HIGHLIGHTS

Newsletter No. 3

The third issue of the COMPLETE project newsletter presents the experience gained and the lessons learnt from the procurement procedures and the PCP/PPI mechanisms, from the NRENs' perspective. Sharing knowledge and experience will significantly help other public bodies to prepare and run relevant public procurements in other domains.

Dear Readers,

This newsletter provides answers to important questions raised by many communities new to pre-commercial procurement:

Why is cooperation in PCP important? **Why is competition in PCP important?**

It also provides experiences and lessons learned so far by COMPLETE Partners with some recommendations concerning future work. Enjoy reading!

Your sincerely,

Bartosz Belter, the Project Coordinator

Evaluating optical networking public procurements: the NRENs' perspective.

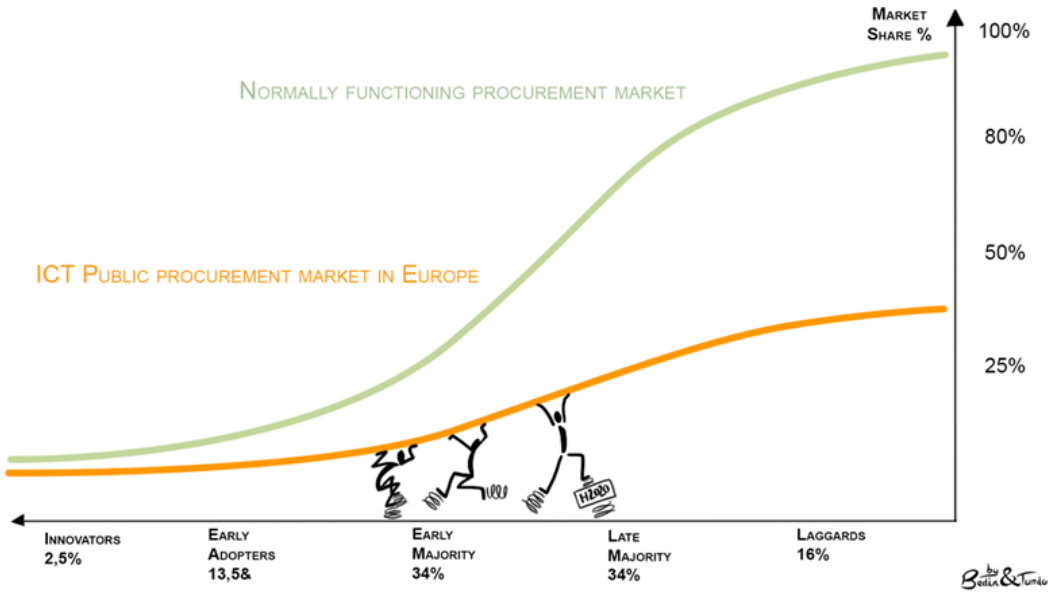
Public Procurement is an important and sophisticated mechanism for public bodies which influence the overall market and creates policies for governments, agencies and other public bodies. There is much discussion surrounding the concepts of public procurement and innovation and how these can lead to an economically-stronger, environmentally-resilient, more competitive Europe. Today there are two procurement mechanisms that are widely used by public bodies for Research and Services Development: **Pre-commercial procurement (**PPI) and **Public procurement of innovation (**PCP).

Public procurement of innovation occurs when public authorities act as a launch customer for innovative goods or services. These are typically not yet available on a large-scale commercial basis and may include conformance testing. PPI can be used to address challenges with innovative solutions that are nearly or already in small quantity on the market and don't require new R&D prototypes.

Pre-commercial procurement (PCP) is an approach specifically aimed at the procurement of research and development of new innovative solutions before they are commercially available, rather than actual goods and services. PCP means the public procurement of research and development services where the contracting authority or contracting entity does not reserve all the results and benefits of the contract exclusively for itself for use in the conduct of its own affairs, but shares them with the providers under market conditions. The contract, the object of which falls within one or several categories of research and development defined in this framework, must be of limited duration and may include:

- the development of prototypes or limited volumes of first products or services in the form of a test series,
- limited production or supply in order to incorporate the results of field testing and to demonstrate that the product or service is suitable for production or supply in quantity compatible to quality standards (WTO GPA Article XV (1)(e) and Article XIII(1)(f) of the revised WTO GPA 2014).
- R&D does not include commercial development activities such as quantity production, supply to establish commercial viability or to recover R&D costs, integration, customisation, incremental adaptations and improvements to existing products or processes. Thus almost the 50% of PCP contract value must be R&D services.

