This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 963648.

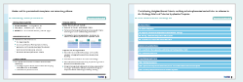
procuRE Pitch Deck v2

Last update: 22.09.2021

Some detail may be subject to change due to input received during Open Market Consultation etc.
The final and only relevant document will be the request for tender expected for October 2021.

Pre-commercial Procurement of Breakthrough Solutions for 100% Renewable Energy Supply in Buildings

Core Updates and Additions (click on images for detail)

- First detail on expected output in proposal and project 
- First detail on proposal structure and award 
- Announcement of Match-Making Events and Info-Days 
- FAQ released 
- Decision to take 6 suppliers in Phase I 
- Decision to take 2 suppliers in Phase III (each supplying three allocated buildings) 
- Description on EU-exposure of solution to be expected 
- Numerous minor updates and corrections

Agenda

Around 90% of existing non-residential buildings[1] will be in operation in 2050 with no clear path on how to achieve nearly zero standard in these buildings

The problem

MACRO-LEVEL

Buildings account for 40% of energy consumption and 36% of energy-related GHG emissions

Renovation rate are at 0.4-1.2% per year and upgrades usually limited to some improvements

Workforce is constrained and probably insufficient

PROCURER-LEVEL – EVEN IF WE AIM FOR HIGH-STANDARDS, WE FACE

Highly fragmented sector often siloed in national markets

Very large number of technologies, for which expertise cannot be expected from procurers

Investors perceive high complexity of systems as higher risk and therefore prefer less ambitious solutions

[1] The figure for residential buildings is estimated at 80% by JRC (2021)

procuRE tackles one of the major challenges of buildings and contributes to the target of decarbonising the EU building stock by 2050

procuRE link to EU-policy

Renovation Wave - the European Green Deal

Solve the challenge of existing public buildings

Public sector with large buildings stocks as viable option to create demand

1. Renovate 35 million inefficient buildings by 2030
2. Reduce emissions by at least 55% in 2030
3. Build the foundations for a climate neutral Europe by 2050
4. Promote sustainable design […]

Joint procurement in form of a pre-commercial procurement (PCP) to drive innovation

Barcelona, Spain

Eilat, Israel

Istanbul, Turkey

Nuremberg, Germany

Velenje, Slovenia

Vila Nova de Gaia (Porto), Portugal

6 Procurers - 6 Countries
responsible for 21,000 Buildings

1 Challenge: eliminating off-site supply in existing buildings

€7.68 mio. for external R&D services

Budget spent in 3 phase competition

3 Schools - 3 Offices

PCPs create incentives in domains where mature solutions are missing and reduce risks for both procurers and suppliers to innovate

Core features of Pre-Commercial Procurement (PCPs)

WHAT IS A PRE-COMMERCIAL PROCUREMENT (PCP)?		WHAT ARE THE BENEFITS FOR SUPPLIERS?
Instrument for public procurement of R&D services		**Create opportunities for companies** to gain leadership in new markets
Public procurers act as demanding customers		**Provides a large enough demand** to incentivise industry to invest in wide commercialisation
Tool for innovation (EC sees the need but no offer on market)		**Development in stages** and testing of innovative ideas under **real world conditions**
Risk-benefit sharing under market conditions		Suppliers retain **IPR ownership,** procurers gains access under limited conditions
Interact closely with six procurers operating 21,000 buildings		**Visibility on EU-Level**

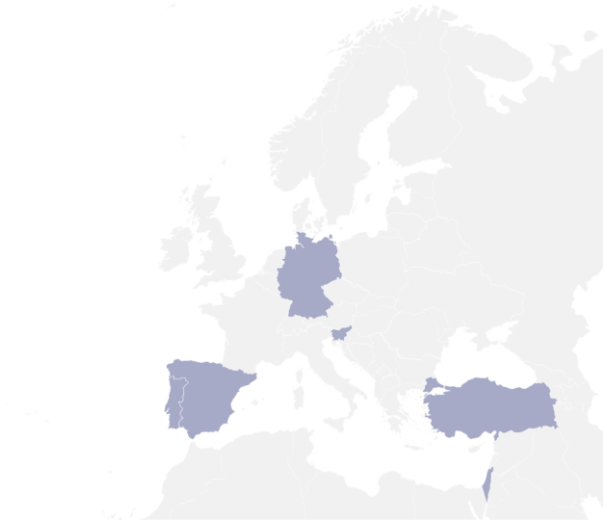
Agenda

procuRE is a Pre-Commercial Procurement (PCP) and part of the EC's renovation wave approach

Project Overview

CORE FACTS

- **Title**: Pre-commercial Procurement of Breakthrough Solutions for 100% Renewable Energy Supply in Buildings
- **Duration**: Dec ´20 – May ´24 (3 ½ years)
- **Instrument**: HORIZON 2020
- **Type**: Pre-commercial procurement
- Grant Agreement Number: 963648
- Acronym: procuRE
- **Budget for PCP**: €7,680,000
- Carried out by nine partners supported by an Advisory Board
- Four time zones



PARTNERS

Procurers

KSSENA

energaia
AGÊNCIA DE ENERGIA DO SUL DA ÁREA METROPOLITANA DO PORTO

AMB Àrea Metropolitana de Barcelona

אילת Eilat לחיות נכון

NÜRNBERG

İSTANBUL METROPOLITAN MUNICIPALITY

Supporting organisations

ÖZYEĞİN UNIVERSITY

eurac research

empirica

procuRE aims for more than one-off solutions; the core challenge is a new Approach to advanced retrofits followed by application in the real-world

Common challenge and core boundaries

As of 26.08.2021

RENOVATION APPROACH DEMONSTRATED BY…		… RENOVATION PACKAGES FOR OFFICES AND SCHOOLS
Developing methods and tools for public buildings retrofit to 100% RES supply		100% Renewable Supply has to be on-site and close property for all demand (heat, cold, electricity)
Modelling the integration of components at sustainable investment costs		Ensure easy configuration to adopt to different regulation and needs in energy usage
Designing renovation packages with Building Information Modelling (BIM) including monitoring and control		100% RES follows demand to largest extent possible (24/7 and over the year). Tools to operate and maintain building at a distance
Including an assessment framework to deliver procurers and investors with transparent choices of their options		Occupant behaviour and comfort level is fully considered
Deploying an efficient co-design procedure with procurers not requiring complete or deeply specialised expertise		Provide innovative and cost-efficient training to building operators to ensure optimal operation
Offering financing or contracting models increasing the procurers' ability to start a renovation wave		Remove entry barriers

