Deliverable 4.1.1 REPORT ON IMPLEMENTED PROCUREMENT PROCEDURE WP4 – Testing Activity 4.1: public procurement of innovation implementation

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1. Introduction

This report is aimed primarily at municipalities who are responsible for planning and delivering the purchase of public works in an efficient way.

The total value of public procurement in the EU represents about 19% of European GDP. However, public procurement is often neglected while it can strongly drive the future growth and stimulate innovation.

Public procurement and the way procurement processes are shaped provide local authorities with significant opportunities to improve the energy efficiency of their aging infrastructure. By orienting their procurement strategies toward new solutions that improve the energy efficiency of buildings / public lighting, local and regional authorities can reduce CO₂ emissions and contribute to sustainable development. Public Procurement of Innovation is one solution for Mediterranean municipalities to address the challenge of climate change by purchasing products, services, and works with high environmental performance.

Whyles (2018) defines innovation procurement as: "Undertaking the procurement process in a way that stimulates the supply chain to invest in developing better and more innovative goods and services to meet the unmet needs of an organisation OR simply removing barriers to innovative solutions". According to this definition, public Procurement of Innovation concerns either innovative goods or services which do not exist or are not yet available on a largescale commercial basis.

Pre-Commercial Procurement (PCP) is used when the desired product / service does not exist on the market. "*PCP means procurement of research and development services involving risk-benefit sharing under market conditions, and competitive development in phases, where there is a separation of the research and development phase from the deployment of commercial volumes of end-products"* (European Commission, 2014: 12). In this case, the "public buyer describes its need, prompting business and researchers to develop innovative products, services or processes to meet the need;" (European Commission, 2018: 8).

Conversely, "PPI is procurement where contracting authorities act as a launch customer for innovative goods or services which are not yet available on a large-scale commercial basis, and may include conformance testing" (European Commission, 2014: 12). Figure 1 shows how PCP and PPI are complementary.





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With PCP, public authorities initiate R&D and they share the IPR risks and benefits R&D while with PPI, they act as early adopter of an existing innovative solution that does not need to carry out R&D.

As mentioned by Dimitri (2017), "the main distinguishing feature between the two categories is that PCP focuses on R&D while PPI excludes R&D. For this reason, PCP and PPI are different and in principle complementary, since PPI can follow a PCP, though not necessarily."

According to Somma (2015), PPI covers TRL range from 6 to 8 and to some extent at the lower and upper limits TRL 5 and 9 (figure 2).



Figure 2: PPI flowchart including TRLs (Somma, 2015: 13)

Prominent MED focused on small municipalities which were considered as buyers and users of existing technology solutions / systems which were not well diffused yet. The four municipalities involved in the project launched PPI for the renovation of their public buildings:

- The municipality of Alzira in Spain: the pilot project focuses on the refurbishment of an old (1891) orange storage building ("magatzem de cucó" – 992 m²);
- The municipality of **Koprivnica** in Croatia: the pilot project involves the energy efficient renovation of a prefabricated kindergarten building (820 m²);
- The municipality of **Mértola**: the pilot project concerns the renovation of the city hall that also hosts the Roman part of Mértola's museum (685 m²);
- The municipality of **Narni** in Italy: the pilot case is applied for the refurbishment of a kindergarten hosting children from 6 to 36 months (1 248 m²).

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The aim of this report is to illustrate with these case studies the proceedings of public procurement of innovation (PPI).

The European Commission divides a public procurement procedure into five stages (table 1).

Table 1: Typical	public procu	rement procedu	re stages (Europ	pean Commission,	, 2018: 16)
------------------	--------------	----------------	------------------	------------------	-------------

1. Preparation and planning	2. Publication and transparency	3. Submission of tenders, opening and selection	4. Evaluation and award	5. Contract implementation
 Detect future need 	 Draft specifications including criteria 	 Receipt and opening 	 Evaluate tenders 	 Manage and monitor the
 Engage stakeholders Analyse market Define the subject matter 	 Prepare procurement documents Advertise the contract 	 Apply exclusion grounds Select suitable 	 Award and sign the contract Notify tenders and 	executionIssue paymentsIf needed, deal with modification or termination of
Choose the procedure	 Provide clarifications 	tenderers	publish the award	contract Close the contract

This report will focus on the following issues:

- 1. The preparation and planning of PPI;
- 2. The selection of the procedure;
- 3. The award of the contract;
- 4. The human resources involved in the procurement procedure;
- 5. The lessons from the innovation procurement.



2. The preparation and planning of PPI

2.1. Needs identification

The raison d'être of PPI is to improve the quality and efficiency of public services by finding solutions to unmet needs. Needs identification is strategic for procurers since it will constitute the base of the functional/performance-based specifications. It is the prerequisite of the call for tenders. Needs identification requires:

- a. To discuss with end-users;
- b. To define needs without specifying a solution and;
- c. To identify end-users who are representative of a large market.

2.1.1. Discussion with end-users

It is crucial to exchange with end-users who can pinpoint the inefficiencies of the service/process that is delivered. Moreover, involving the end-user is important for the future implementation and acceptation of the innovation.

Before launching the refurbishment process, **the municipality of Alzira** carried out site inspection to identify building features and questioned its citizens about the desired uses of the building to be refurbished. Participants decided that municipality of Alzira needed a multiuse youth centre. Once this decision was taken, municipal technical boards defined the basic technical needs for that typology of building. Finally, a theoretical building energy baseline model was designed using official national software.

The municipality of **Koprivnica** involved two separated focus groups of end users in needs identification: one group gathering kindergarten personnel and another interested parents. Each group had to give answers based on previously prepared questions. Then, end-users were free to propose their ideas. All answers were documented and compiled. The municipality carried out detailed building construction analysis and simulation (document with 70 pages) with the help of experts from the Civil Engineering Faculty to make sure the building was in proper condition.

At **the municipality of Mertola**, two separated focus groups of end users were involved in needs identification: the municipality staff and the building users. Each group had to give answers based on previously prepared questions.

Needs identification was done through three complementary approaches **at the municipality of Narni**: 1/ Analysis of the building energy performance; 2/ Site inspection to identify building features; 3/ Interviews with final users of the buildings (teachers, assistants, pupils, parents). Then, the municipality asked for quality check of the identified needs through focus groups and meetings with an energy expert and innovative material research centers representatives in order to be sure that the scope of the project was well defined.

In most cases, difficulties were twofold:

- The focus groups were not always reactive. Most of the needs had to be determined by the
 project team instead of end-users. It took time to set up a methodology to identify the needs.
 But this time dedicated to collaborative discussion strengthen the links between the
 stakeholders of the projects;
- Needs had to stay general. Otherwise, it could implicate specific solutions.

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2.1.2. Definition of specification

Ones the needs have been identified, it is necessary to transcribe them in technical specifications.

Specifications can be either descriptive or functional:

- Descriptive requirements: in this situation, the public buyer describes the detailed solutions that he expects. The economic operators who will answer to the tender will not have any incentive to propose a solution that exceeds the minimum requirements set by descriptive technical specifications. Indeed, this solution would probably be more expensive. Thus, they will propose less innovative solutions that fit the minimum requirements and have better chance of success (European Commission, 2018);
- 2. Functional specifications: the specification presents the problem to be solved without prescribing any specific solution. In this case, the public buyer does not bear the responsability for the quality and performance levels. It is the responsability of economic operators to reach a better performance. To be successful, the public buyermust have a good knowlege of the market potential (cf infra. 2.2. The market engagement).

In **Alzira**, the renovation of 'Magatzem de Cucó' building was focused on windows components (window frames, glazes and possible shadowing systems) and other elements aiming at solving the facade openings. The project became centred on the acquisition and installation of innovative windows that could respond to the following outcome-oriented requirements:

- To maximise the use of natural light;
- To minimise heat gains in summer and take advantage of solar gains in winter;
- To provide ventilation (either by opening windows or integrating ventilation system);
- To guarantee soundproofing (Acoustic insulation);
- To ensure the quality of the assembly with the opaque envelope;
- To limit maintenance and cleaning costs;
- To minimise waste and consider the life cycle of the installation;
- To provide security against vandalism.

The City of Koprivnica had the following needs:

- To deliver external, internal and functional building energy refurbishment and total transformation solution for the prefabricated kindergarten;
- To maximise energy efficiency in cost-effective way based on total cost of ownership;
- To significantly improve childcare, learning environment quality, indoor space functionality;
- To plan the refurbishment works during the summer break (2 months) since the building is occupied the rest of the year;
- To anticipate future development of the kindergarten as an institution;
- To propose scalable and replicable solutions in order to attract nationwide interest.

Site inspection and discussion with final users enabled **the municipality of Narni** to clarify the expectations for the project, namely, the improvement of internal insulation, the enforcement of the



building resilience to seismic events, a multi-material internal surface supporting kids learning process (6 months – 3 years old) through sensorial experience and acoustic insulation.

2.1.3. The identification of a larger market

The identification of end-users representing a larger market brings credibility to the tender. Thus, it is relevant to involve end-users from similar organisations that face the same problems. *"This type of pooling of demand and sharing of needs also secures economies of scale that is key to maximize the potential of innovation procurement"* (EAFIPb, 2016: 16).

REA North, the partner of the City of **Koprivnica** undertook a market research to determine the possible market size for prefabricated buildings used as kindergartens and older than 25 years. Representatives of 127 cities in Croatia were interviewed. The research revealed that at least 25 similar buildings exist in Croatia and none of these buildings were ever renovated. Moreover, almost 60 cities and municipalities, owning prefabricated or similar buildings, and other public business entities and faculties expressed their interest in the market engagement procedure.

