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- b) Promotion and development of innovation-oriented public procurements in the domain covered by the proposed European Innovation Partnership on 'Water' [...]



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### D1.3: Preliminary Strategy on IOPP transfer to the European water sector



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# D1.3: PRELIMINARY STRATEGY ON IOPP TRANSFER TO THE EUROPEAN WATER SECTOR

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# 1. Executive summary

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The subject-matter of this deliverable (D1.3) consists in elaborating a preliminary strategic paper on Innovation Oriented Public Procurement (IOPP) implementation to the water sector, by identifying the pros and cons as well as the good practices/bottlenecks of innovative procurement practices which are taking place, not only in the EU but also in some OECD countries. It is based on the findings which have been reflected in the first two deliverables of the Work Package 1 which consisted in analysing the IOPP initiatives which have been developed not only by the Member States of the EU, but also in selected OECD countries.

In order to properly comply with the task, we designed a methodology which comprehends four different stages, with the aim of gathering, on the one hand, as much information as possible on the current state of the art in IOPP, as well as the feedback from the professional expertise of the Consortium partners. This was fruitful since the D1.3 has been finally submitted for internal revisions.

The D1.3 contains a total of sixteen bottlenecks which we consider can affect, not only the IOPP market in general but also the IOPP water sector market, particularly. Alongside the bottlenecks, the Consortium proceeds to formulate the correspondent recommendations explaining the way and mechanisms that could be applied to avoid and fix the existing problems.

The bottlenecks and recommendations have been prioritised in three different groups (see D2.1 - Working Groups Recommendations). This input has been given by the five Working Groups that were composed by selected stakeholders invited to discuss the preliminary recommendations developed by the project partners. The green set of recommendations and bottlenecks contains the most important recommendations and the red set of recommendations are those ones which are not as urgent as the others. The deliverable contains two tables which properly illustrate this. On the other hand, the deliverable contains a critical review of the prioritisations of recommendations which is useful in order to identify and underline the relevant nuances. Alongside the latter, the deliverable also comprehends a figure which illustrates the stage in which the bottlenecks and recommendations should be placed from the point of view of the logic of the IOPP procedures. The deliverable finishes exposing a set of conclusions.

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## 2. Introduction

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The object of this deliverable (D1.3) consists in elaborating a preliminary strategic paper on Innovation Oriented Public Procurement (IOPP) implementation to the water sector, by identifying the pros and cons as well as the good practices/bottlenecks of innovative procurement practices which are taking place, not only in the EU but also in several OECD countries. It is based on the findings which has been reflected in the first two deliverables of this Work Package which consisted in analysing the IOPP initiatives which have been developed not only by the Member States of the EU, but also in selected OECD countries.

Nevertheless, as it is shown in D1.1, the IOPP practices that are taking place in the water sector are still exceptional, which explains why did we extrapolate, in this deliverable, the general results from the IOPP practices and propose them as recommendations that can be taken into account in a preliminary strategy which applies to the water sector.

This document closes Work Package 1 which has served to gather the necessary information on the current state of the art in IOPP procedures in order to be able, on the one hand, to understand what are the challenges to implement IOPP and to conduct a preliminary analysis that could highlight the barriers preventing IOPP in the water sector from being implemented. The preliminary strategy has taken into account the legal framework in which each initiative has been implemented, since not all the Member states have specific innovative procurement provisions in their legal framework.

Alongside the latter, the D1.3 constitutes the one of the starting points of the tasks included in Work Package 2 which tends to assess and adapt the preliminary strategy to transfer IOPP to the water sector delivered by Work Package 1. In this sense, all of the background information obtained in Work Package 1 has been addressed to the Working Groups formed over the partners' networks and the Liaison Committee, so they can set up recommendations (D2.1).

Notwithstanding what has just been said, we need to take into account that the preliminary strategy is based on the current state of the art regarding the IOPP procedures, and therefore cannot comprehend the impact that the new public procurement Directives will surely have on this field. Moreover, we consider that innovation has only recently been established as one of the remaining goals to be achieved with public procurement just recently. In this sense, as we affirmed in D1.1, the fourth generation of the recently approved Directives on public contracts take into account the fact that, from the demand side, public procurement is an ideal instrument to drive business innovation. In this sense, the new *Directives 2014/24/EU and 2014/25/EU* on public procurement urge the public authorities to make the best strategic possible use of public procurement in order to drive innovation. Alongside the latter –and apart from the several references to innovation that are included in the Directives–, one of the principal novelties is the development of a specific procedure that allows contracting authorities to establish a partnership for long-term innovation with a view to the development and the subsequent acquisition of new innovative products, services and works (Article 31 Directive 2014/24/EU). The inadequacy of earlier techniques to combine in the same operation, on the one hand, the contracting of the necessary research services for the development of innovative solutions for public purchasers, and, on the other, the possibility of the final acquisition of those solutions (in the form of products, services and even works), has given rise to the definition of a new award procedure in the Directives on public procurement which looks for filling those gaps.

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Regarding the Member States, we need also to bear in mind that the present moment in which this preliminary strategy is being formulated, due to what we have just pinpointed above, may not be the possible time at which to evaluate the success of the new legal provisions, since the Member States are now busy implementing the provisions of the Directives in their internal regulations and it will possibly take them at least a year to pass the new regulations and an additional year to start applying the new contents. On the other hand, the new Directives will serve to address an important bottleneck which affected some Member States, since not all of them have specific innovative procurement provisions in their legal framework.

In any case, although the new Directives offer solutions to some of the problems which affect the application of the IOPP procedures, others are still remaining and therefore need to be taken into account when making use of those and more specifically when trying to implement these procedures on a new sector, which is quite complicated *ab initio*.

Further, the bottlenecks are not only of a legal nature. This market for innovation is not mature enough to be able to run by itself. The bottlenecks have also to do with innovation management practices of the Public Authorities and with budgetary issues including funding schemas. There is a need to support the demand side by training, benchmarking and additional funding incentives, too.