procuRE is technology neutral

Solution design

Buyers Group defines the problem and award criteria

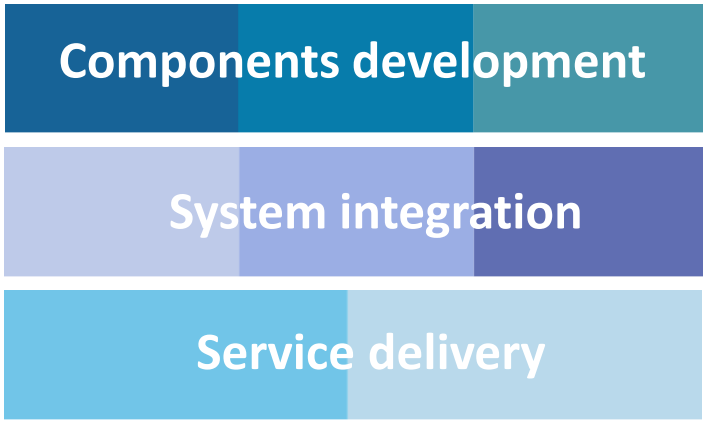
Image by Pixel_perfect from Pixabay

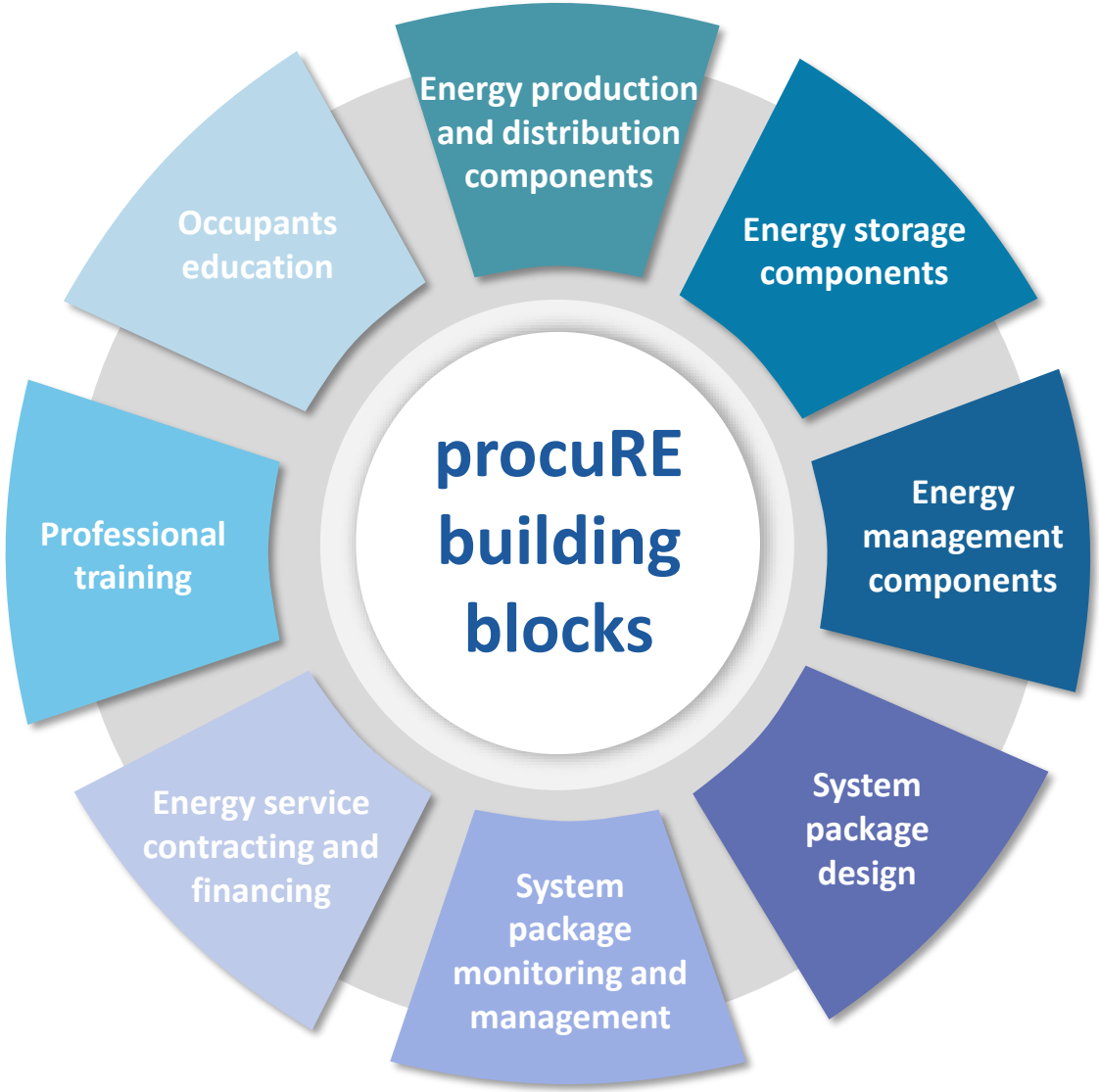
procuRE structures the common challenge for R&D services along eight building blocks

Building blocks

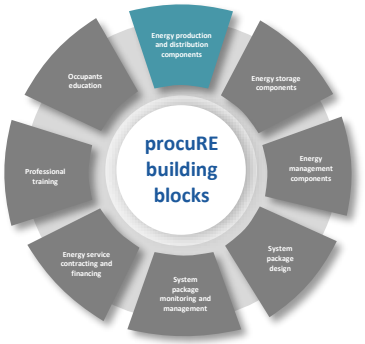
Our analysis identified eight blocks having **major shortcomings** which require **progress beyond the state-of-the-art**.

Blocks will be a central element for suppliers to describe their solutions.





Building Block: Energy production and distribution components



Components development (1/3)

RATIONALE

- To achieve deep renovation, comprehensive solutions need to be standardised, low intrusive and modular.
- RES available at building level must be preferred using all sources and clearly defining ownership and maintenance
- HVAC system must be planned with envelope
- Thermal energy storage capability must be exploited
- ICT infrastructure is needed

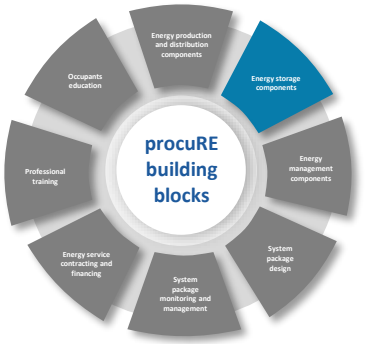
SHORTCOMINGS

- Overwhelming amount of information on RES with low degree of information on practical applications
- Staff in charge, however, focuses on energy efficiency of single components rather than functionality of the whole building
- Difficulty for procurers in building up analytical capacity to create a vision for HVAC and RES in building stock

PLANNED PROGRESS IN PROCURE

- Challenge resides in involving solutions well adapted to all applications (I.e. schoolhs, offices...), legal and regulatory frameworks and climates
- Focus on a small set of proven and reliable technologies
- Enable procurers to take informed decisions
- Deliver a framework to rate technologies performance including indicators on final energy consumption, RES harvest, LCA/LCC

Building Block: Energy storage components



Components development (2/3)

RATIONALE

- Energy storage is key for the EU to develop a low-carbon society and to ensure lasting energy flexibility and security
- A balance between supply and demand is weakening due to increasing demand and incremental integration of variable RE
- A weakening balance between S and D is a major contributing factor to the volatility of prices on the electricity market
- Penetration of storage technology onto markets will permit a better management of the grids at high RES availability periods

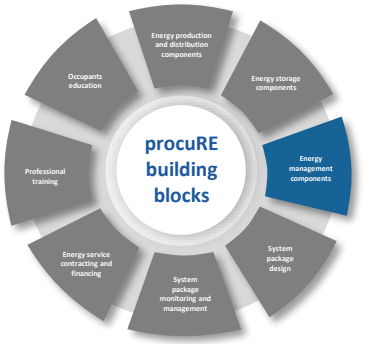
SHORTCOMINGS

- In cases when storages are not used at all, self-consumption of renewable energy to cover the building energy needs hardly exceeds 30%
- With low RES use, nZEBs result not sustainable for the energy system in the long run

PLANNED PROGRESS IN PROCURE

- Develop and prove suitable energy storage solutions, legal and regulatory frameworks and climates defined by the procurers
- Procure the development of new affordable solutions both from the thermal and the electric perspective
- Provide solutions with demanding targets both in terms of specific energy capacity and economic sustainability
- Deliver solid knowledge that allows in future procurers to define the amount of storage capacity to acquire

Building Block: Energy management components



Components development (3/3)

RATIONALE

- An integration of High Level (collects information from the field and transmits this to a network) and Field Level (locates the sensors and meters that measure physical quantities) of Building Management System (BMS) is likely to optimize energy consumption of the building as a whole
- Standardized communication protocols is key to allow the integration of monitoring and control components from a range of producers
- Advanced interfaces are needed to deliver specific information about the energy systems installed in the building

