

Guide on Public Procurement of Open Data-driven Innovation

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This guide aims to identify best practice use cases on open data innovation procurement, particularly for municipalities. It was initially drafted in 2018 after the first SCIFI call has been launched. In this version of the guide, sections 8 and 9 were updated based upon the experience and lessons learned of the Smart City Innovation Framework SCIFI.

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Executive Summary

This guide is addressed to local policymakers, who are responsible for setting long-term strategies for the public procurement of research and development (R&D) services through pre-commercial procurement (PCP) and for the public procurement of innovative solutions (PPI) related to open data. It intends to create awareness for public procurers of the economic and legal rationales for such procurement. Such awareness is necessary to drive policy implementation and execution.

Innovation procurement is an important tool at the disposal of policymakers. It holds the key to solving important societal challenges in the areas of health care, energy efficiency, transport, security, environmental protection, water and waste management or construction. To address these issues, the public sector often needs solutions for which often no commercially proven products exist yet and new R&D is needed. In these cases, PCP can then be used to compare the pros and cons of alternative competing solutions approaches. This will in turn enable the de-risking of the most promising innovations step-by-step via solution design, prototyping, development and first product testing. In other cases, challenges can be addressed by innovative solutions that are instead nearly or already in small quantity in the market and which do not require new R&D. This is when PPI can be used effectively. By developing a forward-looking innovation procurement strategy that uses PCP and PPI in a complementary way, public procurers can drive innovation from the demand side.

Using the aforementioned mechanisms, a number of different approaches to open data innovation procurement exist. Namely, these are either services to enable for the collection of open data, such as platforms or catalogues, and services using existing open data. The latter consists of direct services to citizens as end-users, to citizens through contracting authorities, or to contracting authorities themselves. Providing evidence for these approaches, best practice identified in this guide suggests that open data innovation procurement is at the level of purchasing systems which enable open data services. This is an important step that allows private actors to access and use the open public data to develop innovative applications/solutions and create economic value. However, project managers, procurers, and policy makers have joint responsibilities to ensure that private actors are also stimulated through public procurement to develop innovative open data solutions that solve public problems/challenges. Such procurements are necessary to improve public services, to support access to (new) markets by SMEs, and to improve European competitiveness in the sector of open data products and services.

The Guide on Open Data Innovation Procurement for Municipalities was initially drafted in 2018, a little after the first SCIFI call has been launched. In 2020, sections 8 and 9 of the Guide were updated based upon the experience and lessons learned of the Smart City Innovation Framework SCIFI which piloted solutions through an innovative procurement under the thresholds. Additional conclusions and recommendations on the outcome of the SCIFI innovation procurement have been made available in this guide.

The table below describes briefly the contents of each section to give the reader a quick overview of the Guide.

Overview to the contents of this Guide	
1. Introduction	Briefly introduces Innovation Procurement and the structure of the Guide.
2. Introduction to open data	Defines open data, its sources, its value, and applicable legislation. It also gives an overview of open government current state and challenges.
3. The European framework for innovation procurement	Explains Pre-Commercial procurement (PCP), Public Procurement of Innovative solutions (PPI) and Innovation Partnership.
4. Innovation procurement in France, the Netherlands, UK and Belgium	Explains the legal framework, current state of affairs and initiatives in the countries from which the participating municipalities come from.
5. Guidance for innovation procurement - the Business Case Methodology	Explains five steps of the Business Case Methodology as described in the Eafip initiative.
6. Best practices of open data innovation procurement	Nine use cases of open data innovation procurement from different Member States are presented.
7. Coordinated or joint cross-border procurement	Explains the coordinated procurement and the joint procurement approaches, their advantages and challenges.
8. Outcome of SCIFI innovation procurement	Explains the outcomes of the SCIFI in 5 subsections: <ol style="list-style-type: none"> 1) Brief introduction to the context, the methodology and the challenges of the two SCIFI project calls. 2) Main results of the program by city. 3) Lessons learnt and recommendations by participating Municipality. 4) Lessons learned from the technology vendor's perspective. 5) Good practices of the participating municipalities.
9. Conclusions and recommendations	In addition to the general conclusions, a new subsection includes 13 recommendations gathered after the implementation of the Project to successfully implement Innovation Procurement, in particular when open data is involved.
10. Annexes	Includes use cases, summaries and templates examples.

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1 Introduction

Innovation procurement is an important tool at the disposal of policymakers to enable and drive developments in open data-related solutions for municipalities. It consists of the purchase of R&D services through *pre-commercial procurement* (PCP), innovations requiring incremental adaptation or design changes through the *public procurement of innovative solutions* (PPI), and *innovation partnerships* where a contracting authority works together with a single supplier through all developmental and commercialization phases. More specifically, *open data innovation procurement* refers to public procurement of open data-driven innovation. Public Procurement of open data requires attention on specific issues (e.g. to define whether the data is being provided by the public buyer, i.e. contracting authority/entity, rather than by the supplier of the solution; to identify the sources and types of data and the use of open data licenses; to take into account the EU legal framework, particularly the Directive on Open Data and the FAIR principles so data are findable, accessible, interoperable and reusable).¹ Such procurement can also be conducted together with parties from other countries in the buyers' group - referred to as *coordinated or joint cross-border procurement*. For municipalities, these procurement mechanisms present opportunities to capture the innovative potential of the market while supporting SMEs, providing benefits to the contracting authorities themselves as well as to the public.

Capturing learnings and best practices is critical to the formulation of forward-looking innovation procurement strategies which drive these developments. This guide presents for the first time an overview of open data innovation procurement with particular focus on how it *is* being used and how it *can be* used for municipalities. An example of its use is for a municipality seeking to develop open data policies which include procurement approaches for smart cities.

The guide is structured as follows. First, definitions and background information on open data are presented to set the context. Next, after introducing the European framework for innovation procurement, legislative provisions and innovation procurement initiatives of France, the Netherlands, UK, and Belgium are discussed. To provide examples of the execution of such provisions in practice, the guide then highlights best practice use cases identified through empirical research. Next, considerations for joint cross-border procurement are presented. Section 8 provides a summary of the results and lessons learned from the SCIFI procurement.

The guide concludes with a summary of the current state of open data innovation procurement across Europe, and recommendations to facilitate its further uptake by municipalities. Section 9 also includes specific conclusions and recommendations based on the experience of SCIFI

¹ For more information see Open data guidance package for cities: http://smartcityinnovation.eu/wp-content/uploads/2020/10/20200122_DEFINITIVE-2_WP1_D1.4.1_Open-Data-Guidance-1-2.pdf

2 Introduction to open data

This section provides a definition of open data innovation, as well as the characteristics and properties of open data.

2.1 Definition of open data

Open data are digital data that have the technical and legal characteristics required to make them freely available for use, reuse and republish at anytime and anywhere, without restrictions from copyright, patents or other mechanisms of control. Data quality is one of the factors that affect the successful use of open data.

Open data sets also are defined in relation to other types of data, especially big data (Figure 1). Big data consists of large datasets that require specific analysis techniques because they cannot be handled in a conventional way, since they exceed the capacity of the usual technological tools for collecting, managing and processing data. Open data is often big data, but small data sets can also be open. Open and big data are distinct concepts. Open describes how liquid and transferable data are, and big describes size and complexity of data sets. The degree to which big data is liquid indicates whether or not the data are open.

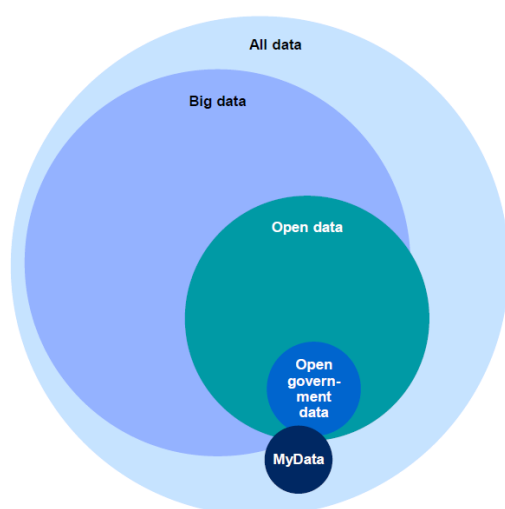


Figure 1: The relationship between open data and other types of data. McKinsey Global Institute analysis. Open data: Unlocking innovation and performance with liquid information.

The potential for open data depends on the adoption of a digital format that could be easily shared and analyzed. Open data sets of governments and private players share the following characteristics²:

Accessibility: a wide range of users is permitted to access the data.

Machine readability: the data can be processed automatically.

Cost: data can be accessed free or at negligible cost.

Rights: limitations on the use, transformation, and distribution of data are minimal.

Data sets can range from completely open to completely closed across these four dimensions, as characteristics which can also be used to assess the degree of openness of a data set.

² McKinsey Global Institute analysis. Open data: Unlocking innovation and performance with liquid information. <https://www.mckinsey.com/business-functions/digital-mckinsey/our-insights/open-data-unlocking-innovation-and-performance-with-liquid-information>

2.2 Sources of open data

Open data sets vary in scope and source. They can be local, national, or global. Sources for open data sets—whether big or small—can come from the government or other institutions and enterprises, and from individuals.

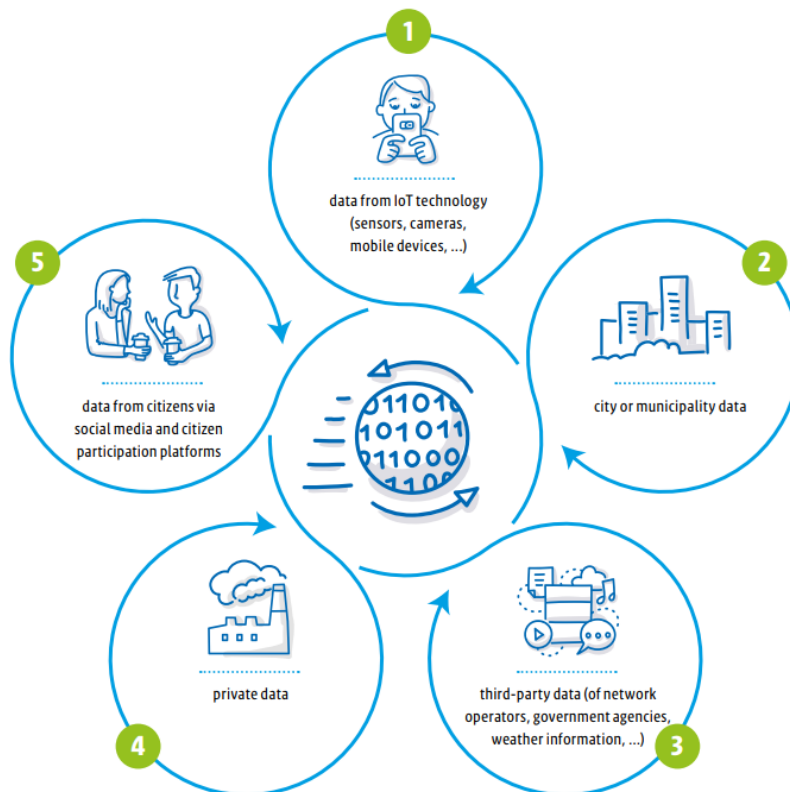


Figure 2: Agoria (n.d.) Data, the building blocks for cities and municipalities of the future.
https://acdn.be/_projects/smartcities/brochures/Whitepaper_Data_EN_Web.pdf

While there is a need of safeguards for personal privacy and business confidentiality, it is also necessary to invest in technology to maximize the potential of open data to create services and products hand in hand with organizational changes which also entail changes in mindsets and work processes.

2.3 The value of open data

Making information open and available improves transparency and accountability, unlocking large amounts of economic value. Capturing this value requires improving the efficiency and effectiveness of existing processes, making possible new products, services and markets, and creating value for individual consumers and citizens. In this regard, innovation procurement can play a key role.

Data can be considered as the 21st century's most important raw material. An essential resource in order to achieve economic growth, job creation and societal progress. The capability to analyse and learn from data has the potential to facilitate better decision-making, leading to more transparency and a more sustainable environment. According to the EU Commission, the value of the EU data economy is foreseen to pick values beyond EUR 600 billion by 2020, representing

3.17% of the overall EU GDP, more than double of the 2015's value. Within the data economy open data plays a pivotal role, whose value will reach near 70 billion EUR in 2020.

At national level, open data portals are being developed and improved, increasingly backed by solid digital policies or specific open data policies. However, the use of open data can be as much as critical for sub-national public entities, supporting the cities for example in tackling many challenges that are currently facing: urban planning, waste management transportation, social inclusion etc. In a nutshell, open data can help cities become not just more sustainable, but smarter.

[Building a European data economy](#)³ is part of the Digital Single Market strategy. The initiative aims at enabling the best possible use of the potential of digital data to benefit the economy and society. In this initiative, the Commission intends to unlock the re-use potential of different types of data and its free flow across borders to achieve a European digital single market.

In the [Communication 'Towards a common European data space'](#),⁴ the European Commission announces a series of upcoming measures meant to facilitate optimal access, sharing and re-use of public, publicly-funded and private data for a wide range of new products and services that would improve public services. . The Commission suggests a number of principles to be observed by public sector bodies when accessing private data. This would encourage the private sector to supply data that is highly relevant for informed government decisions (e.g. related to epidemics response, better urban planning, improved road safety and traffic management better environmental protection etc.).

"Providing access to dynamic data via application programming interfaces is particularly important, as it supports the open data ecosystem, saves time and costs through automation of the download process, and greatly facilitates the re-use of data for a wide range of new products and services. Sharing data via the correct and secure use of application programming interfaces can generate significant added value for different actors of the data value chain. It can also contribute to the creation of valuable ecosystems around data assets whose potential is often unused by data holders."

Towards a common European data space, COM(2018) 232 final. Retrieved from <https://ec.europa.eu/digital-single-market/en/news/communication-towards-common-european-data-space>

³ <https://ec.europa.eu/digital-single-market/en/policies/building-european-data-economy>

⁴ <https://ec.europa.eu/digital-single-market/en/news/communication-towards-common-european-data-space>

2.4 Applicable legislation to open government data

While this guide considered all open data and not just open government data (see Figure 1), this section outlines the legislation applicable to open government data due to its relevance for open data public procurement. The OECD defines open government data as a philosophy- and increasingly a set of policies - that promotes transparency, accountability and value creation by making government data available to all. Public bodies produce and commission huge quantities of data and information. By making their datasets available, public institutions become more transparent and accountable to citizens. By encouraging the use, reuse and free distribution of datasets, governments promote business creation and innovative, citizen-centric services.

