

Policy Brief: Pre-Commercial Procurement of R&D speeding up Green and Digital innovation in Europe

The PROTECT Project

PROTECT supports urgent action for **climate adaptation, mitigation, and resilience**. It enables public authorities to use state-of-the-art public procurement approaches in order to identify solutions – **Climate Services (CS) based on Earth Observation** – that best fit the specific and systemic needs of the public demand. The focus is on five application domains, namely: Energy & Utilities, Sustainable Urban Communities, Agriculture, Forestry and other Land use, Marine and Coastal Environments and Civil Security and Protection. PROTECT will source and assess existing and high-potential CS solutions and technologies that use Earth Observation data. It will engage with an extensive and varied community of procurers, facilitate the definition and aggregation of their needs and functional requirements for climate services, explaining, fostering and supporting a 'buying with impact' approach. PROTECT will **prepare the operational ground for one or more joint, cross border or coordinated pre-commercial procurement (PCP) processes**. At policy level, it will provide decision-makers for procurement, climate and policy, at EU, national, regional and local levels, with practical recommendations and guidelines to boost the use of innovation procurement for climate action.

Summary

- With an annual value of €2 trillion, public procurement is a key **driver for green and digital transformation**, involving 250.000 European contracting authorities and [1].
- If there are no solutions available in the market to satisfy a current or future genuine need, **public authorities can resource to the Pre-Commercial Procurement (PCP) approach** (Box 1) to purchase R&D services from different technology providers who compete throughout phases of solution design, prototype development and testing and validation.
- PCP falls outside the WTO-GPA and the EU Public Procurement Directives. The flexibility of the PCP approach **enhances competition and mitigates risks**.

Recommendations

- A **key instrument to steer and speed up R&D** is the competitive approach in phases and shared risk/benefit of Pre-Commercial Procurement (PCP).
- The PCP approach has proven benefits like **speeding up the time to market of innovative solutions**, while creating opportunities for European companies (in particular SMEs) that can grow in new market segments based on the public demand.
- A PCP can stimulate the participation of international companies, bringing together several public organisations for a **joint cross-border procurement**, making use of the Horizon Europe Programme.
- A proper step-by-step preparation of a PCP based on functional requirements **increases the success of a project** [7].

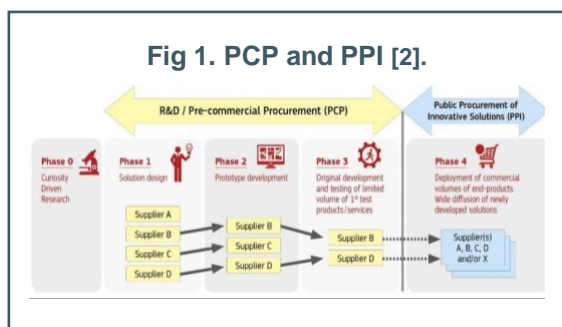
Box 1: Pre-commercial procurement

Pre-commercial Procurement (PCP) is a specific approach to procure R&D services that involves competitive development in phases, risk-benefit sharing under market conditions, and where there is a clear separation between the PCP and the deployment of commercial volumes of end-products (potential follow-up **Public Procurement of Innovative solutions - PPI**). PCP identifies the best possible solutions the market can develop, by comparing alternative solution approaches from different technology vendors in parallel. By steering the development of innovative solutions towards concrete public sector needs, PCP may trigger industry to initiate R&D that was previously unthought-of. In PCP, procurers are thus demanding customers, who are articulating advanced solution requirements as potential future early adopters of the developed solutions (which will be selected in a separate PPI procurement that follows the completion of the PCP).

Introduction

In the PCP approach (Box 1), **procurers share the IPR related risks and benefits** of undertaking new developments with the R&D providers participating in PCP. This approach maximizes the incentives to commercialise the developed solutions to other markets.

Traditional procurement is based on short-term tactical purchasing considerations, usually prioritizing low cost over quality, or looking only at immediate instead of longer-term cost/quality impact [6]. Lack of knowledge about technological solutions often leads to over or underspecified tender specifications. When procurement decisions are driven more by considerations to avoid deployment risks (fear to introduce 'new' solutions) instead of maximizing cost / quality improvements, this often leads to suboptimal overall value for money and technology / vendor lock-in. It is understandable that the obligation to wisely spend taxpayers' money makes procurers inevitably risk-averse.



However, when innovation procurement is implemented as a smart PCP/PPI combination (Fig 1), it becomes a **strategic tool to systematically improve the quality/efficiency of public services whilst minimizing the risks of deploying 'new' solutions**. PCP enables procurers to de-risk novel technologies, remove supplier lock-in, and gain invaluable insights into the pros and cons of competing solutions 'before' making any commitments to deploy large volumes of solutions.

Policy developments

PCP was defined in 2007 in the PCP Communication [2] in full compliance with the legal framework [3]. Parts of the PCP Communication have been included in later legislation: The 2014 **public procurement directives clarify that PCP is exempted from its remit** and the 2014 State aid framework for Research

and Development and Innovation [4] clarifies the conditions under which PCP is done according to market conditions.

Box 2: Funding

In the 2023-2024 calls of the Horizon Europe programme, there are 263M EURO of funding opportunities in different fields: health, security, climate change and research infrastructures etc.

