was a project to introduce a new technology into a new set of organisational relationships. Because Pathway accepted more risk than the other partners, its bid was regarded as better value and it won the contract.

Procuring agency and policy background

In the UK, the proposal to pay social security and other benefits had been under discussion within government since 1988 when in 1994 the invitation notice to suppliers was issued and the process of identifying a suitable contractor began. The use of PFI as a method of procurement was difficult; there was little experience of it, and the project itself was complex. Most importantly, the project had two major clients, the Department for Social Security and the Post Office.

In 1992 a study was initiated to identify the cheapest way to provide Benefit Books to Benefit Claimants and it was discovered that a statistical method was available that could be used quantify the level of fraudulent claims. These simple methods were, however, not considered and senior officials and Government Ministers began to see the project as a means of justifying the introduction of a Benefit Card.

The NAO Report of the enquiry into the failure of the Benefit Card (really a part failure as while the card part of the project failed, the computerization part of the project for the Post Office was successful) notes the importance of the project within the first tranche of PFI projects. “In 1996 the Benefits Agency and Post Office Counters Ltd

jointly awarded a Private Finance Initiative PFI contract to Pathway, a subsidiary of the ICL computer services group. The Benefits Payment Card project was intended to replace by 1999 existing paper based methods of paying social security benefits with a magnetic stripe payment card, and to automate the national network of post offices through which most benefits are paid. The project was vast and complex, and estimated to cost some £1 billion in payments to Pathway. It was also one of the first PFI Information Technology contracts. The project was a tripartite venture, requiring all three parties involved to meet their contracted obligations for it to be successful."

The success and impact:

By 1999, the project had experienced considerable difficulties and it was decided that the benefits card system should be stopped, but that the computerized system for the Post Office should be continued. Eventually this system was rolled out and has been a success.

Procurement Cycle

Identifying the Requirements

- The procurement of the Benefit Card and associated IT systems was first discussed in 1988 when the Monopolies and Mergers Commission made its recommendation that the Post Office consider changing the basis on which it did business with its major clients and move away from annual to long term multi-annual contracts. Such a longer-term contract with the Department of Social Security was eventually signed to support the Benefits Payment Card project. The procurement was a very long running project and was a major government priority based on a long term commitment to automate benefit payments by using the Post Office.
- A substantial amount of work was done to identify a specification, but after contract signature with Pathway, there was a large number of issues yet to be agreed: as the NAO report notes, the contract between the two purchasers and Pathway included 289 agreements to agree later the detail of aspects of the service."

Market Intelligence

Tendering Process

- "In November 1995, the team established to manage the tendering and contract process halted their detailed negotiations to wait until a contractor had been selected. By 29 February 1996, ITTs were issued to three bidders and

three bids were received, from ICL Pathway, IBM and Cardlink on 21 March, were all priced above the level acceptable to the purchasers and only one bid was compliant in terms of risk acceptance. This bid was the bid from Pathway. 16th April 1996 Invitations To Retender were issued to all three bidders in order to obtain affordable and compliant bids. The retenders were received on 22nd April."

- It is noted by the NAO in their report that the need for risk transfer was not properly understood by the tenderers. Thus, while the Prospectus, the Statement of Service Requirements and the Statement of Capabilities did refer to the nature of the risk and the importance of transferring it for the project to quality as a PFI, the client did not examine and discuss this very important part of the ITT with the bidders until far too late. The NAO report notes: "where such unique and significant liabilities are involved, it is now recognized as good practice to reach a good understanding with service providers much earlier in the process".

- The NAO also reports that, so far as this issue was concerned, there was a deficit of advice from government on this question and the purchasers therefore had to develop their own strategy.

- It is also clear that such a condition as was applied ruled out, at a stroke, all the other bids. The bid from Pathway was the only one that could go forward as it was the only one to meet the PFI criterion. (NAO, page 63)

Assessing / Awarding

- The assessment and award of the contract was carried out by the Procurement Authority, a large team of procurement professionals from each client (the DSS and the Post Office) helped by other relevant staff with a range of professional expertises, including lawyers, IT, training and other specialists. The Procurement Author then identified risk registers for each of the bidders, so that it could report these to the Project Management Board.

- The Authority was controlled by a single director who reported to the Project Management Board. Risks within each of the bidders were identified on a scale of "A-Class" risks or show stoppers which could halt the project in some way or do it serious harm. "B-Class" risks were those which could give rise to substantial financial and these were further classified by the likely cost liability [£5 million, £1-£5 million, and less than £1 million]. "C-Class risks" were the minor

ones.

- A number of problems were found with Pathway's bid, some of which might have prevented it from succeeding. While Pathway's technology and system design was already working in the context of the Post Office of the Republic of Ireland – albeit at a smaller scale so that it would need to be scaled up significantly to fit the UK case – the technical evaluators employed to review the bids took the view that Pathway's overall proposal was less sophisticated and less likely to succeed than either of the other two bidders.
- It was initially proposed in 1994 that the Procurement Authority should consider a piloting phase of the programme in which two firms would be asked to develop and test a solution. It was noted by the NAO that on this occasion, the purchasers did not adopt this approach as it would have delayed the project.

Contract Award and Managing Contract Delivery

- The Pathway consortium which implemented the project was created as a special purpose vehicle which comprised three partner organisations: ICL, De La Rue and Girobank.
- The story of contract delivery is long and complex. The major issue for Pathway, the supplier, and for the Government (the client) was that risks, which often had been identified before hand, proved more likely to happen than forecast: furthermore, their implications (2nd level risks of consequences) were also more serious than forecast. A number of key delays, involving Pathway on the one hand and the DSS on the other, led to the ultimate failure of the card side of the project.
- The award of the contract to Pathway took place because it, and it alone, was able to offer a bid that met the stringent financial criteria that were required. The other two groups, while having comparable technical competence, were unable to offer to offset the risk of benefit fraud.

Major reason for success / failure

Factors that made part of the project fail include the following:

Procurers were under time pressure. The NAO reports in its study that, in its opinion (that of Sir John Bourne and his team in the NAO) that the timescale of the project was too challenging.

Procurers were not sufficiently aware of the technical challenge faced by Pathway and may have had unreasonable expectations about its ability to deliver.

The procurement was tripartite – while there were two procurers and one supplier, the procurers owed each other obligations under contract. The fulfilment of these obligations between procurers was material to how well the supplier could meet its obligations under the contract with the procurers. Thus, where conflicts of interest arose between the procurers, Pathway's ability to deliver under the contract was compromised.

The risks that were likely to arise were correctly identified by the procurers, according to the National Audit Office Report; however, the procurers did not identify sufficiently well how likely these risks were to occur, what effects these risks would have, and how best these risks could be mitigated. Risk registers were not shared in any systematic way.

The contract which was agreed between the procurers and the suppliers was not complete and did not include all the relevant or necessary details. Why these details were not subject to contractual definition is an interesting question.

The risk which Pathway faced was considerably larger than what the other firms would bear. It is strange that it exposed itself to such a large risk, compared with the other bidders. These other bidders were Cardlink and IBM.

> "This was deemed to represent transfer of fraud risk, which was considered essential for the project to qualify as PFI and not count against public sector capital expenditure. The other bidders had priced this liability into their bids pound for pound. The choice the purchasers felt they had was therefore either to accept the Pathway bid or to not proceed with the project at all."

Thus, as Pathway was the only organisation to accept the liability for up to £200 million of benefit fraud over the lifetime of the contact, it was the only supplier which met the PFI criteria. It was a requirement that if the scheme was to proceed, it had to proceed as a public finance initiative (PFI) and in no other way. However, as Pathway was the only supplier to assume the transfer of fraud risk, it was, in effect, the *only* supplier.

The losses which could accrue to the Department of Social Security were greater than planned and had the potential to undermine very substantially the business case for the card system.

Quantifying the losses

On the 18th August, 2000, the National Audit Office Press Notice announced that the

Cancellation of the Benefits Payment Card Project [HC 857 1999/2000 18 August 2000 ISBN: 010556947X Price: £13.10] had cost all the main parties considerable amounts of money with the "Department of Social Security spending some £127 million in nugatory system development". The failure of the project, the report went on to note, led to a lost opportunity to prevent benefit fraud, with over "£300 million forgone in lost opportunities to prevent it."

The other purchaser of the system was Post Office Counters Ltd. Post Office Counters made charge in its accounts of £571 million pounds. The computer company ICL made charges in its accounts of £180 million.

The PFI route for procurement was chosen in order to reduce the risks to the government and to Post Office Counters Ltd by allowing them to invest in a large scale IT system which they would not have the capital to fund.

Major impediments overcome

Major lessons to be learned

the NAO reports the following:

NAO, 2003

The NAO report on the failure of the benefit card may not arise from a single case but from a number of causes. The report indicates that the project failed because there was not sufficient attention paid to the needs of users and that these were not articulated sufficiently well during the design and development.

The report notes that the Benefit Card project was a very large project, and one of the largest undertaken and most complex. The risks involved in complex projects were not properly understood by those engaged in the project and not professionally managed. Provisions in the contract to ensure that the purchaser was able to enforce its contract with Pathway were not utilized fully, but this was in some instances because the purchaser had not carried out its part of the contract.

The business case for this project was also not fully outlined and understood.

The training of staff involved in the use of IT systems such as the Benefit Card may well have been overlooked. It is not certain that the failure of the system arose because of a lack of training activities, but if the training requirements had been thought about before, then the project might not have gone so wrong.

It appears that in the case of the Benefit Card, the failure to deliver a system was compounded by the lack of contingency planning.

The NAO also notes that, government departments should identify a "single Senior Responsible Owner is appointed for all projects" and that this person be responsible

for projects that involve more than one agency or department". Furthermore, it is essential that "personal objectives set for these individuals" and that these "include the responsibilities of this role."

A lack of openness in contracting may have led partly to the failure of the project. The report notes that: "In all dealings with suppliers, both on new and existing projects ensure that activities aimed at co-operation and open communication are encouraged. Nominate a contact point for contributions to the database of lessons learned and notify the Office of Government Commerce of all current and pending projects in order to benefit from lessons learnt and to contribute to the ongoing database."

Ensure that pre-contract review of supplier's plans is carried out for all major IT projects and that review continues through the life of the project. " **[NAO, 2003]** These changes which the NAO recommended have now become part of the Gateway Process for procurement, a system of ensuring control and good value for money of procurement projects undertaken by government departments and agencies.

5 Country Overview

The following chapter gives an overview of procurement practices and structures. Before each of the nineteen countries will be documented in some detail, a short characterisation of each country shall give the quick reader an overview of major issues and processes per country. The countries covered are shown in overview 5.1.

Overview 5.1: Country selection

	Fraunhofer ISI	PREST	Lund University	University of Athens/ CERES
EU Member Countries	Germany, Austria, Luxembourg*, Netherlands	United Kingdom, Ireland, Spain, Belgium	Norway, Sweden, Finland, Denmark	Greece, Italy, Portugal, France
Extra-European Countries	Japan, Australia	USA, Canada	_	_

* For Luxembourg several attempts had been made, major structures and activities as regards the issue of procurement and innovation could not be detected.

5.1 Short Characterisation of Countries

The procurement systems of the countries analysed vary to a high degree. In a few countries explicit efforts are being made to activate procurement efforts for the sake of innovation while others simply have not, up to Summer 2006, taken into account innovation as an important dimension of their procurement systems and activities. Moreover, there are strong differences in the organisation of public procurement, especially at the national level. Some countries have a strong national procurement agency with clear guidelines and strategies, while others have a very scattered system and a low level of central organisation. In those cases, where innovation has not yet played a major role and where national structures are little developed, there is little or no explicit documentation of a connection of procurement and innovation.

The *US-American* public procurement occurs at *two distinct levels – federal government and individual states.* Whilst there is some cross-government policy, each Federal Department or agency has a *significant degree of autonomy in its procurement policy.* Federal Government spends approximately $300 billion per annum. The top five Federal departments are Department of Defence (68.3%), Department of Energy (6.9%), GSA (5%), NASA (3.8%), and Department of Veterans Affairs (2.8%) (Federal Procurement Data System, 2003 Federal Procurement Report). State budgets are also

significant, for example the State of Virginia spends around $4.5 billion per annum on goods and services. *All states have a central procurement office and all have some formal procurement policies.* In 47 of the 48 states, formal procurement policies are codified in either statutes or in procurement manuals, and 26 codified them in both statute and the manual. In 18 states, they are also specified in other sources, mainly promulgated regulations and administrative codes. As of 1996, 14 states have adopted the American Bar Association model procurement code (NASPO, 117). The *focus of procurement policy has been opportunities for small businesses, women owned businesses, and businesses owned my minority groups. Where innovation is stated, the main thrust of policy is the introduction and extension of electronic procurement tools* such as http://www.fedbizopps.gov/, a single port of call for industry advertising federal government procurement opportunities over $25,000. However, *procurement policy is highly regulated by other socio-economic issues that are regulated for and take precedence.* So, for example, section 508 of the Americans with Disabilities Act, has led to significant innovation. If ICT is used in states by government agencies it must be useable by handicapped people. It has been a major social re-engineering effort leading to innovation. Many people thought it would backfire- that it would lead to suppliers developing two product lines- one for public, one for federal customers- or that it would hamper access to the market place, instead it forced the market to change before it otherwise would have done and has led to great ICT innovations that are used world wide. *So, innovation for innovation's sake is not integrated into procurement policy, but where a specific social purpose is defined, innovation is encouraged.*

The *UK* is a *synthetic system with aspects of hierarchy - with the major officers of state providing guidance on procurement of innovation issues as well as on innovation in procurement – but with much room for initiative and self-organisation within the public services*, including local authorities and the health service (the NHS). Much has been learned about procurement of innovative and risky projects because the UK has pioneered many and through the use of the PFI, public sector procurers have engaged in more risky projects than other governments may have done. Partly in response to this and to problems with PFI, the government has published extensive advice on procurement generally and of especial note in this regard is the establishment of the Gateway Process advice provided by OGC. It may also be noted that the UK Government has also created a *new PPP to help public procurers obtain support and expertise in the specification and development stage for more risky and unconventional projects.* It is yet to be seen whether this new organization, Partnerships UK, which has been established as a limited company in 2000, will support innovation efforts. The creation of PUK stems partly from the realization by the Government of the difficulty of developing sufficient business skills within the civil service. According to the UK government spending review (Cabinet Office, 2003) , by 2005-06, the government intends to spend around €450 billion on public services of which around € 100 billion will be controlled by central government and around €350 billion spent by devolved bodies at regional, and

local levels for health, education, policing and local government. Public procurement in the UK is estimated to be around €120 billion (Cabinet Office, 2003) in 2005–06.

The *Dutch* public procurement is *highly decentralised* and therefore no single national agency is concerned with the coordination or development of procurement strategies. Already based on a political culture rather open to questions of innovation and especially sustainability the Netherlands are at the moment undergoing major changes in their structure of public procurement processes. *"Value for money" is still the leading principle* but is going to be interpreted differently according to strategies referring to life-cycle costs as found in the UK. The establishment of the innovation platform in 2003 has to be taken into account as the most visible sign of these changes. While the knowledge of the role of public procurement in fostering innovation has been rather "informal" instead of being communicated and used as a guideline during the late 90s today there are many measures regarding the state as a *launching customer*. According to an action plan developed by the innovation platform the Dutch public procurers *must use at least 2.5% of their total procuring budget for properties or services not yet available to the market from 2006 on*. In addition, the *professionalization of public procurers* plays a growing role within the political strategies. First, the chances to procure innovations under the laws of the EU will be analysed and the knowledge about the opportunities given by this legal frame will be spread amongst the diverse procuring agencies. Second the Dutch project unit on public procurement and tendering (PIA) aims at the *networking and actual training of public procurers* using examples of good practice. However, it is still controversial what the actual outcomes of the efforts might be in the future.

Australia has a *three-level political structure, a federal government, six state and two territory governments, and local governments.* They all have their own procurement legislation, policies and procedures. There is no centralised government execution of procurement activities on the national level while single states do have at least a superior agency for procurement concerns. With regard to the national level, each procuring entity is responsible for its own procurement, the guiding policy framework for all agencies are the Commonwealth Procurement Guidelines. *The guidelines however do not include any special reference to innovation. One specification factor of the awarding of a proposed property is the maturity of the market for a sought property.* This does not mean an explicit preference neither for products new to the market nor for products, which are already mature. Not only in procurements above a certain threshold, *agencies may conduct market research and other activities to develop specifications for a particular procurement. Suppliers that are engaged in providing any service related to that cannot be excluded* from the actual procurement as long as the agency is able to ensure that these suppliers do not have an unfair advantage over others.

France has a quite *decentralised system* of public purchases. Central and regional public agencies can individually organize their procurements under the legal supervi-

sion of the Ministry of Finance. The general legal framework has *recently been reformed*, with the new Public Procurement Code aiming at the modernization and simplification of the procedures, the incorporation of the EU directives and the organisation of centralized massive purchases. Although the new code did not introduce any special treatment to the procurement of innovation, it gives priority to *competitive dialogue and negotiation, which the representatives of the national authorities consider as provisions that may favour innovation*. In addition, *one of the awarding criteria is the innovative character* of a good or service. However, this has always to be balanced with the costs in terms of the whole life cycle.

The *Austrian* system of public procurement *used to be quite decentralised. Then, in 2001, the procurement regulation/law was updated and the structures streamlined with a central procurement agency*. However, there is still decentralised public procurement on the sub-national level. In central documents there is basically *no reference to innovation* whatsoever, it has not been a policy priority. Nevertheless, as the ELAK case (case 3) shows*, procurement of innovation is certainly possible,* and has been backed by the highest political authorities. In general, procurers in Austria are rather cautious due to a culture in which bidders losing in a procurement competition are eager to raise objections and attack the whole process in court. Furthermore, the Chamber of Federal Commerce together with education institution has initiated a procurement training explicitly including public procurers.

German public procurement is characterised by its *federal structure, which at the level of national ministries has a central procurement office (Bundesvergabeamt)*. However, according to the laws on public procurement each agency has to follow are perceived as being strict and even restrictive and thus leave a *rather narrow corridor for a linkage of innovation and procurement*. In addition, the traditional attitude of buying the cheapest solution meaning the best "deal" for the procuring agency is still widely spread. According to this, a multitude of interviews has shown that successful procurements of innovative goods or services are closely linked to *individual attitudes and attitudes within agencies or units in charge*. To back these attitudes it seems to need a clear (political) mandate and strong support by superior authorities. Furthermore, one major issue in Germany is the *relevance of variants*. Because the guidelines for procurers are that strict and therefore leave little opportunities to foster innovations stakeholder interviews of an exclusive option to use variants as an appropriate method to procure innovations. However, there are difficulties even within the usage of variants referred to the fact that the supplier has to guarantee and moreover to proof that the offered solution is equal to the procured one or cheaper. To get information about solutions available to the market or actually in development procurers in Germany feel that there is a grey, somewhat unclear area how to organise these talks without discriminating against market participants.

The *Danish* public procurement system is *relatively centralized*. Several organisations in Denmark are also in progress of developing knowledge on public procurement in relation to innovations. One important organization is National Procurement Inc., a procurement company owned jointly by national and regional public agencies. This company has purchasing power to spur innovation and it has also used this purchasing power to e.g. stimulate the procurement of environmentally friendly innovations. Apart from procurement, National Procurement also provides training and information diffusion on public procurement issues. *The Danish Society of Engineers is one example of an organisation that actively promotes public procurement as an innovation policy instrument in public debates.* Up to this point, current policies have mainly emphasised efficiency in relation to public procurement. Except from the procurement of green innovations, innovation is not an explicit issue.

Public procurement system in *Italy* is *decentralised, with every public agency and regional authority following its own purchasing code and procedures for goods and services required*, but it contains some significant centralised elements that derive from the role of *Consip, the central procuring agency*. Consip acts on behalf of the Ministry of Economy and Finance. It can implement part of the aggregate public procurement and set price and quality benchmarks, which are mandatory for the rest of the public agencies, elaborate frame contracts and prepare tendering material and technical specifications following extensive studies and market research. The public procurement legal framework does not provide for any special treatment to innovation, but it is stated in the mission of Consip.

Although there are national organizations for public procurement and other collaboration initiatives on the sub-national level, the public procurement system in *Sweden* is currently rather scattered and decentralized. There are examples of innovative public procurement projects, devoted to e.g. the development of environmentally friendly technology. Other recent and undergoing projects concern improving public administration through the procurement of information technology. One relevant central Swedish government agency is the Board for Public Procurement. This organisation's responsibilities do however mainly relate to monitoring legal compliance with the law, information on the law, and preventing violation of the law. Currently, there is no central organisation that has as its main responsibility to promote *innovation* in the context of public procurement. *There exist however ideas and suggestions that are under development to increase the emphasis on innovative public procurement in the future.* A rather strong historical tradition of collaboration between public agencies and Swedish companies may work as an enabling basic condition for this development.

In *Belgium*, there is a *scattered system for innovation policy with federal and regional policies operating independently* with little coordination. *Policy for procurement is not strongly developed anywhere* although good awareness of the importance of the issues, particularly IP and industrial development. There is controversy over where ex-

actly the initiatives for this kind of procurement policy should lie. *New developments are beginning to occur now indicating a level of awareness of procurement within Flanders* and a need to develop policy in this area, particularly in the area of model contracts. Recent government reforms to reduce bureaucracy and to introduce open standards may have made innovation easier for those supplying government. e-government interoperability framework BELGIF ('BELgian Government Interoperability Framework').

In *Ireland*, the public procurement process in public sector organisations is *heavily decentralised*. *Public bodies perform the function independently within a framework of EU/national laws and national guidelines.* However, there is *increasing interest in innovative procurement and in the procurement of innovation*, dating back to an all-Ireland forum established in 1996 specifically to address the issue of communications between Public Sector / Utility buyers and the supplier population. The General Public Procurement Unit, of the Government Supplies Agency is responsible for procurement policy, national procurement guidelines, EU directives and the Government Contracts Committee. It also manages the cross-departmental central procurement of a variety of goods, supplies and services on behalf of the Government, including clothing and footwear, uniforms, transport, fuels, office supplies and janitorial services. It is part of the Office of Public Works.

Finland's system for public procurement is *harmonized, or "decentralized"* according to Finnish observers. It is also possible to discern activities of rather centralised character. There exist collaboration structures on the national level through Hansel Ltd, the procurement company owned by the Finnish government. Hansel Ltd negotiates and established framework agreements to be utilised by all state authorities in Finland. These framework agreements are voluntary, and any public authority can chose not to utilise them and instead negotiate separate contracts. Collaboration also takes place on the level of municipalities, but collaboration occurs only very rarely between different levels in Finnish society. Public procurement is generally perceived as a tool for supporting public agencies' core activities. *Public procurement is debated, but mainly on issues such as price, efficiency etc.*

In Norway, the development of the national public procurement system has relatively recently changed direction towards decentralisation. There is *no central national agency* dedicated to public procurement issues. Norway used to have a central agency for procurement of e.g. furniture and travel services, but this facility has been closed down. The main reasons for the decentralisation were to increase competition and the number of bidders participating in each tender process. Other public agencies dealing with issues related to public procurement mainly do this to achieve more general goals such a creating an efficient public administration of legal disputes in public procurement cases. A significant characteristic of the *Norwegian* public procurement system is collaboration on the level of municipalities. Typically, local councils collaborate for instance by sharing procurement managers and by managing procurement projects

jointly. *The view of public procurement as a means to spur innovation is not a central policy issue. Neither is there a great interest in how the procurement laws may inhibit or stimulate innovation.*

As with the United States, the responsibility for procurement policy and practice in *Canada* is *distributed across the federal and state levels*. At the federal level, there is a clear division of labour between the procurement policy setting (Treasury Board of Canada) and procurement operations (PWGSC). Procurement systems are very decentralised and the provinces and municipalities do a lot of their own procuring. Excluding defence, police and security, their spending is much larger than the federal government. The federal level is bound by a number of different policies, mainly contracting policies, these but the provinces set their own processes. There is some uniformity but *each of the provinces has their own special circumstances and so the processes differ accordingly. Efforts are being made to try to link together programmes and services across government levels but progress is slow.*

Japanese public procurement is *conducted in a decentralized way* with each agency being responsible for their particular procurement processes. However, there are rather centralized measures regarding the *opening of the Japanese market for foreign suppliers. This seems to be the major objective of current developments* anyway. Besides, there are no actual references to innovation in the documents on public procurement in Japan. Aspects of innovation within procurement can be observed within the Green Procurement activities (even though this is mainly directed at environmental aspects such as CO2-reduction). *Innovations and procurement are therefore primarily linked in the field of sustainability* referring more to the nature of the field rather than conscious connection.

In *Greece*, the procurement system is *centralised with a single procuring authority being responsible* for the implementation of the annual public procurement programme. The general framework does not provide for special treatment to innovation, because *the central authority has neither the human resources nor the competences to initiate the procurement of innovation. Cost effectiveness is the dominant principle* for any type of public spending. Significant exception to the general implementation of the public procurement framework constitutes the procurement of ICTs, co-financed by the EU in the context of the Community Support Framework. In this case, different procedures are foreseen to guarantee that the cost effective spending is accompanied with compliance to the technological developments.

Portugal's public procurement system is decentralised, but the *centralisation of the procedures is among the main aims of the National Public Procurement reform* programme. The Ministry of Finance is the major responsible institution for procurement, supervising the Mission, Innovation and Knowledge Unit (UMIC), responsible for innovation, information society and e-government policy and now for the implementation of

reform. Since the procurement system is under transition the Ministry is currently responsible for the administration of framework agreements and the selection of suppliers under these agreements, but no evidence on special treatment to innovation can be found.

5.2 The Countries in Detail

The following chapter documents the countries covered in this report following a uniform template.