The European legislation on the re-use of public sector information provides a common legal framework for a European market for government-held data (public sector information). It is built around two key pillars of the internal market: transparency and fair competition. The Directive on the re-use of public sector information, also known as the 'PSI Directive' (Directive 2003/98/EC) entered into force on 31 December 2003. It was revised by the Directive 2013/37/EU, which entered into force on 17 July 2013.

The Database Directive or the Directive on the legal protection of Databases adopted in 1996 may have in practice possible interaction with the Directive on the re-use of public sector information with regard to the exclusive sui generis right of database producers, valid for 15 years, to protect their investment of time, money and effort, irrespective of whether the database is in itself innovative ("non-original" databases). The Directive also harmonized copyright law applicable to the structure and arrangement of the contents of databases ("original" databases). The Directive's provisions apply to both analogue and digital databases.

The INSPIRE Directive is also relevant, as it aims to create a European Union spatial data infrastructure for the purposes of EU environmental policies and policies or activities which may have an impact on the environment. This European Spatial Data Infrastructure will enable the sharing of environmental spatial information among public sector organizations, facilitate public access to spatial information across Europe and assist in policymaking across boundaries. INSPIRE is based on the infrastructures for spatial information established and operated by the Member States of the European Union. The Directive addresses 34 spatial data themes needed for environmental applications. The Directive came into force on 15 May 2007 and will be implemented in various stages, with full implementation required by 2021.

2.5 Cities strategy on open data

Data and integrated data are at the core of a smart city and essential instruments to support policy and to increase the comfort level of citizens. [The Smart Cities white paper: 'Data, the](#)

[cornerstone for cities and municipalities of tomorrow](#)⁵ provides local policymakers with a hands-on approach on how to get started with data.

For a successful national open data initiative, the whole publication chain should be taken into account. Cities are crucial components of the open data publication chain. Specifically, the larger European cities publish a lot of data on topics such as urban planning, tourism, and increasingly real-time data in the transport and mobility area, such as datasets on available parking spots. Moreover, cities also benefit from the use of open data to tackle typical urban challenges such as congestion and pollution, and to improve the quality of urban public services and the interactivity between the local government and citizens.

The [open data initiatives](#)⁶ in Amsterdam, Barcelona, Berlin, Copenhagen, London, Paris, Stockholm, Vienna, Dublin, Florence, Gdansk, Ghent, Helsinki, Lisbon, Thessaloniki and Vilnius show the importance of cities having open data strategies in place, which are not stand-alone initiatives but are often embedded in broader digital or Smart City strategies.

Smart City strategies are important drivers for open data, as a more connected city and the deployment of smart devices (e.g. sensors on lamp posts to measure traffic density) result in a lot of useful data that can be used to enhance the quality of life in the city. This requires a solid data management system and a focus on stimulating the re-use of this data to tap the value that lies within it.

As part of the data management system, it is important to have a coordination mechanism in place at national level, in order to overcome interoperability barriers among various data portals. In this context, exchanges of best practices and experiences with partner-cities and institutions are particularly helpful for cities .

In order to stimulate re-use of data, cities should apply a clear Open License to the open data they are providing. Cities should also boost private actors' awareness on what can be done with the data by means of tangible examples and visualizations (e.g. separate city dashboards). Other initiatives to reach out to citizens are often centered around the practical application of open data, such as local hackathons and meet-ups.

Not all cities apply a clear Open License to the open data they are providing. This hampers the re-use of the data, as it may lead to uncertainties on the side of the re-user on whether the data considered is free to access, use, modify and share. Only data which is shared with an Open License becomes open data.

⁵ <https://www.agoria.be/WWW.wsc/rep/prg/ApplContent?ENewsID=121633>

⁶ <https://www.europeandataportal.eu/nl/highlights/open-data-european-cities>

1. The [European Innovation Partnership for Smart Cities & Communities \(EIP-SCC\)](https://eu-smartcities.eu/)⁷ combines Information and Communication Technologies (ICT), energy management and transport management to come up with innovative solutions to the major environmental, societal and health challenges facing European cities today.
2. [The Smart Cities Stakeholder Platform](http://ec.europa.eu/eip/smartcities/index_en.htm)⁸ is the collaborative, networking and knowledge sharing tool of Smart Cities and Communities. It collects and analyses input from all stakeholders in order to:
 - give advice to the High Level Group to feed into the Strategic Implementation Plan
 - provide detailed feedback to stakeholders who can use it to create their own activities and projects
3. The reference for open data in the European Union is [European Data Portal](https://www.europeandataportal.eu/)⁹ whose mission is to improve accessibility and increase the value of open data in Europe. One of the initiatives is the storage of the public sector information available on public data portals across European countries: about 600,000 datasets in over 34 European countries.
4. The instrument to appreciate the open data maturity in the EU is the [open data Maturity dashboard](https://www.europeandataportal.eu/en/dashboard#2017),¹⁰ that provides a breakdown of the state of open data in the EU and per country. The dimension used are two: the open data Readiness, assessing the span of their open data policies, and the open data portal maturity. More information, including the annual report on open data maturity can be found [here](https://www.europeandataportal.eu/en/highlights/open-data-maturity-europe-2017).¹¹
5. The European Data Portal provides at this [link](https://www.europeandataportal.eu/en/resources/training-companion) a free training online.¹²

2.6 Open government data – current state and challenges

With respect to open government data in particular, a number of challenges have been identified. While they are not directly related to open data *innovation procurement by municipalities* (i.e., the core focus of this guide), they are nevertheless outlined hereunder, to provide additional context as to the current environment in which policy makers, procurers and project managers

⁷ <https://eu-smartcities.eu/>

⁸ http://ec.europa.eu/eip/smartcities/index_en.htm

⁹ <https://www.europeandataportal.eu/>

¹⁰ <https://www.europeandataportal.eu/en/dashboard#2017>

¹¹ <https://www.europeandataportal.eu/en/highlights/open-data-maturity-europe-2017>

¹² <https://www.europeandataportal.eu/en/resources/training-companion>

make procurement decisions. The following challenges are taken directly from the Global open data Index (GODI) 2016/17 Report: The State of Open Government Data In 2017¹³:

- *Data gaps exist.* Open data is the final stage of an information production chain, where governments measure and collect data, process and share data internally, and publish this data openly. Does a government collect data at all? Why is data not collected? Some governments lack the infrastructure and resources to modernize their information systems; other countries do not have information systems in place at all.
- *Data findability is a major challenge.* Government agencies under one national government still publish data in different ways and different locations. Moreover, they have different protocols for license and formats. This has a hazardous impact - open data cannot be found even if it is out there, and therefore it cannot be used. Data findability is a prerequisite for open data to fulfill its potential and currently most data is very hard to find.
- *A lot of 'data' IS online, but the ways in which it is presented are limiting their openness.* Governments publish data in many forms, not only as tabular datasets but also visualizations, maps, graphs and texts. While this is a good effort to make data relatable, it sometimes makes the data very hard or even impossible for reuse. It is crucial for governments to revise how they produce and provide data that is in good quality for reuse in its raw form. For that, it is necessary to be aware of what is best raw data required which varies from data category to category.
- *Open licensing can be a problem.* On the one hand, more governments implement their unique open data license versions. Some of them are compliant with the Open Definition, but most are not officially acknowledged. On the other hand, some governments do not provide open licenses, but terms of use, that may leave users in the dark about the actual possibilities to reuse data. There is a need to draw more attention to data licenses and make sure data producers understand how to license data better.

¹³ <https://index.okfn.org/insights/>

3 The European framework for innovation procurement

This section explains the background and rationale for the deployment of innovation procurement and describes alternative deployment approaches.

3.1 Pre-commercial procurement (PCP)

Pre-commercial procurement (PCP) was defined in 2007 in the EU's PCP Communication as a specific approach to procure R&D services that involves competitive development in phases and risk-benefit sharing under market conditions. PCP identifies the best possible solutions the market can develop, by comparing alternative solution approaches from different technology vendors in parallel.

In PCP, procurers act thus as demanding customers, who are articulating advanced solution requirements as potential future early adopters of the developed solutions (which will be selected in a separate PPI procurement that follows the completion of the PCP). By steering the development of innovative solutions towards concrete public sector needs, PCP may trigger industry to initiate R&D that was previously unthought-of.

Procurers also share the IPR related risks and benefits of undertaking new developments with the R&D providers in the PCP. IPR ownership rights are kept by the participating R&D providers, while the public procurers keep license free rights to use the developed solutions, the possibility to require participating R&D providers to license IPRs to third party providers at reasonable market conditions, and an option that enables procurers to call back the IPR ownership rights in case the participating R&D providers fail to commercialize solutions within a specific timeline after the PCP.

There is a clear separation between the PCP and the deployment of commercial volumes of end-products: the (potential) follow-up public procurement of innovative solutions (PPI).

3.2 Public procurement of innovative solutions (PPI)

Public procurement of innovative solutions (PPI) occurs when contracting authorities act as early adopters of innovative goods or services which are not yet available on a large-scale commercial basis. This also includes solutions based on existing technologies that are used in a new, innovative way. The solutions may have been (partially) demonstrated with success on a small scale and may be nearly or already available in small quantity on the market. However, due to residual risk or market uncertainty, the innovations are not being produced at large scale yet and do not meet market price/quality requirements of procurers for wide deployment yet. PPI is a specific approach for procuring innovative solutions in which procurers, unless they conducted a prior PCP, announce well in advance their intention to buy a significant volume of innovative solutions, in order to trigger industry to bring to the market solutions with desired quality/price ratios within a specific time.

The PPI mechanism is suitable in cases when, the required solution is close to the market and it is sufficient to signal the intention to buy a significant volume of solutions to encourage suppliers to invest in bringing the solutions to the market. Alternatively, for cases in which the solution still

needs substantial R&D, active demand side steering is needed to ensure that developed solutions will meet all the procurers' requirements and suppliers are not likely to invest in developing in such solutions on their own.

Regarding the difference between PCP and PPI, PCP solely covers the procurement of R&D services stopping before commercialization activities take place (i.e., up to Technology Readiness Level 8). In this way, it is clearly separated from any potential subsequent purchase of commercial volumes of end-products. If R&D service providers - or other market players - successfully commercialize a solution which meets the needs of the contracting authority, then a PCP can be followed by a PPI in which that innovative solution is purchased.

3.3 Innovation partnership

The alternative to a PCP followed by a PPI is the *innovation partnership*. In an innovation partnership, a contracting authority works together with a single supplier or with multiple suppliers through the developmental and commercialization phases to procure the resulting innovation. It cannot be used for close to market cases that don't require R&D. While this mechanism has not yet been used with respect to open data innovation procurement, it is included here for consistency. Since activities exclude the supplier(s) from market competition throughout a long period of time, stricter state aid rules apply.

The European Commission will only presume that no state aid is awarded in exceptional cases when the procurer needs products or services that are so unique/specialized that the procurer is the only potential customer for the solution and there are no other potential providers on the market outside of the innovation partnership, that could be disadvantaged. When the procurer is the only customer, he has no other choice but to keep himself the IPR generated in the partnership (the IPR has no value for providers as there is no wider market beyond the procurer) and to pay the higher price for exclusive development.

The innovation partnership mechanism presents an additional disadvantage. It restricts the access of SMEs to the market because the combination of R&D and deployment into one procurement (1) raises the contract value to one large purchase that small companies cannot handle and (2) obliges SMEs to meet the stringent qualification and financial guarantee requirements, that normally only apply for deployment contracts, already from the start of the partnership before starting R&D.

The view of a large procurer on when to use PCP-PPI versus the innovation partnership procedure

"The differences between the 2 approaches (PCP/PPI and Innovation partnership) are really interesting and the use of one or the other method depends on the situation. If a special need of a particular (unique/highly specialized) solution is detected, the innovation partnership will be the best way to address this need. But indeed, the PCP/PPI approach offers a better overview of what it is possible to develop solutions to address global needs."

The separation of the 2 phases, R&D through PCP and procurement of the solutions through PPI, is much more secure for a procurer than the innovation partnership procedure, even more for a Central Purchasing Body as RESAH which represents many organizations and so many different needs".

Source: [Dominique Legouge](#), Director of the Réseau des acheteurs hospitaliers Région Île-de-France (the central purchasing body for hospital procurement in the Île-de-France region: www.resah.fr)

4 Innovation procurement in France, the Netherlands, UK and Belgium

This section provides an overview of the procurement law provisions that relate to innovation procurement and of relevant local/regional/national level initiatives that encourage the deployment of innovation procurement in four countries: France, the Netherlands, UK and Belgium.

4.1 Legislative provisions on innovation procurement

As a result of the transposition of the 2014 EU Procurement Directives, the procurement legislation specifically allows procuring authorities to include innovation-related considerations in the award criteria and in the special conditions relating to the performance of the contract.¹⁴

The procurement legislations in three of the four countries mentioned above (the Netherlands, UK and Belgium) also contain explicit definitions of innovation. In France, innovation procurement is defined in policy documents as the purchase of products which are not commercially available, but could probably be developed within a reasonable timeline, as well as the purchase of innovations that have the potential to significantly improve the public service compared to commercially available solutions. The purchase of social innovation is also included.¹⁵

Art. 1.1 of the Dutch Procurement Law (Aanbestedingswet 2012) defines innovation as the application of new or substantially improved product, service or process.

Art. 2 of the 2015 Public Contract Regulation in the UK defines innovation as ‘the implementation of a new or significantly improved product, service or process, including but not limited to production, building or construction processes, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations, including with the purpose of helping to solve societal challenges or to support the Europe 2012 strategy for smart, sustainable and inclusive growth’.

