Public Demand Driven Innovation Innovation Procurement (PCP and PPI) in Horizon 2020

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European Commission

State of Play
Innovation Procurement
PCP-PPI

Dual objective

- ➤ Public sector efficiency…
- ➤ Health care
- ➤ Climate Change
- ➤ Energy Efficiency
- ➤ Transport
- ➤ Security

- Public sector is faced with **important challenges**. Addressing these, often requires public sector transformations.
  - In many cases, solutions are near the market and would be provided if clear requirements/sufficient demand expressed by the market (**PPI**)
  - In other cases, still R&D required to de-risk technology, still competing solution approaches to compare before committing to large scale deployment (**PCP**)
- Public procurement/demand driven innovation can open markets for industry/researchers **creating growth & jobs in Europe**
- However, potential is **underutilised in EU** due to fragmentation of demand, lack of incentives -> transnational PCPs/PPIs

PPI – Public Procurement of Innovative Solutions

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- **When**
  - Challenge requires solution which is almost on the market or already on the market in small quantity but not meeting public sector requirements for large scale deployment yet. **No R&D involved** (R&D already done, or no R&D needed to solve problem)

- **What**
  - Public sector acts as launching customer / **early adopter** / first buyer for **innovative** products and services that are newly arriving on the market (**not widely commercially available yet**)

- **How**
  - Public sector acts as facilitator establishing a **buyers group** with critical mass that triggers industry to scale up its production chain to bring products on the market with desired quality / price ratio within a specific time. After **potentially a test / certification / labelling**, the buyers group buys a significant volume of solutions.
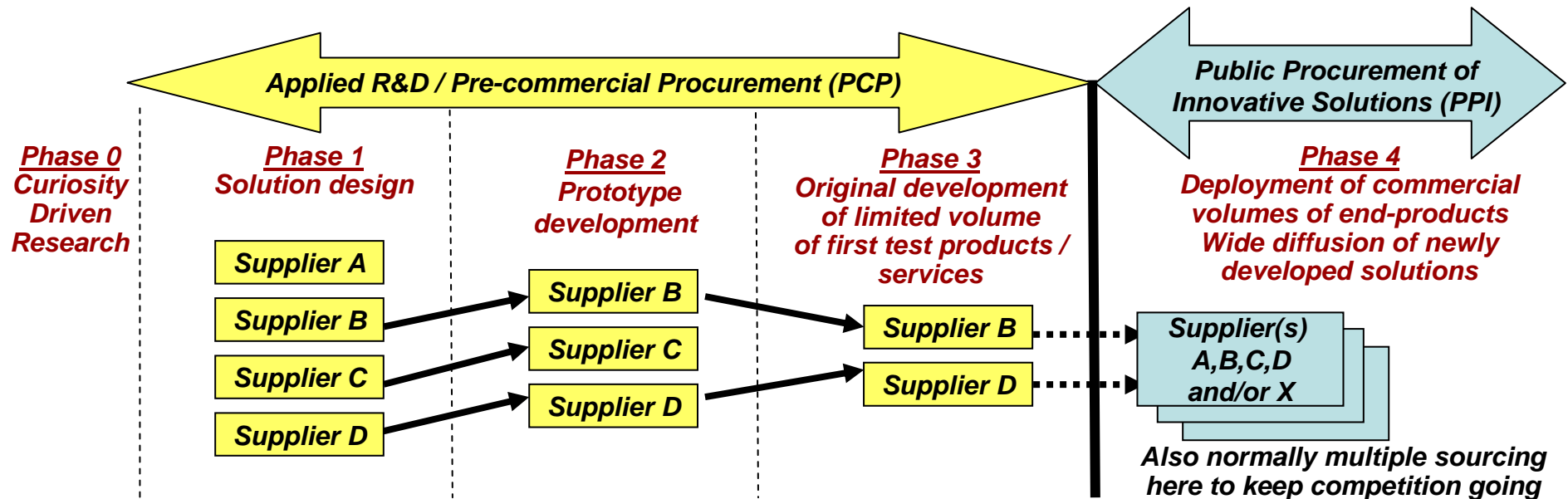
PCP – Pre-Commercial Procurement

- ## When
  - Challenge **requires R&D** to get new solutions developed. Problem clear, but pros / cons of several potential competing solutions not compared / validated yet. **No commitment to deploy (PPI) yet**.

