



# Pre-Commercial Procurement for Intelligent Transport Systems The P3ITS Handbook

A Guide for PCP Actors





P3ITS is a coordination action funded by the European Commission, DG Information Society and Media under the 7th Framework Programme for Research and Technological Development.


P3ITS launched a dialogue between procurement experts, innovation agencies and industrial experts from the Intelligent Transport Systems and Services (ITS) sector to understand how the wider use of Pre-Commercial Procurement could help enhance the market take-up of ITS innovations.

More information can be found at:  
**[www.P3ITS.eu](http://www.P3ITS.eu)**

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## Forewords from the European Commission and the Project Coordinator

For a decade, the European Commission has supported the development of Intelligent Transport Systems and Services (ITS) to make mobility in Europe safer, smarter and more sustainable. Although many successful projects have demonstrated that ground breaking technologies can achieve this goal, citizens still fail to see the benefits of ITS in their daily lives. Over the last few years, the European Commission has therefore been supporting the use of Pre-Commercial Procurement (PCP) as a tool to support innovation based on the needs of the public sector.

It is recognised that the public sector has a huge role to play in solving the mobility issues, and also that any public investment in the future will have to be carefully considered, as public buyers are facing the challenge of doing more with less.

More innovation for European citizens through an efficient and end-product oriented use of the public budget: this is what PCP is about. This is why the European Commission believes that PCP is a promising tool, and why we strongly support the P3ITS project.

### **Enjoy your reading!**

*European Commission,  
DG INFSO.*

It is a common belief and driver of the P3ITS consortium that Intelligent Transport Systems and Services (ITS) can help solve mobility issues, whilst being an innovative and growing sector where the competitiveness of European businesses creates growth and jobs. To support the uptake of ITS innovations, PCP is promoted by the European Commission as a new tool to bring more innovation into the public procurement process.

But as promising as it sounded, PCP was somehow ignored, widely underutilised and largely considered as too risky or complex to be used. Through its forum, its workshops and its written publications, P3ITS has tried to change this situation and spread the vision, reflections and experiences of those who believe that PCP should be considered as part of the solution for the deployment of ITS in the public sector. P3ITS also presents the difficulties or risks inherent in the use of new financial support mechanisms in an open and transparent manner.

This handbook has been designed to help you understand the underlying questions behind the use of Pre-Commercial Procurement for ITS. It should be considered as a detailed introduction to a PCP process.

In the name of the P3ITS consortium, I hope you will find this document useful and interesting to read, and we hope it will convince you that PCP is not out of your reach but that it is an opportunity ready to be used!

**Rasmus Lindholm**  
*P3ITS Project Coordinator,  
ERTICO – ITS Europe*

# Introduction

Mobility is a pillar of society, and it puts ever increasing requirements on public authorities to find appropriate answers to enhance mobility conditions whilst decreasing its harmful effects. This task is becoming increasingly complex, as mobility is developing as a multi-dimensional domain: multiple goals, multiple types of actors, multiple potential measures and multiple levels of barriers.

Pre-Commercial Procurement (PCP) is an approach that could help the public authorities answer these complex needs for mobility solutions, but some guidance is needed before it can be properly used.

The P3ITS Handbook will guide the reader through the necessary questions that the public authorities will have to answer before engaging in a PCP for Intelligent Transport Systems or Services. But first things first, here is an initial set of high level questions which will give an introduction to the topic:

## What is Pre-Commercial Procurement?

**Pre-Commercial Procurement is a method for public purchasers to finance the development of ground-breaking solutions to a problem, in view of future commercial procurement of large volumes of end products, when they have identified that the problem cannot be effectively and efficiently solved by a state-of-the-art solution.**

**PCP is based on the application of risk-benefit sharing according to market conditions: following the special exemptions of Article 16f of the 2004/18/EC Directive and Article 24e of the 2004/17/EC Directive (the “European Public Procurement Directives”), the R&D results coming out of a PCP cannot be reserved by the public purchaser.**

**PCP is a method which should ensure equal treatment, non-discrimination and transparency, based on a competitive development in phases, ensuring maximum competition, openness, fairness and pricing at market conditions.**

## Why would a public authority need Pre-Commercial Procurement?

Public authorities have several major roles to play in the deployment of innovative ITS, not least acting as an innovation demanding first buyer. A complex set of goals create different needs at different levels for public buyers, varying from the optimised use of a specific local network to the implementation of the pan European services mentioned in the EU’s ITS Directive. These needs often require a groundbreaking solution, i.e. something that is not currently available on the market. In this case, a traditional procurement mechanism is not enough, and PCP can be used to support the research and development of the new solution.

An analysis of the needs of several regions or countries possibly leading to the use of PCP in ITS has been performed by the P3ITS consortium in its WP1 Deliverable (available at [www.P3ITS.eu](http://www.P3ITS.eu))

### **Why would a supplier engage in PCP?**

Supporting their early effort towards innovative products and services as well as new market opportunities, the PCP process is positively received by industrial suppliers. The benefits for suppliers notably include:

- better preparation to address the future market through the early collaboration with the public authorities
- lower investment to generate new market opportunities, thanks to the financial support from the public side
- a positive emulation coming from the collaboration/competition with other suppliers
- a focus on the core tasks of R&D with the public side supporting the creation of a new market

### **What are the benefits of Pre-Commercial Procurement?**

For the public purchaser, PCP is a way to:

- make available on the market a groundbreaking solution adapted to a specific public need
- avoid an exclusive development of a new product or service, which is both costly and risky for the public side, and could lead to
  - market fragmentation
  - lower competition because of financial barriers
  - missed opportunities for more innovative solutions

### **What will this handbook help with?**

This handbook is designed to help the reader understand the challenges raised by the use of Pre-Commercial Procurement for ITS. It gathers the main steps of the preparation of PCP, and details the points that the public authorities will have to answer according to their objectives and their situation.