Art. 2.32 of the Belgian Public Procurement legislation (Wet inzake overheidsopdrachten 2016/ Loi relative aux marchés publics 2016) defines innovation as ‘a new or significantly improved product, service or process, including, but not limited to, production or building processes, a new sales method or a new organizational method in business operations, organization on the work floor or in external relations, meant to solve social problems or to support the European strategy for smart, sustainable and inclusive growth’.

Art. 25 (3:II:2) of the French consolidated version of public procurement rules¹⁶ (Décret n° 2016-360 du 25 mars 2016 relatif aux marchés publics modifié par Décret n°2017-516 du 10

¹⁴ See art.2.80(1) and art.2.115 Dutch Procurement Law; art.70 and art.76(8)(d) 2015 Public Contracts Regulations; art.81(3)(a), art.87 and art.157 Belgian Procurement Law

¹⁵ <https://www.economie.gouv.fr/dae/innovation>

¹⁶ The main French Public Procurement rules are: Ordinance no. 2015-899 of 23 July 2015, which is the global Framework of French public procurement; Decree no. 2016-360 of 25 March 2016, which contains the detailed, comprehensive rules

avril 2017 - art. 3. Version consolidée au 04 mai 2018) indicates that contracting authorities may use the competitive procedure with negotiation or the competitive dialogue when the need is an innovative solution, such as new or significantly improved works, supplies or services. The Innovative nature may include the implementation of new production or construction processes, a new method of marketing or a new organizational method of practices, a new organization of the workplace or of the external business relations.¹⁷

4.2 Innovation procurement initiatives

In all four countries there are ongoing initiatives at national, regional and local level that aim to drive innovation through procurement. The most relevant of these initiatives are described below per country.

The Netherlands

SBIR program

In the Netherlands, innovation procurement in the form of pre-commercial procurement is supported through the Small Business Innovation Research ('SBIR') program. Public authorities are stimulated through co-funding and expertise to procure the research and development of innovative solutions. Although the program is not limited to small and medium enterprises (SMEs), it encourages their participation by applying short term contracts and phased approach. The SBIR takes place in 2 phases (feasibility study and applied R&D).¹⁸

Netherlands Space Office (NSO) and Rijkswaterstaat have launched in 2017 a call for innovative solutions to monitoring and analyzing satellite data related to the ecosystem in the Eems-Dollard region in the Netherlands.

Source: Rijksdienst voor Ondernemend Nederland website.

Pact of Amsterdam

Another initiative with relevance for EU cities was hosted by Amsterdam in May 2016. EU Ministers responsible for Urban Matters signed the 'Pact of Amsterdam' and committed tackle complex urban challenges in a balanced, sustainable and integrated manner, by improving regulation, funding accessibility and knowledge availability. In this context, the signatory parties identified innovative and responsible public procurement as a Priority Theme and a powerful tool to address social and environmental objectives and to do more with less.

set by the Ordinance; and Decree no. 2017-516 of 10 April 2017 which modifies the Decree of 25 March 2016 on various and heterogeneous subjects.

¹⁷ <https://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000032295952>

¹⁸ See <https://www.rvo.nl/subsidies-regelingen/sbir>

The United Kingdom

SBRI program

The Small Business Research and Innovation (SBRI) program is providing since 2009 expertise and financial support to procuring authorities who deploy pre-commercial procurements.

SBRI competitions are run around challenges for which solutions are not readily available. Innovative ideas are actively sought and it is accepted that a number of these ideas will not make it to the market. To address this, multiple projects are accepted into the process and risk is managed by using a phased development. Typically, projects go through two phases with the initial award winners having around £ 100,000 and around 6 months to prove the viability of their idea. Companies whose ideas are seen as being promising at the end of this feasibility phase are accepted into a second phase of around £ 1 million and 2 years in which they develop prototypes of their solution. This should ideally lead to a product being taken to market and open procurement in a 2-4 year timeframe”.

Source: OGC, Driving Innovation through public procurement (2009)

Over £0.5 billion have been awarded in Research and Development contracts since the inception of the program in 2004, by over 80 public authorities. Following a positive evaluation, that estimated that the program generates important economic benefits, the UK government has renewed its support for the SBRI approach. Beginning of 2018, the government allocated to the SBRI program £20m over three years.¹⁹

Study - Encouraging Innovation in Local Government Procurement

The Local Government Association for England and Wales has released in 2018 recommendations on the policies and practices that local government could follow to deploy effective innovation procurement.²⁰ The released Report stresses that the 2015 Public Contract Regulations do not inhibit innovative practices. The main issues to be overcome by local authorities are those of culture, procedure, and processes. At the same time, the Report notices that local authorities are increasingly aware of the pre-commercial procurements being performed within the SBRI program.

Industrial Strategy - green paper

In its recent Industrial Strategy (2017), the UK government has announced plans to stimulate innovation through procurement.²¹ Among other means, the government announced the plan to release/publish new guidance on:

¹⁹ See <https://innovateuk.blog.gov.uk/2018/03/13/sbri-more-than-1-billion-pounds-in-value-to-uk-economy/>; Study by Manchester Institute of Innovation with the Enterprise Research Centre and OMB Research Ltd.

²⁰ Encouraging Innovation in Local Government Procurement (2017)

²¹ Building our Industrial Strategy: Green paper (January 2017).

- Effective engagement with innovative market players during the preparatory phase of a procurement;
- Defining outcome-based specifications, allowing for the broadest range of (innovative/alternative) ideas to be proposed by market players;
- Using benefits-sharing mechanisms (e.g. contract extensions for positive innovation results) meant to incentivize contractors to identify innovative solutions to add value or make cost savings during the execution of public contracts;
- Ensuring intellectual property is held by the party best placed to exploit it (which may often be the supplier)

As part of the same Industrial Strategy, the UK government has also committed to raise SMEs' share of central procurement to one-third by 2020 and to ensure all major government authorities sign up to the Prompt Payment Code, promising to pay suppliers, including small businesses, promptly and fairly.²²

France

Support for innovation through public procurement

In France, the government has set in 2012 the target to spend 2% of the public spending on innovation (including R&D) by 2020.²³ The State Department for Public Procurement is in charge of deploying this innovation procurement policy. To this end, it focuses on the following measures:

- Support the uptake of innovation targets in individual procurement strategies: Ministries are currently publishing long-term plans for procurements of innovative solutions, in order to inform innovative companies of upcoming procurement opportunities
- Raise awareness among public procurers regarding the importance of innovation procurement
- Simplify the communication between public procurers and innovative players: To this end a Platform was created to allow companies to present their innovative solutions and procurers to anticipate their needs for innovative solutions before the publication of a call for tender. The Platform is intended to facilitate communication between procurers and innovators and increase procurers' knowledge of state-of-the-art.²⁴

²² Building our Industrial Strategy: green paper (January 2017) p.71

²³ https://www.economie.gouv.fr/files/files/directions_services/dae/doc/circulaire_5681_20130925.pdf

²⁴ <http://www.achatspublics-innovation.fr/>

UGAP, the French central purchasing body, is supporting contracting authorities in deploying procurements of innovative solutions, in particular by facilitating the dialogue with relevant market parties.²⁵

Belgium

Study - Barometer Innovative Public Procurement in Belgium

A study commissioned by the Belgian government in 2017 sheds light on the concept of innovation procurement and identifies the major challenges to deployment as being a lack of an innovation legislation. This is in terms of a lack of a procurement legislative framework that would underlie a more innovative way of procuring and provide the necessary flexibility in procedures. (p.3)

For mitigating measures, the study proposes that contracting authorities:

- start from the needs of the customer/end-user
- adopt a more risk-taking attitude
- adopt a value-for-money approach
- enable dialogue and knowledge sharing between the government and innovative companies by establishing an innovation network
- encourage participation of small firms by informing them about upcoming procurements and by describing the procurement challenge in terms of performance and functionalities rather than in detailed terms.

²⁵ <https://www.ugap.fr/>

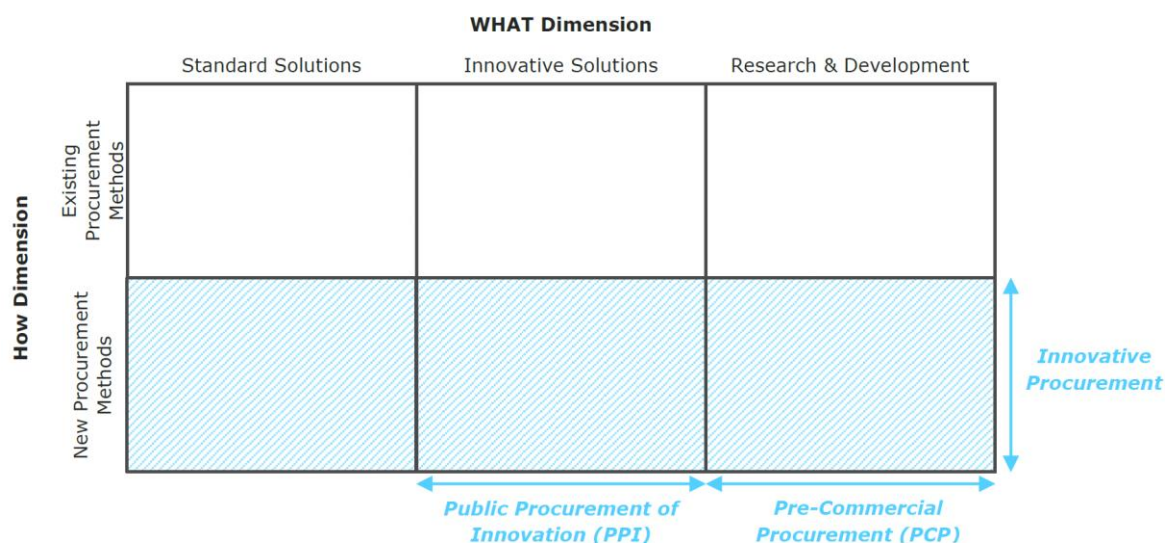


Figure 3 - Bi-dimensional conceptualization of innovation procurement (Source: Barometer Innovative Public procurement in Belgium (endorsed by Minister Vandeput, June 2017))

Flemish Program for Innovative Public Procurement ('Programma Innovatieve Overheidsopdrachten')

In 2016, the Flemish Government launched the regional Program for Innovative Public Procurement. The program encourages the various public sector organizations to purchase Research & Development and Innovative Solutions, rather than consistently turning towards traditional standard solutions. By submitting proposals, the purchasing organizations can receive information, guidance, and even co-financing throughout the purchasing process.

The objective of the program is to encourage the purchase of innovative solutions, that have the potential to modernize public services and solve societal problems as well as to support innovative companies to grow.²⁶

Flemish Department of Mobility and Public Works

Initiatives meant to encourage innovation procurement have also been undertaken by individual procuring authorities. The Flemish Department of Mobility and Public Works, for example, has set-up the workgroup 'Procurement 2.0', which outlined improved procurement tools (procedures or contractual models), meant to stimulate bidding companies to offer innovative solutions.

NIDO lab

At federal level, the Belgian Ministry of Public Affairs has launched the NIDO (Nurturing ideas, developing opportunities) lab initiative, an innovation lab which encourages public authorities to

²⁶ Barometer Innovative Public procurement in Belgium (endorsed by Minister Vandeput, June 2017)

explore innovative solution in concrete. NIDO also explores the role of innovation procurement in facilitating SME's and start-up's access to public contracts.

5 Guidance for innovation procurement – the Business Case Methodology

This section describes the steps to be undertaken by a public authority, before, during and after the deployment of an innovation procurement. This process is referred to as the “business case methodology,” as was refined and piloted by Vtrek and Corvers based on the eafip guidance to innovation procurement.²⁷ The methodology is applicable to all innovation procurement, which includes open data procurement falls under, such that recommendations for innovation procurement are equally and directly applicable to open data procurement. In cases where additional attention must be paid to particular elements regarding open data, these are also mentioned within this guide. As well, while it is also applicable to all types of contracting authorities, where appropriate specific considerations are also mentioned for local governments.

The business case methodology consists of defining sources of costs and benefits as they relate to common needs, the innovation gap between current solution and that which would meet the needs, and the costs/benefits/risks associated with provision of the necessary solution by the market. These high-level steps can be used as a framework to gather information on processes from prior procurements in an organized and structured manner, evaluate procedural successes and issues to learn from. As well, the business case methodology can be used on a project-by-project basis to incentivize interest by communicating a sound value proposition to organizations considering becoming part of the buyers’ group.

It is important to mention that the costs, benefits, and risks discussed here in many instances can be either qualitative or quantitative in nature. This is in order to support a thorough analysis of all of the relevant aspects to planning an innovation procurement and using which contracting authorities must make informed decisions. An important distinction can be made here between a public sector business case and a conventional one for the private sector. For contracting authorities, public welfare considerations are central to value calculations; those which go beyond conventional cost-benefit analyses which include only financial changes and return on investment, for example. As such, this methodology has been developed to enable for the inclusion of wider benefits in this regard, and reference to costs and benefits should not be interpreted solely in financial means.

- *Examples of quantitative information:* technology purchase costs, required quantities, implementation timelines, number and size of suppliers
- *Examples of qualitative information:* functional user requires, technical specifications, market openness, tacit knowledge, innovativeness, willingness to cooperate

In Figure 1, below, we provide an overview of the 5-step approach to innovation procurement. Each of these steps are further detailed in the following sections.

²⁷ The eafip (European assistance for innovation procurement) methodology was developed by Corvers during the eafip initiative (2014-2018) of the European Commission.