- ## What
  - Public sector buys R&D to **steer development of solutions to its needs**, gather info about pros / cons of alternative solutions to be **better informed to make specs for a follow-up PPI** possibly later, to **avoid supplier lock-in** (create competitive supply base)

- ## How
  - Public sector buys R&D from **several suppliers in parallel** (comparing alternative solution approaches), in form of competition **evaluating progress after critical milestones** (design, prototyping, test phase), risks & benefits of R&D (e.g. IPRs) shared with suppliers to maximise incentives for wide commercialisation

Innovation Procurement = PCP + PPI Complementarity

- **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

Applied R&D / Pre-commercial Procurement (PCP)

Public Procurement of Innovative Solutions (PPI)

Phase 0
Curiosity Driven Research

Phase 1
Solution design

Phase 2
Prototype development

Phase 3
Original development of limited volume of first test products / services

Phase 4
Deployment of commercial volumes of end-products Wide diffusion of newly developed solutions

Supplier A
Supplier B
Supplier C
Supplier D

Supplier B
Supplier C
Supplier D

Supplier B
Supplier D

Supplier(s) A,B,C,D and/or X

Also normally multiple sourcing here to keep competition going

Objectives:
- Price/quality products that better fit public sector needs
- Earlier customer feedback for companies developing solutions
- Better take-up/Wider commercialisation of R&D results

Complementarity / split between PCP and PPI and phased approach enables to...
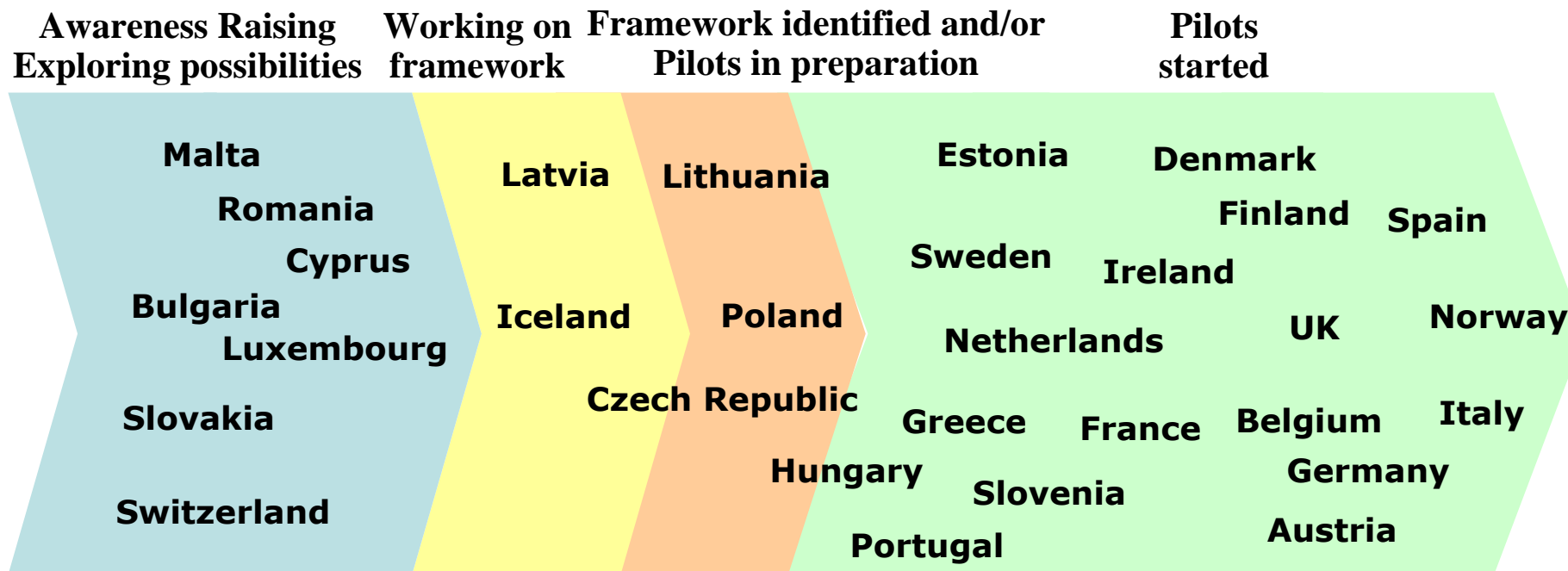
- Get 20% better value for money products(US defense data)

- Use PPI also if no(more) R&D needed for procurement need

- Use a small budget PCP to de-risk a large budget PPI
  - PPI spec can be 'completely rephrased' benefiting from PCP lessons learnt