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### 3. Methodology

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In order to elaborate the preliminary strategy on IOPP implementation to the water sector, we set up a methodology, which comprehends four different stages and assured not only the proper participation of all of the consortium partners but also the inclusion of their different professional expertise which would serve to properly enrich the content of the document. It is also important to bear in mind, as we pointed out in the introduction, that the preliminary strategy included in this deliverable, not only closes and puts an end to the first Work Package of the Water PiPP Project, but also constitutes the starting point of Work Package 2 which will aim to assess and adapt the strategy to transfer IOPP to the water sector delivered by Work Package 1.

#### 3.1. Internal selection

Nevertheless, the first action that needed to be taken in the drafting of the strategy was performed by the partners who led the first two deliverables of the Work Package 1, i.e., Unizar and VTT. In this sense, once the innovative procurement practices taking place in the EU and in the chosen OECD countries had been analysed, both partners proceeded to identify and to select the more frequent bottlenecks and problems, in order to elaborate a very first draft which included a proposition of the possible recommendations that could be applied in order to avoid the correspondent difficulties.

#### 3.2. Diffusion of the draft amongst the partners

Secondly, and once we managed to complete that first draft, we proceeded to circulate it amongst the partners searching for their feedback, with special contribution of TEHA focusing on the economic rationale of the draft. This proved to be fruitful as we managed to obtain the different views and opinions of the partners which were formulated providing the knowledge of their correspondent field, achieving an interdisciplinary view. All of the former were included in a second draft strategy.

#### 3.3. Reciprocal feedback between Work Packages 1 and 2

Alongside the latter, we sent the re-drafted strategy to the leader of task 2.1, i.e., OIEau, since the starting point of its tasks derives from the strategy included in D1.3. It should be pointed out that the corresponding Working Groups of Work Package 2 were created, so once this was done, each one of them performed a new assessment on our second draft and proceeded to prioritise the bottlenecks and recommendations initially formulated as it is explained in D.2.1.

In this sense, the project has gathered 5 Working Groups composed of selected stakeholders that are invited to discuss the preliminary recommendations developed by the project partners (Cities, Regions, Industries, Public operators and Water authorities). The participants to these Working Groups have been invited to provide their analysis and reflections on methods to implement public procurement of innovative solutions in the field of water management. The Working Groups were organised as described in D2.1.

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Working group participants were asked to appreciate those recommendations and choosing among one of the 4 alternatives: “Unimportant”, “Not that important”, “Important”, “Very important”. Respondents have been asked to rank their 10 first preferred recommendations. The detailed explanations and results of their work can be consulted in D2.1.

### **3.4. Final version of the preliminary strategy on IOPP implementation to the water sector**

With their feedback we were ready to comply with the final version of the preliminary strategy on IOPP implementation to the water sector by enabling a list of problems and recommendations prioritised depending on their importance that would serve to implement these formulas with a possible higher level of success.

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## **4. Preliminary Strategy on IOPP transfer to the European water sector**

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The emerging linkage between innovation policies and the attention to public budgets has been growing during the recent European economic crisis. Over the last four years, European institutions have pointed out how public policies for innovation should be pursued at a minimum expense for the public balance sheets. As a result, the communication of the EU Commission in 2010 (European Commission [2010]) declared that, despite the growing attention on public budgets, R&D investments should not be stopped but encouraged and pushed up toward higher efficiency levels in public services and spending. On this path, innovation cannot be fragmented and competition in this area must be enforced.

The improvement of Europe's competitive edge is centred on competitive-based motivation of innovation via procurement. In the light of the problems and limitations emerged in the application of the "Classic Directive", the entire EU discipline of public procurement has been recently object of a complex reform trend.

### **4.1. Recommendations and bottlenecks proposed in Work Package 1**

#### **4.1.1. Regulations in the EU: cultural orientation versus rational approach**

In this sense, and notwithstanding the uniformity that is provided in the EU by the public procurement Directives, the "procurement cultural approach" between the different EU member states differs considerably, especially between those States which adopt an Anglo-Saxon system (most of the north EU states: UK, Netherlands) and those that adopt a continental system (France, Spain, Italy, Germany, etc.). This determines that their way of dealing with public procurement is formally different and their approach to the innovative procurement is therefore also different.

In the light of the recent adoption of new Directives on procurement as well as on concession contracts, the Member States have (until April 2016) the opportunity to coordinate and harmonize the transposal of the new rules into their national law relying on experience and economic-based research conducted on innovation procurement.

Alongside the latter the public procurement of and for innovation regulation requires radically new professional expertise. It would be advisable to provide general guidelines of "why, when and how" it should be implemented by the public sector, demonstrating the rational flexibility of design that is intentionally left in the hand of procurers and that is not equivalent to discretionary powers, because the contractual activity of a public administration remains subject to compliance with the general principles of the Treaty, specifically with the principles regarding the free circulation of goods, right of establishment, freedom to provide services, non-discrimination, equal treatment, mutual recognition, proportionality....

Although the transposition of the Directives corresponds to each member state, the European Commission could provide general guidance and examples of the application of its provisions, eg. Art. 49 Directive 2014/25/EU, in order to inspire the definition of vertical domain related guidelines (also for water sector) at national levels.

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**Recommendation 1:** *The Commission could provide general guidelines with rational and examples of application of the content of Public Procurement Directives. In order to provide a coordination and harmonization of implementation, Member States could also provide their proper and vertical domain related guidelines, once they've implemented the content of the Directives.*

#### **4.1.2. Lack of knowledge and skills regarding innovation management alongside the EU procurement**

The recognition of experiences conducted in D1.1 and D1.2 has demonstrated that innovation public procurement is (generally) understood as the inclusion of specific clauses in traditional procedures (eg., favouring innovation in the offer and not only price) or as the inclusion of a societal challenges and topic in funding schemas.