H2020 COMPLETE project deals with challenges of PCP and PPI in the area of optical networking. Today various consumers generate increasing and huge amount of data traffic in computer and telecommunication networks. It is widely acknowledged that optical transport networks are the only solution for current and future advanced and demanding services that require high speed data exchange and processing. There is rapid development of optical transport networks which delivers a plethora of different technologies and solutions. Examples of future technologies in the area of optical networking that require PPI/PCP are: high speed transmission like 400G, 1 Terabit, Software Defined Networking (SDN), and flexgrid and flexrate. These technologies are considered to be base for the advanced services for the Information Society and Innovative Economies. The development of advanced optical transport network may require more than purchasing particular goods or services "off the shelf", since such products may not exist on the market yet, thus it gives rise to sophisticated procurement procedures especially for public entities that are expected to operate in a specific set of changing state regulations. Such entities are public and government institutions and organizations, as well as agencies requiring innovation and development of advanced optical transport networks. PCP/PPI mechanisms should provide solutions like similar ones in the areas of health ageing, public transport, education, safety, sustainability and information and communication technologies (ICT). However the ICT area is not much involved in such activities, especially when with regard to with Sustainability – including water, buildings, cities, waste management and other topics. It is known that despite of the wide range of public sector challenges that require the development of new solutions, innovation driven procurement happens less frequently in Europe than in other parts of the world. Although public expenditure represents almost half of the European economy, the amount spent on procurement in Europe is 20 times lesser than the US. Such big difference in procurements disbursement represents approximately half of the overall R&D investment gap between the US and Europe. This lack of the European procurers proactively acquainting themselves with emerging innovations and steering industrial developments to meet future public sector needs (PCP) also slows down the adoption rate of innovative solutions in the public sector in Europe (PPI).



Public procurement is acknowledged in the literature on innovation policy as one of the most direct and necessary forms of stimulating innovations by means of demand. In a normally functioning market, typically 2.5% of 'innovator'-type customers are needed to convince industry that the future market is big enough to develop new solutions that specifically meet its needs. 16% of early adopters and 34% of early majority buyers are needed to introduce innovation.

PCP is here to steer the development of new solutions towards concrete public sector needs, whilst comparing/ validating alternative solution approaches from various vendors and enabling new players to prove them against established ones. PPI can act as launching customer / early adopter / first buyer of innovative commercial end-solutions newly arriving on the market.

Procurement mechanisms are underused especially in the area of optical networking due to the fragmentation of public demand in Europe, the lack of an optimal risk-benefit balance of procuring, and the procuring of R&D in compliance with the legal framework.

The creation and consolidation of a procurer group, who pool their innovation needs, share investments and costs as well as risks associated with early-stage innovations, can create a new market of suppliers and enable the development of R&D, and the development of cost-effective novel solutions.

The application of risk-benefit sharing in PCP has to comply with market conditions: in PCP the public purchaser does not reserve the R&D results exclusively for its own use. IPR ownership rights are assigned to companies participating in the PCP in a way that does not give the companies any form of unfair advantage. To ensure that the risk-benefit sharing is done according to market conditions any R&D benefit shared by the public purchaser with a company participating in the pre-commercial procurement should be compensated by the company to the public purchaser at market price. This can be achieved through two alternative mechanisms: i) price reduction compared to exclusive development cost that reflects the market value of the benefits received and the risks assumed by the company or ii) royalties on the sales.

The PCP competitive procurement has to be designed in order to exclude State aid, i.e. to: i) challenge the market in an open and transparent way, ii) organise the procurement as a stepwise process, including evaluations after each R&D phase, in order to select progressively the best solutions, iii) increase efforts after each R&D phase to achieve interoperability and product inter-changeability between the alternative solutions under development, iv) retain at least two participating companies until the last phase to ensure a future competitive market and avoid lock-in situations.

In particular the PCP design has to assure that: i) the price paid for the relevant services fully reflects the market value of the benefits received by the public purchaser and the risks taken by the participating providers, ii) the selection procedure is open, transparent and non-discriminatory, and it is based on objective selection and award criteria specified in advance of the bidding procedure, iii) the envisaged contractual arrangements describing all rights and obligations of the parties, including with regard to IPR, are made available to all interested bidders in advance of the bidding procedure, iv) the procurement does not give any of the participant providers any preferential treatment in the supply of commercial volumes of the final products or services to a public purchaser in the Member State concerned, v) any service provider to which results giving rise to IPR are allocated is required to grant the public purchaser unlimited access to those results free of charge, and to grant access to third parties, for example by way of nonexclusive licenses, under market conditions.

From the financial perspective, innovation procurement is an end-to-end process not limited to but made tangible through a contract capable of enabling all the potential benefit from innovation and competition and also from externalities of innovation.

PCP is fully applicable and aimed to:

- have comparative test evidence of the pros and cons of alternative solutions to address a problem of public interest before launching a large-scale procurement volume of commercial solutions
- think alternatively and in a creative way
- benefit from competition, being in a position to guide the R&D and avoiding to be locked-in with a single supplier

Why is cooperation in PCP important?

PCP can create a critical mass able to speed up public sector modernisation and improve the quality and efficiency of public services with brand new solutions and get better value for money through cooperation. Addressing issues of common interest together and creating growth and jobs in Europe.

Why is competition in PCP important? PCP can induce the market operators to perform more efficiently and take advantage of all economies available to them.

COMPLETE foresees to support PCP and PPI as separate but complementary procurements:

- Focusing PCP on development and PPI on deployment.
- Implementing PCP and PPI separately but complementary when possible.

The phase before commercialisation in a product development cycle means that R&D can cover activities such as solution exploration and design, prototyping, up to the original development of a limited volume of first products or services in the form of a test series. And according to the terminology used in the public procurement Directives, a public procurer can choose between three types of procurement contracts depending on the objective of the procurement. The objective of public works contracts is to procure the execution of works, public supply contracts to procure the supply of products, and public service contracts to procure the provision of services.

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