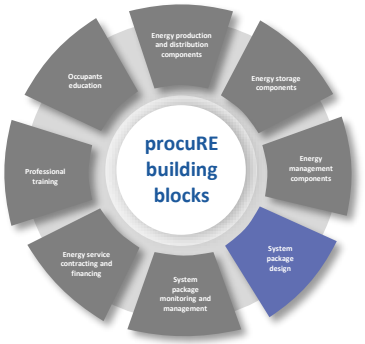
SHORTCOMINGS

- Efficient management requires an integrated monitoring and control system that considers the facility management
- Communication interfaces not appropirate and system architectures that limit the data exchange for different purposes
- There is a gap between the practical control of different technologies and the information of users and managers with relevant performance indicators

PLANNED PROGRESS IN PROCURE

- Find and obtain suitable and highly flexible BMS solutions on the market
- Select cost effective, low impact monitoring and control systems to optimise HVAC and electricity management
- Foster interoperability between different systems, by creating a common database
- Develop innovative BIM-based platforms as tool for data sharing

Building Block: System package design



System integration (1/3)

RATIONALE

- Becoming more advanced every year, BIM/BMS bring the potential to guide the design process and optimise building operation
- Synergistic utilisation of already individually effective components can ensure sustainability from both a technical and economic perspective
- Feedback loops during the various design phases can further optimise the whole design
- System specifications need to be in focus from the planning phase and guaranteed during the systems operation

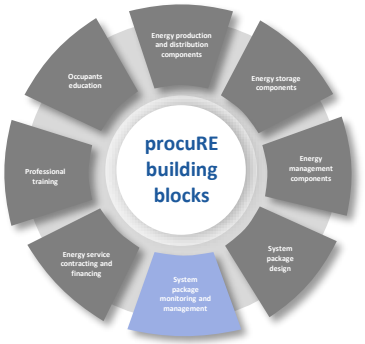
SHORTCOMINGS

- Disjointed nature of single-building energy projects results in buildings which do not operate as designed
- In virtually all cases, both verification and continuous commissioning phases are missing
- Long run performance of HVAC systems in public buildings is significantly poorer than rated
- Building owners wish to address new challenges themselves whereas suppliers can quicker deliver a complete and integrated process

PLANNED PROGRESS IN PROCURE

- Promote the elaboration and validation of comprehensive processes for the energy renovation of public buildings
- Deliver and maintain effective HVAC solutions
- Simplify the interactions among stakeholders and deliver innovative, new Near-Zero planning design procedures
- Elaborate clear specifications to be understood and evaluated by “non-technical” procurer personnel

Building Block: System package monitoring and management



System integration (2/3)

RATIONALE

- EU priority is making buildings and technical building systems more efficient by a range of policy instruments
- New digital solutions help building systems monitoring, analytics and optimization thanks to integration of RES and interaction with the grid
- Lack of user-friendly interfaces and comprehensive information of all the systems leads to the fact that monitoring data is not analysed nor used
- Lack of knowledge or infrastructure for carrying out actions for the improvement of energy use

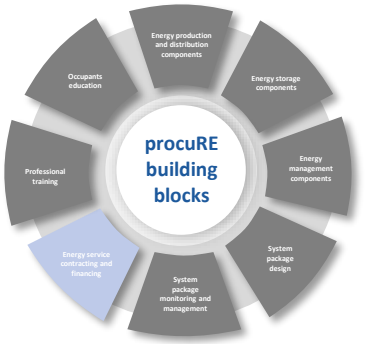
SHORTCOMINGS

- Application of advanced control hardware and strategies is still emerging in the HVAC sector
- Each component of a system is still treated as a separate unit which impedes optimal operation of the whole system
- Automated and continuous assessment of the available monitoring data needs to be the basis for a building energy efficiency optimisation

PLANNED PROGRESS IN PROCURE

- Deliver systems providing relevant information that evaluate building energy performance
- Elaborate indicators to evaluate energy performance and metering and billing of energy consumption
- Evaluate the beneficial impact of the adopted solutions by means of the Smart Readiness Indicator calculation
- Achieve the nZEB standard

Building Block: Energy service contracting and financing



System integration (3/3)

RATIONALE

- Perception of building renovation operations risk is important in their financing
- Due to the difficulty in estimating returns, national public support to single retrofit actions is seldom available
- Owners of single properties typically have little investment and organizational capability
- Small-scale energy projects are not attractive enough and investments in new technologies are too risky
- Owners of public buildings are interested in evaluation methods, technical and financial due-diligence and evaluation of financial operations

SHORTCOMINGS

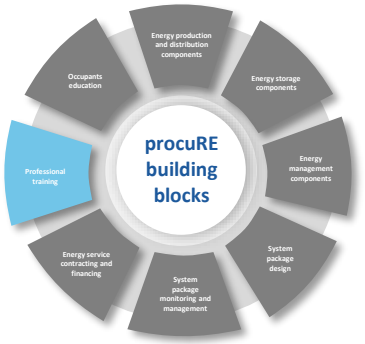
- A wide gap between contractors that would implement large retrofit initiatives and single public authorities that exploit such financing
- Lack of structured information allowing to mitigate the different stakeholders' risk
- Lack of structured information allowing to undertake coordinated, systematic initiatives with proven and effective performance

PLANNED PROGRESS IN PROCURE

Develop and deliver an innovative approach to the financing of energy renovation including:

- technical and financial due diligence
- financial risk quantification
- identification of eligible public funding
- access to platforms enabling matching of investment demand and offers

Building Block: Professional training



System delivery (1/2)

RATIONALE

- Buildings are becoming more complex for the adopted components and management systems that require new skills from operators and building professionals
- Primary challenge is to offer education and training of existing professional staff (installers and operators)
- Secondary challenge is to enable procurers to select suitable buildings, understand the specifications and tender for procuRE solutions
- Vocational education and training (VET) is critical for installers that would need follow-up training

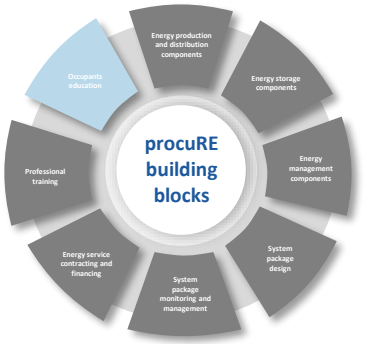
SHORTCOMINGS

- Projects focusing on nZEB do not sufficiently cover smart building technologies and leading efforts focus on new built passive-house buildings
- Demand side is dependent on service contracts for ICT solutions which increases long-term operational cost
- Expensive specialised trainings and qualifications are unlikely to be accessible for most
- Some large-scale components suppliers offer training with a focus on practical units while installers usually deal with a diverse portfolio

PLANNED PROGRESS IN PROCURE

- Provide innovative training methods to procurers and operators to be blended in their daily use, in particular for ICT and software
- Improve framework conditions by requesting suppliers to identify missing elements of PROF/TRAC and Fit-to-nZEB
- Providers shall document how they minimise dependency on inexperienced third-party installers in the long-term

Building Block: Occupants education



System delivery (2/2)

RATIONALE

- Total energy consumption of buildings is highly dependent on user behaviour
- Interacting with control systems to reach the desired level of comfort increases the total energy consumption during non-working hours
- The more efficient a building is, the greater the importance of occupant education becomes
- Irregular and partial occupancy can impede on the building's energy efficiency

SHORTCOMINGS

- Lack of knowledge on how to engage individuals in behavioural change and what is applied in practice in the energy efficiency domain
- Over-reliance on simplistic education and awareness-raising measures
- Projects for public buildings tend to address the collective rather than the individual

