# Euro-CASE Policy Paper on “Innovation Procurement”

About Euro-CASE

The European Council of Academies of Applied Sciences, Technologies and Engineering is an independent non-profit organisation of national academies of engineering, applied sciences and technologies from 21 European countries. Euro-CASE acts as a permanent forum for exchange and consultation between European Institutions, industry and research. Through its member academies, Euro-CASE has access to top expertise (around 6,000 experts) and provides impartial, independent and balanced policy advice on technological and innovation issues with a clear European dimension to European Institutions and national governments. In 2012 Euro-CASE has launched an Innovation Platform which consists of members of Euro-CASE academies from science, engineering and business. The platform develops policy recommendations relevant for Member States and EU Innovation Policy.

## Executive summary

Demand-side initiatives and procurement were important issues in the Aho group report presented to the European leaders at their spring summit in 2006 (Aho et al., 2006). The report called for the support of markets for innovative goods and services, including public procurement. In this report we want to further emphasize the negligence in the EU and its member states of demand-side innovation policy instruments, especially innovation procurement. Furthermore, this paper aims at approaching procurement in a much more proactive way than is done today. We strongly support Europe 2020, the Innovation Union, the Commission communications on Smart regulations (COM (2010) 543 final) and Modernising European public procurement (COM (2011) 15 final) to support growth and employment, but also stress the importance to further improve European policies in this area as well as increasing the number of areas of test beds for implementation at the national level.

It is important for all countries to offer public innovation procurement initiatives. A key aspect of this is to spread knowledge and inspiration and to develop tools so that more players take advantage of innovation procurement. Initiating pilot trials of innovative procurement containing interactive learning between organizations, setting up joint focus groups within certain procurement areas could be an efficient way. Furthermore, the introduction of a ‘Small Business Innovation Research’ programme, experimental in nature, for innovation procurement is another important vehicle as well as training a new generation into becoming the vanguard of Innovative procurement.

At the EU-level the paper calls for support to the important public procurers of innovation, the establishment of a powerful European working group for innovation procurement, as well as the creation of a strong dialogue between the regional, member state and EU-Level. The issue of Innovation Procurement is also dealt with in the Euro-CASE paper on *Financing Innovation*.

## Introduction of the policy context

In recent years the concept of demand-driven innovation processes has increasingly come into focus within the discussion on how Europe can become more innovative1-7. Applied to the public sector, they come in slightly different flavours with names like technology procurement, catalytic procurement, pre-commercial procurement and innovation-friendly procurement, but all have a common aim in driving for a more daring and creative collaboration between government agencies, national, regional and local authorities and innovative companies. By 'Innovation procurement' we mean the procurement of prior unknown solutions to a defined problem or the need for a solution that is not yet established on any market.

The Innovation Union flagship initiative highlights the need for Europe to develop a distinctive approach to innovation built on its unique set of values. Horizon 2020 takes a broad approach to innovation that is not limited to bringing new products to the market, but also covers processes, systems or other approaches, including by recognising European strengths in design, creativity, services and the importance of social innovation8. Funding for these activities will be meshed with the support for research and technological development. Stronger support will be given to the market take-up of innovation, including by the public sector. This will include more proof-of-concept, piloting and demonstration. It will involve a better use of the potential of research infrastructures, as well as setting technical standards, shaping innovation procurement and strengthening loan and equity financing.

The concept of innovation procurement has received considerable attention in the OECD and EU. In fact, the debate on Innovation procurement has been largely driven by the European Commission in recent years. In many countries across Europe the rhetoric on the importance of public innovation procurement is visible but there is still a strong confusion on the instruments, one of the main challenges being the question of responsibility for implementation of public innovation procurement schemes (vertical and/ or horizontal). A manifest demand for new solutions to specific problems is often the basis for commercially successful innovation processes. Both the EU Strategy Innovation Union and the next Framework Programme Horizon 2020 emphasize various forms of activities around innovation procurement. This requires new categories of participants, mainly from the public sector. The EU's procurement regulations already include the principal option for strategic procurement, meaning that there are in fact no legal obstacles. However, the interpretations and applications of procurement and competition regulations - the old-fashioned attitudes - towards the procurement process in the member states have a restrictive and detrimental effect.

