



Pre-commercial / Innovation Procurement – Reflections on its use in the space sector

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Overview

- Innovation and Public Procurement
- EU Legal Framework for Procurements
- EU Legal Framework for Grants
- The Valley of Death and how to bridge it
- Pre-Commercial Procurement (PCP)
- Innovation Partnership
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Innovation and Public Procurement

‘Innovation’ means the implementation of a new or significantly improved product, service or process, including but not limited to production, building or construction processes, a new marketing method, or a new organisational method in business practices, inter alia with the purpose of helping to solve societal challenges or to support the Europe 2020 strategy for smart, sustainable and inclusive growth.

Public procurement plays a key role in innovation in areas that are the preserve of the public sector – either predominantly or exclusively – including also the space sector.

The quality of public procurement is critical to the quality of the field covered by the resulting contracts and the extent to which innovation flourishes there. If purchasers remain conservative, industry will not be encouraged or even allowed to innovate.

Procurement – European Legal Framework

- EU Public Procurement Directives (Member States, including Space Agencies)
 - Directive 2014/23/EU of the European Parliament and of the Council of 26 February 2014 on the award of **concession contracts**, OJ 2014, L 94/1.
 - Directive 2014/24/EU of the European Parliament and of the Council of 26 February 2014 on **public procurement** and repealing Directive 2004/18/EC, OJ 2014, L 94/65
 - Directive 2014/25/EU of the European Parliament and of the Council of 26 February 2014 on procurement by entities operating in the **water, energy, transport and postal services sectors** and repealing Directive 2004/17/EC, OJ 2014, L 94/243
 - Directive 2009/81/EC of the European Parliament and of the Council of 13 July 2009 on the coordination of procedures for the award of certain works contracts, supply contracts and service contracts by contracting authorities or entities **in the fields of defence and security**, and amending Directives 2004/17/EC and 2004/18/EC

Procurement – European Legal Framework

- EU Public Procurement Directives are addressed to all **Member States**
 - **National transition** required
 - Transition period: **2 years**
 - Deadline: **18 April 2016**
 - Still **5 Member States** haven't transposed yet (16/11/2016, EUR-Lex 32014L0024)
- Directive 2009/81/EC (Defence and Security) has not been updated yet
 - Innovation partnership is arguably **not applicable** to procurements in the field of defence and security
 - In August 2016 the Commission consulted publicly and met key stakeholders for the evaluation of Directive 2009/81

