

# Stimulate innovation through procurement

## Summary

Innovation procurement is a policy instrument whereby policymakers can use the procurement process to foster innovation for the benefit of public authorities, the private sector as well as society at large. Indeed, with innovation procurement public expenditure is used more effectively, as it can harness the private sector's innovation capacity for a number of purposes. Notably, innovation procurement may be used to improve the quality of public services in those areas where the public buyer has a large market share, e.g. healthcare, transport, defence. The increased demand coming from the public sector boosts the private sector's innovative performance, thus increasing overall competitiveness. Not least, societal challenges may be tackled through solutions generated via innovation procurement.

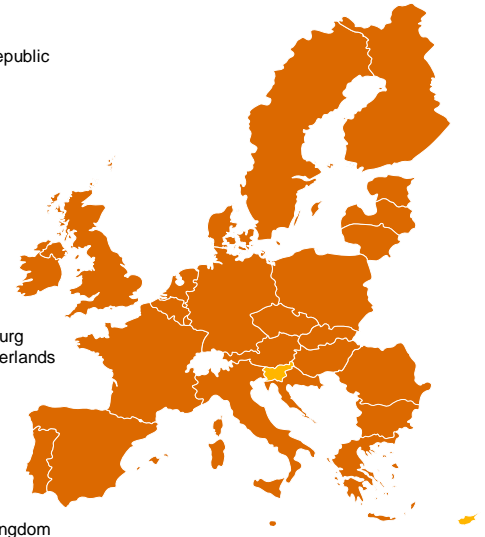
There are two main types of innovation procurement - Pre-Commercial Procurement (PCP) and Public Procurement of Innovative Solutions (PPI). PCP refers to procurement of research and development (R&D) services based on identified needs of the public administration. In contrast, PPI is a process where the public sector acts as 'launch customer' of an innovative product or service, which is commercially available on the market, but not on a large scale. PCP and PPI are considered complementary since PCP focuses on the R&D prior to commercialisation, while PPI is concerned with commercial diffusion post R&D phase.

Under the PCP approach, public procurers organise different tendering stages where alternative solutions from different technology providers are compared. The solutions are evaluated at critical milestones, namely design, prototyping and testing, and only the best ones move on to the next stage. IPR generated from PCP are shared among the procuring entity and the economic operator, so as to share the risks and benefits of new R&D developments. IPR ownership is in the hands of participating providers, which ensures that there is a strong incentive for further commercialisation and exploitation of the solution developed. The procurer maintains license-free rights to use the solution. In the case of PPI, the contracting authority procures an innovative solution in its prototype phase, which is meant to accelerate its market readiness at a desired price-quality ratio. The solution bought under PPI has demonstrated prior success on a small scale, but is not yet available on the market for large-scale purchase. With the public buyer acting as the launch customer, the industry has an incentive to bring the innovative solution to the market overcoming risks related to market uncertainty.

Both PCP and PPI are complex to implement and require a number of specialised competencies related to procurement, IPR and technology. For instance, procurers need to be familiar with state-of-the-art technology to assess the technological maturity of various solutions proposed. Furthermore, the needs of contracting authorities have to be expressed as functional performance requirements, i.e. defining what the solution should accomplish instead of specifying the kind of solution requested, as it allows companies to propose innovative solutions to meet the requirements. Finally, the management of intellectual property rights related to R&D requires significant legal expertise.

## Good Practice Examples

- ✓ Austria
- ✓ Belgium
- ✓ Bulgaria
- ✓ Czech Republic
- ✓ Croatia
- ✓ Denmark
- ✓ France
- ✓ Germany
- ✓ Finland
- ✓ Estonia
- ✓ Greece
- ✓ Hungary
- ✓ Ireland
- ✓ Italy
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- ✓ Malta
- ✓ Romania
- ✓ Slovakia
- ✓ Sweden
- ✓ Spain
- ✓ Portugal
- ✓ Poland
- ✓ United Kingdom



## Impact

### Incorporate strategic Procurement



The essence of innovation procurement lies in the ability to mobilise procurement to achieve other goals for the organisation itself or for society at large, such as delivering more cost-effective services or tackling a societal challenge with an innovative approach.

### Promote professionalisation



Procuring innovation is highly complex and requires in-depth knowledge of both the market, e.g. latest technological developments, as well as the procurement process for PPI and PCP. By carrying out innovation procurement, procurers acquire advanced skills, such as conducting specialised market consultations, making use of functional performance requirements, etc.

### Enhance value for money



Solving challenges more effectively with new technologies or approaches generates better value for money for the administration and ultimately the taxpayer.

