



# **Innovation procurement: lessons learned from 2014/2020 period and what to expect for the next programming period**



**Vassilis Tsanidis  
European Commission  
DG CNECT  
Digital Single Market  
Digital Innovation and Blockchain  
Unit (F3)**

# Completed PCP procurements



- 19 PCPs are busy - or have completed - procuring by now

- [SILVER](#) (Robotics for elderly care)
- [THALEA](#) (Telemedicine for intensive care unit patients at increased risk)
- [SMART@FIRE](#) (Smart protective equipment for fire fighters)
- [Human Brain Project](#) (High Performance Computing for brain simulation)
- [DECIPHER](#) (Mobile health services)
- [V-CON](#) (Virtual construction of road infrastructure)
- [CHARM](#) (Traffic management)
- [PRACE 3IP](#) (Energy efficient supercomputing)
- [Cloud for Europe](#) (Cloud computing for governments)
- [PREFORMA](#) (Long term digital preservation)
- [IMAILE](#) (Personalised e-learning solutions)
- [NYMPHA-MD](#) (Mental care for bipolar disorders)

*completed*  
**PCP**

HBP PCP doesn't result from a PCP call. HBP decided itself to implement a PCP in the HBP research project.



- [HNSciCloud](#) (Science cloud platform for research community)
- [QUACO](#) (Quadrupole magnets for large hadron collider)
- [MAGIC](#) (Post stroke recovery)
- [SELECT4Cities](#) (Internet of Everything platform for Cities)
- [RELIEF](#) (Pain self-management)
- [EMPATTICS](#) (Chronic disease self-management)
- [NIGHTINGALE](#) (Wearable sensors for safer patient monitoring/care)

**PCP**  
**ongoing**



- **Open Market Consultations**

- Involving between 70 to 300 companies and researchers per PCP
- Broaching the views of companies and researchers from all over Europe and beyond in preparation of the upcoming PCP procurement

- **Call for Tenders**

- Tender docs downloaded typically between 50 to 300 times
- Nr of offers received typically between 10-48 (4-7 for specialised/low budget PCPs)
- Offers received from all over Europe and beyond

- **Contract award**

- 86 procurers cooperating in the 19 buyers groups
- 126 contracts awarded in total
- Winning bidders involving 193 companies and 26 universities/research centra
- Total value of the PCP procurements: between € 450.000 and € 9.000.000
  - Contract values for phase 1: between € 15.000 and € 180.000 (per contractor)
  - Contract values for phase 2: between € 20.000 and € 900.000 (per contractor)
  - Contract values for phase 3: between € 65.000 and € 2.700.000 (per contractor)



- **Opening a route-to-market for new players/SMEs**
  - 56,2% of total value of contracts directly won by SMEs
  - Compared to 29% average in public procurements across Europe

Mostly small young SMEs: 30% below 10 people, 54% below 50 people, 53% less than 10 years old
- **Helping also larger market players bring products to the market**
  - 18% of contracts won by large companies as single bidder
  - 10% of contracts won by consortia of larger companies plus SMEs
  - 73% of contracts won by SMEs (SMEs alone, or as lead bidder)
- **Relevance to universities & bringing scientific results to market**
  - 25% of winning contracts have university/R&D center partner in consortium
  - Winning SMEs are also often university start-ups
- **Stimulating cross-border company growth**
  - 36,5% of contracts won by bidders that are not from a country of any of the procurers in the buyers group (e.g. DE company working for UK+NL procurers)
  - Compared to 1,7% average in public procurements across Europe

# Info about impacts of the procurements themselves



- **Creating growth and jobs in Europe**
  - 99,7% of bidders do 100% of R&D in Europe  
(2 have committed to do minimum 68% resp. 85% of R&D in Europe)
- **Budget efficiency / Reducing the R&D risk for procurers**  
**Encouraging commercialisation of results by vendors**
  - Leaving IPR ownership rights with contractors reduced the R&D cost for procurers on average with 50% as vendors see wider commercialisation opportunities  
-> PCPs can get twice as much R&D done for same budget as R&I action
- **Improving the quality and efficiency of public services**
  - All completed PCPs have delivered innovative solutions that achieve the expected quality and efficiency requirements set out initially by the procurers
  - 60% of procurers use PCP to obtain more open, interoperable solutions