Furthermore, the Ministry of Construction and Physical Planning recognised the importance of the pilot project and appointed its project team member. The Ministry indicated that it would closely monitor the pilot to assess the possibility of replication of this renovation approach not only to kindergarten buildings but also to similar ground level buildings. These actions showed suppliers that they had an opportunity to develop and test new product or process not only for this project.

Similarly, in **Mértola**, there was a possibility to replicate the project results to other museums in the region.

2.2. The market engagement

Market engagement is the cornerstone of innovation procurement. Once public procurers have identified their needs, they need to examine whether these needs can be fulfilled by the market.

In Prominent MED project, municipalities were not looking for solutions that did not exist yet. They wanted to buy solutions available on the market but not widely adapted and containing novel characteristics.

2.2.1. Aim of the market consultation

The aim of the market consultation is to prepare the procurement and inform economic operators of the public authorities' procurement plans and requirements. "*Market engagement is a way to provide information about forthcoming procurements to the supply chain, to test the reaction of the market to a proposed requirement, to help potential suppliers to differentiate their offering on factors other than price*" (Whyles, 2018) ¹ These elements bring the supply-side perspectives to a pro-innovation procurement process.

This phase takes place before the formal procurement procedure. The aim is to assess the capability of the market to respond to the needs of the public buyer which have been translated into functional requirements. Market engagement also contributes to reduce the risks borne by the suppliers and to convince them that this is something worth investing in.

¹ A large part of this section is based on the international webinar organised by CSTB in February 2018 with Gaynor Whyles, a leading European expert on innovation procurement, as the main speaker in this workshop.



This market analysis usually takes 3 to 6 months (Watt, 2017). Larger contracts may require up to 12 months. Some public procurers may consider this process as time consuming. However, the process should be considered as an investment since it will result in a more suitable contract for all parties.

2.2.2. Market engagement tools

A wide range of market engagement tools can be used by local authorities to communicate with the markets:

- Market Sounding Prospectus (MSP): "Market sounding is the process of assessing the reaction of the market to a proposed requirement. Market sounding should begin at the earliest possible stage in the procurement process". A MSP can be helpful to standardise responses from the market using a response form.²
- **Prior Information Notice** (PIN) in the Official Journal of the European Union: A PIN is now an established mechanism to launch a market sounding or consultation. It is helpful in terms of coverage of suppliers and to show that the exercise is 'official'. However, further communication is vital since it is associated to an administrative procedure.³
- **Webpage**: They are a helpful way to keep suppliers up to date and engaged. It creates a paper trail and facilitates transparency to maintain a level playing field.
- Market consultation workshops and site visits: It is necessary to prepare a briefing note to suppliers in advance of the workshop and to provide them with enough time for networking. For public authorities, it is a good way to understand the range of views present in the supply chain, to assess the mood of the market and to get an idea of perceived barriers.

All municipalities used these different tools to test the appetite of the market. They also launched mailing campaigns to several stakeholders of the local built environment (SMEs, associations, federations, chambers of commerce, etc.) who expanded the visibility of the message.

Municipalities organised meetings, site visits and received valuable feedbacks. Pilot project information was usually available on specific web pages and social networks. Participants were systematically provided with some technical documentation such as the energy audit and the consumption analysis of the buildings.

The market consultation workshop was considered as the key event. It was a bilateral exchange. The municipalities informed the potential suppliers on their expectations (e.g.: requirements for energy-efficient solutions, specific constraints such as the time constraint due to the summer break in **Koprivnica**; the limitations due to the historical specificity of building in **Mértola**; **the PPI scheme and the technical requirements in Alzira**) and the specificities of PPI. Conversely, suppliers and contractors exposed the options and solutions available to address the energy challenge.

2.2.3. Challenges with market engagement

All municipalities and economic operators were not acquainted with PPI. Public authorities had to invest more effort before and after the publication of the tender to explain the specificities of this procurement procedure because the market was not mature yet. Moreover, most suppliers were not ready to give details about the price and technical specificities of their solutions.

² Annex 1 presents the Market sounding prospectus of the City of Koprivnica.

³ Annex 2 presents the PIN for the renovation of the kindergarten of the City of Koprivnica.



Some difficulties were contextual. At **the municipality of Alzira**, the main issue was to obtain feedback form potential suppliers. The initial mailing campaign launched from a generic "gmail" account did not have a great impact. A similar campaign based on the e-mail account of the municipality in charge of the procurement (Consorci de la Ribera) was more successful. **In Koprivnica**, there was a lack of suppliers. The prefabricated building industry is rather limited in Croatia: only two producers of family houses were identified. Moreover, no successful refurbishment of prefabricated buildings was undertaken.



3. The selection of the procedure

The choice of the procedure for PPI strongly depends on the former analysis based on needs identification, definition of specification and market analysis.

According to the Directive 2014/24/EU of the European Parliament and of the Council on public procurement, contracting authorities (CA) can apply several procedures when awarding public contracts:

- Open procedure (article 27);
- Restricted procedure (article 28);
- Competitive procedure with negotiation (article 29);
- Competitive dialogue (article 30);
- Innovation partnership (article 31);
- Use of the negotiated procedure without prior publication (article 32).

The choice of the procedure strongly depends on the ability of the contracting authority to specify the end product / service.

The competitive dialogue is often used for complex projects where the technical specifications cannot be adequately defined in advance. The competitive dialogue is adapted to these projects "because matters such as technical specifications and price levels can be defined during the dialogue rather than being predetermined" (Hoezen et al, 2010: 1178).

The competitive procedure with negotiation is also adapted to procure works which include an element of innovation. However, the contracting authority that uses this procedure can specify the required characteristics of the goods or services in advance of the competition (cf. table 2).

In both cases, contracting authorities must provide a description of their needs and the characteristics required of the works to be procured and specify the contract award criteria. (European Parliament, art.29 and 30, 2014).

In these negotiated procedures, parties start to exchange during the procurement stage while in traditional public procurement, they start to know each other after the awarding of the contract. These discussions lead to a better understanding of a project.

These procedures are particularly adapted when the needs include design or innovative solutions and when contracting authorities procure works which integrate innovative solutions. However, in some very specific situation needs identification and market engagement may have led to a perfect understanding of the technical specifications and the price levels proposed by the market. This situation results from extensive market research, discussions with suppliers and contractors during workshop, etc. In such a situation, the technological solutions and the prices can be described before the beginning of the tender process. Consequently, **the open procedure** becomes adapted.

Moreover, below European thresholds, different procedures can be used for the award of certain works, supply and service contracts. The thresholds of the contracts depend on the subject of the purchase, and who is making the purchase. When the monetary value of the tenders exceeds a certain amount, the EU rules apply while for tenders of lower value national rules with the respect of the general principles of EU law apply. The aim is to ensure that the award of contracts of higher value is equitable, transparent and non-discriminatory.

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In the case of works contracts, the thresholds are identical both for central government authorities (national public bodies) and sub-central contracting authorities (authorities operating at regional and local level). Above €5,350,000, the EU rules apply.

For small municipalities, open procedures or other national procedures may be more adapted since transaction and organisation costs linked to competitive procedure with negotiation and competitive dialogue are usually quite high.

Sufficient kn	Sufficient knowledge of the market to define requirements for end-solutions?									
Y	es			No						
			Prelimi	inary market consultation	(Art. 40)					
Need R&D services prior to procurement?										
Y	es			No						
Do you wish to acquire services on a commerc same pro	innovative products or cial scale, as part of the ocedure?	Can a specification of the end products/services to be procured be developed?								
Yes	No		Yes	Yes	No					
Innovation Partnership (Art. 31)	Pre-commercial procurement	р	Open procedure (Art. 27)	Competitive procedure with negotiation (Article 29)	Competitive dialogue (Article 30)					
Levels of co Consider joint pro	mpetition or time/ resou curement or, in exception	uro	ces inadequal cases on	uate for above procedure ly, derogation from the o	es? lirectives					

Table 2: Factors influencing the selection of the procedure (Adapted from Semple, 2014)

Procurement area covered by Prominent MED

The four municipalities involved in Prominent MED used three **different types of public procurement procedures**. All "public works contracts" focused on the implementation of innovative technology systems and solutions aiming at improving energy performance of public buildings:

- 1. The open procedure,
- 2. The competitive procedure with negotiation,
- 3. The competitive dialogue.

Table 3 presents the decision matrix leading to the choice of one of these three procedures.



Table 3: Decision matrix to support the choice between the open procedure, the competitive procedure with negotiation and the competitive dialogue(European Commission, 2018)

Procedures	Specific requirements for using the procedure	Stages	Minimum number of candidates	Level of competition	Workload for contracting authorities	Risk of complaints, remedies or irregularities	Incentive for innovative products
Open procedure	None. It can be used for all purchases.	1. Selection and evaluation	None. All interested candidates can submit a tender.	HIGH Unlimited number of tenders	HIGH All compliant tenders must be examined by the CA and this can delay the award. Resource intensive for both the CA and the candidates who have to prepare a complete tender.	LOW Decision made with a straightforward focus on the award. Limited transparency risks as an open, transparent, competitive procedure	LOW ⁴
Competitive procedure with negotiation	Fulfil one or more of the following criteria: An open or restricted procedure has attracted only irregular or unacceptable tenders. The needs of the CA cannot be met without the adaptation of available solutions	 Prequalification Negotiation and evaluation 	All interested candidates may request participation in response to a contract	MEDIUM Limited number of candidates allowed to submit a	HIGH The burden of proof for the circumstances allowing for the use of the procedure rests with the CA.	MEDIUM Greater potential for collusion/corruption due to the increased exercise of discretion by the CA.	MEDIUM
Competitive dialogue	The subject matter includes design or innovative solutions. The technical specifications cannot be established with sufficient precision by the CA with reference to defined standards or technical requirements. The contract cannot be awarded without prior negotiations due to specific risks or circumstances related to the nature, complexity, or legal and financial matters.	 Prequalification Dialogue Selection and evaluation 	At least 3 pre-selected candidates can submit a tender	tender. Possibility to restrict participation only to market operators with high level of specialisation.	the negotiation/dialogue with tenderers. Limited number of tenders to evaluate and therefore less resource intensive for the evaluation committee/CA. Two-stage or three stage procedures might be longer in order to respect the required time limits.	HIGH Greater potential for collusion/corruption due to the increased exercise of discretion by the CA. Transparency requirements are particularly challenging during the dialogue.	HIGH

⁴ The incentives are lower than with the two other procedures but if the functional requirements have been well defined the potential for innovative solutions is high.