Procurement – European Legal Framework

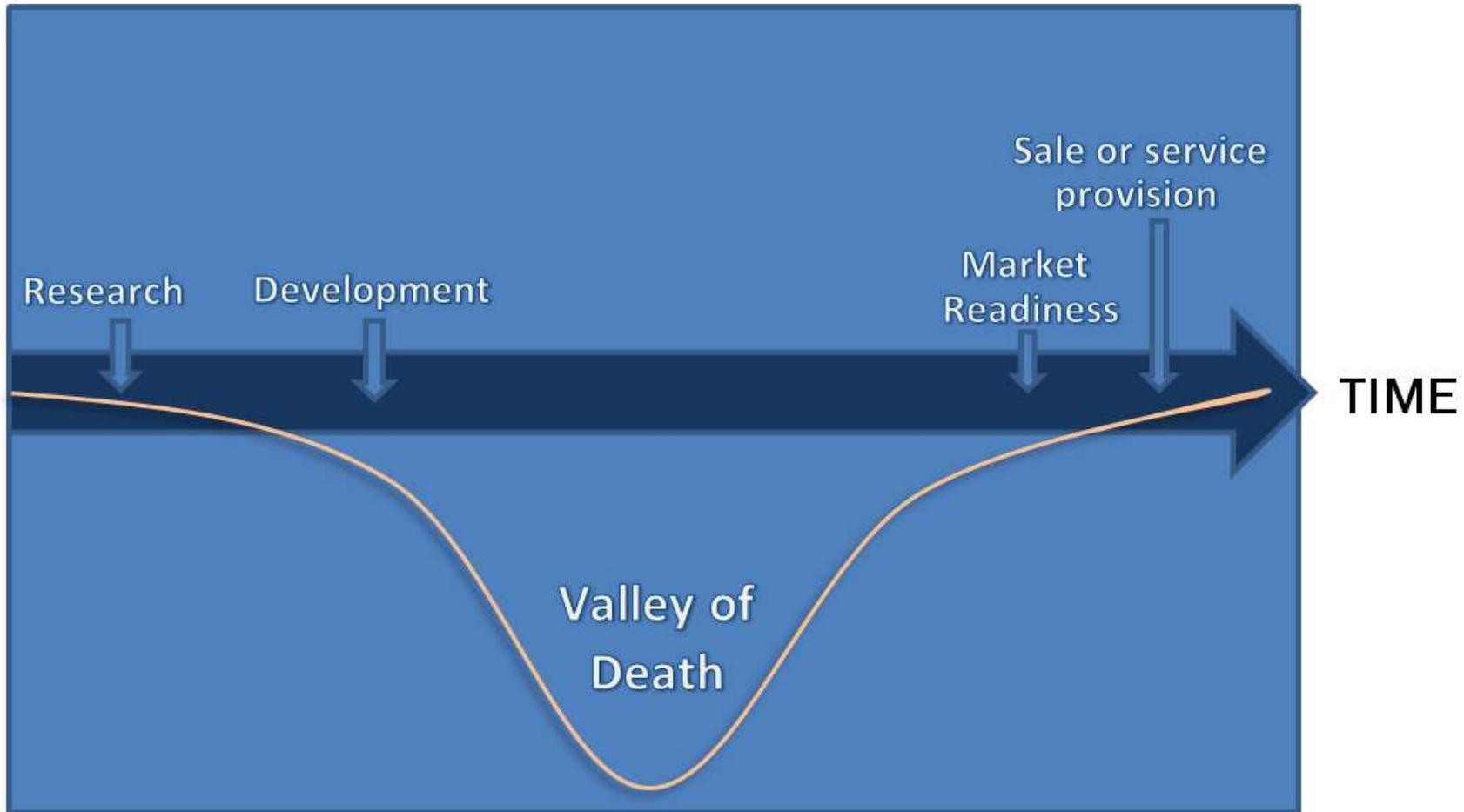
- EU Framework (EU Bodies)
 - Regulation No 966/2012 of the European Parliament and of the Council of 25 October 2012 on the financial rules applicable to the general budget of the Union and repealing Council Regulation (EC, Euratom) No 1605/2002, OJ L298, 26.10.2012, p. 1-96, as amended by Regulation (EU, Euratom) 2015/1929 of the European Parliament and of the Council of 28 October 2015 (Financial Regulation)
 - Commission Delegated Regulation (EU) No 1268/2012 of 29 October 2012 on the rules of application of Regulation (EU, Euratom) No 966/2012 of the European Parliament and of the Council on the financial rules applicable to the general budget of the Union, OJ L 362, 31.12.2012, p. 1-111, as amended by Commission Delegated Regulation (EU) 2015/2462 of 30 October 2015 (Rules of Application)

- ESA Procurement Regulation (ESA)

Grants – European Legal Framework

- **European Framework**
 - Financial Regulation
 - Rules of Application
 - Art. 17 TEU, Art. 313 ff. TFEU
 - Art. 174-178 TFEU (European Cohesion and Structural Policies), European Structural and Investment Funds Regulations, Implementing acts, delegated acts and guidance adopted for the purpose of implementing structural funding
 - Framework for State aid for research, development and innovation (R&D&I Framework)
- **Horizon 2020**
 - Eighth phase of the Framework Programme for Research and Technological Development
 - Horizon 2020 runs from 2014–2020 and provides an estimated €80 billion of funding

The Valley of Death



The Valley of Death

Innovators routinely claim that a ‘funding gap’ or ‘Valley of Death’ exists between research and commercialisation of a new product or service.