- **Separating PCP (R&D) from PPI (commercial deployment) and using a phased PCP approach**
  - Opens the market for small players/SMEs (smaller gradually growing contract sizes)
  - Enables procurers to steer industry R&D to meet their needs, achieve desired quality and efficiency improvements in public services and reduce vendor lock-in
  - Stimulates cooperation with universities and larger companies
- **Joint cross-border PCP procurement**
  - Stimulates cross-border company growth
  - Facilitates the creation of more open standards based interoperable solutions
- **Leaving IPR ownership rights with contractors**
  - Reduces the cost / risk of going for an innovative solution for procurers
  - Encourages wider commercialisation of solutions by vendors
- **Using a place of performance condition in PCPs**
  - Can effectively stimulate growth and job creation in Europe

# Lessons learned

- Open PCP calls are more attractive to procurers
- Increased funding rate for PCPs (from 70% to 90%)
- PPI calls that follow PCPs on the same topic support the deployment commercialization of the innovative solutions



# Lessons Learned

- Concrete public need and business case around that need are key for a successful Innovation Procurement project.
- Open Market Consultations lead to more realistic tender specifications as well as to more and better offers in the tender itself.
- Model tender docs./templates facilitate the work of procurers.
- Synergies with other funding programs create greater (and more sustainable) impact.

# In their own words



## Boosting start-up growth

*"As a serial entrepreneur, my experience is that the IMAILE PCP has had a crucial impact on the growth and success of our company. Thanks to the PCP our small start-up company has been able to grow from a 1 person to a 34 person company and has developed a state of the art product to global markets. The success of the PCP has given us credibility to negotiate and partner with leading companies in education technology business.*

*Thanks to the PCP, our start-up company can become a part of the new e-learning ecosystem that will have a strong influence on millions of students. Indeed, many parents struggle today with kids that are more interested in playing computer games than in studying their mathematics or science subjects for school. The IMAILE PCP helped our company develop a practical solution to this challenge: a new tool that, using continuous analysis of patterns in students' behavior based on artificial intelligence, offers a more personalized gaming-like learning experience to children in primary and secondary schools. This stimulates students to be more interested and successful in learning also difficult subjects like mathematics and science."*

Teemu Laitinen, CEO, Almerin Ltd, start-up company that is currently in the last testing phase of the [IMAILE](#) PCP

## Impact on company R&D and innovation behaviour

*"We have participated in other collaborative R&D projects before. Compared to this, PCP is more helpful for us because it gives us more freedom to innovate, and pushes us more to establish collaboration with technology providers, with European universities and with the community of PRACE users, and gives us a lot more precise vision of the future need of the PRACE Community."*

Piero Altoè, Marketing & Business Development Manager, E4 Computer Engineering spa (SME that participates in the FP7 funded PRACE 3IP PCP project on energy efficient supercomputing: <http://www.prace-ri.eu/pcp/>).

*"We received similar positive feedback from all three vendors, big or small, in the PCP."*

Philippe Segers, Project Manager at GENCI (GENCI is public procurer in the buyers group of the PRACE 3IP PCP)

# In their own words



## Improving the quality of public services for European citizens

*"I couldn't really believe how good the innovative telemedicine solutions are that were developed in our THALEA PCP, until I saw it in action with my own eyes. Last week the system predicted the risk that a sepsis infection would occur in the intensive care unit in our hospital. Four hours later this situation really happened and thanks to the telemedicine solutions we were able to save lives.*

*The novel algorithms and improved risk-detection of the new telemedicine solutions result in earlier diagnosis and improve efficiency in the ICU significantly, enabling a reduction in sepsis mortality by 25% and a reduction in the length of hospital stay of patients by 20-50%."*

Robert Deisz, Head Doctor, Intensive Care Unit, University Hospital Aachen (procurer in [THALEA PCP](#))

## Stimulating commercial exploitation of industry R&D

*"As public procurers of large research infrastructures, we have participated in numerous traditional collaborative research and innovation actions in Horizon 2020. When we started the PRACE3IP and HBP PCPs on supercomputing, we were sceptical about how the PCP approach would compare to these traditional collaborative research projects and to our usual public procurement practices. We were also not sure how companies would respond to the PCP model that puts multiple vendors in competition.*