3.1. The open procedure in Alzira (Spain)

The subject of the works contract was 'energy-efficient refurbishment of the exterior façade (121.94 m2 total, 86 window units) of a city-owned warehouse, towards the goal of a NZEB for the Youth Centre.

The open procedure was chosen to attract as many market actors as possible. Spanish cluster was able to use this tradition procedure approach because during the needs identification and the market engagement phases, the contracting authorities were able to obtain enough information to define the terms of reference in detail.

In order to avoid misunderstandings with the terms of reference (TOR), a TOR explanatory session was set up at Alzira City Hall once the tender was launched. Bidders were asked to clarify and improve the technical documentation and to detail data included at criteria quantification spreadsheet. It lengthens the awarding procedure but also reduced the risks of appeal. The selection of the most advantageous bidder was done on time.

3.2. The competitive procedure with negotiation in Koprivnica (Croatia) and Narni (Italy)

In **Koprivnica**, the competitive procedure with negotiation was chosen because after the market consultation the municipality knew which sort of technical solutions to implement. Negotiations were more about the price, the services proposed by the consortium for a given price, the way the consortium would implement the solutions (was it feasible and sustainable?) and the agenda of the renovation.

The renovation of the kindergarten of the Municipality of **Narni** required a solution which combines static safety, thermo-acoustic efficiency and multisensory quality and that did not find a precise and clear response in the current market. Thus, it was necessary to carry out a preliminary market consultation to test the market and identify any suitable product. This preliminary market consultation was successful and produced sufficient data to prepare a first set of technical specification to launch a competitive dialogue with negotiation.

After the publication of the notice for expression of interest, 104 economic operators manifested an interest. Ten were selected and were invited to submit an offer (first invitation letter in April 2019). Only three tenderers submitted their offers which were evaluated by a technical commission, which assigned them a score according to the criteria set out in the invitation letter. Subsequently, the Commission met the competitors separately, establishing a constructive comparison with them in which the needs of the authority were highlighted, in order to improve the offer. Finally, in June, competitors were invited (second invitation letter) to reformulate the offer which was again evaluated by the Commission by following the award criteria. The contract was awarded to the competitor proposing the most economically advantageous offer.

3.3. The competitive dialogue in Mértola

In Mértola, the competitive dialog was chosen due to the unique architectural characteristics of the building and its location in an historical environment.

The competitive dialogue was able to stimulate the market, favour innovation and creativity, and promote energy efficiency solutions. Mainstream solutions were not applicable due to the nature of the buildings and its geographic insertion. The dialogue between the municipality and the economic operators enabled to build the best solutions fulfilling the needs of the public buyer.



3.4. Timeline of the procurement procedure

Procurement stages	Alzira	Koprivnica	Mértola	Narni
Needs identification	November 2017	January – August 2017	September 2017	January-June 2017
Market engagement	December 2017 - February 2018	October 2017	April 2018	October 2017 – February 2018 (information workshop on October 25 th 2017)
Prior information notice	January 2018	March 2018	March 2018	3 November 2017
Market Consultation Workshop	March 2018	April 2018	April 2018	April 2018
Call for tenders	June 13, 2018	31 January 2019	September 2018	 publication of notice for expression of interest 05/02/2019; 1st invitation letter 18/04/2019; 2nd invitation letter 19/06/2019
Selection of the preferred bidder	January 2019.	10 April 2019	August 2019	July 2019
Contract signed	04 February 2019.	24 April 2019	December 2019	18 November 2019
Works finalisation	8 July 2019.	31 August 2019	By July 2020	By July 2020

Table 4: Timeline of the procurement procedure in the four countries of the project



4. The award of the contract

The award of the contract to the final bidder is divided into two phases (Advocaten, 2015):

- a. The selection of the candidates with the relevant capacities;
- b. The selection of the tender.

The selection of the candidates aims at checking whether the potential candidates possess the minimum technical and professional competences to be qualified (e.g. experiences in the analysis / design / implementation of energy-saving measures). It can also concern the requirements regarding the financial and economical strengths. For new ventures that lack references and look for credibility, this second requirement may become a barrier.

The selection of the tender cannot be based anymore on the "lowest price". Award criteria have to promote the "economically most advantageous tender". It is usually better to mix quantitative (e.g. maintenance costs, net present value of the energy cost savings during the contract – energy simulations may be used to judge the proposed solutions) and qualitative criteria (e.g. quality of the action plan, compatibility of the innovative solution with existing systems, ease of installation...). Each award criteria has to be weighted in order to get the select the approach that offers the best value over the lifespan of the contract.

This selection has to be done in respect with European rules concerning tenders. These rules ensure that the award of contracts for the provision of public goods and services must be fair, equitable, transparent and non-discriminatory.

4.1. The award criteria

4.1.1. The award criteria in Alzira

In **Alzira**, regarding the selection criterion, bidders had to prove recent experience in energy rehabilitation of buildings, professional competency (relevant qualification and experience of project team), full civil liability insurance coverage, and solvency (economic viability, good standing with public administration).

Consorci de la Ribera provided energy efficiency and LCC calculation tools (calculation spreadsheet) as well as the building model for energy simulations (CE3X software). By using these tools, each bidder was required to demonstrate the improved energy performance of their proposed solution over a common baseline.

The contract was awarded to the bidder who fulfilled all required criteria and scored the highest in the evaluation, in this case comprised of both qualitative and quantitative components.

- 1. Qualitative Criteria (45/100)
 - a. Implementation of passive cooling strategies such as shading and cross-ventilation (10)
 - b. Reducing the needs of artificial lighting by maximizing the use of natural lighting (10)
 - c. Acoustic insulation: improving the building's soundproofing both inside and out beyond required minimums, considering its potential use for concerts and its proximity to the health and retirement centre (10)
 - d. Sustainable nature of the solution (5 points total)
 - i. Materials with ecolabel certification (1)
 - ii. Materials come from renewable resources (1)



- iii. Low environmental impact of supplies transportation (1)
- iv. Simple maintenance and minimized need for chemicals in cleaning (1)
- v. Minimized waste in removal and future material recyclability (1)
- e. Innovative character of the solution, beyond described requirements to progress towards NZEB (10). Here the bidders had to explain the innovative character of the proposal and to show how the proposed solutions would contribute to NZEB building objectives.
- 2. Quantitative Criteria (55/100)
 - a. Reduction of the heating and cooling needs associated with the thermal performance of the windows, based on the improvement over the baseline building energy performance model provided (25). Based on the energy consumption baseline obtained initially from a virtualization of the building retrofitting with traditional solutions. The software CE3X is free and recognized by Ministry of Industry, competent in the field. A minimum reduction of 5% energy demand was expected.
 - b. Guaranty of the materials with a minimum of 5 years, extendable to 10 years (10)
 - c. LCC, as calculated with the provided template, awarded proportionally among competent proposals received (20). LCC was calculated using the excel file produced by the contracting authorities. LCC normalized to a year, considering the following aspects:
 - i. Cost of acquisition: supply and installation
 - ii. Cost of use related to the energy consumption of the building
 - iii. Cost of maintenance: preventive and corrective
 - iv. Cost of end-of-life, including recovery and recycling

4.1.2. The award criteria in Koprivnica

The award criteria were the following: Price 50 % - Warranty 20 % (up to 60 months) - Innovation criteria 30 %

"Warranty" was a criterion to evaluate a Defects Liability Security/Guarantee period duration offered by the bidders (cf. Table 4).

The innovation criterion was appreciated for two outcome-based requirements (measures 1 and 2):

- Measure 1: Remediation of all inadequate water supply and drainage system of the building
- Measure 2: The thermal protection of building envelope

Measures 3 to 8 were not included in innovative evaluation, but the preferred bidder was forced to implement them.