All country templates are structured as follows:

- Major organisation of procurement at the national level.
- Major documents: Are there guidelines, toolkits etc. that have an impact on the role of innovation in procurement?
- Does innovation play a role somehow in the documents?
- Any principles of procurement as relates to innovation?
- Any recent structural changes?
- Any reactions to the EU directive (does it make a difference)?

The order of the countries as follows:

Overview 5.2: List of countries

1. Country: Australia
2. Country: Austria
3. Country: Germany
4. Country: Japan
5. Country: Netherlands
6. Country: France
7. Country: Greece
8. Country: Italy
9. Country: Portugal
10. Country: Denmark
11. Country: Finland
12. Country: Norway
13. Country: Sweden
14. Country: Belgium
15. Country: Canada
16. Country: Spain
17. Country: United Kingdom
18. Country: USA
19. Country: Ireland

1. Country: Australia

Major organisation of procurement at the national level

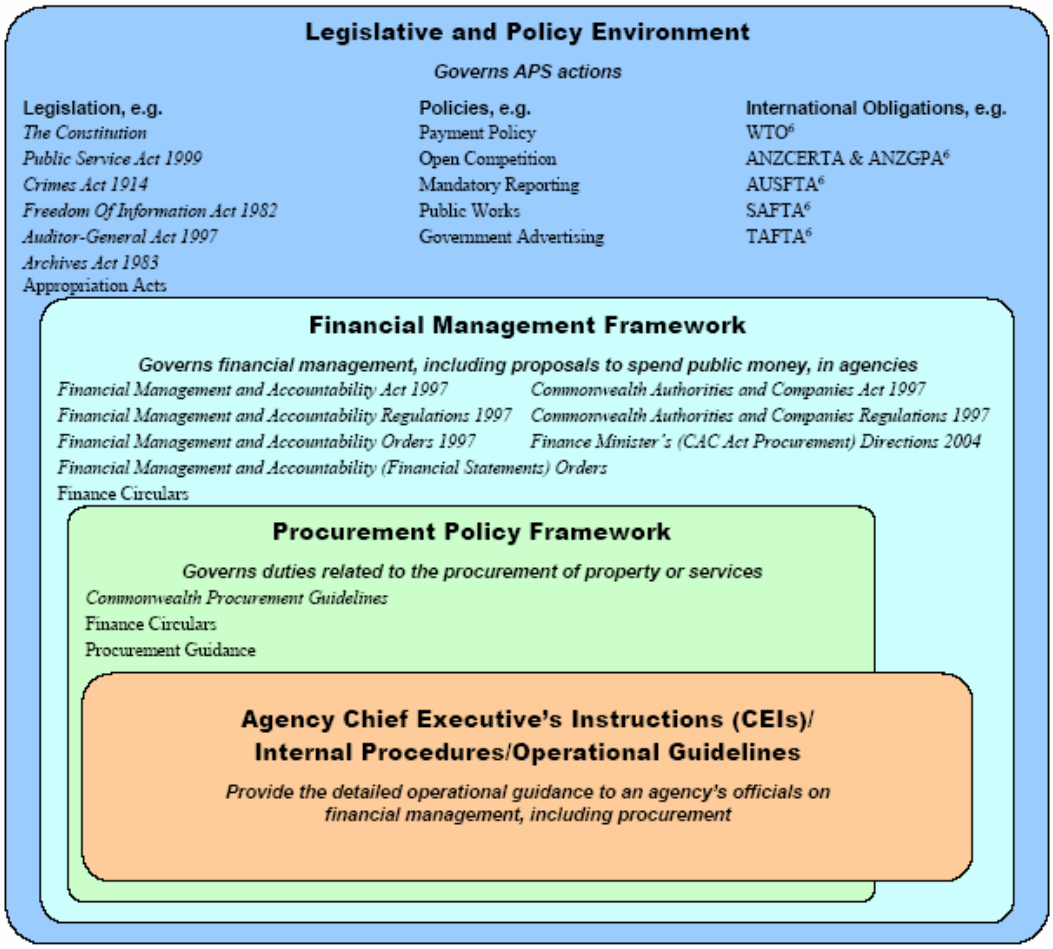


Figure 1 *Chief Executive's Instructions build on the procurement and financial management frameworks and the policy and legislative environment and provide operational guidance focussing on the agency's particular needs.*

Source: Commonwealth Procurement Guidelines (CPGs, 2005)

General information on and a broad overview of Australian Public procurement can be obtained via the APEC procurement homepage (including the "APEC survey on Australian Government Procurement"), http://www1.apecsec.org.sg/govtproc/gp_aus.html

Australia has a three-level political structure, a federal government, six state and two territory governments, and local governments. They all have their own procurement legislation, policies and procedures. There is no centralised government execution of procurement activities on the national level while single states do have at least a superior agency for procurement concerns (e.g. Western Australia and its directorate for Government Procurement in the Department of Treasury and Finance). Centralised procurement processes are mainly conducted when a certain amount of money is ex-

ceeded (e.g. in Western Australia every good or service above the mark of 20.000$ is conducted by the above-mentioned central procuring agency). Furthermore, those central agencies have a deliberative function. With regard to the national level, each procuring entity is responsible for its own procurement, the guiding policy framework for all agencies are the Commonwealth Procurement Guidelines, which have been updated and published in January 2005 by the Australian Government Department of Finance. Furthermore, the Australian Procurement and Construction Council (APCC) and the Government Procurement Board are responsible for developing, implementing and adjusting procurement policies and practices.

There is no special Commonwealth-wide system for dealing with procurement complaints. However, suppliers that complain about procurement processes or decisions are entitled to receive a hearing from the respective agencies. Suppliers may also complain to the Commonwealth Ombudsman concerning unjust or unlawful actions or decisions by a buying agency. The Purchasing Advisory & Complaints Service (PACS) within the Ministry of Finance provides information about Australian Government purchasing policy and practice and can assist suppliers with procurement concerns or complaints.

All government agencies must advertise publicly available business opportunities on the government advertising website (http://www.ads.gov.au).

The legal and regulatory framework for public procurement in Australia is set by the Financial Management and Accountability Act (1997). The principal objectives of government procurement are value for money; open and effective competition; ethics and fair dealing; accountability and reporting; national competitiveness and industry development; and support for other Commonwealth policies (including policies on the environment, workplace relations, trade and foreign policy, etc).

Most procurement activities are executed within the Department of Finance and Administration, the Department of Communications (E-Government, E-Procurement) and the Department of Defence, which is the largest buyer.

Name: Department of Finance and Administration

http://www.finance.gov.au/ctc,
http://www.finance.gov.au/ctc/pacs/purchasing_advisory_and_compla.html

The Procurement Policy Branch of the department of finance and administration provides procurement policy advice and supporting services.

Contact from PACS website
(http://www.finance.gov.au/ctc/contacts/contact_the_ctc_procurement.html):

Procurement Policy Branch
Department of Finance & Administration
John Gorton Building, King Edward Terrace
PARKES ACT 2600, AUSTRALIA
Tel: +61 2 6215 2036
E-mail: pacs@finance.gov.au

Name: The Australian Procurement and Construction Council Inc (APCC) is the peak council of departments responsible for procurement and construction policy for the Australian, State and Territory governments.
http://www.apcc.gov.au/

Major documents: are there guidelines, toolkits etc. that have an impact on the role of innovation in procurement?

On the *Australian Government Procurement website*, there is ample information on laws, regulations, policies, tenders etc regarding procurement, also the following documents can be found there:

http://www.finance.gov.au/ctc/

General legislation:

- Finance Minister's (CAC Act Procurement) Directions (2004), http://www.finance.gov.au/ctc/docs/Directions_Final_Version_15.12.2004.pdf
- Government Procurement Act 2001, updated 2004, http://www.legislation.act.gov.au/a/2001-28/current/pdf/2001-28.pdf

Procurement principles and guidelines:

- National Procurement Reform Principles (2003): http://www.apcc.gov.au/docs/APCCNatProcurementReformPrinciplesMch2003.pdf
- Commonwealth Procurement Guidelines (CPGs, 2005): http://www.finance.gov.au/ctc/docs/Commonwealth_Procurement_Guidelines_-_January_2005.pdf
  The Commonwealth Procurement Guidelines are the central document referring to procurement as such. They form the policy framework within procurement is conducted. Its main statement binds all procurement process to a "proper use of Commonwealth resources".
- The *Procurement guidance* documents have been developed by the Procurement Policy Branch to help agency staff understand the obligations arising from the policy requirements when undertaking procurement activities.
  http://www.finance.gov.au/ctc/toolkits/procurement_guidance.html

Does innovation play a role somehow in the documents?

Not specifically. The *Guidance on Ethics and Probity in Government Procurement*, part of the procurement guidance series, highlights ethics and probity issues that departments and agencies need to consider in order to effectively manage procurement. Under the headline of fair and impartial procurement, it says that:

> "Procurement processes may call for innovation in delivery of the service. It is not necessary (or often desirable) that all submissions should deliver the same process, however they must all meet the mandatory requirements according to the selection criteria. For example, a request for tender may require information to be provided to the public (output) without specifying the method of delivery (process). This enables tenderers to offer different solutions that are innovative provide value for money and meet the procurement objective. Agencies should consider how they could objectively deal with innovation and how they might manage submissions that propose innovative treatment of any of the mandatory elements, such as evaluating extra features as separate criteria or conducting a two-stage process, requesting an expression of interest that allows the supplier to focus

on providing the best solution."

This mandatory procurement procedures including the imperative of non-discrimination are seen as a sufficient and effective way to procure innovation:

"Our policies are flexible enough to accommodate the procurement if innovative products. We generally call for proposals with considerable flexibility built in, where we consider an innovative solution may be possible."

It is part of the Commonwealth Procurement Guidelines as well that the "value for money" principle first of all determines competitive procurement processes of which no potential supplier can a priori excluded by using a specifications of services related to existing products, services, designs, patents etc.:

"When describing the features of the required property or services for a covered procurement an agency must present the technical specifications in terms of performance and functional requirements, rather than design or descriptive characteristics. This ensures that Commonwealth procurement is non-discriminatory and encourages innovation. Mandatory procurement procedures for covered procurements encourage innovation. […] agencies must not require to a particular trademark or trade name, patent, copyright design or type, specific origin producer or supplier […]. This ensures that innovative goods and processes have equal considerations"

Furthermore, the guidelines state that one specification factor is the maturity of the market for a sought property. However, this does not mean an explicit preference neither for products new to the market nor for products, which are already mature.

Not only in so-called covered procurements, i.e. procurements above a certain threshold, agencies may conduct market research and other activities to develop specifications for a particular procurement. Suppliers that are engaged in providing any service related to that cannot be excluded from the actual procurement as long as the agency is able to ensure that these suppliers do not have an unfair advantage over others.

Referring to the Financial management and Accountability Act the procuring agencies have to make sure that the approved proposal is in accordance with the policies of the Commonwealth, e.g. environmental policies, industrial relations, international trade agreements etc. One could consider that if innovation and the public fostering of innovation is a common public policy in Australia this passage could be a way to procure innovation.

Any principles of procurement as relates to innovation?

One of the core principles of Australian government procurement is "*value for money*", which means that procurement practices and procedures are to be applied to achieving the best available value for money when procuring goods and services. This includes the comparison of all relevant benefits and costs on a life cycle perspective. Cost is not the only determining factor in assessing value for money. Rather, when assessing alternative procurement processes or solutions, a whole-of-life assessment would include consideration of factors such as:

- the maturity of the market for the property or service sought;

- the performance history of each prospective supplier;
- the relative risk of each proposal;
- the flexibility to adapt to possible change over the lifecycle of the property or service;
- financial considerations including all relevant direct and indirect benefits and costs over the whole procurement cycle;
- the anticipated price that could be obtained, or cost that may be incurred, at the point of disposal; and
- the evaluation of contract options (for example, contract extension options).

With regard to SMEs, the procurement guidelines point out that contracting agencies are not allowed to discriminate against SME, they have to take care that SMEs have equal and easy access to procurement processes and they are supposed to allocate at least 10% of their purchases to SMEs. By APCC, a National Framework of initiatives for Small and Medium Enterprises in public procurement has been set up. These initiatives are supposed to display the potential of SMEs to deliver flexible, innovative solutions to business needs.

(Commonwealth Procurement Guidelines [CPGs] 2005)

Any recent structural changes?

There is no tendency yet to centralise public procurement in Australia or other activities fostering structural changes. However, in the last months there has been a major procurement policy framework revision to improve accountability and transparency, improve competition and to implement major international obligations. This process is now in a period of implementation. Therefore, no results of this revision can be reported by now.

Any reactions to the EU directive (does it make a difference)?

Australia is no member of any international or regional procurement agreement (e.g. WTO – Japan) but Australia signed several free trade agreements which also include Public Procurement commitments. These include the Australia New Zealand Closer Economic Relations Trade Agreement (ANZCERTA); the Singapore – Australia Free Trade Agreement (SAFTA); the Australia – United States Free Trade Agreement (AUSFTA); and the Thailand – Australia Free Trade Agreement (TAFTA). Furthermore, the Australian and New Zealand Government Procurement Agreement (ANZGPA) regulates that goods and services from New Zealand are treated as national goods/services. Commonwealth Procurement Guidelines (CPGs, 2005), http://www1.apecsec.org.sg/govtproc/gp_aus.html

Further comments

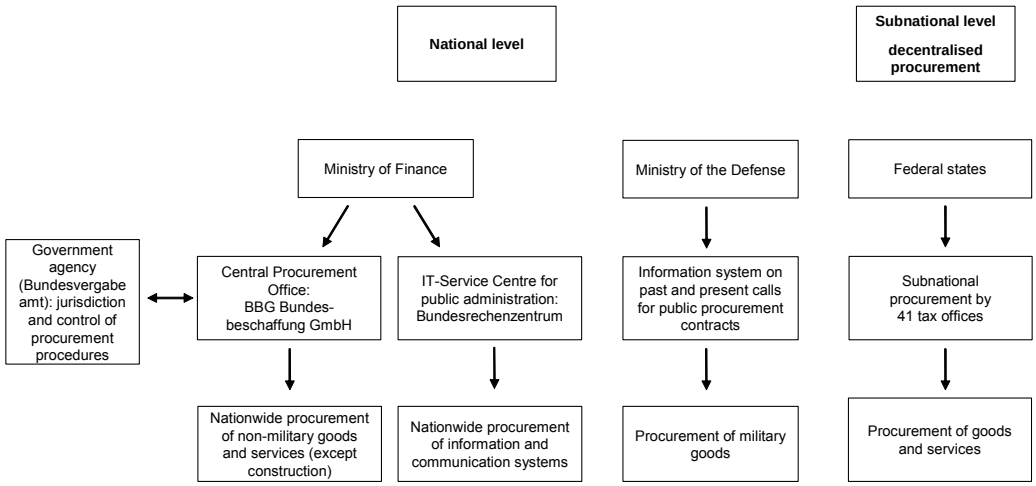
Australia is quite active in defining principles and guidelines for Government procurement. These are binding for all government entities even though there is no

central public procurement agency. In terms of attitudes it is a main hindrance for the procurement of innovation if first the agency in responsibility and its staff tend to avoid risks and second if the procurer does not use the given opportunities for tendering innovative properties or services:

> "I believe it's more the question of the procurers rather than a mandate as such. […] Innovation is considered in the planning phase and is usually the responsibility of the business owner."

2. Country: Austria

Structure of the Austrian public procurement system



Major organisation of procurement at the national level

Name: BBG Bundesbeschaffung GmbH (Public Procurement Agency)
https://bbg.portal.at/

Short Description: founded in 2001 as centralised procurement agency under the Ministry of Finance. Responsible for procurement of goods and services for public departments and public customers. In 2002 it procured goods and services for around 290 Mio €. Public procurement tenders can be searched via an online database.

Name: Ministry of Finance
Responsible ministry for Austrian public procurement rules, regulations and legislation.
http//:www.bmf.gv.at

Name: Bundesvergabeamt
http://www.bva.gv.at/BVA/default.htm
Reorganized in 2002 within the framework of the streamlining of Austrian public procurement legislation and practices. Government agency to control and to rule upon public procurement procedures at the federal level.
Tribunals in the sense of the EU directive to rule upon publish procurement procedures conducted by public entities which fall within the competence of the Bundesländer, cities and municipalities.

Name: Ministry of Defence
Procurement of military equipment
http://www.bmlv.gv.at

Name: Auftragnehmerkataster Österreich
http://www.ankoe.at/ankoe_home.asp
The Austrian cadastral agency (Auftragnehmerkataster) was founded in 2000 by the regional authorities and municipalities and other stakeholders. The institute administers a database of suitable and approved companies and provides support for economical procurement pro-

cedures for clients, tenderers and applicants.
Name: Auftrag.at
Electronic platform which provides the tender publishing and further services regarding manuals and tender documents. It also enables the tender procedure on the internet.

Name: Beschaffungsservice Austria
Information on sustainable (public) procurement.
http://www.ifz.tugraz.at/index.php/article/articleview/19/1/9/

Name: Wirtschaftskammer Österreicher
Bundling expertise on (public) procurement in Austria and organising procurement courses
http://wko.at./rp

Major documents: Are there guidelines, toolkits etc. that have an impact on the role of innovation in procurement?

- "Check it" – Kriterienkatalog zur umweltfreundlichen Beschaffung (2000) (criteria for sustainable procurement): http://www.oekoeinkauf.at/
- Besides the "Check it" criteria catalogue which is quite comprehensive but which only deals with sustainable (meaning basically ecological) procurement, no guidelines, toolkits etc. could be found regarding public procurement in Austria. Everything seems to be dealt with by BBG internally and there are no external documents accessible.
- Annual Report of the Bundesvergabeamt: http://www.bva.gv.at/NR/rdonlyres/9CAA87C2-F23C-4773-80AF-C4F76378FF59/9837/ ErsterTe4tigkeitsberichtdesBVA_Stand20050331.pdf
- Public Procurement Law (2002; in German): http://www.bva.gv.at/NR/rdonlyres/ECD08B37-9D15-4BD9-9D4D-46E90C0A55E8/3272/ Bundesvergabegesetz2002.pdf
- Law to establish the National Public Procurement Agency (Bundesbeschaffung GmbH-Gesetz 2001): https://www.bmf.gv.at/Budget/AktuellesThema1926/ArchivAktuelleThemen503/Reform derBundesbesc639/BB-GmbH-Gesetz.pdf
- Modification of §3 BBG-GmbH Law: https://www.bmf.gv.at/Budget/AktuellesThema1926/ArchivAktuelleThemen503/ReformderBundesbesc639/VOpar3.pdf

Does innovation play a role somehow in the documents?

There is basically no reference to innovation whatsoever in any documents or on any internet sites.
Solely in the introduction to the "Check it"-criteria catalogue (2000), it is stated that:

> "[…] the Check-it criteria catalogue is a tangible and useable tool for procuring ministries and agencies to be able to integrate ecological criteria in public procurement systems.

> The integration of those criteria in procurement procedures is an important step to improve the environmental performance of governments. By applying these criteria, incentives are given to foster innovative and sustainable economic development."

This criteria catalogue is very extensive. It is supposed to be used by procuring public ministries, agencies, organisations, but is should also be useable for private businesses and others interested. It gives practical information and support to design tenders in a more sustainable way in a broad range of product areas. Even a report on legal obstacles and implications is part of it.
Furthermore, on the Beschaffungsservice Austria homepage (http://www.ifz.tugraz.at/index.php/article/articleview/67/1/9), which deals with sustainable procurement it is stated, that:

> "public as well as industrial procurement are important instruments for promoting environmental protection. The decision to buy or plan sustainable products and services can reduce the environmental pollution considerably. This specific demand for sustainable products or services encourages and fosters sustainable product innovations. Therefore, public procurement should lead the way for private consumers and businesses in this respect and thus back the national environmental policies. New tools for commercialization and financing, e.g. leasing or contracting, could be demonstrated and pushed by pilot projects to show their advantages and feasibility. […] Environmentally friendly procurement has a direct impact on a better environment, stimulates product innovations and has, at the same time, a considerable potential for cost reduction in certain fields."

Any principles of procurement as relates to innovation?

See above

Any recent structural or changes?

The Austrian system of public procurement used to be quite decentralised. Then, in 2001, the procurement regulation/law was updated and the structures streamlined. Though, there is still decentralised public procurement on the sub-national level.

- In 2001: organisational change from a decentralised procurement to a centralised public procurement (establishment of BBG) with the following goals:
  - Synergies by bundling of decentralised procurement structures,
  - Optimal use of the federal purchase-position,
  - Provision of regional supply-structure of SMEs.

To reduce the overall national administration costs also federal states and municipalities are welcome to use the services of the BBG.

> Sources:
> https://www.bmf.gv.at/budget/aktuellesthema1926/archivaktuellethemen503/reformderbundesbesc639/_start.htm;
> https://www.bmf.gv.at/Budget/AktuellesThema1926/ArchivAktuelleThemen503/ReformderBundesbesc639/BB-GmbH-Gesetz.pdf

- Reform of the system of public procurement

The new National Procurement Law entered into force on 1st July 2003. It aims to assure an efficient and harmonized procedure, although procurement will remain decentralized. From then on, only one law is to be applied to public procurement procedures on the national as well as on the sub national (Länder) level. The new law also regulates the use of electronic media, e.g. e-procurement and electronic auctions, and enhances the system of legal protection.
Sources:
https://www.bmf.gv.at/ Wirtschaftspolitik/Wirtschaftspolitiki506/Strukturpolitik533/ Reformdesffentliche2719/_start.htm;
http://www.bva.gv.at/BVA/Rechtsgrundlagen/default.htm

From 1st of January 2005, the existing 80 tax offices were merged to 41 tax offices. These bigger organizational units are supposed to work more efficient and they took over considerable competences from the 7 federal tax offices. In the future, the local tax offices are able to decide independently about procurement activities, personnel and cost management.

Sources:
https://www.bmf.gv.at/steuern/Reform/_start.htm;
https://www.bmf.gv.at/presse/archiv/2003/november/fld.htm

- E-procurement: The BBG is conducting a pilot study on using e-procurement in Austria (including e-tendering and e-shop). The new procurement law (Bundesvergabegesetz 2002), gives way to e-procurement with respect to the legal requirements to procure online.

  Sources:
  https://bbg.portal.at/Internet/ElektronischeBeschaffung/_start.htm;
  https://bbg.portal.at/internet/beruns/GeschftsfelderReferenzen.htm

- In the aftermath of the ELAK procurement (see case 3) a new regulation has been introduced which limits the time within which companies can attack a tendering process once they think they have been disadvantaged or the tender process has in any other way not been accurate. The habit of attacking procurement processes in Austria has been characterised as a major obstacle, as procurers have become very cautious and rigid in formulating specification criteria, and flexibility has been minimal.

Any reactions to the EU directive (does it make a difference)?

Up till quite recently, the EU procurement directives were implemented by one national and 9 federal laws. After the reform there is only one law to be applied to public procurement in Austria. (see also above "structural changes")
No other reference to EU-Legislation on Public Procurement, besides within the "Check it" sustainable procurement project. ("In der Rechtsstudie [von "Check it"] werden die Möglichkeiten und Grenzen einer ökologisch orientierten Beschaffung

im Rahmen der derzeit geltenden Vergaberichtlinien der EU [1999] sowie des EU-Primärrechts aufgezeigt."; http://www.oekoeinkauf.at/)

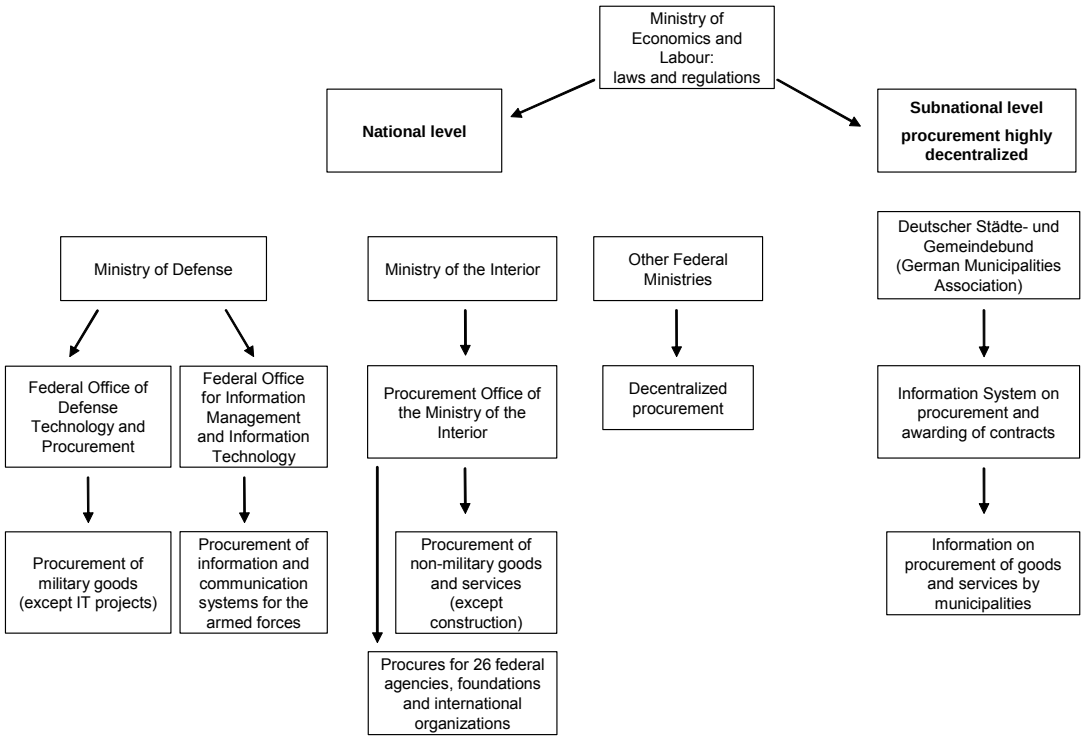
Further comments

There is only very little information on public procurement in Austria on the relevant internet sites and there is no information at all on procurement procedures, best practices and the like. Only with regard to sustainable procurement in the framework of EU projects, there is some information on procurement in Austria (Promise, EU-Program LIFE), especially the "Check it"-criteria catalogue is quite extensive.