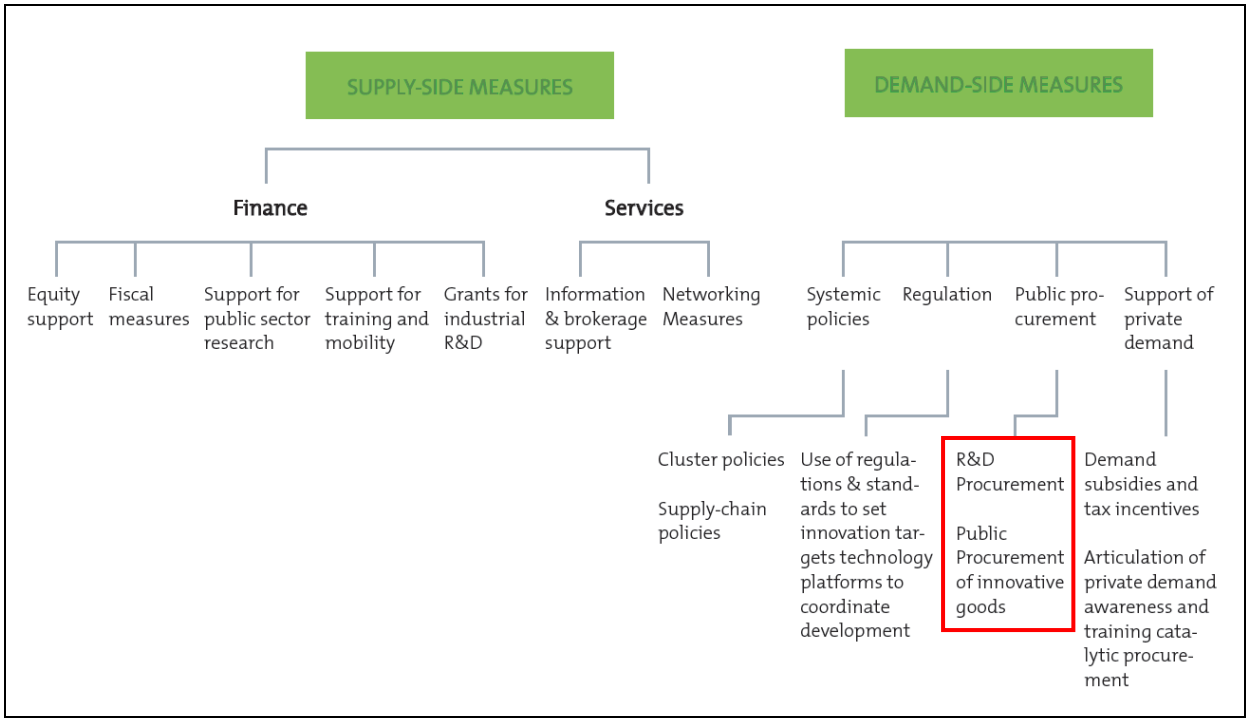
Public procurement of innovative goods is part of the portfolio of political demand side measures. Figure 1 below shows the broad spectrum of public measures to support the supply and demand side of innovations. While supply side measures include traditional forms of financial support for R&D but also more service oriented measures, demand driven policies are often less tangible. Uncertainty of demand and of market conditions are highly relevant barriers for innovation for which the state may (or should) act as a facilitator. There are several justifications for the state to engage in demand driven policies:

- Genuine market and system failures on the demand side (information asymme-

tries, lack of interaction, disadvantage for early users, lack of capability of using new technologies, path dependencies)

- Specific public sector needs (making the public sector more effective and efficient, contribute to sectoral goals = eco-innovation)
- Support to local industry, growth and localization policies (support local producers, may trigger lead markets, dominant design, scale/scope advantages, etc.)

