

The research leading to these results has received funding from the European Union
CIP Entrepreneurship and Innovation Programme under grant agreement n° SI2.662792.



PAPIRUS

Public Administration Procurement Innovation
to Reach Ultimate Sustainability

European Project **PAPIRUS** *Public Administration Procurement Innovation to Reach Ultimate Sustainability*

Brussels Market Event
Date: **2014-11-19**

Content of this presentation

1. Objectives and general description
2. Process of PAPIRUS PPI
3. Description of Technologies
4. Evaluation criteria

1. Objectives and general description

Aim of the Market Events

- **Objective 1** – Gain deep knowledge of the market – e.g. the availability, cost and possible practical implications of other alternatives
- **Objective 2** – Technical dialog with the market: suppliers will be informed and will provide the public bodies with useful advice in the preparation of the tender documents.

1. Objectives and general description

Aim of the Market Events

- Provide the **market** enough time to prepared the offers, so they can
 - Develop suitable solutions
 - Identify **potential partners** in order to deal with the tender
- Provide procurers with
 - **Viability** of potential solutions and possible risks
 - Market **capacity** to achieve what is required
 - Market **maturity** to achieve what is required

1. Objectives and general description

- Public bodies set out a **deep dialogue** with the suppliers
- This advance market commitment will help to obtain precise information on innovations, feasibility of application to each project, which will help to define the **evaluation criteria** taken into account in the tenders
- **4 market events** have been conducted in the public body's home country (Spain, Italy, Germany and Norway) and this last one in Brussels, to provide the **international dimension** of the project to the market.

1. Objectives and general description

Market event AGENDA

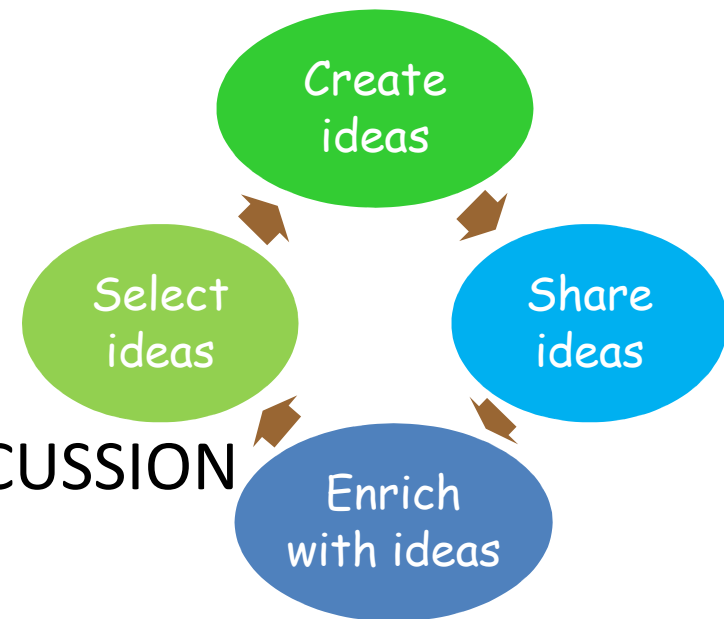
■ SESSION 1: PRESENTATIONS

- General information
- Pilot sites information

■ SESSION 2: BRAINSTORMING DISCUSSION

- 5' Question
- 10' Creation of ideas
- 30 ' Selection of ideas
- 15' Summary

■ SESSION 3: INDIVIDUAL PRESENTATIONS



1. Objectives and general description

- Project starting Date: **17/10/2013**
- End Date: **16/10/2016**
- Duration: **36 months (3 years)**
- Competitiveness and Innovation Framework Programme (CIP) - European Commission
 - The Entrepreneurship and Innovation Programme (EIP)
- Call identifier: 65-G-ENT-CIP-13-N02C021 (Supporting Public Procurement of innovative solutions – PPI Pilots)
- **Project Coordinator: Tecnalia**

1. Objectives and general description



Objective of the PAPIRUS Project

The overall objective of the international **PAPIRUS** project is to **promote, implement and validate** innovative solutions through a **new public procurement process** focused in near zero energy consumption building

To Promote Strategic dual role of Public Procurers

To develop a new procurement strategy

To change the “purchase price only” mind-set”

To transfer from a local market to European market (SMEs)

To launch a Joint public procurement in **4 pilot sites**



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1. Objectives and general description

What is **innovative procurement**:

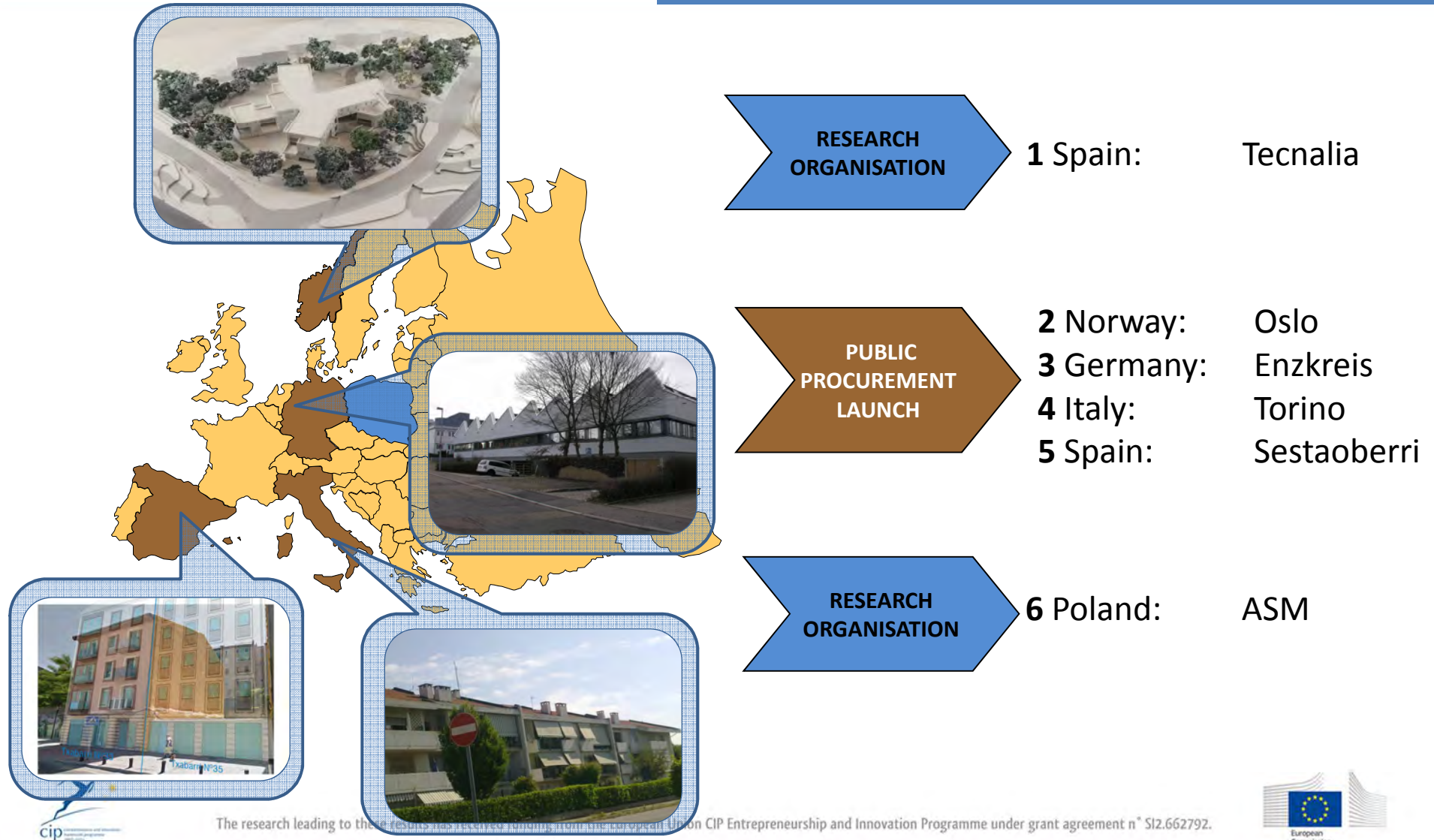
- The purchase of goods or services that are not yet available commercially on a large scale
- New solutions for the Procurer
- Procurement easily applicable in other public bodies at European level

Public Procurement does not promote innovation due to :