### **What this handbook is not**

This handbook is not a detailed legal handbook. It cannot replace the analysis that any public procurer will have to conduct before deciding to launch a PCP.

### **Who are P3ITS?**

P3ITS are a consortium of European companies and public authorities supporting the exchange of views and experiences on Pre-Commercial Procurement, in view of making it a well spread tool for the deployment of ITS.

### **The P3ITS consortium are:**

ERTICO - ITS Europe, POLIS, Ministry of Infrastructure and Environment  
– the Netherlands, North Denmark Region, Connekt – ITS Netherlands, AustriaTech, Mobiliteit en Openbare Werken  
– Flemish Government, Egis Mobilité, CDV - Centrum dopravného výzkumu, TTS Italia, ITS Bretagne, Evolving Systems Consulting.

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# How to use this handbook

## Who is it for?

This handbook is primarily targeted at public authorities looking for more practical guidelines before setting up a PCP process for Intelligent Transport Systems or Services. For reasons of simplicity, “you” in the handbook, will refer to the party, on the public side, who is leading the PCP process.

However, the handbook is designed to bring knowledge to all parties interested in the research and development of ITS products and services in Europe, as it is believed that PCP will grow as a more widely used way of including innovation in public procurement, involving all types of actors.

The authors of this handbook indeed believe that this document also responds to private suppliers’ needs, and hope that they will find this handbook useful.

## Structuring

The handbook describes a 5 step process to help setting up a PCP. Each step of the handbook is described in a similar way:

**Summary:** At the beginning of each step, a box containing a short summary will give an overview of the points that will be addressed in the step.

**Sub-step:** After the summary, the step is broken down into sub-steps which are more detailed. The sub-steps correspond directly to actions that should be carried out.

**Suggested method:** Where appropriate, the sub-step description includes a method that is suggested to carry out a specific action. The suggested method can also be a tip, e.g. a practical aspect to keep in mind before engaging in the action.



### Role of the actors:

The specific role that the parties play at the different stages of the PCP process are expressed in a nutshell, to provide a simple overview.



### Documentation required:

Basic documents that will be produced or used during each step.



**Risks:** Details a short list of the main risks at each step, to make sure they are not missed.

**Case study:** At the end of the step, a case study from a PCP case or programme will be described to provide an example of real implementation. As in all real cases, the solution described in this section can have benefits and drawbacks.

# Actors

To be successful, a PCP must ensure commitment from all parties. In this handbook, four key actors have been identified: three actors from the public side, the fourth actor being the innovation suppliers.

Convincing these four main actors to support and participate in the PCP process will be a cornerstone for success!



**The public side:** one party but different functional departments

**The public side**, which will initiate a PCP based on its needs, can be seen as a unique side composed of different departments (or indeed contracted external expertise on the client side), bringing complementary knowledge and levels of implications.

**The political level** is responsible to the citizens for the public actions, and will therefore define the general strategy, bear the ultimate responsibility and give support to the project.

**The public department** is the problem owner: it has needs based on a day-to-day operational experience of mobility issues, and will initiate the process of developing new solutions. It has the technical expertise, as well as the market knowledge.

## The legal and procurement experts

supply technical and procedural advice on legal questions to the public department.

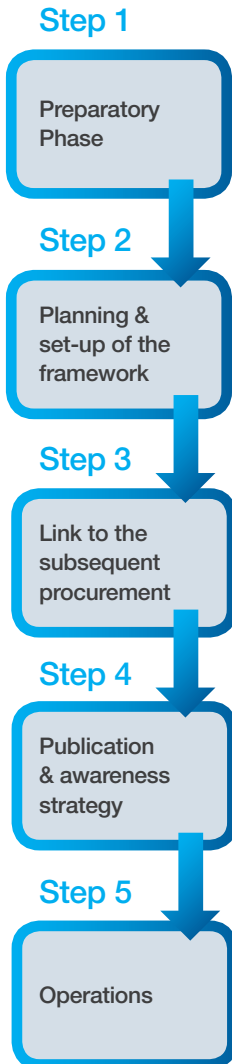
It is recommended that the project owner set up and chair a **PCP project board** composed of the three public actors. The board will be the core group for the process, responsible for taking the initial decision of launching a PCP, based on a broad innovation strategy. The board will allocate the tasks of setting-up and carrying out the PCP process to the different public actors and their representatives. The board will monitor the process and will take decisions at the different PCP steps and phases.

**The innovation suppliers** can be any industrial actor interested in the topic of the PCP. They may not necessarily be traditional members of the ITS sector, but can also come from sectors such as engineering, telecom, space, IT, etc., depending on the type of the project.



# The five steps to prepare a PCP process in the ITS domain

The process diagram below presents the five steps that the P3ITS consortium recommends following before setting up a PCP process. A detailed explanation of the five steps follows.



Although some of the public actors will not have a specific role during all steps, they will all be monitoring and supporting the process through their representation in the PCP project board.

# Step 1. Preparatory phase

**This step is targeted at defining the problems that can be solved through a PCP process. It should answer a specific need or set of needs and lead to the formulation of a set of goals. The complexity of innovation will be addressed during this step. During the preparatory phase, the public authority will make sure that, based on a state of the art analysis, they can identify at what level innovation is mostly needed.**

## 1.1 Identify the socio-economic needs and challenges

The political priorities defined by high-level decision makers will set out the public authorities' lines of actions. From these, you will identify the challenges that you need to take up in the sector of mobility and ITS.

Consider especially the EU ITS Directive, the EU ITS Action Plan and their national implementations, which will provide important challenges to be solved. Consider also any national ITS plans, policies or architectures that may exist or be under development in your country.

## 1.2 Identify the goals from the public demand side

In the framework of the high-level needs, the public sector should come up with specific needs as a first buyer. These needs may come from a bottom-up approach, i.e. a local authority identifies a product or service it wishes to offer to citizens, or be a top-down process, as with new regulation.