*At the end of both PCPs, we now realise that the results are actually really positive: PCPs are resulting in products reaching exploitation and productisation in a reasonably short period of time, which indicates that compared to traditional collaborative research and innovation actions, PCP could be a better approach for the public sector to steer industry R&D towards commercialisation. The competition among companies in the PCPs is encouraging both small and large corporates to innovate more than in our usual procurement approaches. Both small and large vendors that participated are positive about PCP. The stepwise approach with gradually growing assignments per phase has proven to be an effective way, in particular also for SMEs, to mature their business. Initial concerns that PCP may limit co-design have been overcome as PCP enables companies and researchers to participate in team, as consortia or subcontractors."*

Dirk Pleiter, Forschungszentrum Jülich, Jülich Supercomputing Centre, Germany (buyer in the HBP and PRACE3IP PCP)  
Philippe Segers, project manager at GENCI, France (buyer in the PRACE 3IP PCP)

# In their own words



## Procurers about the benefits of European cooperation / joint cross-border PCP procurement

*"We have definitely strengthened our position with the marketplace by joining partners with Rijkswaterstaat (to implement the CHARM PCP that aims to create an open modular architecture for the next generation traffic management centers). To say we are buying for 14 traffic management centers has really caught the market's attention and made them listen and respond to us."*

Source: Ian Chalmers, project manager for the CHARM PCP funded by the FP7 program, Highways England

## Danish CEO of top public procurer about the efficiency of R&D expenditure

*"Rows of studies document that innovation contributes significantly to growth and value creation. Given that public-private innovation partnerships have been around and growing exponentially in numbers since years, where is this increase in economic growth and value creation?"*

*Current public-private R&D collaborations are not working well because both parties have to focus on developing something together, without this necessarily leading to sales or purchases that increase company revenues in the long run. It is not enough for private companies that they can learn a lot or get access to testers and users by engaging in an R&D collaboration project. They need to tailor development to tangible commercialization and export opportunities from the start.*

*PCP is a good tool to increase the efficiency of public-private cooperation. In PCP the development of a new solution is driven by customers with a purchase in mind. Thus, there are pre-built incentives which focus on commercialization when developing a workable solution for a public sector need."*

Source: Af Allan SØgaard Larsen, CEO of Falck (the world's largest rescue service headquartered in Denmark), <http://www.denoffentlige.dk/falck-topchef-stjael-andres-innovation-og-bliv-beloennet-det>

# 2018-2020 calls in support of PCP and PPI



## 2019

### **PCP actions**

- **ICT based solutions for any area of public interest: 6 M€ ([ICT-34](#))**
- **Next generation sequencing for routine diagnosis: 40 M€ ([BHC-10](#))**
- **Wave energy: 20 M€ ([LC-SC3-JA-3-2019](#))**

### **PPI actions**

- **Digital health & care solutions for an ageing society: 10 M€ ([DTH-05](#))**

## 2020

### **PCP actions**

- **Infection & integrated care: ([BHC-20](#))**
- **100% renewable energy: ([LC-SC3-RES-10-2020](#))**
- **Security ([SU-GM03](#))**

### **PPI actions**

- **Infection & integrated care: ([BHC-20](#))**
- **Innovative HPC systems ([INFRAEDI-04](#))**



# Calls for PCP actions

*Call deadlines in red*

## • **ICT Work Program**

- **ICT-34**: Open to ICT based solutions in any area of public interest (€ 6M; **28 Mar 2019**)

## • **Health Work program**

- **BHC-10**: Next generation sequencing for routine diagnosis (€ 40M; **16 April 2019**)
- **BHC-20**: Infection and integrated care (budget / deadline tbc)

## • **Energy Work program**

- **LC-SC3-JA-3-2019**: Wave energy (€ 20M; **27 Aug 2019**)
- **LC-SC3-RES-10-2020**: 100% renewable energy (budget/ deadline tbc)

## • **Security Work Program**

- **SU-GM03**: Innovative solutions to enhance security (budget / deadline tbc)



