Main steps for preparing and conducting an innovation procurement project

SEREN3 PCP & PPI training
Brussels, 1st of February 2017
Preparing an innovation procurement

**Schematic: Capturing Innovation through the procurement cycle**

**Procurement Process**
- Business Strategy
- Establish Need
- Develop Need
- Develop Procurement Strategy
- Competitive Procurement
- Award/Implement Contract
- Manage Contract
- Closure

**Capturing Innovation – Behaviours**

**Before Procurement**
- Earlier Supplier Involvement
- Communicate long-term plans to the market
- Early cross-functional dialogue (inc policy, procurement and project staff)
- Be responsive to unsolicited proposals
- Decide how best to handle IPR and understand why
- Use output/outcome specification
- Decide whether to allow variant bids
- Consider contracting strategy (inc use of SMEs; appropriateness of partnering)
- Evaluate risks early

**During Procurement**
- Evaluation of proposals – evaluate the value outputs from proposed innovations
- Evaluation of risk
- Evaluate variant bids (if applicable)
- Include appropriate provision for innovation in contract

**After Procurement**
- Risk/Reward sharing
- Manage incentives
- Continuous improvement via contract management
Preparing an innovation procurement

1. Needs identification and assessment
2. Prior art analysis and IPR search
3. Open market consultation
4. Business case
5. Conducting an innovation procurement
Innovation procurement starts with an “unmet need”, which is “a requirement or set of requirements that public procurers have now or (preferably) one that public procurers will have in the future, that current products, services or arrangements cannot meet, or can only do so at excessive cost or with unacceptable risk.”

Department for Business Innovation & Skills, “Delivering best value through innovation. Forward Commitment Procurement. Practical Pathways to Buying Innovative Solutions”

It all starts with a genuine, concrete need to improve the quality and/or efficiency/cost of services of public interest offered.
Needs identification and assessment

The starting point for innovation procurement is “recognizing that you have an unmet need that needs a solution and then deciding to do something about it”.

Gaynor Whyles, BIS Consultant FCP Programme Manager (JERA Consulting)

An early, proper needs identification and assessment exercise will:

- allow *time* for an effective *understanding of the need*;
- create the *right basis for the subsequent step*: prior art analysis and IPR search;
- ensure a proper *information of the market*;
- *avoid* the *risk* of unidentified unmet needs turning into urgent problems;
- ease the translation into *outcome-based* requirements.
Needs identification and assessment

Methods to identify and assess needs/techniques

- **Internal meetings / informal chats** in which only representatives of the public procurer participate -> starting point for brainstorming

- **Senior management workshops**, needed especially from a strategic perspective -> to receive support and approval for required financial resources for the procurement

- **Discussions structured into focus groups** (targeting, for example, the different types of activities of the public procurer, the policy objectives) -> could include both representatives of the public procurer organization, as well as external experts / key stakeholders

- **Surveys** conducted by email, phone or post

- **Customers’/ end-users’ workshops**
Needs identification and assessment

Methods to identify and assess needs/techniques

Identifying and assessing needs approach used in the Smart@Fire PCP project

961 fire brigades were involved in the needs assessment exercise.

“How to increase the safety and reduce risks of first responders undertaking fire-fighting and other civil protection work?”

- a large scale survey
- face-to-face needs assessment meetings
- Interviews
- short scenarios: contextual situations with significant details
- “Voice of the Customer” methodology

Aims:
- to identify and understand the real needs of the end-users (in this case, fire-fighters), and
- to formulate these needs in functional terms.
Needs identification and assessment
Methods to identify and assess needs/techniques

WIBGI ( Wouldn’t It Be Great if …) - developed by the English National Health Service (NHS UK)

- It takes the form of a collective brainstorm exercise to complete the sentence “Wouldn’t It Be Great If ….”. This approach is used to identify, validate and rank needs;
- It can be useful to involve similar staff groups from multiple locations - this ensures that the need is shared by multiple contracting authorities and the developed solutions are scalable;
- An experienced facilitator to conduct the session, to draw out the main issues and ideas, as well as a subject domain expert who can guide the facilitator with respect to specialist technicalities.