- Use conditions that encourage job creation 'in Europe'
  - Because PCP falls outside WTO rules

- Prevent foreclosing of competition & crowding out of private investment in R&D
  - Companies that are not financing their R&D via procurement/PCP (e.g. via grants, own company resources) can still bid for deployment contracts/PPIs

- Facilitates access to procurement market for SMEs
  - Gradually increasing contract sizes, tasks, required manpower
  - Stringent financial guarantee/qualification requirements:'no' in PCP,'ltd' in PPI

... above not the case if R&D is procured as part of/inside large deployment contract

Status of PCP implementation across Europe January 2014

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Awareness Raising Exploring possibilities

Working on framework

Framework identified and/or Pilots in preparation

Pilots started

Malta
Romania
Cyprus
Bulgaria
Luxembourg
Slovakia
Switzerland

Latvia
Iceland

Lithuania
Poland
Czech Republic

Estonia
Sweden
Netherlands
Greece
Hungary
Slovenia
Portugal
France
Denmark
Finland
Ireland
UK
Belgium
Germany
Austria
Spain
Norway
Italy

Examples of PCPs done by procurers in Member States without EU support: in Norway, Austria, Italy, Spain, UK, Netherlands etc
->More Info about national PCP initiatives in Member States: http://cordis.europa.eu/fp7/ict/pcp/msinitiatives_en.html

Examples of on-going EC funded PCP projects doing joint cross-border PCP procurements:
SILVER (Robotics solutions for elderly care), CHARM (Traffic management), V-CON (Virtual Construction / Modelling of Roads), SMART@FIRE (Smart Personal Protective Equipment for Fire Fighter), DECIPHER (applications based on Distributed EC Individual Personal Health Records), PRACE 3IP (energy efficient high performance computing), C4E (Cloud computing), ENIGMA (lighting solutions for cities), IMAILE (e-learning), THALEA (telemedecine for ICU patients at increased risk), UNWIRED-HEALTH (mobile care for vaccination & heart failure), PREFORMA (Digital Preservation), NYMPHA-MD (mental care for bipolar disorders)
->More info about EU funded cross border PCP projects: http://cordis.europa.eu/fp7/ict/pcp/projects_en.html
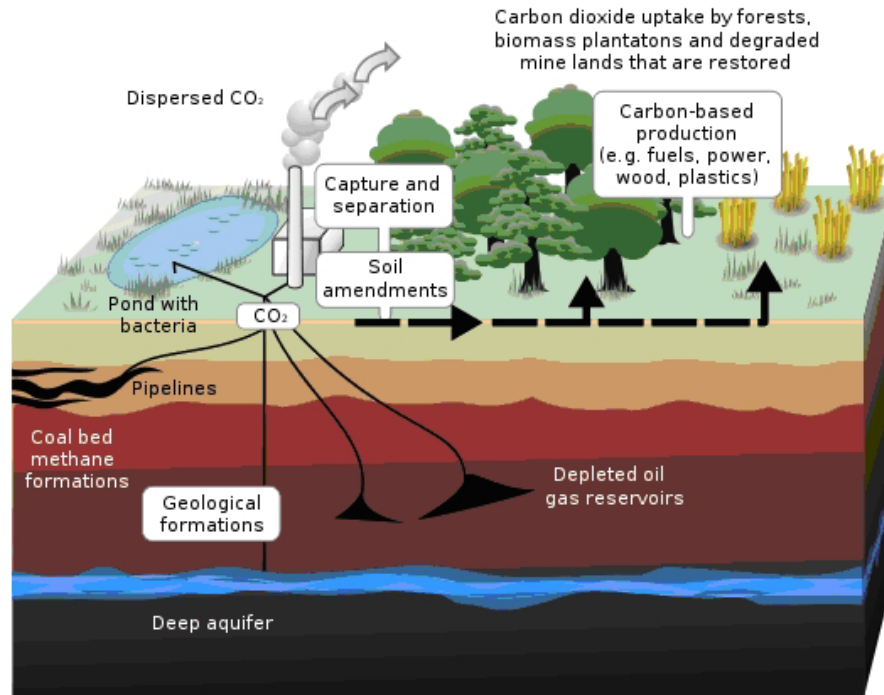
Examples from PCPs in member States done without EU support
Carbon capture – Norway   Large project
Statoil/Gassanova   attracting large firms