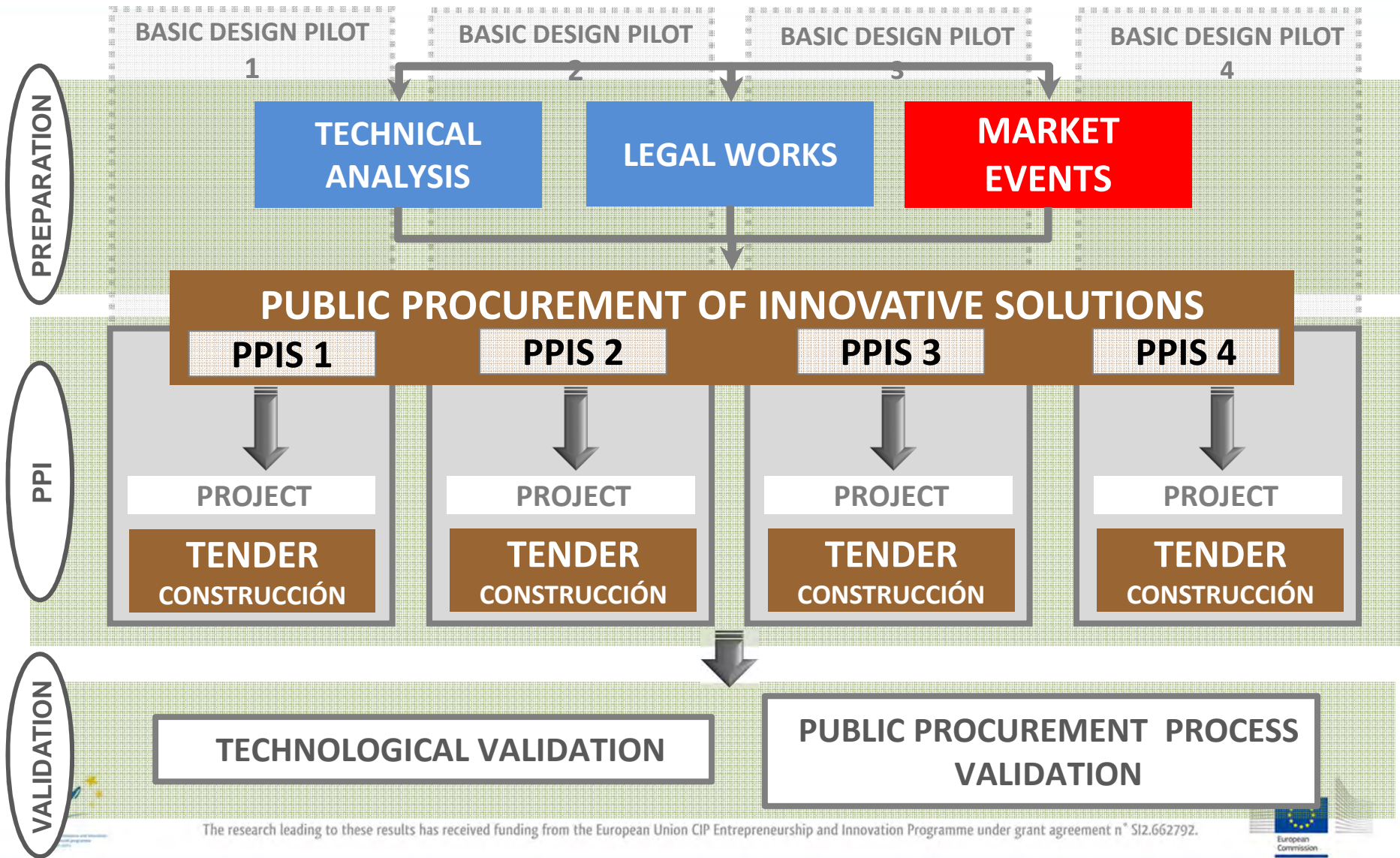
- Lack of (or incorrect) incentives
- Differences between objectives and strategies of public policies
- Fragmentation of the demand/ lack of critical mass
- Difficulties for innovative SMEs to participate in public procurement

1. Objectives and general description

PAPIRUS Consortium



1. Objectives and general description



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1. Objectives and general description

Phases

1. Analysis of the pitot site buildings ✓
2. Organization of 4-5 Market Events ✓
3. **Joint-Cross Border Evaluation Team** definition ✓
4. Definition of **technical criteria of evaluation**
5. Writing of tender documents
6. Launch of the **PPI tender (Open Procedure)**
7. **Submitting the tender** **March 2015**
8. Joint Evaluation of the offers
9. **Award of the contract** **July 2015**
10. Incorporate awarded solutions into the construction projects
11. Launch **tender** for general contractor of construction works* *except for Enzkreis*
12. Award contract and construction
13. Technical evaluation and evaluation of the process
14.

**June-
November
2014**

January 2015

2. Process of PAPIRUS Public Procurement



Award procedure

4 **coordinated** procedures for **supplies** contracts

- Same selection criteria
- Same award criteria
- Joint Cross-Border Evaluation Team

Open procedure to award the contract

Some **lots** in each procedure



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2. Process of PAPIRUS Public Procurement

Important dates

Activity	Date
Announcement in EUOJ and buyer profile.	January 2015
Deadline for submitting questions relating to the tender documents	Until 10 days prior the deadline for offers submission
Deadline for submitting offers	52 days after the publication of the notice
Opening of tenders	15 days after the deadline for offers submission
Tender validity period	Six months after the deadline for submitting offers
Notification of the award	a.s.a.p
Standstill period	15 days -
Contract signature	5 days after the end of the standstill period
dates/times after opening of the tenders are only advisory.	