In the EU many “so-called PCP” initiatives are trying to succeed but, with few exceptions, they appear to be implemented more as a funding scheme or a simple service contract than as an innovation procurement mechanism. And only in very few cases the PCP is associated with a PPI in a second stage (meaning used to de-risk a planned procurement).

There is a lack of knowledge regarding the PCP and PPI, since it can be mistakenly thought of as a new type of contract, a new type of procedure, etc., but not as a new approach that should guide the optimization of public spending.

Moreover, the difficulty in leaving the traditional purchasing perspective depends mainly on the inability to assess the potential benefit from competition and the impact of the procured solution on the overall competitiveness in the medium to long term.

**Recommendation 2:** *The contracting authorities should get responsible in developing procurement strategy of/for innovation and in this sense, could develop and implement an action and motivation plan*

#### **4.1.3. Lack of incentives in the public sector and obligation of complying with budgetary duties**

The emerging linkage between innovation policies and the attention to public budgets has been growing during the recent European economic crisis. Over the last four years, European institutions have pointed out how public policies for innovation should be pursued at a minimum expense for the public balance sheets. As a result, the communication of the EU Commission in 2010 (European Commission [2010]) declared that, despite the growing attention to public budgets, R&D investments should not be stopped but encouraged and pushed up towards reaching higher efficiency levels in

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public services and spending. The EU public procurement spending amounts on average to 19% of GDP.

As outlined in D2.1, the procurement of R&D is underutilized in Europe compared to USA and Asia. In a normally functioning market typically 2,5% of 'innovator' type customers are needed to convince industry that the future market is big enough to develop new solutions which are specifically meeting the market's needs. 16% of early adopters and 34% of early majority buyers are needed to introduce innovation. Innovator type customers are those customers willing to finance industry to undertake R&D for the mid-long term customer needs of their market segment. In Europe we register a lack of procurers proactively approaching themselves with emerging innovations.

In this sense, funding programs such as Horizon2020 represents a fundamental accelerator (but not a substitute) of the innovation procurement processes to encourage procurers to turn the risk aversion into a more normally functioning public procurement market in Europe.

EU funding programs assign the right incentives: requiring the participation of at least 3 bodies from 3 member states, they intrinsically aim to establish a European market, to increase the contract power of the demand and acknowledging the support to coordination activities they intrinsically create incentives for capacity building.

**Recommendation 3:** *Funding programs for innovation procurement shouldn't act as substitute of current expenditure to be optimized via innovation procurement, but should provide incentives for pooling demand and creating a common knowledge base. In particular, the EU funds (H2020 and other funds such as FEDER) need to be addressed to public and societal challenges, coordinated and combined. The increase of the EU funds for water-related priorities could be obtained by widening the scope of FEDER funds, by increasing the total amount of H2020 funds for public procurement and by including criteria fostering demand oriented procurement in those two programs.*

#### 4.1.4. Climate constraints alongside the EU affect differently the water sector in each Member State

The different climate conditions which affect the northern member States and the southern member States determine the needs that will be satisfied making use of innovative tools will be different, (eg., for some States the concern might be related with saving water and for some other States the concern can be related with the need of having a precise precipitation data in order to avoid floods). So agglutinating a very heterogeneous demand may become complicated.

**Recommendation 4:** *The starting point could consist in the delimitation of broad objectives that should be promoted within the procurement of innovation in the water sector as for e.g. Preventing and reducing pollution; promoting sustainable water use; protecting the aquatic environment; improving the status of aquatic ecosystems in direct coordination with the WFD mechanisms). The public authorities' goals could be then explained to contractors in workshops. Also the contracting*

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*authorities should engage the market through the correspondent consultation.*

#### **4.1.5. Early identification and communication of needs: demand maps**

Public bodies can be encouraged to identify their needs for new solutions with competitive calls. Open and unspecified calls can be used as a mechanism to find the most promising innovation opportunities to be pursued through a pre-commercial procurement (PCP) process. Challenging public authorities to compete with their unmet needs can activate government agencies to use the PCP approach (Australian case).

Early communication of public sector needs may in itself stimulate industrial innovation by creating prospects for upcoming public procurements satisfying these needs. In this sense, complains of the bidders that participate in a public procurement of innovation procedure are related to the short terms that they have to prepare for their innovative proposals. The first information that they have is, in the most of the cases, the publication of the notice. If the terms given in order to present the mandatory documentation are not sufficiently long, the quality of the offer formulated by the tenderers decreases.

Due to all the barriers which are being pointed out, it is very important to engage the market at an early stage. Alongside the workshops, public authorities could publish a Prior Information Notice (PIN) so that the market is aware in advance that an innovative procurement will be launched.

***Recommendation 5:*** *Public authorities and water utilities should be encouraged to identify and communicate their upcoming public procurements and investments to the supplier markets early in advance. A good practice is to use a prior information notice (see art. 48 of Directive 2014/18/EU), in which the contracting authority communicates that its intention is to launch a public procurement of innovation procedure in the following months.*

***Recommendation 5 bis:*** *Stimulate the public water utilities and authorities to coordinate the preparation of procurement action, to exchange information and, possibly, co-organize at EU level open and advised technical dialogue to scan the market and identify the right procedure to satisfy with procurement their unmet technology needs.*

***Recommendation 5 ter:*** *Public Bodies are encouraged to organize an open European call for public water authorities and utilities to identify and submit their unmet technology needs in a competitive selection process. The proposals should be evaluated by an independent expert panel on the basis of their performance improvement potential and commercialization prospects. The selection process should lead to a European PCP process for the water domain, bringing together a large pool of water actors with similar unmet needs.*

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#### 4.1.6. Special general lack of funds for Small and Medium Enterprises

Even if Small and Medium Enterprises (SMEs) are the principal agents in translating technology to new sectors, industries and markets, SMEs are under-represented in public procurement compared to their overall weight in the economy.