As a public buyer, you will identify the extent of the public needs and the extent of a realistic future public procurement.

## 1.3 Identify the innovation levels

Gather some experts and go through the goals to identify the appropriate level at which innovation is needed. The solutions developed at high level won't be the same as those developed at a lower level. However, defining the level should not lead to a limitation

of potential solutions. You should therefore avoid a pre-definition of the solution, which would greatly reduce the opportunity for new ideas to emerge.

Example of top innovation level: improve sustainable travelling; example of lower innovation level: Cooperative Systems road side units.

## 1.4 Identify the missing links or gaps in ITS systems

To enable the value chain that will answer the needs you have defined, you need to make sure that you identify any missing links or gaps in ITS systems or services. These gaps will be specifically targeted in the PCP process.

## 1.5 Analysis of the limits of available solutions and opportunities for innovations through a PCP

For the gaps or missing links you have spotted, perform a market study to see what product or service is already available that could answer your needs. Propose to launch a PCP process specifically to tackle gaps where it will have the highest impact.

Involve some suppliers if you also need their expertise.

## 1.6 Budget and resources

At this stage, you need to have an estimation of the budget that will be available for your PCP process. You also need to secure the resources you might need: staff, legal experts, industry experts.

## Role of the actors



### Role of the political level

The political level has to formulate and promote their strategies for transport and for innovation, including goals and objectives.

They also have to make sure that budget is allocated specifically to the support of innovation in the ITS sector through the use of Pre-Commercial Procurement.



### Role of the public department

The public department will be the key driver consolidating the needs and requirements coming from all levels, and matching them to the political goals and ambitions.

They will also have to find solutions to finalise a budget for a potential PCP, which means finding the resources to complement co-financing.



### Role of the legal and procurement experts

The legal experts will provide information on the different mechanisms available to support innovation. They have to highlight the benefits and limits of the different tools. They explain what is feasible according to the objectives. If they are not familiar with PCP, they will have to study the principles of PCP and legal foundation for PCP to make it one of their available tools.



### Documentation required

- Expression of the political ambition and the societal challenges
- Needs of the public demand side
- Market study or identification of the technological gaps (e.g. strategic research agenda, system deployment roadmaps, etc.)
- Budget allocation for the procurement of innovation



### Risks

**Over-definition of the solution:** don't come with a solution in mind, leave room for new inventions

**Wrong level of innovation:** avoid selecting a high-level solution for a specific low level need, or vice-versa

**Using PCP when inappropriate:** PCP is very promising but might not answer all your needs. Consider all types of support measures before taking your final decision, including the traditional procurement procedure which could be more appropriate

## **CASE STUDY:**

### **The procurement of innovation in Flanders (Belgium)**

In 2008, on the basis of recommendations from the Flemish Innovation Agency (IWT), the Flemish government approved an Action Plan on Procurement of Innovation.

The plan focused on procurement where pre-commercial R&D is necessary and IWT was given the mandate to test such procurement in a pilot scheme, with projects running from 2010-2014.

Two main components of the model are the set-up of a Master Plan and of an Innovation Platform:

The Master Plan is formulated by the different policy domains and is political in nature. It analyses a specific socio-economic challenge or operation of a public service and determines a vision or future goals to be reached in the area. Based on this Master Plan vision, the opportunities for innovation are defined by detecting the limits of the actual solutions available on the market. The Master Plan forms the input for the innovation platform.

The objective of the Innovation Platform is to consult the market and develop a technical dialogue between the procurer, knowledge centres and companies. The aim of the Innovation Platform is to cross-check the degree of innovativeness of the procurer's purchasing needs (as formulated in the Master Plan) against the state-of-the-art technology available. The expected outcome of the innovation platform is a refined and more technical Master Plan and a decision on which mix of policy instruments is best suited for achieving the outcome foreseen in the Master Plan. Policy instruments could include procurement, launching basic research initiatives at research institutes, starting industrial R&D with or without grants, starting standardisation activities or launching new governmental fiscal, regulatory, education/training or equity support measures. This will result in a decision regarding choice of procedure; whether it is going to be pre-commercial procedure or just a commercial procedure.

**You have defined your needs; you know what you want to achieve at the end of the process.**

**The next step will help you detail the set-up of the process which will help you achieve your objectives...**



# Step 2. Planning and set-up of the framework

This step will focus on the details of your PCP procedure. Now that you have identified your goals and your needs, you want to establish all the details of the phases that will comprise the PCP process.

Throughout the PCP process, your main driver will be to identify the most innovative and promising solutions and bring them along as far as possible in the development of their product. Throughout the process, the main principles of equal treatment, transparency and non-discrimination should be ensured. These considerations should therefore be kept in mind as the process is set-up.

## 2.1 Specify the general requirements

From the PCP process, you expect a ground-breaking innovation. It may come from a field of activity you may not have expected. To make sure this can happen, you will use as few requirements as possible. However, it might be beneficial to require that the PCP participants develop interoperable solutions, e.g. in the case of transnational PCP. This is a way to minimise the risk for the public department, and it will enhance the competition and the opportunities for the use of the solutions at a later stage for the commercial tender. Similarly, you could consider a requirement for compliance with certain European standards to be relevant.

Your national/regional situation may require additional general requirements. In the ITS sector, you should also consider whether the use of a specific ITS architecture or a way to handle privacy issues are appropriate to become requirements.

The EC recommends using functional specifications to formulate the object of the PCP tender to avoid prescribing a specific solution.

## 2.2 Design the competition phases

The PCP process is built on R&D tasks performed by several suppliers during one or more competitive phases. After each phase, the different parallel projects are evaluated against criteria, and only the best ones may advance to the following phase. The scope of each phase depends highly on the product or service expected at the end of the process. You will adapt the number and the scope of your phases according to your objectives.