2. Process of PAPIRUS Public Procurement



Evaluation steps

1.- Administrative requirements:

- Legal capacity
- Exclusion grounds
- Economic standing
- Technical ability

2.- Award criteria which requires to make a value judgement

3.- Financial Proposal and evaluable criteria by applying formulas (ex. Price, time-limits for delivery)



2. Process of PAPIRUS Public Procurement

Language for the bid

The only official language will be Italian/German/ Norwegian/Spanish/English.

Tenders are requested to be presented in Italian/German/Norwegian/Spanish/ or English. But when Bidders provide the information regarding the **award criteria which requires to make a value judgement** in Italian/German/Norwegian/Spanish, they alternatively may:

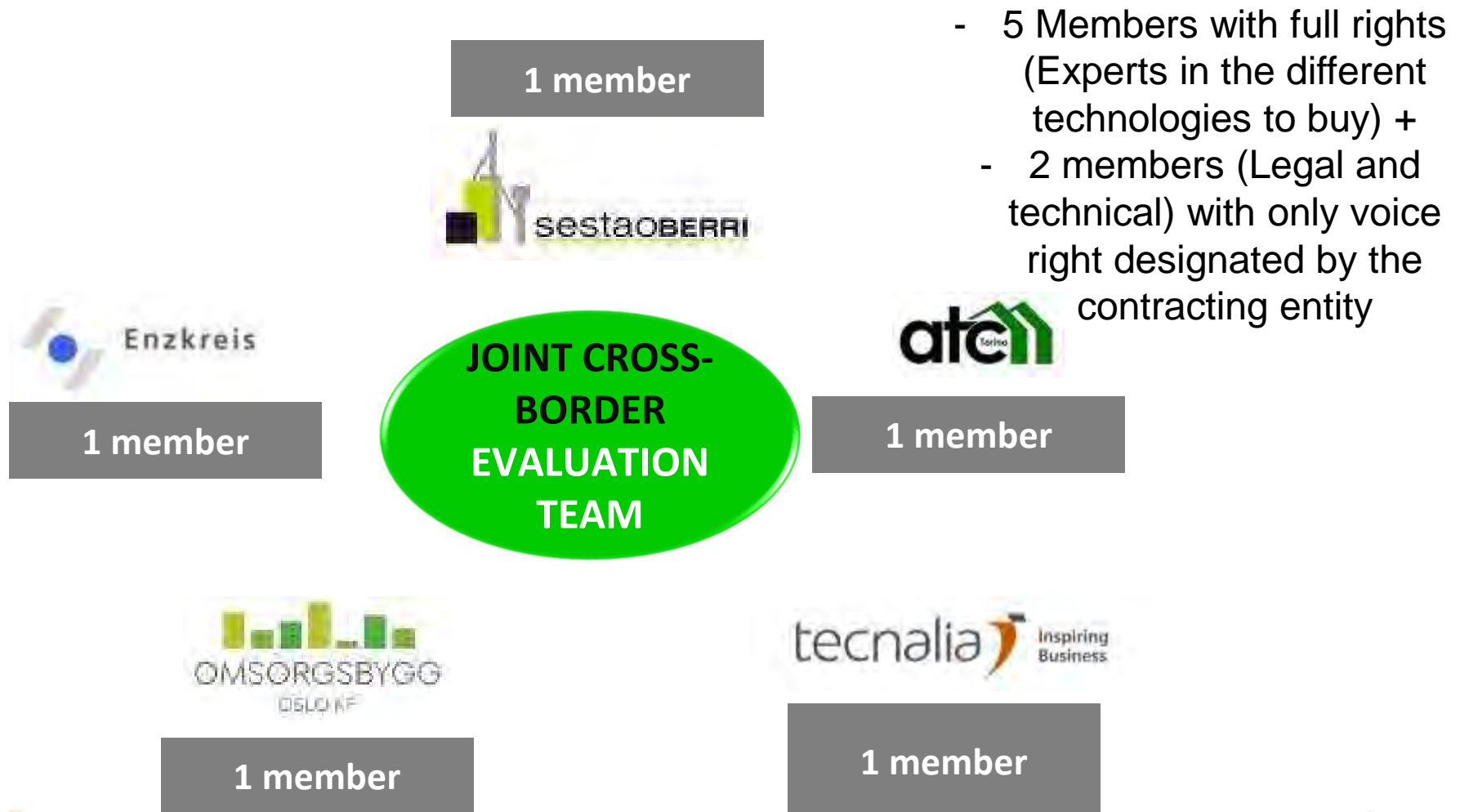
a) Provide their bids also translated into English (whether through a sworn translation or not), accompanied by a signed statement of an authorized representative of the Bidder where it is recognized that the said translation is a faithful reflection of the bid in Italian/German/Norwegian/Spanish; or,

b) Delegate in the Procuring Entity the task of translating their bid into English. In order to do so, the bid shall be accompanied by a signed declaration of an authorized representative of the Bidder where the said delegation is expressly stated according to the Annex.... In this case, Bidders assume that the translation made by the Procuring Entity is a faithful reflection of their bid.

