

# **Policy related Frequently Asked Questions on Pre-Commercial Procurement (PCP) and the link with Public Procurement of Innovative Solutions (PPI)**

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## FAQ 1: What is R&D procurement, in particular PCP?

### It's about R&D, not commercial development

R&D procurement concerns a purchase of R&D by a body governed by public law. In this context, R&D (Research and Development) concerns the phase before commercialisation in a product development cycle.

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. "Original development of a first product or service may include 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 to acceptable quality standards".

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.

### Types of R&D procurement contracts

According to the terminology used in the public procurement Directives, a public procurer can choose between three types of procurement contracts depending on what is 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. In this context, a 'work' means the outcome of building or civil engineering works taken as a whole which is sufficient of itself to fulfil an economic or technical function. 'Public supply contracts' cover the purchase, lease, rental or hire purchase, with or without option to buy, of products. 'Public service contracts' are public contracts other than public works or supply contracts having as their object the provision of services. A public contract having as its object both products and services within the meaning of Annex II of the Directives shall be considered to be a 'public service contract' if the value of the services in question exceeds that of the products covered by the contract.

Also for R&D, there is the possibility of a R&D works, R&D supplies or R&D services contract. This depends on whether the main objective of the contract for the procurer is to get R&D works performed (e.g. purchase of the construction of an R&D test site), R&D products to be supplied (e.g. purchase of the outcome of an R&D activity: e.g. acquisition of a prototype, hire of a beta/test version of a product) or an R&D service to be performed (e.g. purchase of a number of man-hours of researchers' and/or developers' services to perform R&D activities according to the procurer's specifications).

### PCP is a particular approach of procuring R&D services

PCP is one particular approach of procuring R&D "services" (it is not an R&D supply or works contract) in which risk benefit sharing at market conditions is applied. PCP enables public procurers to share the risks and benefits of undertaking new developments with the companies participating in the PCP in a way that does not involve State aid (see [FAQ 3](#) and [FAQ 9](#) for more info).

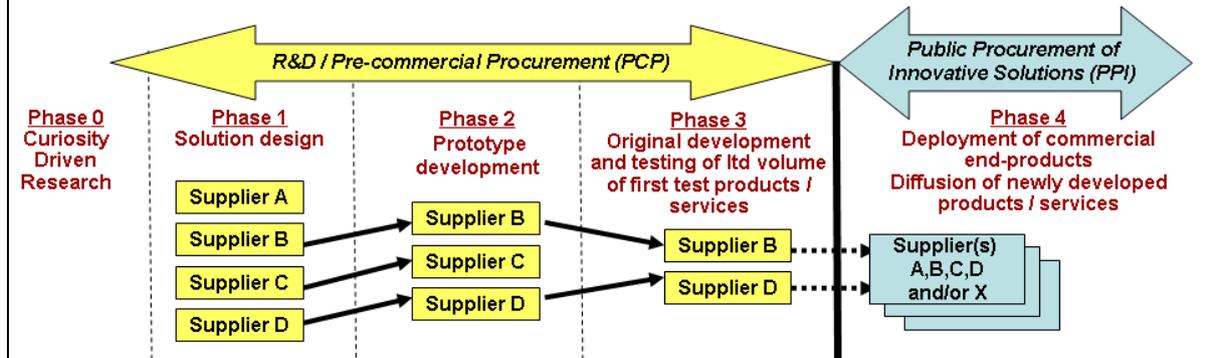
## FAQ 2: Is R&D procurement really underutilized in Europe?

The public sector in the EU, as elsewhere in the world, is faced with important challenges. These include modernizing internal operations of public services to make them run more efficiently, as well as improving the external quality of public services to the citizens: improving high quality affordable health care to cope with an ageing population, the fight against climate change, improving energy efficiency, ensuring higher quality and better access to education, and more effective dealing with security threats.

Addressing such challenges can require new and better solutions.

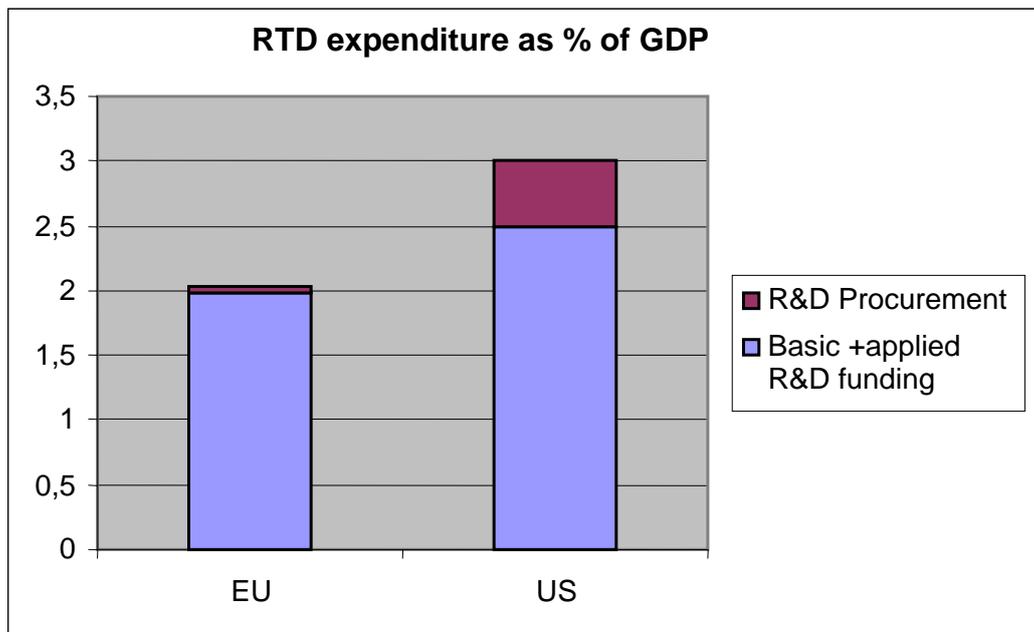
- In some cases the required improvements can be addressed by solutions that are already or nearly on the market and don't require any new R&D. This is when public procurement of innovative solutions (PPI) can be used effectively (see [FAQ 19](#)).
- In some other cases the improvements can require new and better solutions that are technologically demanding and for which no commercially stable solution exists yet on the market, or existing solutions exhibit shortcomings which require new R&D. This is when **pre-commercial procurement (PCP)** can be used effectively.

- ❑ PCP to steer the development of solutions towards concrete public sector needs, whilst comparing/validating alternative solution approaches from various vendors
- ❑ PPI to act as launching customer / early adopter / first buyer of innovative commercial end-solutions newly arriving on the market



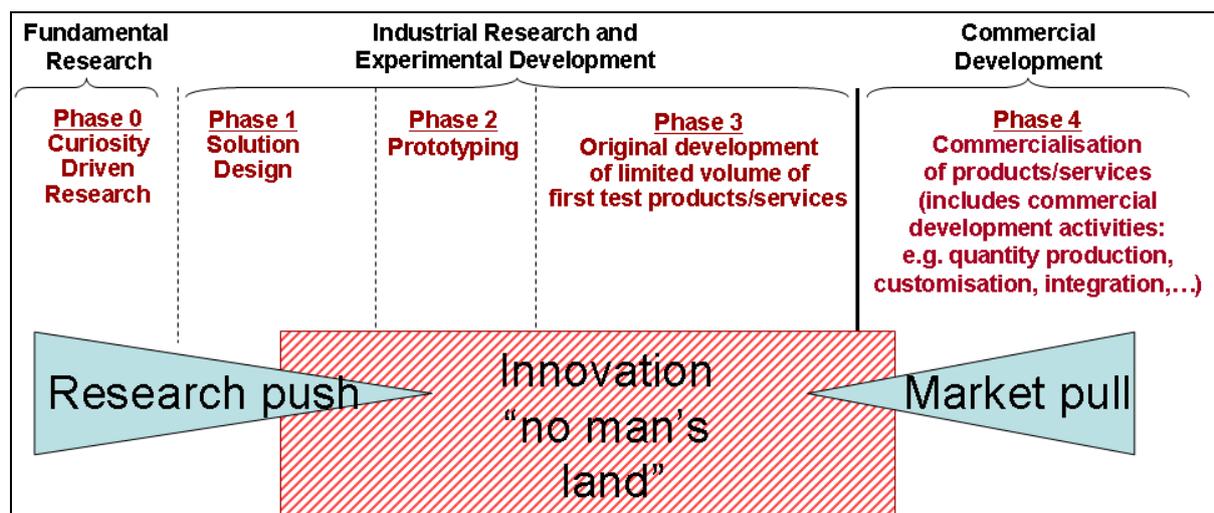
By developing forward looking procurement strategies that include PCP and PPI to develop and deploy new solutions that address these challenges, the public sector can have a significant impact on the mid to long term efficiency and effectiveness of public services as well as on the innovation performance and the competitiveness of European industry.

Despite of the wide range of public sector challenges that require development of new solutions, R&D procurement happens less frequently in Europe than in other parts of the world (Figure 1). Although public expenditure represents almost half of the European economy (47% of EU-25 GDP), 20 times less is spent on R&D procurement in Europe (€2,5Bn/Y) compared to for example the US (\$50Bn/Y). The difference in R&D procurement expenditure represents approximately half of the overall R&D investment gap between the US and Europe, which amounts to approximately 1% of GDP or \$100Bn in absolute value per year. 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). For more info on the link between the underutilization of PCP and PPI in Europe, see [FAQ 21](#).



A better balance between supply and demand side measures to stimulate innovation could help bridge the gap between research push and market pull in Europe. Today supply side R&D programs are 'pushing' industry and academia to be innovative, but there is little 'market pull' from the public demand side to pull promising innovations that are addressing challenges of public interest into the market. By

the time curiosity driven research turns into applied R&D, there is little interest from public sector customers to try out and experiment with innovations to prepare the public sector for future challenges.



### FAQ 3: What are the main obstacles that have hindered widespread implementation of R&D procurement in Europe so far, and how can PCP help to overcome them?

The PCP Communication points to **three main obstacles** that explain why so little R&D is procured today in Europe compared to other regions of the world.

#### (1) Lack of awareness about how to optimise the risk-benefit balance of procuring R&D, both for procurers and suppliers.

##### (a) IPR conditions in public procurement

In Europe public procurers often opt for exclusive development contract conditions. Exclusive development means that the public purchaser reserves all the results and benefits of the development (including Intellectual Property Rights or IPRs) exclusively for its own use. The companies that have developed the product/service then cannot reuse them for other potential customers. This will normally be reflected in a higher price, which makes the procurement of R&D a risky non-attractive activity for procurers.

In other parts of the world - such as the US, Canada, China (see for example the US Bayh-Dole act) - the standard scenario is that public procurers are to leave IPR ownership rights with companies in return for a cheaper development price compared to exclusive development. PCP is based on this good practice IPR approach. Regarding the latter, the PCP staff working document recommends that when leaving IPR ownership rights with companies, the procurer reserves for himself also a minimum set of IPR related rights that ensure a future competitive, secure supply chain to the procurer: license free rights to use the developed solutions, the right to require licensing to third parties at fair and reasonable conditions, a call-back option which ensures that IPR ownership rights return back to the procurer in case of non-use of abuse of IPRs against the public interest by the companies, and the right to publish key results of the PCP. Along with the IPR ownership rights, the risks/costs related to filing, maintenance and litigation of IPRs are also assigned to the companies. Such IPR risk-benefit sharing agreements, as proposed by the PCP Communication, can make R&D procurement more attractive for both procurers and suppliers: by reducing the R&D risk (development, IPR maintenance/litigation cost) for the procurer and increasing the benefits (market potential) for companies.