The main obstacles for SMEs to participate in public procurement are represented by the stringent qualification requirements.

The challenge to increase SMEs involvement is traditionally managed (in innovation program) by breaking the procurer's requirement into smaller part or by encouraging the large suppliers to form alliances with smaller partners or to involve SME in the project.

Innovation procurement has as its main objective the aim to develop (completely, significantly or partially) new solutions for public sector problems for which there are no solutions available or completely available –so no customer references –on the market yet. As stringent qualification requirements (as in procurements for large scale product) don't apply, PCP is interesting for SME because it is more easily accessible and it allows them to work out their own ideas and step outside the traditional subcontractor role.

Splitting the R&D from the large scale deployment contracting phase also facilitates the access of SMEs to the procurement market. Combining those two would raise the contract value as well as qualification/financial guarantee requirements of procurers again in many cases to a level that is typically difficult for SMEs to comply with.

**Recommendation 6:** *Implement innovation procurement as a strategy to enable the creation of new players on the market and enlarge the participation of SMEs, reducing the inherent cost of sub-contracting.*

#### 4.1.7. Management of intellectual property rights

The inaccurate management of intellectual property rights (IPRs) related issues prevents industry in participating in IOPP processes. Activities oriented to identify of needs and create technical dialogue shall be accompanied by specific confidentiality clauses; further, dissemination of sensible information shall be done in a way which does not imply disclosure, loss of trade secrets or novelty. IPRs on results of IOPP shall be shared in order to create proper incentives and balanced risk distribution for both industry and public authorities.

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**Recommendation 7:** *Get knowledge but ensuring conservation of IPRs to contractors. Share IPRs results in a cooperative manner.*

#### 4.1.8. Fragmented information about public procurement of innovation opportunities

The access to information about public procurement of innovation opportunities is quite important to promote the participation of economic operators in the tenders. Nowadays, there is a procurement platform which aims to make visible the public procurement of innovation projects that are running (<https://www.innovation-procurement.org/>). This is a very good start point, but not enough, due to the absence of legal effects of the information published in the portal.

**Recommendation 8:** *It will be very helpful if in the TED (Tenders electronic Daily, accessible through SIMAP) would be possible to identify all the opportunities of public procurement of innovation in a special and single section. This section could give information about notices, documents, award decisions and others.*

#### 4.1.9. The need of market consultations

The traditional way to procure doesn't involve economic operators in the process of procurement. Not in the determination of the object of the contract (according with the public sector needs), either during the preparation of the tender documents. But the 2014 Directives on public procurement have regulated this consultation mechanism (see art. 40), to involve the economic operators in the procurement process.

There is a very good experience with the market events, in the frame of FP7 and H2020 research programs. At those events economic operators can show and offer their solutions (some of those are new, and unknown by contracting Entities) with no risk of breaching the principle of equality.

**Recommendation 9:** *Member states should promote the celebration of market events every time they want to launch a public procurement of innovation procedure. It should be compulsory, at least, in the pre-commercial procurements.*

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#### 4.1.10. The change in the demand side: admission of performance-based requirements

In a traditional procurement, the contracting entity demands a concrete solution, based on the technical specifications designed in the tender document. But this does not promote innovation from the supply side, and neither offers the possibility of doing so to the other economic operators that don't produce the solution required to participate in the procedures. But there is room to promote the participation of other operators if «functional» or performance-based requirements are admitted in response to public sector needs.

**Recommendation 10:** *When a contracting entity wants to promote innovative solutions, the mechanism of variants (see art. 45 Directive 2014/24/EU) and/or the reduction of the technical specifications in terms of functionality or efficiency (see art. 42 Directive 2014/24/EU) are two good instruments.*

#### 4.1.11. Policy alignment (clean tech, sustainable procurement, environmental...)

General innovation policy for innovation-oriented public procurement (IOPP) should be effectively aligned with targeted policies supporting clean technology and sustainable public procurement. These targeted policies typically provide support for technology to be adopted by public authorities and utilities including water utilities.

**Recommendation 11:** *Policy for innovation oriented public procurement should be aligned with sector specific policy measures relevant for the water domain, such as infrastructure and environmental policies.*

#### 4.1.12. Procurer-supplier collaboration

In multi-stage pre-commercial schemes it is important to engage the prospective public purchaser as an active innovation partner throughout the process (Australian case). Active engagement can generate an interactive learning process leading to better solutions to meet public agency needs.

**Recommendation 12:** *Embed a systematic mechanism in the PCP process to engage procurers and users in the product development and testing process. As the European approach to pre-commercial procurement requires that multiple suppliers are selected to address a particular challenge, it is necessary to provide sufficient resources to the procurer to be able to collaborate with multiple vendors simultaneously.*

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#### 4.1.13. Pre-commercial piloting and demonstration

Public procurement of innovative solutions (PPI) in the water domain is typically carried out after pre-commercial stage collaboration for R&D and technology piloting. The threshold for public water utilities to invest in new technology in the water domain remains high unless the risk has been managed by effective demonstration and verification of technology performance in the pre-commercial stage.

**Recommendation 13:** *Develop supply of innovative solutions through pre-commercial stage R&D activities (also other than PCP) to prepare for public procurement of innovative solutions (PPI).*

#### 4.1.14. Public bodies as pilot users

Pre-commercial procurement might not be highly effective until there is an institutionalised approach to engage public procurers as pilot users. Demonstration of technology at operational context is a key to commercializing technology.