Based on its experience, P3ITS suggests applying three phases to ITS PCP processes:

Phase 1: Feasibility study

Phase 2: Product development

Phase 3: Field testing or piloting

## 2.3 Define the evaluation and award criteria

### Define the selection criteria for participating in the PCP

You will define the criteria for suppliers to enter in the PCP process. The selection criteria might be based on experience of the bidders (e.g. in the development of solutions similar to the PCP object or with R&D in general in certain technical field) or based on a call for initial ideas or solutions, or on a combination of both.

### **Define the award criteria for each phase**

An evaluation and award process will take place at the end of each phase of the PCP. The evaluation will be performed against given criteria, which you will have to define in advance to ensure the transparency of the process. The criteria can be different for each phase.

Criteria can encompass: price, degree of innovation, technological quality, added value for society, economic perspective ...

### **Select your evaluation committee**

This will be composed according to the topic of your PCP process. You may want to use the same type of committees you usually use for commercial procurement, but make sure that the members of the evaluation committee have the skills required to assess early stage product development as well as the innovation process.

Keep in mind that the evaluators will gain very valuable experience on a product or a service from the PCP process. You may want to keep them for a subsequent commercial tender.

### **Define the number of projects through each phase**

You will decide how many projects you wish to accept in each of the phases. The number of projects should be chosen to create true and fair competition during the PCP process, but also to improve future market conditions.

The PCP pilot Programme from Eszak-Alföld Region (Hungary) advises:

Phase 1: Minimum 4 projects

Phase 2: Minimum 3 projects

Phase 3: Minimum 2 projects

## **2.4 Define the time plan and the detailed budget**

According to the scope of the different phases, you will specify their duration, as well as the maximum budget that can be allocated to each of the participants for the tasks performed during each phase.

Time and budget depends on the product or service. An estimate from the Dutch SBIR programme:

Feasibility study: 6 months and €50 000 per project

Research phase: 2 years and €500 000 per project

## **2.5 Decide on the contract details**

### **Share the IPR**

You will decide how much of the IPR will remain with the suppliers. For your process to be legally valid, it is mandatory to share the IPR at market terms. You should therefore find the appropriate balance.

Remember that IPR sharing will reduce the remuneration of participating suppliers and the costs of maintaining the IPR. Also, sharing IPR will often be a crucial prerequisite for the suppliers to participate as this paves the way for using the supplier's investment on a broad commercial basis.

### **Request a right of use**

A method to ensure that you are handling the IPR under market conditions could be to request licensing rights.

For example: a royalty-free right for the authorities to use the IPR in future commercial tenders combined with an obligation for the PCP suppliers to grant non-exclusive licenses to third parties on fair and reasonable conditions without rights to sub-license.

## Role of the actors



### Role of the public department

The public department will provide its sectoral expertise to make sure that the PCP framework is appropriate for the identified needs.



### Role of the legal and procurement experts

The legal and procurement experts will perform the appropriate legal analysis and define procedures to ensure that every step of the PCP process strictly follows the law. They will make sure that all risks are minimised.





## Documentation required

- Contract Notice
- General Conditions for PCP procedure and competition, containing (inter alia): Description of Procuring Authority, general description of PCP, scope of PCP, road map for selection and award (including a precise description of selection criteria for PCP contract awards and award criteria for each phase), time-frame, technical specifications/general requirements, minimum requirements (selection and/or technical)
- Any necessary supplements to the General Conditions or Contract, e.g. business case, pilot study reports, etc.
- Draft contract governing all phases in the PCP (inter alia): scope, pricing, remuneration, IPR sharing (back- and foreground IPR), confidentiality, IPR licensing (on fair and reasonable conditions), and call-back provisions on IPR, liability limitation, disputes and applicable law
- If the procuring authority is a consortium (two or more public bodies, or multi-national cooperation) the consortium needs to draw up a Consortium Agreement, governing at least:
  - Decision making during evaluation of phases, project committee
  - Common frames of award criteria during evaluation of phases
  - Cost allocation
  - Internal allocation of IPR and/or licensing expenses after the PCP
  - Applicable law governing the Consortium Agreement



## Risks

**State aid:** ensure the sharing of risks and benefits according to market terms to avoid the risk of state aid.

**Failure of procurers' commitment:** make sure that the procurers involved are committed and secure the support of high level authorities

**Process not appropriate for SMEs:** make sure that the time, cost and administrative part do not prevent SMEs from participating in the PCP, because they could bring a high innovation potential

**Low budget:** make sure that the budget available is sufficient for a PCP process with multiple R&D phases. Consider operating with target prices



## **CASE STUDY:** **The Small Business Research Initiative (UK)**

The Small Business Research Initiative was launched in the UK in 2009 and is led by the Technology Strategy Board, which assists different governmental departments that may wish to procure research and development services through the SBRI programme. The Initiative is targeted at SMEs (though not exclusively) and aims to bring innovative solutions to specific public sector needs, by engaging a broad range of companies in competitions for ideas that result in short-term development contracts between the company and a government department. The initial feasibility phase is limited to six month duration with a maximum contract of £100 000, with the most promising companies awarded a second (development) phase contract of up to 2 years and £1 million. While the SBRI programme does not follow all recommendations made by the

European Commission regarding PCP (for example participating companies do not remunerate the contracting authority for IPR or share risks with the contracting authority) it does respect EU principles such as non-discrimination and transparency.

By early 2011, 28 eight calls had been published, resulting in more than one thousand applications with contracts awarded to 283 different suppliers, 90 of which have continued and have been awarded contracts in phase two. The total value of all contracts awarded in both phases has already reached £24 million and the budget was increased to £35 million in the fiscal year of 2010-2011.