## Input

**Cost** – €€€



**Time** – Over 12 months



**Complexity** – High

- Involvement of different institutions, e.g. innovation agencies and relevant ministries
- Involvement of highly skilled personnel for procurement and technical/technological aspects
- Involvement of legal specialist to define IPR ownership
- Securing budgets for running the procedure and financing the resulting innovation



## Key success factors and potential pitfalls (1)

### Sharpen your strategic outlook and identify your needs

Departments that implement innovation procurement are often those that have a more forward-looking and strategic outlook, which forces them to think of their future innovation needs, such as the health or defence sector. Having a clear picture of upcoming innovation needs is a pre-condition for the actual implementation of PCP/PPI. In a second step, the identified needs have to be framed as a concrete challenge that has a negative impact on the delivery of public services, and whose solution has the potential for wide adoption by the broader public or private sector.

### Build a 'business case'

A solid business case allows the procurer to make an economic justification for the use of PCP/PPI based on identified unmet needs. It further allows to prioritise among different options for innovation procurement, as it takes into account the expected impact of the envisaged solutions. Furthermore, building a business case includes a number of practical aspects, which are relevant for a successful PCP/PPI, such as acceptable costs and risks, maximum budget and duration of the procurement to make it appealing to suppliers, costs and benefits of splitting procurement into lots, etc.

### First scan the market for available solutions

Understanding the solutions available on the market allows determining which procedure is more appropriate. If the desired solution is not available on the market or requires advanced technology, then a PCP needs to be used. Alternatively, if the solution already exists but may need improvements and support for its launch on the market, PPI is the appropriate instrument.

### Stimulate innovation with functional performance requirements

The use of functional performance requirements further stimulates innovation, as it allows suppliers to come up with innovative approaches to meet the demand of the contracting authority.

### Avoid overly-stringent requirements

Stringent requirements related to financial capacities or financial guarantees, customer references or similar may limit the participation of innovative players in a PCP. Instead, the focus should be on the ability to carry out the required R&D services.

### Apply the correct legal framework

Contracting authorities need to pay attention to the specific procurement rules for PCP and PPI. In particular, the provisions for state aid and IPR need to be considered carefully in the case of PCP. If PCP is implemented according to the provisions of the R&D&I state aid framework they are considered state-aid-free cases.<sup>1</sup>

### Collaborate with the innovation agency or technology specialists

It is key to have in-depth knowledge of the latest technological developments, as this is needed to understand and evaluate innovative solutions proposed by bidders. National innovation agencies have a wide overview of available technology, whereas procurement practitioners may be less familiar with technological developments. Thus, regular exchange between procurement practitioners and technology specialists is essential for delivering the best results from a PCP/PPI.

## Key success factors and potential pitfalls (2)

### Adopt an experimental mind-set

Innovation procurement brings along a number of risks despite the fact that the process, notably the feasibility assessment, is designed to hedge risks. To overcome the risk aversion of procurers, it is necessary to adopt an experimental mind-set, where the possibility of failure is tolerated.

### Share and exchange best practice/create a community of practice

Lack of awareness and limited availability of best practice examples are often cited as barriers to the uptake of innovation procurement. To overcome such barriers, it could be helpful to create a community of practice, where experienced procurement practitioners can share lessons learnt and demonstrate the benefits of innovation procurement.

### Provide incentives and support to contracting authorities

As innovation procurement is a complex undertaking, providing support to contracting authorities (including in the form of financial incentives) is important in overcoming barriers associated with it. For instance, some MS have set aside budgets for innovation procurement, or have dedicated personnel, which accompany the procurer in a PCP/PPI procedure.

## Related Good Practices

Library of strategic procurement criteria

## Case Studies (1)

### Italy – PCP in Lombardy's health sector

In the context of low public budgets, the Italian Lombardy Region saw the need to improve the effectiveness of its procurement expenditure by enhancing innovation in an area where the region spends the most, namely, health care. To this purpose, in 2012 the regional purchasing body ARCA was tasked with executing and conducting one of the first PCP competitions in Italy under the guidance of Lombardy Region in cooperation with Milan's Niguarda Hospital.

In the case of Niguarda Hospital in Lombardy region, the decision to focus the PCP on the need for automated moving of hospital beds has been selected out of 10 initially identified stringent needs. This choice was based on the fact that finding solutions for this need would create the biggest impact on the KPIs that are important to modernise the hospital, namely, expected improvements in productivity, the possible reduction of dedicated personnel to carry out bed movements (provided that in Italy the existing personnel is below the actual needs of hospitals) and, ultimately, the reduction of the total cost of the public service offered (due to accidents and time needed to move the beds), as well as the improvement of patient comfort and safety when moved.