Figure 1: Taxonomy of Public Supply and demand side measures



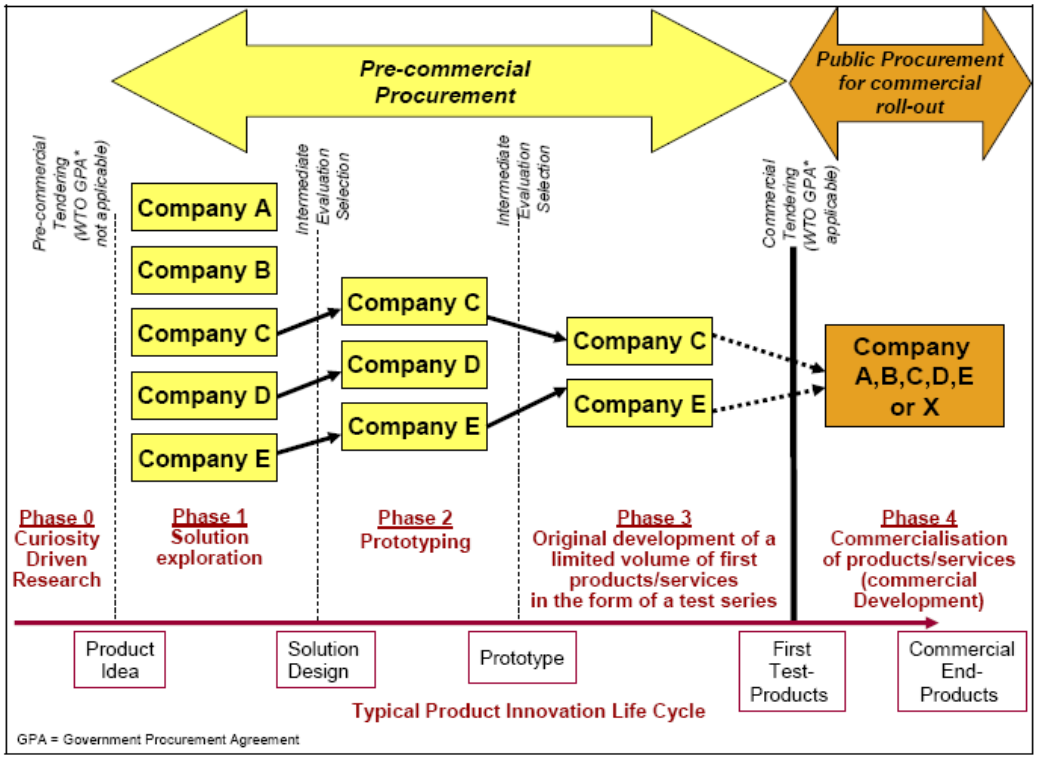

Source: Edler, J. & Georghiou, L. (2007): Public procurement and innovation – Resurrecting the demand side. Research Policy 36.

Procurement today is often designed so that it inhibits the development of new effective and durable solutions; there is a market failure. On one hand, the demand is not able to encourage the market to answer to its needs: it is not giving the right signals. On the other hand, the offer is not known. Generally speaking, public intervention in the process of innovation (= public innovation policy) should be pursued only if private organizations and the market exchange mechanism cannot automatically achieve the objectives.
This paper aims at approaching procurement in a much more proactive way than is done today and both on a European as well as a member state's scale. This paper strongly supports Europe 2020, the Innovation Union, the Commission communications on Smart regulations (COM (2010) 543 final) and Modernising European public procurement to support growth and employment (COM (2011) 15 final), but also stresses the importance to further improve European policies in this area as well as increasing the number of areas of test beds for implementation at the national level.

## Why

Having clear, quality driven incentives linked to public procurement, the public sector have an important tool to further develop and streamline operations, while actively contributing to stimulate innovation and entrepreneurship in business. The government agencies have a role to identify and specify specific needs and financially support solutions from knowledge creation to value generation. Example of such a process is pictured below in Figure 2, where the different phases of a typical product life cycle is shown. By engaging a fair number of companies at each stage the crucial aspect of competetiveness is kept during the whole process.

