

WE CAN
DO SO
MUCH
TOGETHER

Sustainable construction through Public Procurement: innovative solutions focused in near zero energy consumption buildings

SESTAO CASE STUDY

Olatz Nicolas Buxens

Integrated Urban Rehabilitation and Regeneration
Sustainable Construction Division

Index

Sustainable construction through Public Procurement: innovative solutions focused in near zero energy consumption buildings

1. Objective and description
2. Sestao Case Study
3. Recommendations

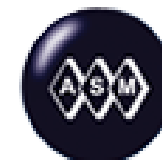
Innovative solutions purchased within PPI



Implement and validate **Innovative Solutions** for the achievement of **sustainable construction** through new Public Procurement process, focusing on **Nearly Zero Energy Buildings**

There are a lot of innovative technologies in the market that could help to achieve this goal; however, this kind of solutions does not penetrate in the market for different reasons, economic, lack of knowledge, lack of critical mass, and lack of effective dissemination... among others

1. Objective and description



www.papirus-project.eu



Challenges of PAPIRUS tender

SPECIAL FUNCTIONALITIES OR FEATURES

Vs

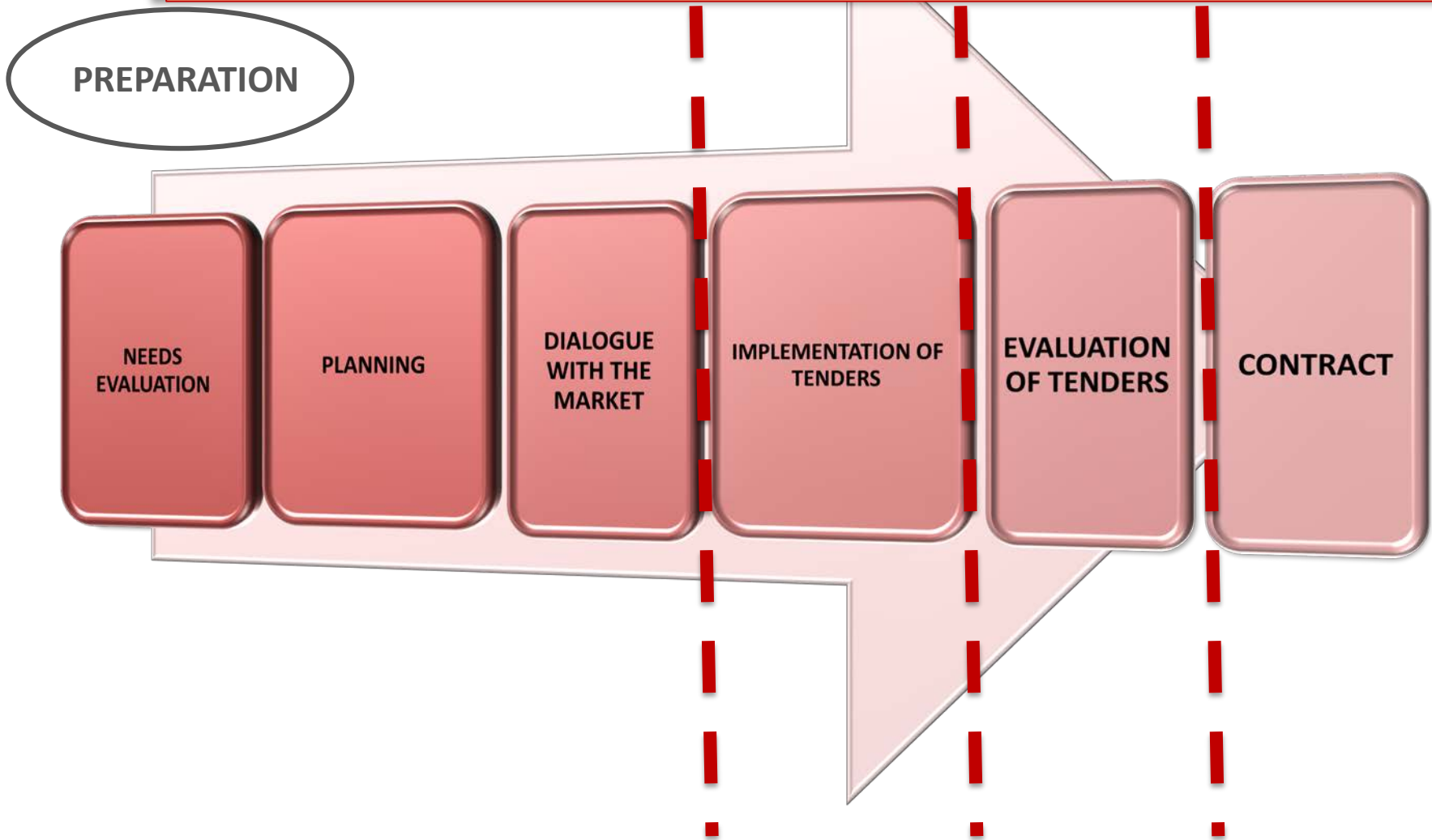
DEFINED PRODUCTS

Examples: Need of new type of industrialized façades, looking for thinner and lighter solutions, more efficient solutions than normally purchased, easy installation required,....

BASIC FUNCTIONALITIES

- ✓ Reduce the energy losses through the opaque envelope of both new and already erected buildings.