##### (b) Competition in R&D procurement and in between procurement of R&D and commercial products

A second good practice to improve the risk-benefit balance in R&D procurement, also underutilized in Europe, is competitive development. US experience (see [FAQ4](#)) shows that the procurer obtains best value for money when not awarding long term contracts to one single company. PCP follows this best practice by splitting up such contracts into several smaller phased contracts, keeping competition going between companies with evaluations of each company's performance after each project milestone. The

procurement of the R&D (PCP) is split off from the procurement of commercial volumes of end-solutions and the PCP is split again into R&D phases.

In Europe there are very few examples of public authorities that have awarded parallel development contracts to a number competing companies to compare who would eventually develop the best value for money solution for the procurer's problem. However, as explained in more detail in [FAQ4](#), competition in procurements on the supply side from the early R&D phases can not only significantly increase the value for money of the resulting end-products for the public procurer but also reduce single supplier lock-in. For the supply side as well there are benefits in such an approach: a company that has been challenged against competing solutions is also better prepared to address global markets and to attract external investment, such as venture capital funding, for the exploitation of further market opportunities.

## **(2) Uncertainty about how to procure R&D in compliance with the legal framework.**

Most public procurers in Europe do not have a budget reserved for R&D. Most R&D and innovation agencies run grant programs independently from public procurers' procurement programmes. As such there is still a major lack of awareness and experience about the legal framework for procuring R&D in Europe on both sides.

The 2007 PCP Communication and Staff Working Document clarifies that it is perfectly possible - based on above good practices like in other parts of the world - to procure R&D services at market conditions, without involving state Aid, in compliance with the European and international legal framework. The European legal framework for PCP is the following: When PCP is performed in a competitive, open and transparent way in line with the EU Treaty principles (see PCP staff working document), where the assignment of IPR ownership to companies is reflected at market conditions in the price paid for the R&D service procured (for more info, see [FAQ 9](#)), then PCP is not considered State aid. PCP falls outside of the WTO government procurement rules, outside the EU public procurement directives (article 16f of directive 2004/18/EC, article 24e of directive 2004/17/EC, and article 13(f)(j) of directive 2009/81/EC) and is therefore also not subject to the remedies directive.

In 2010, the EC also conducted a survey on the state of implementation of PCP across Europe (see [policy framework page](#)). All countries that participated in the survey confirmed that there are no legal obstacles in national legal procurement frameworks preventing procurers from implementing PCP. In some European countries, the standard scenario in the national public procurement framework (e.g. concerning how to deal with IPRs in public procurement) is already the same as in PCP. In other countries, there is another default scenario that applies if nothing else is chosen by the procurer in the tendering, but the IPR handling as in PCP is possible by clearly indicating this as procurer in the tendering documents. The survey provides information to procurers where the legal basis for PCP in their national legal framework can be found and whether there is further national guidance or good practice available to assist procurers in implementing PCP. After 2010 a number of procurers in different countries started concrete PCP projects. See the [Member States initiatives page](#) for case examples.

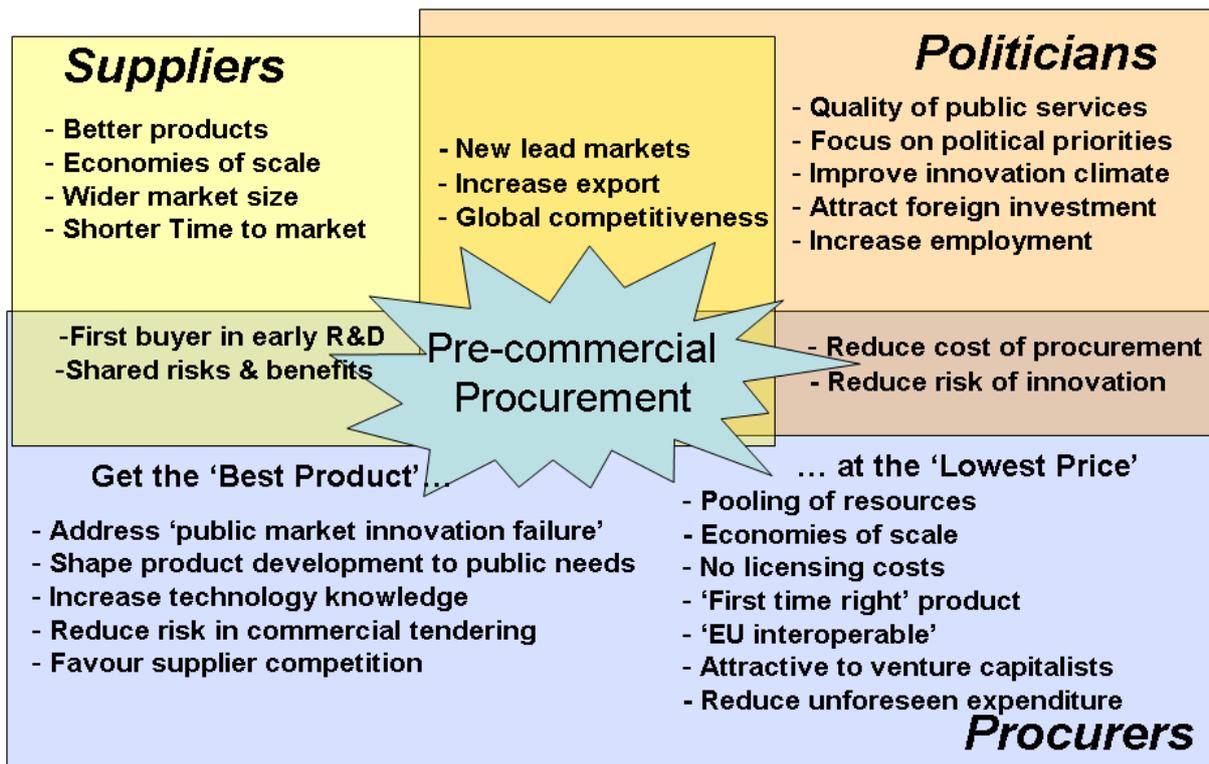
## **(3) Fragmentation of public demand in Europe.**

Compared to some other large competing regions of the world, in Europe, public procurement takes place even more predominantly at local and regional level. For smaller public authorities the cost of procuring R&D weighs heavier than for larger ones.

The PCP Communication proposes that local and regional procurement authorities in Europe cooperate on pre-commercial procurement to share the cost / risk of procuring R&D. The Communication also explains that central authorities (such as R&D and innovation agencies) can devise incentives to encourage procurers to cooperate on pre-commercial procurement. The European Commission has opened funding opportunities under the FP7, CIP and Structural Funds programs and in future Horizon 2020 program to encourage cooperation among procurers across borders. More info on how fragmentation of public demand can be tackled using PCP is provided in [FAQ 15](#) and [FAQ 16](#).

## **FAQ 4: What makes PCP interesting for public procurers?**

PCP changes the balance between risks and benefits (see [FAQ4](#)) to make R&D procurement a win-win for all stakeholders:



## What makes PCP interesting for public procurers?

### (1) Shape industry developments to better fit public needs

Pre-commercial procurement is in essence a mutual learning process for the procurers, users and the suppliers to get firm confirmation, both about the functional needs on the demand side and the capabilities and limitations of new technological developments on the supply side, when it comes to tackling a concrete public sector problem.

This co-evolution of demand and supply is key for innovation projects which are strongly R&D intensive in domains with very short life-time cycle such as ICT. By better steering the core feature set according to customer priorities, by assessing the performance of working prototypes and pre-product field tests in a real operational customer environment, procurers can prevent today's problems of buying off-the-shelf products which include a bunch of sometimes costly features which are not really needed while as the same time missing some critical capabilities.

### (2) Better quality products at lower price

When companies are developing in competition – as in PCP - the pressure to develop higher quality and better priced products is stronger. Studies from the US have shown that in procurements which have multiple competing companies in the development phase, higher quality products are produced (the so-called learning curve of each company is steeper) and the price of the first resulting end-products is on average 20% cheaper<sup>1</sup> than in so-called single-source procurements.

### (3) Achieve desired degree of interoperability from the start

While the costs of adapting design at early stage R&D are limited, modifications at commercialisation stage that impact core product features can dramatically increase the overall risk of failure and cost of deployment of the final product as well as the time to market for suppliers.

Efforts after each R&D phase to achieve interoperability and product inter-changeability between the alternative solutions under development pave the way for open standards and avoid the risk that early

<sup>1</sup> 'Competitive Dual Sourcing', Jacques Gansler, 7/10/2007; 'Annex G, 'International Armaments Cooperation in a era of coalition security', report US Defence Science Board, August 1996 ', for more info see: <http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA494656>

adopters of innovative solutions are penalised with the additional burden of making their solution compliant with standards defined afterwards.

#### **(4) Reduced risk of mistakes in follow-up tenders for large scale deployment**

Pre-commercial procurement offers procurers a deeper understanding of the technological capabilities and limitations of alternative technological solutions that are under development by different suppliers to address a problem similar to the procurer's need. A better understanding of the pros and cons of different solutions that are making their way to the market reduces the risk of miss specified tender specifications for large scale deployment as well as the risk that big commercial roll-outs do not deliver on expectations.

A typical reaction of procurers in Europe that are afraid of starting PCP is that PCP is too high risk for them. Zero risk procurement does not exist. It's less risky to avoid big failures in big procurement contracts by first dedicating a small portion (e.g. 2,5 % according to [FAQ 21](#)) of the overall procurement budget to de-risk the large budget large volume deployment contracts via small budget PCPs.

#### **(5) Reduce supplier lock-in and recurring unforeseen customised development expenditures**

Retaining healthy competition between suppliers in every step along the way - from early design stages until the tendering for large scale deployment - helps public purchasers to extract the best solutions the market can offer while avoiding single supplier lock-in.

Access to a competitive supplier base and the right to license out IPR protected solutions to third parties also helps to reduce the risk for public purchasers to recurring add-on customised development expenditures.

#### **(6) Opportunity to share development risks with suppliers – license free use for procurers**

PCP enables procurers to share the risks and benefits of undertaking new developments with the companies participating in the PCP in a way that does not involve State aid. See PCP Communication COM (799)2007 and associated Staff Working Document SEC (1668)2007 – available in all EU languages on the [key documents page](#) – for more detailed info on how to leave IPR ownership with companies in PCP at market price.

In exclusive development projects (the opposite of PCP) the procurer typically asks for very customer specific locally tailored solutions over which the public procurer wants to keep complete control or in other words exclusive ownership (including ownership of all IPRs resulting from the R&D). In exclusive development projects the procurer, as the sole owner of IPRs, covers the costs for filing, litigation and licensing of the IPRs.

In pre-commercial procurement the procurer shares IPR risks and benefits with the participating companies. The procurer assigns IPR ownership rights with participating companies, leaving companies the opportunity to resell developed solutions to other markets afterwards, in compensation for a development price which is significantly below exclusive development price (see [FAQ 9](#) for more info) and a set of IPR related rights that guarantee the procurer a competitive and secure supply chain in the future. In PCP (see PCP staff working document for more info) procurers typically also keep license free use rights of the newly developed solutions, rights to require PCP suppliers to license IPRs to third party providers at reasonable market conform conditions, a call back option that enables procurers to call back the IPR ownership rights in case IPR ownership rights are not used or abused against the public interest by the PCP suppliers, and the right to publish information about the key results of the PCP after the PCP is finished. In pre-commercial procurement each company (not the procurer) covers the costs for filing, litigation and licensing of his IPRs. This approach to share risks and benefits of IPRs with suppliers is the standard way of IPR handling in public procurement in US, Canadian and China. It has proven to be a major driver of innovation in those countries (ref. to the impact of Bayh-Dole act type IPR agreement in US public procurement market).