**You now have your detailed PCP project. The next step will bring you a couple of years into the future to help you plan the subsequent commercial procurement. Why do it so early? To make sure that your PCP process will not have negative legal implications on your commercial procurement...**



# Step 3. Link to the subsequent procurement

Procurements carried out in accordance with the exemption in Article 16f (Directive 2004/18/EC) or Article 24e (Directive 2004/17/EC) cannot include a subsequent procurement on a commercial basis. Therefore, to be legally acceptable, your PCP and the subsequent commercial tender will have to be fully separated. However, on both the side of the public procurer and of the suppliers, it is very likely that the actors will remain the same, not to mention that the object of the two processes will be similar. To make sure that this apparent contradiction (two separated processes involving potentially the same actors on the same object) doesn't infringe public procurement law, you will have to consider certain aspects which are detailed in this step.

## 3.1 Establish your strategy for the subsequent tender

From step 1, you know whether the purpose of your PCP is to procure the developed products/services after the PCP. If that is the case, you should specify (e.g. in your business case) the details of such purposes following commercial procurement. You should establish a budget and a time plan, as well as a contracting authority (if different from the one leading the PCP). All this is common procurement routine, but it needs to be given some thought before you launch your PCP.

Bear in mind that you're expecting an unknown and undefined product/service from your PCP process, therefore you will not be able to write the technical specifications of your commercial tender before the end of the PCP. You will have to take that reality into account whilst writing the scope of your PCP.

## 3.2 Ensure that you avoid discrimination

Discrimination will happen if your commercial tender is not equally open to suppliers that haven't participated in the PCP process. Take the necessary measures to avoid this possibility.

A solution chosen to address this point could be to simultaneously publish the details of both PCP and commercial

procurement. The information regarding the commercial tender is therefore equally available for all potential suppliers.

## 3.3 Ensure that you avoid supplier exclusion

Supplier exclusion will often be the result if the participants in the PCP process have an unfair advantage over potential bidders who haven't participated in the PCP process. If such unfair advantage is deemed to be present, the PCP suppliers may have to be excluded from participating in the commercial tender. You should take the necessary measures to avoid this situation. According to European Court of Justice case law the burden of proof that supplier exclusion doesn't apply rests upon the procuring authority.

You should make sure that the commercial tender doesn't refer to information or technical details only available to the PCP participants. One way to prevent supplier exclusion is to make all relevant information developed during the PCP available for the bidders in the later commercial tender, e.g. descriptions of the IPR developed.

Another way of minimising the risk of supplier exclusion is to draft the technical specifications through functional specifications.

## Role of the actors



### Role of the political level

Decision makers should refrain from commenting on the PCP process at this stage to avoid any risk of interference with the neutral process of designing the tender.



### Role of the public department

The public department will formulate the expected outcome of the PCP and of the subsequent tender. It should consider how to implement the technical specifications from the PCP into the later technical specifications of the commercial tender, including the format and layout of IPR (foreground) developed during the PCP. The question of their publication to potential bidders should be answered.



### Role of the legal and procurement experts

The procurers will make sure that the strategy for the PCP and the commercial procurement are legally sound. They will especially ensure that supplier exclusion and discrimination are avoided and that the pre-decided documentation for the commercial procurement is produced during the PCP procedure.



### Documentation required

- Scope or technical specifications of the product or solution to be developed under the PCP (to be included in the General Conditions or business case of the PCP)
- Explanatory note of the award criteria for the PCP and for the commercial tender if they are applicable to both. If they are not (or only partially), the note should explain how the PCP criteria should also potentially lead to an economically advantageous commercial solution, i.e. that the criteria for the PCP and for the commercial procurement are in line with each other.
- Report on the information collected during the PCP process which should be published for the commercial tender, e.g. test results, test facility specifications, documentation, etc



### Risks

**Illegal public procurement:** the use of PCP should not bring extra risks to the commercial procurement

**Supplier exclusion:** make sure that the suppliers who perform and deliver during the PCP phase will be allowed to participate in the commercial tender

**Two phases to get where you want to be:** ensure that the results of the R&D tasks performed during the PCP can and will be used in the commercial tender

## CASE STUDY:

EU Framework Programme 7,  
ICT Work Programme 2011-12,  
call 8 for PCP

The following requirements (extract) are applicable to PCP calls for tender launched under actions requiring PCP to ensure that the conditions for the Article 16f/24e exemption of the public procurement directives are respected, that the risk-benefit sharing in PCP takes place according to market conditions and that the Treaty principles are fully respected throughout the PCP process, in particular the fundamental Treaty principles on the free movement of goods, the free movement of workers, the freedom to provide services, the freedom of establishment and the free movement of capital, as well as the principles derived therein, such as the principles of non-discrimination, transparency and equal treatment:

**You have now a well defined PCP process, linked to a future commercial procurement. You have minimised the risks, so the next step is to publish your PCP and meet a challenging new objective: get suppliers to participate into your PCP, a type of competition they might not be so familiar with!**

- The consortium of public purchasers should verify that the topic proposed for the joint PCP call for tender would fit the scope of an R&D services contract.
- The practical set-up foreseen for the PCP shall be clearly announced in the PCP contract notice. This shall include the intention to select multiple companies to start the pre-commercial procurement in parallel, as well as the number of phases and the expected duration of each phase.
- Functional specifications shall be used in order to formulate the object of the PCP tender as a problem to be solved without prescribing a specific solution approach to be followed.



# Step 4. Publication and awareness strategy

Once you have achieved the first three steps, you will be able to publish your tender. But the publication will not be enough. Your main interest is to get as many bids as possible, and you need to have a broad outreach to make sure that all kind of solutions for your problem are envisaged. You will therefore make sure that you have a strategy to reach different sectors. You should also advertise that it is very beneficial for suppliers to participate in your PCP. To that end, you will highlight the benefits that the PCP participants will receive, no matter how far they go in the process. For all participants, explain that the PCP will lead them towards a new market.