“During a WIBGI workshop, an expert facilitator works with the clinical team to identify, validate and rank-order their perceived clinical needs. During this workshop the clinical teams are challenged to think out-of-the-box (Think of the issue that is causing you the greatest discomfort / inefficiency in your daily work. Suppose you were Harry Potter, what would you wish magic could solve for you? Wouldn't it be great if magic could create me a solution for this … ). The list of needs that is obtained through this brainstorm exercise is then rank-ordered in terms of importance (e.g. in terms of the size, scale and cost of the problem) into a formal document called the ‘statement of clinical needs’.”
Needs identification and assessment

Methods to identify and assess needs/techniques

**WIBGI EXAMPLE**

Niguarda Hospital PCP

The WIBGI exercise has also been applied at Niguarda Hospital (Lombardy Region, Italy), to socio-health employees who were responsible to move, via manual pushing and pulling, the hospital beds. They were asked: “*Wouldn’t It Be Great If... could be improved in your daily work?*” After a discussion this resulted in a consolidated reply: “*It Would Be Great if we had an automated system to move around hospital beds that could avoid collateral effects, such as accidents and functional limitations that affect nursing personnel and socio-health operators who are moving around hospital beds manually today*. The exercise lead to the identification of the primary need (out of 10 initially identified stringent needs) to develop a new and cost-effective automated universal medical device for moving hospital beds, that is easy to use and maneuver for a single operator, equipped with all anti-collusion and safety systems.
Needs identification and assessment

How to define the need/challenge

- Be **clear** and **simple** in the description
- Focus on the **outcomes** that are required rather than a technological description showing how they should be achieved
- **Don’t over specify** and allow the market to be **creative**
- Decide whether to use a **broad** or a **narrow** need/challenge
- In a joint procurement, the need/challenge has to be relevant for all participating contracting authorities
- Validate the identified need/challenge through **market consultations**
Needs identification and assessment

*How to define the need/challenge*

**EXAMPLE – technology neutral needs description**

A requirement for ‘electric vehicles’ sounds innovative, but the technology neutral requirement is more likely to be a ‘low carbon zero emission vehicle’ (to give equal chances to solutions based on other technological approaches to compete on the market).

**EXAMPLE – describing the problem instead of prescribing the solution**

A London Borough identified a requirement for “a cost effective, on site waste management solution for non-recyclable waste, suitable for use in high rise flats and council housing in a densely populated urban environment, that eliminates the requirement for waste collection, involves minimal management and is environmentally benign”.

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## Prior art analysis and IPR search

### Understanding their importance

<table>
<thead>
<tr>
<th></th>
<th>PRIOR ART ANALYSIS</th>
<th>IPR SEARCH (patent search)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>When</strong></td>
<td>Once the needs are identified</td>
<td>Once the needs are identified</td>
</tr>
<tr>
<td><strong>Why</strong></td>
<td>it reveals if the solutions to the identified need are already available or will already become available before the planned procurement will start (in this case, the PCP/PPI might be questionable); it helps validating the identified need(s); it helps confirming the novelty of the identified need(s); To establish the ‘state-of-art’ at the time of the analysis</td>
<td>it is a way to safeguard the fact that the technological solutions to be developed during the planned project are innovative and can thus be protected by IPR; alternatively, it will reveal whether there is a provider who owns all IPR needed to develop the solution to the identified need(s); To establish the ‘state-of-art’ at the time of the search.</td>
</tr>
<tr>
<td><strong>What</strong></td>
<td>All information currently in the public domain (scientific publications, reports, existing products)</td>
<td>a search of registered intellectual property held in a national or international database</td>
</tr>
</tbody>
</table>
Prior art analysis and IPR search

How to conduct art analysis and IPR search

Prior art analysis (non-IPR)

- Includes products and published ideas which may not be protectable/protected by IPR
- Entails a thorough review of existing technologies or ideas, through both online and offline means and of search on key forums for the communication of new technological ideas and inventions (industry journals, trade shows and exhibitions, news sites, academic publications/books/periodicals/magazines)
- Requires a team holding relevant technological, industry and scientific expertise
- Includes meeting/networking with people who may have relevant experience, such as directors of research at research institutions, retailers, buyers, and other people associated with the creation, buying or selling of innovative technology
Prior art analysis and IPR search

**How to conduct art analysis and IPR search**

**Conducting an IPR search**

- Registered IPR (patents, trademarks, designs)
- Most relevant for technological R&D arising from PCP/PPI: **patent search** (*absolute novelty* standard)
- Patent searches should not be restricted to national databases but should include all relevant patents, patent applications, and other published relevant work in all countries and at all times:
  - **Google patents** ([google.com/patents](https://google.com/patents)) allows searchers to trawl through over 7 million US patents
Prior art analysis and IPR search