The challenge identified by the Niguarda Hospital in Milan consisted in long delays and frequent injuries occurring during the manual transport of hospital beds. No commercially available product was able to provide a solution to this challenge at an affordable price. As a result, a PCP was launched to develop a cost-effective intelligent system of moving hospital beds. The goal was to create a cost-effective, environmentally-friendly automated bed moving device, which would be easy-to-operate and safe in cases of collision.

Several actors participated in the project and had specified roles: the Lombardy Region - Strategic Planning, University and Research Directorate was responsible for overall coordination and PCP procedure design; Niguarda Hospital defined functional requirements and conducted the testing and evaluation of performance; and ARCA acted as the adjudicating authority.

Before the launch of the actual PCP procedure, several preparatory steps were taken aimed at understanding the offer already available on the market as well as the potential for scaling up the results from a PCP related to moving hospital beds. Namely, an extensive technical dialogue was conducted with market participants consisting of a public hearing, which included a patent analysis, and an open explorative call. Furthermore, the needs of Niguarda Hospital were defined as functional performance requirements over the whole life-cycle.

Subsequently, a three-stage procedure was launched, which included a feasibility study, technical design and prototyping. Six vendors initially participated in the PCP, four moved to the prototyping stage, and two solutions were ultimately tested in an operational context. The PCP allowed innovative SMEs to enter the market that is usually dominated by other suppliers. It is expected that the innovative hospital beds will generate savings of 40% over the coming years by increasing the efficiency of hospital operations. Furthermore, the solution has important scale-up potential because of the large volume of hospital beds in the Lombardy Region and beyond.<sup>2</sup>

Lombardy Region's PCP is a unique example of PCP that included and achieved green goals in the Innovation Procurement process.

## Case Studies (2)

### Estonia – Innovation procurement support

In 2015, the Ministry of Economics and Communication introduced its “Public sector as smart customer” strategy as part of a broader innovation policy. In line with the strategy, the agency Enterprise Estonia was tasked with setting up a EUR 20 million scheme co-financed by European Structural Funds dedicated to innovation procurement. The scheme comprises activities related to awareness-raising and knowledge sharing as well as a budget for conducting innovation procurement.<sup>3</sup>

Procurers interested in conducting innovation procurement can apply for these funds. Specifically, the scheme provides co-funding for the actual procurement, i.e. the innovative goods or services, as well as for supporting activities throughout the procurement cycle. Notably, these may include contract preparation, legal and industry-related consulting, as well as management of the process and contract execution.

Co-financing of up to 50% of the total cost of the project can be obtained, from which at least 75% must be disbursed on the solution and maximum 25% can be spent on supporting activities. The maximum financial support granted is EUR 500,000 per innovative project.

This pilot scheme will be refined on the basis of initial experience. The first call for procurers was opened in 2016, while the second one was concluded in early 2017. A third round is foreseen for September 2017.<sup>4</sup> Initial results demonstrate strong interest on behalf of contracting authorities and promotion of innovative ideas. However, it has also emerged that there is a shortage of skills necessary for conducting innovation procurement, in particular abilities to conduct market analysis and risk assessments as well as to meet technical criteria of the project.<sup>5</sup>



#### Contact

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<sup>1</sup> State aid occurs when a company receives government support, which gives it an advantage over its competition and is therefore generally prohibited under Treaty rules, unless justified by reasons of economic development.

<sup>2</sup> EAFIP, “The Eafip Toolkit”, Module 1. Sara Bedin, Lombardy Healthcare - Niguarda hospital PCP (Italy)

<sup>3</sup> European Commission, “Innovation Procurement Initiatives in Estonia” (2016), see: [http://ec.europa.eu/information\\_society/newsroom/image/document/2016-24/estonia\\_16147.pdf](http://ec.europa.eu/information_society/newsroom/image/document/2016-24/estonia_16147.pdf)

<sup>4</sup> Enterprise Estonia, “Promoting innovation procurement support”, see: <http://www.eas.ee/teenus/innovatsiooni-edendavate-hangete-toetamine/>

<sup>5</sup> Ministry of Economic Affairs and Communications, “Innovation procurements – monitoring and proportion in procurements in Estonia in 2015” (2017), see: [https://www.mkm.ee/sites/default/files/inno\\_26\\_eng.pdf](https://www.mkm.ee/sites/default/files/inno_26_eng.pdf)