The Valley of Death describes the point where a company has a working prototype for a product or service that has however not yet been developed enough to be “market ready” through commercial sales. The company needs to find further money to develop the prototype until it can sell it to customers.

Standard explanations for public underinvestment in R&D are not the real cause of this phenomenon.

Rather, the Valley of Death occurs in the presence of ‘non-economic’ investments, such as government expenditures on research that are made without sufficient attention to the likely investment (= procurement) decisions and the real user/market needs at later stages of the innovation and development process.

PCP and Innovation Partnership – bridging the valley?

Pre-commercial public procurement (PCP) and Innovation Partnerships (IP) are **two alternative approaches, corresponding to different needs and/or situations.**

PCP covers only the “procurement” of R&D services and is an exemption that falls outside the scope of the Procurement Directives. For subsequent public procurement of commercial volumes of innovative solutions, a **separate public procurement procedure** is to be used. **Currently foreseen only on EU level in Horizon2020 (Art. 51 Regulation (EU) No 1290/2013)**

IP is a public procurement procedure that **covers both the procurement of R&D and commercial volumes of end-products** and is subject to the Procurement Directive. **IP is available to both EU bodies and Member States.**

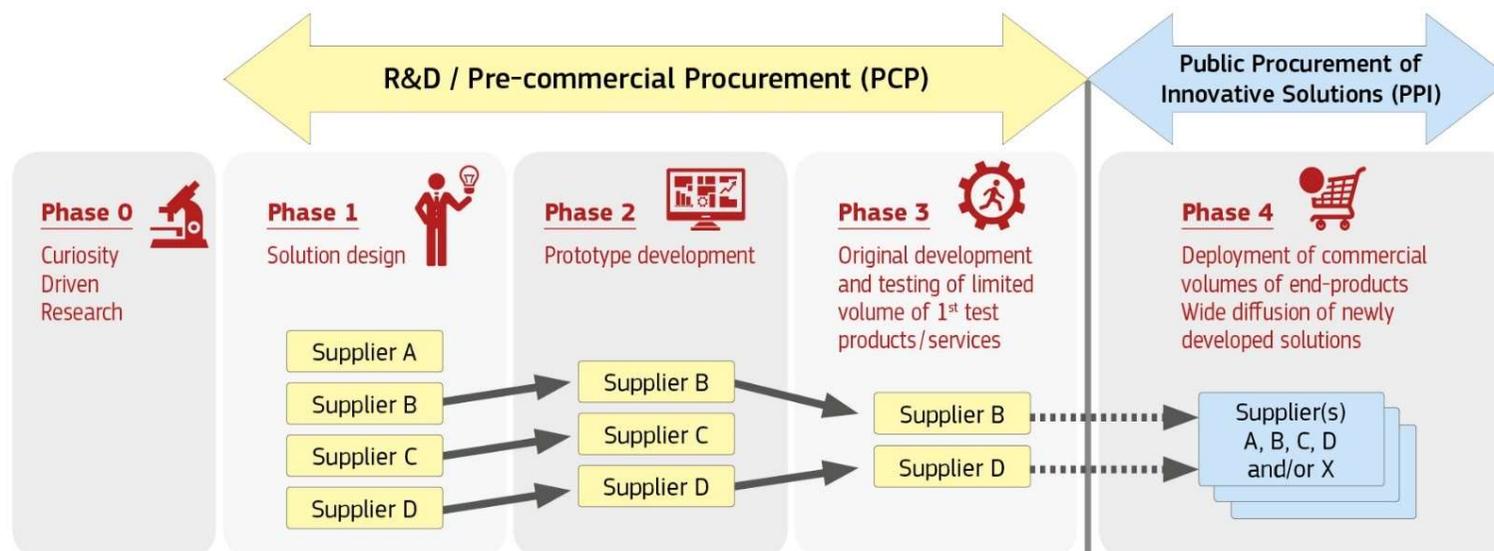
Short and simplified: PCP tries to close the Valley of Death from the R&D side, while IP try to close it from the Procurement side. PCP only under Horizon2020.