The industry in Austria sees the public market as extremely interesting and is committed to deliver good value for money. However, the formal guidelines in the tendering processes are perceived as being too strict, too narrow. Public administrations are to be very concrete in the specification. Moreover, there is a culture of filing a formal protest in procurement process by those who did not win it. Thus, procurers are rather cautions and prefer to define their specifications very detailed. In the private sector the Wirtschaftskammer Österreich (Federal Economic Chamber) tries to push its own companies and also the public sector in the direction to be more daring in procurement. The WKÖ has established a master degree for procurers, and principles in order to procure also innovatively. This course stresses the importance of the pre-specification phase, i.e. market intelligence, internal technological knowledge and external consultancy and the management by objective, i.e. clear perception of what functionality is needed – and finally a sound project management. The Chamber itself tries to set an example and has pioneered its own procurement with electronic signature and with a systematic internal team building for each major procurement in order to involve all stakeholders interested and/or affected. The Chamber believes that through training and through strong political backing procurement in Austria is to be improved as for enabling innovation.

3. Country: Germany

Structure of the German public procurement system



Major responsible institution(s) for procurement on the national level and their function:

Name: The *Federal Ministry of Economics and Labour* is responsible for the principles, regulations and laws regarding public procurement (Öff. Auftragswesen, Vergaberecht, Preisrecht).

http://www.bmwa.bund.de/Navigation/Wirtschaft/Wirtschaftspolitik/oeffentliche-auftraege.html

Name: *Federal Ministry of Defence*. Therein, the *Federal Office of Defence Technology and Procurement* (Bundesamt für Wehrtechnik und Beschaffung) procures military equipment. It is the largest federal procurement agency in Germany. The *Federal Office for Information Management and Information Technology* (IT-AmtBW) procures ict-systems for the armed forces.

http://www.bmvg.de/C1256F1200608B1B/vwContentByKey/W2653DJT532INFOEN
http://www.bwb.org
http://www.bundeswehr.de/C1256EF4002AED30/CurrentBaseLink/W2652K6C222INFODE

Name: *Procurement Agency of the Ministry of the Interior* (Beschaffungsamt des Bundesministeriums des Inneren). The agency is a centralised procurement organisation belonging to the Federal Ministry of the Interior. It handles approx 1.800 contracts per year with a total volume of 507.2 M EUR (2003). It is the second largest federal procurement agency in Germany.

http://www.bescha.bund.de

Name: *E-Vergabe*. Centralised internet platform for e-procurement on the national on federal level.

http://www.evergabe-online.de/

Name: *Procurement information system on the sub-national level*, counties and municipalities (Vergabeinformationssystem des Deutschen Städte- und Gemeindebundes).

http://www.dstgb-vis.de

Major documents: are there guidelines, toolkits etc. that have an impact on the role of innovation in procurement?

In the following you find the formal laws and regulations on public procurement in Germany, these contain no guidelines or toolkits. The first two documents (evaluation and reaction) listed give some information and assessment on these laws and regulations:

- Evaluation: Analysis and evaluation of the questionnaires and the legal practice regarding the modified procurement law (April 2003): http://www.bmwa.bund.de/Redaktion/Inhalte/Pdf/analyse-und-bewertung-vergaberechtsaenderungsgesetz,property=pdf.pdf
- Reaction on the Evaluation: Report of the Government on the modified procurement law (Bericht der Bundesregierung zum Vergaberechtsänderungsgesetz, October 2003): http://www.bmwa.bund.de/Redaktion/Inhalte/Pdf/bericht-der-bundesregierung-zum-vergaberechtsaenderungsgesetz,property=pdf.pdf
- Regulation concerning public procurement (Feb 2003; in German without a reference on innovation, "Verordnung über die Vergabe öffentlicher Aufträge"): http://www.bescha.bund.de/media/files/pdf/normen_vorschriften/nationale_vorschriften/030211_vgv.pdf
- New Draft (in German, Oct 2004; Verordnung über die Vergabe öffentlicher Aufträge, Begründung des Gesetztes zur Neuregelung des Vergaberechts): http://www.bmwa.bund.de/Redaktion/Inhalte/Pdf/arbeitsentwurf-bmwa-verordnung-ueber-vergabe-oeffentlicehr-auftraege,property=pdf.pdf
- Guideline for public procurement practice (March 2003, in German without a reference on innovation, "Überarbeitete Richtlinie für Beschaffungsverfahren"): http://www.bescha.bund.de/media/files/pdf/normen_vorschriften/verwaltungsanweisung/richtlinie_beschaffungsverfahren.pdf
  On page 2, it is stated, that:

  "The consumer/procurer has to define his demand with respect to the aims and purposes of the device to be procured. This ensures economic efficiency without restricting products and services with respect to technological specifications and innovations."

Does innovation play a role somehow in the documents?

On the sustainable procurement website (www.beschaffung-info.de), there is reference that innovation in sustainable products and their diffusion into the market can be fostered by procuring those goods. Sustainability here means not only ecologic but also economic and social sustainability, i.e. also innovation fits in here (e.g. sustainable energy/energy efficiency products).
Roadmap Public procurement (in German: Nachhaltigkeit in der öffentlichen Beschaffung): http://www.roadmap-it.de/download/Roadmap_oeB.pdf

Any principles of procurement as relates to innovation?

No, on the contrary, it says in the Frequently Asked Questions section of the National Procurement Agency:

> "We are pleased about innovative and high-quality products – but we don't always buy the best available on the market. We will procure the products which cover our demand most economically. Even if competitors' products are not equal to your product, they might fulfil our requirements better and possibly even cheaper. Thus, please offer adequate products." (Question: my product is outstanding – no one else can offer something like that – thus, we have to get the contract in any case!)

In the current law (from 1999) on public procurement, it says that the interests of SMEs in public procurement contracts need to be taken into account by various measures. Furthermore, the law states that contracts are to be granted not necessarily to the cheapest bid but to the one being most economical with regard to the price/performance ratio. This law was *evaluated* by way of a survey among the relevant organisations in 2002. As a result of this survey the evaluation report notes thought that the law is not regarded as SME-friendly and that procurement contracts are usually not granted to the most economical bid but to the cheapest one. These facts do not suggest that German public procurement is actively fostering innovation.
Within the "*Innovationsoffensive*" initiated by the German chancellor in 2004, guidelines on innovative public procurement will be compiled in 2005. These are supposed to foster innovative public procurement on all levels. The interim results of the working party, which includes a section on public procurement, are summarised in Jäkel, R: / Blind, K. (2005): Innovationsfaktor Staat – Aktiver Promoter und intelligenter Rahmensetzer (Stuttgart). The measures announced therein contain a special brochure for procurers, high level awareness measures to convince decision makers of the importance of the issue and finally an innovation award for public agencies or departments having procured innovative products or services.
Voices from industry back this approach but stressed that they "hope for a more comprehensive change in public procurement". They demand that a brochure with guidelines is to be complemented by a real change of practice supported by training of procurers and commitment of decision makers. Moreover, industry sees a poten-

tial – and in their view negative - trade off between more R&D inducing procurement on the one hand and a reduction of R&D support programmes on the other hand.

The relevance of variants in German public procurement

All stakeholders interviewed agree that the German public procurement regulations and practice do not support innovations. The MEAT criteria are often applied, but "the price remains overwhelmingly important" (one interviewee from industry). In the perspective of interviewed procurers and industry alike - the central and somehow the only option for fostering innovation through public procurement is a procuring agency authorising variants of the original tendered product/service and the offer of such modified goods and services by potential suppliers. Still variants need to be equivalent to the main offers, which has to be exhausted and proofed by the supplier in a detailed and comprehensible way. The decision in favour of one of the bidders has to be based on the consideration of the most economically advantageous offer. That means, a variant – understood as a more innovative solution for a procured good or service – has to be either equivalent in quality compared to the original tendered solution *and* cheaper or equivalent in price *and* the better alternative in terms of the demanded solution. Beside this, there is only a very limited range of possibilities to negotiate technical adjustments and in the following adjustments of the price for the procurer. All this characterises a rather narrow corridor for the procurement of innovation in which both sides (the procurer's and the supplier' side) have only very limited options to procure and supply innovations respectively.

The European Court of Justice has decided that an authorisation of variants is licit only in case the text of the tender contains a minimum requirement for these variants. German jurisdiction is inconsistent here but this is perceived as a major obstacle for procuring innovation or even as a priori exclusion of new and innovative goods and services. "Procurers are in a dilemma: to get a really innovative solution, they cannot be too specific in the tender text, however, for the sake of comparability they need to specify minimum requirements in a way that may exclude really innovative solutions" (an interviewee from industry). Since the variant should make innovative solutions - which could even be completely unknown to the procurer – available to the procuring agency there cannot be any kind of characterisation of the innovation. Especially the German construction industry – which traditionally makes use of variants most often – perceives a problem here that has been worsened by the obligation for clear minimum requirements for variants.

One clear hope in the interviews with German stakeholders has been that in the new regulations the transparent, ex ante weighing of the MEAT criteria has been made obligatory, offering the possibility to signal the relative importance of innovative solutions and thus – potentially – reducing the relative importance of the price criterion.

As a result of many interviews with German stakeholders it seems that above all successful procurement processes in Germany are closely linked to informal and

creative handling of the regulations and the potential suppliers by the procuring agency itself. Therefore, procuring innovation in Germany is basically a question of attitudes on both sides of the procurement process.

Any recent structural or changes?

- For several years the German Bundeswehr has installed for their complex procurement a new approach called Customer Product Management. This entails a pre-procurement market analysis and intensive discussions between suppliers and the procurer. In many cases this procedure demands from suppliers to produce a prototype without having the guarantee to get the contract. Thus, the risk for the public procurer (military) is severely reduced, but suppliers bear the burden of development costs that may not pay off – especially as the market for the military is a very specific one. Moreover, the negotiations before the tendering phase are seen critical by the industry as the disclosure of secret technology is asked for without a full guarantee of confidence.
- In 2004, the Government decided on streamlining the existing law on public procurement to reduce the bureaucratic burdens (im Rahmen der Initiative Bürokratieabbau") and to *implement the EU-directives on procurement.*
- Set up of website on *sustainable procurement* (www.beschaffung-info.de). Public procurement here is explicitly linked to sustainability and should be used to foster innovative sustainable products by "buying green".
- Since 2002, the internet platform "*public purch@sing online*" is available online. By the end of 2005, all federal-level tenders will be made online there, and even municipalities are supposed to use this platform later on (meaning one platform for all public procurement in Germany). By way of this platform the contract notification and award procedures is streamlined. Furthermore, all offers can be handed in electronically then as well, and contracts for goods and services are awarded online. In addition, a *virtual marketplace* ("Kaufhaus des Bundes") makes it easier for federal authorities to procure their supplies online fast and easy (under framework agreements) and to conclude framework arrangements taking advantage of economies of scale. As one stakeholder from the public realm in German expressed, in the future, this should enable a new organisation by which the users and operative procurers would signal to a central procurement manager what they would need and central, more strategic procurers, with their specialised market knowledge, would aggregate, procure and distribute. This would allow systematic combination of size effects with market knowledge and thus raise the potential for innovation.
  http://www.evergabe-online.de,
  http://www.bescha.bund.de/enid/d429a817b3afb80339e3ccf9234ea638,0/6p.html

Any reactions to the EU directive (does it make a difference)?

By way of the new law on public procurement which was negotiated in 2004 and which will most likely be implemented in 2005, the prevailing law will be modernised and streamlined and the two relevant EU-directives on public procurement will be implemented in German law.
http://www.bmwa.bund.de/Navigation/Wirtschaft/Wirtschaftspolitik/Oeffentliche-Auftraege/vergaberecht-vorschriften,did=43140.html

4. Country: Japan

Major organisation of procurement at the national level

General information on Japanese Public procurement on the APEC homepage, http://www1.apecsec.org.sg/govtproc/gp_jpn.html
Japanese public procurement is undertaken in a decentralised way by each procuring entity on its own. There is no national procurement agency or the like. Though, there are central information sources and databases for companies to search for tenders.

Contact from APEC site (http://www1.apecsec.org.sg/govtproc/gp_jpn.html):
Mr. Kato / Ms. Tanaka/Mr Kamada
Information Services Division, Information Services Department
Japan External Trade Organization (JETRO)
2-2-5, Toranomon, Minato-ku, Tokyo 105
Tel: 81-3-3582-5549, Fax. 81-3-3589-4179
Email: sea@jetro.go.jp

Name: Japanese Ministry of Foreign Affairs, http://www.mofa.go.jp/j_info/japan/procurement/

Administers and supplies procurement information for foreign companies. It also hosts the information on the questionnaire survey which is conducted by the Japanese government every year to find out about the suppliers' opinions and their requests about changes of procedures etc, http://www.mofa.go.jp/j_info/japan/procurement/answer.html

Name: Cabinet Office (Office of the Prime Minister and his Cabinet), http://www.kantei.go.jp/foreign/index-e.html

therein, the *Office of Government Procurement Review* was established in 1995, http://www.kantei.go.jp/foreign/policy/index/procurement/index_e.html, http://www5.cao.go.jp/access/english/chans_main_e.html

In order to promote the processing of complaints on government procurement, the Office of Government Procurement Review was established inside the Cabinet Office, and the Government Procurement Review Board was established inside the Office. The Office of Government Procurement Review is implementing the challenge procedures provided for in Article XX of the World Trade Organization (WTO) Agreement on Government Procurement formulated in 1994. It is also promoting the review of complaints concerning procurement procedures by the central government entities and other central government-related entities to enhance the transparency, fairness and competitiveness of government procurement procedures in Japan.

Name: Japan External Trade Organization (JETRO)

JETRO is a government-related organization that works to promote mutual trade and investment between Japan and the rest of the world. (http://www.jetro.go.jp)

Japanese procurement contract database: Online database of Japanese government procurement notices and invitations published in the National Printing Bureau's "Official Gazette." Users can search by publication date, product/service category as well as location. Furthermore, you can also find general information on procurement in Japan there (e.g. Japanese procurement principles). http://www.jetro.go.jp/en/matching/procurement/

There is another procurement database which supplies information on central government procurement in English but which seems to be not as convenient as the JETRO database: http://www.chotatujoho.go.jp/va/PR402S.

Name: Green Procurement Network
The Network was established in February 1996 by the initiative of the Environment Agency to promote green purchasing in Japan. It is an independent non-profit organisation with more than 2.800 members. There is no website available, at http://www.apo-tokyo.org/gp/eco 2004/nakahara_3sep2004.pdf a presentation about the Network can be found.

Major documents: are there guidelines, toolkits etc. that have an impact on the role of innovation in procurement?

- Laws relevant for Public Procurement in Japan (http://www1.apecsec.org.sg/govtproc/gp_jpn.html):
  - Public Account Law
  - Cabinet Order Concerning the Budget, Auditing and Accounting
  - Special Provisions for the Cabinet Order Concerning the Budget, Auditing and Accounting Regulations on the Management of Contract Administration
  - Cabinet Order Stipulating Special Procedures for Government Procurement of Goods or Services
  - Ministerial Ordinance Stipulating Special Procedures for Government Procurement of Goods or Services
  - Local Autonomy Law
- Japan's Government Procurement: Policy and Achievements Annual Report (2003) – Toward Government Procurement Open to the World – (http://www.kantei.go.jp/foreign/procurement/2003/index.html)
  The attachment contains several important government regulations on procurement:
  - Understanding on Government Procurement (19 November 1991): The Government of Japan reaffirms its continued commitment to the Action Program, which calls for increased procurement of foreign-made products. As part of the new Cabinet's continuing efforts to open Japan's markets, the government has taken a number of measures with respect to government procurement, including further improvements to contract procedures, lowering of the applicable procurement standards, and the inclusion of more agencies in measures aimed at increasing procurement from abroad. Japan shall pursue these measures as voluntary arrangements in the manner deemed most appropriate.
  - Action Program on Government Procurement (3 February 1994): The Government of Japan, in order to ensure even further transparent, fair and competitive procurement procedures, and to further facilitate market entry by competitive domestic and foreign suppliers in Japanese government procurement, has voluntarily decided upon the Action Program on Government Procure-

ment.
  - Procedures for Government Procurement on Products (Operational Guidelines) (28 March 1994): Based on the Action Program on Government Procurement the Government of Japan, in order to further meet the needs of suppliers and to strive thoroughly to expand opportunities for competitive domestic and foreign suppliers to enter the market and ensure thorough transparency in its procedures, has decided to introduce voluntary measures, the "Procedures for Government Procurement on Products (Operational Guidelines)".
  - Understanding on Government Procurement in the Service Sector (11 December 1995)
- Guide to the Japanese Government Procurement Market:
  http://www.mofa.go.jp/j_info/japan /procurement/q_a.pdf
  This guide to Public Procurement contains comprehensive information in English on Japanese procurement procedures
- APEC survey on Japanese Government Procurement,
  http://www1.apecsec.org.sg/govtproc/gp_jpn.html
  This report contains comprehensive information on procurement in Japan with regard to the Administrative Structure; Policies and Practice; Laws and Regulations; Statistics; Procedures for filing complaints; and Attachments.

Does innovation play a role somehow in the documents?

There is no reference to innovation in the documents on public procurement in Japan. However, especially in energy efficient technologies (solar systems, fuel cells) public purchase of demonstration products and prototypes is integral part of energy innovation policy.

Any principles of procurement as relates to innovation?

All guidelines for public procurement do contain procedural information for the applying companies rather than information on what is to be procured apart from technical specifications and certification. Aspects of innovation within procurement can be observed within the Green Procurement activities (even though this is mainly directed at environmental aspects such as CO2-reduction), but these are documented only rarely on the internet.

Any recent structural changes?

After the negotiations on the amendment of the WTO Agreement on Government Procurement, the government restructured its system for reviewing complaints regarding procurement in 1995 and established the Office of Government Procurement Review (see above), headed by the Chief Cabinet Secretary and with administrative vice-ministers or directors from all ministries and agencies as its members,

and the Government Procurement Review Board, which will receive and review the actual complaints.
http://www5.cao.go.jp/access/english/chans_main_e.html
Furthermore, in 1996, the Green Purchasing network was established. The mission of the GPN is to spread out the concept and practices of green purchasing and to provide guidelines and information necessary for practicing green purchasing for national and local government agencies and for private companies.

Any reactions to the EU directive (does it make a difference)?

There is frequent reference not to the EU directive (quite obviously) but to the WTO Agreement on Government Procurement, especially to its amendment from 1994
"The Agreement on Government Procurement was subsequently reviewed on a number of occasions, and as a result of negotiations concurrent to those of the Uruguay Round, the Agreement was amended 1) to broaden the scope of government procurement (applying to regional governments, and to a broader range of government-related entities); 2) to apply the Agreement to the procurement of services; and 3) to introduce a complaint review system pertaining to procurement procedures. This Agreement, signed by 23 countries, went into effect on January 1, 1996." (http://www.jetro.go.jp/en/matching/procurement/procurement.html)

Further comments

5. Country: Netherlands

Major responsible institution(s) for procurement on the national level and their function:

The Dutch system of public procurement is highly decentralised, there is no single national agency that coordinates public procurement, e.g. for all government ministries and/or for the regional/municipal level. With regard to innovation, economy/ growth and general questions of state consumption/expenditure, the Ministry of Economic Affairs is the agency that deals with these kinds of questions and policies. Furthermore, the Dutch Agency for Sustainability and Innovation (SenterNovem) runs a program and supplies information on sustainable procurement. All information is available only in Dutch, though. In addition, some coordination with regard to IT systems and equipment in the framework of the Dutch e-government initiative is done by the E-government Knowledge Centre (ELO) and the 21st century Government Network (ON21). And finally, within the innovation platform initiative, a working group has been established which will identify ways for government to encourage innovation in public governance, e.g. strengthen the notion of Government as a launching customer.

Name: Dutch Ministry of Economic Affairs
http://www.minez.nl

Name: Senter Novem
http://www.senternovem.nl/duurzaaminkopen/
Program on sustainable procurement by the Dutch Agency for Sustainability and Innovation (SenterNovem), supply of information.

Name: E-government Knowledge Centre (Kenniscentrum Elektronische Overheid)
www.elo.nl/elo/english/kelo/index.jsp
the Agency for the advancement of E-Government in the Netherlands, takes care of the national coordination of IT-systems

Name: Innovation Platform
www.innovatieplatform.nl
In 2003, an innovation platform was established, aiming to strengthen the innovation potential of the Netherlands in order to support the Netherlands' endeavour to become one of the leading nations in the European Knowledge Economy by 2010**.**

Name: Overheidsnetwerk 21e eeuw (21st century Government Network (ON21))
http://www.on21.nl
The 21st century Government Network supports the government during and coordinates the buying process with respect to IT systems and equipment. ON21 ensures the collective acquisition of services and resources for the public sector. The collective treatment of purchase orders within government allows for a number of important advantages, such as reducing the costs of invitations to tender, improved cost-quality relationships, and a centralised expertise base.

Name: www.inkopers.net: central information source for sustainable procurement activities.

Name: www.ovia.nl: internet information source and toolkits for procurement (Toolkit Inkoopcompetenties Publieke Sector [TIPS], gemeentelijke inkooptoolkit [GIT])

Name: NEVI Publiek: National Association of Procurement Officers. This is an advanced platform for public sector procurement officers working for purchasing excellence and world class procurement management (www.nevi.nl/publiek)

Major documents: are there guidelines, toolkits etc. that have an impact on the role of innovation in procurement?

- Social-Economic Council (SER) Advisory Report 2003: Interaction for innovation
  - Towards a cohesive policy on knowledge and innovation in the Netherlands: http://www.ser.nl/_upload/databank_engels/2003_11.pdf
- Wijers, J.G. (1997): Opportunities Through Synergy: Government and the Emergence of Innovative Clusters in the Private Sector: http://www.oecd.org/dataoecd/34/12/2097746.pdf

Does innovation play a role somehow in the documents?

- in principle no; except the possibilities provided by the European public procurement rules, but:

  "[…] most contracting authorities lack the experience and the knowledge to use these possibilities […]"
- Interaction for innovation – Towards a cohesive policy on knowledge and innovation in the Netherlands

  "Finally, the Council would like to see the government itself take on the role of inspirational innovator. A knowledge-driven society must have an innovative government. Through the right policy initiatives, collective procurement and investment, public institutions can break through impasses and stimulate innovation, turning government into a "launching customer". The Council believes that the Cabinet must make innovation in government a priority in its innovation policy. The ministries should furthermore coordinate their research programmes more effectively and combine their efforts to tackle social issues."

  http://www.ser.nl/_upload/databank_engels/2003_11.pdf
- Innovation Platform

  In 2003, an innovation platform was established, aiming to strengthen the innovation potential of the Netherlands in order to support the Netherlands' endeavour to be one of the leading nations in the European Knowledge Economy by 2010**.**

  With regard to Innovation in Public Governance, it is stated that:

  "Several recent published reports suggest that the Government does not address innovation in the best possible way. For instance, there is no integrated innovation policy for the public sector and Innovation is not at stake, when it comes to solve the societal issues (like health, safety, environmental issues etc.). The Innovation Platform will explore the possibilities to strengthen Innovation in Public Governance. In order to do so, a Working Group is being set up, which is headed by Frans van Vught, rector magnificus of the

(Technical) University of Twente. The Working Group will primarily focus on how the Government can encourage innovation e.g., the Government as a launching customer)."
http://www.innovatieplatform.nl/en/projecten/Overheid_en_Innovatie/index.html

- "Opportunities through synergy":
  The paper refers quite comprehensive to the value of public procurement to foster innovation, and actions are suggested to strengthen this linkage. See paper for details.
  http://www.oecd.org/dataoecd/34/12/2097746.pdf

Any principles of procurement as relates to innovation?

In 1997, the Minister of Economic Affairs presented the memorandum "Opportunities through Synergy" which deals with innovative industry clusters and explicitly incorporates the role of public procurement for innovation. The memorandum even proposed dedicated action to foster innovative public procurement in the Dutch government. Following this memorandum, an Action plan was established by the Ministry of Economic Affairs in 1998, which was supposed to focus on new products and services, European procurement and eProcurement. A working group, which has been established in the framework of this action plan, found out that the most important factor for innovative public procurement is a more professional national procurement system. To foster a more professional approach to public procurement, inter-ministerial projects have been launched; all activities remain within the respective ministry though. Some of these measures also deal with innovative public procurement. The latest activity with this focus was the above-mentioned working group on innovative public governance.
With regard to sustainable procurement, Dutch activities comprise the above-mentioned program by the Dutch Agency for Sustainability and Innovation (SenterNovem) which among others aims to foster innovation by public procurement. To implement the aims of the program, a central internet source, www.inkopers.net, was established to supply practical information on sustainable products and support for sustainable procurement. This activity was useful for raising awareness for sustainability aspects in procurement but an evaluation in 2000 showed that it was not used sufficiently to actually procure sustainable products and services.
Even though various activities with regard to innovative public procurement have been established, there is no comprehensive national strategy to foster innovative public procurement in the Netherlands. This might be the case because there is still no national agency, which coordinates public procurement in the Netherlands. With regard to sustainable procurement, there are some approaches which are slightly broader in scope and which seem to raise the awareness of sustainable criteria for public procurement activities.

Any recent structural changes?