- ✓ Decrease solar gains in summer and energy losses in winter through windows and fenestrations.
- ✓ Technologies that provide good quality natural daylighting.
- ✓ Materials and elements that store thermal energy shifting heating and cooling peak loads.
- ✓ Reduce CO₂ emissions due to their industrialized manufacturing and easiness of implementation.

BUILDING OF 18 NEW HOMES IN TXABARRI 33 & 35, SESTAO



BUILDING OF 18 NEW HOMES IN TXABARRI 33 & 35, SESTAO

Brief description of the demo

Sestao's tender is a supply and installation tender and aims to purchase and fit innovative products to be installed in the new construction of 18 dwellings in 33 and 35 of Txabarri Street in Sestao.

The call for tender is divided into two lots:

- LOT 1: Solutions to reduce energy loss through the opaque building envelope.
- LOT 2: Solutions to reduce energy loss in winter and solar gains in summer through the windows.



Two buildings designed to located 18 social housing

BUILDING OF 18 NEW HOMES IN TXABARRI 33 & 35, SESTAO**Award criteria**

| CRITERIA | ENVELOPE | WINDOW |
|--|----------|--------|
| Energy efficiency | 30% | 40% |
| Sustainability | 10% | 10% |
| Installation, maintenance and others | 30% | 20% |
| Economic criteria | 30% | 30% |

INNOVATION is not included as such

INNOVATION is implied in the fulfilment of the requirements.

BUILDING OF 18 NEW HOMES IN TXABARRI 33 & 35, SESTAO

Joint Cross-Border Evaluation Team (JCBET)

- 5 Members with full rights (Technical experts)
- +
- 1 members (Legal) with only voice right designated by the contracting entity