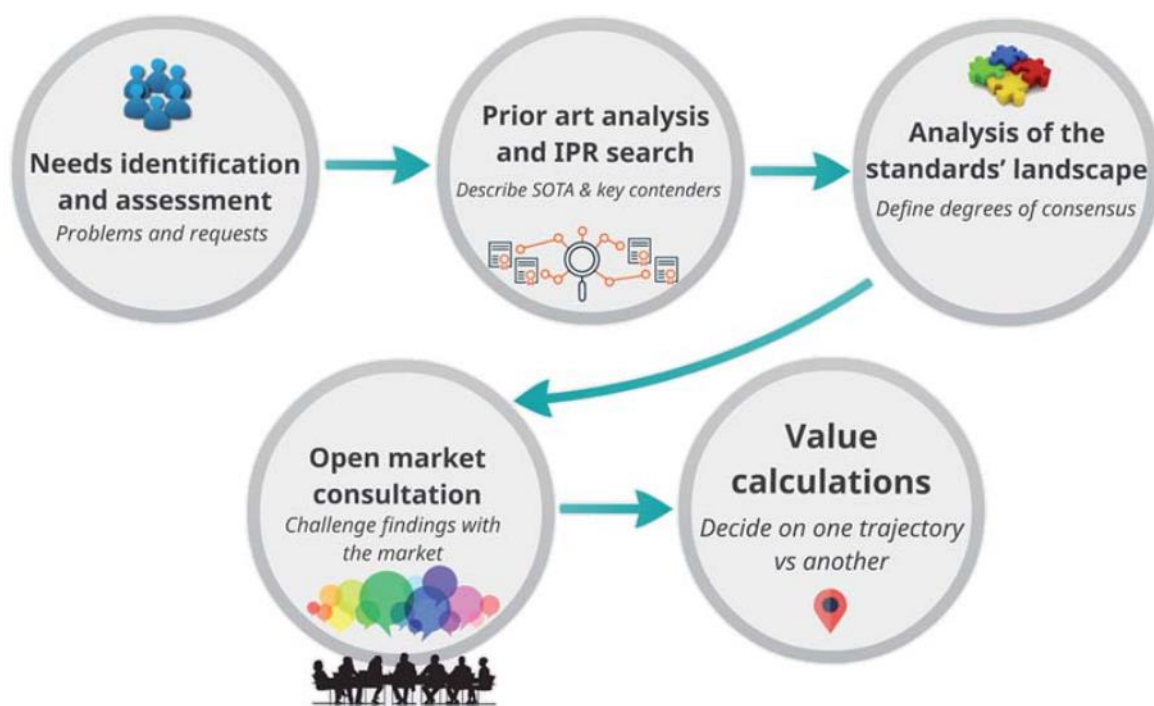


Figure 4 - The 5-step approach to innovation procurement

5.1 Needs identification and assessment

In developing a business case, the first step is to clearly define the need for which any future action might yield an innovative solution. An internal procedure can be used, where procurers gather information from end-users regarding their needs (e.g. patients/nurses that would eventually need to use the innovative solution). In cases of co-operative or joint procurement when procurers partner with others who deliver similar services of public interest, needs definition can become more complex as the number of actors increase - but the benefits of the purchase are also amplified due to the potential for interoperability and cost reduction.

An important outcome of this step is the estimation of the negative impact the identified problem has on the delivery of the public service (e.g. traffic congestion that decreases road safety and work productivity) or the estimation of the business-as-usual costs if the same solution would be implemented, rather than the result of a PPI or a PCP+PPI. These costs can be both monetary and non-monetary.

Empirical research has identified that approximately half of local contracting authorities consult the users of public services, which is higher than the averages for either regional or central

authorities.²⁸ This suggests that municipalities find it more important or receive less barriers in consulting end-users of services, possibly due to their closer proximity to citizens. Also, given that municipalities typically procure at later stage of development, such as through PPI or off-the-shelf, they may face challenges in identifying the value of investing into R&D through a PCP.²⁹ This may have a negative effect on the uptake of open data innovation procurement.

With respect to open data, user needs can be related to either services to enable for the collection of open data, such as platforms or catalogues, or services using existing open data. The latter consists of direct services to citizens as end-users, to citizens through contracting authorities, or for contracting authorities themselves.

5.2 Identify room for innovation – The Prior Art Analysis

This step is crucial for distinguishing between whether a PCP or a PPI is required, based on comparing the current state-of-the-art with what is required to meet user needs. In the prior art analysis, publicly available information on existing products, patents (IPR), standards, and research is examined. During the prior art analysis, the procurer will gather information on potential solutions that can subsequently be assessed and compared by using the business case methodology. Areas of assessment include benefits which can be offered by the solutions to the requirement, estimated costs of solutions as well as remaining risks, such as estimated risk of failure during follow-up R&D and subsequent implementation. The available budget can also help to determine the choice of the solution to be pursued. Depending on the particular situation, a procurer may be interested in selecting a project area in which a PCP has the potential to result in IPR and wider market revenues that may help to mitigate the risks associated with a high investment in R&D services.

The prior art analysis requires technical expertise; when no in-house expert exists, as is more likely for smaller municipalities, then this expertise should be sought from external sources. Trends for local governments to consult external experts³⁰ provide some evidence that external knowledge is being used to supplement such procurement planning actions; however, based on the relatively low procurement of solutions requiring R&D by municipalities this support is not likely to be for such a prior art analysis. A clearly identified need related to open data, with benefits envisioned from intervention through a particular procurement, can help to leverage project funds for receiving the support required to achieve the benefits.

²⁸ Rainville, A. (2016). "From Whence the Knowledge Came: Heterogeneity of Innovation Procurement across Europe." *Journal of Public Procurement* 16, no. 4 (Winter 2016): 463-504.

²⁹ Rainville, A. (2016). "From Whence the Knowledge Came: Heterogeneity of Innovation Procurement across Europe." *Journal of Public Procurement* 16, no. 4 (Winter 2016): 463-504.

³⁰ Rainville, A. (2016). "From Whence the Knowledge Came: Heterogeneity of Innovation Procurement across Europe." *Journal of Public Procurement* 16, no. 4 (Winter 2016): 463-504.

IPR search

The IPR search focuses on the analysis of registered intellectual property, from either national or international databases or using a search platform. It is recommended to use the later, such as [IPlytics platform](#),³¹ as this steeply decreases the time, effort, and expertise necessary to perform a comprehensive patent search. Such tools can provide additional analytical capability based on integration of datasets, big data analysis, and indicators such as technical relevance and market coverage.

Whenever the analysis reveals that relevant solutions are still at the R&D stage, a PCP can be considered. When relevant solutions have moved beyond R&D but are not widely commercialized and may require conformance testing, a PPI can be considered by the procurer. Finally, whenever the prior art analysis reveals that the desired solution is readily available on the market, the procurer can proceed with a normal procurement.

Additionally, the IPR search will indicate whether market entities already possess IPR that is needed to develop the desired innovative solution. This will prompt the procurer to investigate whether designing around the blocking IPR is possible or whether licensing agreements can be reached (e.g. during the open market consultation). When neither of these two options are viable, the procurer may decide not to proceed with assessment and comparison between these technological trajectories.

Analysis of the standards' landscape

Choosing the right standards is critical to supporting open data public procurement, as its success hinges upon consensus between multiple stakeholders in the public and private realm which must be translated into the technologies and services procured. In public procurement, agencies may use a variety of types of standards, technical specifications, or eco-labels provided that they are based on:

“scientific information using a procedure in which stakeholders, such as government bodies, consumers, manufacturers, distributors and environmental organizations can participate”³²

The procurement directives cite national standards transposing European standards as the most preferable for technical specifications, for application “without prejudice to mandatory national technical rules”³³. Voluntary standards act within a given sector to uphold product or service quality, security, information and conformity. An important component of the business case methodology is to conduct a scan of standards inventories to identify whether there are relevant

³¹ <http://www.vtrek.eu/our-digital-tools/iplytics>

³² EC. (2008). “Towards an increased contribution from standardisation to innovation in Europe: Commission of the European Communities.” Brussels: European Commission.

³³ EC. (2008). “Towards an increased contribution from standardisation to innovation in Europe: Commission of the European Communities.” Brussels: European Commission.

standards to apply within the planned procurement (e.g. consider costs related to the lack of open standards or of interoperability standards). Inventories can be national, European, international, or even sector-specific associations for de facto standards where approved by European legislation. An example of the latter is for ICT standards.³⁴ Especially if they have no internal technical team, procurers might approach a national standards development organization for assistance in developing this inventory; a search platform such as IPLYtics can also provide support in this regard.

Whenever appropriate standards exist, the procurer may require suppliers in a PCP or PPI to develop innovative solutions that are compliant with these standards. Standards support greater competition among companies around the desired qualities of the procured product or service, allowing the procurer to choose between a larger number of products that meet these (minimum) requirements and at a lower cost. For PPI, many types of standards are relevant to procurers, and can differ according to the degree of innovation that must take place to meet the procurer's need. For example, measurement / testing / interface and compatibility standards are more relevant when more work must be done to adapt an existing solution. If only minor changes are needed, standards for variety reduction, quality, or information become more relevant.

For procurers whose advanced needs can be met by solutions that require significant R&D, a potential absence of relevant voluntary standards leaves room for standardization efforts to amplify the impacts of a PCP. This is often the case before open data policies have been implemented, where procurers may be locked into a single supplier with a vendor-specific standard. Procurers can draw upon different standards at each phase of a PCP, such as terminology standards during phase 2, and measurement/testing standards during phase 3.³⁵ After each of these phases, de facto standards can be created based on knowledge generated within the phase and used to define requirements for subsequent phases. These emerging open standards help to define the requirements, systems architecture, and protocol or testing that support a successful solution. More formally, procurer engagement within official standardization bodies can speed the time to market of innovative solutions and can ensure future interchangeability between alternative solutions being developed during the PCP.

5.3 Open market consultation

Based on the information collected during the previous steps, the procurer could then perform preliminary calculations to estimate whether the foreseen project is sufficiently attractive to continue to more in-depth analyses. For those projects where preliminary calculations suggest investing further time and money has sufficient value, the procurer may organize an open market

³⁴ EC. (2014). "Commission Implementing Decision of 3 April 2014 on the Identification of Ict Technical Specifications Eligible for Referencing in Public Procurement (Notified under Document C(2014) 2120) (2014/188/Eu)."

³⁵ Rainville (2017). Standards in green public procurement - A framework to enhance innovation. Journal of Cleaner Production, Volume 167, pp. 1029-1037, <https://doi.org/10.1016/j.jclepro.2016.10.088>.

consultation to gain more detailed information to contribute to (economic) planning. This consultation is open in the sense that many suppliers are invited. Market consultation can also extend the influence of public procurement, through market signaling.

The intention of the market consultation is to gather information from market players / innovators regarding the cost and quality of existing and potential solutions, such as ongoing research and their potential to yield relevant solution to procurer's problem / need. This will help the procurer to check whether the first assumptions made in the business case (e.g. expected benefits, expected costs, remaining risks) reflect realistic prospects. As such, there is a degree of overlap between the market consultation and calculating the value of a project. Testing the preliminary model through the market consultation adds a degree of rigor, and provides additional information for more accurate estimates.

The ability for market consultation to reveal sufficient information to support a rigorous business case depends to a large extent on the readiness of the market players to share information. Within the legal boundaries meant to prevent distortions of competition (e.g. the same information is conveyed to all participants; the market players are not agreeing on price fixing or market sharing), different strategies can be deployed by the procurer in designing market consultations that are conducive to information sharing. Some examples of these are one-on-one discussions, market surveys, poker planning techniques,³⁶ and the use of an intermediary to act as a facilitator of discussions between public and private actors.

The success of the market consultation also depends in part upon the capabilities of the contracting authority to structure it in such a way as to gain insightful and truthful information from market parties. While contracting authorities at the municipal level have strengths in consulting users to identify needs, they often have comparative challenges in consulting the market.³⁷ External specialists can provide the support necessary for especially smaller municipalities to perform this step of the business case methodology.

³⁶ The poker planning technique is a debate moderation technique in which vendors are given cards with numbers on (like in the poker game) and they are asked to reply to different statements/questions from the procurer by holding up a card. The planning poker technique enables the procurer to verify with the market whether the assumptions of the business case were set realistically (e.g. feasibility of reaching the desired functionality/performance improvements within the planned time and budget, level of complexity of different solution approaches, required implementation effort and testing set-ups etc.). See Eafip Toolkit Module 2 p.68-69.

³⁷ Rainville, A. (2016). "From Whence the Knowledge Came: Heterogeneity of Innovation Procurement across Europe." *Journal of Public Procurement* 16, no. 4 (Winter 2016): 463-504.

Compliance with the TFEU principles and safeguards for companies

Open market consultations are expressly regulated under the public procurement directives. Compliance with the TFEU principles of equal treatment, transparency, non-discrimination, proportionality and competition is a must.

To encourage good feedback from the market ensuring that companies are treated equally and competition is not distorted during the subsequent procurement, the following measures should be taken into account:

- the publication of a Prior Information Notice (PIN) on the EU TED portal with a link to relevant information on a website serves to inform widely the desire for an innovative outcome and the methodology and rules of the market consultation, in compliance with the TFEU principles;
- the public procurer needs to pro-actively communicate its needs, requirements and its planned procurement set-up to all participants in the open market consultation (e.g. have a market sounding prospectus);
- the participation of a potential bidder in the open market consultation must not affect competition in any future tender procedure; any information which potential bidders receive during the open market consultation must be shared also with other potentially interested bidders via publication of questions and answers ('Q&A') docs after the open market consultation that are to be referred to within the tender documentation;
- legal assurances must be put in place that all participants' intellectual property rights (IPRs) and trade secrets will be protected, or that they will be entitled to due compensation in case of breach of confidentiality obligations by the public procurer. When public or private partners release confidential information to each other during an open market consultation, Non-Disclosure Agreements ('NDAs') often regulate how that information may be used. It is essential that public procurers are attuned to the necessities of trade secrets in addition to IPR.
- it is mandatory that potential bidders understand that the competitive phase of the public procurement procedure is conducted separately after the open market consultation and all potential bidders are treated equally; this statement should be included in any invitations to open discussions.

Several disclaimers could be included in the open market consultation documents. These disclaimers could regard to, for example, the participation to the market consultation, the separation of the market consultation step from the procurement itself, the dissemination of the market consultation results, the treatment of the information provided by the market etc.

Examples of disclaimers:

- By participating in this market consultation, you will not necessarily be included, nor excluded, from a future procurement. Also, the provided answers in this market consultation will not be used in to evaluate your future commercial proposals.

- As the questionnaire is intended to explore the supplier market 'as-is', there can be no wrong or right answers. The answers you will provide will be used as input for our procurement strategy, which we will try to align with the market place as good as possible.
- After the public procurer has processed the response of all suppliers, we will communicate the results widely. Our policy is that we will treat all provided supplier information as commercially sensitive and we will therefore not communicate any supplier specific details. Only the general findings will be communicated.
- We would like respondents to answer our questions as good as possible or indicate that the questions do not apply to your competences or line of business. Any suppliers can be added to the list or be removed from it at any point in time, at their request. The suppliers on the list will be visible to all others by viewing the mailing list, along with the questions.