**Recommendation 14:** *Encourage the leading European public water utilities to provide their production facilities as tested for pre-commercial technology development. Provide guidelines how to link technology development and testing activities with the public procurement process to avoid problems when transitioning from the pre-commercial stage to the commercial stage (public procurement).*

#### 4.1.15. Performance-based specifications

The use of performance-based specifications in procurement has great potential to create room for the adoption of new technological solutions by public bodies as launching customers. Less evidence was found that performance-based specification would trigger the development of new technological innovation. This is mostly due to the relatively short time span of the tendering process not allowing for much technical progress. However, some evidence was found that performance-based tender specifications may stimulate innovation for new system configurations, technology integration, and service concepts (Singapore case).

**Recommendation 15:** *Use of performance based requirements should be generally promoted as a means to favor adoption of new technology through public procurement of innovation (PPI). In addition, they could be used in a targeted manner particularly in cases where demanding local conditions drive for application of exceptionally high performance requirements.*

#### 4.1.16. Catalytic procurement of test products

Highly targeted measures can be used for bridging the pre-commercial stage with the commercial stage of the procurement by procuring prototypes or test products for government testing and performance validation, as done in Canada.

**Recommendation 16:** *Procuring technology prototypes for independent testing can be used as a targeted method to promote commercialization of new technology. Providing testing and verification by governments may provide leverage which is particularly useful for SMEs (Canadian case). Possibility to link procurement of test products with the Environmental Technology Verification scheme should be piloted.*

## 4.2. Priorisation of recommendations by Working Groups in the scope of Work Package 2

Although the detailed explanations and results of the priorisation of recommendations can be consulted in D2.1, we will now simply pinpoint that, once the Working Groups of D2.1 were created, the participants were asked to rate the recommendations, choosing amongst one of the following four alternatives: “Unimportant”, “Not that important”, “Important”, “Very important”. The respondents were also asked to rank their 10 first preferred recommendations.

The global results of the assessment done are listed in the table below.

<b>Global Ranking</b>	<b>Recommendation</b>	
1 <sup>st</sup>	R3	Funding programs for innovation procurement shouldn't act as substitute of current expenditure to be optimized via innovation procurement, but should provide incentives for pooling demand and creating a common knowledge base. In particular, the EU funds (H2020 and other funds such as FEDER) need to be addressed to public and societal challenges, coordinated and combined. The increase of the EU funds for water-related priorities could be obtained by widening the scope of FEDER funds, by increasing the total amount of H2020 funds for public procurement and by including criteria fostering demand oriented procurement in those two programs.
2 <sup>nd</sup>	R14	Encourage the leading European public water utilities to provide their production facilities as tested for pre-commercial technology development. Provide guidelines how to link technology development and testing activities with the public procurement process to avoid problems when transitioning from the pre-commercial stage to the commercial stage (public procurement).
3 <sup>rd</sup>	R2	The contracting authorities should get responsible in developing procurement strategy of/for innovation and in this sense, could develop and implement an action and motivation plan
4 <sup>th</sup>	R6	Implement innovation procurement as a strategy to enable the creation of new players on the market and enlarge the participation of SMEs, reducing the inherent cost of sub-contracting.
5 <sup>th</sup>	R5	Public authorities and water utilities should be encouraged to identify and communicate their upcoming public procurements and investments to the supplier markets early in advance. A good practice is to use a prior information notice (see art. 48 of Directive 2014/18/EU), in which the contracting authority communicates that its intention is to launch a public procurement of innovation procedure in the following months.
6 <sup>th</sup>	R5 bis	Stimulate the public water utilities and authorities to coordinate the preparation of procurement action, to exchange information and, possibly, co-organize at EU level open and advised technical dialogue to scan the market and identify the right procedure to satisfy with procurement their unmet technology needs.
7 <sup>th</sup>	R11	Policy for innovation oriented public procurement should be aligned with sector specific policy measures relevant for the water domain, such as infrastructure and environmental policies.
8 <sup>th</sup>	R13	Develop supply of innovative solutions through pre-commercial stage R&D activities (also other than PCP) to prepare for public procurement of innovative solutions (PPI).
9 <sup>th</sup>	R16	Procuring technology prototypes for independent testing can be used as a targeted method to promote commercialization of new technology. Providing testing and verification by governments may provide leverage which is particularly useful for SMEs (Canadian case). Possibility to link procurement of test products with the Environmental Technology Verification scheme should be piloted.
10 <sup>th</sup>	R9	Member states should promote the celebration of market events every time they want to launch a public procurement of innovation procedure. It should be compulsory, at least, in the pre-commercial procurements.
11 <sup>th</sup>	R15	Use of performance based requirements should be generally promoted as a means to favor adoption of new technology through public procurement of innovation (PPI). In addition, they could be used in a targeted manner particularly in cases where demanding local conditions drive for application of exceptionally high performance requirements.
12 <sup>th</sup>	R5 ter	Public Bodies are encouraged to organize an open European call for public water authorities and utilities to identify and submit their unmet technology needs in a competitive selection process. The proposals should be evaluated by an independent expert panel on the basis of their performance improvement potential and commercialization prospects. The selection process should lead to a European PCP process for the water domain, bringing together a large pool of water actors with similar unmet needs.
13 <sup>th</sup>	R8	It will be very helpful if in the TED (Tenders electronic Daily, accessible through SIMAP) would be possible to identify all the opportunities of public procurement of innovation in a special and single section. This section could give information about notices, documents, award decisions and others.
14 <sup>th</sup>	R10	When a contracting entity wants to promote innovative solutions, the mechanism of variants (see art. 45 Directive 2014/24/EU) and/or the reduction of the technical specifications in terms of functionality or efficiency (see art. 42 Directive 2014/24/EU) are two good instruments.
15 <sup>th</sup>	R12	Embed a systematic mechanism in the PCP process to engage procurers and users in the product development and testing process. As the European approach to pre-commercial procurement requires that multiple suppliers are selected to address a particular challenge, it is necessary to provide sufficient resources to the procurer to be able to collaborate with multiple vendors simultaneously.
16 <sup>th</sup>	R1	The Commission could provide general guidelines with rational and examples of application of the content of Public Procurement Directives. In order to provide a coordination and harmonization of implementation, Member States could also provide their proper and vertical domain related guidelines, once they've implemented the content of the Directives.
17 <sup>th</sup>	R7	Get knowledge but ensuring conservation of IPRs to contractors. Share IPRs results in a cooperative manner.
18 <sup>th</sup>	R4	The starting point could consist in the delimitation of broad objectives that should be promoted within the procurement of innovation in the water sector as for e.g. Preventing and reducing pollution; promoting sustainable water use; protecting the aquatic environment; improving the status of aquatic ecosystems in direct coordination with the WFD mechanisms). The public authorities' goals could be then explained to contractors in workshops. Also the contracting authorities should engage the market