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Dispersed CO_2

Carbon dioxide uptake by forests, biomass plantatons and degraded mine lands that are restored

Capture and separation

Carbon-based production (e.g. fuels, power, wood, plastics)

Pond with bacteria

Soil amendments

CO_2

Pipelines

Coal bed methane formations

Geological formations

Depleted oil gas reservoirs

Deep aquifer

- ❑ Regulatory requirement to seriously reduce CO2 emissions by 2016 without negative effects on health/environment, beyond what market is able to offer
- ❑ PCP started mid 2011 and finished end 2012 (time to market shortened)
- ❑ Successfully validated and compared solution approaches of 5 vendors

More info on this case on: http://cordis.europa.eu/fp7/ict/pcp/docs/statoil-pcp-case-v2.pdf

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Potential £19m p.a. saving

Potential £30m p.a. saving

Potential £160m p.a. saving

£4,000 per HCAI avoided

Potential Value PCP-like projects to NHS in UK:

❑ Improve the quality of the patient experience and generate significant cost savings (£236m). Value to the economy:

❑ A number of innovators/SMEs have attracted significant extra investment (£290m).

PCP Niguarda Hospital – Lombardy region

Easy-to-use automated universal system for moving hospital beds, with anti-collision and safety systems, not needing guide lines or tracks even on non rectilinear routes

Examples EU cofunded PPI (piloted in CIP)

Low carbon healthcare PPI started 2006
Introducing more energy efficient LEDs in
network of over 20 hospitals in 8 EU countries

(cross border PPI cooperation funded by EC/DG ENTR)

• 30% energy consumption saving
• 88% maintenance savings
Total cost savings enable take-in of +10% patients
For more info: http://lowcarbon-healthcare.eu/

National brand names for PPI: Forward Commitment Procurement (FCP) in UK,
Technology procurement in Nordic countries (e.g. Sweden NUTEK cases), etc

EcoQUIP
Delivering Efficiency, Quality and Sustainability in Healthcare

www.ecoquip.eu

PPI procurement for more efficient and
sustainable healthcare solutions

Procurers: Bologna univ. hospital Authority
(IT), Erasmus Univ Medical Centre (NL),
Nothingham univ hospital & Rotherham
NHS trusts (UK), Such Deskidzka hospital (PL)

HAPPi
HEALTHY AGEING
PUBLIC PROCUREMENT OF INNOVATIONS

www.happi-project.eu

PPI procurement for healthy ageing
solutions

Partners from 12 different EU countries
incl. procurers: NHS commercial Solutions
(UK), Centrale de Marches Mercure (BE),
FHL (Lux), Resah-Idf (FR), FPA (AT),
SCR Piemonte (IT)

European
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Horizon 2020
Funding Instruments
in support of PCP-PPI

Forms of support

- ❖ Coordination and Support Actions (100% funding rate):
  - Support only coordination activities e.g. for preparation of a PCP or PPI by a group of procurers (identifying common challenges among procurers, conducting open market consultations before initiating a concrete PCP or PPI procurement etc)
  - CSAs do not provide EU cofunding for an actual PCP or PPI procurement)

- ❖ PCP cofund Actions (70% funding rate):
  - Provides EU cofunding for an actual PCP procurement (one joint PCP procurement per action) + for related coordination and networking activities (e.g. to prepare, manage and follow-up the PCP call for tender)

- ❖ PPI cofund Actions (20% funding rate):
  - Provides EU cofunding for an actual PPI procurement (one joint PPI procurement per action) + for related coordination and networking activities (e.g. to prepare, manage and follow-up the PPI call for tender)

PCP and PPI cofund actions – conditions for participation

❖ Minimum of 3 independent legal entities from 3 different Member States or associated countries, minimum 2 of which are public procurers from 2 different Member States or associated countries

- Public procurers are contracting authorities or contracting entities as defined in the EU public procurement directives
- Sole participant possible, if meets minimum participation requirements

❖ They can be complemented by other types of procurers that are providing services of public interest and share the same need to procure R&D or innovative solutions

- E.g. NGOs or private procurers

❖ Other entities may participate as direct beneficiaries on condition that they add value to the action, are not potential suppliers of solutions sought for by the PCP/PPI and have no other type of conflict of interest

- Assisting the procurers in the preparation, implementation and follow-up

PCP and PPI cofund actions - Role different actors

❑ **Beneficiaries and third parties**
- Action involves beneficiaries that undertake together the PCP or PPI procurement, i.e. the buyers group & the lead procurer
- Action can include third parties that can make in-kind contributions (make available resources / equipment to the beneficiaries to carry out the PCP or PPI)

❑ **Buyers group**
- Procurers that provide the financial commitments to undertake the PCP or PPI.
- Min 2 public procurers from 2 different Member States or associated countries
- Shall represent the demand side for the innovations, a critical mass of procurers that can trigger wide implementation of the innovations, shall aim for ambitious quality/efficiency improvements in area of public interest.