Pre-Commercial Procurement (PCP) – Definition

- “Procurement” of research and development of new innovative solutions, before they are commercially available.
- Provided there are no near-to-the-market solutions yet and further R&D is needed.
- PCP can compare the pros and cons of alternative competing solutions approaches (multi-phase development). Reduction of the number of suppliers participating in the PCP procedure enable to de-risk the most promising innovations step-by-step via solution design, prototyping, development and first product testing.
- To foster innovation the “purchaser” does not reserve all the results and benefits of the contract exclusively for itself. IPRs are shared with the suppliers under market conditions.
- Subsequent purchase in commercial volumes requires a competitive procedure. **Public Procurement of Innovative Solutions (PPI).**

Pre-Commercial Procurement – How does it work?

- PCP involves different “suppliers” competing through different phases of development
- Competitive development between suppliers in phases
- The **contract must be of limited duration** and may include the development of prototypes or limited volumes of first products or services in the form of a test series. The **purchase of commercial volumes of products or services must not be an object of the same contract.**



EU co-financed projects implementing joint trans-national PCPs (selection)

CHARM - Consortium of road management authorities that conducts a PCP to **improve traffic throughput, road safety, CO2 footprint**

PRACE 3IP – Consortium of research infrastructure centers that conducts a PCP that focuses on increasing the energy efficiency of **high performance computing**.

SILVER - Consortium of local and regional authorities that conducts a PCP to identify **robotics solutions** for elderly persons by 2020.

C4E – Cloud for Europe addresses the objectives of the European Cloud Partnership program. The consortium of public authorities aims to give a clear view on the public sector **requirements and usage scenarios for Cloud Computing in Europe**.

THALEA – Consortium of hospitals that aims to conduct a PCP focused on developing a **highly interoperable telemedicine-platform** that detects increased risk ICU-patients.

PICSE – Network of contracting authorities that builds on the **Helix Nebula** collaboration. PICSE aims to identify opportunities and develop a roadmap for shared cross-border procurement in direct response to the **European Cloud Partnership's Trusted Cloud Europe** science use case.

Innovation Partnership - Definition

- **Innovation partnership** is a procurement procedure regulated in
 - Art. 104 FR and Art. 129 RAP for EU bodies, and for Member States by:
 - Art. 31 2014/24/EU (Public Sector)
 - Art. 49 2014/25/EU (Utilities)
 - Member States **shall** provide that contracting authorities may apply innovation partnerships as regulated in this Directive.
 - E.g.: **Sec. 119 para 7** German Act against Restraints of Competition (Competition Act – GWB); **Sec. 19** German Procurement Regulation (VgV)
- The innovation partnership requires the **development of an innovative product**, service or **innovative works** and the **subsequent purchase** of the resulting works, supplies or services, provided that they correspond to the **performance levels** and **maximum costs** agreed between the contracting authorities and the partners.
 - It must be ascertained that the supply, service or works does not exist on the market or as near-to-market development activity.

Innovation Partnership – How does it work?

- The innovation partnership has to be structured in **successive phases**
 - **Public Procurement-phase:** Finding **one or more innovation partners**
 - **R&D-phase:** Development/manufacture of the innovative product, service or work conclude the R&D-phase.
 - **Purchasing-phase:** Mandatory subsequent purchasing of the resulting supplies, services or works, provided that they correspond to performance levels and maximum costs agreed
- **Arrangements** applicable to **intellectual property rights** need to be made (legal obligation).
- **State aid regulations apply!**
- See: ‘The *EAFIP* Toolkit’ by the Commission:

	Two separate PCP - PPI procurements	Innovation Partnership procedure
When State aid free?	Considered State aid free if PPI is implemented through an open procurement procedure and if PCP is implemented in line with the conditions to avoid State aid listed in the 2014 R&D&I State aid framework ²⁴ (in line with the PCP Communication)	Considered State aid free only if the procedure is implemented in line with the conditions to avoid State aid listed in the 2014 R&D&I State aid framework ²⁴ and the procurer demonstrates beforehand that the procedure is used for the development and the subsequent purchase of 'unique or specialized products or services'.