1 member



1 member

JOINT CROSS-BORDER EVALUATION TEAM



1 member



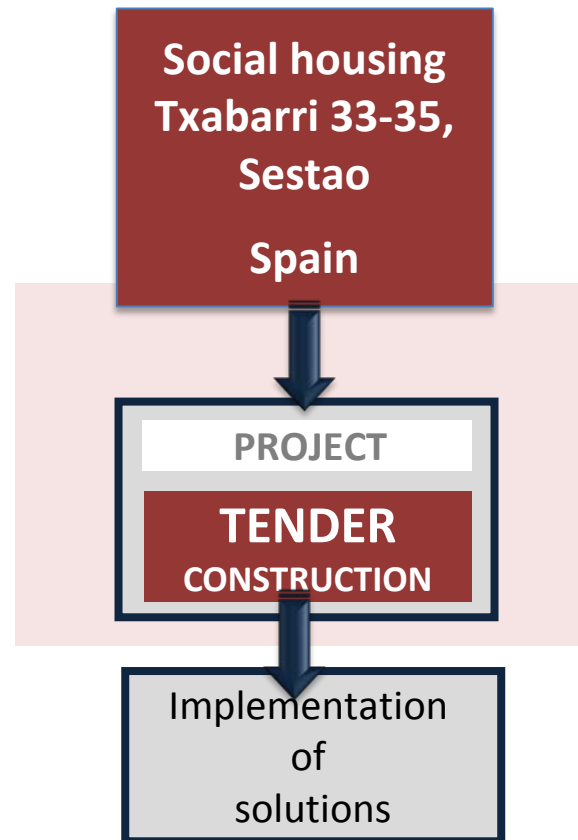
1 member



1 member

BUILDING OF 18 NEW HOMES IN TXABARRI 33 & 35, SESTAO

INNOVATIVE SOLUTIONS AWARDED



BUILDING OF 18 NEW HOMES IN TXABARRI 33 & 35, SESTAO

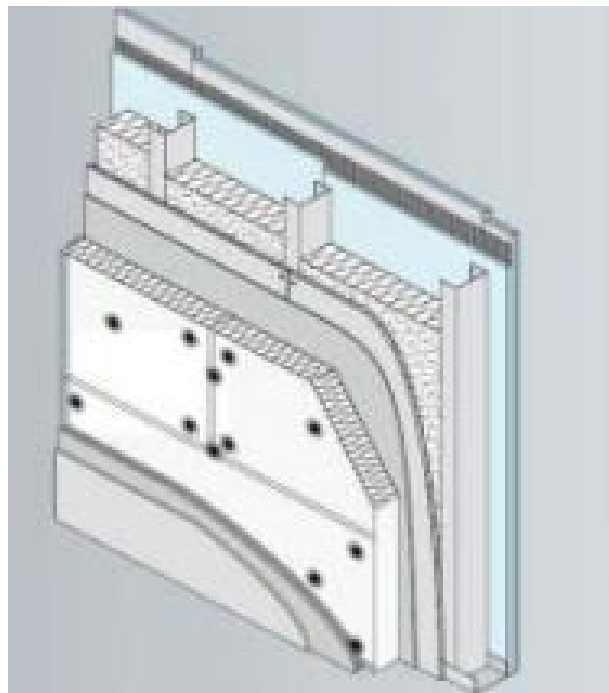
FAÇADES: kodaxter and knauff insulation

The Knauf system comprises a light Aquapanel wall, screwed to a metal galvanized steel structure subject to the building structure.

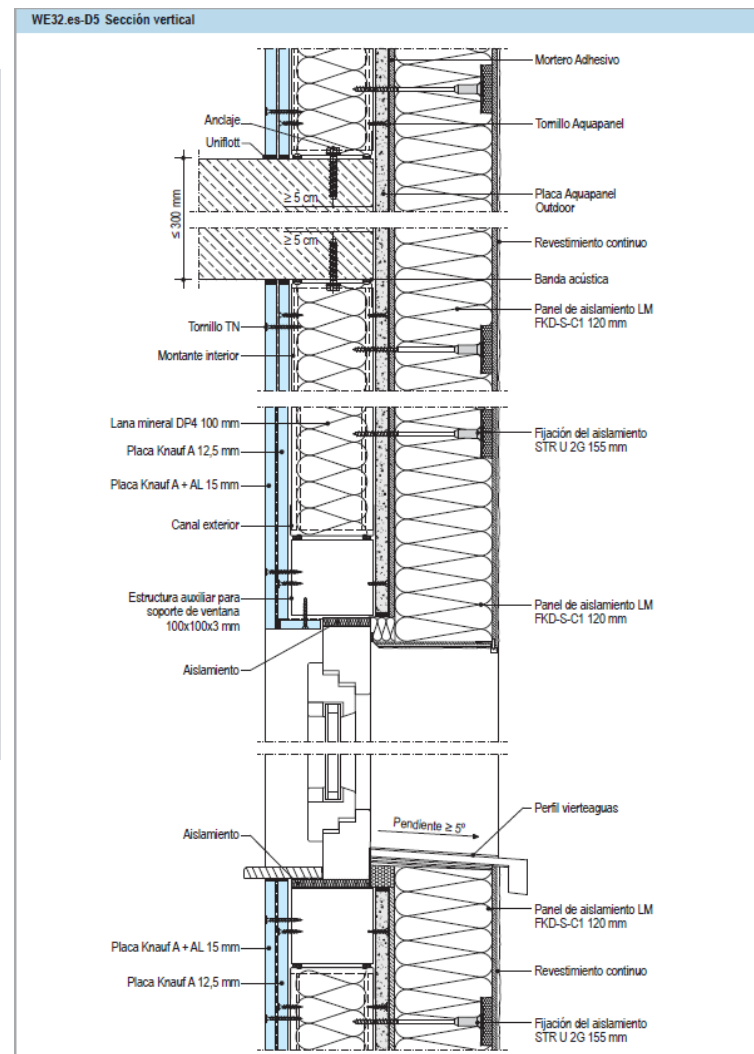
On the outside is adhered one SATE system with mineral wool Knauf Insulation and continuous coating finish.