PLANNED PROGRESS IN PROCURE

- Develop a solution to make occupants aware of their behaviour's impact and feel responsible to reflect on it
- Offer information to occupants about specific action
- Design the system that can be easily mastered by occupants without any need for extensive training

Solutions are to be deployed in six demonstration sites – how allocation is to take place is under development

procuRE demonstration sites

VELENJE, SLOVENIA

- Primary school + linked Sports hall
- Envelope 20 years old
- Space heating: oil + electric

BARCELONA, SPAIN

- Offices + data centre
- 2010 upgrade to envelope (1850)
- Central heat pump with several splitters
- AC for data needs upgrade, monitoring installed since 2015

NUREMBERG, GERMANY

- Primary school + nursery
- Built 2015 to passive-house standards
- Natural gas condensing boiler (radiators)
- No RES; basic HVAC control system

ISTANBUL, TURKEY

- Office + bakery school
- Built 2015
- Variable Refrigerant Flow system
- No RES or monitoring

VILA NOVA DE GAIA (PORTO), PORTUGAL

- Primary school + nursery
- Built 2014 to national standards
- Natural gas boiler, heat pump for cooling
- Small solar thermal; advanced control system for building

EILAT, ISRAEL

- Future: Office + Maker + Exhibition
- Old terminal and tower - Built 1960
- Upgrades expected before phase III [1]
- Central HVAC, local AC systems, chillers

[1] Details of changes will be provided in tender specifications (Challenge Brief)

Agenda

1 Overview

2 procuRE Aim & Scope

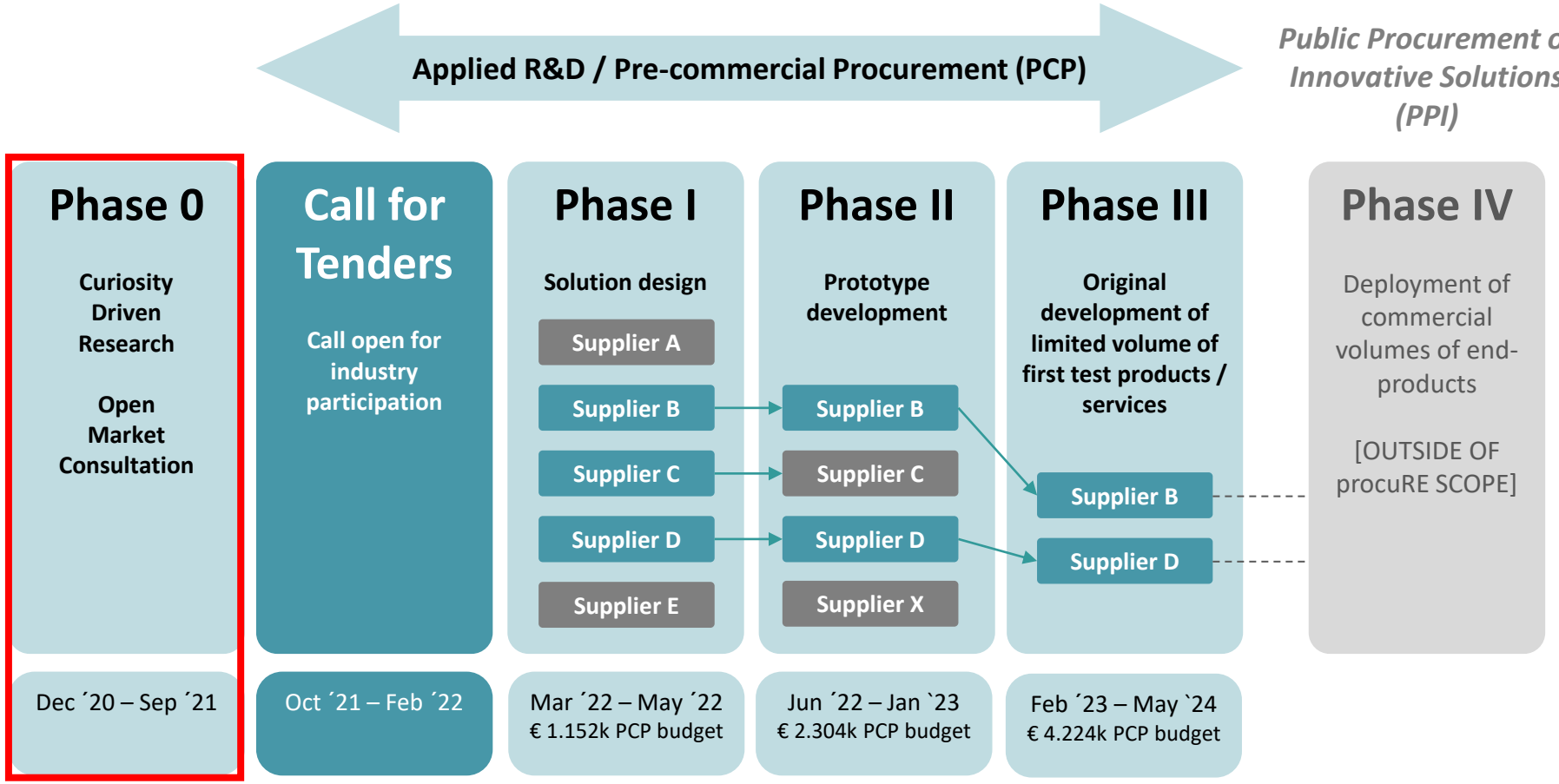
3 procuRE PCP Process

4 PCP Tendering introduction

5 Background on PCP and PPI Instruments

PCPs follow a multi-staged process to select the most suitable and promising innovation; R&D services are funded at all stages

Procurement of Innovation and Tender Process

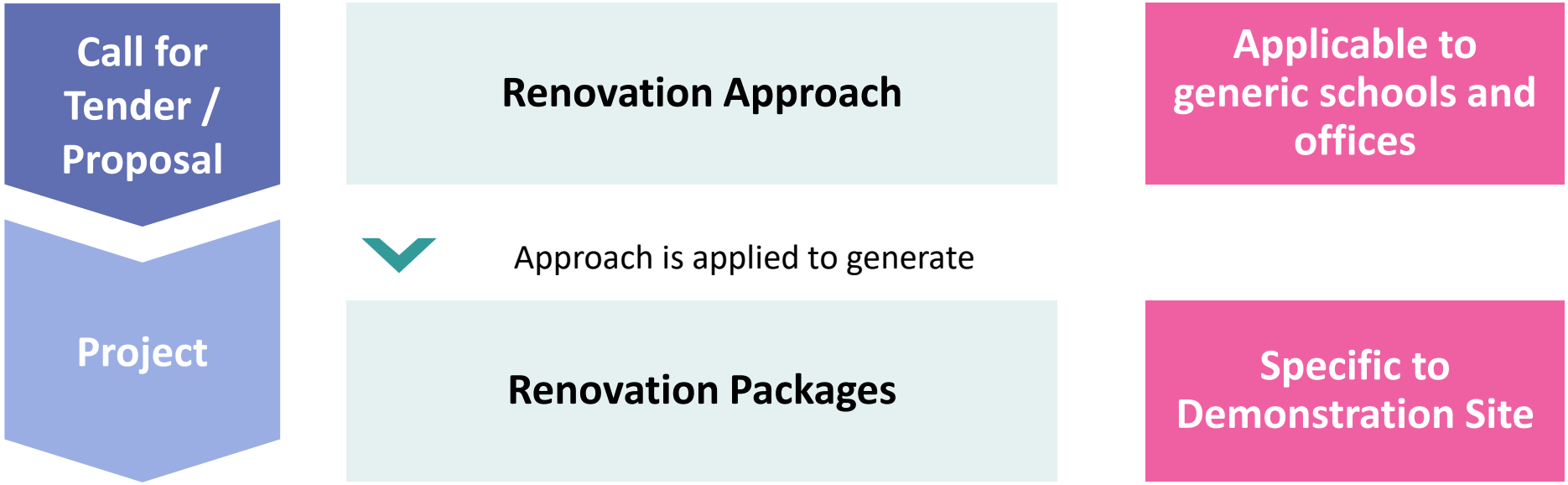


- Lead Procurer: KSSENA, overall co-ordination of the procurers, acting on their behalf vis-à-vis the suppliers
- Procurers (also Buyers Group: Barcelona, Eilat, Istanbul, Nuremburg, Energaia)
- Suppliers (later Contractors) = organisations or consortia competing in the PCP process