How to conduct art analysis and IPR search

Conducting an IPR search

Two options are available when conducting an IPR search:

(i) **Keyword searches** - it is essential that the searcher attempts a number of different formulations and is not too specific in the wording used (e.g., instead of searching for a ‘mobile phone’, searchers should select a broader query such as ‘handheld telecommunications device’)

(ii) **Patent classification searches** – a narrower and more precise/targeted method of using ‘patent classifications codes’; these divide technologies up into over 70,000 different categories; searchers can initiate a classification search by referring to the ‘classification search’ button on the espacenet website.
Prior art analysis and IPR search

Next step

Interpret the results

• Reading the patent or patent application ‘Abstract’ will provide searchers with a useful summary of the invention and may help them to immediately determine the relevance of the invention.

• The key part of the patent document is the ‘patent claims’, which actually defines the scope of exclusivity which the patent is claiming.

• Reading this section of the patent is a technical activity and may require specific expertise.

• Consulting a qualified patent agent or attorney may be worthwhile if searchers find a reading of the patent claims to be a necessary part of determining the relevance of the patent document.
Preparing an innovation procurement

Before the procurement stage

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Open market consultation

Why it is important

- it **makes suppliers aware** of the public procurers’ needs;
- it helps **cross-check the procurer's analysis** of the prior art/IPR and standardization/regulatory environment;
- it **clarifies** whether the **desired solution** is already **available** or not;
- It clarifies whether the market is **able to deliver what’s needed**, in a timely and cost efficient manner;
- it helps the public purchaser to learn about the **risks and benefits** of the various technological solutions that are available on the market / are being developed;
- it helps choose the most suitable **procurement procedure and model** (e.g., in case the development of the innovative product requires R&D, the PCP model followed by PPI);
Open market consultation

*How to organize it*

Various methods to engage the market exist, including:

- market survey
- “meet the buyer” events
- industry days
- webinars or
- the organization of an industry platform.

A successful market consultation requires efficient time planning, effective resource allocation and broad coverage (stakeholder- and geographical wise).
Open market consultation

Specific issues to consider

- The identified needs must be communicated openly and clearly, by means of performance/output based specifications, to all potentially interested bidders.
- Specific technologies that the public procurers have become aware of should be mentioned by means of examples.
- The suppliers should be allowed sufficient time to respond.
- The invitation to participate in the market consultation has to specifically mention the desire for an innovative outcome.
- Compliance with the TFEU principles must be ensured at all times.
- Clear separation from the procurement itself.
Open market consultation  
*Outcome – 3 potential scenarios*

(i) in case the market consultation shows that there are solutions available on the market to meet procurers’ needs, **traditional procurement** could be employed;

(ii) in case the market consultation shows that there is no technology available on the market that meets procurers’ needs but that it seems possible that such technology will be available on a short-to medium-term should (a) the technology vendors become aware of these needs and (b) the public sector customers base is significant, in order to justify investments by the supply side for the development of this technology, **PPI / Forward Commitment Procurement** could be envisaged;

(iii) in case the market dialogue shows that there is no technology available on the market that meets procurers’ needs and that no such technology could be available on a short-to medium-term basis, due to the need to first conduct R&D to investigate available options, PCP could be contemplated. In this third case scenario, the **PCP could be followed by a PPI** aimed at the early adoption/large scale deployment of the new innovative solutions developed according to procurers’ needs.
Open market consultation

**Why it is important**

1. Improvements are needed but don’t require new and significant R&D (only integration, incremental adaptations and improvement, customization...), so authority can act as early adopter of innovative commercial end-solutions newly arriving on the market.

2. There isn’t any solution or the problem is so technologically demanding that a radical and breakthrough new solution and significant R&D is needed.
Open market consultation

Examples

HAPPI PROJECT (PPI)

The HAPPI project, adopted the following approach to the organization of the market consultation:

1st step – Create an online platform in order to collect information (by means of an online questionnaire) about the innovative solutions available on the market. The HAPPI online platform (DARS) was open for submission from end September 2013 until end January 2014 (http://www.happi-project.eu/happi-platform). Around 150 submissions from 14 different countries were received on the HAPPI Platform during these 4 months.

2nd step - Informed the European companies, and especially SMEs, about the project and the HAPPI platform. 4 INFODAYS were organized in 4 European Countries (UK, France, Italy and Austria) from September 2013, to December 2013. More than 400 delegates attended the meetings, most of which were SMEs.