Figure 2. An example of an innovative procurement process. Courtesy Lieve Bos, DG CONNECT, F2 Unit




The importance of creating such processes is all the more obvious when the size and impact of the public sector in Europe is taken into account. The public sector in Europe is of very large economic importance - nearly 44% of EU GDP is state revenues. The spending by governments and government agencies are considerable in public procurement (19.4% of EU GDP in 2009). In some industries, the rates are much higher – almost 100% in the defence sector and about 40% in the building sector. If, through innovative procurement, the EU succeeds in providing impetus for innovation and produces a public sector that is characterised by greater entrepreneurship and better services, then the EU could create an added value of up to 1.2 trillion Euros by 2020 (based on a report by the Government of the Future Centre).

In an era of fierce global competitiveness, innovation procurement has the potential to:

- help the public sector increase long-term effectiveness as well as provide im-

proved public services
- be an effective tool in efforts to address major societal challenges
- stimulate demand for innovation, which can strengthen international competitiveness within EU industry
- strengthen Europe's small and medium size businesses

## How to start – in the member states

Public procurement of innovation in the European countries is still relatively limited today. Our proposal is aimed at using it more efficiently. It is important for all countries to offer public innovation procurement initiatives. A key aspect of this is to spread knowledge and inspiration and to develop tools so that more players take advantage of innovation procurement. The initiatives should be targeted at public procurers as well as their suppliers, especially small and medium-sized enterprises. For the different member states we have the following suggestions:

**1.) Initiate pilot trials of innovative procurement containing the following components:**

- A number of public authorities are given a clear innovation procurement responsibility. The selection of the authorities should be based on an assessment of whether there is a need for innovative solutions in the authority's area of activity.
- The public authorities selected will be tasked to identify the most important needs within their areas and how these can be met within the framework of an innovation strategy.
- The government assigns the selected authorities a clear innovation responsibility. This will be written into the authority's "appropriation directions" or similar national governance document. The authorities will be allocated sufficient funds for it to be practical for them to impact markets through innovative procurement, certification, and standardisation work.

**2.) Introduce a 'Small Business Innovation Research' programme for innovation procurement**

- Initiate pilot projects with a number of the government agencies identified and deemed to have a need for innovative solutions for their own activities.
- Ensure that procurement is financed within the authorities' normal budgets. There should also be an exchange of experiences to inspire the use of incentives of this type used in other countries, e.g. risk funds and insurance solutions.
- Ensure the SBIR programme is experimental in nature

**3.) Train a new generation into becoming the vanguard of Innovative procurement**

- It is important that the people who will be responsible for the actual procurement

process are trained in the new mindset of possibilities rather than risk aversion. A positive attitude needs to be created where a moderate risk-taking is part of the routine. Every innovative procurement process will not be successful

## How to continue – within the EU

In order to benefit from the opportunities that joint public procurement offer, not only a regional and national but also a European dialogue is of utmost importance, being strengthened by the organisation of various conferences and concrete initiatives. The Euro-CASE Innovation Platform acknowledges and highly welcomes the initiatives put forward by the European Commission in the past and recommends that the future dialogue should clearly express the innovation ambitions within the public sector and establishes when and how various needs can be met through innovation procurement.
Using innovation to a larger extent is also a matter of identifying human needs and societal problems that are not satisfied / solved at the present time. In order to have an economic impact, human needs must be transformed or articulated into effective demand. If it occurs by means of the market, there is probably no need for policy intervention, but if it does not occur spontaneously, there may be reason to consider innovative procurement as a mechanism to satisfy the needs.
To identify new, hitherto non-existing, products is often a very difficult task requiring the systematic training of procurement administrators. It is not only a matter of articulating demand for new products but also an understanding of which new products can be developed in order to meet the demands and solve the problems. In other words, the new products must be within reach in a reasonable time.
In order to encourage the European organisations and the member states to establish national delegations to stimulate innovation procurement, we put the following three proposals to the European Commission, with the aim of strengthening the European Initiatives for Innovation Procurement:

1.) **Create a stronger dialogue between the regional, member state and EU-Level**

- initiate a broader dialogue about innovation procurement
- create an extended catalogue of best practice in the member states and the regions
- bring together the different initiatives on the EU-Level under one umbrella
- publish a new communication especially for innovation procurement (follow-up to the 2007 one)
- use the open method of coordination in the field of innovation procurement

2.) **Establish a powerful European working group for innovation procurement**

A European working group for public procurement of innovation could include representatives from public authorities and organisations, SMEs and industry, researchers from universities and institutes. The working group might bring together the different

initiatives under its umbrella. The working group could:

- give science-based policy advice in the field of innovation procurement
- make suggestions for a reform of the public procurement process
- identify practical measures that can be implemented to strengthen innovation procurement in Europe
- follow up and evaluate the measures
- address issues relating to procurement in various areas such as infrastructure, products and services
- take part in dialogue about the application of European regulations and laws on types of public procurement

**3.) Identify and support the important public procurers of innovation**

One of the most crucial keys to increasing innovation procurement is to identify and support the important players engaged in the implementation. The European Commission should:

- initiate more stakeholder conferences about innovation procurement in different fields
- build a team of innovation procurement developers who share their know-how with the procurers in the member states and regions
- initiate transnational model projects between the member states
- launch a main web page about the different innovation procurement initiatives of the EU, the different stakeholders and the initiatives in the member states and the regions
- give innovation procurement an important part on the next Innovation Summit
- launch a new Innovation Procurement Award (similar to the German prize “Innovation needs advantage”)

## Three examples of Innovation Procurement in Europe

In the light of the discussion and recommendations outlined above this section provides an overview of examples of successful innovation procurement schemes across Europe.

### UK Case study: SBRI

The Small Business Research Initiative (SBRI) is a programme of competitions administered by the Technology Strategy Board in the UK. The initiative aims to use government procurement to drive innovation by providing opportunities for innovative companies to solve the specific challenges facing government departments and public sector organisations. Competitions for new technologies and ideas are run in order to address specific problems faced by individual government departments or public agencies, and aim to engage a broad range of companies in development contracts.
The SBRI benefits government departments and public sector organisations by enabling them to procure new technologies with managed risk via a phased development pro-

gramme. Meanwhile, successful companies are able to gain a lead customer for development and will receive a contract for the full cost of demonstrating the feasibility of their technology. There is potential for a further contract to be awarded to the company for the development of a prototype. This provides a route to market and establishes credibility for further investment.
Companies interested in a particular competition can apply through the TSB or directly through the relevant public body. Ideas or technologies judged to be promising are awarded contracts (usually up to £100,000) to carry out a feasibility stage which lasts from 2-6 months. Those awarded the second phase contract will receive up to £1m for a project lasting up to 2 years.
Though any company can apply, the scheme is particularly suitable for SMEs and early stage companies. It is part of a broader set of innovation initiatives designed to drive growth in the UK. In 2010/11, the SBRI had a budget of £35m.

http://www.innovateuk.org/deliveringinnovation/smallbusinessresearchinitiative/competitions.ashx