The technical evaluation shall be made taking into account only the documentation provided in English

2. Process of PAPIRUS Public Procurement

Joint Cross-Border Evaluation Team (JC BET)



2. Process of PAPIRUS Public Procurement



Joint Cross-Border Evaluation Team (JCBET)

The main duty of the JCBET will be to assess (between the technical aspects of the offers submitted) the award criteria which requires to make a value judgment

3. Description of technologies

Public Procurements of innovative solutions will be focused on individual products or systems which comply with these functionalities:

1. Reduce the energy losses through buildings **opaque envelope**
2. Reduce energy losses in winter and solar gains through **window** in summer
3. Technologies that provide good quality **natural day-lighting**
4. Solutions that **store thermal energy** increasing the thermal comfort and shifting heating and cooling peak loads
5. Technologies for **light weight prefabricated panels** with low specific CO2 emissions.

3. Description of technologies

Technologies for opaque envelope

- **Context:** Opaque envelope is one of the main causes of thermal energy losses and contributes significantly to increases heating and cooling demands, especially in those buildings with poor insulation levels. Buildings can significantly reduce their final energy consumption **increasing insulation levels**. This can be achieved by using thicker layers of traditional insulation materials, or by using materials of very **low conductivity factor** (not only insulation materials) or integrate systems that allow reduction of heat flows due to incorporated ventilated sections, mix of materials, etc.
- **Required solutions:** Solutions to reduce energy fluxes in the opaque facade. These solutions should guarantee indoor hydrothermal comfort conditions and other constructions requirements such as breathability, no damp, ageing, fire safety,...

3. Description of technologies

Technologies for opaque envelope

Object to be evaluate: Integral opaque solution (for façade or roof).

Categories:

- Insulation material (only one material compatible with provided base solution)
- Partial system (insulation material + finish element compatible with provided base solution)
- Integral system



3. Description of technologies

Technologies for windows

- **Context:** Windows provide natural light, fresh air and allow solar radiation to come into buildings. However, they represent one of the major sources of heat losses in winter and unwanted heat gains in summer, contributing significantly to increase heating or cooling loads depending on the climate.
- **Required solutions:** High performance fenestration are needed, in order to limit winter energy losses and reduce solar gains in summer.

3. Description of technologies

Technologies for windows

Object to be evaluate: Integral window system (frame + glazing + shading elements).

Categories:

- Window system (glazing + frame)
- Shading systems
- Integrated window system (glazing + frame + shading elements)



3. Description of technologies

Technologies for windows



Thin coating of nanocrystals embedded in glass that can dynamically modify sunlight as it passes through a window.



Smart Shadings

3. Description of technologies

Technologies for the use of natural lighting

- **Context:** Lighting quality is also a financial issue. Poor lighting conditions can easily result on productivity losses of the employees and the resulting production cost of the employer can be much higher than the annual ownership cost of lighting
- **Required solutions:** Solutions that guarantee good lighting with minimum energy consumption.

3. Description of technologies

Technologies for the use of natural lighting

Object to be evaluate: Integral lighting system.

Categories:

- Provide natural lighting when no windows
- Provide natural lighting to complement existing systems
- Increase natural lighting availability
- Control systems



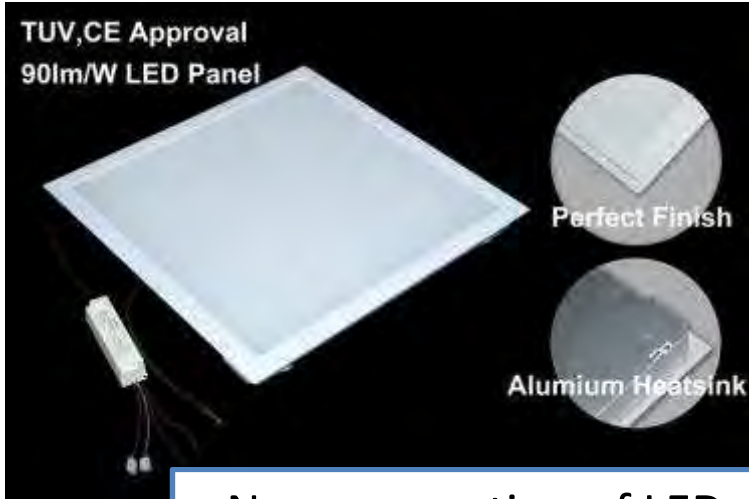
3. Description of technologies

Technologies for the use of natural lighting

Optive fiber



Solar Tubes



New generation of LED systems

3. Description of technologies

Technologies for thermal energy storage

- **Context:** One of the ways to reduce energy demand associated to space conditioning is the use of thermal energy storage. Traditional buildings store thermal energy in the massive materials used in buildings construction (i.e. concrete, ceramic tiles, ...) As new buildings become lighter or internal insulation is used as retrofitting solution, there is no longer thermal mass available in the buildings. This lack of thermal mass contributes to higher indoor air temperature's fluctuations leading to increased discomfort hours as higher power HVAC to compensate the non-stored energy, which turns in increased energy consumption.
- **Required solutions:** Light construction solutions characterized by the capability of storing energy and releasing it when it is needed. This may help to improve indoor air quality and reduce building energy consumption.