On the inside there is placed a mineral wool and double plasterboard.

This combination makes the system easy and quick to assemble, since practically all system is dry, and Aquapanel system offers a perfect flatness to avoid corrections in setting the SATE system.



Thermal transmittance:
0,156 W/m².K

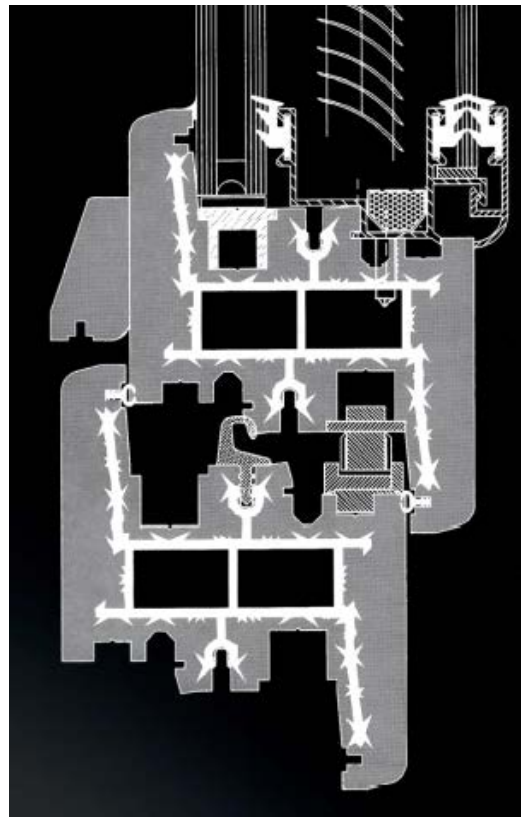
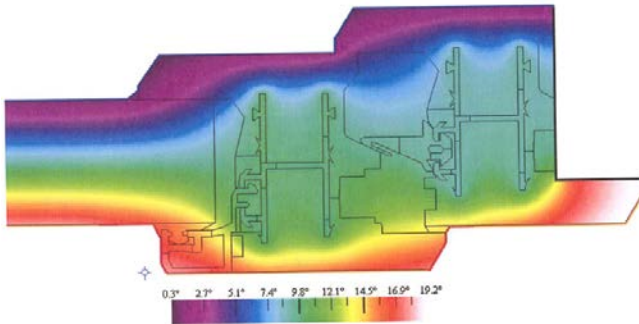