### The Swedish *Innovationsupphandling*

Every year the total public procurement in Sweden is around 60 billion Euros. The procurement processes very seldom give rise to new products or services.; a fact that made the Swedish government commission an Inquiry in December 2009 to investigate the conditions for public innovation procurement and put forward proposals for measures to increase the application of innovation procurement. In its directives to the Inquiry, the Government stressed that the proposed measures should aim to strengthen the quality and efficiency of public services in its broadest sense with the support of innovation procurement. Such a process should also stimulate innovation and thus enhance conditions for structural changes in the private sector.
The Inquiry proposed an amendment in the procurement legislation; contracting authorities and entities should take innovation aspects into account in their procurement procedures when suitable. The Inquiry also proposed that Sweden should introduce precommercial procurement of R & D services. Even more important according to the Inquiry is information and guidance In order to achieve the desired change of attitudes among contracting authorities and entities the proposed amendment to the legislation is in itself not sufficient, it also requires improved information and guidance. Finally, the Inquiry envisaged a special potential for innovation procurement mainly in three major areas: infrastructure, health and environment.
As a result of the Inquiry the Swedish government put 33 million Swedish crowns (approx. 4 million Euro) in the budget for 2011 for work on Innovative procurement within the public sector, both for information and guidance as well as into projects ('real life experiments' by public agencies). In addition, The Swedish government decided in April 2012 to mandate the Swedish Transport Administration, Swedish Energy Agency and the Swedish Innovation Agency (VINNOVA) to work with innovation procurement for the benefit of future societal solutions and business ideas. This new assignment is a part of the Governments strategy on cleantech and amounts to 3.5 million Euros until 2014.

http://www.regeringen.se/content/1/c6/15/09/90/08ef1a0a.pdf

## The Dutch model

*Netherlands entrepreneurial innovation country, NOI*

The government procures around €60 billion worth of work, services and supplies every year. To optimize public innovation procurement the central government initiated the project Public Innovation Procurement (PIP) that works in cooperation with PIANOo - The Dutch Public Procurement Expertise Centre, established 2005, is part of the Dutch Ministry of Economic Affairs, Agriculture and Innovation and comprises of a network of 3500 professionals, set up to professionalize procurement and tendering in all government departments – to link professional procurement with their policy aims, budget and to focus on efficiency i.e. to allow more interaction with the market, competition, innovation and avoid failure costs.

*SBIR as an initiative of Public Innovation Procurement (PIP) in the Netherlands*

SBIR – Small Business Innovation Research program originated from the US and procurement procedures were adapted according to EU law with a focus on projects stimulating innovative ideas into innovations with the objective of solving societal problems. The objects are to tackle the grand challenges through innovation, stimulate innovation in particular in SME and increase the service level of government through innovation.
In 2010 SBIR had an approx. budget of € 22m with an initial budget of €1m in 2004. The budget is allocated by the ministry; however, the respective NL Agency executes the two phase program (for the third phase the participants need to find a purchasing organization themselves). Through publication companies are informed about specific SBIR projects with contracts awarding €50000 (Phase 1 – period of 6 months) and €450.000 for R&D (phase 2 – period of 24 months).
Advantages of SBIR for both public innovation procurement procedures and participating entrepreneurs are contracts with tangible deliverables, (small) businesses can co-operate with others but stay in charge, the SBIR contracts are in accordance with operation management of small companies and SME obtain access to new partners, potential clients through government contacts and publicity – all carried out lean and mean.
Examples of SBIR program projects are found within the respective Ministries: e.g. Ministry of Economic Affairs ‘Energy conservation with electromagnetic power technology’ (2004); Ministry of Transport ‘Car of the future: energy conservation in components’ (2009) to name a few.

http://www.pianoo.nl/about-pianoo

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## Information about the Euro-CASE Innovation Platform:

Launched in 2012, the Euro-CASE Innovation Platform brings together the expertise of representatives of its member Academies from science, engineering and business. The purpose of the Innovation Platform project is to help put in place the necessary conditions for Europe to increase its innovative power.
If Europe is to succeed we need to create the best possible conditions for individual innovators, entrepreneurs, education systems, research organisations and enterprises. We need to develop a culture that stimulates renewal, innovation and calculated risk-taking.
The Euro-CASE Innovation Platform works on policy papers for Euro-CASE in order to give science based policy advice to relevant EU-Institutions and national governments.
In line with Europe 2020 and the flagship Innovation Union and Horizon 2020, the Euro-CASE Innovation Platform contributes proactively to making Europe the most successful innovation region in the world.
Euro-CASE strives to support and advise the EU and national governments on relevant topics where Euro-CASE, as a pan-European organization with broad links to both academia and industry, are in a unique position to contribute.

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This paper complies with the “Euro-CASE Guidelines on advising policy makers and society”

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