- Measure 3: Increase of the daylight illumination of rooms by increasing the transparency the canopy
- Measure 4: Didactic and learning elements as a part of new envelope
- Measure 5: Damaged internal walls remediation
- Measure 6: New final floor layer in children's rooms



- Measure 7: High-efficiency heat energy production system
- Measure 8: Ventilation system with recuperation

CRITERIUM NAME	MEASURING UNIT	SYMBOL	RELATIVE %	METHODOLOGY	POINTS
The Price	The price without VAT; calculated up to two decimal places [0,00]	С	50,00%	C _{Pmin} = lowest bidder's price offered C _P = price of currently evaluating bid 50,00 = the relative importance of this criterium	Score is calculated as follows: $C = \left(\frac{C_{Pmin}}{C_P}\right) \times 50,00$
Innovative	Innovative features	Ml ₁ 15,00%		NO	0,00
Specification Of Measure 1	YES / NO	MI1	15,00%	YES	15,00
Innovative	Innovative features			NO	0,00
Specification Of Measure 2	offered? YES / NO	MI2	15,00%	YES	15,00
	In months; in whole numbers, without decimal places	J		24 months	0,00
			20,00%	25 up to 29 months	2,50
				Od 29 up to 34 months	5,00
				Od 35 up to 39 months	7,50
Warranty Period				Od 40 up to 44 months	10,00
				Od 45 up to 49 months	12,50
				Od 50 up to 54 months	15,00
				Od 55 up to 59 months	17,50
				More than 60 months	20,00
	MAXIMUM	COMBINED SCORE	100,00%		100,00
		COMBINED	SCORE IS CALCU	LATED AS FOLLOWS: /ll2 + J	

Table 5: Award criteria calculation in Koprivnica

It was possible to offer Measure 1 and/or Measure 2 without innovative features (as usual solutions) and in this case they were not evaluated. This was allowed in order to avoid stopping the project (it showed that the Croatian market is not yet prepared for this type of procurement). Moreover, contracting authorities did not want to promote innovation for the sake of innovation.

If Measure 1 and/or Measure 2 were offered with innovative characteristics, they had to meet or exceed requirements for innovative solution. For instance, for the measure to be regarded as innovative it had to meet at least:

- Measure 1: A) No invasive works in internal or external walls, except works in bathrooms. B) Minimal invasive work for new drainage system. C) No raising of the existing level of ground floor in order to carry out the plumbing and drainage system. D) Newly installed water supply system (pipes) and drainage system shall not be visible to occupants.
- Measure 2: A) Implement thicker thermal protection than possible since 75 % of external walls are wooden and hollow (sandwich walls). The maximum thickness is calculated in static analysis document issued by Faculty of Civil Engineering. B) Works must be organised to allow



kindergarten to be in basic function for the users during June and from the last week of August onward.

The bidders had to describe their innovative solutions for Measure 1 and/or Measure 2 as pure technical specifications. These specifications were then evaluated as appropriate (YES in table below) or not appropriate (NO in table below) by Joint Evaluation Team (national procurement and technical expert).

4.1.3. The award criteria in Mértola

The price was a minor element in the selection of the preferred bidder K1 - Technical Characteristics: 90%

- K1.1 Technical quality of the tenders submitted according to the needs identified: 35%;
- K1.2 Innovative character of the proposal: 20%.
- K1.3 Potential reduction in consumption: 25%.
- K1.4- Performance guarantees: 10%.

K2 - Price: 10%

4.1.4. The award criteria in Narni

Quantitative and qualitative criteria were used to evaluate the tenders:

- The quantitative requirements were directly related to the intrinsic technical and physical performance of the materials used (mechanical, thermal, acoustic, etc.);
- The qualitative requirements were instead identifiable as a series of functional requirements, important for the usability and performance of the teaching activity. They were not measurable with a merely numerical and quantitative criterion. Instead, studies and tests were carried out to demonstrate the proposed capabilities.

For the evaluation of the proposals, a rating system rewarding the performance of the materials and any improvement proposals compared to the minimum project requirements was adopted.

The qualitative evaluation criteria were as follows:

- Functional solutions that can promote a more suitable environment for learning, through multisensory experiences related to the surfaces of the walls. In particular, the proposed technological solution had to provide the possibility of personalising walls or portions of walls (for example by varying the colours, surface finishes and/or materials in order to allow different tactile, visual, olfactory experiences, etc.);
- Technological solutions accompanied by a sensorial project with pedagogical-didactic purposes, documented and supported by scientific reports on the subject, aimed at the growth of the pupils;
- Solutions that allowed easy management and maintenance of the wall (e.g. cleaning, replacement of damaged parts, etc.);
- Construction solutions in which the materials used were environmentally sustainable, demonstrating their efficiency with an LCA study to be started at the beginning of the works. With the presentation of the offer, adequate technical data sheets and documentation were required to support the demonstration of the requirement, attesting the sustainability of the single materials used.

For the economic offer, a score inversely proportional to the offered price was used.



The maximum total score of 100 points was divided as follows:

- 50 pt. Maximum score attributable to quantitative requirements;
- 40 pt. Maximum score attributable to quality requirements;
- 10 pt. Maximum score attributable to economic requirements.

4.2. The selection of the preferred bidder

4.2.1. The case of Alzira

In Alzira, three bidders submitted tenders. The contract was awarded to the bidder with the highest overall score: JEMCO, an SME construction contractor. JEMCO's solution scored well in LCC, passive cooling strategies, and soundproofing. The contract was awarded in January 2019 and construction was completed in July.

The awarded SME proposed a combination of solutions from different manufacturers with their own R&D services, to offer a global solution. The aim was to respond holistically to the identified needs.

During the call there were difficulties in understanding the spreadsheet software versions produced to assess the proposed solutions and the energy model template. Moreover, there was a misunderstanding about the Life Cycle Cost calculation of the bidders' solutions. Everything was solved with the technical assistant who was hired.

The 5% energy saving set at TOR was not calculated randomly but was agreed by the technical staff involved in the project. This 5% is an estimate of the potential savings threshold that traditional solutions, mature in the market, can provide to a typical building.

The main innovation focused on the window-facade joint. The technical solutions presented by the companies associated with façade openings proposals offered between 15 to 20% reduction in energy demand. This calculation was based on the CE3X software. This result was significantly higher than the 5 % fixed as a minimum requirement at the specifications

It is also worth highlighting the difficulties faced by the contracting entity when defining the TOR and the award criteria weights. The exclusion of a 'price' criterion was a taboo.

The **contract** for refurbishment of 86 windows (121.94 m2 total), including installation, had a **value** of €200,000 (VAT not included) and was fully funded by the Prominent MED project.

4.2.2. The case of Koprivnica

A consortium gathering two construction companies and one designer was the only bidder. It proposed innovative solutions for thermal insulation of the building's external envelope and reconstruction of building water supply and drainage system. This consortium took part to the visit and the market consultation workshop.

The selected bidder met all the requirements for innovative solutions. Both "Measure 1" and "Measure 2" were innovative:

Measure 1: Remediation of all inadequate water supply and drainage system of the building:

 Complete replacement of all inadequate water supply pipes and installation of new water supply without invasive works – by constructing the water supply network in the attic and connecting it vertically down directly to bathrooms and kitchen. In this way the new system is invisible to occupants and there was also no need for supporting structure, which proved to be cost effective for the selected bidder.



• Installation of completely new internal drainage/sewage system without replacement of an old one, using only minimal invasive works in a synergy with floor reconstruction. The drainage system was laid in one common narrow route throughout the building, with only one exit tube to connect to external drainage (instead of previous three exit tubes).

Measure 2: The thermal protection of building envelope:

• Implementation of the thicker-than-possible thermal protection of external walls. The solution was possible due to proposed reinforcing of the exterior walls construction by using OSB panels. The OSB panels enabled additional load capacity, a possibility to properly anchor the ETICS façade and to install PVC windows according to RAL standard.

The overall conclusion is that the innovation resulted from the combination of existing materials and basic techniques. The implementation approach was not previously offered or used in Croatia, which was confirmed to be true by national technical expert from the Faculty of Civil Engineering.

Contract value: 370.000 € (VAT included - 2.2 million HRK) - 200.000 € (Prominent MED budget) 170 000 € (City of Koprivnica)

4.2.3. The case of Mértola

The competitive dialogue was launched the 20th of September 2018 and ended the 22nd of October 2018. Only two companies responded. The procedure was relaunched the 14th of December 2018 since a minimum of three answers was required. Four companies responded to the second call and three were qualified to the second phase. The dialogue between the contracting authorities and the companies lasted until the end of August 2019 and the contract was signed in December 2019.

The bidders presented documentation regarding their experience and detailed information regarding the proposed solutions. The selected company was totally available to comply with specific historical heritage related rules. The preferred bidder also took part of the site visits and the market consultation workshop.

The preferred bidder scored 20 for the innovative solutions of the proposal in the areas of energy efficiency and/or urban regeneration.

4.2.4. The case of Narni

The PPI procedure within Prominent MED project was coordinated with the open call referred to the other public grant received for the refurbishment of the school (1.020.000 € deriving from Umbria ROP-ERDF funds for improvement of seismic resilience and thermal insulation). The works on the external and structural part were included in the grant of the Region of Umbria and the internal refurbishment was included in Prominent MED small scale investments. The procedure was closed in July 2019 and the same enterprise won both the grants. Three bidders answered to the call.

The procedure represented a best practice of interest throughout Europe, but it was also a challenge as the Municipality needed more time for handling both procedures and then to combine the works creating a cross scheduling between the two interventions.

The works consists in the redevelopment of the internal environments of the school building, from a thermo-acoustic, aesthetic and functional point of view, through the recovery and conservative restoration of the internal walls, applying panels that guarantee adequate thermal and acoustic insulation. The solution also improves the structural safety of the building, with particular attention to the anti-overturning of the internal walls in order to prevent the school from earthquake. These technical requirements are combined with the aesthetic and sensorial qualities of the finishes, in order to guarantee positive pedagogical effects for children-users.



The innovation is a combination of technical interventions and didactic-pedagogical environment. It is the results of a dialogue which started even before the procedure when the municipality tried to understand the specific needs of the people using the kindergarten, namely children, parents and teachers/educators and to comply with them. PPI was also innovative for the Municipality of Narni.