Suppliers develop a generic Renovation Approach in the proposal and apply it in Renovation Packages during the project

Core terminology

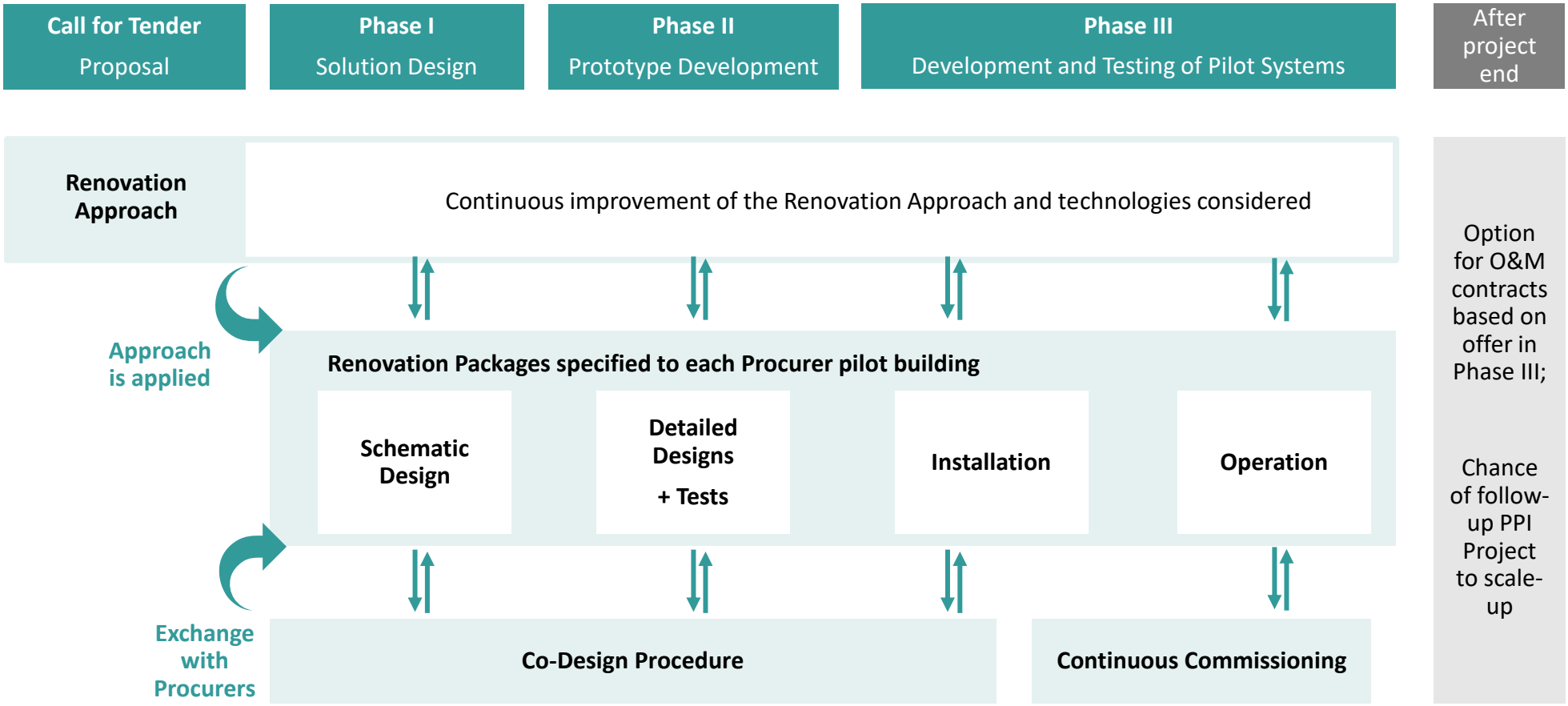
As of 26.08.2021



The level of detail in Renovation Packages increases and the best designs are implemented

Summary of core activities per phase

As of 26.08.2021



The Renovation Approach is consciously improved; funding and time increases with each phase

Summary procuRE conditions

As of 26.09.2021

Process phase	Results and activities expected		Buildings addressed	Timeframe	N. of contractors selected (min)	Financing to each contractor (max)
Call for Tender Proposal	**Renovation Approach**	**Concept design of Renovation Packages**	2 reference buildings in 2 climates	3 Months (+2M Evaluation)	Open	-
Phase I	Continuous development through co-design approach	**Schematic design of Renovation Packages**	6 Demonstration Buildings	M1-M3 (3)	6	€ 192,000
Phase II		**Detailed design** of Renovation Packages and small-scale tests	6 Demonstration Buildings	M4-M11 (8)	4	€ 576,000
Phase III	Continuous commissioning **Final Version**	**Installation and operation of** Renovation Packages	3 allocated Demonstration Buildings	M12-M27 (16)	2	€2,112,000

Concept design, solution architecture and technical specifications

procuRE PCP Process | Phase I

Preliminary as of 12.08.21

Phase I

Solution design

- Supplier A
- Supplier B
- Supplier C
- Supplier D
- Supplier E

6 suppliers are expected to be funded.

Duration: **3 months (Mar ´22 – May ´22)**

Maximum total budget of the phase: **€1,152,000**

Selected suppliers will **develop a detailed specification of the proposed solution** which addresses technical, economic and organisational requirements of the suppliers

Expected output: improved Renovation Approach and preliminary Renovation Packages for all six sites; detailed plan for the prototyping and testing activities in Phases II & III

Development of Prototype

procuRE PCP Process | Phase II

Preliminary as of 12.08.21

Phase II

Prototype development

- Supplier B
- Supplier C
- Supplier D
- Supplier E

At least **4 suppliers** expected to be funded (TBD)

Duration: **8 months (Jun ´22 – Jan `23)**

Maximum total budget of the phase: **€2,304,000**

Selected suppliers will **develop the most promising ideas into well-defined prototypes**

Expected output: improved Renovation Approach and detailed Renovation Packages for all six sites; if applicable prototype specification & demonstration; plan for deploying Renovation Packages for field-testing

Development and testing of pilot products or services

procuRE PCP Process | Phase III

Preliminary as of 12.08.21

Phase III

Original development of limited volume of first test pro-ducts / services

Supplier B

Supplier D

2 suppliers are expected to be funded.