Building trust with the market – the Trust Agent Model

An alternative open market consultation is the so-called Trust Agent Market consultation model (TAM model). The TAM model is a verified and confirmed market consultation model, developed by the CSR Organization in The Netherlands (MVO Nederland).

The TAM model entails a two-stage market consultation exercise:

1. A first step taking the form of a closed brainstorming session organized by an independent trust agent at the request of the public procurer(s) with sector-specific frontrunners in the market, followed by
2. The second step comprising the open market dialogue.

This approach is used to identify and specify the needs of the public procurer(s) and to stimulate innovative co-operation between public procurers and economic operators. It has proven to be a very successful model to bridge the gap of trust between the demand and supply side, and the gap between the needs of public procurers and what the market can offer.

The model distinguishes itself from the 'traditional' open market consultation in three different aspects:

- It makes use of an independent process facilitator, the so-called trust agent;
- It entails the covering of two steps: the closed brainstorming session(s) and the open market dialogue; and
- It is based on specific rules of engagement for both the demand and the supply sides.

The trust agent facilitates the process during the closed brainstorming sessions and the open market dialogue. The agent takes up different tasks, depending on the needs of the public procurer. These include identifying sector specific relevant front runner companies and experts, supporting the public procurer in formulating the relevant questions, and helping to develop and communicate the rules of engagement.

While the Trust Agent acts at the request of the public procurer, the agent should not be considered to work on behalf of the public procurer. The Trust Agent is an independent organization, whose main interest is to ensure high ambitions in the field of innovation and innovative co-operation. To this end, it is essential that the Trust Agent is trusted by both the public procurers and the economic operators. Its independent position can be guaranteed by selecting an independent, trusted organization; ensuring multiple sources of financing for the market consultation (not only by the public procurer); and ensuring that the Trust Agent does not take over the responsibilities of, or acts on behalf or in the name of, the public procurers.

An example of such Trust Agent is CSR Netherlands, the national center of expertise and business network organization for corporate social responsibility in the Netherlands. CSR Netherlands constantly and increasingly cooperates with public procurers and private economic operators in order to stimulate innovation and sustainability. The TAM model has proven to be a successful model to achieve this goal.

5.4 Calculating and comparing value

The final step in the business case methodology is to summarize the information gathered in the previous steps in order to make a value-based decision on whether to proceed to the procurement stage, and if so which procedures to use and how to best structure the tender documentation. This will help ensure that the right solution is received at the right price. Calculating this value is most often done by using a Cost-Benefit Analysis (CBA), which highlights the strengths and weakness of various options. A CBA takes the form of a **Net Present Value (NPV)** calculation, which is the difference between the costs and benefits that occur at different points in the future, at the present time. For more accurate estimates, a discount factor is used to better reflect the time value of money, and opportunity costs of investment.

Costs for a PCP followed by a PPI will typically be higher than those for a stand-alone PPI, since by definition the activities of the former must include a degree of R&D, whether right from the conceptual phase (phase 1 of the PCP) or only proof of concept (phase 3 of the PCP). A procurer choosing for a PPI can do so due to greater technological and market certainty compared with projects requiring a PCP approach. This makes maximum costs lower than if R&D would also be purchased. Also of relevance to costs in a PCP, is the division of the R&D budget, which can differ by number and timing of phases, number of suppliers, and the portion allocated to each supplier.

For innovation procurement in general, a large proportion of the **benefits** will come from the cost-savings from the new solution. For open data innovation procurement, these benefits are expected to occur further into the future and in an exponential amount in comparison to the costs, as the network effects of the procurement create secondary and tertiary benefits. Due to the benefits occurring over a number of months - and for a PCP, occurring at a point many months away from the time a given decision is made - the value of the benefits will heavily influence the **break-even time**, as the time in the future when the invested costs are equal to the benefits received. The **baseline** for comparison in calculating these benefits can be the previous solution,

as identified during the needs' identification and assessment. For open data procurement, the costs of the current lock-in situation can help form the baseline, and the benefits the cost savings achieved through the integration and wide availability of open data - both for subsequent suppliers' use of that data in delivering innovative solutions for future procurement, and for the public's direct (e.g. faster public service delivery) and indirect (e.g., cost reduction due to greater market competition) benefit.

Calculating the NPV by using this baseline allows the procurer to calculate the magnitude of potential savings for an updated solution. Once the NPV is conducted, a **sensitivity analysis** can provide an indication of the degree to which the NPV is dependent upon the different inputs, including cash flows as well as discount factors. Other estimates of project profitability can be used alongside an NPV, to provide complementary information regarding the attractiveness of the project. Namely, these are **return on investment (ROI)** and the **internal rate of return (IRR)**. The ROI expresses how many additional euro are generated by a single euro invested in the procurement, whereas IRR reflects the difference in profitability when investing the money in an open data innovation procurement project versus in alternative activities.

5.5 Drafting the procurement documentation

With respect to how the information gained during the preparatory phase is used, the results of the business case methodology can provide sound insight into the value of a prospective solution or courses of action for procurers. Once the decision has been made to proceed to with the procurement, the information gathered can also be used in drafting call for tenders of the open data innovation procurement.

The procurement documentation creates an environment in which suppliers compete to provide innovative solutions for open data. In drafting procurement documentation, contracting authorities should strive for the end result to be open to as many appropriate suppliers as possible, while inviting a variety of different solutions which meet the need of the users, are compatible with installed bases and interchangeable with competing providers (i.e., based on open standards).

Results of the methodology can be carefully translated into a rigorous assessment framework in the procurement documentation, opening the procurement to more suppliers and solutions and bringing expected costs and benefits even more in line with procurers' preferences. For open data in particular, these actions are vital to ensuring consistency between a well-conducted business case methodology in the planning phase and the continuation into tender documentation.

Findings from information gathered as part of the business case methodology can be relevant to *technical specifications*, *award criteria*, and/or *contract clauses*. For example, including select identified standards in the **technical specifications** can help ensure that the solution proposed meets minimum requirements for openness, compatibility, quality, safety, environmental performance, etc. It is also important not to over specify, to support openness.

Regarding **award criteria**, procurers are encouraged to use the *Most Economically Advantageous Tender (MEAT)* to develop price-quality ratios, rather than awarding solely to the lowest offer. This supports the purchase of high-quality products and services optimally suited to their needs.

In addition, for calculating costs, a *Total Cost of Ownership* approach, such as using *Life Cycle Costing*, is important. This is even more so for open data innovation procurement, where benefits of openness increase over the long term while initial costs may be higher than for continuing business-as-usual. Translating the results of the user needs assessment, for example, through scoring and ranking exercises can help reward suppliers with the best solution.

For **contract clauses**, the *break-even time* (as calculated using the business case methodology) can be used to determine the desired minimum time for the project. In addition, a cycle of monitoring and performance assessment based on the *Key Performance Indicators (KPIs)*, *milestones*, *benchmarks* and *value engineering* can be applied to PCP or PPI contracts. Monitoring can be reflected in periodic performance reports according to milestones established in the contract, in combination with a requirement of value engineering that creates an incentive to the supplier to find alternatives to improve the initial KPIs and benchmarks as identified in the planning phase. In this model, the supplier could be required by a contract clause to present an improvement proposal in a given period of time depending on the contractual terms (e.g. once every year), to be evaluated for acceptance by the public procurer. The accepted improvement proposal is therefore implemented, adding value in comparison with the original business case estimates. The goal of value engineering is to lower the *life cycle cost* and improve *return on investment*, with a focus on function analysis and function worth. It presents an innovative way for contracting authorities - including local governments - to interact with suppliers to create further cost savings through service innovation.

6 Best practices of open data innovation procurement

This section identifies and describes use cases of open data innovation procurement, with particular focus to such procurement by municipalities and regional authorities. The following attributes are discussed, when available: The problem at hand and objective of the project (particularly with respect to open data), the process used to plan for (e.g., the business case methodology) and conduct (e.g., procurement mechanism PCP or PPI) the procurement, benefits and challenges experienced and predicted, any mitigating measures taken, the value and lot characteristics, and the firm characteristics of the awardee (e.g., whether they were an SME).

The collection of use cases has been done through a survey in the form of a questionnaire, created by the joint effort of Agoria, Corvers and Vtrek, that selected the most suitable themes of investigation. The survey was then sent to 50 public contract authorities throughout Europe. The mentioned contract authorities were identified mainly through the Tenders Electronic Daily (TED), the European public procurement journal, focusing on those procurements that had the use of open data as main object. In addition, the questionnaire was also sent to public authorities with whom Vtrek/Corvers have worked in the past. The questionnaire focused on elements related to the policy and legislation in which the procurements took place, motivations for including open data, strategies and results for informing the business case of the project, and (if applicable) the characteristics of the procurement in terms of contract size, and of the winning supplier.

A total of nine survey responses were received. Three public authorities were able to provide full responses to the survey, given that their projects were directly related to open data procurement and had already been completed. These authorities were Energy Systems Catapult (UK), Centro Municipal de Empresas de Gijón (Spain), and the City of Namur (Belgium). Two responses were not included because they were not compliant with the subject matter of the survey. Concerning the additional responses, one public authority replied that the project had not as a main object the procurement of open data solution, and this response was therefore not fully examined. An additional three respondents said that their projects are still ongoing or in the planning phase. Follow-up emails were sent to respondents with a number of clarifying questions, and their responses subsequently included in the discussion below.

To supplement this sample, a number of additional cases of open data procurement were also included. These were the project *Infoshare* by the city of Helsinki, the *Dike Data Service Center* and *Central Distribution Layer* by Het Waterschapshuis, and a number of ongoing projects. Additional efforts to identify relevant examples were also taken, such as direct contact with a few cases of potential relevance via telephone.

Focusing on those best practices which are most applicable to open data procurement by local governments, the following sub-sections present an overview of the cases where unique insights can be gleaned for public procurers seeking to conduct similar innovation procurements. Where particular information was available, such as on challenges or particular aspects of open data, specific attention is given to highlight its relevance to the study. A summary table for each of

these use cases is presented in Annex 1, according to type of and approach to open data innovation procurement.

6.1 Energy System Catapult (UK): Smart heating system monitoring system

About of the buyer: The Catapult Centres are organisations set up in 2011 by Innovate UK (a non-departmental public body operating in the name of the Department for Business, Energy and Industrial Strategy) as body governed by public law. The goal of this centre is to promote research and development in the United Kingdom through business-led collaboration between scientists and engineers to exploit market opportunities.

Background and description of the procurement: The procurement was for surveying and Installation and maintenance of a smart heating system monitoring system (HESG System). In particular, it was the phase 2 of a larger project called “Smart Systems and Heat (SSH) Programme” that aims at providing future-proof and economic local heating solutions for the UK, with particular regards to decarbonization. The market consultation was performed in the phase 1 of this project by a consulting company who engaged with various manufacturers and industry experts. In addition, some of the core suppliers were consulted and were used to assist in the ongoing development.

Given the public nature of the project, Catapult had to participate in extra market engagement through dialogue with local authorities and some of their supply chain. In addition, some of the core suppliers had to be consulted to assist the procurer in the development.

An important constrain regarded the open data management. In this case, the procurer realized that the open source hard and soft components had to be regularly updated. A similar issue applied to the software, which requires certain amendments to allow for upgrades.

Financing: £ 300,000 - funded by the Department for Business, Energy and Industrial Strategy and Catapult’s core grant.

Procurement method: off-the-shelf procurement, with an open procedure (work contract).

6.2 Gijon Impulsa Empresas (Spain): Intelligent data analysis tool

About the buyer: Gijon Impulsa Empresas is a public enterprise owed by the Gijon City Council in order to facilitate the generation, development and consolidation of business initiatives that contribute to the creation of stable employment and well-being in the city of Gijon in Spain.

Background and description of the procurement: the object of the procurement was the development of an Intelligent Data Analysis Tool (HAID IMPULSA) to serve the needs of the area of economic and business promotion of the City of Gijón. This tool would prepare and homogenise, extract and analyse large amounts of sectorial and economic information obtained from multiple sources of both structured (databases, spreadsheets, open databases) and unstructured information (reports, records in text format, html). This ICT solution should be interoperable to facilitate the reuse of the captured and treated information, and should respond

to at least the Key Performance Indicators included in the Gijón City Social Agreement³⁸: “Agreement for growth, diversification of economic activity, the promotion of talent and the improvement of employability in a framework of social cohesion” (Gijón grows, 2016-2019).

The tool will be based on a Big Open Data Platform within a high-available and scalable architecture. It will allow accessing to relational and non-relational databases, by integrating open data sources through an automatic mapping tool capable of defining the origin and destination of this open data.

Some of the main features of the tool include:

- Specific procedures for the quality improvement, exploitation and pre-processing of the open data.
- The analysis of unstructured open data such as reports, records in electronic format, or social networks, without using a programming language by final users.
- Supervised and unsupervised machine learning algorithms, as well as predictive models and pattern recognition algorithms for the automatic identification of groups and communities based on captured open data.
- Interface to configure and retrain all models and algorithms without using a programming language.

Procurement method: Public Procurement of Innovation - PPI

Budget: € 200,000

The procurement currently remains to be finalized

6.3 Department of Mobility and Public Works (Belgium): Digital Elevation Models

About of the buyer. The Flemish Department of Mobility and Public Works supports the Ministry in its policy concerning mobility and traffic safety, as well as investment, management and operation of the transportation and port infrastructure in Flanders.