#### **(7) Opportunity to share the R&D risk with other procurers through pooling of resources**

By cooperating together, procurers strongly reduce the risks and costs for individual procurers of purchasing yet-to-be proven technologies. By joining forces with other procurers, the costs and risks of pre-commercial procurement for each procurer are lower compared to buying design, prototype and field test from one supplier on their own.

Consolidating needs is also a virtuous exercise that can strongly contribute to drive local and regional authorities towards efficiency by adopting best practices, common operating modes and common solutions. At the same time, by pulling demand procurers increase the prospect for suppliers to develop

products that can address a bigger more coherent market, resulting in lower R&D cost and commercialisation prices. It stimulates industry to invest more in the development of new solutions for sectors of public interest, which is a positive long term evolution for the procurers as well.

For examples of procurers undertaking PCPs jointly, see the [EU funded PCP projects page](#).

### **(8) PCP can attract external financial investors for companies, which reduces risk for procurer to buy from innovative PCP companies in follow-up procurements**

Companies that have been challenged in competitive development and that have a first customer testing and validating their solutions are better prepared to address global markets and to attract external financial investment, such as venture capital, for the exploitation of further market opportunities. As such, the pre-commercial procurement process can attract venture capitalists looking for promising opportunities offered by SMEs involved in pre-commercial procurements. See for example the NHS UK PCP examples (see the [MS initiatives page](#)) which have attracted significant venture capital for the companies involved. Strong external financial support from for example the venture capital market makes it 'safer' for the procurers that will buy from such SMEs afterwards.

## **FAQ 5: What are the potential benefits of PCP for industry?**

### **(1) Opportunities to acquire international leadership in new markets**

In pre-commercial procurement public authorities challenge industry to develop solutions for public sector problems that are so forward-looking and so technologically demanding that either no commercially stable solution exists yet on the market, or existing solutions exhibit shortcomings which require new R&D. By triggering the development of breakthrough solutions ahead of the rest of the world market, public authorities can through their role of demanding first buyer create opportunities for companies in Europe to take international leadership in new markets.

### **(2) Shorter time to market**

The virtuous process of co-evolution of demand and supply enabled by pre-commercial procurement shortens the time-to-market for the suppliers that can better anticipate demand for new solutions and better align their product developments to fulfil concrete customer needs. Active involvement of interested public buyers from the early product development stages also enables public authorities to detect at an early stage potential policy and regulatory barriers that need to be removed in time to ensure short time to market for innovating public services.

### **(3) Wider market size, economies of scale**

Assigning IPR ownership rights to companies participating in PCPs enables those companies to address wider markets beyond the procurer that initiated the development. Streamlining desired product specifications amongst suppliers and procurers at the stage when products are still under development empowers procurers to foster the necessary degree of standardisation amongst suppliers to guarantee economies of scale and interoperability. Cooperation between procurers at the pre-commercial stage can act as a driving force to create the required critical mass on the demand side to reduce market fragmentation and increase economies of scale for suppliers in Europe. Through export focused commercialisation wide take-up and diffusion of the newly developed technologies can be achieved in different sectors, comprising private as well as public markets, locally and globally.

## **FAQ 6: What can PCP do for citizens and policy makers?**

### **(1) Improving the quality and efficiency of public services**

Pre-commercial procurement can help policy makers to focus public R&D investment on finding concrete solutions for public sector challenges of high political priority. A more forward looking planning of the public procurement process, including the procurement of R&D, can help governments to reap the benefits of technological innovation and modernize public services faster than today. This way, the public sector can have a significant impact on the mid to long term efficiency and effectiveness of public services.

### **(2) Strengthening the innovation climate, creating highly qualified employment**

By increasing the demand for new technological solutions to be developed, governments can stimulate companies to undertake additional R&D. This way, pre-commercial procurement can help to create highly

qualified jobs and economic growth in new sectors of industrial leadership through planned innovation of public services.

### **(3) Attracting foreign investment**

As explained in the last bullet of [FAQ4](#), pre-commercial procurement process can attract foreign investors (e.g. venture capitalists) looking for promising opportunities to invest in companies involved in pre-commercial procurements. By linking pre-commercial procurements to government funded public-private company financing programmes (e.g. public-private VC funds), policy makers can stimulate such foreign investments.

### **(4) More efficient use of tax payers' money, optimising public R&D spending**

Europe mostly relies on "supply side" R&D policy measures such as R&D subsidies to financially stimulate industry to undertake R&D relevant to public services interest. Even when complemented by measures to support take-up of the developed solutions in the public sector, in practice, too few of these projects result in products and services that really get deployed afterwards. Pre-commercial procurement enables an earlier reality check of industry R&D against concrete public purchasing needs, which can help to maximize the effectiveness of the R&D process and optimize public R&D spending.

## **FAQ 7: How does PCP link to other demand side policy instruments?**

International success stories show that the commercialisation success rate of innovations developed in R&D procurement depends also on support from other demand side policy instruments that can be used by the public sector during the PCP to remove barriers for innovations to reach the market faster (e.g. regulation, product certification/labelling, standardisation, deployment subsidies/tax incentives, IPR). The most successful case examples are those where the PCP is executed not by a central R&D or innovation agency as an industry support instrument, but by a public procurer that represents the real demand side, i.e. the entity on the public sector side that has the real requirements that the innovative solutions should fulfil and that can mobilise, besides public procurement, the most important demand side instruments in that specific sector (e.g. regulation, product certification / labelling, standardisation, deployment subsidies / tax incentives, IPR) that can speed up market introduction of solutions.

The importance in Europe of providing an **IPR regime in public procurement contracts that does not stifle innovation** was already discussed in [FAQ 3](#).

There is also a clear **link between R&D procurement and standardisation** as a public demand tool.

- PCP can be clearly used a way for the public sector to reach de facto standardisation in a fragmented sector. By setting requirements for interoperability etc at the start of the R&D, PCP (especially when executed by a critical mass of procurers in cooperation) enables procurers to drive industrial developments in the PCP to become the de facto standard in the sector. Clearly GPS, TCP/IP (Internet Protocol) etc are examples of solutions developed during competitive R&D procurements in the US that have become de facto standards in entire sectors afterwards.

- Procurers also have the possibility to align the PCP development process with the official standardisation process of standardisation bodies, driving therefore the creation of de jure standards out of industrial developments in the PCP. Security, cloud computing are typical US examples where the government itself is driving de jure standardisation itself to align procurement needs with ongoing industrial developments. In Europe similar is possible. The three phase PCP process aligns with the three phase standardisation process of typical European standardisation bodies such as ETSI. De jure standards are typically also created in three phases: first a requirements specification / standard is created, afterwards an architecture specification / standard, and last the detailed protocol / conformance testing specifications / standards. Public procurers can therefore align private procurers (e.g. telecom operators) feed the outcomes / results of the PCP, phase by phase, into the European standardisation process: typically after phase 1 of a PCP (design phase), procurers have confirmation about the feasibility of their requirements and a first version of requirements standards can be created; typically after phase 2 of a PCP (prototyping), procurers have confirmation about the system architecture and a first version of architecture standards can be created; typically after phase 3 of a PCP (development and testing of small quantity of first products), procurers have confirmation about conformity with detailed operational implementation issues and detailed protocol/conformance testing standards can be created. The EU funded PCP project V-CON for example is actively planning to pursue the creation of new de jure standards through their PCP project (see [EU funded PCP projects page](#)).

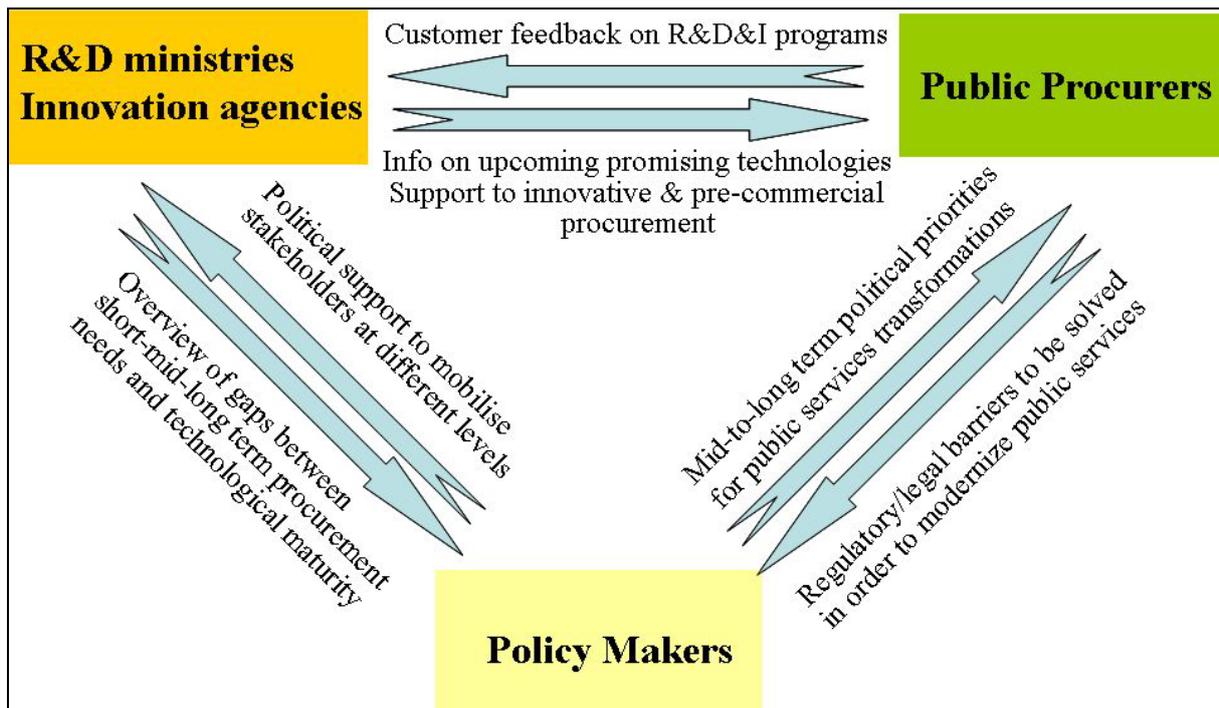
Important is also to strengthen where possible the **link between PCP and regulation**.

- Legislation can often be a driver encouraging public procurers to look for innovative solutions. Examples are regulations or directives in areas of public interest calling for reduction of CO<sub>2</sub>, better quality water/air, cleaner cars etc. Norwegian requirements for example to reduce CO<sub>2</sub> emissions encouraged Statoil/Gassnova to start a PCP project in 2011 to get new carbon capture technology developed that meets the stricter regulatory CO<sub>2</sub> requirements (see [EU funded PCP projects page](#)).
- The other way around, active involvement of the public sector in PCP projects can also help discover areas where existing regulation is not up to date any more with technological advances. Such active involvement in the industrial R&D phase, can allow the public sector to update regulations already whilst the PCP development of solutions is still ongoing, so that regulations don't block newly developed innovations to enter the market quickly after the PCP. Nordic countries (e.g. Denmark) are examples of countries that were able to quickly introduce for example electronic prescription of medicines by doctors, whilst other countries are still struggling with that because legislation blocking doctors to prescribe medicines to patients without physical examination.
- Public procurers can use PCP to make sure ongoing industry developments are kept in line with existing regulations in other domains or upcoming new regulations that are still under development. For example, whilst doing a PCP on carbon reduction, the procurer can also (via the requirements specifications of the PCP tender) ensure that solutions developed during the PCP also meet other existing or newly developed environmental, healthcare or citizen safety regulations.
- Lastly, the public sector can also use regulation to mandate the market to switchover from existing to innovative products that better meet public sector requirements. Typical examples are switchover dates that are regulated to transition from traditional light bulbs to more energy efficient lighting etc. PCP provides test evidence that innovative solutions can better meet public sector needs (e.g. be more energy efficient) compared to traditional solutions. Therefore PCPs can be the trigger for such regulatory switchovers. Instead of / or in combination regulating the introduction of innovations, governments can also prepare during a PCP to make available by the end of the PCP deployment subsidies or tax/VAT incentives to encourage the take-up of innovative solutions by end-users on the market.