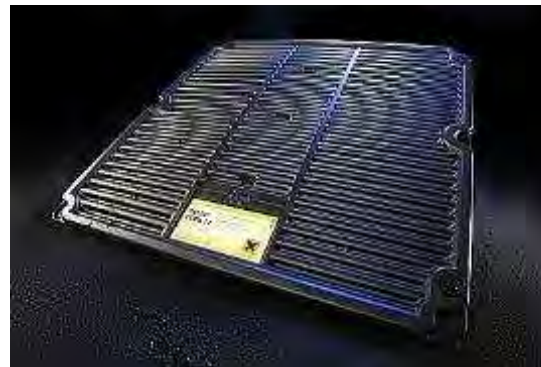
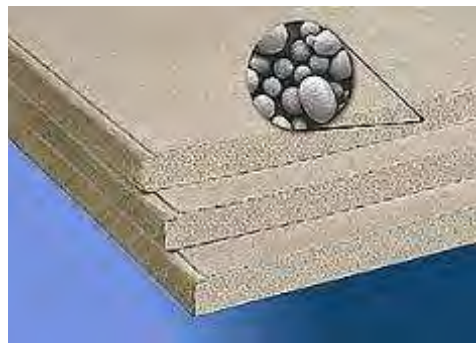
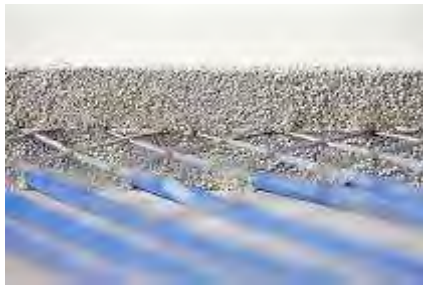
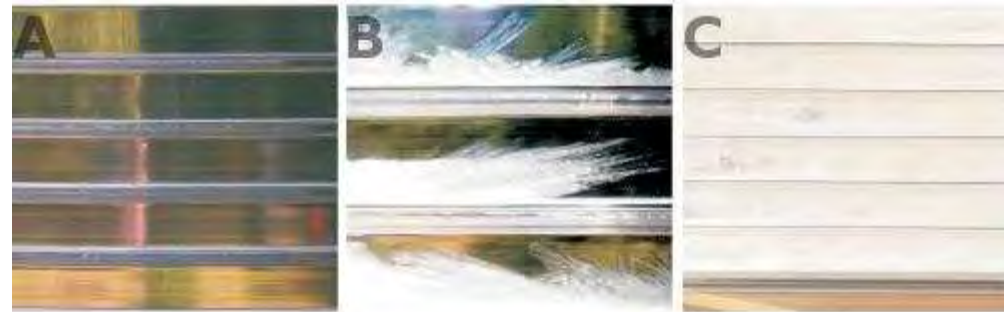
3. Description of technologies

Technologies for thermal energy storage

Object to be evaluate: Integral wall/roof partition.

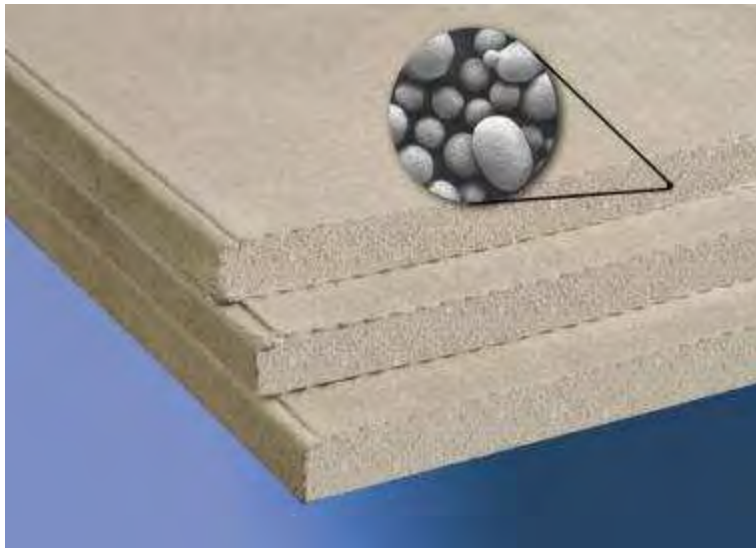
Categories:

- PCM panels
- Integrated systems with PCM



3. Description of technologies

Technologies for thermal energy storage



Ceramic tiles
with PCM

Partitions with
PCM



3. Description of technologies

Technologies for internal partitions

- **Context:** Internal partitions separate internal building zones, which may have different uses and therefore thermal needs. On the other hand, the multiple uses of current buildings, request easily reconfigurable spaces that do not need to demolish and build up new internal partitions again. These internal partitions must be able to satisfy the minimum aerial noise resistance levels and higher impact noise resistance levels. On the other hand, the use of these type of panels in new buildings will reduce the on site laborman and residues. And allow end users to configure dwellings as they like increasing theirs satisfaction perception.
- **Required solutions:** Industrialized internal partitions with minimum thickness that allow hith thermal and acustic insulation and ensure low carbon footprint, flexible and reconfigurable.

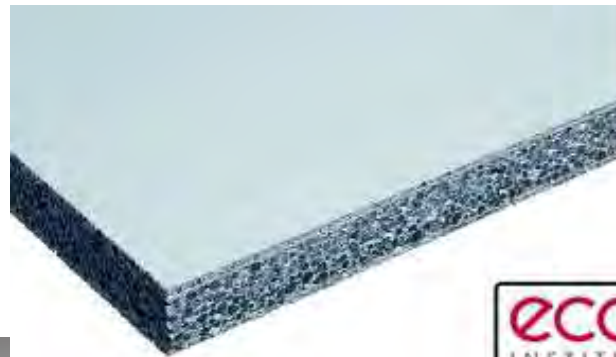
3. Description of technologies

Technologies for internal partitions

Object to be evaluate: Integral internal partition

Categories:

- Independent panels
- Integrated systems)



Wood partitions



Cellular concrete (Ytong)



4. Evaluation criteria

General specifications

AWARD CRITERIA

- Reduction of energy losses, maximize solar gains, harvesting of natural lighting → Present high thermal energy performance
 - Be sustainable products
 - Be innovative solutions
 - Acceptable maintenance needs
 - Easy installation process
 - Minimum interferences with users during installation (retrofitting projects)
 - Acceptable budget
-
- Adaptable to existing solutions in case of retrofitting projects
 - Comply with certain supplying conditions
 - Comply with national regulations regarding construction materials
 - ...

GENERAL REQUIREMENTS

4. Evaluation criteria

Categories to be analysed:

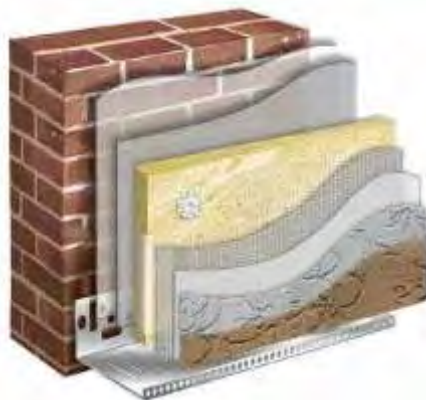
- Energy efficiency and thermal performance of the solutions
- Sustainability of the solutions
- Innovation rate
- Dimensional, mechanical and safety requirements
- Supplying
- Installation requirements
- Maintenance requirements
- Economical aspects

MAXIMUM
WEIGHT
FACTORS

4. Evaluation criteria

How to present innovative products/solutions

- For opaque envelope
Product or system in the context of a complete façade/roof solution

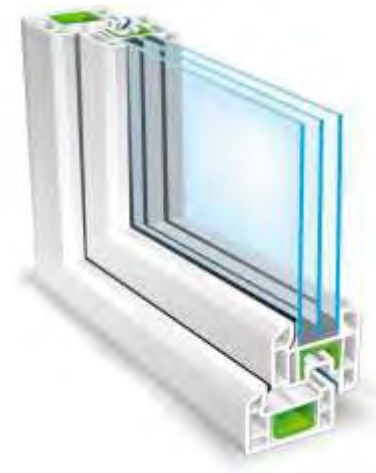


4. Evaluation criteria

How to present innovative products/solutions

- For windows

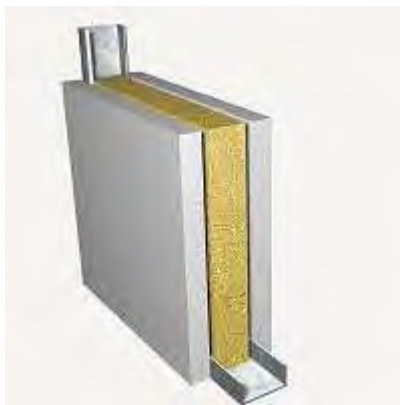
Element in the context of complete fenestration system including frame, glazing and shading elements