Contract value: Auction/starting price: € 187,500.00. (excluding VAT)

Award amount: € 179.336,25 (excluding VAT).



5. The human resources involved in the procurement procedure

PPI is a performance-based procurement approach and requires a cultural shift from all stakeholders who are more familiar with prescriptive call for tenders. For example, the market engagement stage revealed that suppliers and contractors discovered PPI and that public authorities had to inform them about the specificities of this procurement approach.

Similarly, PPI is probably more complex for small municipalities which often do not have a procurement department. The assistance of exterior consultants specialised in this field may be appropriate.

The promotion of innovation brokers as facilitators of public procurement of innovations is a priority for the European Commission to spread PPI in Europe. Indeed, innovation is a driver for territories development across Europe. The brokers can act as a facilitator and an intermediary between public bodies and innovative SMEs which often do not work together.

In most cases, municipalities used the services of external consultants for both legal and technical aspects of building renovation.

5.1. Human resources management in Alzira

In Alzira, the project team involved in the procurement procedure was composed with a mix of internal and external resources:

- At the municipality level: (i) Departments of urban participation for a survey to define the use of the building, (ii) engineers and architects to define the technical requirements (most involved), (iii) legal/procurement service to understand how to incorporate the procedure, (iv) innovation department to follow up the implementation of the project, (v) major and councillors, for political support.
- External resources: (i) Consorci de la Ribera (CRIB), Universitat Politècnica de Valencia (UPV) and TECNALIA: Analysis of needs, definition of requisites, market engagement, performance of TOR and evaluation tools, analysis of bids; (ii) CRIB: administrative procurement procedure; (iii) CRIB-UPV: Monitoring of works

5.2. Human resources management in Koprivnica

The internal project team was composed with:

- One project manager (project partner City of Koprivnica Department for Finance, Economy and European Affairs);
- One procurement officer (project partner City of Koprivnica Section for Procurement) and
- One project manager (project partner REA North).

External experts supplemented this project team:

- The Croatian Green Building Council (CGBC) for the coordination and communication process with the supply side. It promoted the project in electronic media with the goal to make the project visible and recognizable, helped with mailings and with preliminary market consultation phase, connecting the project to other national Green Building Councils.
- An international PPI expert (Jera Consulting Ltd) was consulted for guidance through preliminary market consultation aimed at gathering information from the market, and at informing the potential suppliers about the needs of the municipality. This expert provided direct project support: review of draft documents, help to formulate forward plans, solutions



to overcome barriers and issues as they arise, advises on the formulation of pro-innovation procurement strategies and tender documents, templates.

- A national procurement expert with a good experience in national regulatory procurement framework, offered similar services but on national level.
- The Faculty of Civil Engineering (University in Zagreb) was hired as national technology expert to support preliminary analysis of the market of innovative technologies for energy reconstruction of prefabricated buildings. It was also involved in the analyse of possible innovative technologies, systems and solutions for the energy refurbishment of existing prefabricated buildings in Croatia. It also made a repository of designers, manufacturers and contractors operating in the field of innovative technologies, systems and solutions for energy refurbishment in Croatia.

The total costs of this external support (consultants/facilitators) reached at total of 21.500,00 EUR.

5.3. Human resources management in Mértola

The following people were involved at the internal level:

- One project manager and one financial expert (CIMBAL),
- One energy expert and one communication expert (IrRADIARE),
- One technician from each municipality (Mértola and Serpa Municipalities),
- One expert in public procurement (Mértola Municipality) and
- One expert on historical aspects and specifc rules (Mértola Municipality);

External experts specialised in energy, legal issues, historical issues and PPI, worked as consultants during the procurement process.

5.4. Human resources management in Narni

Handling the PPI procedure was difficult since these procedures are more complex than the ordinary open call. Moreover, it is not yet widespread, particularly in small municipalities such as Narni. Within the Municipality, the procedure has been managed by the Head of Public Works and by the accountant who was in charge of the administrative secretary). Furthermore, the Municipality received external support:

- A lawyer for legal issues;
- External engineers and architects for technical matters;
- The central single commissioner of the Province of Terni for the proper management of the tender phases.

The Head of Public Works and the lawyer collaborated in the framework of the Join Evaluation Team (JET) with the other EU experts selected by the project partners. The aim was to provide support during the PPI procedure and guarantee the needed synergies between the different procedures handled in the four pilots.



6. Lessons from the innovation procurement

6.1. Learning in Alzira

At needs identification phase:

- The specific characteristics of the 'Magatzem de Cucó' building supposed an extra effort in terms of human and economic resources, both in conducting participatory process surveys and in performing the energy model or baseline of the pilot building. These efforts were not vain because the energy simulation model served to compare innovative technical solutions with the traditional ones. It was also used to calculate the solutions impact on building energy demand and the life cycle cost of potential solutions. Thus, it was a crucial tool to select the best price-quality ratio proposal/bidder;
- High market segmentation allowed the identification of a number of players such as the socalled 'influencers' or poles of communication that were really important for the success of the project. Technological institutes, business associations are also relevant actors capable of multiplying the project's echo.
- The decision to split the challenge/ building system into technically and economically viable subsystems for technical analysis was a wise decision. It contributed to deliver the refurbishment project on time and budget.
- It took time to set up a common understandable and agreed methodology to identify the needs. But this time dedicated to collaborative discussion became the root of the pilot project.

At market engagement phase:

- Open market consultations are an essential part of public procurement of innovation (PPI). Getting involved with market partners helps public administrations to keep track of the latest innovations. It is also helpful to collaborate closely with technical experts, such as universities, which can help conduct a preliminary market analysis to gauge the state-of-the-art. The publication of details on regional tender platforms and early communication with the suppliers (dialogue with the public authority and site visits) were very important to build credibility.
- The key activity is the dialogue with the market. It includes the collection of preliminary information on the state-of-the-art. The achievement of PPI objectives (better public services and helping SME to invest in innovation) requires a complete knowledge of the existing and future market.
- To gain wider market credibility, it is necessary to channel the information through only one 'voice' and with common terminologies and procedures.

At tender definition and contract awarding phase:

- The open procedure was able to promote innovative solutions. This was the result of an approach promoting functional specifications and not considering price as the main selection criterion. Conversely, the innovative and sustainable characters of the solutions were highlighted.
- It seems necessary and essential to hire a technical assistance in order to face the technical and administrative issues linked to the TOR. The assistance of experts in energy rehabilitation of buildings also brings an added value.



• The public authorities have to train their technical staff and to communicate about PPI in order to improve the public services offered. This issue is crucial since many barriers occurring during the procurement were caused by the lack of knowledge and skills of civil servants.

6.2. Learning in Koprivnica

Construction market players are usually fragmented and prefer detailed specifications. Moreover, many small- and midium-sized companies have no experience in public procurement which may result in significant loss of opportunities for public authorities. Finding the right way to tap the market can be a real challenge. In this case, important resources have been devoted for the open market consultation (market engagement prospectus, emails to 15.000 addresses, telephone survey to establish the market size and calls to more than 120 municipalities, organisation of a workshop in Zagreb etc.). Despite these efforts, just a few companies were interested and one took part to the negociation.

Small scale projects are not attractive for the market. Thus, it is necessary to be prepared for incremental rather than revolutionary proposals.

It seems necessary to choose the appropriate procedure in the call for tenders. In Koprivnica, the competitive procedure with negotiations was selected because after the market consultation the municipality knew which sort of technical solutions to implement. Moreover, the level of investment which was much lower than European thresholds for works contract (€5,350,000) could imply the low interest of the market.

The support of external technical and legal consultants is necessary for public procurers with limited resources and knowledge. Moreover, PPI was completely new in Croatia. There was no possibility to rely on public authorities with similar experience.

6.3 Learning in Mértola

The major difficulties were related to the fact that in Portugal the promotion of a Public Procurement Program for Innovation is very recent. This fact makes it harder to find national experts on PPI and to implement of the market consultation. Moreover, it was difficult to find the appropriate innovative solutions to be implemented in the historical building. The structural characteristics of the historical buildings also created complexity and generated some delays.

The procedure took more time when compared with common procedures. The lack of experience explained mainly this gap.

It also appears that the value (200 000 \in) was not very attractive for private companies. Thus, there was a lack of interest from the market since this type of procedure requires more involvement. The bidders answered to the call for tenders because they wanted to learn more about PPI.

The process revealed to be complex and time consuming. The information available in Portugal is not sufficient to overcome the lack of interest of the suppliers. Thus, the competitive dialogue had to be relaunched. The constraints were overcome due to a significant communication campaign that enabled the identification of potential suppliers eager to participate and learn with the process. The communication with the suppliers was extremely important to have a successful procedure and to overcome the supplier's doubts.

6.4. Learning in Narni

There was some diffidence on the part of some companies in participating in a double negotiation phase with the Contracting Authority. They also feared the risk of unlawful due to the interference in the progress of the evaluation procedure and, consequently, the award. This approach was in some



way a rupture with traditional tender procedures which are characterized by *a modus operandi* which does not foresee contacts between the administration and the competitors.

To avoid the effect of distorting competition and not to act in violation with the rules and the principles of non-discrimination and transparency, a Contract notices was published.

During the **preliminary market consultation**, the best practice is to approach the operators individually and not together. During the preliminary market consultation, the contracting authority should not require the elements referred to in Articles 80 (Grounds of exclusion) and 83 (Selection criteria for participation: a) professional qualification requirements; b) economic and financial capacity; c) technical and professional skills) of the D. Lgs 50/2016. It is preferable to control these requirements linked to the participation in a public tender during the tender phase.