Interesting can also be to optimise the link between PCP and **product certification / labelling**.

- US cases, for example from NIH (National Institute of Health), show that the time-to-market for biotech drugs can be shortened by fast track certification (certification of solutions already planned and immediately executed at the end of the R&D procurement). Phase 3 of the PCP provides the opportunity for procurers to test and if relevant certify solutions under real-life operational conditions. In the Norwegian Statoil / Gassnova CO<sub>2</sub> carbon capture PCP for example, the procurer has foreseen from the beginning of the project the link with certification. In the Statoil PCP tendering procedure, the certification entity is identified where companies have to get their solutions certified by the end of the PCP procedure (see [EU funded PCP projects page](#)).
- In other sectors of public interest, such as environmental / energy efficiency, product labelling is commonly used. In this context a link is possible between GPP (green public procurement) and PCP. When PCPs are focused on getting greener technologies developed they can reinforce the GPP strategy of the public sector. White appliances (lighting, refrigerators and washing machines) are an example area where product labelling has been successfully applied in Europe. Alike certification, product labelling could also be incorporated in phase 3 of a PCP.

## **FAQ 8: Which are the main actors that can cooperate to mainstream PCP in Europe?**



[FAQ 3](#) identifies fragmentation of the public sector as a reason/barrier that has stifled the widespread use R&D procurement in Europe so far. [FAQ 7](#) shows international case examples from other parts of the world, e.g. the US, where federal agencies often combine the mandate to support innovation in their sector (traditional R&D&I grant programs & R&D procurement), the power of the public purse to deploy innovations (procurement of the commercial end-solutions), as well as tools to shorten time to market for innovations developed for them via other sectoral demand side policy instruments (e.g. regulation, product certification/labelling, standardisation, deployment subsidies / tax incentives).

Today in Europe, these mandates are often spread among different entities, and there is often a lack of cooperation between the three main types of stakeholders on the public sector side that play an important role in demand-driven innovation. Still too often R&D and innovation funding programmes are run independently by R&D/innovation agencies, public procurement programmes are run separately by procurement offices and policy planning is done by policy makers. By reinforcing the cooperation between those three types of stakeholders in the demand driven innovation process (see triangle of cooperation in Figure 2), pre-commercial procurement can help to increase the successful flow-through of ideas from the early R&D stage into widespread commercialisation.

### **(1) Link between public procurers and R&D/Innovation agencies**

Public procurers can often very well describe the problem they want to get solved, but are not equally well aware of newly emerging technological developments that could help to address it. From their experience in running R&D programmes, R&D/Innovation agencies can inform public procurers about promising new technology evolutions with an interesting business case. They can provide public procurers with practical advice and expertise on issues typical for projects which involve a high degree of innovation, such as handling of IPRs. In return, early feedback from public procurers (potential first buyer requirements) can provide invaluable insights into the effectiveness of the ICT research portfolio (R&D/Innovation grant programmes) run by R&D/Innovation agencies. R&D/innovation agencies can proactively use financial incentive schemes to encourage procurers to undertake procurements that involve a high degree of innovation, such as PCPs. In several Member States such financial incentive schemes have or are been setup: see [MS initiatives page](#).

### **(2) Link between public procurers and policy makers**

Public procurement programmes optimised for the buying of commercially ready products and services tend to stimulate and favour tactical buying of in the shorter term most economically advantageous offers, rather than strategic buying of innovative solutions that could better fit public needs in a sustainable way possibly at lower cost. By communicating clearer to public procurers the importance to embrace innovation and plan ahead for the modernization of public services in areas of key political priority, policy makers can give a strong political signal to procurement departments concerning the importance of improving the quality of public services through PCP. In return, by experimenting earlier-on with newly emerging technological developments, public procurers can provide valuable feedback to policy makers concerning for example regulatory barriers that need to be removed, or deployment

incentives (e.g. tax/VAT reductions, deployment subsidies etc) that could be introduced before new technologies can be implemented on a large scale.

### **(3) Link between policy makers and R&D/Innovation agencies**

Improved cooperation between policy makers in specific areas of public interest (health, transport, energy etc) and those responsible for R&D/innovation programmes in general is also important to make sure that the introduction of innovation related procurement approaches such as PCP in specific sectors are part of a holistic strategy to improve the quality of public services and the innovation ecosystem. With political commitment to modernize public services, government R&D/Innovation agencies can help policy makers to convince public procurers about the intrinsic benefits PCP can bring to the demand side (see [FAQ4](#)).

In practice, cooperation between the different stakeholders throughout the lifetime of a PCP can be organised by involving them along the different stages of the project. One can organise a consultation meeting in the definition stage of a PCP involving all the stakeholders on the public sector side including policy makers, R&D/innovation agencies and public procurers. Such consultation rounds can in a second stage, called innovation platforms then in some countries, also consult industry through a so-called technical dialogue before launching the actual PCP tendering procedure. Also, during the lifetime of a PCP project the different stakeholders can remain involved, e.g. through participation of a representative in the evaluation and selection rounds of the PCP. In the evaluation committee for example one could involve someone from the policy administration (to assess how well proposals address the policy challenge - e.g. CO2 reduction - for which solutions are sought through PCP), a public procurer (to evaluate how well the PCP bids meet the user requirements that the solution should fulfil), an R&D/innovation expert in the field (to assess the technological state of the art/innovativeness of the different bids), and a financial expert (to assess the market potential/value for money of each bid).

## **FAQ 9: How to ensure in practice the procurement of R&D services "at market conditions"?**

One important condition for a pre-commercial procurement not to contain a State aid element is that the procurer should not pay more than market price.

### **(1) How can one define the market price for a product that still needs to be developed, for which the market does not exist yet.**

To answer this question one needs to remember that pre-commercial procurement is not a supply contract (a procurement of goods/products) but a service contract (a procurement of R&D services). In PCP the procurer pays a team of researchers and/or developers to perform specific R&D activities for a time duration specified in the tender documents. As the market value of the salaries of researchers/developers in a certain sector and the costs of R&D material required to perform the work are known, one can check whether the price proposed by a certain company in a bid is in line with normal market conditions.

### **(2) How can one calculate the financial compensation that the procurer should get for not claiming IPR ownership rights which gives companies the opportunity to exploit solutions developed during the PCP to wider markets.**

In pre-commercial procurement the procurer assigns IPR ownership rights to participating companies, leaving companies the opportunity to resell developed solutions to other markets afterwards, in return for a financial compensation that brings the overall cost of the PCP development for the procurer below the higher prices for exclusive development contracts. An exclusive development contract concerns the case where development is carried out exclusively for the procurer and the procurer thus obtains all results (including all IPRs) of the project.

What elements to take into account to calculate this financial compensation?

The Staff Working Document on PCP highlights the following based on the State aid rules for R&D&I: "For exclusive development projects, where all resulting IPRs are owned by the public purchaser, participating companies should not receive any advantage if the price paid (by the procurer for the exclusive development contract) does not exceed the costs of the company (related to carrying out the development work) plus a reasonable profit margin. In the pre-commercial procurement approach presented, where IPRs are not fully allocated to the public purchaser, the price paid by the public purchaser for the pre-commercial development must be lower than in the case of exclusive development in order to exclude a State aid element. *The price reduction compared to exclusive development cost should reflect the market value of the benefits received and the risks assumed by the participating company. In case of IPR sharing in PCP, the market price of the benefits should reflect the commercialisation opportunities opened up by the IPRs to the company, the associated risks assumed*

*by the company comprise for instance the cost carried by the company for maintaining the IPRs and commercialising the products."*

How to implement concretely the financial compensation?

There are a number of possible approaches used by public procurers around Europe to implement the financial compensation for leaving IPR ownership rights to companies in a development contract. Two examples are given below:

**(1) Price reduction on the PCP development cost:** This approach has been verified not to contain State Aid by Commission DG competition services in the [case](#) of the UK Energy Technology Institute's proposed implementation approach for pre-commercial procurement. This approach is also used by the EU co-financed PCP projects SILVER, CHARM and V-CON (see [EU funded PCP projects page](#)). This is a so-called "ex-ante" approach of implementing the financial compensation, meaning that the procurer feels the budgetary impact of the financial compensation on the price paid for the R&D work immediately at the start of the PCP. In this scenario, the public procurer's PCP tender documents require companies to offer - in their bid for undertaking the PCP development work - a price reduction that is proportional to the expected market value of the commercialisation opportunities opened up to the company by obtaining IPR ownership rights. Practically, this can be implemented for example by asking companies to state in their PCP bid the difference between "IP-in" compared to "IP-out" prices. "IP-in" is the company's price for undertaking the requested R&D work under PCP contract conditions, i.e. when keeping IPR ownership rights "in" the company. "IP-out" would be the company's price for undertaking the same R&D work under exclusive development conditions, i.e. when all IPR rights are claimed by the procurer. Before starting the evaluation of the received PCP bids, the procurer - based on his own knowledge about the market or with the help of a financial expert in the PCP tender evaluation committee - evaluates for each individual incoming bid whether the financial compensation (difference between IP-in and IP-out prices) offered in each bid is conform with market prices.

**(2) Royalties on sales:** An example of this form of financial compensation can be found for example in the default IPR agreement in the French CCAG guidelines for public procurement (CCAG = cahiers de clauses administratives générales). The UK Ministry of Defence's standard IPR agreement also leaves IPR ownership rights with companies in return for royalties on future sales. The royalty rate, as a percentage of sales is predefined by the procurer depending on the market characteristics, and is published in the PCP call for tender documents. This is a so-called "ex-post" approach of implementing the financial compensation, meaning that the procurer only starts feeling the budgetary impact of the financial compensation after the PCP is finished, namely at the moment that companies start selling solutions based on developments undertaken during the PCP to other customers beyond the procurer.

Regardless of whether approach (1) or (2) is chosen by the procurer, the value of the financial compensation for relinquishing IPR ownership rights to a company in a PCP procurement determines the total price finally paid by the procurer for the PCP development to that company. Therefore the format and value of the financial compensation have to be clearly specified in the PCP contract signed with that company. In order for the procurer to be able to compare PCP offers from different companies on an equal basis and verify whether the prices of the different offers are according to market conditions, the format for the financial compensation that the procurer finds acceptable has to be clearly communicated up front when publishing the PCP tender documents.

Some procurers in Europe fear to undertake a PCP because of this need for valuing IPRs. This fear is not justified, because whenever R&D is involved in a public procurement, valuing IPRs will always be needed whatever the procurement procedure chosen (PCP or other procedure), unless the procurer plans to produce products out of the IPRs himself. Because PCP leaves IPR ownership rights with suppliers from the start, valuing of the IPRs is something that needs to be looked into from the start of the tendering of the R&D. In procurement procedures that keep IPRs with the procurer during the R&D phase, when the procurer wants to transfer IPRs after the R&D phase to companies on the market to produce products for the procurer based on these IPRs, the procurer will need to get the IPRs valued at market price before being able to launch a tender for procuring commercial solutions based on IPRs developed during the R&D phase. The EU State aid rules require any transfer of IPRs from public procurers to market players to be done at 'market price'. Getting comparable market offers for the transfer of IPRs from various market players, which is needed to establish that the transfer is happening at market price to the highest bidder, can be done by the procurer by organising an auction. It is clear that the highest bidder that is able to offer the market price for IPRs held by the procurer may not always be the contractor that performed the R&D and generated the IPRs for the procurer during the R&D phase. In most cases this situation is not interesting for companies nor for procurers, because most companies don't aspire only to do R&D but also to commercialise solutions themselves based on their R&D.