Duration: **16 months (Feb ´23 – May `24)**

Maximum total budget of the phase: **€4,224,000**

Selected suppliers will **implement and assess the prototypes in real world conditions – one supplier per testing site**

Expected output: solution implementation in 6 testing sites; overall assessment and success verification; updated cost/benefits forecast, including a preliminary business plan

Commercialisation

procuRE PCP Process | Phase IV

Preliminary as of 12.08.21

Phase IV

Deployment of commercial volumes of end-products

OUT of the scope of the procuRE project

It is up to each public body to decide whether to do a commercial procurement

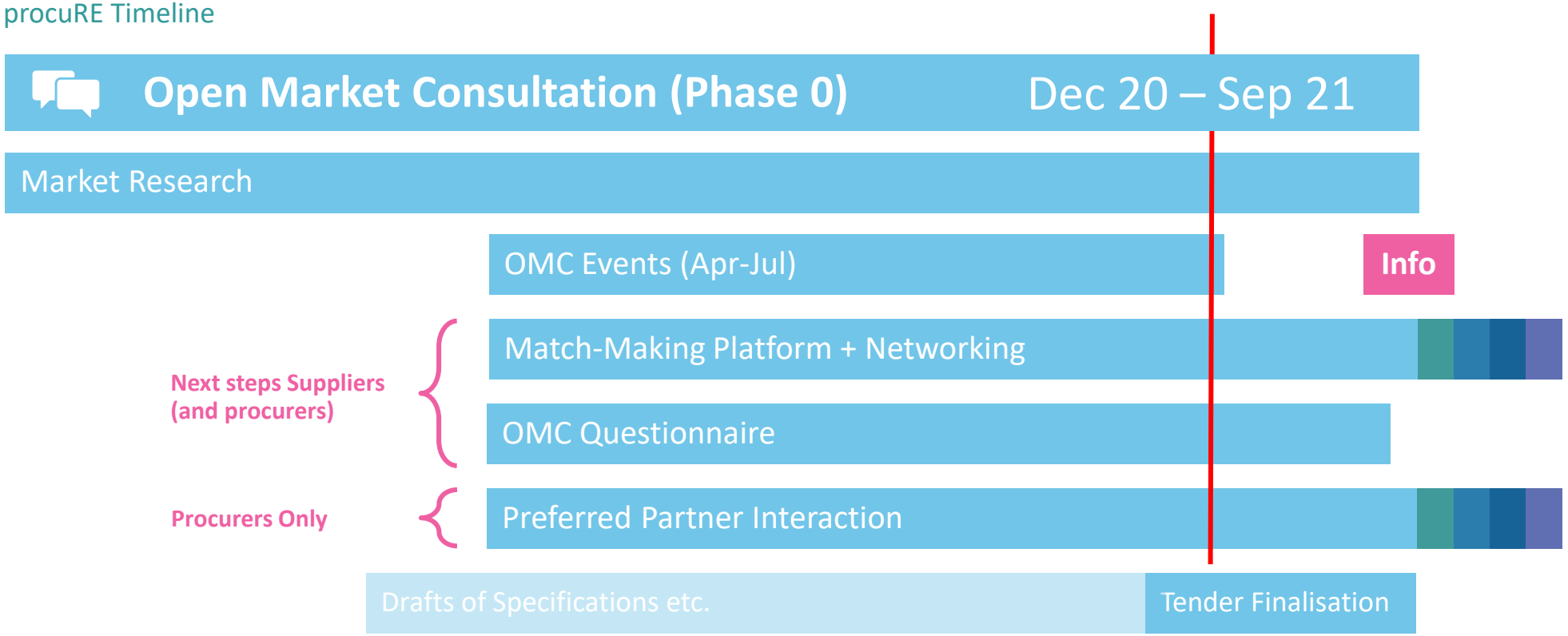
To be decided after the project outcomes are assessed

Since companies retain the IP rights, they are free to commercialise to other potential customers

Possibility of follow-up EC-funding in form of a PPI

The Request for Tender is expected for October 2021 accompanied by match-making and info events

procuRE Timeline



Later:

Call for Tender	PHASE I	PHASE II	PHASE III
Oct 21 – Feb 22	**Mar 22** – May 22	**Jun 22** – Jan 23	**Feb 23** – May 24

The project will do as much as we can (and suppliers want) to make chosen solutions publicly known during each phase; a focus will be procurers across Europe

Exposure for successful suppliers (depending on preference)

Mandatory: Abstract for EC and project website

Additional: Open Pilot Days

Public and media viewing of solutions (Phase III suppliers only) at Open Pilot Days

Optional: Presentations and Publications

The project is being continuously presented at meetings

- **Smart City Marketplace** - (procuRE is an Action Cluster)

Publication of summaries and info, **already running and more to come –** we will offer suppliers to include content across all phases:

Enlit 365 Europe

ENERGY EFFICIENCY in Industrial Processes

ICLEI Local Governments for Sustainability

ENERGYCITIES

EUROCITIES

BUILD UP

Eilat Eilot Renewable Energy Conference

SUSTAINABLE ENERGY WEEK

Global Procurement Conference

Any organisation on the demand side is invited to become a preferred partner

Next step procurers | Preferred Partner

PROCURER

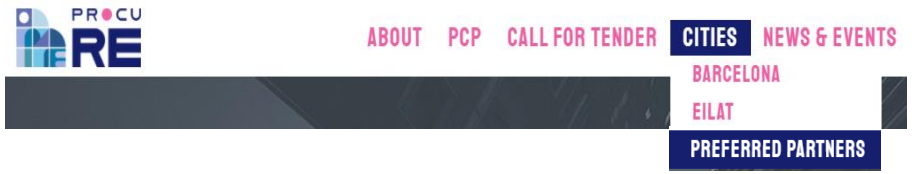
HOW TO BECOME A PREFERRED PARTNER?

- If you are interested in procuRE approach, become a preferred partner to:
  - Collaborate with the Buyers Group
  - Engage closely with the PCP process
  - Get access to all info about PCP results
  - Receive reimbursement of travel cost to Open Pilot Days (subject to availability)

- Steps
  - Simply state your interest via mail to procure@empirica.com
  - Please include:
    - Brief motivation (climate goals and this topic)
    - Logo

Making public that you are interested in the solution demonstrates that there is demand and increases the likelihood that strong consortia apply.

PREFERRED PARTNERS ON OUR WEBSITE



WHAT DOES IT MEAN?

To contribute wherever possible to shape and validate the PCP goal by providing background information regarding the specific needs of (public) procurers.

To collaborate with the consortium's Buyers Group and to meaningfully support the project's objectives.

To be kept informed about all aspects of the PCP and afforded access to all information concerning the PCP results.

To engage closely with the PCP Process, with a view to ultimately expanding the market uptake of the developed solutions through your own Public Procurement of Innovative solutions (PPI).

To join us, **CONTACT US.**

PREFERRED PARTNERS

STADT FRANKFURT AM MAIN
ANTALYA METROPOLITAN MUNICIPALITY
TC İZMİT BELEDİYESİ
Logroño
T.C. ARDAHAN BELEDİYESİ

Suppliers are invited to start creating a competitive consortium – Search of partners is supported with the Matchmaking Platform