During the **competitive procedure with negotiation**, the contracting authority must keep a wide margin of negotiation for the choice of the most economically advantageous tender. This wider negotiation margin must be understood by the Technical Commission, especially in the second phase of the dialogue. Then, it is easier to freely suggest the economic operator to improve its offer by proposing new solutions.

The negotiation method, carried out with due procedural and transparency precautions, allowed an innovative dialogue between public administration and companies. This approach contributed to the achievement of the objective by adapting the company's offer to the real needs of the public authority. It optimised and improved the execution of the public works.



7. Conclusion

The renovation projects were carried out in different national context. The four Mediterranean countries have their own **construction business systems**. The regulatory framework, the experience of public authorities with public procurement of innovation (PPI), the level of competition between suppliers and contractors, the ability of small municipalities to mobilise suppliers are different from one country to the other.

Despite these national specificities, the four municipalities had to follow the typical public procurement procedure stages: 1/ to prepare and plan PPI (needs identification and market engagement); 2/ to select the procedure and define the award criteria; 3/ to launch the call for tenders.

During the **needs identification** stage, most users were not reactive and the needs were frequently defined by the municipal project teams. Due to their lack of experience with PPI, local authorities were sometimes dubious about the relevance of this approach.

The **market engagement** was a new approach. Before the pilot project public authorities never tested the reaction of the market to a proposed requirement. All of them expressed a great interest for this experience. All municipalities used the different tools (marker sounding prospectus, Prior Information Notice, webpage, market consultation workshop) in order to present their needs and their goals and to test the appetite of the market. This stage was particularly complex because of the fragmentation of the market in the building sector. However, municipalities handled well this stage. The time spent in meetings with suppliers and contractors were considered as an investment. It contributed to the definition of the technical specifications and the success of the procurement procedure. For example, in Croatia and Italy, the contracting authorities were able to specify after the market consultation the technical solutions to implement. Consequently they selected a competitive procedure with negotiation instead of a competitive dialogue. Negotiations were more about the price, the services proposed by the suppliers and the way the solutions would be implemented. In Spain, after the needs identification and the market engagement phases, the contracting authorities were able to obtain enough information to define the terms of reference in detail. Thus, choosing the open procedure became the best option.

The **award criteria** were never based on the "lowest price". The "economically most advantageous tender" was always promoted. Municipalities used a mix of quantitative criteria (e.g. guaranty of the materials for five years, extendable to 10 years; life cycle costing approach; potential reduction in energy consumption; high-efficiency heat energy production system) and qualitative criteria (e.g. sustainable nature of the solution; innovative character of the technical systems; solutions that can promote a more suitable environment for learning; solutions that allow easy management and maintenance).

The success of the call for tenders also strongly depended on the ability of the municipalities to **convince the market** that the renovation project was worth investing in. For example in Narni, the PPI procedure was coordinated with the open call concerning the refurbishment of the school (1.020.000 € deriving from Umbria ROP-ERDF funds for improvement of seismic resilience and thermal insulation). This approach made the market bigger and more attractive to any tenderer. Consequently, the municipality was able to negotiate with three candidates. The same economic operator won the two contracts. Conversely, in Portugal, it was decided to renovate two buildings located in two different munipalities (Mértola and Serpa) instead of one. Consequently, renovation works appeared less attractive since this type of procedure requires more involvement. Only two candidates responded and the first call for tenders became unsuccessfull. Indeed, in Portugal it is necessary to rely on a minimum of three candidates to launch a competitive dialogue. Thus, the call procedure was relaunched two months after. The tenderers answered because they wanted to learn more about PPI.



PPI is more complex for any contracting authority than a traditional open call. For small municipalities, the complexity is even higher because they lack expertise and experience with complex purchases. In the four cases, municipalities received the **assistance of local and national experts**. These "brokers" acted as intermediaries between public bodies and suppliers. All municipalities recognised that this technical and legal support was essential to face the technical and administrative issues linked to the PPI. These experts brought an added value. Simultaneously, public authorities had to train their staff to overcome the lack of knowledge and skills of civil servants.

The municipalities who experienced PPI would strongly recommend it for projects (not only for works, but also for services) when the public actor is unable to identify an optimal solution and needs to benefit from the experience and innovative capacities of the economic operators. However, they also focus on two prerequisites:

- 1. **The value of the market** must be important in order to attract tenderers and to compensate the high transaction costs linked to the preparation of the tender;
- 2. **The project team** must gather competent and multidisciplinary technical employees and hire external experts who will support them.



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Annex A : The market Sounding Prospectus









Extensive transformation of a prefabricated building

Call for participation in market sounding

The pilot project to deliver replicable solution for external, internal, energy efficient and functional transformation of a building and implement the transformation of a prefabricated kindergarten





Croatia, City of Koprivnica

Market Sounding Prospectus

March 2018

NOTE

This is a market sounding exercise to provide MINISTRY OF O with the supply chain. The results will be us construction of strategy to later carry out the tendering proce AND PHYSICAL not an evaluation of suppliers of a call for tenders.





The City has performed activities to determine possible market size. The focus of the market research has been put to prefabricated buildings used as kindergartens. For this specific purpose, representatives of 127 cities in Croatia have been interviewed. Research revealed that at least 25 similar buildings exist in Croatia and none of these buildings have gone through deep renovation process (see Annex 2: Nonexhaustive list of prefabricated kindergartens in Croatia).

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Introduction

Across Croatia and neighbouring countries there are prefabricated buildings older than 25 years that are highly energy inefficient, with the associated cost and comfort implications. Moreover, the vast majority of which have had no renovation since they were built. Specifically there are at least 25 prefabricated kindergartens in this situation in Croatia alone which are still in use.

The City of Koprivnica has the intention to procure and deliver new kind of external, internal and functional building transformation solution to enable these kindergartens to enhance the learning and play environment and maximise energy efficiency in cost-effective way based on TCO⁵. This should improve conditions for modern childcare, extend the lifetime of assets and minimise their life-cycle costs.



⁵ Total Cost of Ownership





The City of Koprivnica is committed to sustainable development. City's programme called Bold New Face of Koprivnica aims to hardwire sustainable development into all aspects of the city's urban planning and land use. This programme foresaw building and renovation of public buildings to achieve EU 2020 targets for energy efficiency. There are a number of policy and regulatory drivers behind this programme, for example the Energy Performance of Buildings Directive, National Energy Efficiency Action Plan and Sustainable Energy Action Plan. More information is included in Annex 4: Policies.

It is an opportunity for potential suppliers to develop and/or test new product or process within this project and later capitalise the effort on the market.

The City of Koprivnica with its partners and supporters is undertaking a pilot project for extensive transformation of its Kindergarten Loptica⁶ with funding from Interreg MED programme and from own contribution in total amount of 300.000 EUR excluding VAT.

This 35 year old kindergarten is a prefabricated wooden, groundfloor building extended with smaller masonry annex. None of major renovation works were made, therefore its energy inefficient and is approaching the lifetime end. Water supply and drainage pipes leak and destroy some internal walls. The concept of indoor space is outdated. Narrow corridor is crowded with lockers and is hardly passable. Too many solid internal walls effect with the separation between children groups and offer no possibilities for remote children supervision. There is low level of natural light illumination and no cooling or ventilation system.

The City and partners have thoroughly examined the kindergarten building and analysed the stakeholders' and user needs to determine demands. The constructional tests and analyses also showed it is suitable for the transformation (see *Annex 1: Overview of the building*).

The City want to meet the project goals by designing and implementing deep transformation of the kindergarten that will result with significant improvement of the energy efficiency, indoor space functionality, childcare, learning and play environment quality.

This pilot project will serve as a proof of concept to the City and interested investors. It will be used as a model for the cost-effective transformation of similar buildings. As such, it has the possibility to become a special type of building renovation approach on the market. It is therefore in the interest of the supply side for the solutions to be replicable and scalable.

In order to understand the suppliers' appetite, capabilities, capacities and innovative options the City has launched the pre-procurement market sounding by publishing the prior information notice and this prospectus. The City is seeking for innovative solutions in design, materials, constructions, functionality, didactics, implementation and, for follow on projects, financing. The City welcomes suppliers' response and expressions of interest during this market sounding exercise. The specific needs are set down in section Requirements in outcome terms.

⁶ Meaning "a ball" in Croatian language





"Energy renovations of public buildings have so far focused largely on exterior retrofitting and the interior has remained almost intact. Our goal is to carry out the internal reconstruction of the space, in addition to the energy retrofitting and thus improve the building in its entirety." Ivan Šimić, managing director of Regional Energy Agency North This document informs about outcome requirements, market opportunities and market engagement process intended to connect to supply side. The supply side will also learn about the procurement process and the credibility of this pilot project.

Outcome based requirements

Stakeholders have defined the following requirements in outcome terms for this project:

- Internal, external and functional transformation of the pilot kindergarten to maximise energy efficiency, enhance the childcare conditions and maximise the building's useful life
- Create a model for the cost-effective transformation in similar situations

Specifically

- Enhance the learning and play environment, including safety and comfort
- Introduce didactic and learning elements included as integral part of the solution
- Increase the daylight illumination within interior spaces
- Enable visual connection of carers to childcare rooms through interior space walls with dimming possibility while preserving as a minimum the current noise protection level
- Energy performance requirements: Achieve as a minimum nZEB standard
- Use natural, recycled and sustainable materials wherever possible
- Respect the principles of the circular economy in all aspects of the project
- Stakeholders have expressed a preference for works to be completed when the building is empty and ideally over the summer holidays (2 months) in order to minimise disruption and ensure safety of children and staff







Market opportunities

The results of this pilot transformation are expected to lead to further market opportunities.