**Conclusion:** Leaving IPR ownership rights with companies from the start of the R&D as in PCP, avoids having to do auctioning of IPRs after the R&D phase is finished, where the highest bidder may not be the contractor that generated the IPR in the first place. The fact that there is little evidence of public sector IPR auctions taking place in Europe, shows that public procurers in Europe often keep IPRs

resulting from procurements but then don't immediately make these IPRs available for commercialisation. This blocks innovation, as companies can not commercialise solutions based on IPRs that are locked up by public procurers. This is also one of the main reasons why in most regions of the world (US, Canada, China etc) it is mandatory for public procurers to always use the IPR regime as in PCP and leave IPR ownership rights from the beginning with suppliers in public procurements (see e.g. Bayh-Dole act in US) unless in limited cases where public procurers can justify the need for exclusive development.

## FAQ 10: Does the cost of the multi-supplier approach in PCP not outweigh the benefits?

The PCP Communication illustrates the phased PCP process that invites a number of companies to develop in competition each their own solution proposal to the procurer's problem.

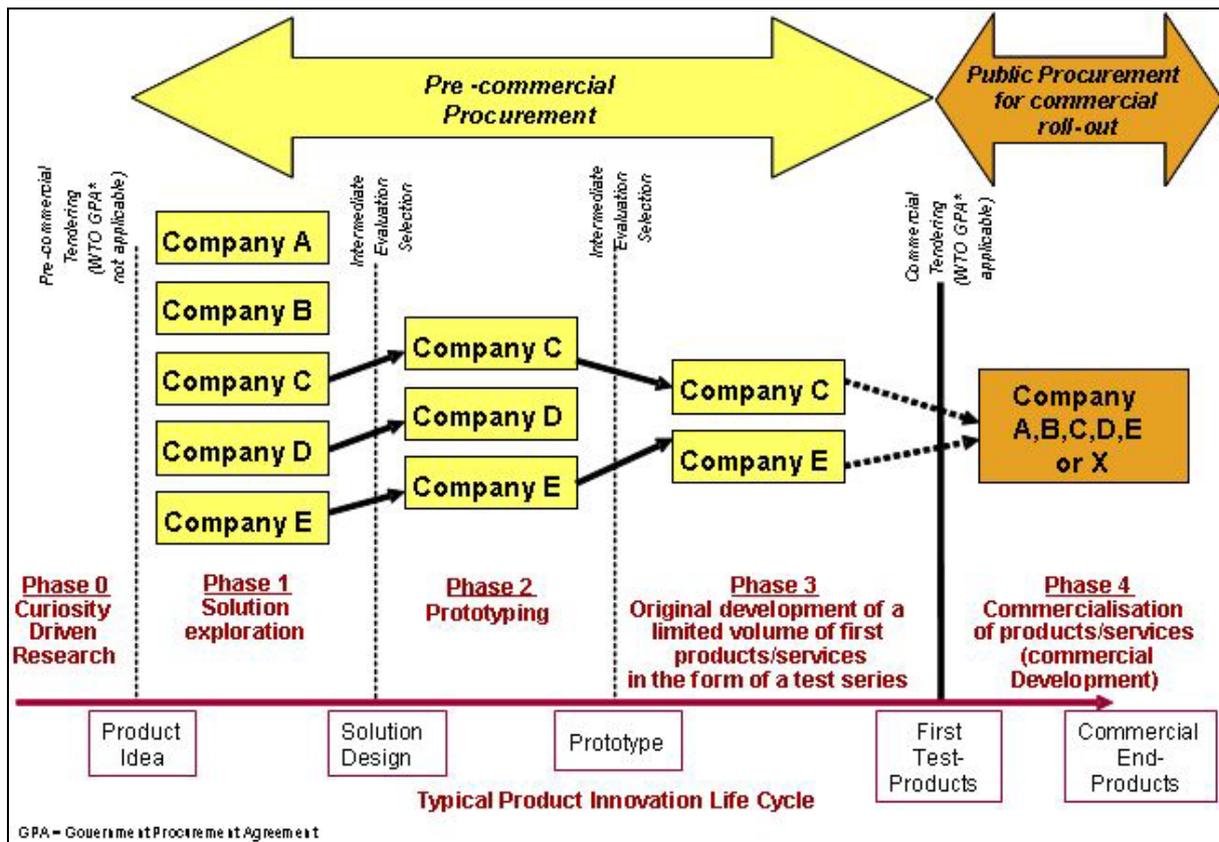
This multi-supplier approach reduces the R&D risk and cost and enables public procurers to extract the best possible solutions the market can offer while avoiding single supplier lock-in. How can such a multi-supplier approach be cost-efficient for a procurer compared to an approach where he pays only one supplier to undertake the R&D?

**Firstly**, it is not because one would start for example with four companies in the first phase of a PCP, that the entire PCP trajectory would cost four times as much as the same R&D trajectory with only one company. **The number of companies gradually decreases in the phased approach.** After each phase there is an evaluation/selection and only the best suppliers that keep meeting the performance criteria for the desired end-solution, set by the procurer, continue to the next phase. The number of companies remaining in the project decreases as the cost of R&D increases from phase 1 (solution design) to phase 3 (development of test series).

**Secondly, the cost of the R&D per company is lower in pre-commercial procurement** than it is typically in customised development projects where a procurer gets a solution developed by a single company. In customised development projects the procurer typically asks for very customer specific locally tailored solutions over which the public procurer wants to keep complete control or, in other words, exclusive ownership (including ownership of all IPRs resulting from the R&D). In pre-commercial procurement the procurer assigns IPR ownership rights with participating companies, leaving companies the opportunity to resell developed solutions to other markets afterwards, in compensation for a development price which is lower than exclusive development price (see [FAQ 9](#) Communication and Staff Working Document on more detailed info on assigning IPR ownership with companies in PCP at market price).

**Thirdly, when companies are developing in competition – as in PCP - the pressure to develop higher quality and better priced products is stronger.** Studies from the US have shown that in procurements with multiple competing companies in the development phase, the price of the first resulting end-products is on average 20% cheaper than in so-called single-source procurements. Cost savings of on average 20% on large scale deployment contracts could represent large amounts of hundreds of millions of euros when it comes to big projects such as the deployment of new public health services, e-government solutions etc. Such savings can win back multiple times the initial cost of the PCP that helped the procurer to prepare for the large scale procurement contract.

**Finally**, when public authorities do not invest in the actual procurement of R&D, they prepare themselves for large-scale deployment contracts in other ways, e.g. by commissioning studies on technology options and market overviews. **PCP does not necessarily have to cost more than the total cost of external studies and in-house market research by the procurer to prepare for large deployment contracts.**



## FAQ 11: How to marry the long term nature of R&D with short term political election cycles?

As highlighted in [FAQ8](#), policy makers are important stakeholders in PCP. Politicians are typically re-elected every 4 to 5 years. The whole PCP process can be geared to fit within that timeframe.

As depicted in Figure 3 of the Communication **PCP does not concern fundamental research**, i.e. curiosity driven research studying fundamental scientific phenomena for which there is no concrete application field in view yet, which can indeed have long term duration of tens of years. PCP is about applied R&D, i.e. application driven R&D to prove that workable solutions can be developed for a concrete customer problem within a given timeframe defined by the operational planning of that potential customer: the planning of the public procurer to modernize its public service with new innovative solutions in a given timeframe.

In a procurement project it is the procurer that defines in its tender specification the terms and conditions of the project. As such **the duration of each phase of a PCP can be set up front**. Typical durations for the different phases in PCPs are: 6 months for phase 1 (solution design), 6 to 9 months for phase 2 (prototyping), 6 to 9 months for phase 3 (development of limited test series). Adding another few months of preparation and finalisation for the PCP project on the procurer side, the complete exercise can be carried out within a typical political election cycle.

Over the past few years several different types of public procurers have started to undertake PCPs (see [Member States initiatives page](#)). PCP can shorten the time-to-market for innovative solutions most efficiently when the PCP is executed by a public procurer that has a real demand for the end-solutions. For example the UK National Health Service only needs 18 months (6 months per phase) to get solutions developed and ready-to-be-deployed via their PCPs. The Norwegian Statoil PCP is also progressing fast at 6 months per PCP phase.

## **FAQ 12: What benefits can PCP bring specifically to the 'local' economy when implemented by cities or regions?**

*The PCP approach uses a competitive model with a range of companies instead of one preferred "local" supplier. Organising the entire procurement process in a way that ensures maximum competition, transparency, openness, fairness and pricing at market conditions enables the public purchaser to identify the best possible solutions the market can offer. What benefits can such an open PCP approach bring specifically to the "local" economy?*

### **(1) Strengthening "local" public sector demand for R&D in Europe can increase the competitiveness of "local" companies and thereby help to combat company relocation to other parts of the world.**

Pre-commercial procurement enables public authorities to challenge industry to develop solutions for public sector problems that are technologically demanding and for which either no commercially stable solution exists yet on the market, or existing solutions exhibit shortcomings which require new R&D. Today however, although Europe is facing numerous societal challenges, public sector demand for R&D is very low compared to other parts of the world (see [FAQ1](#)). Often public procurers in Europe don't show interest to get actively involved in new technological developments until these are fully debugged and test proven in "someone else's" real-life customer environment.

Weak demand for R&D therefore often means in practice that in Europe, companies have fewer opportunities to participate in forward-looking technologically demanding public sector contracts compared to other parts of the world. As the public sector represents around 30 to 40% of the market around the world, strong public sector demand for development of new innovative solutions can be a serious factor influencing delocalisation of European firms.

By increasing "local" public sector demand to develop innovative solutions for the societal challenges of the future, PCP can help combat delocalisation and encourage companies to increase "local" investment in highly qualified R&D in Europe. Local and regional authorities are operating several public services that are key to Europe's citizens where the PCP concept could be applied such as fire brigade equipment, local transport services, health care/hospital services etc. By triggering the development of breakthrough solutions ahead of the rest of the market, public authorities can through their role of demanding first buyer create opportunities for companies in Europe to take international leadership in new markets.

### **(2) PCP can help to create highly qualified "local" jobs.**

As illustrated in [FAQ6\(2\)](#), pre-commercial procurement can trigger industry and especially "local" industry (because of the attractiveness to win contracts with "local" customers) to undertake R&D which would otherwise not be undertaken especially in areas where the public sector represents a large portion of the potential market. Thus PCP can create highly qualified "local" jobs.

### **(3) Compared to subsidies, procurement can offer a way to make more efficient usage of "local" R&D budgets.**

As illustrated in [FAQ6\(4\)](#), compared to R&D subsidy programmes pre-commercial procurement enables an earlier reality check of industry R&D against concrete public purchasing needs, which can help to maximize the effectiveness of the R&D process and optimize public R&D spending.

Thus, more "local" industry R&D efforts can be expected to produce fit-for-purpose products and the percentage of successful commercialisation of results coming out of "local/regional" government financed R&D projects can be expected to increase.

### **(4) PCP can attract external financing (FDI) to the "local" economy – PCP can be coupled with "local" innovation support programmes**

As illustrated in [FAQ6\(3\)](#), pre-commercial procurement can attract foreign investors (e.g. venture capitalists) looking for promising opportunities to invest in companies involved in new emerging areas of innovation. By engaging actively as first potential customers in getting new solutions developed and tested, public authorities involved in PCPs can act as a "seal of approval" confirming the market potential of new emerging technological developments, thereby attracting new investors.