There have not taken place any significant structural changes in the Dutch public procurement system lately, even though various papers and initiatives stated that it would be highly useful to strengthen centralised public procurement.
In the Netherlands there are now a few research programmes that analyse the opportunities of public procurement to foster innovation. By 2005 several reports have been published e.g. by the PSIB, a political driven network that seeks to bring together people, institutions and enterprises related to (innovations in) the field of constructing buildings. Through an international benchmark, this report reveals the relevance of procurement for innovation. The focus here lies on professional procurement and management strategies to generate more 'value for money' strongly oriented on similar strategies found in the UK. However, so far no political outcome has been created by this except more or less 'classical' publicly funded research programmes to strengthen the knowledge about this linkage.
Beside these programmes, there is a major change in the above-mentioned organisation named "Innovatie Platform" which was installed by a royal decree to encompass a change in culture in terms of public agencies and enterprises turning to procurement of innovation more than they did before. Along to general advises a working group on "state and innovation" and an action plan have been developed referring to and containing actions towards the public sector as a launching customer. One proposal is to initiate a programme to commit all departments to spend 2.5% of their R&D budget on research done in small and medium sized enterprises. In addition, the possibilities for procurement of innovation within the European law are going to be analysed in 2005 and spread amongst public agencies. Furthermore, there is a web based procurement portal trying to bring procurers of the entire non-profit sector together for the exchange of knowledge and the pooling of demands. Within 2005, all departments and procuring agencies should have access to this forum and use its advantages.
Furthermore, since 2000 there is an interdepartmental project unit for public procurement and tendering (PIA). In a report by the Ministry of Economic Affairs it is stated that "its purpose is to improve both procurement and tendering within central government. It does so by taking stock of what is procured by the central government, by creating a buyers' network (putting purchasers and tendering companies in touch with one another), encouraging joint purchasing, providing assistance for this group and starting up discussions on public procurement." The network has been prolonged until 2006. PIA has an action plan that seeks to professionalize public procurers, to network procurers in order to spread best practice and to build a better identity of public procurers in the Netherlands. Although innovation is not at the centre, the strict "value for money" approach and the professionalization of procurers is seen as a possible leverage to promote innovative attitude in the procurement community. Moreover, to ensure that the administrations and public procures have a guideline which enables them to judge the risk of an innovative product/service and therefore to decide which risk is a bearable one PIA is compiling a management of

categories which will be finished in September 2005.

Source: Ministry of Economic Affairs, 2003: Progress report on product and capital market functioning in the Netherlands 2004; CEA 2004-82; and Peter Leyenaar, Director, Presentation at the EU-Seminar on Procurement and Innovation, Brussels, April 2005.

However, it is quite controversial what the impact of the innovation platform will be in the future anyway. It is argued that in the first year of its existence, it created nothing but the identification of scientific key sectors recommendable to national R&D programmes which in no sense became an agenda to the government. For the matter at hand this could mean that this platform is not an appropriate object for high hopes at all but nevertheless there were major changes in terms of activities and structure since then. It is therefore still undecided what the actual outcome of this initiative could be.

Source: Innovatie Platform (2005): Grenzen zoeken, grenzen verleggen. Veertien acties voor de overheid om maatschappelijke innovaties te bevorderen. Den Haag.

In the mean time the new Professional & Innovative Procurement network PIANOo, a network of 1.500 Dutch public procurers, was established to overcome the randomness of innovations being procured based on the lack of knowledge and experience how to do that versus the occasional strong political will to procure innovative properties or services. Because this network has been established very recently no outcome or effect can be reported yet.

Any reactions to the EU directive (does it make a difference)?

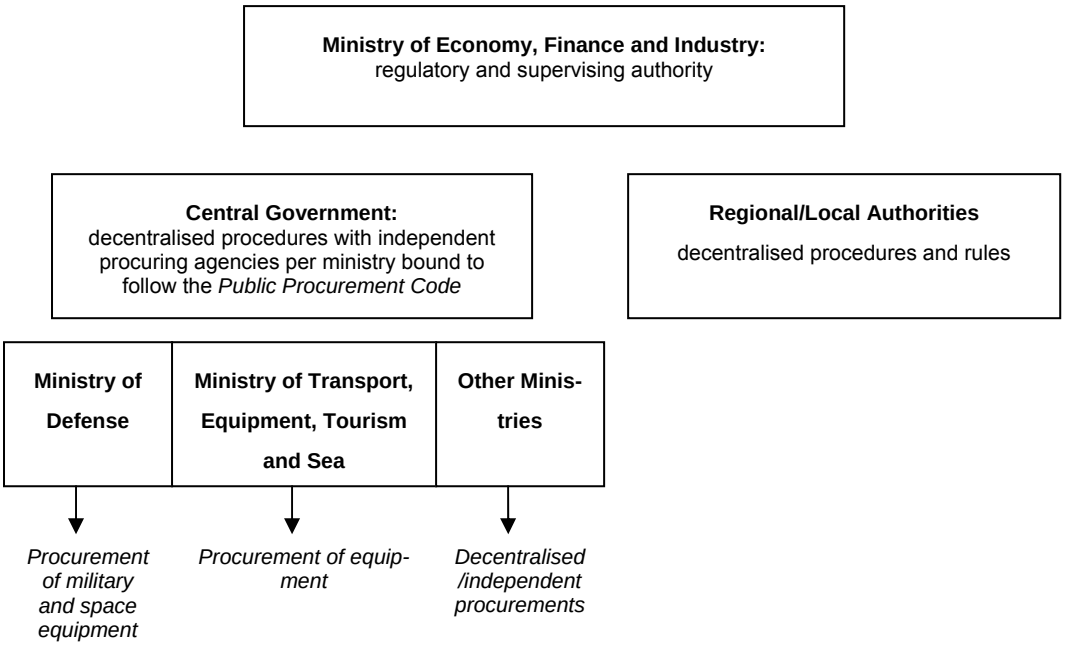
No information in English could be identified.

Further comments

In general, the Netherlands have undertaken quite some efforts to stress the linkage between innovation and public procurement. Still, no broad influence on the procurement activities, which are undertaken, can be observed. Studies showed, that to use this policy tool effectively, public procurement needs to be organised more professionally and more centrally, decentralised approaches are less successful in this respect. This means that, most importantly, public procurement needs to be reorganised and centralised in the Netherlands. Efforts with respect to sustainable procurement have come a little farther in this respect. The Netherlands have adopted the Directives in December 2005.

6. Country: France

Major organisation of procurement at the national level



Public procurement in France is organized under the supervision of the Ministry of the Economy, Finance and Industry. The selection of suppliers, however, remains the responsibility of individual public organisations provided that they comply with the new national *Public Procurement Code,* which defines in detail the procurement procedures in accordance with the national and European law.

The purpose of the code currently in force is to simplify procedures by merging the rules applicable to the State with those applicable to the local and regional authorities, but it is binding only for central government agencies and supervised agencies. The organizational option for management is to place the responsibility for awarding and monitoring a contract at the level nearest to the need that this contract sets out to satisfy, e.g. central or local administrations, independent administrative authorities, public establishments, local or regional authorities, public enterprises and enterprises with special or exclusive rights. Another option is the one applied by certain public industrial and commercial establishments that have chosen to statutorily follow the Public Procurement Code principles and rules.

The Public Procurement Code provides for the possibility of forming purchasing groups to allow economies of scale and the pooling of procurement procedures, especially for small buyers whose procurement activities constitute only a minor part

of their activity and hence they do not have the suitable human and material resources to develop a truly professional purchasing function.

Major responsible institution(s) for procurement on the national level and their function:

1. Ministry of Economy, Finance and Industry (MINEFI) [http://www.minefi.gouv.fr/]

The MINEFI is responsible for the establishment of the framework conditions governing the public procurement system. The MINEFI executes also its own procurement programme that reaches 1.9 billion Euros per annum covering 5 main domains: real estate, IT, Postal expenditure, provision of services, general supply.

2. Ministry of Transports, Equipment, Tourism and the Sea
[http://www.equipement.gouv.fr/]

The Ministry is responsible for the implementation of public works projects and procurements in the areas of transports, equipment, tourism and maritime systems, which has a special division on R&D but does not systematically apply innovative procurement

3. Ministry of Defence [http://www.defense.gouv.fr/sites/defense/]

The Ministry of Defence accounts for the greatest amount of public procurement budget, including technology and innovation intensive equipments and goods. It is the only ministry that makes extensive use of innovation related criteria in its procurements and systematically invests on research. Procurement takes place though the General Delegation of Armaments (Délégation Générale pour l'Armement, DGA) that manages an annual budget of about 10 billion Euros for the purchasing of military equipment. DGA has established a portal, the IXARM [http://www.ixarm.com], in order to better inform interested parties on the main developments in the national and international defence sector. IXARM offers a list of targeted announcements and links to the Ministry's electronic market place [http://www.achats.defense.gouv.fr].

4. Local authorities

Local authorities follow independent procuring codes. Their role is significant in the total public procuring activity, since they award the two thirds of the public purchasing contracts.

Major documents: are there guidelines, toolkits etc. that have an impact on the role of innovation in procurement? (please provide http-link if possible)

The key legal documents for the French Public Procurement system are the following:

- Decree No 2004-15 of the January 7, 2004 (Décret n° 2004-15/7.1 2004)
- Circular of the January 7th, 2004 "Guidelines for the application of the Code" (*Circulaire du 7 janvier 2004 portant manuel d'application du code des marchés publics*)
- Circular of the December 16th, 2004 "Modification of the Communication of the January 7th, 2004" (*Circulaire du 16 décembre 2004 modifiant la circulaire du 7 janvier 2004 portant manuel d'application du code des marchés publics)*

This circulation only binds the State purchasing entities and their associated public establishments.

All the public procurement regulation, specific guidelines, schemes, forms and FAQ are available on the website "L'espace des marches publics":

http://www.minefi.gouv.fr/minefi/minefi_ang/entreprise/index.htm [in French]

Does innovation play a role somehow in the documents?

The New Public Procurement Code explicitly refers to innovation in the organisation of the procurement systems in the country and the introduction of electronic applications in all levels of the procurement processes. The Ministry of Defence makes extensive use of innovative procurement.

The implementation manual (see above) explains that purchasers have to make the balance in the award criteria between innovation and cost "because a new product can be expensive at the first sight but finally be cheaper if its durability is taken into account." Thus the new code allows some degrees of freedom on the criteria imposed for the selection of the most economic advantageous tender (MEAT) and offers the possibility to authorize tenderers to submit variants (i.e. alternative technology or product for the same use). The extent and whether these provisions are applied depends remains at the discretion of the procuring agency.

Any principles of procurement as they relate to innovation?

Only the Ministry of Defence has explicitly incorporated innovation favouring criteria in its procurement system. In 2004 the Ministry decided to promote the participation of innovative SMEs, provided they can prove they are in the eve of an innovative technology. In this context innovating SMEs can directly conclude an R&D contract with the Ministry of Defence without having to face the usual procedures and rules even if it is at the expense of competition.

Two organisations are involved recently in an effort to monitor, analyze and facilitate access of SMEs to public procurement:
APASP (Association pour l' achat dans les services publics) represents 2000 procurers and suppliers. The association is active on the information and training of all actors involved in Public Procurement. A main target is the exchange of direct information among potential stakeholders by seminars and workshop but also via its website, where there is a module "Needs and offers" (www.apasp.com) which allows procurers to publish their needs and to suppliers (in particular SMEs and micro enterprises) who in that case get early information. They can react directly to procurers and propose best offers for offers lower than 90000 Euro (VAT excluded). This is a less formalized market and does not need bureaucracy. Experience shows that the responses are many and pertinent and offer new solutions and ideas adapted to the needs.

The Public Procurement Observatory is an organization recently established by the Ministry of Economy and Finance to collect and analyze data and establish a dialogue, which may end up in more innovation promotion. However, this is very recent and its activities cannot be evaluated yet.

Any recent structural changes?

The French government recently proceeded with the reform of the Public Procurement Code, which entered into force in January 10th, 2004. The aims of the reform are summarised as follows:

1. Raising the thresholds,
2. Requesting publicity as a proof for transparency and guarantee for real competition,
3. Incorporating the European Legislation on Public Procurement into the national provisions,
4. Simplifying the evaluation rules,
5. Giving priority to dialogue and negotiation in order to better match the offer to the demand,
6. Research of the most beneficial offer as guarantee for efficacy,
7. Research of mutualisation of needs and centralization of purchases,
8. Simplification in favour of enterprises.

The new code was further amended in the 26th November 2004, through the implementation manual of the 16th December 2004.

Source: http://www.minefi.gouv.fr/minefi/minefi_ang/entreprise/index.htm [in France]

Any reactions to the EU directive (does it make a difference)?

All of the Community Directives on public procurement enacted up to 2004 are now incorporated into French law. The scope of the Community Directives is broader than the scope of the French Public Procurement Code. Hence, on incorporation, France not only amended the Public Procurement Code (which is regulatory), but also had to make provisions (legislative) to cover the entities referred to in the Community Directives that are not within the framework of the Code.

The Code is expected to be further amended soon, in order to incorporate the provisions of the new Directives on public procurement 2004/18 and 2004/17. According to the representative of the public procurement regulation department of the French Ministry of Finance this change will promote innovative procurement mainly because of the fact that "the technical specifications can be formulated in terms of performance or functional requirements, rather than by reference to international, European or national standards" and the introduction of the competitive dialogue procedure.

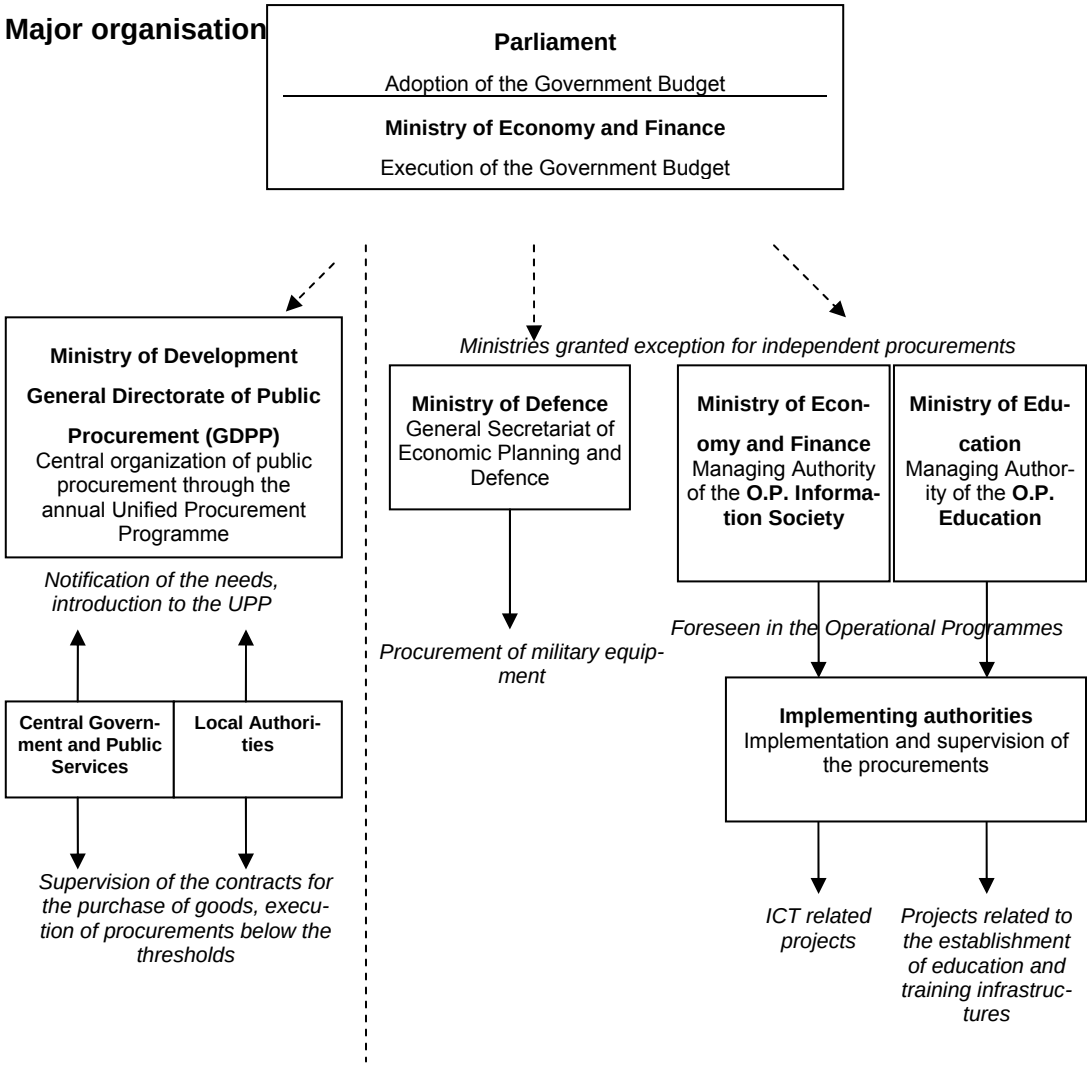
Further comments

SMEs are also organized in a group (Richelieu Committee) lobbying for the introduction of the US SBIR model and philosophy in the French Public Procurement System.

The French innovation policy is famous for adopting a mission-oriented R&D policy, which strongly facilitates technology procurement. Big mission-oriented public organisations, such as the Commissariat a l' Energie Atomique, include special provisions on innovation in their procurement codes.

7. Country: Greece

Major organisation



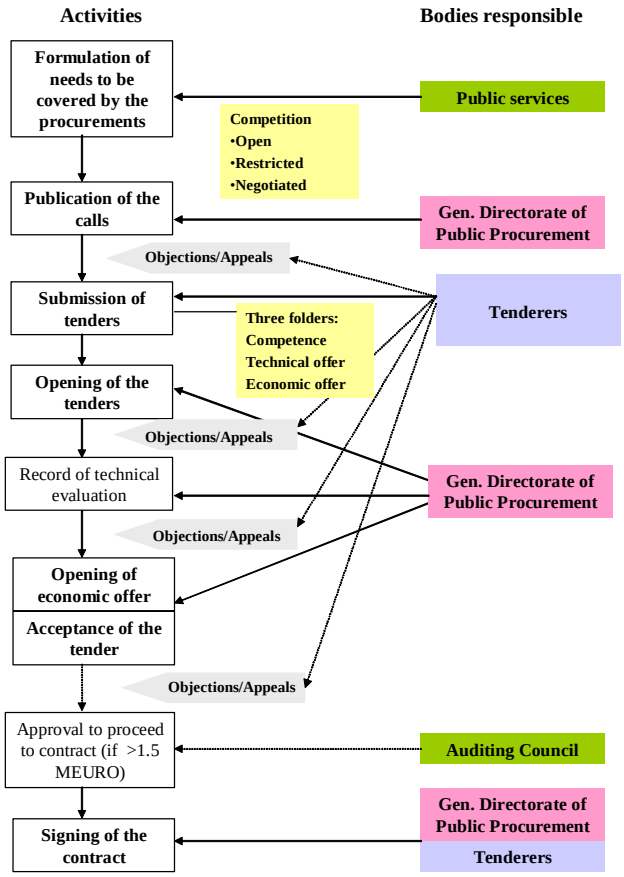
Public procurement in Greece is centrally organized. All public administration and agencies are requested once a year to notify their needs to the General Directorate of Public Procurement (GDPP) of the Ministry of Development, which operates as a central procurement authority. These requests are then included in the Unified Procurement Programme forming a legal document agreed by

- the Minister of Economy and Finance, who is responsible for the approval of financial resources in the national budget and
- the Minister of Development, supervising GDPP.

The GDPP then implements the procurement programme organizing and managing the purchasing processes. The selection of suppliers is typically a responsibility of the GDPP, however, sometimes (for low budgets or upon request) the Ministry au-

thorizes interested ministries or executive agencies of the public sector to implement the process. The same process applies for the regional authorities (prefectures, municipalities and other local services), which normally organize their procurement through the GDPP. The public purchasing process in Greece can be summarized in the following flowchart:

Activity flowchart of the central government procurement system



Source: Ministry of Development, General Secretariat of Commerce http://www.gge.gr/11/ [in Greek]

Special cases:

a. Quoted Public Utilities such as the Public Power Corporation and the Telecommunications Organisation, OTE, (now under private law) operate with market principles and do not comply with the central procurement system, but they follow an internal regulation. However, the Public Power Corporation is obliged to comply with the European Law on public procurement, since the Greek State remains its majority share holder. This is the case for all public utilities or publicly owned enterprises, but not anymore the case for the Telecommunications Organisations, which has

been excluded by the national and international legal framework governing public procurement.

b. An exceptional procedure is followed in the case of procurement of goods "*of significant economic or technological value.*" A Special Committee is convened, upon decision of the Minister of Economy and Finance, the Minister of Development and the Minister supervising the agency on behalf of which the procurement takes place. It is composed of M.P.s from all parties represented in the Parliament and at least one counsellor from the Territorial Council, the Supreme Court and the National Auditing Council. The Committee is chaired by the Minister in charge. The Committee decides on the procurement procedure to be followed, as well as on the selection and the award of the tender or the cancellation of the process (if necessary). The rationale of this procedure is rather to ensure the safeguard of public interest (political consensus) for significant public procurements than to promote quality in the content of the procurement.

c. Procurements in the context of the *Community Support Framework (EU co-financed)* are in general implemented under the central procurement system procedures as soon as funding is agreed. There are, however, two Operational Programmes ("Information Society" and the "Education and Initial Vocational Training") that foresee individual procurement codes. In both cases the procurement is organized directly by the Managing Authority of the respective programme. The separate procurement codes do not differ significantly in content from the national legal framework, yet they assure a higher degree of flexibility in the decision making and procurement organisation processes. A large share (40%) of ICT-related public procurement co-financed by the O.P. Information Society is organized by an independent intermediate organisation, the Information Society S.A.

Major responsible institution(s) for procurement on the national level and their function:

1. General Directorate of Public Procurement *(GDPP) [http://www.gge.gr/3/].*

The authority entitled to manage public procurement on behalf of the state is the *General Secretariat of Commerce of the Ministry of Development through its General Directorate of Public Procurement (GDPP).* GDPP prepares the Unified Procurement Programme (UPP) and undertakes all publication, evaluation, selection and contracting operations.

Monitoring of the implementation process is the responsibility either of ad hoc *committees* appointed by the GDPP or by competent units operating in the context of the public service on behalf of which the procurement is made.

The work of GDPP is assisted by committees of experts appointed on an annual basis. These committees in cooperation with the *Public Procurement Committee*

give their opinion on issues such as the technical specifications (initially set by the interested services), the cost and the selection of the contractor. Additionally there are a number of sectoral/technological evaluation committees and one more committee responsible for objections and appeals whenever they occur.

***2. Ministry of Defence** [http://www.mod.mil.gr].*

The procurement of military material and equipment is a responsibility of the Ministry of Defence through its General Secretariat of Economic Planning and Defence Investment, created in 2002. The organisation and operation of the Secretariat is governed by the Law 2292/1995 and the Presidential Decree 151/2002.

***3. Ministry of Economy and Finance** [http://www.mnec.gr]*

The Ministry of Economy and Finance through its Department of Public Service Contracts is responsible for the procurement of services following the Presidential Decree 346/1998. The procurement of services however will soon be incorporated in a common framework integrating the three types of public procurement (goods, services, public works) as provided by the EU Directive 18/2004. No announcements have been made regarding the sharing of future competences.

***4. Ministry of the Environment, Urban Planning and Public Works** [http://www.minenv.gr]*

The Ministry of the Environment, Urban Planning and Public Works through its General Secretariats of Public Works and Co-financed Works is responsible for all stages of the procurement of public works. As in the case of services, public works are expected to be incorporated in a common legal framework for all types of public procurement.

Major documents: are there guidelines, toolkits etc. that have an impact on the role of innovation in procurement?

The key legal texts for the organisation of the public procurement in Greece are the following:

- Law 2286/95, Public procurement and other relevant issues.
- Presidential Decree 394/96 *Public Procurement Guidelines.*
- Presidential Decrees 370/95, 346/98 and 105/2000 (on goods) and 18/2000 (on services) (in application of the EU Directives 93/36/EU, 92/50/EEC and 97/52/EC respectively) for procurement exceeding the EU thresholds.

- Law 2741/99, Article 8, on Public Procurement.
- Laws 2522/97 and 2854/00 assure the legal protection of the candidates in application of the Directives 86/665/EEC and 92/13/EEC respectively.

None of the above documents mentions innovation as a target or otherwise.

Does innovation play a role somehow in the documents?

Innovation is not mentioned or promoted by the national public procurement framework. An exceptional case constitutes the O.P. Information Society that considers innovation as a prerequisite in a large number of measures, but this is mainly expressed in practice through different weightings in price-quality criteria and the elaboration of technical specifications rather than special provisions in terms of risk sharing or in the overall legal context.

Any principles of procurement as they relate to innovation?

The central procuring authority is trying to intervene to avoid the abuse of technical specifications and to pool procurement of similar needs together in an effort to achieve economies of scale. In short policy priority in Greece is in rationalization rather than in innovation.

The general principles of procurement are not related to innovation, since cost effectiveness is the dominant principle for any type of public spending. Political hostilities leading to accusations of bribery and nepotism in the past have created a very unfavourable climate for trust, which is a prerequisite for innovative procurement, when other criteria than price are to play dominant role in the evaluation. The lack of human resources and skills and the bureaucracy governing the operation of the public sector may be considered as additional inhibitory factors. Hence, any kind of procurement beyond cost minimization is avoided.

An exceptional case are the ICT related projects implemented by the Information Society S.A. Although the procurement rules guiding the procedures do not mention directly innovation the company almost systematically applies demand analysis and requires from the tenderers to comply with operational rather than technical specifications expecting to see innovative solutions.