- Almost 60 cities and municipalities, owning prefabricated or similar buildings, together with other public business entities and faculties have expressed the interest to be closely involved in the market engagement procedure and get a first-hand knowledge and information about possible solutions to their challenges with a view to adopting the transformation model created (see Annex 3: List of supporting parties).
- Furthermore, the Ministry of Construction and Physical Planning recognised the importance of the pilot project, expressed the support and appointed its project team member. The Ministry, being responsible for specific goals to be delivered with ESI Funds (4c1 Reduction of energy consumption of the public sector buildings and 4c2 Reduction of energy consumption of the residential buildings), will closely monitor this pilot to assess the possibility of replication of the transformation model.
- Since this pilot transformation will serve as a proof of concept and can become a special type of building renovation approach, future projects could later be supported by EU and national funds.
- It is reasonably to believe that all or part of the designed solution will be applicable not only to kindergarten buildings but also to similar ground level buildings or even smaller buildings (prefabricated or masonry one). There are substantial number of such buildings in Croatia and neighbouring countries.

The City of Koprivnica hopes the supply side recognises above mentioned market opportunities as the possibility to capitalise the initial innovation effort for this pilot project on the wider market.

Market engagement

With this Market Sounding Prospectus the City started a preprocurement market sounding pursuant to national Public Procurement Act (National gazette No. 120/2016) and Directive 2014/24/EU on public procurement.

To stress again, the market sounding is not a tender announcement and potential suppliers are not expected to compete, but to equally participate and express their interest.





This initiative is being carried out as part of the Prominent MED project (Proj.No. 1003, Ref.No. 1MED15-1.1-M12-070). It is an EU funded project under the Interreg MED Programme. It focuses on the adoption of public procurement of innovation in small municipalities in the Mediterranean area. In this context, Croatia, Italy, Spain and Portugal will simultaneously activate investments for the adoption of technological solutions aimed at the energy efficiency of public buildings.

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EXPRESS YOUR INTEREST			8	Ask questions to	ppi@rea-sjever.l		
PROSPECTUS & DOCUMENTATION QUIFSTIONS & ANSWERS				00	NNECT & COOP OPFORTUNITI	ERATE IS	

This procedure is backed up by the City's partner Regional Energy Agency North, international and national procurement and technical experts.

This market sounding is an opportunity for potential suppliers to inform the City of Koprivnica of the options and solutions available to address introduced challenge. The City of Koprivnica will define the framework of the future procurement based on this market sounding and exchanged information with the supply side.

We are interested to hear ideas, information, new concepts and innovation that could:

- Contribute to achieving improvements in one or more aspects of the requirement
- Contribute to a total transformation
- Provide a total transformation

The City of Koprivnica will organise **Site Visits** to enable suppliers to visit the pilot project location and will run a **Market Consultation Workshop**. The workshop will be held to enable potential suppliers to hear more about the pilot project, customers' needs, expectations and about public procurement of innovation, but also to enable suppliers' feedback. It will also provide a networking opportunity for potential partners.

Potential suppliers can register for visits and workshop and submit their Express of Interest by returning the **Market Sounding Response form** available under this link:

https://ppi.koprivnica.hr/

under EXPRESS YOUR INTEREST

The City welcomes Expressions of Interest from all parts of the supply chain, especially manufacturers and their representatives, innovators, renovators, various SMEs, designers, architects, educators, NGOs.

The City will carefully analyse all suppliers' responses sent before the workshop and compile them into the briefing document. All registered suppliers will receive the briefing document prior to the workshop. After the workshop will be held, all potential suppliers who have expressed their interest or have participated in the workshop will receive a report on the results of the workshop.

The potential suppliers are also invited to ask questions by sending an e-mail to:

ppi@rea-sjever.hr



PPI

Answered questions will be regularly collated and published (without the suppliers' details) under this link:

https://ppi.koprivnica.hr/

under QUESTIONS & ANSWERS

The potential suppliers are also invited to join the MED PPI Network of interested parties and suppliers under these links:

http://tiny.cc/med-ppi-network

http://tiny.cc/med-ppi-linkedin

Procurement process and timeline

During this market sounding The City of Koprivnica will take appropriate measures to ensure that participation of potential suppliers will not have the effect of distorting competition and will not result in a violation of the principles of non-discrimination and transparency.

Prior information notice

In March 2018, the City of Koprivnica published a Prior Information Notice (PIN) in the Official Journal of the European Union to provide advance notice and launch a period of market sounding and consultation with supply side in advance of the formal tender process. Its purpose is also to inform the supply chain about the City's intentions and demands for the pilot project and about the preparation of procurement.

Market consultation workshop and Expressions of interest

During the market sounding site visits of Kindergarten Loptica are available to supply side by prior appointment, at least three days before the planned date.

This market sounding phase will end with the Market Consultation Workshop on 25 April 2018.

Site visits are also possible after the market sounding, until the end of June 2018.

Expressions of Interest will be collected until the end of June 2018.



	August 2019.
	Indicative timeline
March 2018	Prior information notice
March – April 2018	Market sounding
Till end of June 2018, by prior appointment	On-site Visits (Koprivnica, Croatia)
Till end of June 2018	Expressions of Interest (response form)
25 April 2018	Market Consultation Workshop (Zagreb, Croatia)
August 2018	Tender launch date
September 2018	Invitation to participate in procedure
September – December 2018	Competitors' participation in procedure
January 2019	Contracts placed
February – June 2019	Design and preparation of transformation works (contractor)
1 July to 31 August 2019	Proposed period for construction works

Next steps

After the market sounding the City intends to determine and define all the details of procurement process. The tender will be launched in August 2018, the competitive dialog will be carried until December 2018 and contracts will be places in January 2019. The contractor will have 5 months to design the solution and prepare for the transformation works. The proposed period for works to be completed is over the summer holidays, between 1 July and 31 August 2019.







Annex 1: Overview of the building

Examination of conditions and needs

The City has determined the user needs and thoroughly analysed, examined and tested the building.

- Two focus groups were organised to learn about user needs.
- An architect specialised in kindergarten architecture and childcare studied the kindergarten and delivered the study case of possible innovative solutions with improvement proposals.
- Through a number of visits accompanied by external energy experts and head of technical service the City has acquired deep knowledge about the condition of the building and maintenance history.
- A thermographic analysis was conducted to determine the energy losses and possible structural damages.
- A detailed static analysis of the construction and the quality of building material was performed. The procedure was partly invasive to convince the evidence. The test showed that the building construction and material is in very good shape.

Function of the building

The childcare process in kindergarten includes about 170 children and takes part daily from 6:00 to 16:30 (18:00 including cleaning) all year long except weekends, July and August. After 16:30 occasional activities like meetings and workshops take part in the kindergarten. Total of 20 employees work in the building.

The building

The kindergarten building was built in 1982 as a prefabricated wooden ground floor building with solid foundation (75 % of gross area). In 1995 it was expanded with masonry (walled) ground floor building annex with solid foundations (25 % of gross area). The building shape is elongated and along the southern part are terraces built.

Total construction gross building area equals to 950 m^2 (net area 820 m^2). Building interior consists of seven daily childcare rooms, offices, kitchen and laundry, all connected by long and narrow corridor. No major renovation activities took place on building envelope or in the interior.





Audit outcomes

Energy performance audit, conducted in 2012, classified the building in energy class D. Actual annual energy consumption average measured in five consecutive years amounts to 145.000 kWh/a for natural gas, 57.000 kWh/a for electricity and 1.400 m³/a for water, which gives 177 kWh for natural gas, 70 kWh for electricity and 1,7 m³ for water per net square meter per year. The heating system consists of gas boiler room installed in 1995 (boiler power 160 kW), classic radiators and hot consumer water supply which in total consume 97 % of gas. Kitchen and laundry consume about 80 % of electricity. Lighting total power is 7,7 kW and it consists mainly of fluorescent light bulbs. There is no mechanical ventilation or cooling system in the building.

Documentation

The City has secured enough documentation to enable supply chain to get relevant details about the building. Documentation consists of:

- Original investment master project design documentation (available only in paper form, during the site visit)
- Current architectural, construction, mechanical and electrical design documentation
- Analysis of material and construction static performance of the Kindergarten Loptica
- Identification of innovative solution contents study case Kindergarten Loptica
- Energy audit report, Energy Performance Certificate
- Electro-mechanical assessment report of Kindergarten Loptica

Almost all documentation is in Croatian language. You can download the documentation from this link:

https://ppi.koprivnica.hr/ under *PROSPECTUS & DOCUMENTATION*



Annex 2: Non-exhaustive list of prefabricated kindergartens in Croatia

There are at least 25 prefabricated kindergartens in Croatia built between 1975 and 1989 which are still in use.

City	Building	City	Building
Belišće	Kindergarten Maslačak	Sisak	SISAK NEW/ Kindergarten Radost
Duga Resa	Kindergarten Maslačak	Sisak	SISAK OLD/ Kindergarten Pčelica
Glina	Kindergarten Bubamara	Sisak	SISAK OLD/ Kindergarten Bubamara
Jastrebarsko	Kindergarten Radost	Split	Kindergarten Rusulica
Klanjec	Kindergarten Kesten	Varaždin	Kindergarten Varaždin, Gortanova
Koprivnica	Kindergarten Tratinčica, Loptica	Varaždin	Kindergarten Varaždin, Koprivnička
Koprivnica	Kindergarten Tratinčica, Pčelica	Vinkovci	Kindergarten Pčelica
Ogulin	Kindergarten Bistrac	Vinkovci	Kindergarten Budućnost
Otočac	Kindergarten Ciciban	Vinkovci	Kindergarten Lenije
Rijeka	Kindergarten Đurđice	Vinkovci	Kindergarten Vladimir Nazor
Rijeka	Kindergarten Morčić	Vrgorac	Kindergarten Pčelica
Senj	Kindergarten Travica	Zaprešić	Kindergarten Maslačak
Sinj	Kindergarten Bili cvitak Sinja	Zlatar	Kindergarten Uzdanica



Annex 3: List of supporting parties

City of Koprivnica received almost 60 letters of support for this project from cities, municipalities, other public business entities and faculties.