By linking pre-commercial procurements to "local" government innovation support programmes, policy makers can encourage such new Foreign Direct Investments into their region. Examples are governments taking the initiative to setup government co-funded VC programmes (e.g. 50% funded by the public sector, 50 by private investors) in areas of high political priority for innovation in the public sector where PCPs are started. PCP can attract external financial investors for companies, which does not only improve the innovation climate for high-tech companies in the region but reduces also the risk for public procurers to buy from such innovative PCP companies in follow-up large scale procurements for deploying commercial volumes of end-products resulting from the R&D.

## FAQ 13: What is the difference between PCP and the US SBIR program?

The US SBIR programme, targeted at Small Businesses exclusively, represents only a "small" budget (around \$2Bn) when compared with the total yearly R&D procurement expenditure in the US (around \$50Bn). The three key success elements that characterise the SBIR programme implementation are not unique to the SBIR programme in the US: competitive development in phases, assignment of IPR ownership with companies not with procurers, separation of R&D phase from commercial deployment phase. In fact, the SBIR programme was modelled after successful good practice in public sector R&D contracts in NASA and DOD in general. Assignment of IPR ownership to companies instead of public procurers is today the normal practice in all public procurements of all federal agencies, not only in contracts which involve Small Businesses.

With the PCP Communication, the EU Commission aims to draw the attention of the Member States to the fact that not only SMEs, but companies of all sizes suffer from the lack of public demand for R&D in Europe. This can be addressed by developing more forward looking procurement strategies which include R&D procurement, and designing those R&D procurements in such a way that they are as open and attractive as possible for SMEs. This is what is done in PCP.

PCP is designed to be open and interesting for SMEs to participate in. This is done in a number of ways (see [FAQ14](#) for more detail): (1) by not using disproportionate qualification or financial guarantee requirements on bidding companies (no conditions on minimum company turnover as is often done in large scale public procurements); (2) by increasing the commitments expected from participating companies gradually - phase per phase - along the lines of the natural growth path of a start-up company; (3) thereby also giving SMEs the chance to step outside of their traditional subcontractor role and focus on working out their own ideas to successful products; and finally (4) by giving companies the chance to grow globally (by assigning IPR ownership and thus the exploitation rights on developed solutions with the companies not the procurers).

PCP and SBIR pursue similar but not entirely the same objectives, and the legal context in the EU versus US in which both schemes respectively can operate is not the same. Therefore there are both similarities and differences between pre-commercial procurement and the US SBIR program which can be summed up as follows:

### Important differences

- Whereas participation in the US SBIR (Small Business Innovation Research) program is strictly limited to Small Businesses only, this is not what is proposed in the PCP Communication in compliance with the EU Treaty principle of non-discrimination. Indeed, early customer feedback on new product developments can be beneficial for companies of all sizes. Nevertheless, PCP can be particularly interesting for SMEs to participate in, as explained in [FAQ14](#).
- Participation in the US SBIR program is limited to companies that are at least 51% US-owned and whose operated principal place of business is located in the US. The PCP Communication does not advise to use similar conditions in a systematic way, it suggests that public purchasers decide on a case by case basis on the openness to worldwide offers and on the relevant contract conditions, taking into account the full potential of the European Research Area. As explained in more detail in the PCP Staff Working Document the latter means that the PCP process could be organised so as to stimulate companies to locate a relevant portion of the R&D and operational activities related to the PCP contract in Europe.
- Some US federal government agencies organise the SBIR program mainly as a grant scheme (so-called "granting" agencies). Other US federal government agencies - mainly those with large operational responsibilities and thus large procurement needs - implement the SBIR program as a procurement scheme (so-called "contracting" agencies). The granting agencies let companies make the specifications for concrete project proposals in broadly defined areas of interest to the agencies. The contracting agencies define more concrete problems to be addressed and performance targets to be met. The PCP approach as described in the Communication is purely a procurement, which does not involve any grant or State aid element.

### Important similarities

There are similarities in the way the PCP and the SBIR process is practically run, in the sense that they both make use of a number of good practices that reduce the risk and increase the potential benefits both for public authorities and companies to engage in high-risk high-return R&D:

- both split the R&D into a number of phases
- both work with a number of companies developing in competition across the different phases
- both have evaluations and selections after each phase
- both are sequential models (only companies that participated in phase 1 can go to phase 2 etc)
- both leave IPR ownership rights with participating companies

## FAQ 14: Why is it interesting for SMEs to participate in PCP?

***PCP is identified in the Communication as a mechanism that could improve the access of SMEs to the public procurement market. Why is PCP interesting for SMEs?***

### **(1) No disproportionate qualification or financial guarantee requirements**

One of the reasons why SMEs experience difficulties obtain to get a larger access to the public procurement market in Europe is that there is so little R&D procured. More than 99% of European procurement tenders ask immediately for commercial volumes of final end-products to be delivered. As those are contracts for large amounts of money where the procurer needs to guarantee flawless operation in real-life circumstances, procurers often require bidding firms to provide proof of substantial qualification requirements (e.g. prior customer references) and financial guarantees (e.g. minimum turnover). Those are often difficult for SMEs to comply with.

Pre-commercial procurement is an R&D procurement with the objective to develop new solutions for public sector problems for which there are no solutions – so no customer references - on the market yet. Stringent qualification requirements as in procurements for large scale deployment are therefore typically not used in pre-commercial procurements, which makes PCPs more easily accessible to SMEs.

Pre-commercial procurement continues until, in phase 3, the first newly developed products are tested until they comply with the functional/performance requirements required by the procurer for large scale deployment. It can therefore help SMEs to bring their new product developments to the point where they will be able to meet qualification requirements (proof of tested customer reference) in future procurements for large scale deployment.

Pre-commercial procurement does not immediately put large financial requirements on bidding firms either:

### **(2) A gradual financial growth path**

The phased approach proposed in the PCP Communication enables to gradually increase the size of the tasks and the required resources (corresponding contract value) involved with each PCP step. This can help SMEs to grow the size of their company alongside with the PCP procurement: from the stage of first idea generation (phase 1 PCP), over all the steps of the R&D process, up to first series of tested products ready to hit the market (phase 3 PCP).

### **(3) A chance to step outside of the traditional subcontractor role**

PCP is particularly interesting for SMEs because it allows them to grow beyond their traditional role in public procurement of the subcontractor to a bigger firm. It allows them to work out their own ideas to successful products.

### **(4) An opportunity to grow globally**

The assignment of IPR ownership rights to the companies instead of the procurers in PCP, and the encouragement of procurers to cooperate (see [FAQ4](#)) provides SMEs a better perspective to commercialise their newly developed PCP products more widely and become big international companies. It provides a way to break the dogma of the local SME supplier which is developing solutions that are so specifically tailored to the requirements of only one local public authority with all commercialisation rights automatically assumed by that local public authority, that the SME can not resell its newly developed solutions to other markets.

## FAQ 15: Fragmentation of public demand is an issue in Europe. Does PCP address this?

**Fragmentation of public demand in Europe is identified in the Communication as one of the main barriers for R&D procurement to achieve its maximum desired impact: deliver best value for money solutions to procurers and enable suppliers to commercialise newly developed solutions widely. Can pre-commercial procurement help address fragmentation of public demand?**

There are natural incentives in the way the PCP process is constructed that help to tackle fragmentation of public demand:

(1) The IPR risk-benefit sharing in PCP provides a natural incentive to public procurers to cooperate

When the objective of a procurement (such as in exclusive development) is to pay a high price to keep all outcomes of the procurement for yourself as procurer, the incentive to cooperate with other public procurers is small. When the objective of a procurement (such as in pre-commercial procurement) is to reduce the cost of high-risk R&D procurement by not keeping all outcomes of the procurement for yourself as public procurer, the incentive to cooperate with other public procurers increases because:

- The bigger the market the companies can sell their products to after the PCP, the lower the prices will become for the procurers on the final end-products (economies of scale of production).
- Finding other public procurers to jointly undertake the PCP with, lowers the cost of the R&D for each individual procurer.
- The risk-benefit sharing agreement proposed in the PCP Communication assigns IPR ownership rights to companies, but license free use and the right to require license to third parties to procurers. Only the procurers that financed the PCP phase obtain license free use and the right to decide about third party licensing.

(2) Today public procurers report that they experience difficulties to procure jointly across borders due to differences in member state implementations of the public procurement directives. Pre-commercial procurement is exempted from the public procurement directives. Therefore procurers do not suffer from this hindrance to cooperate in pre-commercial procurement.

(3) As explained in the Communication and in more detail in the Staff Working Paper, financial incentives can be used by innovation policy makers at Member State and Community level to stimulate procurers to undertake pre-commercial procurements together. The Staff Working Paper clarifies that such incentives will not be considered State Aid, when not used to unrightfully increase the prices paid to companies in the PCP procurement.

## **FAQ 16: Is bundling of demand in PCP positive or negative for SMEs?**

***The Communication is promoting networking and cooperation between procurers, and ultimately even joint PCP procurement. Won't bundling of demand end up being more negative than positive for SMEs?***

Bundling of demand (joint procurement) may be difficult for SMEs to cope with in procurement that target large volumes of commercially available products (because of the effect of increasing contract size), but this difficulty can be mitigated when putting a PCP phase in front of a big commercial procurement:

### **Effect of bundling of demand in a procurement for commercially available products**

Example: When 10 procurers that each require 100 commercial end-products bundle their demand, the resulting joint procurement is 1 large procurement for 1000 products. Multiplying the contract value and delivery volume to large numbers may indeed be difficult to cope with for small firms who are not able to deliver such large volumes of products at once, or are not able to ensure financial bank guarantees proportional to the contract value.

### **Effect of bundling of demand in a pre-commercial procurement**

Example: 10 procurers buying together the R&D to get a new solution developed for a problem they have in common, does not change the size or the content of the work that participating companies need to deliver. Such a joint pre-commercial procurement would still invite companies to each deliver 1 feasibility study (not 10), 1 prototype (not 10), 1 first test series of products (not 10). Bundling demand at the R&D stage does not multiply contract values nor delivery volumes by the number of procurers. Bundling of demand in PCP therefore does not create delivery size difficulties for small companies.

On the contrary, the phased approach of PCP is suited to the needs of an SME. PCP starts with small tasks for a small contract value (solution design) and gradually increases tasks and contract values per phase (prototyping, test series), pretty much in line with the natural growth path of a start-up company. PCP can help small companies to get to the stage where they can compete with bigger firms in a commercial procurement: when they pass the last PCP phase (test series) they have a first customer reference, with this first customer reference they can get support from financial investors to produce in big quantities (e.g. banks, VCs etc) and thus compete in a more defragmented commercial procurement market.

If bundling of demand at the PCP stage does not have an effect for companies on increasing contract values what effect does bundling of demand at the PCP stage have then? Bundling of demand at the PCP stage does not multiply contract values for the suppliers. However, it does have an effect on contract cost for the demand side: it divides the investment risk (the R&D cost) for the procurers by the number of procurers that cooperate.

## **FAQ 17: Why use procurement of R&D in addition to grants for R&D?**

Procuring R&D complements the usage of R&D grants.

R&D grants are provided to encourage industry and academia to work together and take more risks in progressing new technologies and their applications. They allow for a broad exploration of new technological avenues that can serve different application fields. They are provided as co-financing mechanisms based on proposals put forward by the supply side: industry and the research community at large.

R&D procurements are demand-side driven rather than supply-side driven. They start from specific public customer needs and trigger industry to develop concrete solutions for those. They are "directed" R&D, R&D according to the needs and specifications put forward by the public procurer, that is purchased at market price from commercial entities.