Any recent structural changes?

The national procurement system has not been subject to significant changes. The amendments of the legal framework governing public procurement are mainly concentrated into the incorporation of the EU Directives into national law. An expected significant change is the integration of the procurement procedures for goods, services and public works that is going to take place with the adoption of the new EU Directives in 2006.

Any reactions to the EU directive (does it make a difference)?

All EU directives concerning public procurement are expected to be incorporated into national law in 2006, however there is no evidence of concrete preparations.

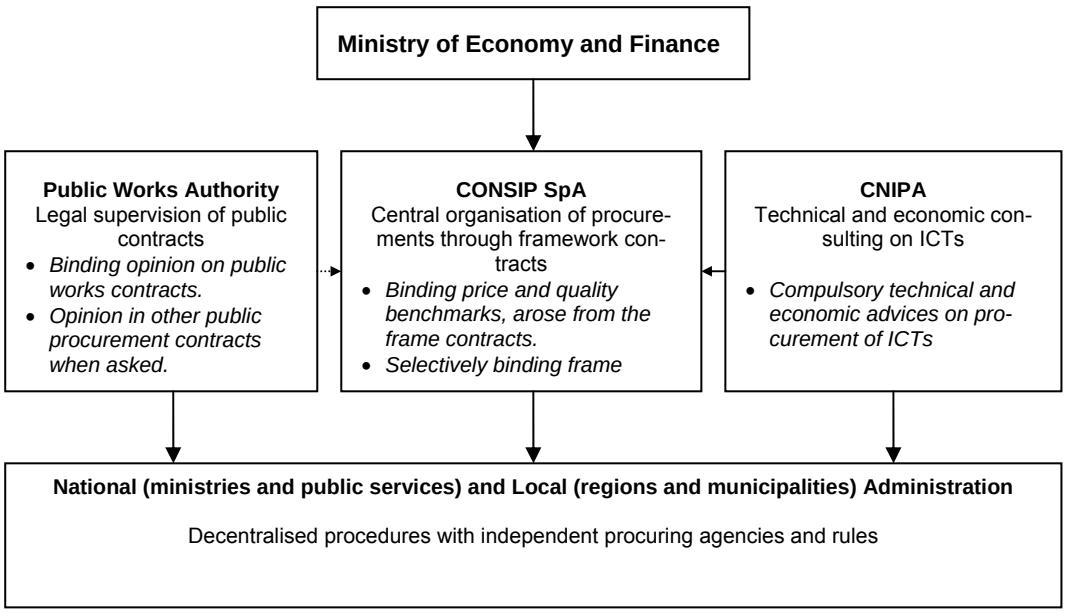
Further comments

So far there is no formal link between innovation policy and procurement strategy. There is no pressure from the business sector in that respect and the bureaucracy is reluctant to take risks, even if they are shared.

However, in individual cases of defence procurement, procurement of ICTs, tele-communication equipment for the national utility (meanwhile liberalized) and for the Olympic Games, public authorities have, directly or indirectly, explicitly or implicitly, with success or not, applied rules facilitating technology procurement.

8. Country: Italy

Major organisation of procurement at the national level



The organisation of the public procurement in Italy is decentralised. Practically every public agency and regional authority follows its own purchasing code although there are some centralised elements such as Consip's price and quality benchmarks, CNIPA's economic and technical instructions and Public Works Authority's legal supervision over public works contracts and in some cases over other public procurement contracts. The tendering procedure, in most of the cases, remains under the responsibility of the individual procuring authorities. The national procurement system, during the last decade has been subject to continuous changes especially as far as the role of Consip is concerned.

Major responsible institution(s) for procurement on the national level and their function:

1. Consip S.p.A. [http://www.consip.it]

Consip is a joint-stock company totally and directly owned by the Italian Ministry of the Economy and Finance (MEF). Consip as a central procuring agency executes three main operations:

- *Price and quality benchmarks,* arising from extensive market researches and

the procurements implemented by Consip, through framework contracts. These benchmarks are valid as long as the framework contract is being executed. All procuring public authorities are obliged to respect these benchmarks, meaning that they cannot proceed to purchases that their price exceeds the benchmark corresponding to a certain level of quality.

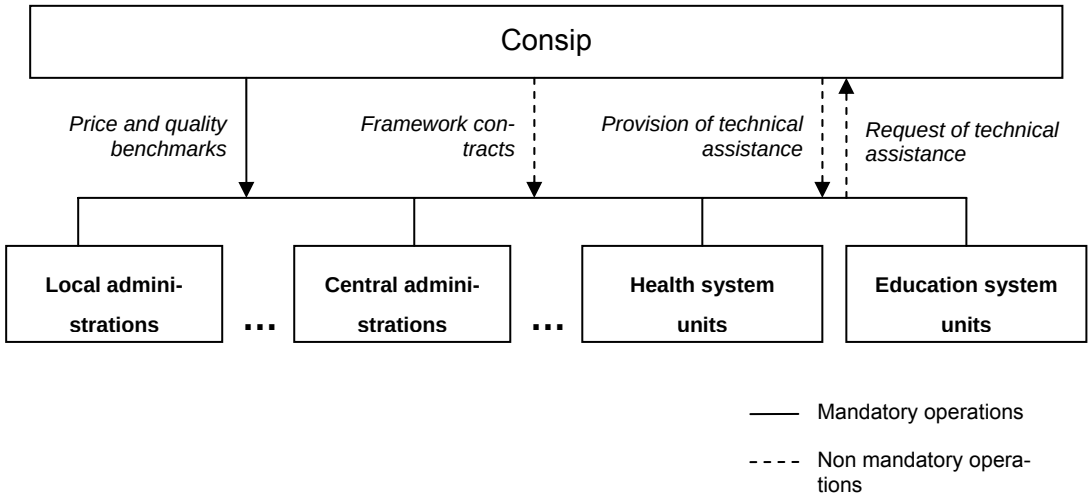
- *Framework contracts,* usually binding for the central administration (ministries and central public services) and optional for the rest of the public sector. Framework contracts is a solution selected for the grouping of purchasing needs and may be either directly order ordered by the government or proposed by Consip in areas where market analysis has shown a prosperous field for the centralization of the procurement.
- *Provision of technical assistance* for the implementation of individual procurements by public agencies.

Consip is also in charge of implementing the *Rationalization Program on Public Spending* for goods and services through the application of information technology and innovative purchasing methods. The main objective of the Program is to guarantee the efficiency and transparency of procurement processes, to ensure adequate quality of purchases made by the public administrations at competitive prices and to support the administrations in the implementation of specific initiatives on procurement. To reach the above objectives Consip uses e-procurement tools (e-Marketplace, e-shops) and develops frame contracts through European-wide tenders (conventional or on-line).

With the frame contracts, which specify the maximum amount of the purchase, selected suppliers commit themselves to accept orders coming from all public administrations (central and local, including health units and universities). Bureaucracy is significantly reduced replacing the whole procurement process (market research, preparation of tendering documents, public tender activities undertaken only once by Consip) with a simple order sent on-line or via fax by each administration for each procurement.

One other way of proceeding is by Consip preparing the entire tendering material and the technical specifications following extensive studies and market research on behalf of public bodies requesting technical assistance for the implementation of an individual procurement. Alternatively, public bodies, whenever they decide to run their own tenders, they are *obliged* to achieve at least the Consip specified price and quality benchmarks.

Innovation is included in the mission of Consip especially as far as the diffusion of ICTs and process innovations in the procurement systems of the public sector. Additionally, when preparing frame contracts, Consip experts may ideally seek to promote innovative purchases for cost saving purposes (but there is no evidence of a systematic pursuit of this mission).



2. Public Works Authority (http://www.autoritalavoripubblici.it/)

The Public Works Authority (PWA) (Autorita per la vigilanza sui lavori pubblici) is an independent body established in 1999 for the legal supervision of public works and engineering services. The role of the PWA is to diffuse and supervise the proper implementation of the effective regulation by the public authorities and the contractors. Soon its authority will be expanded to the entire public procurement system, as, with the adoption of the New EU Directives, is going to undertake the role of the central legal supervisor in all public contracts, including Consip's framework contracts.

3. Italian National Centre for the Information Systems in the Public Sector (CNIPA) (http://www.cnipa.gov.it/site/it-IT/)

CNIPA (*Centro Nazionale per l'informatica nella Pubblica Amministrazione*) is an agency responsible to spread throughout the Public Administration (central and regional) the effective use of new technologies and methodologies. CNIPA offers compulsory technical and economic instructions to the public sector regarding the procurement of ICT products and services.

4. Local Administrations (Regions, Municipalities)

Local and regional administrations are authorized to manage procurement either through Consip or internally, respecting the price and quality benchmarks of the Consip (whenever they exist). In addition regional authorities have some degrees of freedom in establishing independent procurement rules using their legislative power provided they respect the European and National law.

Major documents: are there guidelines, toolkits etc. that have an impact on the role of innovation in procurement? (please provide http-link if possible)

The Italian government has incorporated the European directives 93/36/CEE, 92/50/CEE, 97/52/CEE, 93/38/CEE and 98/4/CE on public procurement in national law.

- The *Law 488/1999* on *the rationalisation of the public purchases of goods and services by the public* administration (*La razionalizzazione degli acquisti di beni e servizi delle Pubbliche Amministrazioni*) is the key legal document for the organisation and administration of public procurement. Among other things it foresees the establishment of CONSIP, as a central procurement organisation, which is also responsible for the development of e-procurement.
- The *Law no. 10/2002* implements *EC Directive no. 1999/93/CE* on electronic signature.
- The *Presidential Decrees no. 513/1997* and *no. 445/2000* provide a legal framework on administrative electronic documents.
- The *Presidential Decree no. 101/2002* provides for a regulation on electronic procedures for purchasing of goods and services with specific reference to e-auction and marketplace system.
- The *Law no. 10/1991*, imposes energy saving solutions to the public administration, where these prove cost-effective and technically feasible (Article 26, comma 7).

Does innovation play a role somehow in the documents?

Innovation plays some role in the above documents especially as far as process innovation and electronic applications in the procurement system are concerned.

1. The *law 488/1999* promotes innovation in the whole framework of public procurement practices (in terms of rules, tools, etc.).
2. The *Presidential Decree no. 101/2002* aims at simplifying and rationalising the procurement procedure, exploiting the advantages of electronic tools.
3. The *Law no. 10/1991* refers to a specific product innovation policy.

Any principles of procurement as they relate to innovation?

Public procurement policy is not formally linked with national innovation policy. However, public procurement policy promotes innovation in the procurement practices.
Ad hoc innovative solutions exist both at the central and local level.

Any recent structural changes?

The major structural change in the national procurement system was the creation of

Consip, in 1999, that led to the re-organisation of the procurement process, especially for the central public administration. The detailed role and organisation of Consip as a central procuring agency have changed several times during the last decade.

Any reactions to the EU directive (does it make a difference)?

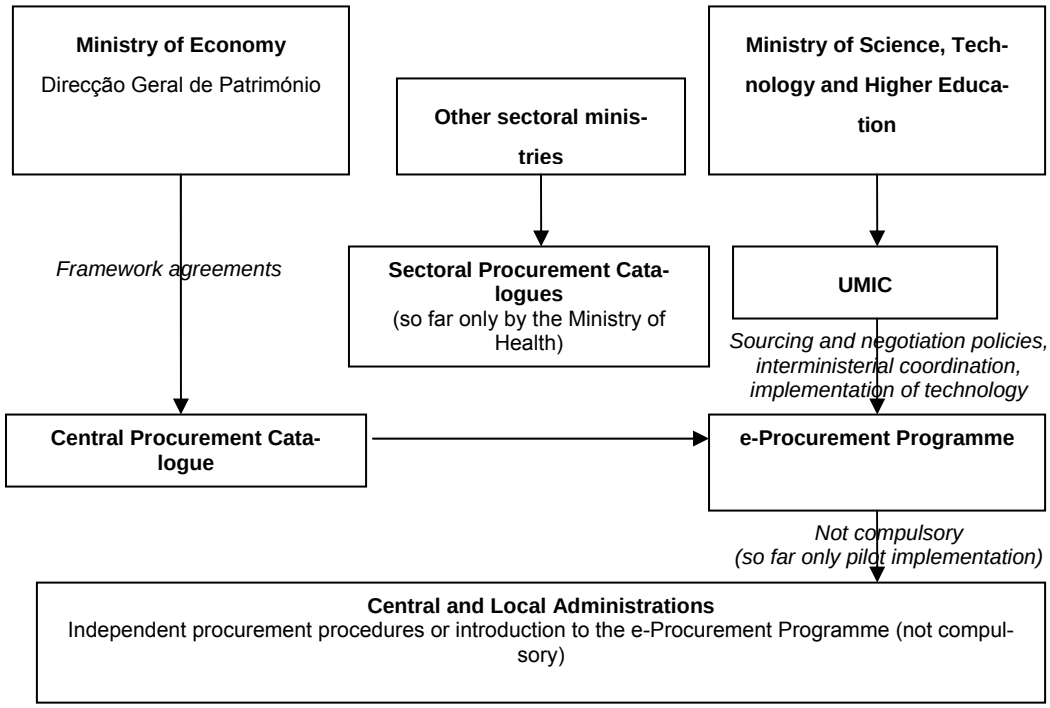
The new EU public procurement directives are expected to be implemented by the end of 2005.

Further comments

Although innovation does not directly play any role in the official procurement framework the key organisations such as the Consip, the Public Works Authority and the CNIPA place some emphasis to the selection of innovative solutions mainly for cost saving purposes but (occasionally) not only for this. Innovation often plays a role within the Consip's frame contracts. Innovative solutions are often required as in the case of the procurement of services, where by means of a centralised contract process innovation is required in management and monitoring operations, as well as in data gathering to improve the quality of the supplied service.

9. Country: Portugal

Major organisation of procurement at the national level



Public procurement in Portugal was until recently organized in a decentralized manner. Public agencies at national and regional level could establish their individual procurement procedures and organize calls for tenders without any central intervention. The system is now in a transition phase, following the decision of the Portuguese government, in August 2003, to proceed with a major reform, which

- the creation of a centralized organisational scheme and
- the provision of the necessary infrastructure to facilitate e-procurement.

During the transition period the Ministry of Finance through its General Directorate of Procurement (Direcção Geral de Património) in cooperation with the UMIC (Mission Innovation Unit) supervised by the Ministry of Science, Technology and Education play the coordinating role. For the final phase the creation of a National Procuring Agency is proposed with the aim to coordinate public administrations procurement and to achieve synergies. This proposal has not been adopted yet.

Major responsible institution(s) for procurement on the national level and their function

1. Ministry of Finance [http://www.dgpatr.pt]

Within the Ministry of Finance the General Directorate of Procurement is responsi-

ble to contract and manage framework agreements and to create the Central Procurement Catalogue (Catálogo Telemático de Aprovisionamento Público – CTAP) of pre-selected suppliers. The main goods & services categories in the CTAP are: microcomputers, data communication networks, printers and informatics' consumables, hygiene and cleaning products, mobile communications and a few others. In this way the General Directorate to some extent coordinates public procurement for the administration at the national level. For specialized procurement items, catalogues can be also created by corresponding sectoral ministries to facilitate the purchases of their supervising agencies.

2. Ministry of Science, Technology and Education – Knowledge Society Agency (UMIC)

UMIC is the entity responsible for the implementation of the Portuguese e-Procurement Program (PPP) which is an integral part of the public procurement system reform. PPP aims to improve the way negotiation and sourcing are made in the public administration (central and regional), and to speed up the introduction of electronic procedures in public procurement. The operational role of UMIC consists in the definition of sourcing and negotiation policies, the coordination of inter-ministerial procurement processes and the implementation of technological platforms supporting procurement processes.

3. Other sectoral ministries

Sectoral ministries can elaborate framework agreements and form sectoral procurement catalogues to be used by the agencies they supervise. As yet, only the Ministry of Health has established such a catalogue. The public procurement reform foresees the establishment of Ministerial Purchasing Units aiming at the rationalization of the procurement and purchasing structures within each ministry.

4. Central and local administrations

Practically every central and local administration can choose to either follow the centrally available tools (central catalogues) that will be crystallized after the reform or to organize its own process. Electronic platforms, catalogues and tools will be centrally available to the entire public administration. The central catalogues are not mandatory. However, the framework facilitates and promotes the grouping of the purchases but not at a compulsory basis.

Major documents: are there guidelines, toolkits etc. that have an impact on the role of innovation in procurement?

In Portuguese Central Administration all acquisition procedures fall under the De-

cree 197/1999, which foresees for the organisation of public spending and public contracts for the acquisition of goods & services. This Decree transposes the European directive 97/52/CE. Due to the fragmented character of the Portuguese procurement system and the transitional phase there are no toolkits or guidelines of binding character. There are, however, non-mandatory legal procedures and good practice guides available in the web.

a) Legal procedures guides:

http://www.compras.gov.pt/Compras/Menu/Legislacao/Guias_Procedimentos/

- Procedure approach to LD 197/99 (PT)

- LD 197/99 – Practical Guide (PT)

- EU procurement guides (PT)

- Others (PT)

b) Good practices: http://www.compras.gov.pt/Compras/Menu/SaibaMais/Boas_Practicas/

- Good practices of Queensland (PT and EN)

- Good practices from the Office of Government Commerce (EN)

Some of the procedures guides are free to download from www.compras.gov.pt (only in Portuguese but soon there will be an English version too).

Does innovation play a role somehow in the documents?

Innovation is not explicitly mentioned in the documents except for innovations related to the organisation of the procurement process and the introduction of electronic features in the procurement system.

Any principles of procurement as they relate to innovation?

Innovation was not promoted in the Portuguese public procurement system until the PPP was initiated. In the context of the PPP, UMIC promoted the creation of an international benchmark in order to facilitate learning on innovative practices to all procurement process' stages. Based on the experience of the transition period innovation is expected to be introduced as a key requirement of the procurement processes among the entities involved in PPP. Following demand analyses public entities have shown a growing interest towards innovative purchases and innovative procurement tools.

Any recent structural changes?

A reform of the national public procurement system (National Public Procurement Programme) is under way, following the Resolution of the Council of Ministers in August 2003. The structural change initiated by the Portuguese government fully incorporates an e-procurement strategic vision as a means "to assure quality public

services, to support the modernization of the Public Administration, to rationalize costs and to increase transparency perception".

The new organizational model promoted by the reform foresees the establishment of a National Procurement Agency as a central procurement authority that will play a strategic role, as well as the creation of individual Ministerial Procurement Units to centralize the procurement at a ministerial level. This new organisational scheme aims at the promotion of "a higher level of organizational integration and an efficient and simplified relationship" between the new organisations.

Any reactions to the EU directive (does it make a difference)?

There are significant delays and difficulties in incorporating the EU legislation on Public Procurement. The provisions of the New EU Directives will be incorporated through the new procurement legislation as part of the reform programme that is expected to be finished by the end of 2006.

Further comments

The structure of the Portuguese business sector suggests that there is no particular potential for bottom up initiated innovative procurement.

Much of the effort of the central government has been recently dedicated to the public procurement reform aiming at the rationalization of the system and the introduction of innovative tools.

10. Country: Denmark
Major organisation for procurement on the national level (centralised, harmonised, scattered…) Public Procurement activities are moving towards centralisation in Denmark. Although a public agency can chose not to participate in the centralised activities, the country has a well-developed system, where more mainstream economic terms such as efficiency and economics of scale are emphasised. The innovative dimension of public procurement can be seen in the emphasis on green procurement.
Major responsible organisation (s) for procurement on the national level and their function (if needed: division of labour between the institutions, and if possible a contact): The EC directives on public procurement are transposed 'telles quelles' into the Danish legal system, i.e. the texts of the directives have been directly incorporated to the national level. The Danish Competition Authority is the governmental agency responsible for the national implementation of the EC directives on public procurement. The agency also represents Danish interests in public procurement issues in the context of the World Trade Organisation and other bilateral agreements. (http://www.ks.dk/english/procurement/, 2005-09-12.) For procurement below threshold values, the Danish Minister for Economic and Business Affairs has issued legislation regarding construction and work contracts. Also in the context of procurement below threshold values, The Ministry if Finance has issued instructions to the state authorities concerning purchasing of services and goods (ibid). *National Procurement Ltd.* (Statens og Kommunernas Indköbsavdeling, SKI) is owned jointly between Local Government Denmark, in Danish 'KL', an interest organisation for all local authorities or municipalities, and the Danish government through the Danish ministry of Finance,) The main purpose of the organisation is to gain economies of scale through carrying out public procurement for its members. Currently the organisation has some 250 suppliers enrolled through framework agreements delivering to up to 8500 public agencies in Denmark. The turnover 2003 reached just over DKK 4 billion, and 2004 the turnover was 6.2 billion DKK. Apart from procurement, SKI also offers training and information through their web page and news letter. (SKI, http://www.ski.dk/.) As indicated by Gavigan et al (2003), this agency also tries to encourage environmentally friendly public procurement. Another procurement organization is AMGROS (www.amgros.dk, 2005-09-07), owned jointly by several counties and hospital unions all over Denmark. The company's principle task is to secure the best prices and delivery conditions possible for its owners in the procurement of drugs, hearing aid and other types of equipment/ aid in the health sector. This organization does not however emphasize innovation at all, but acts on existing markets (Flemming Sonne, CEO AMGROS, 2005-09-08). If a tenderer wants to complain about a decision there are three possibilities to do

so. This can be done either by complaining directly to *the Complaints Board*; to the *ordinary courts* ("legal proceedings"), or raising the matter in a less formal manner with *the Danish Competition Authority* ("informal problem solving"):
http://www.ks.dk/english/procurement/complaint/, 2005-02-08
The Danish Society of Engineers, Ingeniörföreningen i Danmark, IDA is a professional union for engineers. IDA carry out traditional union tasks such as counselling services on working contracts and or unemployment insurances. The organization also diffuses information and monitors the technological development in society. It is also a strong grassroots network and lobby organization that has recently taken actions to promote innovative public procurement. (ida.dk, 2005-09-08). IDA has an active part in promoting public procurement as a means to spur innovation (IDA, 2005: "IDA-plan for Danmark som förende vaekst-, viden og ivaerksaettersamfund", April 21th (policy document), MandagMorgen Nr. 26. August 2005: Ny handlingsplan: Det offentlige skal löfte private ivaerksaettere).
Denmark is active in the *Public Procurement Network.* This organisation strives:

> "[…] to strengthen the application and the enforcement of the procurement rules though mutual exchange of experience and benchmarking, and to create a reliable and effective informal co-operation on problem – solving in cross-border cases related to public procurement."

http://www.ks.dk/english/procurement/network/, 2005-02-08

This network includes other EU Member States, EEA Members, Switzerland, the transition countries, the candidate countries, and other European countries.

Major documents: Are there guidelines, toolkits etc. that have an impact on the role of innovation in procurement? (please provide http-link if possible)

Danish Ministry of Environment has published an action plan for "green" public procurement which acknowledges the possibility to consider environmentally friendly arguments for product selection before price.

"The digital supplier" (Ministry of Science, Technology and Innovation, 2002)10: Specific guidelines on electronic public procurement for the private supplier. Recommends DOIP.

"The digital buyer" (Ministry of Science, Technology and Innovation, 2002): Specific guidelines on electronic public procurement for the private and public buyer at all levels of administration. Recommends DOIP but is open to the fact that the buyer might also use other systems.

"Public procurement Guidelines" (Ministry of Finance, 2003)11: General guidelines on public procurement in the national administration. The target group is buyers in the public sector. No recommendations on solutions.
(http://europa.eu.int/comm/internal_market/publicprocurement/docs/eprocurement/2

004-12-country-reviews_en.pdf)

SKI offers courses and information through their web page and news letter. (SKI, http://www.ski.dk/

Does innovation play a role somehow in the documents?

Innovation per se is not specifically mentioned.

Any principles of procurement as relate innovation?

The emphasis on buying green.

Any recent structural or changes?

January 1st 2005: New legislation (http://www.ski.dk/inspirationskilden/) that will affect the way framework agreements are treated.

Any reactions to the EU directive (does it make a difference)?

They are working towards adoptions to the new directives.

According to Mr Gaard, Senior Consultant at the Danish Society of Engineers, the impact of the current public procurement legislation in relation to innovation is negative. He thinks that the current legislation emphasise price. Instead, much more emphasis should be made on partnerships between public agencies and private firms.

One issue currently debated in Denmark relates to a perceived tendency that public procurers for efficiency reasons may try to bundle what could potentially be several contracts, into a single one. This may inhibit SME´s possibilities to submit tenders to those contracts.

Another current debate addresses the difficulties for newly established firms with a short or non-existing list of earlier costumers or experiences. Public procurement may play a role as a 'kick-starter' for these firms' development and growth (Martin Thornborg, p. 19, MandagMorgen Nr. 26. August 2005: Ny handlingsplan: Det offentlige skal löfte private ivaerksaettere Löcke, Lars)

Further comments

One perspective introduced by the chairman of SKI, Mr Sörensen, concerns the internal marketing of framework agreements. "Procurement is something that can be solved technically and legally. You can pay for it or engage the right people to do it – the challenge is, in all types of procurement, to carry out procurements that reflect the public organisation's needs, and establish framework agreements that public agencies are interested in utilising. That is the challenge." Following this remark, another important success factor for procured framework agreements concerns the level of appreciation among the public customers.

11. Country: Finland

Major organisation of procurement at the national level (centralised, harmonised, scattered…)

Finland has a *harmonised* and, according to Mr Hytönen (Senior Budget Secretary, Ministry of Finance, Budget Department, Financial Management Unit), "mainly decentralised" public procurement system. The main reason for such a view is that public procurement in Finland is organized as a mixture of a centralized and decentralized approach:

There is a central public procurement body for state entities, Hansel Ltd. (www.hansel.fi). Hansel is a government owned public procurement company.