These results are presented in a synthetized version in the table in Annex 1, too. In this second table, the assessment of the different Working Groups is done with 3 colours: green set of recommendations contains the most important recommendations and red set of recommendations are those ones which are not as urgent as the others, from the point of view of the participants

The interpretation of the assessment of the preliminary recommendations by the Working Groups assessment shows that some recommendations are generally considered more useful than others as regards the use of public procurements to stimulate innovation in the water sector. Those considered as the most useful are those that, in general, allow for a reduction of the intrinsic risk of the innovative procurements process either by increasing the scale of the project or by facilitating a technological dialogue between procurer and supplier, or by providing economic incentive that cover the risk (see Box 1 below).

### **Box 1: Interpretation of the results of the working group assessment of the recommendation**

(Extracted from § 5.4 of Deliverable 2.1 Working Group Recommendations)

*In general, those considered as the most useful recommendations are those that allow for a reduction of the intrinsic risk of the innovative procurements process either by providing economic incentive that cover the risk (R3) or by increasing the scale of the project (R2).*

*Recommendations which are aimed to facilitate a technological dialogue between procurers and suppliers during the product development and testing phases are considered as important or very important (R13, 14).*

*Recommendations which raise the visibility of the procedure in order to facilitate the market screening phase are considered as possible solutions (R5, R5ter, R8, R9).*

*Important, or very important, are also considered those recommendations which increase the predictability of the technological path (R2) and which, finally, allow for a wider room of manoeuvre in the definition of the procurement requirements and the assessment of the qualitative aspect of the offer (R 15). All these recommendations are perceived as useful to better link up the pre-commercial stages of collaboration with the procuring phase, so as to reduce intrinsic risks for both procurers and suppliers.*

*Recommendations which foster a strategic planning of innovation procurement (like R2) are considered very important but little feasible.*

*There is a group of recommendations concerning other aspects (R8, R10) which have registered a significant variability of responses. Such variability could be explained by significant difference of level of information about public procurement procedures among respondents (some of the respondents reported difficulties in understanding the significance or implications of some recommendations).*

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### 4.3. Critical review of the prioritisation of the recommendations

Firstly and in general terms, the ranking proposed by the Working Groups shall be regarded as accurate and proper when considered as a preliminary strategy. Nevertheless, some comments need to be made in order to make the link between the different recommendations in the context of the ranking clearer.

The ranking does not take into account the logic of the procedure. However, it must be underlined that R2 seems to fit better if it is placed before R9. In this context, R15 can be understood as a way of expressing decisions adopted in R2.

R3 raises one of the most delicate issues regarding the attitude towards IOPP from public authorities. The risk is a result of the possibility of public authorities applying these kinds of innovative procedures just to obtain an additional budget. This would be a perverse and mistaken approach. Public authorities shall be convinced about the positive inputs of IOPP's and be willing to apply such procedures because of these positive inputs. This can only be checked if R2 has been fulfilled.

R14 should take place in the context of R9 and shall be regarded as a requirement of R9. And, on the other hand, R5 should be regarded as a component which will serve to develop R9 as well as R8, which can be used as a mechanism for information exchange between demand and supply side.

Regarding R9, the information exchange between demand and supply side should be bidirectional. Public authorities and providers should enable appropriate instruments to settle a dialogue between the parties.

Although R11 is not a *sine qua non* condition for IOPP, it is always useful to remember it since it will be easier for it to succeed if the sectorial policy is in favour of these procedures.

The position of R5 bis and R5 ter shows that the actors involved are not overly concerned about trans-European IOPP procedures, taking advantages of the internal market. It seems advisable to launch specific incentives in order to promote such cross-border procedures.

As far as R15 is a precision of R10, it could make sense to rank it as R10 has been ranked.

R16 and R13 should be coherently aligned with the strategy rising from R2; and both R16 and R13 can be considered as instruments to be used in the strategy as it also should occur with R6.

The position of R1 seems to be underestimated, due to the immaturity of the IOPP market in general and of the IOPP water sector market, particularly. R1 responds to an actual need and should be transversal to all of the other measures.

The position of R4 is not consistent, since R4 is a previous and unavoidable step to a proper development of R2.