Horizon Europe offers the following funding opportunities for consortia of procurers to prepare and undertake together PCP procurements. In addition, public procurers can also propose themselves to implement PCPs in any call for Research and Innovation (RIA) actions in the WP that does not require the participation of industry in the consortium. Public authorities that want to implement joint cross-border innovation procurement calls via their national funding programmes can also apply for support for such joint PCP calls via the HE programme co-fund actions.

The funding rates are 100% for the PCP actions. In PCP actions, groups of procurers implement together one joint PCP procurement. The funding rates for PCPs implemented as part of an RIA action is also 100%, as in PCP actions. The funding rate of programme co-fund actions can depend on the call.

PCP, due to its characteristics is **exempted from the GPA of the WTO and consequently of the EU Public Procurement Directives**. This is of particular interest to foster European strategic autonomy and resilience, since contracting authorities may require the performance of the R&D services to take place in Europe, which in turn strengthens Europe's technological potential and increases the resilience of Members States to potential supply chain disruption in emerging technologies. It also supports the **goal of having an autonomous Europe when it comes to key enabling technologies**.

The use of multiple sourcing in pre-commercial procurement also strengthens EU strategic autonomy and resilience. By triggering in a forward looking way a range of suppliers to **develop new innovative solutions that can address upcoming mid-to-long term procurement needs**, public procurers can bring in competition from new innovative companies into a supply chain that was previously plagued by supplier lock-in, or build up a

totally competitive pool of European suppliers that can address its strategic needs in the future with solutions that are 'made in Europe'.

The IPR and commercialisation conditions that can be used in pre-commercial procurement also contribute to **fostering EU strategic autonomy**. It is a key characteristic of PCP to leave the IPR ownership rights with the participating contractors so that they can commercialise their solutions more widely, which increase the range of European suppliers able to deliver solutions to the public sector, thus enhancing resilience and strategic autonomy.

This comes with a **condition to commercialise** the solutions within a specified time. This condition can be extended with the requirement to perform the majority of the commercialisation activities in Europe (e.g. production, marketing, service delivery facilities) also after the PCP contracts ends.

In addition, the procurer can **restrict exclusive transfer and licensing** of the results/IPR from the PCP to non-EU suppliers. An IPR call back clause ensures that the public procurer can require IPR ownership rights to be transferred back to the procurer in case a supplier does not respect the PCP's place performance conditions, establishment and control from Europe obligations, IPR obligations or commercialisation obligations or in case other EU strategic autonomy or essential security interests are compromised (e.g. in case of a merger or acquisition of a PCP supplier by a non-EU entity).

Conclusions

Public organizations can **perform more R&D procurement on strategic key technologies through the PCP approach**, to avoid becoming overly dependent on non-EU suppliers by requiring R&D to be done in Europe. This gives vendors a first mover advantage and ensures that there will be vendors in Europe who can deliver solutions.

By using a phase approach and multiple sourcing, the number of suppliers that can deliver solutions increases, **reducing supplier lock-in, and thus increasing resilience** in case of supply chain shocks.

Leaving IPR ownership with suppliers in procurement – as in the standard approach in Europe – enables more vendors to commercialise/offer solutions to procurers, on the **condition that vendors will keep a significant part of product commercialisation in Europe** (e.g., minimum 50% of the production). In this regard, a measure could be set to allow vendors to do 'exclusive' licensing or transfer of IPR/results to non-EU players only after approval of the procurer. It is important to keep the right to call back IPR in case of mergers/acquisition of contractors by non-EU players.

Another measure is to keep the right to call back the ownership of IPR/results, in case of non-compliance with any of the place of performance, control from Europe, commercialisation, IPR, security etc. obligations (e.g., EU blockchain PCP). **Announcing the mid-to-long term procurement needs more in advance to the market is fundamental** to alert all actors in the supply chain to get ready to provide solutions (e.g., climate neutral solutions).

Box 3: Case Studies

More than 600 public buyers around Europe have already successfully implemented PCPs [6]:

- Boosting business opportunities for SMEs and startups.
- Awarding 70% instead of usual 30% of contracts to SMEs and startups.
- Boosting their international growth (20 X more contracts awarded cross-border).
- Doubling the commercialisation success rate (>50% companies increased their revenues/grew their company).
- Helping create strategic partnership with larger companies, acquire new companies or enter the stock market.
- Increasing 20%-30% of quality and efficiency improvements in public services.
- Contributing to roll-out of more interoperable solutions / uptake of standards.
- Resulting in 40% of innovation procurements done to obtain more interoperable solutions.
- Reinforcing strategic autonomy through 'made in Europe' solutions.

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References:

- [1] [Brigitte Pircher \(2019\)](#).
- [2] [European Commission \(2007\)](#).
- [3] [HORIZON 2020 – WORK PROGRAMME \(2014-2015\)](#)
- [4] [European Commission \(2014\)](#)
- [5] [European Research Area and Innovation Committee \(2015\)](#)
- [6] More info on impacts achieved here [Impacts of EU funded Pre-Commercial Procurements | Shaping Europe's digital future \(europa.eu\)](#)
- [7] See EAFIP methodology www.eafip.eu/toolkit