❑ **Lead procurer**
- Procurer in project appointed by buyers group to lead and coordinate the PCP or PPI.

❑ **Subcontractors**
- Successful tenderers, selected by the buyers group & lead procurer as result of the PCP or PPI call for tender, to provide the R&D services (PCP) or innovative solutions (PPI). They do 'NOT' enter the grant agreement with the EC.

PCP and PPI cofund actions - Eligible activities

In the proposal, consortium shall already identify a specific challenge in the innovation plans of the procurers that requires innovation + KPIs (targeted quality/efficiency improvements) for the PCP/PPI. Eligible activities:

❑ **Preparation stage**
- Preparation of **one** joint PCP or PPI procurement per action
  - Open market consultation /verification of market readiness to meet procurement need
  - If relevant to the action, other coordination or networking activities
- Outcome
  - Agreed common tender specifications + Joint procurement agreement
  - Confirmation of commitment on availability of financial commitments to start PCP/PPI

❑ **Execution stage**
- Joint procurement of the R&D services (PCP) or innovative solutions (PPI)
- For PCP: Validation/comparison of the performance of the competing PCP solutions against jointly defined criteria in real-life operational conditions
- For PPI: Evaluation of results of deploying and operating the procured solutions in real-live operating conditions
- Dissemination/exploitation of results

If relevant to the action, other coordination or networking activities (e.g. preparation of follow-up PPI, contribution to standardisation / regulation / certification)

PCP and PPI cofund actions – EU contribution

❑**Reimbursement rate direct costs: Max 70% of eligible costs for PCP cofund actions, Max 20% of eligible costs for PPI cofund actions**

- Eligible direct costs to carry out eligible activities defined in WP include:
  - Price of the R&D services (PCP) or innovative solutions (PPI) procured (if procurement conducted in compliance with requirements in Annex E WP)
  - Eligible coordination and networking activities
  - May include in-kind contributions (e.g. third parties putting resources at disposal of beneficiaries e.g. for testing of solutions)
  - VAT is an eligible cost unless for beneficiaries that can deduct it

- Flexibility: Consortium may choose to use part of the Union contribution to increase the support to coordination and networking activities/budget for call for tender as long as the Union contribution does not exceed 70% (PCP)/20% (PPI) of the sum of those costs and the price of the call for tender. Or other way around.

- Requested reimbursement for coordination and networking can comprise max 30% (for PCP) / max 50% (for PPI) of total requested grant

❑**Plus 25% for indirect costs**. But, no indirect costs on the price of the PCP/PPI procurement or on 3rd party resources not used at the beneficiaries premises

❑**Pre-financing**: Yes, 1st pre-financing at start project for costs for preparation stage, 2nd pre-financing before execution stage for costs for rest (incl. call for tender)

One joint PCP coordinated by the lead procurer

- In their proposal, consortium shall have already identified one concrete procurement need as proposed focus for the PCP that is identified as a common challenge in the innovation plans of the buyers group and requires R&D!

- One joint call for tender published EU wide
- One joint evaluation of offers
- One lead procurer awarding all contracts in the name and on behalf of all procurers in buyers group
  - Each winning tenderer gets: 1 framework agreement to participate in the PCP + one specific contract per PCP phase (solution design, prototyping, testing)
- One joint total budget (grouping financial commitments of all procurers in buyers group) from which all R&D providers are paid

- But, actual payments can be carried out centralised or distributed
  - Either all R&D providers paid by the lead procurer
  - Or each R&D provider paid pro rata by each procurer in the buyers group according to the share of each procurer's contribution to the common pot

- Also supervising suppliers and testing of solutions can be centralised or distributed
  - Choice between testing all solutions of all R&D providers in 1 procurers site or on several sites procurers sites etc

Specific requirements PCP procedure (Annex E WP)

- Procedure: Compliance with applicable national procurement rules + compliance with additional specific requirements