Next step suppliers | Matchmaking

SUPPLIER

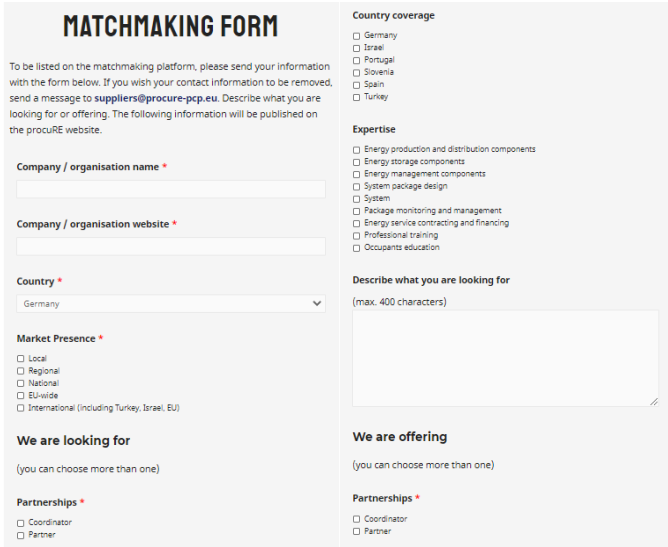
MATCHMAKING

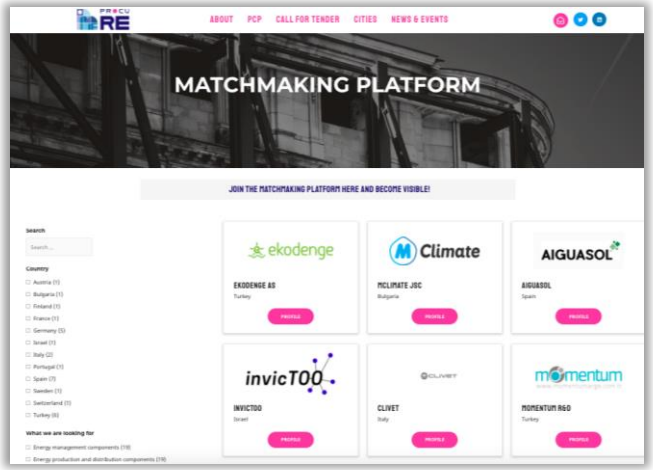
- Become visible among other suppliers looking for partners
- Steps, describe:
  - What you are looking for
  - What you are offering
  - Some basics + contact information
- Completing the form takes only **~5 minutes**

We encourage companies that cannot cover the whole procuRE solution to team up with other companies and apply together with international partners in a joint tender (consortium).

LOCATION ON PROCURE-PCP.EU

FORM AND LISTING IN PLATFORM





All parties are invited to provide us input on content and conditions

Next steps suppliers and procurers | Respond to OMC Questionnaire

SUPPLIER & PROCURER

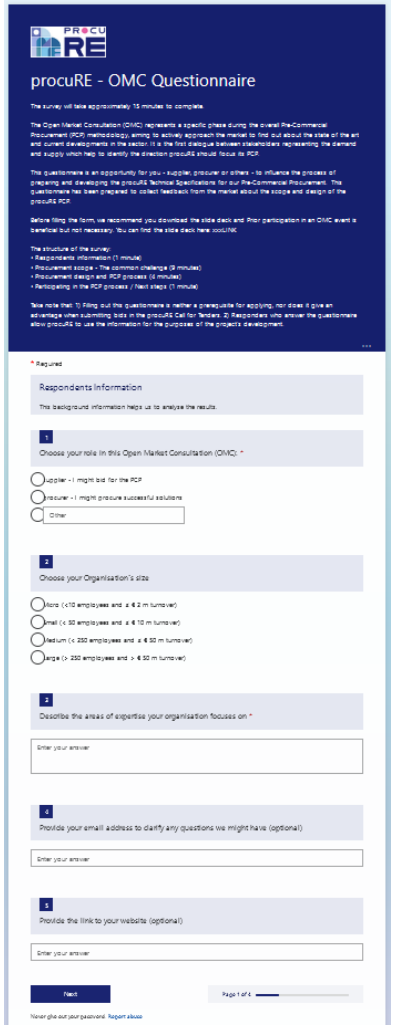
OMC QUESTIONNAIRE

- Provide us with reflected input on content and conditions of procuRE
  - Suppliers: What is possible / best?
  - Procurers: What do you need?
- Steps
  - Please download and read pitch deck
  - Fill in form
- Completing the form takes **~5-15 minutes** (depending in level of detail)

All input – suppliers and procurers – is valuable to refine and structure the challenge brief.

LOCATION ON PROCURE-PCP.EU

ONLINE QUESTIONNAIRE



Agenda

1 Overview

2 procuRE Aim & Scope

3 procuRE PCP Process

4 PCP Tendering

5 Background on PCP and PPI Instruments

Matchmaking Event: Chance for suppliers to find partners

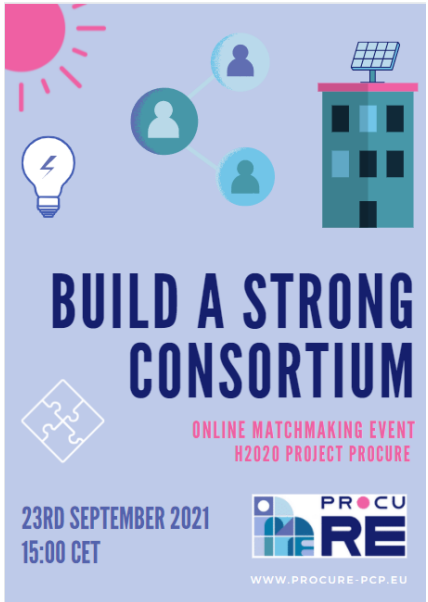
More events including tender info follow on procure-pcp.eu

Next steps suppliers and procurers | Networking

NETWORKING

- **Online event held on Wonder.me for suppliers to:**
  - meet like-minded partners
  - built international and competitive consortia

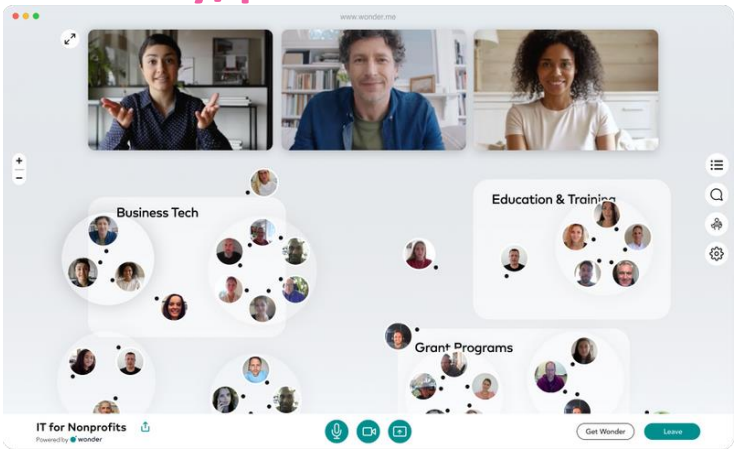
Open networking outside of our control for suppliers and procurers.

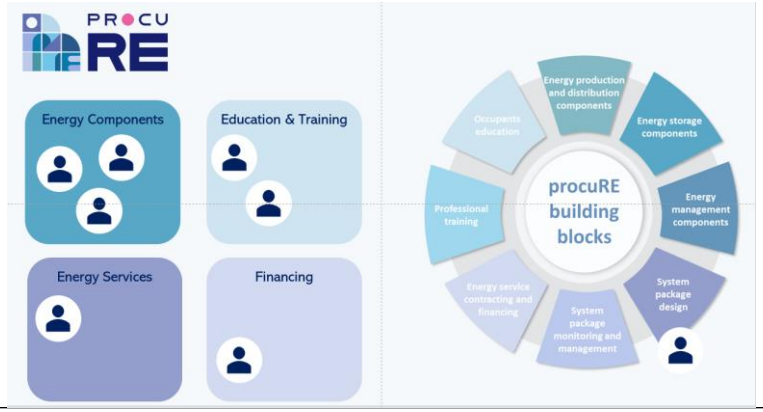


WONDER ROOM

- **No installation or registration needed**
- **23rd September, 2021, 15:00 CET**

bit.ly/procure-wonder





FAQ on website. Missing answers can be requested via mail to suppliers@procure-pcp.eu

— FAQ released

All core requirements are derived from the EU directive on competition

Preliminary as of 12.08.21

ELIGIBILITY CRITERIA

- Tender is open to **all types of operators** (companies or other type of legal entities) regardless of their size or governance structure
- Both **single entity** or **joint tender** offers (consortia) are possible
- The call will be open to all participants, as long as **a minimum of 50% of the project R&D activities**/budget takes place **in the EU or Associated countries**
- Participation in the open market consultation is not a condition for submitting a tender

GENERAL REQUIREMENTS

Electronic Submission via e-mail

3-5 months for submission starting Oct 21 (To be confirmed)