# Calls for PPI actions

*Call deadlines in red*

- **Health Work Program**

- **DTH-05: Digital health and care solutions for an ageing society (€ 10M; **24 Apr 2019**)**
- **BHC-20: Infection and integrated care (budget/deadline tbc)**

- **Research infrastructure Work Program**

- **INFRAEDI-04: Innovative High Performance Computing (budget/deadline tbc)**

# Online consultation on benchmarking of national innovation procurement policy frameworks

1. Methodology of the Study
2. Comparative Analysis
- 3 Country Profiles
4. Link to the online consultation (deadline expired on 28/2/2019)

<https://ec.europa.eu/digital-single-market/en/news/online-consultation-benchmarking-national-innovation-procurement-policy-frameworks>

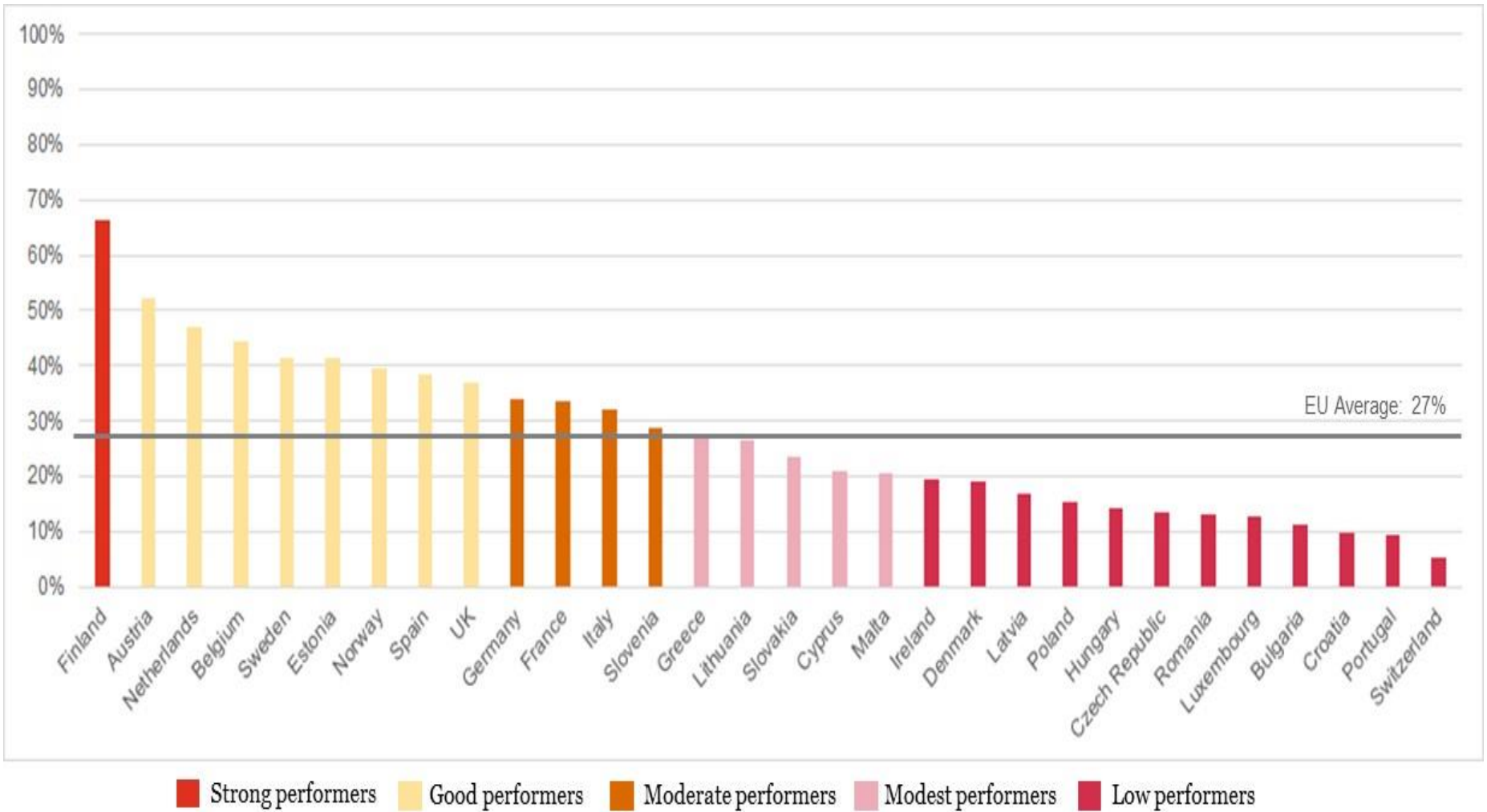


## 10 Indicators

1. Definition of Innovation Procurement
2. Horizontal policies
3. ICT policy
4. Sectorial policies
5. Action Plan
6. Spending target
7. Monitoring system
8. Incentives
9. Capacity building and assistance measures
10. Innovation friendly public procurement markets



Country	TOTAL	S-score	Cluster
Finland	66,5%	2,7	Strong performer
Austria	52,3%	1,7	Good performer
Netherlands	46,9%	1,4	Good performer
Belgium	44,4%	1,2	Good performer
Sweden	41,5%	0,1	Good performer
Estonia	41,4%	1,0	Good performer
Norway	39,5%	0,8	Good performer
Spain	38,3%	0,8	Good performer
UK	37,0%	0,7	Good performer
Germany	34,1%	0,5	Moderate performer
France	33,6%	0,4	Moderate performer
Italy	32,3%	0,4	Moderate performer
Slovenia	28,7%	0,1	Moderate performer
Greece	26,9%	-0,02	Modest performer
Lithuania	26,4%	-0,1	Modest performer
Slovakia	23,5%	-0,3	Modest performer
Cyprus	20,8%	-0,4	Modest performer
Malta	20,6%	-0,5	Modest performer
Ireland	19,6%	-0,52	Low performer
Denmark	19,2%	-0,54	Low performer
Latvia	16,7%	-0,7	Low performer
Poland	15,3%	-0,8	Low performer
Hungary	14,4%	-0,9	Low performer
Czech Republic	13,6%	-0,9	Low performer
Romania	13,3%	-1,0	Low performer
Luxembourg	12,6%	-1,0	Low performer