Background and description of the procurement: Digital Elevation Models (DEMs) are used in a wide range of applications such as nautical charts, dredging operations, morphological analysis and habitat maps. In coastal areas, where land and water meet, the elevation of the earth's surface cannot be measured with a single technique. The depth of the seafloor is measured

³⁸ The City Council of Gijón and the main socio-economic agents of the city, the Asturian Federation of Entrepreneurs and the Regional Labour Unions signed in mid-2016 a Social Agreement with the purpose to boost both the growth of the city of Gijón and the local talent through an integral set of programs. The Agreement ‘Gijon Crece’ establishes 6 axes: (1) strategic sectors; (2) enabling sectors; (3) specialized sectors; (4) infrastructures, services and incentives; (5) talent and employment, and (6) social responsibility. The Agreement indicates for each sector and program expected results and indicators. http://empleo.gijon.es/multimedia_objects/download?object_id=205502&object_type=document

using echo-sounding from a waterborne platform. In Flanders, 5-6 vessels are used to fulfil the demand on seafloor elevation. At the same time the height on land is acquired using airborne laser-scanning. Merging of data from these different sources is needed to produce seamless Digital Elevation Models (DEMs) in coastal and estuarine areas.

However, the current practice has some limitations. Survey areas are limited by what is feasible within a single survey day. Consequently, large areas need multiple survey days (up to weeks) with eventually multiple survey vessels, and certain areas have a low revisit frequency (up to multiple years). It is clear that these activities are costly and labour intensive. Even more effort is needed to adequately cover the intertidal part of coastal areas. Bathymetric surveys need to be scheduled at high water, resulting in slower acquisition rates. Laser-scanning surveys need optimal weather conditions and need to be scheduled at low water. Combining both survey results into a single map covering the area of interest is complex and adds to the costs of data acquisition.

Technological developments in different but related areas (space and airborne techniques, novel acquisition platforms and advancements in signal processing) are expected, but may only deliver partial solutions or require important R&D investments on the long term.

Thus, the goal is to design and develop an innovative technique to produce a DEM of entire coastal areas integrating (existing) multi-sensor data and making use of advanced signal processing methods. This is an ambitious goal aiming at a breakthrough innovation. It will be necessary to reinvent the survey strategy and to develop novel processing techniques.

The procurement currently remains to be finalized.

Procurement method: Pre-Commercial Procurement - PCP

6.4 Helsinki Region (Finland): Helsinki Region Infoshare (HRI)

About the buyer: the Helsinki Region is the administrative body of the so-called Greater Helsinki, the metropolitan area including the smaller Capital Region (Helsinki) and the commuter towns surrounding (Espoo, Vantaa and Kauniainen).

Background and description of the procurement: in 2010, the cities of the Helsinki Region began sharing public data for anyone to use freely. These open datasets, available through the web platform [Helsinki Region Infoshare \(HRI\)](#), make it possible for citizens to develop applications based on these, and follow the public decision making. The decision to open up public data was driven by a desire to expand the interaction with citizens and improve the quality of public services. The platform includes information on more than 600 different datasets, including data on public transport, public decision making, public service points, maps, statistics and, more

recently, detailed statistical data on schools, wellbeing and social services, historical maps, and aerial photos. The [HRI technical description](#)³⁹ and an [app gallery](#)⁴⁰ is available online.

An example of an app developed using HRI data is *Ahjo Explorer*, which gives access to all the public decisions concerning the city of Helsinki right to your Windows phone. Another is *Blindsquare*, designed to help blind people navigate the city. Other apps have been designed around public transport and services for tourists, amongst others. These apps make using public services easier and more accessible for citizens, improving quality of life and satisfaction and creating new businesses and jobs.

HRI has published a [guidebook](#)⁴¹ called *Helsinki Region Infoshare, 2 years of open public data*, which explain the genesis of the HRI and the emergence of the open data phenomenon in Finland. This is an example of communication and dissemination activities which municipalities who have successfully conducted open data procurements can use to share learnings with others and also supporting them to take up similar approaches.

Procurement method: Public Procurement of Innovation - PPI

Financing: HRI was developed by the four cities within the greater Helsinki region, in collaboration with the Forum Virium Helsinki and SITRA (the Finnish innovation fund) and with financial support from the Finnish Ministry of finance. The startup phase cost around €820,000 while the 2013 budget was €270,000. When the project enters the maintenance phase, it is expected to cost around €60,000 a year. Development projects will be financed separately.

6.5 Het Waterschapshuis (Netherlands): Dike Data Service Center

About the buyer: The Water Board Netherlands (Het Waterschapshuis) is the management and implementation organization in the field of digital information provision for the water boards in the Netherlands. Twenty-one of the regional water authorities have founded a partnership called Het Waterschapshuis. This partnership is a legal entity, owned by the regional water-authorities. Het Waterschapshuis is founded exclusively for the procurement and contract management of the collective ICT-systems for the participating water authorities.

Background and description of the procurement: Het Waterschapshuis initiated the procurement *Dike Data Service Center* together with the Stichting IJKdijk, a Dutch company specialized in sensor technology for water management and safety. In this procurement the market was asked to deliver an open source platform able to combine different data sources and to store and use the collected information for the assent management of water barriers. The winner of the procurement was selected entirely on the offered quality. Het Waterschapshuis set a maximum

³⁹ https://www.hel.fi/hel2/tietokeskus/data/dokumentit/HRI_Technical_Description_20150227.pdf

⁴⁰ <https://hri.fi/data/showcase>

⁴¹ <https://hri.fi/2years/>

price and listed minimum and optional functional requirements. The winner, a joint venture of two SMEs (Nelen en Schuurmans and Fugro) delivered a solution based on which the Dutch water boards can prioritize more easily their works and can enhance the level of water safety greatly.

Procurement method: Public Procurement of Innovation - PPI

6.6 Het Waterschapshuis (Netherlands): Central Distribution Layer – CDL

Background and description of the procurement⁴²: Het Waterschapshuis needed to create a bridge between individual regional water authorities and the Dutch National Spatial Data Infrastructure (SDI)⁴³ with a simple and cost-effective means of fulfilling their INSPIRE and Open Data obligation with a single ICT solution and make the same data available through a single (set of) channel(s) to the end-user or added value provider. The objective of the procurement was to achieve nationwide harvesting and servicing of data relevant to the EU INSPIRE Directive (2007/2/EC) and other Open Geo Data provided by all regional water boards (Waterschappen) in The Netherlands.

The project sought to procure a combination of proven (Internet) technologies, and use of new standards for data definition and storage. More specifically, it required water infrastructure related geo-data (water system data model “DAMO”) combined with newly developed xml-scheme for data exchange (as part of the Dutch Informatie Model Water “IMWA” standard) for seamless and virtual real time harvesting of data from all 23 water boards.

The Dutch national Spatial Data Infrastructure (Publieke Dienstverlening op de Kaart “PDOK”) served as the front end for the solution. PDOK makes digital geospatial data available as data services and files according to both national e-government (Infrastructure for Spatial Information in the European Community - IMWA, Basisregistratie Grootschalige Topografie - BGT, Geography Markup Language - GML) and international (Inspire Web Map Service - WMS / Web Feature Service - WFS) standards. Most PDOK services are based on open data and are therefore available to everyone.

A business case methodology was used to define key performance indicators (KPIs) such as hour savings with a new data management ICT solution. It is estimated that 23 water authorities invest 1,500 hours per year in data management. The hour cost is estimated at € 80. The new solution would reduce the hours by 50%. The innovation procured (CDL solution) reduced the

⁴²For more information on the improvement of the innovation procurement see: <https://www.hetwaterschapshuis.nl/pagina/producten/kennis-en-verbinden/activiteiten/activiteiten-kennisdelen-en-verbinden.html>

⁴³The Dutch National SDI (PDOK) is a central facility for unlocking geodatasets of national importance. This is actual and reliable information for both the public and private sectors. PDOK makes digital geospatial data available as data services and files. Most PDOK services are based on open data and are therefore available to everyone. The PDOK services meet national and international standards, including the European [INSPIRE](https://inspire.europa.eu/) standards and the Dutch e-government standards. <https://www.pdok.nl/en/about-pdok>

time of data management from 1,500 hours to 750 hours per year. It is estimated that the Dutch water authorities save € 1,380,000 per year with the new ICT solution.

Type of innovation procurement: Public Procurement of Innovative Solutions - PPI

Financing: € 1,000,000

Challenges and learnings: The procurer considered that the most important change in the project approach was a change in the tender procedure, to a restricted procedure. With this change, the transaction costs for both Het Waterschapshuis and the market were reduced substantially. There were 10 prospective suppliers, and after the selection phase five companies remained. The procurer outlined other improvements implemented in the contract, including guarantee clauses, elements related to the terms and conditions, and specially enhancement of the clauses on price and deliverables. The quality of the contract was brought to a higher level and therewith a higher chance of a successful performance after tendering. The contract was tendered in the summer of 2016, and Geodan (an SME with 170 employees) was selected to implement the CDL. A Proof of Concept was first made for the water boards to agree upon, and from the beginning of 2017, the water boards could connect to the CDL.

Het Waterschapshuis considers that the most important learning was to improve the quality of the business cases. Not specifically on the technical input, but on the (lack) of input of economical and procurement knowledge. As a result of this recommendation, the internal process to create a business case was changed. A second important recommendation was to make sure that the project team is willing and able to create their own 'critical look', their own 'critical sound'.

"It is impossible to create a business case and develop a specific tender procedure on your own and in one try. If that happens, you must be alarmed. The project team must organise their own 'quality assurance'. This is a matter of attitude and behaviour. As the management of the team of an organisation, you should facilitate this."

6.7 Belfast City Council (UK): Data analytics boosting rate revenue

About the buyer: the Belfast city Council is the administrative body of the city of Belfast in Northern Ireland.

Background and description of the procurement: Belfast City Council desired to reduce the level of uncollected business rates in the city.⁴⁴ For this purpose, it was decided to assess the potential for data analytics, mining existing public sector data to identify businesses escaping rate payments or paying lower rates than appropriate.

⁴⁴ Business rates (also called non-domestic rates) are a tax on non-domestic properties to help pay for local council services.

The council is now exploring options for procuring a full-blown solution. As such, the procurement is to be finalized.

Procurement method: Pre-Commercial Procurement - PCP

Financing: Together with Innovate UK, the Department of Finance and the Future Cities Catapult, the City Council set up a PCP with a budget of £130,000. For phase 1, awards of £5,000 each were made for proofs of concept. Two companies proceeded to phase two were awarded £55,000 for prototypes, including two weeks of field testing which immediately identified significant additional revenue opportunities. These companies were Belfast's Analytics Engines and Southampton's NQuiring Minds - both SMEs. Each has received a contract to build working prototypes of their proposal.

6.8 Water Board Limburg (Netherlands): Maintenance prediction model

About the buyer: As a subsidiary of Waterschap Limburg, Waterschapsbedrijf Limburg's ('WBL'; Water Board Limburg) mission is to produce purified wastewater and converts sewage sludge into valuable raw materials and energy.

Background and Description of the procurement: WBL has tested a monitoring and prediction model based on the data provided by sensors in 7 waste water pumps. By comparing the real-time sensor data with the pumps' design specifications, the developed software could analyze the functioning of the pumps (e.g. volume of waste water being pumped), could predict need for maintenance and could quickly identify leakages. Therefore, the objective is to enable the mining of big-data from the systems which have already been implemented.

An innovation procurement is currently being planned for a new technology for the systems across Limburg which will process this data.

Procurement methods: Public Procurement of Innovation - PPI

The procurement is currently in the planning phase.

6.9 City of Namur (Belgium): Design and implementation of an Intelligent Transport System (Système de Transport Intelligent – STI)

About the buyer: The City of Namur is a Belgian municipality of 110,000 habitants. It is the capital of the Walloon Region (Wallonia) and the capital of the Province of Namur.

Background and description of the procurement: The Intelligent Transport System is a tool aimed at meeting three main objectives: the real-time dissemination of mobility information, the development of a mobility strategy and the consideration of sustainable development.

A number of devices will be installed on the main roads to collect traffic data (e.g. cameras for automatic recognition of license plates, counting loops, sensors) and broadcasting equipment information (e.g. variable message signs, information terminals for commuter, etc.). These devices will be embedded in a central system where the collected information will be stored and can be recovered for various purposes in favor of the life quality enhancement of the city. In addition,

the system would be also able to gather the data generated from existing sources, both public and private: works, car parks, bike or car sharing etc.

In order to acquire the best possible solution, the City of Namur had to involve the main public stakeholders in the discussion for the definition of the specifications of the solution, among which the police, the public transport company, PEREX (the traffic center of the Walloon Region), and regional road companies. In the following stage, the City, supported by an external consulting company, held a one-day market consultation where the needs of the city were presented in front of an audience of providers, that were also invited to present their services and solutions. The information gathered during the market consultation supported the City in refining its requirements.

The contract will be awarded at the end of 2018, beginning of 2019 (procurement to be finalized). Being a is a service contract, the service should be delivered by the contractor. Nevertheless, given the complex nature of the service, the City will engage the prospective contractor in a 3-month-study phase in order to better define the features of the final solution.

Financing: € 3,000,000 - This project is part of the Namur Innovative City *Lab*, a portfolio of 11 projects, developed by the City of Namur, with the support of the Economic Office of the Namur Province (BEP - Bureau Economique de la Province de Namur) as a leader, as part of the programming of the ERDF European Funds 2014-2020.

Procurement method: off-the-shelf procurement, with an open procedure (service contract).

7 Coordinated or joint cross-border procurement

While open data public procurement can be conducted by a single contracting authority, joining forces to plan for and procure together with multiple authorities can immediately improve the 'openness' of the resulting solution, by increasing its ability to be integrated into multiple types of systems. If this is done with contracting authorities from other countries in the buyers' group (i.e., cross-border), international integration and interoperability is additionally supported. However, due to this, such procurement comes with particular challenges which must be sufficiently tackled during the planning stage in order for the benefits to be reaped. These challenges can be legal and economic in nature.

This section provides an overview of the legal aspects relevant to joint cross-border procurement, as well as the current practice, highlighting the benefits, persisting challenges and lessons learnt by previous projects. As well, there is legal flexibility embedded in the EU public procurement rules for the deployment of joint cross-border procurement practical experience.⁴⁵

Joint / coordinated procurement entails the combining of procurement actions of two or more public procurers from the same or from different countries. Joint / coordinated transnational procurement is when two or more public procurers from different countries combine procurement actions.

- **Coordinated procurement:** several procurers carry out together the preparation but not the execution of the procurement procedure. Procurers define common requirements together and consult the market together on available solutions, but launch separate procurement procedures to buy separately the amount of products they each individually need.
- **Joint procurement:** several procurers carry out together not only the preparation but also the execution of the procurement procedure. Compared to coordinated procurement, there is only one joint procurement procedure launched.