Today Europe mostly relies on supply side R&D policy measures such as R&D grants to financially stimulate industry to undertake R&D, including R&D relevant to public services' interest. A better balance between public demand and supply side R&D mechanisms could improve the uptake of innovative ideas into the public sector market. Pre-commercial procurement can help to bring promising R&D concepts that are relevant to the public sector faster to the market. By stepping forward as a potential first customer that offers a first concrete application area for promising new technologies, the public sector can help to progress ideas faster from the conceptual stage to the stages of first test product development and on-site customer testing.

## **FAQ 18: When to use PCP versus R&D financing to suppliers e.g. for piloting their solutions in the public sector?**

A number of countries offer R&D support to suppliers to test / pilot their solutions (e.g. through so called living labs). If a project starts only at the testing stage, it means that suppliers have already designed, and thus IPR protected, the key new parts of their solutions. Even though innovative solutions proposed by suppliers for testing in such a way can provide quality/efficiency improvements in the short term for the public sector, the chance that the public sector gets locked in to such suppliers in the long term is high. When solution development is almost finished, IPRs are already protected and asking suppliers to change the core product design to introduce new interoperability requirements will be difficult and costly. Near the end of the development cycle, suppliers will also not be as flexible any more to make significant changes to the core product design to take out unnecessary features or take into account new customer requirements that were not foreseen in their design from the beginning. Also in supply side R&D projects, each supplier will propose a solution that will deliver the quickest revenue generation for himself, which is not necessarily in line with the optimal technological evolution path of the entire industry sector, nor necessarily in line with the more longer term impacts (societal benefits) sought for by public procurers.

Basically, public sector R&D support to industry for testing /piloting their solutions does not offer a way for the public sector to drive innovation itself from the demand side. Procurement of R&D on the other hand, put the public procurer and not suppliers in the driver seat of the project, which offers the public procurer the opportunity to steer solution development across entire industry sectors completely to its needs: PCP enables procurers to avoid development of unnecessary features, to take into account longer

term public sector requirements such as societal impact, and to avoid supplier lock-in (by introducing interoperability requirements and ensuring there are multiple competing providers) from the beginning of the R&D. Case examples – such as the switch from analogue to digital mobile communications in Europe – show that when such procurers represent a critical mass on the demand side they can break open situations where entire sectors of public interest are locked-in to certain suppliers; they can create new lead markets by triggering from the demand side entire industry sectors to change from proprietary to open standardised solutions, by acting as technologically demanding buyers that demand not a small incremental but a radical innovation change. As explained in [FAQ7](#) public sector needs for conformance testing and even certification can be incorporated in phase 3 of a PCP, allowing procurers to determine the testing conditions inline with their real operational needs. PCP in addition offers the public procurers a set of IPR related rights over the new solutions developed during the PCP (see [FAQ3](#) and [FAQ9](#)) that continue to ensure a secure and competitive supply chain for the procurers after the PCP.

Are traditional supply-driven piloting approaches then completely orthogonal to a demand-driven way of piloting / testing, as in PCP? No. Some public procurers reuse existing publicly funded piloting facilities (e.g. living labs) as testing facility for their PCPs. For example the EU funded SILVER PCP project plans to use a Danish living lab facility for lab testing of prototypes in phase 2 of the PCP, and real operational procurers' environments as test environments for phase 3 of the PCP (see [EU funded PCP projects page](#)). In addition, existing piloting facilities (e.g. living labs) in combination with existing R&D grants to industry for piloting solutions, can complement such PCP projects by testing solutions which no public sector first buyers are identified (e.g. to enable SMEs to test their application ideas on platforms of other companies before targeting the solutions at a concrete market segment) or for testing consumer products that do not target necessarily a public sector market (e.g. mobile phones etc).

## **FAQ 19: What is the difference/link between PCP and PPI (public procurement of innovative solutions)?**

Horizon 2020, the EC's 2014-2020 funding programme for research and innovation, supports both pre-commercial procurement (PCP) and public procurement of innovative solutions (PPI) across all areas of research. PCP and PPI are separate but complementary procurements:

- PCP refers to the procurement of R&D services as defined in the EC's PCP communication and staff working document. It offers a way for contracting authorities to share risks and benefits of procuring R&D to address challenges of public interest for which no technological solution is available on the market yet. It enables procurers to de-risk large deployment contracts by first comparing the pros and cons of competing solution approaches from different suppliers, without committing large deployments contracts to any supplier(s) yet (avoiding supplier lock-in).
- PPI is when contracting authorities, possibly in cooperation with additional private buyers, act as lead customer (also called early adopter or launching customer) by procuring 'innovative' solutions (not the R&D to develop them) that are newly arriving on the market but that are not yet available on large scale commercial basis due to a lack of market commitment to deploy.

## **FAQ 20: What are the benefits of PCP + PPI versus long term vendor partnership that combine procurement of R&D with large scale deployment?**

The Horizon 2020 proposal supports PCP and PPI as separate but complementary procurements. What are the advantages of this compared to long term vendor partnerships that combine the procurement of R&D with the subsequent purchase of commercial volumes of end-products?

- **Better value for money products – reducing costs of public procurements**

Evidence from US defence procurements shows that compared to long term vendor partnerships that provide up front commitment for procuring R&D and large scale deployment significantly higher quality products and on average 20% cost savings on the first deployments are obtained when reopening competition after PCPs by tendering out the large deployment PPI contracts separately (remaining threat of competition into the deployment contracting phase is what keeps companies focussing on producing best value for money products and avoids supplier lock-in).

Long term vendor partnerships that combine the procurement of R&D with large scale deployment restrict the choice of suppliers for large scale deployment before there is test evidence about whose R&D will finally deliver the best value for money solution. This combined with the supplier lock-in effect of long term partnerships increases the risks for the procurer to choose inferior solutions with well-known consequences of over-budget and over-time contracts.

- **Fostering job creation and economic growth in Europe:**

Implementing PCP and PPI separately but complementary where ever possible enables to maximise European competitiveness. As procurement of R&D services falls outside of WTO government procurement agreement, PCPs can require suppliers to locate the majority of the R&D and first production activities 'in Europe'. By starting PCPs on groundbreaking topics in advance of the rest of the world and concatenating PPIs right after such PCPs, such place of performance conditions can create a first mover advantage to win follow-up big PPI contracts, for those suppliers willing to locate R&D/PCP activities in Europe.

Long term vendor partnerships that combine the procurement of R&D with large scale deployment are subject to the WTO government procurement agreement. If such contracts are awarded to non-European suppliers, it is not possible to require such suppliers to locate R&D or production activities for the contract in Europe. It is also not possible any more for companies that are not in the partnership contract, but 'do' invest during the R&D stage of the contract in similar R&D activities in Europe, to compete for the large deployment stage of this contract.

- **Preventing foreclosing of competition and crowding out of private R&D investments**

A split between PCP and PPI also allows companies that have developed products through other means than a PCP (e.g. internal company R&D resources, R&D grants) to still compete for PPI deployment contracts, avoiding issues of foreclosing of competition and crowding out of the major sources of R&D investment today in Europe which are not public procurement based (private investments in R&D and public funding/grants for R&D).

Long term vendor partnerships that combine the procurement of R&D with large scale deployment only allow the company that has financed its R&D through that specific procurement contract to sell final end-products to the procurer for the large scale deployment. A serious risk arises of crowding out of mainstream R&D investments in Europe (R&D grants and private R&D investments that count for 200Bn euro/year) when the purchasing of R&D (that only counts for 2,5Bn euro/year) is blocking off the road to the 2000Bn euro/year procurement market for those mainstream R&D investments. In addition, as the selection of vendors to start combined R&D-large scale deployment contracts is done before R&D starts (at a point in time where there is no test evidence proving which vendor's solution on the market will deliver best value for money once R&D finishes) the risk of foreclosing competition to inferior quality solutions is also high.

- **Ability to de-risk large scale deployment contracts - room for more breakthrough R&D**

When PPI is separate from PCP the procurer retains the freedom to fully adapt the tender specs and to choose the most suitable procurement procedure for the PPI based on the lessons learnt from the PCP. There is also no commitment to deploy needed before R&D is finished and test evidence shows that solutions developed during the PCP are indeed better than others on the market. This ability to de-risk a large scale, large cost, deployment contract with a separate small scale, small cost R&D contract enables procurer to give higher risk breakthrough R&D, often undertaken by smaller innovative companies, a chance to show its merits during the PCP.

In long term vendor partnerships that combine the procurement of R&D with large scale deployment the risk of contract award to inferior solutions is high as the choice of suppliers for large scale deployment is restricted at a point when R&D still has to start and there is therefore no objective test evidence yet that shows which vendor on the market will deliver best value for money. There is also no possibility to take into account the lessons learnt from the R&D phase to choose the most appropriate tender procedure or to make substantial adaptations to the requirements for the deployment phase. The tendency of procurers in case of such high risk of failure is to focus such long term vendor partnerships on close-to-the-market low risk incremental adaptations to existing solutions rather than radically new breakthrough solutions.

- **Facilitating the access of SMEs to the procurement market – avoiding vendor lock-in**

Splitting the procurement of the R&D (PCP) from the procurement for large scale deployment (PPI) facilitates the access of SMEs to the procurement market (see [FAQ14](#)). Working with gradually increasing contract sizes (first small PCP, then larger PPI) and not using stringent selection criteria in the PCP, especially regarding financial guarantee and professional qualification requirements, makes it significantly easier for SMEs to enter the PCP and to grow

during the PCP into a stronger business (able to meet the typical selection criteria in PPIs) and compete against larger established vendors by the time bidding starts for follow-up PPIs.

Long term vendor partnerships that combine the procurement of R&D with large scale deployment raise the contract value as well as qualification/financial guarantee requirements of procurers in many cases to a level that would typically be difficult for SMEs to comply with.

- **A consistent approach to address also close-to-market cases that don't require R&D**

Focusing PCP on 'development' and PPI on 'deployment' enables to use PPI also for closer to the market cases, where no R&D is required to address the procurement need (e.g. organisational, design type of innovation), or R&D has already finished.

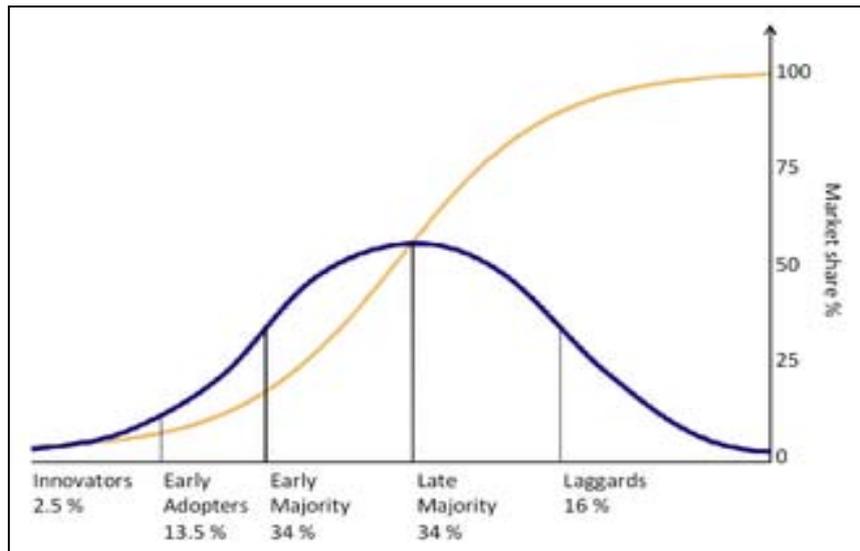
## FAQ 21: How to do a PPI practically?

PPIs can be started whenever industry has already progressed up to such a level that first end-products are nearly on the market or limited amounts of first end-products are already on the market, but which haven't been scaled up yet to meet the price/quality requirements for mass market deployment. Countries like Sweden and UK have quite some experience already in PPI: the local brand name for PPI in Sweden is teknikupphandling, in UK it is called Forward Commitment Procurement. Short description of UK and Swedish PPI examples, and the link with PCP (see e.g. UK NHS case, and Swedish NUTEK case) can be found on the [MS initiatives page](#) of the PCP website.