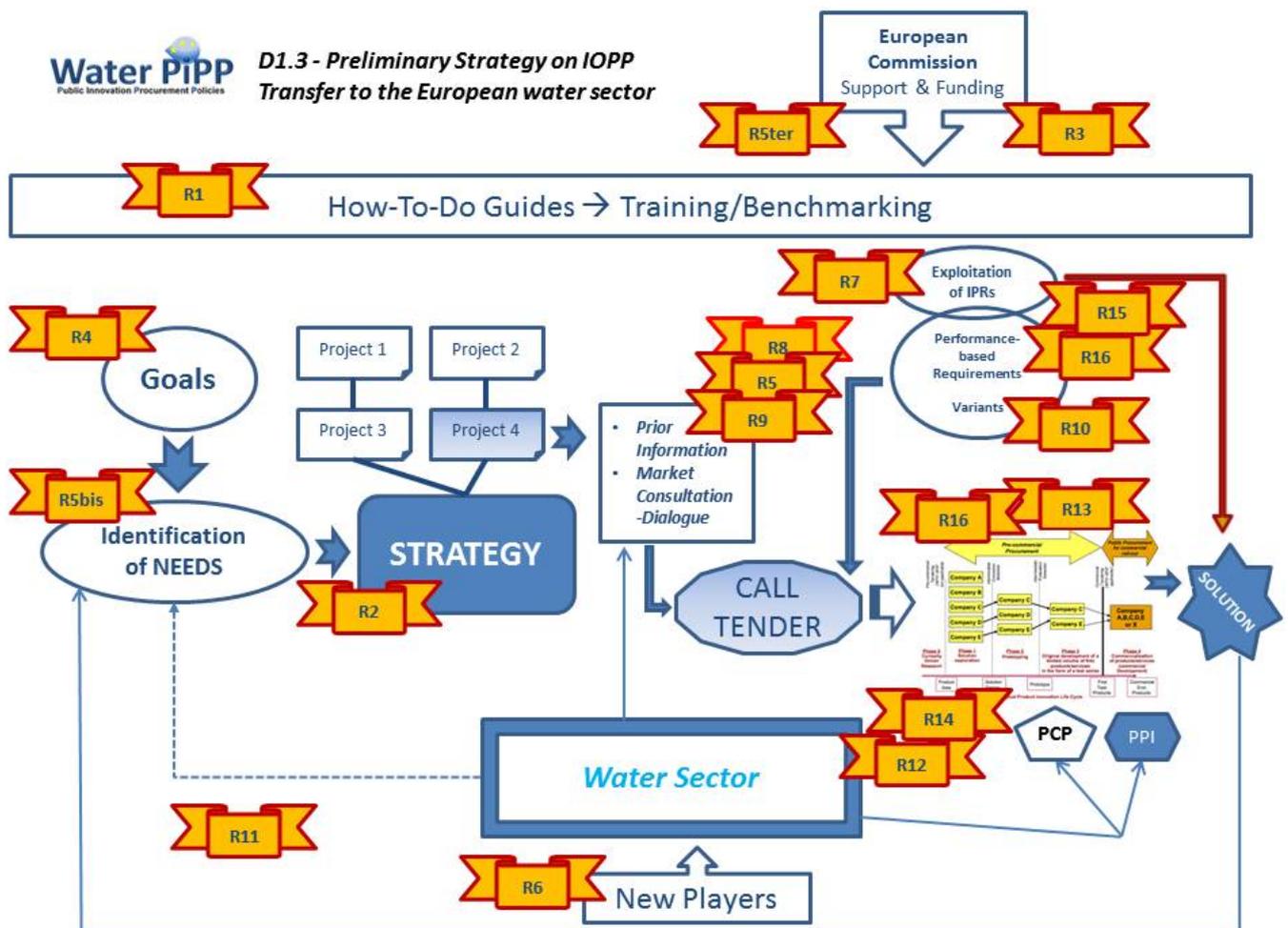
Good practices in the context of R7 should cover not only the exploitation phase, but also the previous stages of IOPP procedures starting from the dialogue. This will be positive for both: supply side will not be afraid of sharing knowledge and the demand side will be aware of commitments, regarding the final results of these procedures.

Finally, R12 seems to be correctly placed as far it is a very specific recommendation which presumes a certain maturity level of the procedures.

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#### 4.4. Preliminary Strategy on IOPP transfer to the European water sector in a view

The IOPP procedures are not easy to follow and involve lots of steps and different possibilities which are developed by diverse stakeholders. The following diagram aims to facilitate the general understanding of the preliminary strategy on IOPP transfer to the European sector in a view. In this sense, the figure illustrates in which area of the different phases of the IOPP procedures should be placed the recommendations which have been formulated in this deliverable and therefore taken into account.



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## 5. Conclusions

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Firstly, the recommendations which are proposed in this deliverable have not been directly formulated departing from IOPP experiences in the water sector. They are related to the IOPP practices from a general point of view. This is due to the absence of specific IOPP practices in the EU water sector, as D1.1, has shown. Nevertheless, they are useful when formulating a preliminary strategy as the one which is proposed in this paper and will need to be further developed in order to take into account the water sector needs when the time to implement them rises. In other words, the preliminary strategy which has been formulated regarding the IOPP practices in general, can further on be adapted to the specific needs of the water sector in the next steps of Water PiPP.

Secondly, and regarding the results and conclusions obtained in D1.1 and D1.2, as well as the input of the stakeholders (in D2.1) which has been transferred to D1.3, we can observe that there is a general absence of an IOPP strategy from the demand side, and it seems that R2 and R4 are not being taken into account. Actually, public authorities launch specific IOPP procedures without having the previous and necessary global and overall view given by the correspondent strategies.

The reasons for the latter mainly have to do with:

- Very high risk aversion to invest in innovative solutions which do not guarantee a 100% of success.
- The lack of knowledge regarding all these new procurement formulas.
- The additional funds seem to be insufficient in order to properly support the kick-off of IOPP.

D1.3 Preliminary Strategy on IOPP transfer to European water sector	- 23 / 27 -	Author(s) UNIZAR (P. Bueso; M.A. Bernal ; M. Hernando); TEHA (S. Bedin); VTT (V. Valovirta, M. Arnold).
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## Annex 1 Assessment of recommendations by working groups

The first task of the WP2 of the project was to have an assessment by pre-defined five working groups of the preliminary recommendations. The following table exposes a ranking as it resulted from the assessment phase that was organized with the working groups. The composition of the WG and the methodological aspects of the ranking are described in Deliverable 2.1 (Working Group Recommendations).