## 4.1 Consider making a business case for potential suppliers

At first, the suppliers may feel unsure that the PCP process is beneficial for them. You will put them in competition to develop a product, which they are not sure they will sell eventually. You will therefore need to develop a business case, including the forecasted market development, some other potential buyers, or sources of profit.

Make sure that your business case is positive for all participants and at all phases. The PCP process is also an opportunity for you to increase the competitiveness of the companies you are working with.

## 4.2 Describe your support means for product take up

One of your main objectives is to enhance the market conditions for the wide adoption of innovations. Therefore, you may take measures that will help the winners of the PCP process to commercialise their new product or service, and not only through the subsequent tender.

Support means can be as simple as a commitment to generate some publicity for the winning companies. This is the method that the Dutch SBIR programme is using. You may want to link this part to the relevant innovation agency.

## 4.3 Publish your tender

You should consult your legal expert to find the appropriate method for this point. EU-wide tender: is it mandatory? Is it necessary? Bear in mind that it is not only about the choice between a foreign and a local company, but it is also about the potential of innovation behind an EU-wide tender versus a regional/national tender.

Both national and EU tenders have been used in PCP programmes so far. The UK SBRI programme is using a national call for tender, whereas the Flemish Region (Belgium) Pol programme is using EU tenders. The European Commission is in favour of EU tenders, but the current European legislation does not specify this point.

## 4.4 Advertise your tender

Once you have published your tender and setup the support means and documents, find a way to advertise it in the most effective way. The success of your PCP process will mainly depend on the innovation resulting from the participation of new players, small businesses, in competition with experienced companies.

A dedicated website grouping all this information (and not only the legal tender publication) is a must. You can refer to the websites set up by the Dutch SBIR ([www.senternovem.nl/sbir](http://www.senternovem.nl/sbir)) or UK SBRI programmes ([www.innovateuk.org/sbri](http://www.innovateuk.org/sbri)).

## Role of the actors



### Role of the political level

Decision makers, due to their high degree of public exposure, can efficiently contribute to advertising the tender by referring to it in their public communication on their transport strategy and innovation policy. This would contribute to reaching out to new players and businesses.



### Role of the public department

The public department will be responsible for the development of the tender documentation, business plan and communication plan.

They will make sure that all relevant information is available on a website, as well as on the relevant database (e.g. TED).



### Role of the legal and procurement experts

The legal experts will verify that all published documents are consistent and in line with the planned procedures and the legislation.



### Role of the suppliers

Once the requirements of the procurer are known, the supplier would need to decide at an early stage whether or not it is potentially capable of developing a solution (or contributing towards one, as part of a group involving other companies – in which case a consortium-building process is needed).

The commercial case for proceeding with the PCP (Go/No go) can depend on the likely market to be developed and possible competition. Therefore an internal business case/market analysis is needed, in conjunction with any business case provided by the contracting authority.



### Documentation required

- Business case for the potential solution coming out of the PCP process
- Portfolio of support measures for business start-up
- Official publication of the tender, translation if relevant
- Communication plan



### Risks

**The PCP is not attractive for the suppliers:** ensure an attractive business model

**The market opportunities are not clear:** issue a proper business case

**The publication of the tender is not appropriate:** according to your need, open your tender to receive as many new ideas as possible

## CASE STUDY:

### (Various examples)

In the Netherlands, the SBIR programme is publishing its calls on the SBIR website, through press releases and by emails sent to possible interested parties. [www.senternovem.nl/sbir](http://www.senternovem.nl/sbir)

For a PCP pilot in Poland, the Kujawsko-Pomorski region planned to advertise their call in professional ICT-related magazines, on several internet portals and in national newspapers.

In the UK, it is the Technology Strategy Board that is responsible for the publication of the call and the business outreach. [www.innovateuk.org/sbri](http://www.innovateuk.org/sbri)

Several pilot projects planned a Europe-wide publication of their PCP, and published their Prior Information Notice on the Official Journal of the European Union and the related TED (Tenders Electronic Daily) website ([ted.europa.eu](http://ted.europa.eu)). The Movele project, addressing the need of three Spanish cities for Electric Vehicles charging points, combined the use of TED with advertisements on mass media and websites, and organised a seminar to meet potential suppliers.

**With the publication of the tender, the process has been officially launched. The next step will focus on the operation of the PCP; that is when the actual R&D process will begin.**



# Step 5. PCP operations

**Now that you have specified all the aspects of your PCP, you can proceed. In this step, the actual process is started. You should make sure that you have engaged all the necessary and appropriate means and resources to carry out all tasks properly. You should make sure that the process of the PCP is clear for all actors, including your own staff, and of course the suppliers.**

## 5.1 Prepare for the arrival of the applications

As for any procurement routine, you should establish a procedure to receive the applications and make sure that it is appropriate to the PCP process.

## 5.2 Organise the evaluation

You should make sure that your evaluation committee has been properly trained and informed to understand the specific stakes implied by a PCP process.

The evaluation may need specific resources other than a paper-file evaluation (e.g. physical demonstration, proof of concept, negotiations, testing infrastructure, etc.).

## 5.3 Award the contract

Once the participating suppliers have been selected to participate in the PCP, you will award them the PCP contract being a part of the General Conditions for the PCP procedure.

Remember that your PCP evaluation and award procedure can contain one or more negotiation phases (if published in the call for tenders). You don't need to award the contracts purely on the basis of the written applications/tenders. However, the negotiations must not result in altering the fundamental principles of the PCP contract, e.g. conditions on IPR sharing and phase divided evaluations.

Make sure that the main principles of the PCP contract (risk and benefit sharing) are known and understood by the suppliers, in order to make the negotiation phase as smooth as possible. In order for your PCP process to be efficient, you should aim to reduce as much as possible the buffer time between the operating phases.