BUILDING OF 18 NEW HOMES IN TXABARRI 33 & 35, SESTAO

WINDOWS: Polyurethane Frame

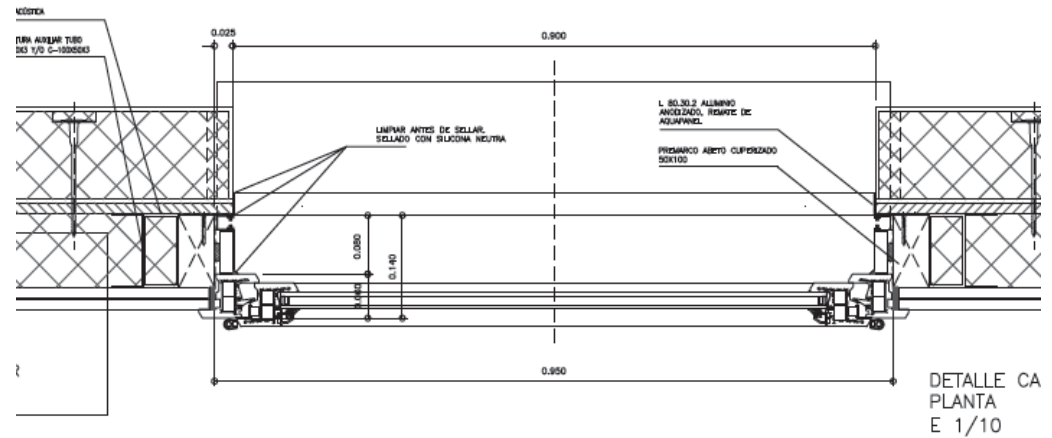
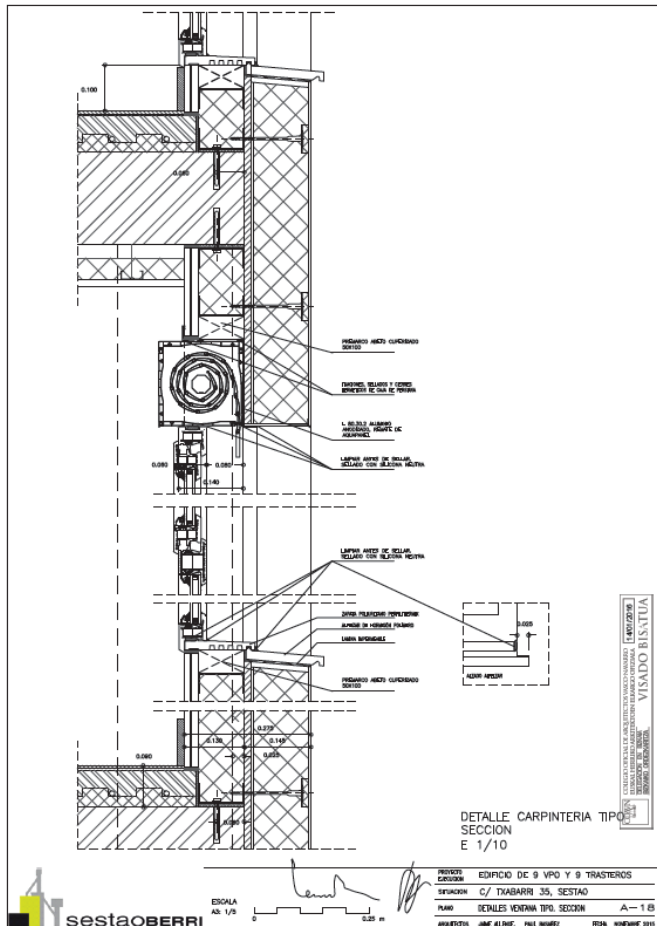
PERFIL SERIE 60/10

| $L_{t^{20}}$ (W/mK) | U_p (W/m ² K) | b_p (m) | b_t (m) | U_f (W/m ² K) |
|------------------------|-------------------------------|--------------|--------------|-------------------------------|
| 0,38 | 0,88 | 0,20 | 0,12 | 1,7 |