  - Definition PCP (Horizon 2020 RfP and PCP communication)
  - EU-wide published open market dialogue and call for tender
  - PCP call for tender open for at least 60 days
  - Same objective evaluation criteria
  - Functional / performance based specifications
  - Best value for money award criteria
  - Majority of R&D activities performed in MS/AS

- IPR arrangements for PCP

  - R&D providers generating results in PCP shall own attached IPRs
  - Procurers shall enjoy royalty-free access rights to use R&D results for own use
  - Procurers shall also enjoy the right to grant or to require participating R&D providers to grant non-exclusive licenses to third parties to exploit the results under fair and reasonable market conditions without any right to sublicense
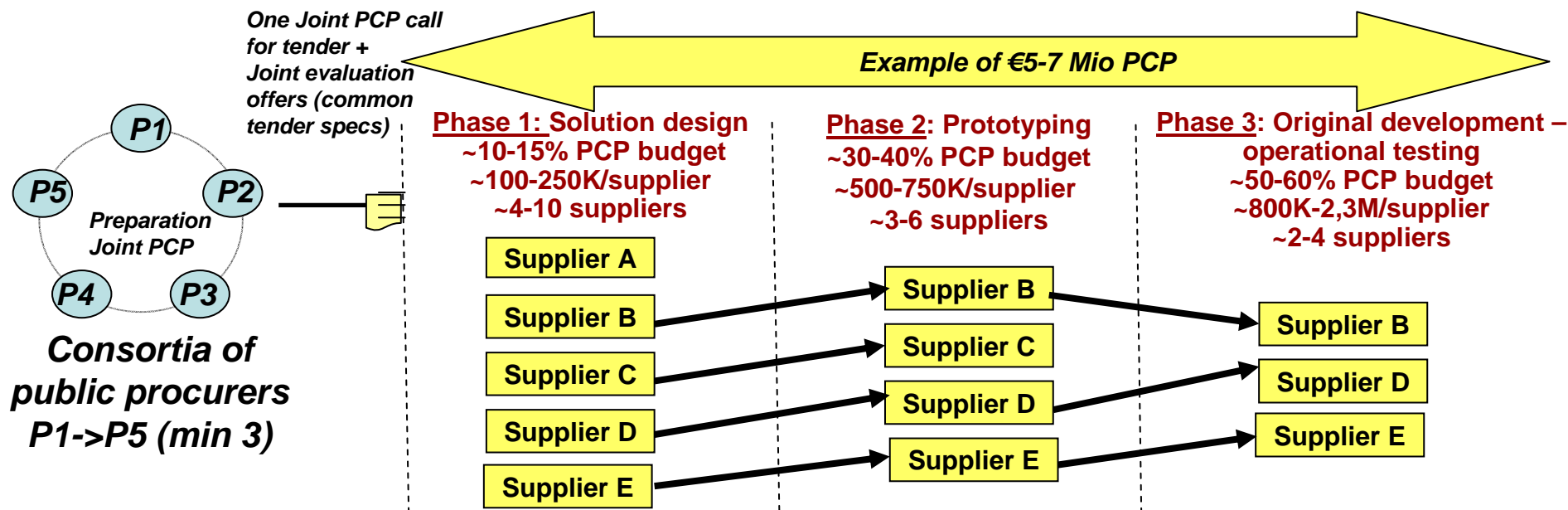
Example PCP cofund action

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❑ **Example: 5 €M PCP cofund grant**
  - ❑ EU contribution: e.g. 0,7 €M for coordination + 4,3 €M for PCP (procurement of 6,1 €M)
  - ❑ EU contribution: Max 1,5 €M for coordination + 3,5 €M for PCP (procurement of 5 €M)

❑ **Example: 3 €M PCP cofund grant**
  - ❑ EU contribution: e.g. 0,7 €M for coordination + 2,3 €M for PCP (procurement of 3,3 €M)
  - ❑ EU contribution: Max 0,9 €M for coordination + 2,1 €M for PCP (procurement of 3 €M)

One Joint PCP call for tender + Joint evaluation offers (common tender specs)

Example of €5-7 Mio PCP

P1
P5
P2
Preparation Joint PCP
P4
P3

Consortia of public procurers P1->P5 (min 3)

Phase 1: Solution design
~10-15% PCP budget
~100-250K/supplier
~4-10 suppliers

Supplier A
Supplier B
Supplier C
Supplier D
Supplier E

Phase 2: Prototyping
~30-40% PCP budget
~500-750K/supplier
~3-6 suppliers

Supplier B
Supplier C
Supplier D
Supplier E

Phase 3: Original development – operational testing
~50-60% PCP budget
~800K-2,3M/supplier
~2-4 suppliers

Supplier B
Supplier D
Supplier E

One joint PPI coordinated by the lead procurer

- In their proposal, consortium shall have already identified one concrete procurement need as proposed focus for the PCP that is identified as a common challenge in the innovation plans of the buyers group and requires R&D!