4. Evaluation criteria

How to present innovative products/solutions

- For natural lighting
Description of the system as additional part of existing artificial lighting system
- For energy storage and for internal partitions
Product of solution in the context of a complete internal partition composition



4. Evaluation criteria

General proposed award criteria

Energy efficiency

- Thermal transmittance – coefficient U
- Solar factor coefficient
- Contribution to the reduction of thermal bridges
- Natural lighting harvesting rate
- Reduction of solar gains in summer
- Reduction of heating/cooling peak loads
- Improvement rate of the energy efficiency of the whole building respect to national regulations
- Vapour permeability
- Ensuring airtightness of the building
- Energy certification of the product/system

4. Evaluation criteria

General proposed award criteria

Innovation

- First use by public bodies
- Achieved improvements respect to traditional solutions
- Innovation certification/prizes

Sustainability

- Embodied carbon rate
- Life cycle cost
- Life time
- Reutilization of waste materials in the production process
- Recyclability of product
- Sustainability/environmental/green certification

4. Evaluation criteria

General proposed award criteria

Installation conditions

- Requirement of skilled labour
- Time period of installation
- Special requirements of installation (specific tools, extra cost, ...)
- Inconveniences to the building users (retrofitting projects)

Dimensions and other physical parameters

- Reduction of thickness
- Integration with the rest of the elements of the building
- Dampness

4. Evaluation criteria

General proposed award criteria

Maintenance requirements

- Special maintenance requirements
- Maintenance cost
- Stock replacement

Economical aspects

- Complete solution supply cost

4. Requirements

General proposed basic requirements

Mechanical and safety requirements

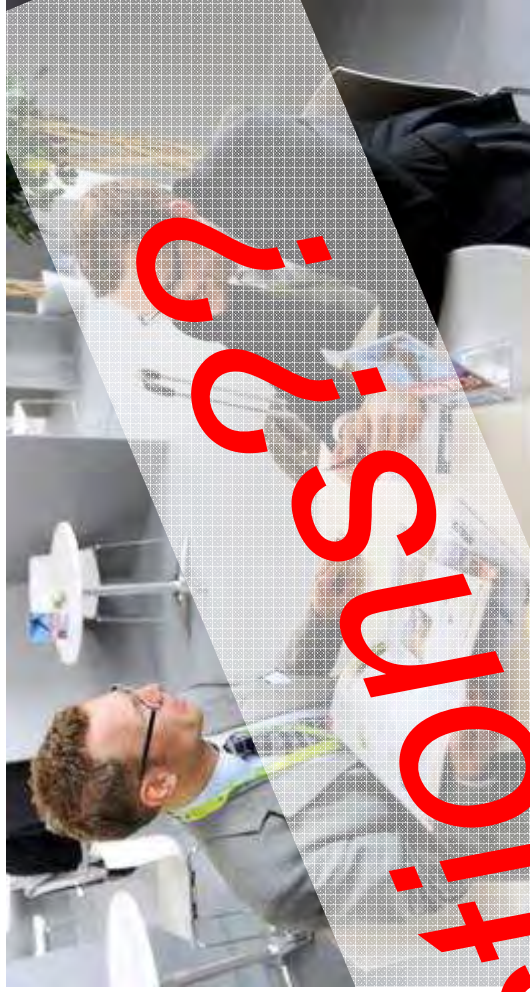
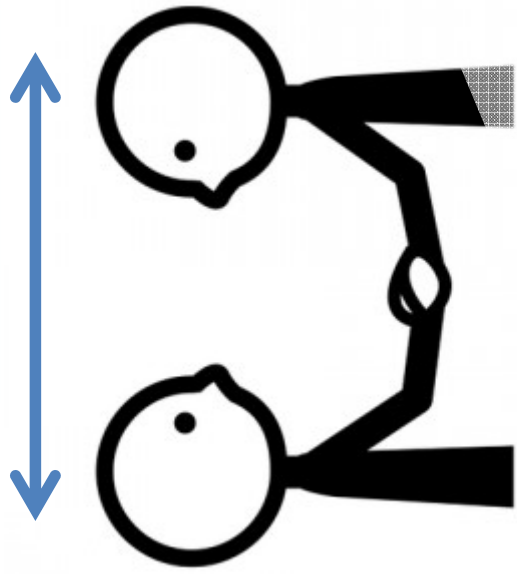
- Reaction to fire/fire resistance
- Content of dangerous substances
- Water tightness
- Sound insulation rate
- Mechanical requirements
-

Minimum required values according to national/regional legislation



PAPIRUS

Public Administration Programme Research
for Health, Lifetime Sustainability



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**THANK YOU FOR YOUR
ATTENTION!!**

Contact details:

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