It arranges framework contracts which can be used by all state authorities in Finland. These public authorities are free to arrange individual framework agreements (buying through or with help of Hansel is not compulsory). Procurement (selection of suppliers) is a responsibility of the individual public authority.

http://europa.eu.int/comm/internal_market/publicprocurement/docs/eprocurement/2004-12-country-reviews_en.pdf

In the general case, there is no procurement collaboration between the national level and the level of municipalities. "The Municipalities organises their own procurement and it is very de-centralized. Municipalities have no central purchasing body. Due the recent reorganisation of the government's central purchasing body, it is now offering its services only for the governmental agencies. However there is change of information and experiences. Also in one recent occasion there was (Hansel and several municipalities) co-purchasing in IT-systems, but this was an exception." Mr Hytönen)

Major responsible institution(s) for procurement on the national level and their function (if needed: division of labour between the institutions, and if possible a contact):

The Finnish procurement system include units and delegations as follows:

- *Budget Department of the Ministry of Finance* has general steering responsibility in the area of the public procurement (ministries, state agencies and organisations; excluding the municipal sector).
- The *Public Procurement Advisory Unit.* The purpose of this unit is to provide advice on procurement law, good practice and strategic aspects of public procurement. The unit serves both demand-side and supplier-side actors involved in procurement for free. Contact person available e.g. Chief Legal Counsel Ms. Suvi Kemppainen, tel. +358 9 771 2674
  http://www.ktm.fi/index.phtml?menu_id=102&lang=3&fs=10, 2005-02-11
- The Public Procurement Advisory Unit is organised under *The Ministry of Trade and Industry*, which is the ministry responsible for following up relevant reforms and topical issues, drawing up the national implementation of the EC procure-

ment directives, as well as monitoring compliance with them. The ministry also participate when procurement issues are discussed within the EU or World Trade Organisation.
http://www.ktm.fi/index.phtml?l=en&s=102, 2005-08-15

- The *Delegation for state procurement:* The task of this delegation is to develop procurement collaboration between ministries and public agencies and promote centralised competitive procurement and evaluate how the states unit for collaborative procurement.
  http://www.vm.fi/vm/liston/page.lsp?r=88696&l=sv, 2005-02-08
  Vesa Jatkola, tfn 09 - 160 330 33 knows more on this.

- In Finland the *Market court* handles cases concerning both the Act on Competition Restrictions and the Public Procurement Act.
  http://www.oikeus.fi/markkinaoikeus/20309.htm, 2005-02-08

Major documents: Are there guidelines, toolkits etc. that have an impact on the role of innovation in procurement? (please provide http-link if possible)

The Finnish Public Procurement Act is designed to comply with the Treaty establishing the European Community and the Directives regulating Public Procurement. The Act also applies to procurement below threshold values as well as so called secondary services.

http://www.ktm.fi/index.phtml?menu_id=423&lang=3&fs=10, 2005-02-11

Other documents are also available on e.g.:

http://www.ktm.fi/chapter_files/General_terms_PP_Finland.pdf
(General Terms of public procurement for Finland)

There are also “procurement strategies of the ministries and agencies or in some cases also on administrative instructions. Although the strategies are not mandatory or binding they have influence. In some cases the strategy outlines the result targets set by the ministry for its agencies – agencies are encouraged to concentrate on procurement supporting their core duties and use the government’s procuring unit Hansel’s framework agreements in areas of bulk and quantity products and common services.” (Mr Hytönen)

Does innovation play a role somehow in the documents?

It is indicated that e.g. “The overall objective is to take advantage of information technology to enhance effectiveness of public procurement”:
http://europa.eu.int/comm/internal_market/publicprocurement/docs/eprocurement/2004-12-country-reviews_en.pdf.
This coordination of procurement and especially innovation is not explicitly mentioned.

Any principles of procurement as relate innovation?

The significance of public procurement in the Finnish economy is highly appreciated. Public procurement contributes with 15 % of the Finnish GDP. The first-mentioned value of the procurement legislation concerns mainstream economical thinking, i.e. that it ensures the best price-quality ratio and a more efficient use of public funds. Public procurement as a means to enhance the competitiveness of European as well as domestic firms is also recognised (http://www.ktm.fi/index. phtml?l=en&s=102, 2005-08-15). The public procurement advisory unit stresses the regulative aspects of the institutional setup, i.e. legislation as an instrument for reassuring transparency, non-discrimination and competition. In Finland, there is an emerging interest for initiatives aiming at making public procurement more efficient; in a way perform process innovations on the procurement process itself. What implications this has for innovative public procurement (understood as a special case of interactive learning) is unclear.

Any recent structural or changes?

On the February 2004 the Ministry of Finance issued the Government Procurement Strategy. The Strategy and its guidelines are not binding. Governmental board of public procurement has also launched several development projects which will provide manuals and sample documents conducting public procurement. These documents are likely to be used as a basis for the administrative instructions or recommendations issued by the Governmental board of public procurement (which may give recommendations) and Ministry of Finance.
September 15th 2004 the delegation for state procurement was appointed by the Ministry of Finance.

In Finland, Ministry of Trade and Industry and the Association of Local and regional Authorities have jointly established the Public Procurement Advisory Unit.

Any reactions to the EU directive (does it make a difference)?

Nothing beyond assisting actors in complying with the regulations.

Further comments

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12. Country: Norway

Major organisation for procurement on the national level (centralised, harmonised, scattered…)

There exists no central body for public procurement in Norway (apart from public procurement activities for hospitals). One interesting "custom" that Norwegian procurement system seems to nurture sub-national or inter-municipal collaborations, i.e. a group of municipalities establishing common procurement arrangements. One such example is the collaboration between Enebakk, Fet, Gjerdrum, Nittedal, Rælingen and Sørum (fairly small municipalities situated outside Oslo). This facility has a full time procurement manager formally employed by one of the municipalities, Sørum, but the cost is shared among the collaborators. The main arguments for this arrangement is to be able to achieve economics of scale, reduce the number of suppliers, and minimise administrative overhead:
http://www.ks.no/templates/Topic.aspx?id=3880, 2005-02-07
Nineteen such inter-municipal collaborations were agreed on 2004:
http://www.ks.no/templates/Topic.aspx?id=2976, 2005-02-07

Major responsible organisations(s) for procurement on the national level and their function (if needed: division of labour between the institutions, and if possible a contact):

The ministry that is responsible for the procurement law in Norway is the *Ministry of Modernisation*, established in October 1st, 2004.
One organisation that is of relevance here is the *Norwegian Association of Local and Regional Authorities*. Within this framework KSI (Municipals Procurement forum) was established in 1996. Among other things, this organisation administrated education in public procurement for its members:
NALRA web page, http://www.ks.no/templates/Page.aspx?id=2475, 2005-02-07
According to Public Procurement Act (Lov 1999-07-16 nr 69: Lov om offentlige anskaffelser) law (§ 7a, the King is empowered to establish a council for solving disputes occurred in relation to public procurement. Since January 1st, 2003, such a board has been established, the *Board for Complaints* (my translation: Klagenemnda for offentlige anskaffelser). Members of this board are listed on:
http://www.kofa.no/index.php?id=5
The board was set up to allow a faster forum for solving procurement disputes outside ordinary courts. It accepts complaints from any supplier that has participated in a procurement process or has considered participating but perceived/ perceives that its ability to compete is constrained due to illegal or inadequate circumstances. The board will eventually make statements as to whether or not the procurement process has violated the law, and also sometimes whether economic compensation should be granted. The statements made by the board consist of recommendations. It should be noted that this board is mainly operative, in the sense that it deals with

concrete cases. Issues concerning policy and strategy in public procurement are dealt with at the government level. One contact that has promised to assist in the future is Kristian Trygstad. kristian@kofo.mo Telephone 0047-22337010
The central organisation monitoring private interests in the developments of public procurement is the Confederation of Norwegian Business and Industry (Nærings-livets Hovedorganisasjon, http://www.nho.no/).

Major documents: Are there guidelines, toolkits etc. that have an impact on the role of innovation in procurement? (Please provide http-link if possible)

Although not formally an EU member, Norway applies the same public procurement rules as the EU member states, through its membership in the EEA. Norway has also signed the World Trade Organisation's Public procurement agreement. The main law regulating public procurement in Norway is the Public Procurement Act (Lov 1999-07-16 nr 69: Lov om offentlige anskaffelser).
A Norwegian national version of Tenders Electronic Daily is available on:
http://doffin.norsk.lysingsblad.no/ (database for public procurement in Norway).

Does innovation play a role somehow in the documents?

Not in a very explicit way.

Any principles of procurement as relate innovation?

Very little suggest any explicit concern for innovative public procurement.

Any recent structural or changes?
The previous minister of Modernisation, Victor D. Norman decentralised the Norwegian public procurement system. Before this, there was a governmental body that carried out procurement activities for the state. Typically this body procured furniture, and established framework agreements for travels. Nowadays, the different ministries need to administrate their own procurements.
The reasons for decentralising the procurement activities were to allow for increased number of supplier on the market and also to increase competition.
This ministry is currently conducting a survey with the aim to revise the regulation framework on public procurement. Different actors such as public agencies and interest groups have been asked to respond to questions distributed in a letter: http://odin.dep.no/filarkiv/227590/innspill_anskaffelser.pdf, 2005-02-07
Establishment of Board for Complaints in January 1st, 2003.

Any reactions to the EU directive (does it make a difference)?

The directives are perceived as part of the institutional setting and are not really a big concern. If the law specifies certain behaviour this will be complied with.

Further comments

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13. Country: Sweden

Major organisation for procurement on the national level (centralised, harmonised, scattered…)

Sweden, being a country that traditionally has emphasised the possibilities in public technology procurement, is re-vitalizing what currently is a rather scattered and decentralised system for public procurement where each public agency is responsible for its procurement activities and collaborations.

For instance, when it comes to market organisation initiatives the Swedish government has not established any central electronic public procurement portals as this is deliberately left to private operators. Several privately owned and operated portals exist instead: http://europa.eu.int/comm/internal_market/publicprocurement/docs/eprocurement/2004-12-country-reviews_en.pdf

There are however examples of collaboration between central authorities, county councils and municipalities; the name of Single Face To Industry (SFTI). This is a programme that covers activities like awareness and promotion of eProcurement, development of standards and working practices and support to suppliers (see http://europa.eu.int/comm/internal_market/publicprocurement/docs/eprocurement/2004-12-country-reviews_en.pdf.)

Other recent innovative procurement initiatives, with a special focus on promoting the development of environmentally friendly technology have been carried out by the Swedish Agency for Economic and Regional Growth (NUTEK) and the Swedish Environmental Agency, in collaboration with the International Energy Agency (See www.nutek.se, and IEA Implementing Agreement on Demand-Side Management technologies and Programmes, 2003, Task X Performance Contracting, Final Management Report).

In a strategy document published 2004, The Swedish government states that ”It is important that the state, municipalities and counties contribute to increased innovation capabilities and competitive advantage for sustainable growth, in the same time as they should make use of innovation to develop and improve their own activities” (Ministry of Industry, Employment and Communications/ Ministry of Education, research and Culture, 2004,Innovativa Sverige En strategi för tillväxt genom förnyelse, Ds 2004:36, p. 32). The central measures to implement this strategy, is through collaboration between public agencies and public procurement.

There is also a growing concern on the possibilities for SME´s to compete for public procurement contracts. One such concern is how the possibilities may be affected by the tendency among public agencies to offer joint framework agreements which might exclude smaller firms’ participation and/ or potentially provoke the formation of (illegal) supplier cartels (Sundbom, Per-Arne (2005) Offentlig upphandling kan utnyttjas bättre för tillväxtpolitiska mål. Tillväxtpolitisk utblick, ITPS, Nr 2, Feb, 2005).

Major responsible organisation(s) for procurement on the national level and their function (if needed: division of labour between the institutions, and if possible a contact):

The *National Board for Public Procurement* (Nämnden för offentlig upphandling, NOU) is the public agency responsible for supervising compliance with the LOU as well as the GPA agreement with the World Trade Organisation, WTO. In general, NOU is responsible for monitoring and distributing information on developments in the field (NOU web page, http://www.nou.se/, 2004-11-05). Members of the board as well as staff are listed on the NOU web page. Telephone number to NOU 08-454 44 40.

The *Swedish Association of Local Authorities and Regions (SALAR)* is the joint organisation. http://www.skl.se/artikel.asp?C=756&A=180, 2005-02-08 that are building competence on public procurement. Another organisation of interest is The Swedish Federation of County Councils (Landstingsförbundet).

Coordination of procurement group (Statlig Inköpssamordning), established 1998. The CPG has been coordinating negations and closing of framework agreements for (currently) 12 public state agencies. These are Arbetsmarknadsstyrelsen, Domstolsverket, Ekonomistyrningsverket, Fortifikationsverket, Försvarets materielverk, Försvarsmaktens logistik, Lantmäteriverket, Riksgäldskontoret, Rikspolisstyrelsen, Skatteverket, Stadskontoret, Verket för högskoleservice (www.avropa.nu 2005-02-17).

It is however noteworthy that Sweden does not seem to follow the trend towards building centralised, jointly owned organisations to the extent that is possible to see in the other Scandinavian countries. As far as this preliminary studies goes, the centralisation rarely goes across organisations, but involves centralisation within an organisation. One example of such a centralized function within a public agency is the *Stockholm County's Central Procurement Unit Coordination of procurement group* (my translation, Landstingets centrala upphandlingsenhet) (http://www.sll.se/w_upphandling/33333.cs?dirid=5919, 2005-02-08).

Another public agency that is not central to public procurement but still may be interesting in this context is the *National Board of Trade (Kommerskollegium)*. With a more general focus on international trade, it plays a role as a support organisation for informing Swedish standpoints in relation to WTO negotiations. It tries to promote an efficient European common market and has also tried to emphasize the possibilities for Swedish firms to respond to other EU states calls for tender, (Bengt Agild, Kommerskollegium 2005-02-07).

Major documents: are there guidelines, toolkits etc. that have an impact on the role of innovation in procurement? (please provide http-link if possible)

In Sweden, public procurement is regulated primarily by the act on public procurement, 'Lagen om offentlig upphandling' (SFS 1992: 1528), LOU, first put into force January 1st, 1984. This law specifies general principles, e.g. that procuring agencies

are “to take advantage of existing competition and should also in other respects accord with the conventions of good business practice […]” (SFS 1992: 1528, Article 4), and also the available procedures that can be applied, rules for advertisements, how to write technical specifications etc.
Another law of relevance to public procurement is the Act against Improper Conduct concerning Public Procurement (LIU, SFS 1994:615). This law is designed to give the *Swedish Competition Authority* to counteract harmful restrictions on competition. If, for instance a company (a tender) is discriminated or the behaviour of the public agency (the procurer) distort competition in any other way, the Swedish Competition Authority can forbid such a behaviour in the future (ibid., Article 3).
NOU has published an array of reports on issues related to public procurement (http://www.nou.se/rapport.html). The impact of these reports is at this stage unclear, but a crude overview would suggest that the bulk of the work concerns aspects such as efficiency, transparency and administrative aspects (i.e. clarifying the law) of the legislative framework.
Several public agencies have specific guidelines or internal policies or prescriptions on public procurement. These guidelines seem however not to go into innovative aspects of public procurement, but are mainly emphasising the importance of complying with the legislation, or encouraging utilization of established framework agreements, or making remarks regarding (the internal) administration of public procurement activities.

Does innovation play a role somehow in the documents?

Different measures are taken to adapt to the new directives on public procurement. There is also an explicit policy towards developing e-procurement and other electronically services. Public procurement in general (including regular procurement) as well as innovative public procurement is gaining increasingly interest from the government and ministries.

Any principles of procurement as relate innovation?

There is an interest in electronic procurement and e-governance in general. The general policy has been not to intervene towards market coordination/creation.

Any recent structural or changes?

Public procurement and especially innovative public procurement are gaining increasing attention. Although not established yet, work is carried out on the national level in order to set up organisations that will support activities that lead up or promote to innovative public procurement.
In order to remove obstacles to the use of electronic signatures, the Swedish government has appointed a working group with the task to conduct a survey of form requirements (e.g. provisions that a communication or documentation must be signed or in writing). The WG presented a report in April 2003, revealing some 800

provisions that do not allow electronic communication or signatures, 180 of which were deemed to be unnecessary obstacles.
http://europa.eu.int/comm/internal_market/publicprocurement/docs/eprocurement/2004-12-country-reviews_en.pdf
In Sweden, the use of public e-procurement and other electronic services related to public procurement, e.g. electronic auctions is relatively scarce:
http://europa.eu.int/comm/internal_market/publicprocurement/docs/eprocurement/2004-12-country-reviews_en.pdf

Any reactions to the EU directive (does it make a difference)?

One common perception among public procurement practitioners in Sweden is that it is difficult to procure new technology specified in a functional way. The reason for this, according to Ms Graaf-Morin, is however not the legislation per se.

In public procurement projects above threshold values it is usually hard to justify the application the negotiated procedure. This may reduce the possibilities to negotiate with suppliers. But on the other hand, Ms Graaf-Morin argues, “the exceptions do exist”.

Both Mr Harjeskog and Mr Reinholz argues that the procurement rules per se does not prevent innovation from happening. However, in order to be successful, certain competences are required. As Mr Harjeskog points out, “a procurer needs to know the law, how it is applied and how business is carried out”.

Further comments

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14. Country: Belgium
Major organisation of procurement at the national level (centralised, harmonised, scattered…) Scattered system for innovation policy with federal and regional policies operating independently with little coordination. Policy for procurement not strongly developed anywhere. There is controversy over exactly over where the initiatives for this kind of procurement policy should lie. New developments beginning to occur now indicate a level of awareness of procurement within Flanders and a need to develop policy in this area (see below). Recent government reforms to reduce bureaucracy and to introduce open standards may have made innovation easier for those supplying government. e-government interoperability framework BELGIF ('BELgian Government Interoperability Framework').
Major responsible institution(s) for procurement on the national level and their function (if needed: division of labour between the institutions, and if possible a contact): New Platform for innovation in the provision of environmental technology with the state and the regional governments taking important role on demand side. But this policy is not yet developed. There is some discussion at in Flanders about an SBIR equivalent to ensure that smaller firms are able to participate in the innovation process. This is intended to ensure that the procurement of innovation by public procurers becomes easier.
Major documents: Are there guidelines, toolkits etc. that have an impact on the role of innovation in procurement? (please provide http-link if possible) Linking Innovation Policy And Sustainable Development In Flanders. Contribution To The OECD-TIP Project MONIT (Monitoring And Implementing Horizontal Innovation Policy) Humbeeck Peter, Van Dries Ilse, Larosse Jan http://trendchart.cordis.lu/reports/documents/CR_Belgium_September2004.pdf
Does innovation play a role somehow in the documents? Yes. **Any principles of procurement as relate innovation?** The approach is to integrate procurement and innovation in a fundamental way: however the details of how this approach would work are not yet worked out. The sectors in which the government would try this are decided however; they are energy and environment.

Any recent structural or changes?

Creation of the Platform for a more synthetic approach to environmental and innovation policy leads to integrating policies of Innovation, Environment and Energy Policy Ministries by the Flemish Government follows change in Federal Law of 2004 to allow a consideration of environmental and social characteristics of products and social and ethical issues.

However, recent activity at the Flanders Level (IWT) is important with attempts to define a new procurement model underway. This policy is being developed through a broad policy review involving other countries including Sweden and the Netherlands and with the involvement of a firm of legal advisors and procurement specialists. There is general recognition in Flanders that the procurement of innovation is a legitimate aim of public bodies but that it is difficult to regulate. In certain areas, in for example the construction of roads, there is a shifting away from more price competition to competition on functionality.

So far as the Government of Flanders is concerned, major questions have arisen over the following within the context of governmental innovative procurement: how to ensure that government R&D subsidies can remain legal within public technology procurement; how can the IP which arises be allocated (how can a transfer price be identified when IP is allocated to the private sector and whether IP should remain with the public sector); how can risk and failure to deliver on a project be managed. Work carried out by IWT and procurement specialists will lead to a model contract or set of model contracts.

Overall, though the procurement policies are defined bottom up in Belgium – good ideas are developed but do not necessarily get imposed from the top, or indeed transfer very widely.

Any reactions to the EU directive?

Further comments

The Belgian Federal government is no stranger to innovative technology procurement with a large number of ICT projects being implemented. One important example is that of the ID card. In 2003, ZETES, a IT services and consultancy company launched the EID (Electronische Identiteitskaart or Electronic Identity Card) based on Java Card Technology for the Fedict, the Federal ICT department. This was major project to bring an electronic id card to all of Belgium's citizens. The technology involved is highly advanced and the introduction of the card appears to be a success with 2004 seeing the start of the plan to implement the card across the whole

country.

15. Country: Canada

Major organisation of procurement at the national level (centralised, harmonised, scattered…)

As with the United States, the responsibility for procurement policy and practice is distributed across the federal and state levels.
At the federal level, there is a clear division of labour between the procurement policy setting (Treasury Board of Canada) and procurement operations (PWGSC).
Procurement systems are very decentralised and the provinces and municipalities do a lot of their own procuring. Excluding defence, police and security, their spend is much larger than the federal government.
The federal level is bound by a number of different policies, mainly contracting policies, these but the provinces set their own processes. There is some uniformity but each of the provinces has their own special circumstances and so the processes differ accordingly. Efforts are being made to try to link together programmes and services across government levels but progress is slow.

Major responsible institution(s) for procurement on the national level and their function (if needed: division of labour between the institutions, and if possible a contact):

1. Treasury Board of Canada: Policy setting unit and master financial planning.
2. Public Works and Government Services Canada (PWGSC): Central procurement agency- turns policy into operations. PWGSC will have an enhanced role under current reforms.
3. Federal departments.
4. Provincial Governments.

Lobbying Organisations:
Canada's largest high tech association, the Canadian Advanced Technology Association (CATA*Alliance)*, has released several consultation papers providing pressing for stronger links between Canada's Innovation Strategy goals and public procurement reform. In particular, CATA calls on the federal Government to step up action in three key ways:

1. Government as a model user,
2. Government as a first customer,
3. Government procurement that is fair, fast and forward-looking.

The Information Technology Association of Canada (ITAC) is another one of the stronger lobby groups. In particular, they are lobbying for more effective use of public private partnerships.

Major documents: are there guidelines, toolkits etc. that have an impact on the role of innovation in procurement? (please provide http-link if possible)

Recent reforms have been guided by the Parliamentary Secretary's Task Force, Government-wide Review of Public Procurement:
http://www.pwgsc.gc.ca/prtf/text/final_report_summary-e.html

The PWGSC also provide several Procurement Manuals:
http://www.pwgsc.gc.ca/acquisitions/text/pg-e.html

Public procurement activities are also largely governed by the Treasury Board's contracting policies:
http://www.tbs-sct.gc.ca/pubs_pol/dcgpubs/Contracting/contractingpol_e.asp

The main dissemination of best practice and policy is through websites. To aid potential private sector vendors there is also some private sector involvement trying to interpret government guidelines- organisations such as CATA and ITAC will distribute these through membership networks.

Public procurement activities are also restricted by various trade agreements and regulations. In particular, The GATT's *Agreement on Government Procurement* and Chapter Ten of NAFTA impose certain obligations respecting government procurement by certain federal government departments and entities. However, there are no obligations are imposed at the provincial level. Chapter 10 of NAFTA aims to achieve greater competition and transparency in government procurement, and to eliminate both protection of domestic products or suppliers, and discrimination among foreign products or suppliers.

The Government is somewhat restricted in its procurement activities by trade agreements and the strength of the competitiveness paradigm in Canada. NAFTA and the Agreement on Internal Trade, in particular, mean that the Government cannot direct dollars to regions or to sectors and there is an increasingly restricted set of activities that can be excluded from the trade regulations. Consequently, when designing a bid they first have to look at the trade agreement. A Dispute resolution agency was created by one of the trade agreements and it now creates a growing body of case law that is shaping procurement policy. Government contracting disputes are also heard before the Canadian International Trade Tribunal, the Federal Court of Canada and provincial tribunals.

Does innovation play a role somehow in the documents?

On the whole the role of innovation is very limited at present. Any talk of innovation also seems to be directed firmly at the ICT and e-procurement arena. However, in light of the government-wide review of procurement there is huge debate at the moment about where innovation falls within the new framework.

CATA, ITAC and the environmental sector are lobbying the Federal Government hard to get innovation explicitly associated. In particular, CATA are lobbying for procurement reforms to be more strongly linked to Canada's Innovation Agenda and they are encouraged by some positive responses from the PWGSC thus far.

Innovation is not explicitly written into the new initiatives; however, they do represent a clear move away from traditional fixed procurement criteria such as price towards one emphasizing results and outcomes, 'and innovative solutions for achieving them'. Furthermore, they highlight a shift from purchasing towards procurement- the former being a process they employ as retail customers, the latter a process they employ as enterprise users.

The new guidelines focus on the need for 'Strategic Sourcing'; matching internal customers' needs with marketplace capabilities and 'technology enhancement' is explicitly stated as part of their strategic sourcing development plan. Accordingly they recognise that 'purchasing and technical skills are essential in the [strategic sourcing] team – participation of others required to secure buy-in is equally so', if they are to become intelligent customers. Effort is also being increased to recognise the *future* requirements of the business, which, again, implicitly suggests scope for innovation, though nothing is explicitly stated.

Any principles of procurement as relates innovation?

The proposed consolidation of contracts also provides a potential boost to innovation: *"The opportunity for Government of Canada (GoC) is to reduce the number of suppliers, consolidate the associated spend and become visible on the suppliers' radar screens, thus leaving the opportunistic category of customer and becoming a tiered customer. In this way, they become a more important customer and will have more clout when it comes to driving innovation".* However there are concerns that it will hamper innovation for some, especially for SMEs, because changes make it more difficult for small business to get contracts when procurers make efficiency savings and group contracts with big contractors. Policy makers are trying to ensure that SMEs have a fair shot at the public sector market place but many SMEs are very concerned that they won't.