## 5.4 Manage your phases

You should closely follow the development phases of your PCP process to ensure that the time plan and budget is respected. You should decide whether and how you want to enable a procedure permitting some dialogue between the suppliers and the procurers, e.g. for the question of interoperability between the different solutions.

Remember: You are not allowed to alter the award criteria for each phase during the PCP as this would violate the principle of transparency.

## 5.5 Train your staff on the product/service

The development phases will be an opportunity for you to involve the members of your staff who will be potentially involved in the commercial tender, and eventually, at a later stage, in the operation of the product or service. Involving them in the monitoring of the development phases will give them a better understanding of the product, hence a more professional opinion for the tender evaluation, and an easy adaptation to the operation of the product once it is up and running.



## Role of the actors



### Role of the public department

The public department will be the project leader for the operations of the PCP. They will manage all phases according to the procedures. They will closely follow the development process, be in charge of communication with the suppliers, and involve the staff who are directly concerned by the future product. They are in charge of the evaluation, and as such will make available the relevant infrastructure and testing environment, especially for phase 3. They will process the payments.



### Documentation required

- Vademecum of the process targeted both at the project staff and at the suppliers
- Evaluation templates for each phase



### Role of the legal and procurement experts

The legal experts will make sure that all procedures established during the preparatory phase are strictly respected. They will supervise the contract awarding process and the awarding process during each phase of the PCP.



### Risks

**Failure to comply with time and budget constraints:** make sure you stick to the plan

**Evaluation of innovation does not spot the most promising ideas:** train the evaluators on the assessment of potential innovation

**Suppliers fail to provide a successful solution:** ensure a diversity of suppliers to minimise the risk of unsuccessful development

**Suppliers disagree with decisions:** refer to the contract and the section on the management of disputes



### Role of the suppliers

Bidding for the different stages of the PCP contract. Given the pre-commercial nature, emphasis would need to be on innovative solutions to meet the project goals. Undertaking the development work according to the contract (if selected). IPRs should be shared with the public contracting authority in the best possible and transparent manner, hence making the quality of actual R&D work transparent to the contracting authority and hence again, improving the supplier's chance to win.

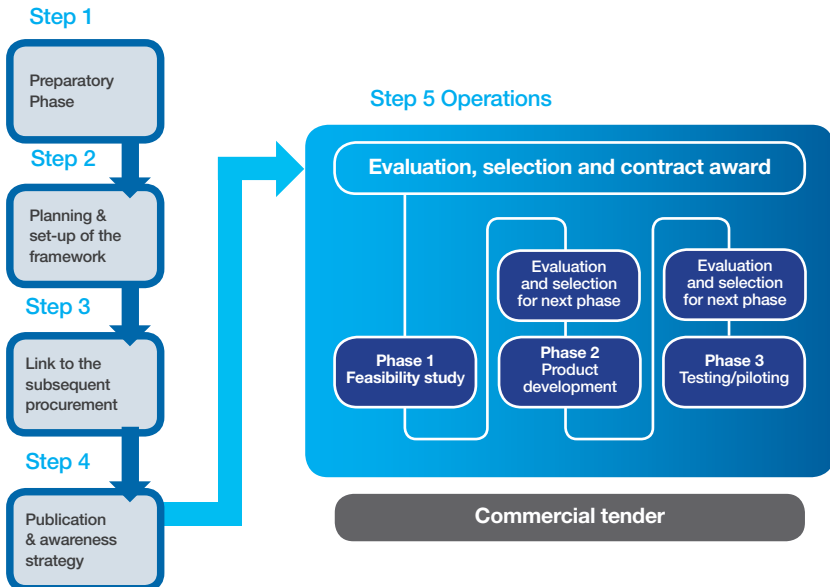
## CASE STUDY: PCP in the Netherlands: The Digital Dyke case

Facing unexpected dyke problems, the Dutch Ministry of Economic Affairs started in 2003 to experiment with Pre-Commercial Procurement programme. In 2007, the Ministry of Transport and Water Management invited, in a tender, “companies to submit proposals for feasibility studies on new monitoring techniques for dyke and dam management and for early warning systems on weak spots, in order to prevent damage to dykes and dams and thus to prevent disasters.” Within 8

weeks, 21 proposals were received, 15 coming from SMEs, including 5 start-ups. An expert committee ranked the proposals and advised the Ministry of Water Management. 5 companies were awarded to do a feasibility study. Out of these 5 feasibility studies, 3 projects looked very promising, and 2 were selected for prototype developments. To lower the risks, the development was followed very closely by the public authorities, including the field operating staff, the “problem owners”, and visits were organised 2-3 times a year.

### Proposed chronological process for the PCP operation

The following diagram pictures the work flow as it will happen during the operation of the PCP.



# PCP through a national or regional programme?

**Up to now, the most successful procurement of innovation took place through the SBRI and SBIR programmes, which are based on the American SBIR programme but still very similar to PCP and respect all European laws. The UK and the Netherlands have been able to demystify the procedure and make it usable for all procurers.**

Other European countries are following the good example and starting up programmes on their own, which are now true to the European Commission's recommendations for PCP. Experiences and recommendations from these programmes are not yet available as the programmes have only just started in 2010.

On the other hand, P3ITS has not been aware of any single procurers exploiting PCP, though many have shown an interest in the method. When procurers are on their own they tend to choose known and tested procedures. It is therefore difficult to collect lessons learned or to formulate guidelines with regards to this specific case, as no real feedback on experiences is available.

In that sense, a national or regional programme can be understood as a structure able to identify the proper needs of public purchasers, and support them throughout the process of running a PCP, as it requires specific skills and experiences that single procurers may not have. However, P3ITS does not believe that national or regional programmes should be set up just for limited areas or topics such as transport or ITS, but instead that they could apply PCP in a broader way, according to regional or national priorities.