Bulgaria	11,1%	-1,1	Low performer
Croatia	9,6%	-1,2	Low performer
Portugal	9,5%	-1,2	Low performer
Switzerland*	5,3%	-1,5	Low performer



# NETWORK OF COMPETENCE CENTERS ON INNOVATION PROCUREMENT ACROSS EUROPE

□ <http://procure2innovate.eu/>

**The Procure2Innovate project establishes or expands competence centres for innovation procurement in 10 EU Member States.**



**The project foresees the expansion of, and improvement of services at, five existing competence centres in: Austria, Germany, the Netherlands, Spain and Sweden. During the course of the project, new competence centres will also be created in five additional countries: Estonia, Greece, Ireland, Italy and Portugal.**

# **European Assistance for Innovation Procurement (Eafip)II**



- ❑ Info on Innovation Procurement (news, upcoming events and info days, case examples): <http://ec.europa.eu/digital-agenda/en/innovation-procurement>
- ❑ Ongoing PCP/PPI projects in ICT (and other) domains: <https://ec.europa.eu/digital-single-market/en/eu-funded-projects>
- ❑ European Assistance for Innovation Procurement (Eafip) <http://eafip.eu/>
- ❑ Results from EU funded Innovation Procurements: <https://ec.europa.eu/digital-single-market/en/news/results-eu-funded-pre-commercial-procurements>
- ❑ European Network of National Competence Centers on Innovation Procurement: <http://procure2innovate.eu/>
- ❑ Benchmarking analysis of national policy frameworks to support Innovation Procurement: <https://ec.europa.eu/digital-single-market/en/news/online-consultation-benchmarking-national-innovation-procurement-policy-frameworks>

# Innovation Procurement in the next Programming Period

- Innovation Procurement in Horizon Europe
- Innovation Procurement in DEP
- Innovation Procurement in the Defense Program



**Thank you very much  
for your attention**

Vassilis Tsanidis Dr.Jur  
Digital Innovation and Blockchain Unit (F3)  
DG CNECT  
European Commission

[Vasileios.Tsanidis@ec.europa.eu](mailto:Vasileios.Tsanidis@ec.europa.eu)