Any recent structural or changes?

The Federal Government assigned a major review of procurement in 2003 as part of a review of expenditure. It was the first time procurement had gained a lot of political attention. The review and subsequent consultation period resulted in several recommendations, amongst them:

- Taking on private sector approaches- including the rhetoric and terms,
- Harmonisation across government entities and levels,

- Making government entities recognise procurement as an important corporate strategy/function.

The reforms appear to be widespread and significant: 'treat this as a *new model* – not as a change to an old one' (PWGSC training slides). Furthermore, there is mandatory compliance with the new practices.
The main objectives of this reform initiative are:

- Driving quality improvements from suppliers
- Improving client satisfaction
- Transforming the Business of supply
- To emerge as a world leader in public procurement
- Reduce costs by 10%
- Reduce process costs by 10%
- Achieve 50% increase in overall efficiency.

To achieve this PWGSC have established Commodity Councils who oversee procurement processes and provide market advice. They are cross-functional and cross-departmental, and include representatives from the procurement organization, clients, suppliers, and departments with responsibility for socio-economic programs. They have a mandate to design and deliver sourcing strategies for specific spend categories/commodities.

The strengthening of e-government initiatives is also a major part of the reforms. To this end, the Government of Canada Marketplace (GoCM), an e-procurement initiative, was established.
Reforms are also beginning to be made to more easily facilitate partnering/public private partnerships. However, progress has been somewhat hampered by the ongoing problems with a number of large IT projects.
Reforms have to be pushed at both the Federal Government level and the Provincial Government level and reform is uneven.

Any reactions to the EU directive (does it make a difference)?

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Further comments

More focus will also be placed on procurement *professionals*. Up to now, there has been much less professionalization than other western countries- no public procurement focused business programmes- rather supply management and industrial organisation with the odd module dedicated to procurement. It is recognised that it is a problem but maybe not enough of an audience to justify university programmes just yet.
The Province of BC has been one of the most aggressive jurisdictions in encourag-

ing PP partnership, and has established a Joint Solutions Procurement Process for the evaluation and selection of vendors in large IT projects. It aims to engage private sector bidders in a joint discovery of the risks and benefits of the initiative to assess the capacity, commitment and capability of the private sector bidders. After a process with defined gates the final stage engages the finalists in competing bids. Having said this, the Information Technology Association of Canada (ITAC) is frustrated with the lack of progress in most jurisdictions, including at the federal level.
'Formal agreements provide discipline in managing performance and driving innovation'.

16. Country: Spain

Major organisation of procurement at the national level (centralised, harmonised, scattered…)

Centralized.

Major responsible institution(s) for procurement on the national level and their function (if needed: division of labour between the institutions, and if possible a contact):

According to the Spanish Constitution, the State has the sole competency to legislate on issues related to public procurement.

Major documents: are there guidelines, toolkits etc. that have an impact on the role of innovation in procurement? (please provide http-link if possible)

This law was derogated by the new law for Contracts with the Public Administrations that came into force in 2000. (Texto Refundido de Ley the Contratos de las Administraciones Publicas (TRLCAP) (Real Decreto Administrativo 2/2000, de 16 de Junio). The institutions that according to the law can make use of public procurement are:

- The general administration of the State
- The administrations of the Autonomous Communities
- Entities of the Local Administration
- Autonomous organisations and other entities under public law, linked with any of the above public administrations, that fulfil the following criteria:
  - That have been created to fulfil needs of general interest that have not and industrial or commercial purpose
  - That their activities are largely funded by public administrations or other public entities

The major legal documents that currently regulate public procurement are as follows:

Texto refundido de la Ley de Contratos de las Administraciones Públicas
http://documentacion.meh.es/doc/NormativaDoctrina/Contratacion/LCAP%20Texto%20refundido%20actualizado%202004.pdf

Reglamento General de la Ley de Contratos de las Administraciones Públicas.
http://documentacion.meh.es/doc/NormativaDoctrina/Contratacion/Reglamento%20Ley%20Contratos%20y%20anexos.pdf

There is no specific official document to promote the role of innovation in public procurement.

Cotec (http://www.cotec.es), a private business foundation for the promotion of technological innovation in Spain, has produced two reports that highlight respectively the barriers of the present public procurement legislation to cover new technology contracts, and, an example of what could be a technology public procurement. Both documents try to make aware of the need to change the present framework towards one more friendly with innovation.

Does innovation play a role somehow in the documents?

Not specifically.

Any principles of procurement as relates to innovation?

There are no specific considerations for procurement of technological goods under the current law. Technology procurement is not subject to any consideration or special treatment in the present public procurement legislation in Spain.
Furthermore, the provision of technological good, prototype or service cannot be conceived with the current legal framework. Under the current law, contracts whose object or price is uncertain cannot be contemplated. This lack of flexibility constitutes a barrier when procuring technology. Public contracts need to have a specific object and a certain price conditions that are cannot be met by procurement contracts for technologically new or improved goods or services.

Any recent structural or changes?

Therefore, innovation is not a key element in public procurement practices in Spain. However, a variety of situations can be found in each region and government department, some regions and some ministries or departments are more advanced in the promotion of innovation through procurement. The military sector is the more advanced in promoting innovation through public procurement. In the ministry of defence there is an adequate planning of needs, they have a manual of procedures that guides the purchase, import or development of a new product, and they have more professionalised procurement practice. However in other ministries this practice is carried out in a more ad hoc way.

Some Autonomous Communities, not many, have tried to rationalise and professionalize procurement activities, but even in these cases there is still no inclusion of

innovation objectives.
However, things are starting to change. There is increasing awareness on the importance of promoting innovation through procurement. This is happening for example in the case of the management of airports (AENA) and also in terms of transport (the ministry of Public Works is promoting now more innovation in the construction of roads).

Any reactions to the EU directive (does it make a difference)?

Following the developments in the legal frameworks in countries such as France, as well as the new European directive on procurement, it is recommended by that the Spanish legal framework be made more flexible to allow “competitive dialogues” to permit greater collaboration with firms in the specifications of the procurement process (COTEC, 2004).
According to COTEC (2004) present legislation forces the public sector to postpone the purchase of technology until the private sector or other public administrations have created them. Thus the public sector misses the opportunity to act as a genuine motor for innovation.
In general, it is early to assess the impact of the new directive.

Further comments

In the case of procurement for new software, an additional barrier stems from the legal prohibition to contract those who participated in the drawing of technical specificities. Also restrictive is the norm that establishes budgetary restrictions for improvements of the goods awarded, particularly when it comes to software updates.
Finally, there is a lack of interest on the employment of electronic or telematic means in public procurement contracts (e-procurement), such as electronic auctions, although this is likely to change with the introduction of the new Directives.

According to some interviewees (Prof. Jose Molero), the promotion of innovation through procurement practices in Spain is hampered by the following factors:

- Firstly, the lack of ex-ante planning of procurement needs, necessary to be able to assess the associated innovation needs and opportunities. Ex-ante planning of needs and further dialogue with suppliers is generally lacking.
- Secondly, the specific characteristics of Spanish manufacturing structure. Spanish firms are generally small size (SMEs), specialised in traditional, low to medium R&D intensive sectors. This limits their ability to respond to procurement calls involving R&D activities.
- Thirdly, the lack of flexibility referred to above under the current law in terms of contract specification.
- Another problem is the strong fragmentation of demand. In Spain procurement is largely decentralised /regionalised. Regions, and also local authorities have an important purchasing capacity. However, there is little coordination, which makes

the demand very fragmented, and not enough critical mass in some areas (which can have a detrimental impact on promoting innovation).

- Evaluation of tenders. Public officials often lack the necessary training to evaluate the innovative component of a project.

17. Country: United Kingdom
Major organisation of procurement at the national level (centralised, harmonised, scattered…) Networked – system operates with some degree of hierarchy with the Treasury and DTI at the top. It is a synthetic approach. According to the UK government spending review (Cabinet Office, 2003) , by 2005-06, the government intends to spend around €450 billion on public services of which around € 100 billion will be controlled by central government and around €350 billion spent by devolved bodies at regional, and local levels for health, education, policing and local government. Public procurement in the UK is estimated to be around €120 billion (Cabinet Office, 2003) in 2005–06. In the United Kingdom, the major bodies responsible for procurement law and practice as regards public and private bodies are as follows: England – The Office of Government Commerce (OGC) and, in the case of Local Government, the Office of the Deputy Prime Minister (ODPM) Scotland – Scottish Executive Wales – Value Wales Northern Ireland – Central Procurement Directorate (for description of roles, see below).
Major responsible institution(s) for procurement on the national level and their function (if needed: division of labour between the institutions, and if possible a contact): The Treasury is responsible for certain aspects of procurement – particularly the cost-effectiveness aspects of procurement through the Office of Government Commerce. In the Gershon Review "Releasing Resources to the Front Line – Independent Review of Public Sector Efficiency" (Sir Peter Gershon, 2004), it was argued that there are significant savings from more efficient procurement of one and a half billion Euro from more efficient procurement practices. In fact, the review claimed the UK public sector could provide efficiency gains of over £20 billion by 2007–08; but the bulk of the savings would come (60 per cent) from "cashable efficiency gains" (CIPS Correspondent, 2005). Based on this trend of government policy is the new efficiency procurement agenda, which examines how to make improvements to the procurement process itself. The Kelly process is an example of this. By contrast, innovative procurement is meant to result from the Technology Programme of the DTI and from attempts made in individual markets to increase innovation in the goods and services used by government departments in the hope that these will catalyse the market. Market transformation has long been an important elements of policy in the area of environment. Treasury sets cash limits on how spending departments are to spend their money.

Major documents: Are there guidelines, toolkits etc. that have an impact on the role of innovation in procurement? (please provide http-link if possible)

A central reference is Government Accounting 2000 (http://www.government-accounting.gov.uk). Here it is stated that all public procurement of goods, works and services should be awarded on the basis of value for money. Value for money is defined as the optimum combination of whole-life costs and quality (or fitness for purpose) to meet the user's requirement. This is life-cycle costing.

The scope of the definitions of "quality" and "fitness for purpose" are thought by some to "possibly allow certain *relevant* innovation aspects of a bid to be taken into account, but an onus is on the buyer to prove that any innovation aspects in the specification are relevant." (CIPS Correspondence with Project Team).

The CIPS correspondent also notes however that "the use of the words to "meet the user's requirement" means that innovation aspects may be used during the evaluation of bidders. However, the policy also states that the requirement must be critically tested for need, cost-effectiveness and affordability"

Guidance from OGC and Treasury can be located here:
http://www.ogc.gov.uk/index.asp?id=1000084

From DTI – statements on the importance of innovation in the Technology Programme overview and in the DTI (2003f) Competing in the Global Economy – The Innovation Challenge, DTI Economics Paper No. 7 and DTI (2004) Creating Wealth from Knowledge - A 5 Year Programme.

We know from Parliamentary reaction (House of Commons) to the problems of procurement by the public sector.

House of Commons Public Accounts Committee (2004) Forty-first Report Improving departments' capability to procure cost-effectively, Session 2004-2005, HC 541

Recently involved in this area of work is the Office of the Deputy Prime Minister: The Small Business (SME) Friendly Concordat is a voluntary, non-statutory code of practice.

Office of Government Commerce (2004) Capturing Innovation: Nurturing supplier's ideas in the public sector report.

Further information listed by the Office of the Deputy Prime Minister (ODPM) – a large government department with responsibility for local government, support to the regions, housing and construction regulation – building standards:

1. National Procurement Strategy for Local Government (Office of the Deputy Prime Minister/Local Government Association). This has the following themes:
   - Delivering significantly *better quality public services* that meet the needs of all local citizens through sustainable partnerships they have forged with a range of public, private, social enterprise and voluntary sector organisations.
   - Confidently operating a mixed economy of service provision, with ready ac-

cess to a *diverse*, competitive range of suppliers providing quality services, including small firms, social enterprises, minority businesses and voluntary and community sector groups.
- Achieving *continuous improvement* from all categories of procurement expenditure, by putting in place an appropriate procurement strategy and the necessary resources for implementation.
- Obtaining greater *value for money* by collaborating with partners at local, regional, national and European levels.
- Realising *economic, social and environmental* benefits for their communities through their procurement activities.
- Demonstrating improvement in *equality and opportunity* for businesses, service users and council staff.
- Stimulating markets and using their buying power creatively to drive *innovation* in the design, construction and delivery of services." (CIPS Correspondent, 2005).

2. The National Procurement Strategy (October 2003) sets out how Central and Local Government, working together with partners from the public, private and voluntary sectors, intend to set about improving Local Government procurement. See: www.odpm.gov.uk/stellent/groups/odpm_localgov/documents/page/odpm_locgov_029231.hcsp

3. Delivering efficiency in local services: further guidance 2004. Spending review expects efficiency gains in Local Government of 2.5% per annum. This document details how local authorities will measure & report efficiencies, the change agents supporting them & areas where it's expected efficiencies can be made. See: www.odpm.gov.uk/stellent/groups/odpm_localgov/documents/page/odpm_locgov_034633.pdf

4. Local Performance indicators for Procurement (Improvement and Development Agency (IDeA)/Audit Commission). This publication includes voluntary PIs that enable local authorities to measure the proportion of corporate spend placed with SMEs and SME satisfaction regarding access to contracts and support from the council. See: www.local-pi-library.gov.uk

5. Procurement Essentials (IDeA). This guide is intended to support the implementation of the 'National Procurement Strategy for Local Government' by helping managers in Local Government to play an effective role in the procurement process. See: www.idea.gov.uk

6. Smaller Supplier … better value? (Small Business Service/ Office of Government Commerce). The purpose of this publication is to raise awareness of the value for money that small firms can offer, to explore the issues making it difficult for them to win public sector business, and to set out some ideas about how public sector purchasers can help. It is aimed at all those involved in procurement in the public

sector. The publication is available as hard copy, online, video or CD Rom format and is available from the SBS. It is produced jointly by the SBS and the OGC. See: www.supplyinggovernment.gov.uk/hotTopics.asp

7. Tendering for Government Contracts (Small Business Service/ Office of Government Commerce). The aim of this publication is to help SMEs in three ways. It explains where to find opportunities, how to prepare a bid for the work and advises on further contacts that may be of use. Copies of the publication are available online and from the SBS. Local small firms may find these of assistance when approaching the public sector market place. The publication is produced jointly by the SBS and the OGC.
   See: www.supplyinggovernment.gov.uk/hotTopics.asp
8. The Successful Delivery Toolkit (Office of Government Commerce). The toolkit describes proven good practice procurement, programmes, projects, risk and service management, bringing together policy and best practice in a single point of reference. This toolkit provides information about the mandatory Gateway Process, a control system for ensuring a sound business case within PFI projects, and establishing a risk control culture within PFI projects. The review follows the Gershon and Bates Reviews. Gateway was established in 2001, and its guidance notes in various forms have been issued a number of times since. Gateway consists of reviews during a project lifecycle: four take place before the award of a contract, the remaining two take place afterwards (OGC Gateway Site) The six stages comprise:

Strategic Review, Business Justification, Procurement Strategy, Investment Decision, Readiness for Service, Benefits Evaluation. Initially this process was seen as five steps, but the first step, Strategic Review, has become a formally step in the process, but which is repeated throughout the life of the project or programme.
   See: www.ogc.gov.uk/sdtoolkit

9. The Government Procurement Code of Good Practice (Office of Government Commerce). The Code sets out the core values and behaviour for all members of Central Government's supply chain, both purchasers and suppliers. It encourages all participants to work together openly and co-operatively. Although written for Central, Civil Government, the values and behaviours are also applicable to Local Government. See: www.ogc.gov.uk
10. Aggregation: Is bigger always better? (Office of Government Commerce). This publication is designed to inform decision-making during the development of procurement strategies. It particularly aims to clarify what is meant by 'aggregation', identifies the possible advantages and disadvantages and discusses the key issues to inform the decision-making process. See: www.ogc.gov.uk
11. Supplier Financial Appraisal Guidance (Office of Government Commerce). This guidance provides advice on how to conduct the financial appraisal of suppliers

bidding for public sector contracts. See: www.ogc.gov.uk

12. Supplier debriefing guidance (Office of Government Commerce). This publication assists those involved in debriefing by outlining the rationale, setting out a possible approach and providing suggestions on debriefing.
    See: www.ogc.gov.uk

Supply Chain Management in Public Sector Procurement (Office of Government Commerce). This is intended to provide a series of basic insights into the management of the supply chain within public sector procurement. It emphasises the importance of effective supply chain management and provides guidance on when and to what extent public sector procurers both inside and outside of the procurement process should take supply chain management into consideration. See: www.supplyinggovernment.gov.uk/hottopics.asp for more information.

Does innovation play a role somehow in the documents?

Yes.

Any principles of procurement as relates innovation?

Innovation is regarded as important. OGC notes that it can be pursued as a objective of procurement provided there is compliance with the Government's VfM policy, set out in Chapter 22 of Government Accounting. Government Accounting is found at: http://www.government-accounting.gov.uk/current/frames.htm. Chapter 22 is on Procurement which addresses innovation by way of sustainability; for which the OGC provides notes and explanations of the conditions under which sustainable procurement could be pursued. However, we note that the OGC is concerned to make principal financial officers aware of the possible alternatives to public procurement:

> "It also needs to be clear that public procurement is the right solution, compared with other courses of action. In some circumstances, for example, grants, training programmes or legislation might be a more appropriate way of taking the issue forward. This is particularly important because in some instances, the pursuit of sustainable procurement can work against the interests of SMEs and VCOs, by adding an additional burden of bureaucracy to the public procurement process.
> Finally, sustainable procurement must square with the efficiency agenda, which means that issues of cost and affordability must be addressed.
> For more detailed information on how sustainability can be taken into account in public sector purchasing please see the Procurement Policy and EU rules page of the OGC website."

OGC comments on EU Directive and Sustainability at:
http://www.ogc.gov.uk/embedded_object.asp?docid=1002752

Any recent structural or changes?

A major example of sectoral approaches is Procure 21. This new procurement agenda is of major importance. It has been developed to ensure value for money for

the public purse. An important major finding is however that many of the procuring agencies, such as those procuring hospitals, are failing to identify good design. As a result, the quality of some of the new buildings constructed for local authorities and hospital trusts (which run hospitals) is not good; indeed it is a criticism that can be heard that some of these facilities are being built to a 1980s design. Recently, the government has indicated that the organisation NHS Estates, which was established some years ago to coordinate the development of hospital estates, will be closed down. There are some who believe that this will have very adverse consequences for the value for money of public projects.
Major emphases in procurement practice are now these:

- Value for money
- Sustainability
- Efficiency savings
- Diversity
- SME development
- Recently, London Olympics 2012

Any reactions to the EU directive (does it make a difference)?

http://www.ogc.gov.uk/embedded_object.asp?docid=1001910 and also for utilities – the result of the consultation is awaited although it did close in August 2004.

Further comments

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18. Country: USA

Major organisation of procurement at the national level (centralised, harmonised, scattered…)

Public Procurement occurs at two distinct levels- Federal Government and Individual states. Whilst there is some cross-government policy, each Federal Department or agency has a significant degree of autonomy in its procurement policy.

Federal Government spends approximately $300 billion per annum. The top 5 federal departments are Department of Defence (68.3% of dollars), Department of Energy (6.9% of dollars), GSA (5% of dollars), NASA (3.8% dollars), Department of Veterans Affairs (2.8% of dollars), Department of Health and Human Services (2.2% of dollars), Department of Agriculture (1.3% of dollars), Department of the Interior (1.2% of dollars), Department of Justice (1.2% of dollars), Department of Homeland Security (1.2% of dollars). (Federal Procurement Data System, 2003 Federal Procurement Report).

State budgets are also significant, for example the State of Virginia spends around $4.5 billion per annum on goods and services. All states have a central procurement office and all have some formal procurement policies. In 47 of the 48 states, formal procurement policies are codified in either statutes or in procurement manuals, and 26 codified them in both statute and the manual. In 18 states, they are also specified in other sources, mainly promulgated regulations and administrative codes. As of 1996, 14 states have adopted the American Bar Association model procurement code (NASPO, 117).

Major responsible institution(s) for procurement on the national level and their function (if needed: division of labour between the institutions, and if possible a contact):

Office of Federal Procurement Policy (OFFP):
http://www.whitehouse.gov/omb/procurement/ (part of Office of Management and Budget, Executive Office of the President) The OFFP was established when Congress enacted the Office of Federal Procurement Policy Act of 1974, creating the Office as an integral part of the Office of Management and Budget. It was created to provide direction of procurement policy and leadership in the development of procurement systems in Federal procurement activities.

They are currently promoting a government wide focus on strategic sourcing and produce memorandums and publications distributed to all federal departments (normally the chief acquisition officer).

The FAR Council was established in 1990 following the OFPP Act Amendments of 1988. The council produces the Federal Acquisition Regulations and membership consists of the Department of Defense (DoD), the General Services Administration (GSA), and the National Aeronautics and Space Administration (NASA). These agencies were selected above others because at the time they represented the three largest buyers, plus, the GSA is the only agency charged by statute to purchase for all federal agencies, and NASA was doing some interesting procurement highly related to R&D. So, although FAR is mandatory for all federal agencies, it was written to accommodate the needs of NASA and DOD's complex contract negotiations. **http://www.arnet.gov/far/**

Chief Acquisition Officers Council: **http://fac.gov/**
The Council is the principal interagency forum for monitoring and improving the Federal acquisition system. Members consist of agency Chief Acquisition Officers, the Under Secretary of Defence for Acquisition, Logistics and Technology, and the Senior Procurement Executives of each military department. In addition, members may include other senior agency officers appointed by the heads of agencies in consultation with the Chair.

Federal Procurement Data System: **https://www.fpds.gov/**

GSA's Federal Acquisition Service (FAS) has a variety of mechanisms to coordinate procurement government wide. FAS focuses on acquisition management to ensure that the organization's activities are fully compliant with laws, regulations and policies and that operating practices are consistent across business lines and regions. GSA also includes technical specialists that aid in technical specification.

Each agency also has its own policy making body/department. For example, the DOD: **http://www.acq.osd.mil/dpap/index.htm**

There is a significant amount of collaboration between agencies and departments for the formation of procurement policy setting. For example, the Small Business Administration (SBA) works with the Office of Federal procurement Policy, U.S. Department of Defense (DOD), General Services administration (GSA) and other agencies regarding procurement policy and small business programs. However, the implementation of reforms or policies can be uneven across different agencies and states. Some dissemination does occur however; State procurement officials have used the GSA Schedule system to model their own affairs, for example the State of Virginia has introduced a GSA-like schedule for state wide contracts for goods.

Major documents: Are there guidelines, toolkits etc. that have an impact on the role of innovation in procurement? (please provide http-link if possible)

All agencies accept the FAR and GSA procurement guidelines, and they are followed by everyone. Within this framework each agency can then supplement the FAR- they tend to be procedural matters- depending on the needs of the agency. However, deviations are monitored and the OFPP are empowered to ensure that all regulations are adhered to.

Regulations are only mandatory for the Federal Departments and agencies but state and local organisations frequently call upon GSA/OFPP to advise on how to adopt federal regulations, procedures and best practice, and how to modify them for State and local needs.

The Federal Acquisition Regulations are jointly produced by the Department of Defense (DoD), General Services Administration (GSA), and the National Aeronautics and Space Administration (NASA) **http://www.arnet.gov/far/**

Does innovation play a role somehow in the documents?

The focus of procurement policy has been opportunities for small businesses, women owned businesses, and businesses owned my minority groups. Where innovation is stated, the main thrust of policy is the introduction and extension of electronic procurement tools such as **http://www.fedbizopps.gov/**, a single port of call for industry advertising federal government procurement opportunities over $25,000.

However, procurement policy is highly regulated by other socio-economic issues, that are regulated for and take precedence. So, for example, section 508 of the Americans with Disabilities Act, has led to significant innovation. It states that ICT used by government agencies must be useable by handicapped people. It has been a major social re-engineering effort leading to innovation. Many people thought it would backfire- that it would lead to suppliers developing two product lines- one for public, one for federal customers- or that it would hamper access to the market place, instead it forced the market to change before it otherwise would have done and has led to great ICT innovations that are used world wide.

So, innovation for innovation's sake is not integrated into procurement policy, but where a specific social purpose is defined, innovation is encouraged.

Environmental issues have also played a part but the sector is not well organised. There are some examples though- federal agencies must only purchase hardware that hibernates after a limited amount of time in order to save energy (and it is enforced through purchasing regulations), and environmental friendliness (recycling etc) is considered in many federal purchasing decisions.

There is also significant dialogue between innovation policy makers and procurement policy makers in a number of different forums- NASA, the DOD and the Department of Homeland Security all have very direct ways to reach industry to talk about innovation. More centrally, GSA holds 'Industry days' where they invite industry in to discuss the things on their horizon. This is to adapt to the new environment- in the 1950s the federal government did the vast majority of R&D in the economy- no longer true, they now do very little compared to industry.

The ability to stimulate more innovation was one of the goals of the changes to procurement legislation and guidelines in the mid 1990s, prior to that, suppliers were *told* how to supply the goods and services. Now there is a complete role reversal- they give objectives and performance requirements but leave it to the suppliers to decide how to provide these- Performance Based Acquisition.

Procurement at the State and local level is perhaps less innovative than at the federal level. State and local are where federal agencies were in the 1980s and 1990s – a lot of buying off the shelf. But it does vary from State to State, some are very socially conscious. For example, California has great concern for the environment and this is implemented via procurement regulations and this in turn leads to innovation.