The recommendations from P3ITS are thus for national or regional administrations (according to the usual practice for innovation in each EU Member States) to launch PCP programmes as part of their

general support for research, development and innovation. This would, during the first years until the PCP concept is more thoroughly mastered, encourage public authorities to use PCP and provide assistance when needed. The legal issues would thereby be settled centrally which would take away much of the uncertainty of using the procedure, e.g. with regards to the consideration of the subsequent commercial tender. Such an organisation could also be able to act as a helpdesk, and provide specific guidelines, which could further contribute to the objective of raising awareness of PCP.



# Multi-national PCP

**Many European countries, regions or cities face the same issues and share the same needs, such as avoiding traffic congestion or enabling access to real-time traffic information. Moreover, with huge volumes of goods and people crossing borders every day, and challenges such as lowering CO<sub>2</sub> emissions and combating global warming that need to be tackled at a transnational level, transportation and mobility in Europe is strongly affected by cross-border questions.**

The question of putting in common the needs, the expertise and the budget of public buyers to develop a more innovative product is strongly recommended by the European Commission, which published in the ICT Work Programme 2011 different calls for proposals setting up transnational PCP projects, involving at least three independent public bodies from three different countries.

When talking about a joint procurement that tackles a common need in different countries, EU funding is needed in order to overcome legal and organisational challenges. It is hard to imagine two or three countries investing national funding into a procurement process that could award a contract to a supplier coming from non-involved country. This scenario might, in the real world, dissuade countries from participating in multi-national pre-commercial procurement.

P3ITS considers that the use of multi-national PCP is of high relevance, but P3ITS has also identified a number of limits which should be additionally considered compared to a normal PCP process set-up:

- Mutual agreement on the technical solution(s) to be developed and a mutual agreement on what is considered to be the “best solution” – award criteria, the cost allocation, the applicable law, etc.
- Setting up a European consortium as a procuring authority for a PCP, the members of the consortium should make sure they have disclosed all relevant documents for a successful international cooperation, such as national legislation, national political decision making processes, national technical standards, potential parallel national projects, etc.

As an alternative, a multi-national PCP could be handled by setting the same requirements, but running the procurement in parallel in each country. The common standards and framework or the shared requirements would be defined among the different countries involved before the PCP would even start. After that, each country would be in charge of implementing the process independently. This would ease the legal aspect.

- The procuring authority: in the case of a trans-national PCP, a consortium of procuring authorities would be created. This potentially involves a more complex preparation process, as several internal technical and legal issues should be solved before the actual PCP tender documentation can be prepared.

# Conclusion

**Now that you have gone through the five steps of the handbook and all points and questions raised have been answered, you should be better prepared to launch a PCP process for ITS.**

**You have, in turn,**

- 1.** identified your need as a problem that you want to address and recognised that the market was not able to supply a solution to your problem
- 2.** planned your PCP framework, the different phases, the criteria and contract, the budget and time plan of your process
- 3.** secured the post-PCP phase, through the establishment of a strategy towards the subsequent purchase of large volumes, to make sure that your PCP process will not harm the legal conformity of the commercial procurement
- 4.** prepared the publication of your tender and its advertisement, to ensure that many potential suppliers from different lines of business will be interested in participating and bringing ground-breaking ideas
- 5.** planned the operations of your PCP process, making sure that all procedures and the legal framework will be respected, and that the early involvement of the “problem owners” will enhance the potential for new ideas

These questions that you have answered will help you convince both private and public partners to get involved in a PCP process, as a procuring authority or a supplier, which can be a challenge. To make this task easier, you may become involved in a national or regional programme, or the relevant innovation agency, which could provide the initial momentum needed. For specific needs and opportunities, you will also consider working with partners from another country to engage in a multi-national or multilateral PCP, bearing in mind the specific issues implied in such projects.



# Indicative list of documentation required

## Step 1:

- Expression of the political ambition and the societal challenges
- Needs of the public demand side
- Market study or identification of the technological gaps
- Budget allocation for the procurement of innovation

## Step 2:

- Contract Notice
- General Conditions for PCP procedure and competition + any necessary supplements to the General Conditions or Contract
- Draft contract governing all phases in the PCP
- Consortium agreement (if the procuring authority is a consortium)

## Step 3:

- Scope or technical specifications of the product or solution to be developed under the PCP
- Explanatory note of the award criteria for the PCP and for the commercial tender
- Report on the information collected during the PCP process which should be published for the commercial tender

## Step 4:

- Business case for the potential solution coming out of the PCP process
- Portfolio of support measures for business start-up
- Official publication of the tender, translation if relevant
- Communication plan

## Step 5:

- Vademecum of the process targeted both at the project staff and at the suppliers
- Evaluation templates for each phase

## Glossary

**EC:** European Commission

**FP7:** European Commission's seventh Framework Programme for research and technological development

**ICT:** Information and Communication Technologies

**IPR:** Intellectual Property Rights

**ITS:** Intelligent Transport Systems and Services

**P3ITS:** Pre-Commercial Procurement for Intelligent Transport Systems and Services.

**PCP:** Pre-Commercial Procurement

**PoI:** Procurement of Innovation, Flanders Region (Belgium) Innovation Programme led by the Flemish Innovation Agency (IWT), <http://www.innovatiefaanbesteden.be/>

**R&D:** Research and Development

**SBIR:** Small Business Innovation Research Programme, Dutch Pre-Commercial Procurement programme led by the NL Agency (Ministry of Economic Affairs, Agriculture and Innovation) running, [http://www.senternovem.nl/english/products\\_services/encouraging\\_innovation/small\\_business\\_innovation\\_research\\_sbir\\_programme.asp](http://www.senternovem.nl/english/products_services/encouraging_innovation/small_business_innovation_research_sbir_programme.asp)

**SBRI:** Small Business Research Initiative, UK Pre-Commercial Procurement programme led by the Technology Strategy Board

<http://www.innovateuk.org/SBRI>

**SME:** Small and Medium Enterprises

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