City of Buje

City of Biograd City of Daruvar City of Duga Resa City of Karlovac City of Knin City of Ludbreg City of Novska City of Pazin City of Senj **City of Split** City of Varaždin **City of Vukovar Drnje Municipality** Kalnik Municipality Legrad Municipality Sveti Ivan Žabno **Municipality Croatian Chamber of** Economy **Intelligent Energy Cluster**

Ministry of Construction and Physical Planning Regional Energy Agency Of Northwest Croatia

City of Donja Stubica City of Ivanić Grad City of Kastav City of Križevci City of Novi Marof City of Osijek City of Ploče City of Sisak City of Sveti Ivan Zelina City of Virovitica City of Zadar Đelekovec Municipality Kloštar Podravski **Municipality Novigrad Podravski Municipality** HAMAG-BICRO

Croatian Green Building Council Istrian Regional Energy Agency Polytechnic of Medjimurje

City of Čakovec **City of Donji Miholjac City of Jastrebarsko City of Kaštela City of Lepoglava City of Novigrad City of Otok City of Rijeka City of Slatina** City of Šibenik **City of Vrbovec City of Zlatar Gola Municipality** Koprivnički Ivanec **Municipality** Sokolovac Municipality

Croatian Association of Cities Faculty of Civil Engineering

Medjimurje Energy Agency

Regional Energy Agency Kvarner



Annex 4: Policies

Context

Buildings are responsible for 40 % of energy consumption and 36 % of CO_2 emissions in the EU (43 % and 43 % respectively in Croatia). While new buildings generally need fewer than three to five litres of heating oil per square meter per year, older buildings consume about 25 litres on average. Some buildings even require up to 60 litres.

Currently, about 35 % of the EU's and approximately 40 % of buildings in Croatia are over 50 years old. By improving the energy efficiency of buildings, a total EU energy consumption can be reduced by 5-6 % and lower CO_2 emissions by about 5 %.

Energy Performance of Buildings Directive

The 2010 Energy Performance of Buildings Directive (EPBD) and the 2012 Energy Efficiency Directive (EED) are the EU's main legislation covering the reduction of the energy consumption of buildings. According to EPBD, as of 31/12/2018 all new buildings owned or used by public institutions need to be nearly zero energy buildings. Although EPBD does not define any obligations to renovate existing building stock according to the nZEB standard, only deep renovation can lead to achieving ambitious goals set by the EU.

National Energy Efficiency Action Plan

According to the 3rd National Energy Efficiency Action Plan (NEEAP) for Croatia and draft of the 4th NEEAP, increasing the number of nZEB buildings is defined as one of the measures to achieve national energy reduction goals. Although NEEAP does not foresee any financial subsidies for nZEB buildings in the period from 2017 to 2019, the responsible Ministry has initiated creation of the *Program for subsidising construction of the new and renovation of existing buildings according to the nZEB standard* that should pave the way for uptake of nZEB.

Sustainable Energy Action Plan

City of Koprivnica is a Covenant of Mayors signatory since 2010. City council has adopted Sustainable Energy Action Plan (SEAP) in July 2011 with a goal to reduce CO₂ emissions by more than 20 % until 2020. To achieve this ambitious goal, City needs to significantly reduce energy consumption in public buildings. Because most of the public building stock is going to be used in the future, deep energy renovation is deemed as the only way to meet the goals.

Project is supported by





Annex B: Prior Information Notice in Koprivnica

PRIOR INFORMATION NOTICE

This notice is for prior information only

Croatia, City of Koprivnica: Extensive transformation of a prefabricated building

Works

Directive 2014/24/EU

Date of dispatch of this notice 16 March 2018

16 March 2018

Section I: Contracting authority

Name and addresses

City of Koprivnica 62112914641 Zrinski trg 1 Koprivnica 48000 Croatia

NUTS codse: HR045 Koprivničko-križevačka županija Internet adress, telephone and e-mail of contracting authority

http://koprivnica.hr/ +385 48279534 maja.balasko@koprivnica.hr

Communication:

Further information can be obtained from: Regional energy agency North, Miroslava Krleže 81 Koprivnica 48000 <u>https://ppi.koprivnica.hr</u> <u>ppi@rea-sjever.hr</u>

Type of the contracting authority:

Regional or local authority

Main activity:

General public services

Contract award on behalf of other contracting authorities

The contracting authority is purchasing on behalf of other contracting authorities: no.

Joint procurement

No.

Section II: Object

Scope of the procurement

Title:

Extensive reconstruction of a prefabricated building of Kindergarten Loptica

Main CPV code

45000000-7 Construction work

Type of contract

Works



Short description (1000 znakova)

The City of Koprivnica is launching international pre-procurement market sounding for the pilot project "Extensive transformation of a prefabricated building" aimed to deliver replicable solution for external, internal and functional transformation of a building and implement the transformation of a prefabricated kindergarten. It is an opportunity for potential suppliers to develop and/or test new product or process within this project and later capitalise the effort on the market. The City is seeking for innovative solutions in design, materials, constructions, functionality, didactics, implementation and, for follow on projects, financing. Key performance indicators are significant improvement of energy efficiency, indoor space functionality, childcare and educational quality. The Market Sounding Prospectus and all about the project is available, together with accompanying documents, under this link:

https://ppi.koprivnica.hr/ under PROSPECTUS and DOCUMENTATION

Estimated total value

Value excluding VAT: 300.000,00 EUR

Information about lots

This contract is divided into lots: no

Description

Additional CPV code(s)

31000000-6 Electrical machinery, apparatus, equipment and consumables; lighting

42500000-1 Cooling and ventilation equipment

44000000-0 Construction structures and materials; auxiliary products to construction (except electric apparatus)

71000000-8 Architectural, construction, engineering and inspection services

Place of performance

NUTS code: HR045 Koprivničko-križevačka županija

Main site or place of performance: Kindergarten Loptica, Ivana Generalica 4, 48000 Koprivnica, Croatia **Description of the procurement**

This prior information notice has been published to launch the pre-procurement market sounding and to inform the supply chain about the City's intentions and demands for the pilot project and about the preparation of procurement. The City will have a market consultation and exchange the information with potential suppliers about their capabilities, capacities and options that are, and could be, available as well as barriers that may need to be overcome, all considering the specifications set in Market Sounding Prospectus. This market sounding and the pilot project is backed up by City of Koprivnica, Regional Energy

Agency North, international and national procurement and technical experts. During the market sounding the City will take appropriate measures to ensure that participation of potential suppliers will not have the effect of distorting competition and will not result in a violation of the principles of non-discrimination and transparency.

This notice **IS NOT USED FOR AN EVALUATION OF SUPPLIERS OR AS A MEAN OF CALLING FOR TENDER AT THIS STAGE**. It contains all the information available at the time of publishing and it is not used for shortening the time limit for the receipt of tenders. The City will define the framework of the future procurement based on this market sounding and exchanged information with the supply side.

This procurement is part of the Prominent MED project (Proj.No. 1003, Ref.No. 1MED15-1.1-M12-070), Interreg Mediterranean programme, co-financed by EU. It focuses on the adoption of public procurement of innovation to stimulate the development of innovative technology solutions and their market uptake.

The City will organise site visits and will run a market consultation workshop. The workshop will be held to enable potential suppliers to hear more about the customers' needs, expectations and about public procurement of innovation, but also to enable suppliers' feedback. It will also provide a networking opportunity for potential partners. Potential suppliers can register for visits and workshop and express their interest by returning the Market Sounding Response form available under this link:

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We welcome expressions of interest from all parts of the supply chain, especially manufacturers and their representatives, innovators, renovators, various SMEs, designers, architects, educators, NGOs.



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ppi@rea-sjever.hr

Answered questions will be regularly collated and published (without the suppliers' details) under this link:

https://ppi.koprivnica.hr/ under QUESTIONS & ANSWERS

This market sounding phase will end with the market consultation workshop. We will carefully analyse all suppliers' responses sent before the workshop and compile them into a briefing document. All registered suppliers will receive the briefing document prior to the workshop. After the workshop will be held, all potential suppliers who have expressed their interest or have participated in the workshop will receive a report on the results of the workshop.

The following time plan is indicative:

- Market sounding: March April 2018
- On-site visits (Koprivnica, Croatia): Until 13 April 2018, by prior appointment
- Expressions of interest (response form): Until 17 April 2018
- Market consultation workshop (Zagreb, Croatia): 25 April 2018
- Tender launch date: August 2018
- Contracts placed: January 2019
- Design and preparation of transformation works (contractor): February June 2019
- Proposed period for construction works: 1 July to 31 August 2019

Estimated date of publication of contract notice

20 August 2019

Odjeljak III: Procedure

Information about the Government Procurement Agreement (GPA)

The procurement is covered by the Government Procurement Agreement: no

Odjeljak IV: Complementary information

Additional information: No.



Project co-financed by the European Regional Development Fund