BUILDING OF 18 NEW HOMES IN TXABARRI 33 & 35, SESTAO

ARCHITECTS FINAL PROJECT



BUILDING OF 18 NEW HOMES IN TXABARRI 33 & 35, SESTAO

TECHNOLOGICAL VALIDATION

NEW CONSTRUCTION

Social housing
Txabarri 33-35, Sestao
Spain



PRE-INTERVENTION SIMULATION

INNOVATIVE SOLUTIONS AWARDED

POST-INTERVENTION SIMULATION

RETROFITTING

OTHERS



PRE-INTERVENTION MONITORING

INNOVATIVE SOLUTIONS IMPLEMENTED

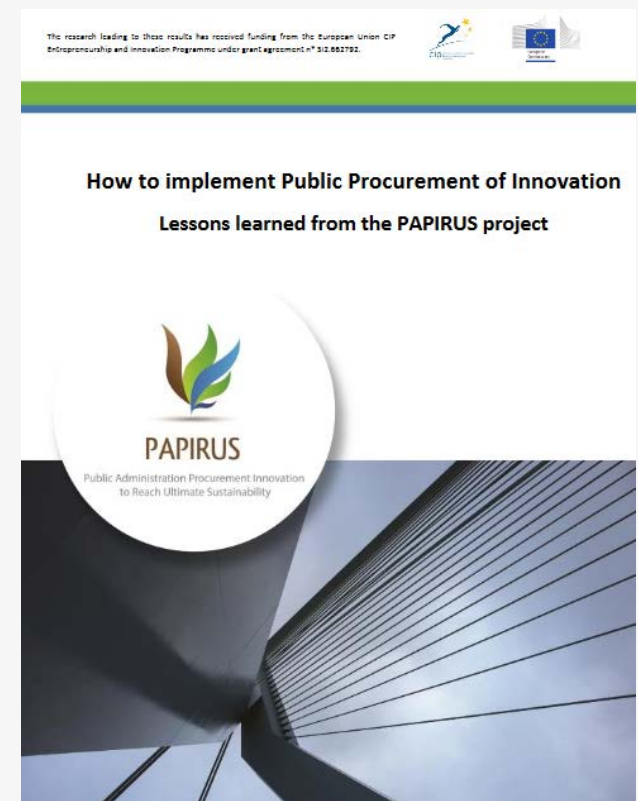
POST-INTERVENTION MONITORING

PAPIRUS training Guide

LESSONS LEARNED

PAPIRUS training Guide for public procurers on *“How to implement Public Procurement of Innovation. Lessons learned from the PAPIRUS project”*

www.papirus-project.eu



PAPIRUS e-learning

New free e-learning course on Public Procurement of Innovation (PPI).
It is now available at
<http://www.elearningasm.10.ires.pl/en/>

The screenshot shows the PAPIRUS website homepage. At the top, there is a navigation menu with links for 'About PAPIRUS', 'News', 'E-learning course', 'FAQ', and 'Contact Us'. The main content area features a large banner for the 'PAPIRUS Final Conference' with the text 'REGISTER NOW!' and a photograph of a conference room. Below the banner, there are three columns: 'News' with a sub-heading 'A workshop on innovation for users of procurement innovation', 'About PAPIRUS' with the PAPIRUS logo, and 'Start the E-learning' with a photo of a person working on a laptop. A large red arrow points from the 'Start the E-learning' section towards the right side of the slide.

The screenshot displays the 'Course structure' page of the PAPIRUS e-learning course. At the top left is the PAPIRUS logo. The page title is 'Course structure'. Below it, there is a list of course modules:

- Introduction to Public Procurement (PPI)
 - What is Public Procurement of Innovation
 - PAPIRUS Coordinated public procurement of innovation
 - Benefits of PPI
- PPI step by step
 - Introduction
 - Evaluation of needs
 - Organizing and planning in advance
 - Dialogue with the market
 - Tender implementation
 - Evaluation
 - Contract
- Challenges and tips from the PAPIRUS project
 - PPI challenges and tips from the PAPIRUS project
- Survey
 - Survey

On the right side of the page, there is a 'tip' icon (a blue speech bubble with an exclamation mark) and a text box that reads: 'The PAPIRUS market events have been successful and well-visited by companies in all of the offices the public processes where PAPIRUS operates. Taking into account the number of companies attending the market events and meetings, the response on the tenders has been limited. In order to acknowledge the reasons for this, PAPIRUS Consortium had conducted a survey with suppliers (participants of PAPIRUS market events). We would like to share the results of the survey as they may be useful for public procurers who may gain an insight of potential challenges which should be avoided or minimized in time.' Below this text are navigation buttons: 'Back to content' and 'Next >'. There is also a 'Page 1 of 10' indicator at the top right.



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