PPI uses the tactic of early announcement (PIN in OJEU) of the intention to deploy innovative solutions expressed by a buyers group (can be a combination of public and private procurers). This buyers group represents the critical mass on the demand side (purchase volume) needed to trigger industry to make "themselves" by a specified date the required investments to adapt/scale up their production chain to such a level that products meet the performance and price requirements for mass market deployment. In between the early announcement of the intention to buy and the actual launch of a real PPI tender (open to all suppliers on the market) to acquire the final solution, the buyers group typically holds an open market consultation exercise which can be accompanied with a test/certification/product labelling event to check that industry solutions have really reached the procurers' requirements before launching the actual PPI tender. When convincing the first buyers group (so called early adopters) to go for deployment of a critical mass of first commercial end-products, this can serve as first customer reference to encourage the majority of the market which consists of more pragmatic and sceptical buyers (so called laggards) to buy the innovative solutions also afterwards.

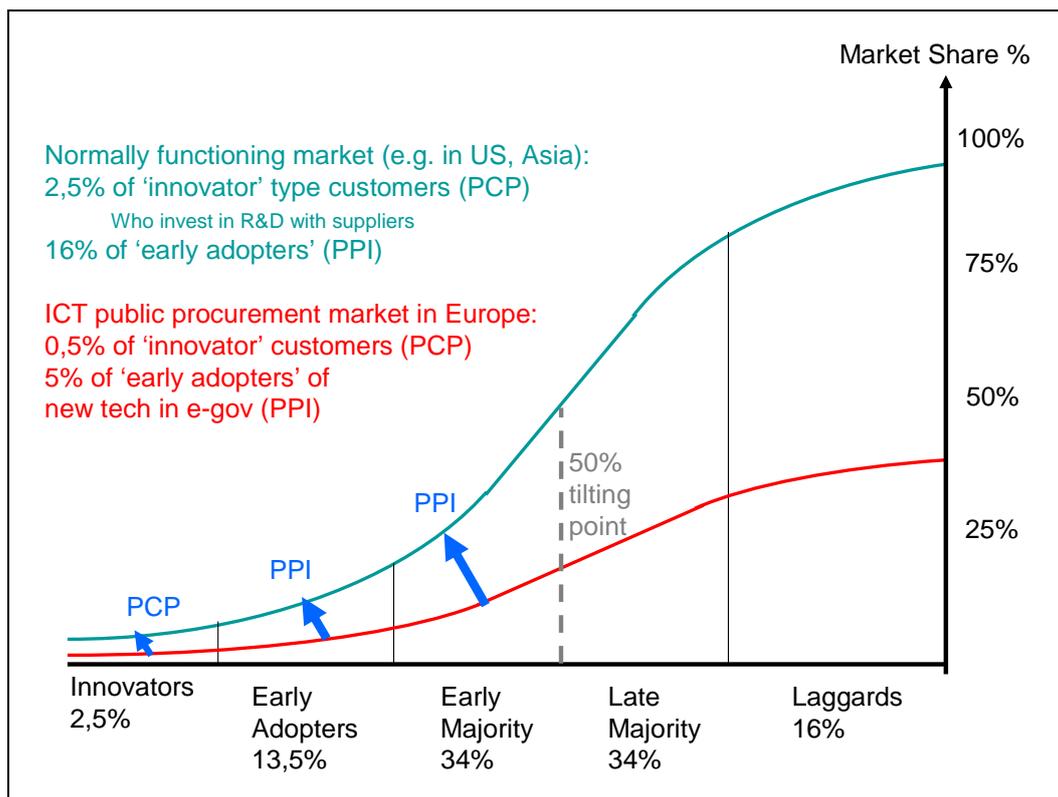
## FAQ 22: Is PPI also underutilized, as PCP, in Europe?

Unfortunately yes. The underutilization of PCP and PPI in Europe, and the link between the two, are illustrated well via Rogers' famous diffusion of innovation curve (Bell curve in blue) and the associated market penetration curve for innovations (S curve in orange).



According to Rogers' Bell curve, 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 meeting specifically that market's needs. Innovator type customers are those customers willing to finance industry to undertake R&D for the mid-long term customer needs of their market segment. In the European ICT public procurement market today there are around 0,5% of innovator procurers buying R&D to prepare themselves for future challenges ahead. Aiming for €50Bn of R&D procurements/year, as in US, is what Europe needs to become a normally functioning market. This would indeed mobilise 2,5% of the €2000Bn/year European public procurement market for R&D. Some European countries such as Italy and Portugal have set aside dedicated national budgets or targets for PCP with a similar level of ambition.

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). According to Rogers' Bell curve, introducing innovations in a normally functioning market typically requires 16% of early adopters and 34% of early majority buyers. Together they enable innovations to reach the 50% market penetration tilting point that convinces the 'late majority' customers and 'laggards' to also buy the innovation. When we look at the ICT public procurement market in Europe however, only 5% of e-government purchases are adopting new technology innovations. China is aiming by 2020 for 40% of PPI public procurements to deploy innovative solutions, ambitiously aiming to bring innovations very close to the 50% tilting point. Some European countries such a Portugal have set a target for 20% of PPI type procurements, which aims to just go beyond the technology geeks/early adopters and start spreading innovations to the first set of pragmatic buyers (the early majority customers).



Underutilization of PCP and PPI in Europe results in Rogers' S curve (showing the market penetration speed for innovations) being significantly more flat in the European procurement market than in a normally functioning market. It is clear that the underutilization of PCP and PPI is undermining European competitiveness. A European public sector that does not sufficiently capitalise on the potential of innovations to modernize public services is destructive to competitiveness of the European market, especially since the European market is more dependent on public sector expenditure than in US or Asia. Therefore several countries around Europe as well as the European Commission have started offering support to European public procurers to encourage them to undertake more PCPs and PPIs, to turn the overly risk averse into a more normally functioning public procurement market in Europe. See the [MS initiatives page](#) for more info.

## FAQ 23: What is the EC doing 'today', and what will it do in the 2014-2020 programming period to support PCP & PPI?

A growing number of European Parliament resolutions<sup>2</sup> and Council conclusions<sup>3</sup> (incl. the Spring 2012 Council conclusions) request the European Commission to reinforce public procurement as a main driver of Europe's research and innovation policy, in particular through PCP.

In response to these requests, some European Commission Directorate Generals have already started financially supporting PCP and/or PPI. DG CONNECT, ENTR, RTD, ENV co-finance at 100% the creation of cross-border public procurer networks via FP7 (Framework Programme 7 for Research) and CIP (Competitiveness and Innovation Programme). When such consortia of public procurers are ready to undertake a PCP or PPI procurement collaboratively, today in FP7 the EC offers grants to such consortia that co-finance the PCP procurement cost up to 75%, and in CIP grants that co-finance the PPI procurement cost up to 20%. For an overview of PCP support offered by different DGs via FP7, see the [PCP Calls page](#). European regions can today also apply for Structural Funds co-financing for undertaking PCPs or PPIs.

The Commission proposes to continue EU support for PCP and PPI in its Horizon 2020 proposal for the new 2014-2020 framework for research and innovation. In the [Horizon 2020](#) proposal, PCP and PPI are officially introduced as new funding instruments that can be used across all areas of research and

<sup>2</sup> EP resolution promoting PCP: EP 2006/2084(INI), EP resolution promoting PCP & PPI: EP 2009/2175(INI)

<sup>3</sup> 2769th EU Competitiveness Council conclusions (4/12/06), European Council conclusions (29/5/2018), 3016<sup>th</sup> EU Competitiveness Council conclusions (26/5/2010), European Council conclusion (1-2/3/2012)

innovation supported by the EC. The proposal foresees both the possibility for the EU to financially support pre-commercial procurements undertaken by groups of contracting authorities from different Member States, as well as the possibility for the EU or EU funding bodies to participate themselves in pre-commercial procurements undertaken together with contracting authorities from Member States. The Commission's Horizon 2020 proposal is still under negotiation with the Member States.

The European Commission is also currently updating the public procurement and State aid rules to take over some of key legal issues related to R&D procurement that were first clarified in the 2007 PCP communication into the EU procurement and State aid rules. DG CONNECT and ENTR are also conducting two studies to try to setup a framework for measuring the progress of PCP and PPI procurement across Europe in the coming years. See more info on the [policy framework page](#).

Via the Innovation Union, Regional Policy and Digital Agenda for Europe (DAE) flagships, the European Commission calls on governments to mainstream the use of PCP and PPI. The Innovation Union proposed that Member States should set aside government procurement budgets for PCP and PPI that gradually increase starting from of €10Bn/year in 2011. The DAE identifies wider utilisation of PCP as a key factor to reach its target to double annual total public spending on ICT R&D by 2020 from €5.5bn to €11bn.

## **FAQ 24: What are countries in Europe doing on PCP & PPI?**

In 2010, three years after the PCP communication, DG CONNECT performed a survey of the status of implementation of PCP across Europe in cooperation with DG MARKT (see the [policy framework page](#)). This survey provides an overview of PCP initiatives around Europe in 2010, as well as an overview of the legal basis for undertaking PCP in each individual country.

Since then however new initiatives have emerged in various countries. Demand driven innovation is gaining momentum around Europe. In order to make better use of this underutilized opportunity to boost European competitiveness, several countries have increased the emphasis on mobilising European public sector demand in national research and innovation strategies and digital agenda implementation plans. The [Member States initiatives page](#) provides an overview of the PCP initiatives and the links with PPI country per country. Several countries have started setting aside dedicated budgets or putting forward targets for PCP and / or PPI.

Recent examples: The digital agenda part in Italy's economic recovery plan has in November 2012 reserved €170Mio for PCPs. Norway, Finland, Denmark, Sweden and Iceland's economic ministers have signed collaboration agreements for undertaking Nordic cross-border PCPs and PPIs. The first Nordic lighthouse project in the healthcare domain was launched in October 2012. For concrete PCP cases, see for example the Statoil PCP case in Norway, the NHS PCP cases in the UK. For concrete PPI cases, see for example the NHS FCP cases in the UK, and the NUTEK PPI cases in Sweden.

## **FAQ 25: Can PCPs be restricted to (or favor) certain types of suppliers?**

The 2007 PCP Communication and associated Staff Working Paper clarify that PCP falls outside of the WTO government procurement agreement and outside the EU public procurement directives (article 16f of the directive 2004/18 EC, article 24e of directive 2004/17 EC, and article 13 (f) (j) of directive 2009/81 EC) and is therefore also not subject to the remedies directive.

The exemption from the WTO rules implies that European procurers can decide not to accept bids from suppliers that are not established in a Member State of the European Union or a country having a stabilisation and association agreement with the EU in the field of public procurement. Alternatively procurers can decide to accept bids from suppliers also from other countries that have ratified the WTO agreement, but to add a requirement that successful bidders have to perform the majority of the R&D and operational activities for the PCP procurement in a Member State of the European Union or a country having a stabilisation and association agreement with the EU in the field of public procurement.

However, in order to procure the R&D services in the PCP at market conditions without involving state Aid, the EU Treaty principles and competition rules must be respected in the implementation of PCPs. Alike all other public procurements, PCPs must thus be implemented through transparent, competitive and non-discriminatory procedures. PCPs can therefore not discriminate against suppliers established in countries covered by the EU Treaty. The exemption of PCP from the directives therefore thus does not allow procurers any more than in public procurement procedures that are subject to the public procurement directives to favour local suppliers or SME suppliers over others nor to require successful bidders to locate R&D or to make other types of investments in a specific EU country or region.