7.1 Benefits of coordinated or joint cross-border procurement

Coordinated, and even more joint procurement, brings substantial benefits to public procurers. Firstly, it helps deliver better value for money solutions - the buying power is greater than the purchasing power of individual procurers, which can enable economic operators to deliver better value for money solutions (e.g. economies of scale of production because of the larger potential market / higher value contracts). This is thus particularly interesting when the identified need is likely to be faced also by other procurers at local/regional/national or European level and when the market for the solutions is very fragmented (joint signal from demand side is needed).

The following are key benefits of coordinated or joint cross-border procurement:

⁴⁵ This is supported in the EU procurement directives; see Article 39 in Directive 2014/24/EU.

- **Reduce costs for preparing and/or carrying out** the procurement (administrative costs to prepare the procurement, run the procedure and the non-administrative costs e.g. costs for the testing and acquisition of solutions) can be substantially reduced / split among the participating procurers. In particular joint procurement can thus enable procurers to tackle needs for which individual procurers lack sufficient financial resources to procure alone;
- **Link skills and expertise;** the participating procurers share knowledge, expertise and skills; for example, one of the procurers could bring significant economic expertise, while another could provide extensive legal expertise or expertise in undertaking innovation procurements; This enables procurers to learn on innovation procurement from other more experienced procurers.
- **Foster standardization:** joint / coordinated procurement (agreeing on joint requirements for solving common problems) can foster the creation of de facto and de jure standards and increase interoperability between the systems of participating public procurers; This is thus particularly interesting when coherence, interoperability, inter-exchangeability or interconnectivity is required.
- **Enhances cohesion and cooperation:** on public sector challenges across borders. By fostering cooperation between procurers and suppliers from more and less developed regions in Europe on common challenges (e.g. environmental protection, economic growth, fighting climate change etc.).

7.2 Challenges of coordinated or joint cross-border procurement

A number of challenges have been identified which are common to many cross-border joint procurement projects. These include the following, with mitigation measures mentioned where appropriate:

- **Language and additional translation requirements;** if members of the buyers' group come from countries where different languages are spoken. While it can be advisable to publish procurement documentation in English, so as to reach a wide audience of potential suppliers, procurers may decide to publish additionally in their own languages to ensure that local suppliers are also engaged. This may become more relevant to municipalities, who are interested in stimulating the local economy while still attracting innovative ideas from talented companies.
- **Additional time required for the planning phase;** and namely for moving through the business case methodology. The use cases can vary widely between members of the buyers' group, making the first step of needs identification difficult but also increasingly important to project success. Agreeing on common needs is therefore critical, and extra time and effort must be devoted to support this more thorough process. Hosting user needs identification workshops on-location of the different members of the buyers' group - and if necessary with translation services - can facilitate information exchange and agreement on a common need.

- **Differences in installed bases and national champions** Related to the technical requirements, a primary source for challenges are the differences in the existing technologies which each partner has as its 'installed base' - and for open data, often from application to the network level must be considered to ensure that whatever solution is procured will be able to operate with the systems of the various buyers and under the different circumstances in which their particular users will use the solution. In addition to national differences in open standards (e.g., the M-Bus standard for the remote reading of gas or electricity meters can have various additional national specifications for radio frequencies), national economic interests in the form of supporting national champions and domestic suppliers can deter contracting authorities from abroad from wanting to join the buyers' group.
- **Difficulty forming the buyers' group:** Hesitation by potential members of the buyers' group makes identifying and communicating potential benefits of joint procurement - and especially with respect to open data - critical by the lead procurer. These benefits can come in the form of a business case which is underpinned by economic evaluation the value which a new common solution based on open data brings to each of the purchasing parties, both in the short and in the long term. The latter is especially the case if significant investment into systems and networks must be made to facilitate future (joint) use of open data which is to be collected on a particular platform.
- **Enhanced need for leadership:** Due to the additional administrative burden which a joint procurement can entail, there will be an enhanced need for leadership, coordination, cooperation in such initiatives. Notably, these activities can be performed by the party who is best suited for the task. For example, the project lead does not necessarily have to be the lead procurer - where the former could have a larger staff and capacity for drafting the tender documentation and carrying out the official duties for the procurement, the latter may have more experience in coordination activities. When the buyers' group is being formed, the strengths and capabilities of each party should be discussed in order to assign complementary roles which can help further the project.
- **Legal aspects** which may deter parties from pursuing a joint procurement relate to applicable law, jurisdiction, administration, and relation of national and EU law. However, there may also exist legal drivers which promote this activity, such as the EU public procurement rules. This is detailed in the following section.

8. Outcome of the SCIFI innovation procurement

The SCIFI project brings together the cities of Bruges, Delft, Mechelen and Saint Quentin with innovators to pilot and launch new smart public services. SCIFI uses innovative ways of procurement under the EU thresholds, with the purpose to unlock and optimize Open public data in the public interest. As both data suppliers and buyers of innovation, cities are ideally positioned as launching customers for smart products and services.

What has been achieved through the SCIFI innovation procurement of 4 Smart Cities? Meaningful results and learning points are described as follows.

This section of the “Guide on Open data innovation procurement for municipalities” provides: (1) a short background of SCIFI; (2) an overview of the main results of the accelerator programme; (3) lessons learned of public procurers; (4) lessons learned of technology vendors, and (5) good practices of the SCIFI innovation procurement.

The following content is based on the answers to the questionnaires, the insights obtained during the interviews and relevant information consulted online.

8.1. Context and methodology of SCIFI

This subsection describes the context and methodology applied in the SCIFI programme, including a summary of the procurement strategy and contractual framework.

SCIFI aims to activate the market for innovative solutions to improve public service delivery using data. With this purpose, cities collaborate on identifying shared challenges in mobility, energy and environment. They jointly explore innovative procurement methods to work with businesses in developing data-based solutions, implementing them in living labs, and demonstrating the value of opening data.



The innovative procurement consisted of two SCIFI Open Calls launched in 2018 and 2019 through the project communication channels.⁴⁶ In this context, open data innovation procurement refers to public procurement which is related to open data. Such procurement can also be conducted together with parties from other countries in the buyers' group - referred to as coordinated or joint cross-border procurement

Both calls followed 5 subsequent stages, namely: challenge preparation, call launching, selection of innovators, pilot experimentation and opportunities scaling.

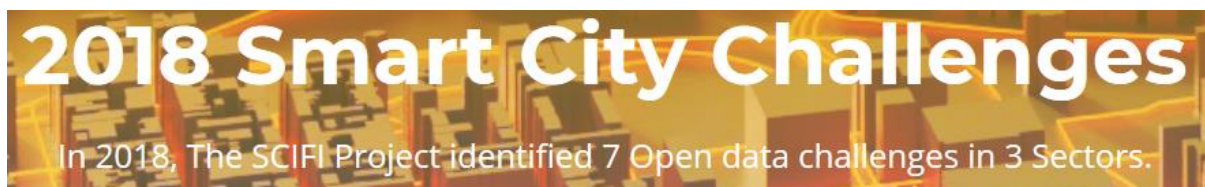
⁴⁶ See the Calls and the respective Challenges under <http://smartcityinnovation.eu/open-calls/> (2018) and <http://smartcityinnovation.eu/open-call-2019-2/> (2019).



- The participating municipalities, in consultation with various stakeholders, prepared the challenges.
- A call was opened for start-ups, students and companies as long as they were part of a legal entity) to submit their proposals.
- The proposals were evaluated and selected in a two phased approach.
 1. First a written procedure, where the submitted proposal and the characteristics of the remittent undergone an eligibility check and a review. The review criteria focused on the: idea (0 to 30 points, minimum: 15 points); impact (0 to 30 points, minimum: 15 points); and team and budget (0 to 30 points, minimum: 20 points).
 2. Second, a remote interview with the selected technology vendors followed by negotiations. A pitching deck of maximum 12 slides in PDF was viewed once the participants were accepted for an interview. The required negotiation documents included a confirmation of legal entity status, bank account information and project plan.
- Once the winning proposals had been selected the piloting phase started. The candidates had to complete three milestones in order to receive payments and to successfully complete the pilot. They had six months to implement the pilot, develop a proof of concept or a minimal viable product, depending on their proposal.
- Once the pilot was finished, the municipalities could decide to start a new procurement procedure (alone or jointly with other cities or contracting authorities), in which technology vendors of the piloting phase could participate.
- All interested participants had access to a [Guide to apply](#)

8.1.1. The Challenges

The Smart City Challenges gathered the needs of four cities in Belgium, the Netherlands and France, namely: Bruges, Delft, Mechelen and Saint-Quentin.



The 2018 Open Call identified 7 Open data challenges in 3 Sectors (mobility, environment and energy):

1. Cycling: how to use data to encourage cycling for journeys around the city, while making it safer. The cities of Bruges and Mechelen posed this challenge jointly in order to decrease costs and foster scalability of the solution and synergies.⁴⁷
2. City Centre Optimisation by measuring the usage of benches to better allocate them. The challenge could be extended to other street items. The city of Delft presented the challenge.
3. De-Icing Prioritisation by using data to improve the approach to treating slippery roads in winter was presented by Delft.
4. Maintenance: using data to improve and maintenance cleanliness of the streets. This was a shared need by the city of Saint-Quentin and the city of Delft.
5. Air Quality. The cities of Mechelen and Bruges posed the challenge of having an integrated evidence-based view on air quality and link these to specific circumstances.
6. Watering Optimisation: using data to optimise water use. The goal pursued by the municipality of Saint-Quentin is to deploy an intelligent system in green spaces that can control watering in order to optimize water consumption and make the system totally autonomous.
7. Building Efficiency. The building in the city centre or those of old construction are not energy efficient. However, renovating these building presents different problems. The city of Mechelen posed this challenge.



The 2019 Open Call defined 9 Open data challenges in 2 Sectors (environment and mobility):

⁴⁷ See good practices 14, 15 and 16.

1. Environment and Mobility in order to increase sustainable commuting to industrial zones. While it is true that the negative effects of transport in terms of pollution, congestion and climate change can be solved by new technologies can solve some of these issues, behaviour changes are also a way to achieve a modal shift from cars to walking, cycling, public or shared transport. This challenge was put forward by the city of Mechelen.
2. Housing Transition to understand housing stock and the impact of mobility on the housing market. The city of Delft intended to create a balanced housing stock, promote sufficient mobility on the housing market and realise sustainable living areas. For that the municipality lacked the expertise to intervene in a timely and appropriate manner.
3. Pedestrian Flow: reusing pedestrian flow data to optimize local decision making. This challenge was posed by Saint-Quentin.
4. Shared Mobility Access: Improving access to shared and sustainable transport solutions for excluded groups can be sustained by Mobility as a Service (MaaS). However, sharing mobility solutions are often too expensive or do not take into account digital limitations of certain population groups. This challenge was put forward by the city of Mechelen.
5. Multimodal Transport: Developing sustainable, multimodal transport options for journeys under 7km in order to decrease the use of cars and improve good habits of the population. The challenge was developed by the city of Bruges.
6. Bicycle Flows: Improving bicycle flows through the city. Cities in which bicycle use is very high present different problems such as bike storage and usage of bike routes. It is important then to know alternative routes and how to encourage users to take longer less congested routes. The city of Delft prepared this challenge.
7. Access & Parking: Improving access and parking in the city centre. This challenge was posed by Saint-Quentin.
8. Facilities Maintenance: Prioritizing interventions to maintain cleanliness of public streets. Saint-Quentin set this challenge.
9. Urban Logistics Vehicles: Optimizing circulation of local authority urban logistics vehicles. The challenge posed by the city of Bruges was to have real time view on the status of garbage cans in order to organise better the waste management team operations.

8.1.2. Innovation Procurement of R&D under the thresholds

Each pilot of both rounds of the SCIFI program received up to €10,000 to develop a proof of concept, or minimum viable product development in a period of 6 months. Since the €10,000 contracts are under the European thresholds, the cities had the flexibility to develop the innovative procedure described in the sections above.

8.2. Main results of the accelerator programme

This subsection presents the outcome of the procurement in Bruges, Delft, Mechelen and Saint Quentin. It describes briefly the pilot case examples by challenge (see also annexes).

The first SCIFI call closed in Autumn 2018. Six applicants made it on to the accelerator programme and started piloting their solutions in the SCIFI cities. The following are the completed projects.

CITY OF BRUGES

Air quality: monitor and improve air quality using open data.

- ✓ Shared challenge with Mechelen.
- ✓ The dialogue and follow up with the technology vendor were problematic.
- ✓ Even though the technology vendor was unable to provide the solution as described in the proposal, Bruges wants to move forward with the solution. Thanks to the project, the Municipality now knows exactly what is needed and how to ask for it: they have gathered the necessary knowledge for the follow up procurement.

CITY OF BRUGES

Safe cycling: using data to improve cycling (safety) in the city

- ✓ Due to the lower stage of the development of the solution (i.e. the TRL of the solution), one on one communications were constant.
- ✓ The municipality had to provide with real guidelines as they started from scratch a totally new solution.

CITY OF DELFT

Smart De-icing: optimise de-icing policy by using open data sources.

- ✓ The results of the project were presented on a Meet-The-Market event on July 2019, as a sort of an Open Market Consultation.
- ✓ The description of the AI model is going to be part of the tender for de-icing for Delft in the coming years.
- ✓ Purchase from the original technology vendor may or may not occur.

CITY OF DELFT

Smart public waste management: optimise intervention rates to improve the public waste management.

- ✓ Dashboard indicating how full the fifteen “sensored” bins are.
- ✓ The company managing waste in the city should have been involved in the pilot.
- ✓ To amend this mistake, this company is now running the implementation.

CITY OF MECHELEN

Air quality: monitor and improve air quality using open data.

- ✓ Shared challenge with Bruges
- ✓ The dialogue and follow up with the technology vendor were problematic.
- ✓ This is one of the main reasons that the project is still ongoing.
- ✓ This same technology vendor is not checking the sensors first-hand because they are located in another country. This is a problem based on the complexity of the technology, which can be prevented defining certain requirements and termination clauses beforehand.
- ✓ The municipality is assessing the potential termination of the contract based on lack of completion of the milestones.