Any principles of procurement as relates innovation?

However, several policy measures focusing on innovation do perhaps fall within the procurement policy sphere:
Cooperative Research and Development Agreements (CRADA): A written agreement between a private company and a government agency to work together on a project.
Small Business Innovation Research Program (SBIR): a highly competitive three-phase award system which provides qualified small business concerns with opportunities to propose innovative ideas that meet the specific research and research and development needs of the Federal Government. Federal agencies make solicitations which small businesses (sub 500) are invited to apply for. The Government Accountability Office (GAO) has frequently reported on the success of the SBIR program in benefiting small, innovative companies, strengthening their role in federal research and development, and helping federal agencies achieve their R&D goals. With a focus on the commercialization of R&D efforts the SBIR goes beyond simply research collaboration and is considered to be part of the public procurement process (although some agencies do focus on R&D that will be privatized by the private sector rather than R&D directed towards their missions).
The GSA's Schedule 70: GSA Schedule 70 (a platform for inviting bids for government wide technology solutions) provides government agencies with information

technology (IT) and telecommunications hardware, software, and professional services. The Schedule is currently open for use by federal, state, and local government agencies. After being authorized by the 1994 Federal Acquisition Streamlining Act, Multiple Award Contracts have become increasingly common. They allow more than one award for items meeting the same specification. This encourages multiple vendor participation in single procurement projects and multiple awards to one vendor for different phases of a procurement project. The scheme has been used in both federal and state procurement systems.

Any recent structural or changes?

The General Services Administration (GSA) has recently undergone significant structural change after a six month consultation period (beginning Jan 2005) with GSA associates, customer agencies, industry contractors, Congress and others.
The reorganization of the General Services Administration combines the Federal Technology Service and the Federal Supply Service into a single Federal Acquisition Service (FAS). “The key goal for the new Federal Acquisition Service is to improve our organizational capability to efficiently and effectively deliver excellent acquisition services that provide best value for our federal agency customers and the American taxpayers.” (GSA administrator Stephen Perry).
The FAS is divided into the following offices.

1. Customer Accounts and Research: enables GSA better understand customer requirements and become a strategic partner in helping agencies meet their acquisition needs.
2. Acquisition Management: ensures that GSA’s activities are fully compliant with federal laws, regulations and policies, and that operating practices are consistent across business lines and regions.
3. Integrated Technology Services: groups together the GSA units that acquire information technology, telecommunications and professional services.
4. General Supplies and Services: groups together the GSA units that acquire a broad range of commercial products and closely-related services, as well as some specialized logistics-based activities.
5. Travel, Motor Vehicles and Card Services: groups together business lines which share commonalities that provide opportunities for synergy and scale.

There are also six zonal offices for local customer service delivery.
FAS’ matrix management structure will ensure policy developed by the FAS Central Office is applied consistently nationwide.
Tom Davis, House Government Reform Committee Chairman, said his goal is to: “help bring GSA in line with the current commercial market that has evolved from stand alone hardware or services to solutions that are a mix of products, services and technology.”

Any reactions to the EU directive (does it make a difference)?

–

Further comments

The Chief Acquisition Officers Council are trying to increase professionalism across government, because procurers are no longer just purchasing at best price - now procurement is governed by best value, and procurers are expected to conduct complex negotiations in the market place. These are new skills and they are working at increasing these skills. Not yet there, but close. Affirmative education requirements only added in the 1990s- now all procurement professionals require a college degree, and on top of this they provide additional training- they are making a significant investment. They are also creating more specialised roles e.g. Financial managers.

The OFPP have also announced the intention to establish a government wide standard via all agencies- for all members of its workforce.

Training is provided through the Federal Acquisition Institute and the Defence Acquisition University.

19. Country: Ireland

Structure of the Irish public procurement system

The public procurement process in public sector organisations is heavily decentralised. Public bodies perform the function independently within a framework of EU/national laws and national guidelines.

Major organisation of procurement at the national level

The National Public Procurement Policy Unit (NPPPU) was established in June 2002 and is charged with the formulation of policy, dissemination of best practice and guidance in public procurement and the delivery of the government's e-procurement strategy. It is part of the Department of finance.
http://www.finance.gov.ie/ViewDoc.asp?fn=/documents/publications/publicprocurementindex.htm&CatID=49&m=c

The General Public Procurement Unit, of the **Government Supplies Agency** is responsible for procurement policy, national procurement guidelines, EU directives and the Government Contracts Committee. It also manages the cross-departmental central procurement of a variety of goods, supplies and services on behalf of the Government, including clothing and footwear, uniforms, transport, fuels, office supplies and janitorial services. It is part of the Office of Public Works (OPW).**http://www.opw.ie/services/gov_sup/fr_gov.htm**

The **Forum on Public Procurement** (FPP) is an all-Ireland forum established in 1996 specifically to address the issue of communications between Public Sector / Utility buyers and the supplier population.
http://www.fpp.ie/About.htm

Major documents: Are there guidelines, toolkits etc. that have an impact on the role of innovation in procurement?

Until recently, public procurement in Ireland was governed by the so -called "Green Book" (1994). However, it has been revised (in part to encompass the new EU directive, and in part as a major review of the public procurement system in Ireland) and is now largely replaced by the following new documents:

National Public Procurement Policy Framework (April 2005)
The new guidelines respond to the increasing complexity and importance of purchasing decisions by public bodies and focuses on a need for a more strategic focus and improved management of the public procurement process.
The national procurement policy framework applies to:
a. Central Government departments and bodies

b. Commercial or non-commercial state bodies;
c. Local and regional authorities
http://www.finance.gov.ie/documents/publications/other/procureframe05.pdf

The **Public Procurement Guidelines - Competitive Process**, 2004, largely replaces the 1994 Guidelines (the Green Book) and moves towards integrating the new EU Directives. The main updates relate to the competitive process, SMEs and to the environment.
http://www.etenders.gov.ie/guides/Guides_show.aspx?id=341

The Government Supplies Agency has also recently published a new set of guidelines for the agency: **OPW Procurement Project - Guidelines for Procurement Practice (Standard Operating Procedures)**
http://www.opw.ie/services/ops_proc/standard_operation_procedures.doc

Strategy for the Implementation of eProcurement in the Irish Public Sector was published by Government in April 2002. It set out a blueprint for the implementation of e-procurement in the Irish public sector for the period 2002-2007.
http://www.finance.gov.ie/documents/publications/other/eprocurefinal.pdf

Procurement information is now widely disseminated via the internet:
http://www.procurement.ie/
This website offers quick links to all official public sector websites and web pages which have significant public procurement related content.
http://www.e-tenders.gov.ie/

This site is designed to help you find information on government and public sector procurement by providing links and a search engine that can be used to search for notices issued by public bodies across Ireland. It is the primary resource for advertising tenders, for disseminating information on procurement (guidelines, news etc.) and for all advertising and creation of notices for the Official Journal of the European Union.
http://www.e-tenders.gov.ie/guides/guides_main.aspx
Government Procurement Guidelines

Does innovation play a role somehow in the documents?

Innovation is not explicitly mentioned in any of the procurement document. However, it has been noted that several of the documents provide the scope to include innovation in the future.[12]

Any principles of procurement as relates to innovation?

The **Government Supplies Agency** uses elaborate criteria for selecting firms that

could be modified to include innovation considerations. Their selection criterion includes a standard questionnaire that firms must complete in order to be placed on the lists for possible tenders. Included in the two part questionnaire are factors such as financial and tax status, organization details, group membership, industrial relations, product details, experience, production capacity, and machine type and age. With this level of detail it has been suggested that the inclusion of some supplementary material to determine the potential suppliers' commitment to innovation, through information on number of patent applications made, R&D budget, and/or number of new products introduced, would appear to be relatively straightforward.[13]

Whilst the **Green Book,** and its replacements**,** do not mention innovation they do encourage the engagement of SMEs in the procurement process.
Our interviews indicated that regarding the allocation of risk and reward for innovative projects:
"To the extent that the issue has been addressed to date, the general approach of the state in purchasing used to be to make as many conditions as possible and to ensure that all possible rights accrue to the state while all risks are born by the supplier. The public-private partnership approach has led to a softening of these conditions and to some sharing of risk as well as of reward. This approach would have to be developed further".
The interviews also suggested that there should be some highlighting of the potential for the 'competitive dialogue' mode of public procurement to be used to stimulate innovation:
"It could therefore be envisaged that, in some fields, the competitive dialogue could be introduced specifically in order to identify if the required goods and services has scope for innovation in meeting the requirements. If so, the final specification could reflect the possibilities that had been identified. To implement the policy, a number of changes will be needed in the fields of general policy, investment, purchasing practice, government procedures, Information and Communications Technologies (ICTs), human resources, awareness, agency action, and related measures[14].
There is also scope for linking public procurement policy to existing R&D policy and consultations. Consultation between procurement officials in the Department of Finance and the construction industry continued after the publication of the Department of Finance, **Implementation of the Strategic Review of the Construction Industry's Procurement Recommendations** in 2000. The continuing consultation on a wide range of issues culminated in a Research Investment Action Plan for the industry. Whilst there is no cross-reference between the documents the potential for this is evident.

The €375 million worth of direct research grants (2003) dominated by agricultural, health and industrial research could also be a starting point for encouraging more innovation related procurement.

Although potential is there, if innovation is to become a genuine part of public procurement policy there is a need for a more general emphasis on innovation, government wide.

Any recent structural or changes?

The National Public Procurement Policy Unit (NPPPU) was established in the Department of Finance as a result of an April 2002 Government decision. Its role is to develop public service procurement, policy and practice through a process of procurement management reform.
The reform process involves capacity building, training and education measures, and procurement aggregation. These reform pillars are being developed and rolled out in tandem with incremental and suitable e-procurement measures.
The departments/offices and sections that have completed procurement improvement projects under the capacity building element of procurement management reform initiative (Health and Children, Environment, Heritage and Local Government, Social, Community and Family Affairs, Justice Equality and Law Reform, Defence, Finance, Communications Marine and Natural Resources and OPW) are now well placed to undertake the corporate procurement planning process. A further round of projects is due to begin in 2005 for other Departments.

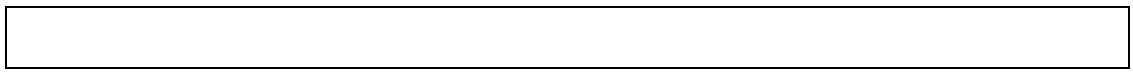
Under the reforms, to ensure that procurement is at the centre of the decision making process, public bodies should:
a) include procurement management reform as one of the key strategic priorities and objectives in the Statement of Strategy;
b) develop an annual corporate procurement plan based on the procurement management reform objectives; and
c) arising from the annual corporate procurement plan develop a plan(s) for significant purchases, where necessary and appropriate.

The projects investigate and provide a practical way forward in several key areas:
a) organisational procurement strategy based on a thorough understanding of the organization's spending profile, transaction patterns and key supply markets;
b) organisation of the function within the focal entity (s);
c) procurement operational policy and procedures;
d) adoption of best practice tools and techniques;
e) procurement-related systems including use and potential for e-procurement; and,
f) appropriate application of knowledge and skills including addressing training and education needs.

Any reactions to the EU directive (does it make a difference)?

Not as yet

Further comments



Annex I: Questionnaire for Country and Case studies

This section specifies interview questions to be used in studies of cases of innovative public procurement. The fundamental rationale for its application is to attain a systematic data collection and thereby increase reliability (Yin, 1994) and should therefore be used where applicable. It should be pointed out here that the list of subsidiary questions is by no means exhaustive. It may be added to or modified as a result of dialogue amongst partners. For instance, some of the answers of the questions listed here may be followed up with clarifying or elaborating questions such as “how?” or ”in what way”?

The document has been organised into one section prompting for interviewee data and six sections where different categories of questions are displayed. Section 1 is designed to be used in interviews with central actors, and its purpose is to outline the structure and principles of specific national systems (exploratory, first step). The following sections start from a general level and proceed with the assumption that a specific case of innovative procurement (as well as actors involved in this case) has been selected for further discussion. Each section starts with a brief description of the specific purpose (in italics). The successive analysis of cases will assure that for each stages of the procurement cycle sufficient material for good practice will be collected.

Background Information

The purpose of the questions here is to provide background information for a given organisation.

Name of Interviewee:

Affiliation:

Position/ role of Interviewee in the organisation:

Role of the organisation in the procurement process (buyer, supplier, user, other)?

Profile of organisation (Main line of business activity, special competence(s), historic background, market share, international activities, R& D spending, etc.):

Contact Data:

General Questions to be asked of Central People in the Procurement Agencies and Authorities

These questions try to establish a general view of a nation's 'public procurement system'.

How is public procurement in your country generally organised?

> What is the institutional set-up of public procurement?
>
> What is the division of labour horizontally: What is done centrally by the national procurement agency and what is done by ministries or other government bodies?
>
> What is the division of labour vertically (freedom of manoeuvre for regions, local entities, etc?)

Do you have central procurement guidelines – i.e., practical manuals for conducting public procurement? How binding are they?

> Does "innovation" play any role in these guidelines or in your routine practices?
>
> How do central authorities or agencies diffuse such guidelines or other information on procedures for public procurement (through training, web-sites, brochures etc.)?
>
> Have there recently been any procedural or structural changes to the procurement guidelines (if any exist)?

How would you judge the possibility for a public agency acting under the procurement laws to procure innovative goods and processes in your country?

> How effective are the internal routines or procedures that are followed by public agencies within the framework of these laws?

What are, in your opinion, the three to five most important private or public organisations in your country to be interviewed in detail later on?

Do you have any schemes to professionalise procurement in your country (mandatory, voluntary)? Who are members, and do you have contact information?

For example, are there any university programmes focussing on public procurement?

Do you have any networks of procurers to exchange good practice, to discuss current issues, to learn etc.?

If you do have such networks, who are the members? Do you have their contact information

Cases of Innovative Public Procurement

Identification of innovative public procurement

The purpose of these questions is to identify and describe a case of innovative public procurement.

Are there many cases in the experience of your organisation where there is an innovation component involved in the procurement process?

Does your organisation have any experience of public procurement involving innovation that has been carried out under the EC Directives on Public Procurement (i.e., their implementation in national law)?

What procurement procedure (open, restricted, negotiated) was used?

What was the duration of the specific procurement process (pre-procurement to decision – decision to delivery, total time)?

Where there any deviations from the originally planned budget and schedule?

What was the procured good or service?

Who defined the need for this good/service?

Did you seek any help from external sources (business consultants etc.)?

Did you rely on any systematic or regular processes within your organisation to monitor the relevant technological and market developments and define related needs?

Was the need defined rather narrowly (aiming for a certain technology and product) or defined more broadly (i.e., in terms of functionalities)?

Did the budget available restrict the scope of the need defined?

What was the price of the procured good or service?

What was the number of competing bids in the procurement process?

Were there a number of contracts for the same product/ service delivered to other customers as well?

If so, what was the number of these contracts?

What were the agreements on price (fixed, cost-plus, or other)?

Questions Related to Innovation

It is important to establish that the procurement process involves innovative as distinct from regular procurement. The purpose of the questions in this section is to establish that this criterion is met.

Had the procured product or service been used before?

By the organisation?

Elsewhere?

Had a similar product or service been used before?

By the organisation?

Elsewhere?

If yes:

What where the differences expected/ required between the previous vintage and the current one?

What was the motivation of the various actors involved in your organisation for pursuing an innovation (taking into account risk, higher price, more effort etc.)?

Was there a political mandate for innovation?

> If so, how strong was it, and what role did the political decision-maker(s) play in relation to the procurement project?

What kind of development (if any) did the product or service undergo in the procurement process?

> Did the procurement result in a product that was completely new to the market, or was it rather a case of making significant improvements– i.e., non-cosmetic adaptations – to a product that already existed on the market?
>
> To what extent did the procurement process involve expenditures on research and technological development (RTD)?
>
> If RTD expenditures were involved, what was the allocation (as a percentage) of total RTD expenditures to the following kinds of activities:
>
> - needs definition
> - functional specifications
> - technical specifications
> - prototype development and testing

Did the new product/ service require changes in the organisation or the environment in which it is used?

> Did the new product/ service replace existing technology or routines in the organisation?
>
> Did the new product/ service require user training?

Questions on How the Public Procurement Was Organised, and How it Proceeded

Here, the ambition is to cover the 'story' of the procurement from the occurrence of a need, leading to an eventual articulation of demand and the further communication of this need to prospective supplier(s). Ideally, the elements included would be as follows: the ongoing interaction between prospective buyer(s) and supplier(s), entailing: clarification of functional requirements and technical specifications acquisition, deployment and further development of capabilities by both prospective buyer(s) and supplier(s).

Who were the main actors in the procurement process, and what are their significant attributes (for example, their roles and competencies as buyers, suppliers, regulators, etc.)?

What was the rationale (logic) for using a certain type of procurement procedure?

By whom was the need for the procurement first identified?

- the service-provider or user?
- the procuring agency or administration?
- clients of the procuring agency or administration?
- political decision maker(s)?
- other(s)?

When was the need for the procurement first identified?

What was the institutional framework within which this process occurred?

> Did organisational routines or traditions affect the development of the procurement process?

Were the procurement process and the contract set up in a different way for buying innovative products (as compared to what would be the set up for “regular” procurement”)?

How was the procurement organised?

> What team was built?
>
> What responsibilities were assigned to different actors?
>
> Which actors had room of manoeuvre?
>
> Why was this organisation and division of labour chosen (e.g. best served our needs; standard procedure always applied; …)?

Through what identifiable stages did the process proceed?

> What where the most significant events that characterised each stage?
>
> How can the most significant features of key be described? (For example, how were needs first translated into functional requirements and then into technical specifications?)

What were the patterns of interaction?

Did the way that different actors interacted with one another change over time through the project?

If so, how?

How did the organisation of the procurement process change over time?

What were the impacts and consequences of the procurement?

Was the procurement of the new product or service successful for the organization (or not)? In what respect(s)?

Questions on Consultation / supplier engagement (Interactive Learning)

Central to this study is the understanding of the interaction between the actors who have been involved in the procurement process. The purpose of the following questions is to capture this interaction and how it has evolved over time.

What knowledge and skills (e.g. technical and organisational) were provided by the different actors in the procurement process?
In what way did the different actors' contributions of knowledge and skills affect the outcome of the procurement process?

What changes occurred over time in terms of the organisation of the process and the attributes of the actors involved (for example, changes in competence or capability) and what conditions accounted for these changes?

What were the (financial, other) risks associated with the procurement process?

How were the risks (if any) addressed?

How did you learn about technological developments?

How did you know about the technological capabilities in the market, about the capabilities of potential suppliers?

Did you engage in any form of market consultation / technical dialogue?

If so, how was this organised, very generally, fully open; or restricted?

If a restricted procedure was followed, how many participants were there and how/why did you choose them?

How often did you consult and meet etc., how was the process organised and what were the outcomes?

Did your organisation consider that it had the necessary expertise to monitor the market and to engage in consultations?

Did you also engage with SMEs?

Did you try to provide for some form of local content (i.e. deliberately involving local / regional suppliers)

Did you consult, bundle with other demanders (aggregation of demand, exchange of experiences etc.)

Did the consultation (interactive learning) depend on the physical proximity of the actors involved?

Would it be possible to have the same interactive learning if the procurer were located very far away or came from another country with a different language and culture?

Catalytical procurement:

Could the procurement process be seen as an example of 'catalytic procurement', i.e. a case where the public agency has acted on behalf of eventual users *other than itself*?

If yes:

Why did the procurement constitute a case of public rather than private procurement, i.e. why had private firms failed to develop the product/ service without a public procurement contract?

Did the project become a case of public procurement because the public authority wants a specific technology developed or a market transformed?

Would the procurement project have been possible to execute unless public means were involved? How?

[If there is a case of pure catalytical procurement the questions will be amended using the guidelines developed by Hans Nilsson, Sweden]

Tendering / Assessing and Awarding Stage

How did you draft the specification?

MEAT, cost, or mixture?

What was the relative importance of technology etc.?

How did the specification reflect your market consultation, your market knowledge?

How did you formulate the technical specifications?

Did you adopt standards or specify performance requirements?

Who was the party responsible for drafting the technical specifications?

What legal advice / expertise did you have?

Which technological and non-technological parameters did you define and how did you weigh them?

In assessing the bids, how did you weigh the following parameters:

The quality of the tender according to the selected technological parameters
The time to market availability
The price

How hard was it to asses the bids (e.g. assessments of the technological abilities of the tenderers and of their reliability to accomplish their engagements)?

Design and Management of the Contract

To design and to manage a contract suitable for the needs of both parties requires that the contract must cover every aspect related to the product, work or service purchased, such as its development, its conforming tests, its supply, its final documentation, the training to be provided, the after sales service, the agreement on intellectual property rights of background and foreground technologies and know how, etc. At the same time, the contract for an innovative procurement must remain flexible enough to allow innovation and adjustment

How did you manage to balance having a complete contract AND providing flexibility for adjustments that might be needed during the contract's duration?

How did you translate the innovation requirements in the contract?

How did you provide incentives for innovation?

Did you agree on milestones?

Did you agree on procedures what would happen in case of failing to meet the milestone?

Was there any sort of penalty/reward system?

Was it complicated to translate the MEAT and functional criteria into the contract?

How was liability dealt with?

How did you deal with IPR?

What payment scheme did you apply? (e.g. early payment for development / R&D work? Milestone payment?

Did you have any incentive for the supplier company to use this contract for its marketing?

Was subcontracting possible or mandatory?

How did you monitor the progress made?

Were there any problems with legal expertise inside the administration?

Was there a problem with asymmetry of expertise?

References

Yin, R.K. 1994. Case Study Research: Design and Methods. Thousand Oaks / London / New Delhi: Sage Publications.

Annex II: List of Organisations Interviewed

AUS	Accountability Team Procurement Policy Branch Department of Finance and Administration
AUS	Australian Procurement and Construction Council
AUS	Department of Finance and Administration
AUS	Department of Treasury and Finance of Western Australia
AUS	Procurement Policy Branch
AUT	Association of Austrian Cities and Towns
AUT	Austrian Federal Chancellery, Department of Information- and Communicationtechnology
AUT	Federal Porcurement Agency
AUT	Inter-University Research Centre for Technology, Work and Culture
AUT	WKO (Federal Austrian Economic Chamber)
AUT	Lawyer
BE	IWT
BE	IWT-Flanders
CAN	Université du Québec à Trois-Rivières
D	BDI (Federation of German Industries)
D	City and State of Hamburg, Agency for City Development and Environment
D	City of Bonn, Real Estate Office
D	City of Düsseldorf, Department for Central Services
D	City of Hannover
D	City of Nuremberg, Department of Procurement
D	Department of Treasury and Finance of Bavaria
D	German Aerospace Centre
D	KGSt (Municipal Federation for Management of Administration)
D	City of Göttingen, Mayoralty
DK	SKI, Statens og Kommunernas Indköbs Service A/S, Procurement Denmark, LTD
ESP	Dragados Obras Pyrotectos
ESP	Fundacíon Cotec para la Innovación Tecnológica
ESP	Instituto Complutense de Estudios Internacionales, Universidad Complutense
ESP	Stibbe
F	APASP - Association Pour l'Achat dans les Services Publics
F	EADS Space
F	EIRMA
F	Ministry of Finance - Public Procurement Regulation Dpt.
F	CEA - Commissariat de l' Energie Atomique
FIN	Ministry of Finance
GR	Central Association of Local Authorities (KEDKE)

GR	Intracom
GR	Intracom
GR	Intracom
GR	Intracom
GR	Ministry of Commerce
GR	Ministry of Commerce - General Directorate of Public Procurement
GR	Information Society SA
GR	Information Society SA
GR	Information Society SA
I	Autorità per la vigilanza sui lavori pubblici (Public Works Authority)
I	Autorità per la vigilanza sui lavori pubblici (Public Works Authority)
I	Consip S.p.A.
I	Consip S.p.A.
I	Consip S.p.A.
I	Consip S.p.A.
I	Consip S.p.A.
I	University of Rome
I	Elyo Italia
International	ICLEI (Local Governments for Sustainability)
IRL	Enterprise Ireland
IRL	Wilton Park House
IRL	Wilton Park House
J	JETRO (Japan External Trade Organisation)
NL	Amsterdam Regional Authority
NL	CONNEXXION
NL	Dutch Ministry of Economic Affairs (PIA)
NL	ICTU
NL	ICTU
NL	Innovation Platform
NL	Knowledge Center Procurement
NL	Ministry of VROM
NL	Professional and Innovative Procurement Network (PIANOo)
NL	Regieraad Bouw
NL	Rijkswaterstaat Zuid-Holland
NL	VON NCW
NOR	Ministry of Justice and the Police/ Rednings- og beredskap-savdelningen - Rescue and Emergency Planning Department
NOR	Næringslivets Hovedorganisasjon/Confederation of Norwegian Business and Industry
NOR	Telenor Maritime Radio
NOR	Telenor Maritime Radio
NOR	Telenor Nett A/S Procurement and Logistics

PT	UMIC – Agência para a Sociedade do Conhecimento
PT	PT Prime Tradecom
SWE	Lund University
SWE	Namnden for offentlig upphandling Board for public procurement
SWE	Skeppsbron
UK	Acquisition Office, General Services Administration
UK	Chartered Institute of Purchasing and Supply
UK	Chartered Institute of Purchasing and Supply
UK	Greater Manchester Strategic Health Authority
UK	Highways Agency Procurement Directorate
UK	Highways Agency Procurement Directorate
UK	Manchester City Council
UK	North West Centre of Excellence Centres of Procurement Excellence
UK	Office of Government Commerce
UK	University of Birmingham (Canadian)
UK	University of Manchester and DEFRA
USA	Nicholls State University, United States