	<b>Recommendation</b>	<b>WG1 Cities</b>	<b>WG2 Regions</b>	<b>WG3 Industry</b>	<b>WG4 Public operators</b>	<b>WG5 Water authorities</b>	<b>Global ranking</b>
R1	The Commission could provide general guidelines with rational and examples of application of the content of Public Procurement Directives. In order to provide a coordination and harmonization of implementation, Member States could also provide their proper and vertical domain related guidelines, once they've implemented the content of the Directives.	High	High	Low	Very low	Medium	9
R2	The contracting authorities should get responsible in developing procurement strategy of/for innovation and in this sense, could develop and implement an action and motivation plan	High	Medium	Very high	High	Very high	16
R3	Funding programs for innovation procurement shouldn't act as substitute of current expenditure to be optimized via innovation procurement, but should provide incentives for pooling demand and creating a common knowledge base. In particular, the EU funds (H2020 and other funds such as FEDER) need to be addressed to public and societal challenges, coordinated and combined. The increase of the EU funds for water-related priorities could be obtained by widening the scope of FEDER funds, by increasing the total amount of H2020 funds for public procurement and by including criteria fostering demand oriented procurement in those two programs.	Very high	High	Very high	Very high	Medium	17
R4	The starting point could consist in the delimitation of broad objectives that should be promoted within the procurement of innovation in the water sector as for e.g. Preventing and reducing pollution; promoting sustainable water use; protecting the aquatic environment; improving the status of aquatic ecosystems in direct coordination with the WFD mechanisms). The public authorities' goals could be then explained to contractors in workshops. Also the contracting authorities should engage the market through the correspondent consultation.	Low	Low	Very low	Medium	Low	5

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	<b>Recommendation</b>	<b>WG1 Cities</b>	<b>WG2 Regions</b>	<b>WG3 Industry</b>	<b>WG4 Public operators</b>	<b>WG5 Water authorities</b>	<b>Global ranking</b>
R5	Public authorities and water utilities should be encouraged to identify and communicate their upcoming public procurements and investments to the supplier markets early in advance. A good practice is to use a prior information notice (see art. 48 of Directive 2014/18/EU), in which the contracting authority communicates that its intention is to launch a public procurement of innovation procedure in the following months.	High	Very high	Low	Low	Very high	13
R5 bis	Stimulate the public water utilities and authorities to coordinate the preparation of procurement action, to exchange information and, possibly, co-organize at EU level open and advised technical dialogue to scan the market and identify the right procedure to satisfy with procurement their unmet technology needs.	Medium	High	High	Low	Very high	13
R5 ter	Public Bodies are encouraged to organize an open European call for public water authorities and utilities to identify and submit their unmet technology needs in a competitive selection process. The proposals should be evaluated by an independent expert panel on the basis of their performance improvement potential and commercialization prospects. The selection process should lead to a European PCP process for the water domain, bringing together a large pool of water actors with similar unmet needs.	Low	High	High	Medium	Medium	11
R6	Implement innovation procurement as a strategy to enable the creation of new players on the market and enlarge the participation of SMEs, reducing the inherent cost of sub-contracting.	High	Low	Very high	Medium	Very high	14
R7	Get knowledge but ensuring conservation of IPRs to contractors. Share IPRs results in a cooperative manner.	Medium	Very low	Low	High	High	9

	<b>Recommendation</b>	<b>WG1 Cities</b>	<b>WG2 Regions</b>	<b>WG3 Industry</b>	<b>WG4 Public operators</b>	<b>WG5 Water authorities</b>	<b>Global ranking</b>
R8	It will be very helpful if in the TED (Tenders electronic Daily, accessible through SIMAP) would be possible to identify all the opportunities of public procurement of innovation in a special and single section. This section could give information about notices, documents, award decisions and others.	Medium	High	Very low	Medium	Very high	11
R9	Member states should promote the celebration of market events every time they want to launch a public procurement of innovation procedure. It should be compulsory, at least, in the pre-commercial procurements.	Very high	Low	Low	High	High	12
R10	When a contracting entity wants to promote innovative solutions, the mechanism of variants (see art. 45 Directive 2014/24/EU) and/or the reduction of the technical specifications in terms of functionality or efficiency (see art. 42 Directive 2014/24/EU) are two good instruments.	Very low	Very low	Medium	Very high	Very high	10
R11	Policy for innovation oriented public procurement should be aligned with sector specific policy measures relevant for the water domain, such as infrastructure and environmental policies.	Medium	High	High	Low	Very high	13
R12	Embed a systematic mechanism in the PCP process to engage procurers and users in the product development and testing process. As the European approach to pre-commercial procurement requires that multiple suppliers are selected to address a particular challenge, it is necessary to provide sufficient resources to the procurer to be able to collaborate with multiple vendors simultaneously.	High	Very low	High	High	Low	10

	<b>Recommendation</b>	<b>WG1 Cities</b>	<b>WG2 Regions</b>	<b>WG3 Industry</b>	<b>WG4 Public operators</b>	<b>WG5 Water authorities</b>	<b>Global ranking</b>
R13	Develop supply of innovative solutions through pre-commercial stage R&D activities (also other than PCP) to prepare for public procurement of innovative solutions (PPI).	Medium	High	High	High	Medium	13
R14	Encourage the leading European public water utilities to provide their production facilities as tested for pre-commercial technology development. Provide guidelines how to link technology development and testing activities with the public procurement process to avoid problems when transitioning from the pre-commercial stage to the commercial stage (public procurement).	Very high	Very high	Very high	Medium	High	17
R15	Use of performance based requirements should be generally promoted as a means to favor adoption of new technology through public procurement of innovation (PPI). In addition, they could be used in a targeted manner particularly in cases where demanding local conditions drive for application of exceptionally high performance requirements.	Low	Medium	Medium	High	Very high	12
R16	Procuring technology prototypes for independent testing can be used as a targeted method to promote commercialization of new technology. Providing testing and verification by governments may provide leverage which is particularly useful for SMEs (Canadian case). Possibility to link procurement of test products with the Environmental Technology Verification scheme should be piloted.	High	Low	High	Medium	Very high	13

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