3rd step – In February 2014, 3 Experts Committees were organized in 3 European cities (London, Turin and Paris). It was decided to create separate meetings in different countries in order to capture the country-related approaches, sensitivities and point of views. During the meetings each proposal received through the online platform was examined. Various end-users and experts attended the meetings (e.g. director of nursing home, gerontologist, biomedical engineer, innovation expert etc.).
Open market consultation

**Examples**

**HAPPI PROJECT (PPI)**

The following main questions were addressed:

- Is this product/service really innovative?
- Does it address the needs of the beneficiaries (elderly care organizations and hospitals)?
- Is this product a prototype or is it already available on the market?
- Does it comply with the healthy ageing thematic?
- Is it easy to roll out the product/service at a European scale?

The results of each Experts Committee were then reviewed during the Steering Committee #4 and the final list of solutions/procurement categories to be purchased and the procurement format (Number of call for tenders, allotment, procurement type...) were adopted.
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Drafting the business case

What is a business case?

A tool to support investment decisions before, during and after the project:

(i) **before the project**: to determine whether there are enough economic reasons to start the project;

(ii) **during the project**: to decide whether or not to proceed with changes to the project content, the environment, or the pattern of the project phases; and

(iii) **after the project**: to assess whether the results achieved meet the public procurer’s goals and, if needed, make adjustments accordingly.
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Conducting an Innovation Procurement

PCP
- PCP Communication; TFEU; State Aid Framework
- competitive development in phases
- risk-benefit sharing under market conditions
- a clear separation between the procurement of the R&D from the deployment of commercial volumes of end-products

PPI
- Procurement Directives; TFEU; State Aid Framework
- one competitive phase
- could have two stages (e.g., competitive dialogue or negotiated procedure)
- (large) deployment of commercial volumes of end-products
Conducting an Innovation Procurement

a) Drafting the tender documentation
   - Contract Notice – PIN (published in TED)
   - Request for tenders (Invitation To Tender/ Tender Regulation)
   - PPI procurement Contract / PCP Framework Agreement
   - (for PCP): Phase 1 Specific Contract

b) Conducting the procurement procedure
   - Publication of the contract notice
   - Selecting suppliers and awarding the FA / PC
   - (for PCP): The phased approach (from one phase to the other)
Conducting an Innovation Procurement

- **Description of the challenge and of the context of the procurement**
  - Technical specifications described in terms of outcome-based requirements’/ functional specifications

- **Description of the procurement process**
  - Number of phases & resource allocation (PCP)
  - Moving from one phase to the other (PCP)
  - Distribution of rights and obligations regarding IPR

- **Description of the legal, economic, financial and technical information** (e.g., monetary k value, payment info, language of proposals etc.)

- **The terms of presentation of the tenderers' offers and tendering requirements**
  - Exclusion, selection and award criteria
  - Allocation of the weightings based on the importance of the criteria
Conducting an Innovation Procurement

- Exclusion criteria (concerning the bidders)
- Selection criteria (concerning the bidders)
  - Suitability to perform the professional activity
  - Economic and financial standing of the bidder
  - Technical and professional ability

Helps procurers assess whether the bidders:
- Have previous experience on the type of contract tendered (e.g., R&D in case of PCP)
- Have qualified personnel to perform the contract
- Have access to required technical equipment
Award criteria (concerning the bid) – based on MEAT

- in addition to price, the award criteria could include, for example, quality, implementation and impact. To be more clear, in case of PCP the following criteria could be used:
  - **quality** could refer to:
    - the ability to address the challenge raised in the tender;
    - the novelty/innovativeness of the proposed solution approach (progress beyond-state-of-the-art);
    - the technological soundness of the solution concept;
  - **implementation** could refer to the quality and effectiveness/appropriateness of the proposed R&D work plan and resource allocation;
  - **impact** could refer to the added value for society/economy, the soundness of the commercialization plan etc.
Conducting an Innovation Procurement

PCP Framework agreement:

- Concluded with each successful bidder whose offer has been accepted against the selection and award criteria.
- Covers the terms and conditions that remain valid during all PCP phases and will not be renegotiated (Specific phase contracts will be issued for each phase of the PCP).
- Establishes the rights and obligations of the parties thereto (the public procurer and the winning bidders) in relation to the R&D services procured via the PCP.
- Shall contain information about the procurer(s), applicable law, IPR provisions, the future procedure for implementing the different phases (including the format of the intermediate evaluations after the solution design and prototype development phases), etc.
Thank you for your attention!

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