PCP and IP - Critics?!

Pre-Commercial Procurement

- Public procurement law is not applicable.
- Grants have to be granted in legal conformity
- Deployment of the developed product in commercial volumes requires a competitive procedure (**Procurement of Innovative Solutions - PPI**)
- **Long time procedure**
- Due to comprehensive funding projects (**FP7, Horizon2020**) first analysis and experiences are available

Innovation partnership

- Governed by public procurement law
- The innovation partnership **needs to be set up very carefully** even without knowledge of the Contracting Authority what is needed exactly to satisfy its need ('identify the need for an innovative product')
- **Long time procedure** which is likely to cause substantial costs and will bind capacities of Contracting Authority and industry
- Little experience for IP. Only **16** innovation partnerships have so far been advertised on *TED*

Use in the Space Industry

- Space industry largely profits from R&D grants on national or European level
- Space policies on European and national level focus evermore on jobs, growth, competitiveness of industry, societal and economic benefits and innovation
- Space agencies, including ESA, already undertake numerous measures for bridging the Valley of Death (contacts with potential user organisations, use cases, prototypes, demonstrators, in-orbit validation etc.)
- However, in many cases, innovative space products or new space services (especially in the downstream sector) do not make the transition from tests/prototypes/demonstrators to the market (full system deployment, service provision or product sales)
- One reason lies in lack of continuity in R&D efforts (cycles for call for proposals, budget availability, changing success in project proposals, divergent composition of R&D consortia, time gaps, changing public R&D priorities)
- However, another key reason lies in the lack of subsequent public procurement of the innovative products or services developed during the R&D phases

Use in the Space Industry

- Space agencies are usually not the end-customer for space services (and only one for space products)
- While R&D budgets are considerable, there is generally a lack in long-term budgets for the procurement of space systems and services
- Demand for space systems and services still largely on national level, without coordination of requirements, and with little trans-border federation of demand (joint trans-border procurements, e.g. EDA Satcom), especially in the security & defense area
- EU agencies (EEA, EDA, EMSA etc.) not yet fully emerged on demand side, as users of innovative space services for the diverse EU policies
- Little use of long-term bulk buy of services in the EU (see example of Digitalglobe in the US)

Use in the Space Industry

- Pre-Commercial Procurement and Innovation Partnerships not yet employed in the space sector. Only one PCP call in Horizon2020 Space so far in end of 2015/early 2016. No Innovation Partnerships so far.
- These new approaches could help in closing the Valley of Death.
- However, they **require long-term strategic planning for public investment**, from early R&D, to prototype/demonstrators, to public procurement of services and products
- Need for **cross-organizational planning** with fixed guarantees for public procurement, once the R&D and innovation cycle has been completed and “pre-commercial” services and products are available in line with demand-side requirements
- **Space procurement practice already shows many elements of Pre-commercial Procurement and Innovation Partnership**
- However, **conceptual work is needed for properly implementing regulations and practices** better spurring innovation and bridging the Valley of Death
- Today, while everybody talks about space innovation, there seems to be **little understanding on the available legal tools, the underlying framework, and boundaries for practical implementation**

Recommendations to Regions

- EU Space Strategy foresees to strengthen the use of innovative procurements to stimulate the demand side.
- More PCP calls can be expected under the EU FP in the future. In most countries, innovation partnerships are already foreseen in national procurement law.
- Both PCP and IP are generally very interesting for regional and local authorities to ensure the readiness of space products/services to their specific needs and to enable their procurement.
- However, the instruments are complex, still little validated in practice, regional and local contracting authorities have no or little experience, implementation in compliance with the legal rules and state aid framework is difficult, both procedures are very resource demanding, they take longer than standard R&D or procurement procedures, and all of that is even more complicated when we speak of cross-border collaboration.
- Regions should discuss with the European Commission how to overcome these hurdles, so that next calls are successful and see wider participation (training, pre-identification of interested contracting authorities, pre-identified joint user needs and requirements, longer time for proposal preparation etc.)

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