- One joint call for tender published EU wide (unless PPI procures limited set of prototypes / test products developed during PCP, then negotiated procedure without publication foreseen in public procurement directives possible)
- One joint evaluation of offers

- But contract award can be centralised or distributed
    - Either one lead procurer awarding all contracts to all suppliers on behalf of all procurers in the buyers group
    - Or one lead procurer only awarding a framework contract with lots (lots per procurer) to each supplier, and each individual procurer awarding (a) specific contract(s) for his lot(s) to the supplier(s) delivering the solution(s) he buys
    » This means same **core functionality** and performance characteristics for solutions procured by all procurers, but possible additional local functionality for each procurer

- Also supervising suppliers and payments can be centralised or distributed

Specific requirements PPI procedure (Annex E WP)

❑ Procedure: Compliance with applicable national procurement rules + compliance with additional specific requirements

Unless PPI limited to prototypes, test-products developed during pre-ceding PCP Cofund action

▪ Definition PPI (Horizon 2020 RfP). Choice between procurement procedures covered by procurement directives that do not include procurement of R&D

▪ EU wide publication of open market consultation, early announcement of target date for launching the PPI and call for tender

▪ PPI call for tender open for at least 60 days

▪ PPI call for tender open to tenderers from EU Member States and Horizon 2020 associated countries + (if applicable) additional countries that ratified WTO GPA

▪ Possibility of conformance testing before contract award

▪ Same objective evaluation criteria

▪ Functional / performance based specifications

▪ Best value for money award criteria

❑ IPR arrangements for PPI

▪ IPRs attached to results generated during the PPI shall be owned by the party that generated the results, unless in duly justified cases (e.g. party generating the results is not able to exploit IPRs)
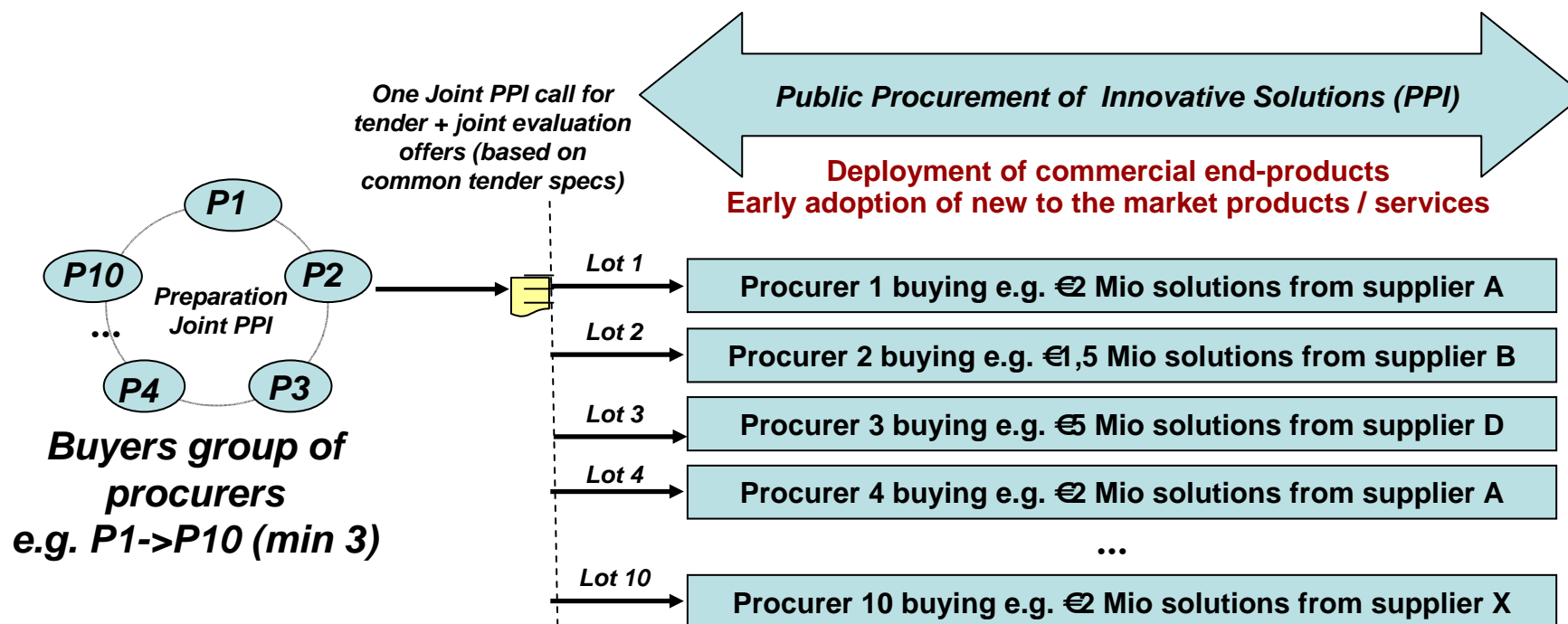
Example PPI cofund action