Official language is English

IPR sharing, if suppliers do not exploit results

Bidders will be provided with templates and extensive guidance

PCP Tendering | Summary of a tenderer bid

Preliminary as of 06.08.21

SECTIONS TO BE COMPLETED

- **ADMINISTRATIVE** – 1 merged PDF file
- **FINANCIAL** – 1 PDF file and 1 xlsx file
- **TECHNICAL** – 1 searchable PDF file, max. 80 pages

ADMINISTRATIVE SECTION

- Information and evidence on:
  - the legal capacity
  - non-disqualification from exclusion criteria,
  - economic and financial standing of the bidder, technical and professional solvency
  - fulfilment of the on/off award criteria

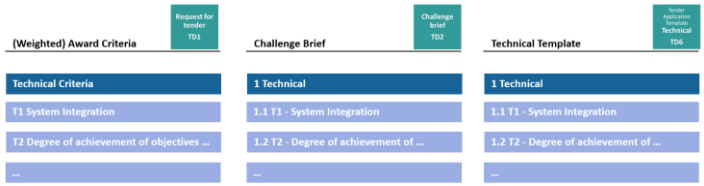
FINANCIAL SECTION

- The tender must include a detailed financial offer specifying:
  - binding unit price for all items needed for carrying out phase I (to be evaluated)
  - estimates for phases II and III

TECHNICAL SECTION

Tender documents will include:

- Request for Tender with Award Criteria
- Technical Challenge Brief structured by Award Criteria including an Annex with building information
- Template for technical application structured by Award Criteria with guidance on expected inputs



Suppliers will be requested to:

- Describe the overall methodology and how the solution is designed to accommodate any given building
- Calculate core indicators for selected buildings
- Describe total cost of ownership, any financing models and commercialisation plans
- Project management approach including a concept for co-design procedures with procurers from design to implementation in buildings including training

The following Weighted Award Criteria are likely to be implemented and will also be reflected in the Challenge Brief and Technical Application Template

Award Criteria and Structure of Challenge Brief

Preliminary as of 12.08.21

Technical Criteria
T1 - System Integration
T2 - Degree of achievement of objectives in demonstration buildings
T3 - Training & Education of operators and occupants
T4 - Innovativeness compared to market state-of-art

Commercial Feasibility Criteria
CF1 - Investment and energy service contracting and financing models / Costs
CF2 - Commercialisation Plan

Project Management Criteria
PM1 - Interface to procurers
PM2 - Quality and completeness of the work-plan as well as detail of task and result descriptions
PM3 - Feasibility of plan and resources to meet the objectives

A PCP is a tender, not a grant

Funding principles

Financial offers are requested for each phase (up to the ceiling)

The offer has to include all costs (including tax if applicable)

The payment is made based on offered price …

… after receipt of invoice and approval of work

For each of the three phases the same rules on contract, monitoring, payments and IPR apply

PCP Tendering | Contract award and project work

Contracting	framework agreement with **specific contracts in each phase**
Monitoring	During each phase, contract implementation is **monitored periodically** and reviewed **against the expected outcomes**
Completion criteria	**Satisfactory completion** of milestones and deliverables: requirement for payment
Intellectual property rights	Suppliers **keep ownership of the IPRs** attached to the results generated during the PCP implementation, but must exploit

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Pre-Commercial-Procurements (PCP) create a new, competitive market for Research and Development (R&D) services and development

Pre-Commercial Procurement vs. Traditional Public Procurement

PRE-COMMERCIAL PROCUREMENT	TRADITIONAL PROCUREMENT
Joint Procurement (Buyers Group)	**Individual Procurement** (single department)
High degree of innovation / R&D effort required	**Low degree** of solutions' innovation
Prototype development: medium-/long-term	**Mature product/service:** immediate/short-term
Competitive development: several suppliers	**Single contract:** one supplier
New IPR – Risk/Benefit-sharing	Often based on existing **IPR**
Special legal framework in H2020/WTO	**National public procurement** rules apply
Development in multiple phases	**Development in one phase**

PCP is for both, buyers and suppliers, a succesful instrument benefiting SMEs in particular

Opening a route-to-the market for new market players

Impact on stimulating cross-border company growth

Bringing research results to the market

Contribution to growth and jobs in Europe

Steady business growth

Deployment of solutions by procurers from the project

Innovative public procurement is driven by the EC and has unique characteristics in two instruments (PCP and PPI)

Background on Innovative and Pre-Commercial Public Procurement

- **PCP and PPI are approaches to public procurement of research and development (R&D)**
- **The EC has been co-financing Innovative and Pre-Commercial Public Procurement since 2012**
  - To stimulate public procurement of R&D, as it remains underused in Europe compared to other parts of the world
  - To support demand-driven innovation: studies show it has greater impact on innovations than traditional public aid in R&D activities
- **Some national funding bodies have started financing demand side activities such as Innovative and Pre-Commercial Public Procurement**
- **Shared key characteristics**
  - PCP and PPI projects are exempted from EU procurement directives, the WTO Government Procurement Agreement (GPA) and EU state aid rules
  - Competitive development in phases
  - Risk-benefit sharing under market conditions
  - In PCP, public procurers share the benefits and risks related to the IPRs resulting from the research and development (R&D) with suppliers at market price. Suppliers retain IPR ownership rights, while procurers keep some usage and licensing rights.
  - Separation from the deployment of commercial volumes of end-products

- **Benefits for procurers**
  - By developing a forward-looking innovation procurement strategy that uses PCP and PPI in a complementary way, public procurers can drive innovation from the demand side
  - PCP generates a number of solutions, ensuring creativeness and innovativeness by selecting the best option

- **Benefits for suppliers**
  - Creating opportunities for companies in Europe to gain leadership in new markets
  - PPI provides a large enough demand to incentivise industry to invest in wide commercialisation to bring innovative solutions to the market with the quality and price needed for mass market deployment (IPR typically remains with the vendors)

PCP and PPI are complementary and the core difference is the readiness (i.e. risk) of an innovative solution

- **PCP and PPI are complementary**
  - 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

	PCP	PPI
When?	**Requires R&D** to get new solutions developed. Problem clear, but pros/cons of **competing solutions** not compared/validated yet. **No commitment to deploy yet**.	Requires solution which is **almost on the market/already on the market** in small quantity, but not meeting public sector requirements for large scale deployment yet. No R&D involved.
What?	Public sector buys R&D **to steer development of solutions to its needs**, gather knowledge about **pros/cons of alternative solutions**, to avoid supplier lock-in later.	Public sector acts **as launching customer/early adopter/first buyer** for innovative products and services that are newly arriving on the market.
How?	Public sector buys R&D form **several suppliers** in parallel (comparing alternative solution approaches), in form of **competition evaluating progress after critical milestones**, risks and benefits of R&D) shared with suppliers to maximise incentives for the wide commercialisation.	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 a test and/or certification, the buyers group **purchases a significant volume of products**.

Further information on PCPs

PCP References (selection)

- Modalities and Horizon Annexes: https://ec.europa.eu/digital-single-market/en/node/69634
- Official EC PCP FAQ: https://ec.europa.eu/newsroom/dae/document.cfm?doc_id=16995
- PCP Project list: https://ec.europa.eu/digital-single-market/en/eu-funded-projects-implementing-pre-commercial-procurements-pcp-or-public-procurement-innovative
- Legal Basis for PCPs:
  - Communication https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52007DC0799
  - Directive 2014/24 https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014L0024

PROCURE

Pre-commercial Procurement of Breakthrough Solutions for 100% Renewable Energy Supply in Buildings

All information about the call for tenders will be released at the website

procure-pcp.eu

All questions should be addressed to

suppliers@procure-pcp.eu

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 963648.