- ## Example: 5 €M PPI co-fund grant
  - EU contribution: e.g. 0,2 €M for coordination + 4,8 €M for PPI (procurement of 24 €M)
  - EU contribution: Max 2,5 €M for coordination + 2,5 €M for PPI (procurement of 12,5 €M)
- ## Example: 2,5 €M PPI co-fund grant
  - EU contribution: e.g. 0,2 €M for coordination + 2,3 €M for PPI (procurement of 11,5 €M)
  - EU contribution: Max 1,25 €M for coordination+ 1,25 €M for PPI (procurement of 6,25 €M)

One Joint PPI call for tender + joint evaluation offers (based on common tender specs)

Public Procurement of Innovative Solutions (PPI)

Deployment of commercial end-products
Early adoption of new to the market products / services

P1
P10
P2
Preparation Joint PPI
...
P4
P3

Buyers group of procurers e.g. P1->P10 (min 3)

Lot 1 → Procurer 1 buying e.g. €2 Mio solutions from supplier A

Lot 2 → Procurer 2 buying e.g. €1,5 Mio solutions from supplier B

Lot 3 → Procurer 3 buying e.g. €5 Mio solutions from supplier D

Lot 4 → Procurer 4 buying e.g. €2 Mio solutions from supplier A

...

Lot 10 → Procurer 10 buying e.g. €2 Mio solutions from supplier X

Differences PCP/PPI piloting vs Horizon 2020 Lessons Learnt

- New 2014 public procurement directives will provide now clear legal basis for joint cross-border procurement <u>in all EU countries</u>
- Flexible implementation of payment of suppliers possible
- H2020 enables to better leverage out differences in VAT across EU countries
- H2020 provides model PCP/PPI tender documents (will be in Annex to MGA)
- Coordination/networking costs not reduced proportionally automatically if procurement price lower than expected e.g. cheaper offers (max 30% / 50% of maximum, not actual spent, grant amount - for PCP / PPI cofund actions)
- Sole participants also possible in H2020 in PCP/PPI cofund actions
- Synergies between H2020 and new structural funds (ESIF) possible
- Flexibility to shift budget from networking/coordination to call for tender part of the grant or other way around

- <u>Especially for PPIs also</u>: Longer deadlines to prepare proposals (all PPI cofund actions in WP2015) + large scale testing is optional i.s.o. mandatory (was considered by some as tough requirement in CIP ehealth PPI pilot call). Note: PPIs are in H2020 also done as 'joint' procurement, but with flexibility to use 'lots' for different procurers/different subcomponents to be procured

Background info

CNECT website on PCP and PPI:

Info on upcoming events and EU funding for PCP and PPI, ongoing EU funded projects, PCP/PPI initiatives in countries around Europe, background docs and FAQs, Keep informed: subscribe yourself to the CNECT PCP-PPI newsletter

http://cordis.europa.eu/fp7/ict/pcp/home_en.html

Official Horizon 2020 docs setting funding conditions for PCP and PPI cofund actions:

http://ec.europa.eu/research/participants/portal/desktop/en/funding/reference_docs.html#h2020-work-programmes-2014-15-annexes (Annex D&E)

Finding partners: EU procurement forum, PCP-PPI Linkedin group

Info on ongoing PCP/PPI projects

http://cordis.europa.eu/fp7/ict/pcp/projects_en.html
http://cordis.europa.eu/fp7/ict/pcp/msinitiatives_en.html

Info about upcoming events, info days

http://cordis.europa.eu/fp7/ict/pcp/events_en.html