CITY OF MECHELEN

Safe cycling: using data to improve cycling (safety) in the city.

- ✓ The companies were disappointed with the clear distinction between the piloting phase and the implementation phase.
- ✓ There is not going to be a follow-up procurement, as the business model proposed was not beneficial for the municipality.
- ✓ Moreover, the mobility department wasn't able to make full use of the info provided by the app.

CITY OF SAINT QUENTIN

Smart watering system: optimise irrigation with the right amount water, at the right time and place.

- ✓ A tender has been launched in order to deploy a complete solution based on the learnings of prototyping phase.
- ✓ Even though the solution was tailored for the city of Saint-Quentin, the approach helped the company to become more interoperable and to scale up the solution.
- ✓ Purchase from the original technology vendor may or may not occur.

Participating companies:



Cycling with BAM/AE
Mechelen & Bruges



Air Quality with Hopu
Mechelen & Bruges



Air Quality with Nazka
Mechelen



De-Icing with Quantillion
Delft



Watering with Element.io
Saint-Quentin



Maintenance with Sis.Ter
Delft

The second SCIFI call closed in December 2019 and six SMEs were chosen to run pilots with the participating cities in 2020 (see annexes).



Multimodal Transport with Gamification Nation
Bruges



Parking with CommuniThings
St. Quentin



Bicycle Flows with Skialabs
Delft



Pedestrian Flow with Always Blue
Saint-Quentin



Smart Waste with Suwaco
Bruges



Facilities Maintenance with Always Blue
Saint-Quentin

8.3. Lessons learned by the Municipalities

This subsection presents main lessons learned from the point of view of public procurers, based on the results of the questionnaires and interviews.

<i>Bruges</i>	
Connect and present projects in different venues.	<ol style="list-style-type: none"> 1. Help the technology vendors to sell the solution to other interested public and/or private buyers, as well as to find partners to scale the solution. 2. Other cities are extremely interested to know about the hands-on deck approach and the realities of Innovation procurement. 3. The municipality has a reputation as “expert” on Innovation Procurement and have now a new network to work with.
The approach is a win-win situation: the experts can test innovative solutions without investing a lot of resources and the policy makers are publicly known as Innovation Procurement experts. The technology vendors are being presented in different venues and other public buyers contact them.	To make it work it is important to have a good procurement organisation within the city. It is also important to have provisions in order to avoid conflicts of interest in a follow up procurement procedure if a previous participant also submits an offer.
Three main learning points:	<ol style="list-style-type: none"> 1. Narrow down the scope of the projects and research beforehand potential solutions. This not only gives the Municipality information about the markets, but also helps potential technology vendors to know if they can participate and if it is an interesting procedure for them. 2. Smaller testing phase before pilot test is a great way to know if a solution will work, without wasting too much time or resources.

	<p>3. It is important to introduce in the contract service level agreements. In the case of a mature an established technology vendor it is important to ask for these service level agreements, as well as they place of establishment and how fast they can provide services (for example if repairs are needed). In the case of a start up, they may not have Service Level Agreements, but it is important to ask for it and have it written down in the contract how they propose to solve challenges and the possibility of terminating the contract in case of failure.</p>
<p>Joint procurement can help to decrease costs for all the participants.</p>	<p>It is important to consider which additional public/private buyers might be interested in the same solution. In fact, municipalities in Flanders have started a joint procurement for the safe cycling project (smart cycling pilot).</p>
<p>Using complete templates can be very useful, as they provide a solution for every issue that might arise. Using the same template twice helps to benefit from the decreasing learning curve. I.e. if something works, keep on using it.</p>	<p>If the templates are clear from the very beginning, technology vendors are confident to sign them without requesting revisions or appealing for remedies.</p> <p>Nevertheless, it is important to include a clear clause with grounds for termination of the contract, as well as proportional positive and/or negative incentive clauses for noncompliance, in order to avoid paying for services that weren't rendered. In this regard, service level agreements of the technology vendors play a significant role.</p>
<p>Defining the scope of the project/challenge in a clear and precise manner is vital in order to give the technology vendors the chance to develop a real fitting solution.</p>	<p>In some cases, it is better to define a narrow challenge - even if it means that less proposals will be received - that really addresses the need at hand. This ensures that the selected project will deliver a satisfying solution and reduces the workload of the Municipality when reviewing the</p>

At this stage a thorough preparatory work to understand the applying legal framework and any limitations is also crucial.

proposals. The aid of local experts is extremely useful at this point.

Regular communications with the selected technology vendors are crucial for the correct implementation of the project.

Depending on the stage of the development of the solution (i.e. the TRL of the solution) a closer follow up might be needed. A lower TRL means less technological maturity and more R&D is required. Therefore, more attention and follow up might be needed.

Delft

Key players have to be involved early in the project and have to be provided with the necessary background information.

This includes not only members of the staff of the municipality, but also other relevant stakeholders, such as end users, citizens, experts).

Keep momentum.

Not only during the project implementation (via regular meetings, reports and monitoring), but also during the preparatory stages. If there is a long period of time between the needs and challenges' description and the subsequent steps, the members of the team can fall off the wagon.

Follow a proper and thorough needs assessment, State-Of-The-Art Analysis and Open Market Consultation.

Otherwise you may risk finding that a solution for your need already exists once that the project has started.

Six months is enough to develop a project of these characteristics. Milestones are important in order to achieve the results of the project.

A longer timeframe may not be better, as there is not enough pressure. Conversely, less time is not enough to get a minimum viable product.

Not only the technology vendors have problems with administrative tasks. Municipalities are not prepared to implement Innovation procurement.

Search for support if needed. Take into account administrative tasks as well. When working with international companies, some usual practices (as regular payments) may be different.

It is important to have a project management and a communication team involved and working in good terms from the very beginning.

Flexibility is also a requirement of these type of procedures.

Municipalities are risk averse and innovative ideas are not encouraged. Consequently, their staff is reluctant to change.

The members of the organisation have to think outside the box and get outside their comfort zone.

It is important to think about ways to decrease the friction between risk taking and accountability.

Mechelen

The challenge driven approach vs. the solution driven approach, in a very small-scale development for a very short period of time, helps to determine with the minimum resources possible if the solution proposed is feasible.

This helps to save time and money. Only once this has been assessed, further implementation can follow.

An approach as the one followed by the SCIFI program is a good way to co-create a solution in a collaborative way between the public buyer and the technology vendor.

1. It helps to address all the needs of the municipality.
2. If the pilot is successful, the chances of commercialization increase for the technology vendor.

Six months is time enough to test if the solution proposed is viable on a small scale.

If you have to fail, fail fast.

Due to Covid, some pilots have been extended for some months.

Introduce a clause allowing for potential extensions in case it is needed or if the project is promising in the tendering documents/contract.

This will help to avoid the addition of annexes or addendums with all the administrative burden it involves.

Some problems arise due to unexpected complexities during the piloting of the proposed solution (such as varying electricity networks and phone companies from the origin country).

The lesson learned from this is that it is important to define certain requirements and termination clauses beforehand.

In the first round of the SCIFI project, a broad number of companies responded to the call. This was not the case in the second round, in which the description was narrower, and the solutions proposed didn't really fit the need the municipality had.

It is important to reach out to the correct companies. For that, previous knowledge on the companies working on the field and resorting to the proper dissemination channels is key.

It is important to clarify the difference between the piloting phase and the upcoming procedure for the deployment phase, in which other companies might submit an offer.

It is key to implement safeguards that allow the company that performed the piloting phase to submit an offer for the deployment phase.

Transparency is essential and it is achieved by ensuring that the bidders in the upcoming procurement procedure have the same information as the ones that participated in the SCIFI project.

Another good practice is to require from the very beginning that the solution is compliant with standards (if any) and that is interoperable.

Disseminating and publishing the projects and the outcomes helps not only the public buyers involved, but also other public buyers and the technology vendor.

Matchmaking activities help the technology vendor to find other potential customers and partners to scale up their solutions. However, just having a showcase example of their solution working in a municipality, even if it is in a small scale, helps them to sell their solution to other potential customers.

For the public buyers, it is important to have a cluster of cities, local support groups, network of cities and local authorities, etc.,

	to share the outcomes and lessons learnt, in order to avoid reinventing the wheel.
<p>It is important to have contract templates, that can be modified depending on the project.</p> <p>If the company involved is from another country check practical aspects (like VAT).</p> <p>The templates should also take into account different milestones and requirements. Keep them as simple as possible, but at the same time include all the relevant information.</p>	<p>That is one of the reasons why, for the second call, Mechelen simplified the documents to be filled by the companies, in order to diminish the administrative burdens. However, as the documents were very complete it was difficult to reduce their contents.</p>

Saint Quentin

It is important to follow a step-by step approach.	In particular, Saint-Quentin identified the need in consultation in the city with stakeholders, refined the need by checking functional and technical requirements, they had a prototype phase and with all the acquired knowledge decided to start an award procedure to deploy the solution.
For the municipality of Saint-Quentin, the most challenging phase of the project was the execution.	To decrease the difficulties and the risks of the phase, it is good to keep regular contact with the technology vendors and follow up the evolution of the project and the correct completion of previously set milestones. For that, asking the technology vendor to provide with a milestones review document (as contract obligation) and then finetuning it together can be very helpful.
One particularly relevant lesson learnt was the importance of regular contacts with the technology vendors.	As in the first project the dialogue with the vendors was more irregular, in the second round they established biweekly calls.

Regular contact with the technology vendors also helps them in their internal management, who tend to rate contract management as difficult.

Nevertheless, the contract itself was not complicated. The open call of SCIFI was more challenging.

It is important to answer the questions and concerns of the interested technology vendors in a timely manner.

Another fact to take into account is the duration of the contract. Six months is enough to prototype and test a solution, but a “stop & go” clause should be added to the contract.

This means that in case of delays or interruptions, the contract can be stopped for a certain period of time and subsequently restarted within the period of the six months of duration of the contract.

This approach is a great way to address the challenges of the municipalities because:

1. The solution is developed according to their needs.
2. It is a tangible and iterative process that helps the municipalities to know what the market can provide and the market to know what the municipality exactly needs
3. It helps to collect all the insights needed to launch a procurement to deploy a solution (functional and technical requirements). The approach allows prototyping and testing before deploying, which increases the knowledge of the municipality for the upcoming award procedure and decreases the risk of failure.
4. It is a learning by doing process.

It is important to have a clear overall picture when launching a tender, which includes the technical specifications and knowledge of the legal framework and its limitations.

Asking for interoperability by design in the tender is a good way to ensure it.

In this regard, interoperability is also a crucial aspect of the tender.

Provisions on data usage, protection, sharing and ownership are needed. Not only of the data existing previous to the project, but on the data created as a result of the project.

8.4. Lessons learned by Tech Vendors

This subsection summarises the lessons learned from the point of view of technology vendors, based on the results of the questionnaires.

Feedback from Technology Vendors	
1.	Regular interactions with the municipalities are positive. They help to keep momentum and to implement the project to the satisfaction of both parties. It also helps to correct deviations and mistakes in a timely manner.
2.	The step by step approach to prepare the challenge and the negotiations to further finetune the project help to develop a solution for the needs of the municipality. It also helps the technology vendor to realise if they have the capabilities and knowledge to implement the pilot.
3.	There has to be a technical alignment based on the needs at the early stages of the implementation. The technical criteria and the service level requirements have to be clearly specified from the outset.
4.	For the success of the project, it is key to involve all the relevant stakeholders. It is also important to have the commitment of the personnel involved and of the final users.
5.	The SCIFI program step by step approach leads to a win-win situation for both the municipalities and the technology vendors. The cities can ask for tailor made solutions and test them on a small scale, limiting the risks of Innovation Procurement; while the technology vendors receive funds to test their ideas and potentially scale up the developed solutions, as well as having a first (public) customer reference. If it is a cross-border procurement, it is the first step to internationalization.
6.	Due to the co-funding and working together with the municipality, this approach also gives sufficient flexibility and enables creativity.
7.	In order for a win-win situation to take place, the incentives of both parties have to be aligned.
8.	The approach also supports further commercialisation of the solutions and gives the technology vendors a first reference (public) customer.
9.	It is important to clearly indicate the difference between the piloting phase and the commercial deployment phase. Participants in the SCIFI program tested the proposed solutions to the challenges. For cities to purchase commercial volumes of the solution, a new procurement procedure is needed.

10.	Both parties should strive for the continuation of the relationship. In particular, the municipalities could implement activities to support the further commercialisation of the solution developed during the piloting phase. This should be foreseen even before launching the call for pilots. Political alignment is crucial for this.
11.	For the budget available (up to 10.000 euros) and taking into account that the main targets were start-ups and SMES, the administrative tasks were burdensome.
12.	Appropriate safeguards should be in place in case the project has to be stopped due to <i>force majeure</i> causes, such as Covid.
13.	The municipalities need to have knowledge on the usage of the solution they are asking for and translate that into the tendering documents. In these projects in particular, minimal knowledge on data was needed. Depending on the project, knowledge of AI might be crucial.

8.5. Good practices of SCIFI

This subsection summarizes the highlights and good practices, based on the results of the cases of the SCIFI accelerator program, the questionnaires and the interviews (see annexes). These good practices are a useful guidance to successfully implement Procurement of Innovation.

Good practices	
1.	Before launching a procurement procedure, it is crucial to have a clear picture of the needs, which includes a preparation and analysis of technical aspects and certain operational requirements. A step-by-step approach starting with the needs identification and market interaction, like the one followed in the SCIFI project and in the Eafip methodology helps to gather all the information necessary to prepare an innovation procurement of R&D and/or to deploy the solution.
2.	Preparatory work, previous to launching any award procedure, is needed in order to understand the applying legal framework and any potential limitations. It also helps to assess if a need truly requires an innovative solution or if there is a technology already available on the market.
3.	Including interoperability by design as a requirement is important if the solution needs to work with previous technologies or it is likely to be extended to other entities and users. In fact, in general terms it is a good practice to request that the solution is interoperable in order to avoid vendor lock-in.

4. The milestones of the project need to be decided before launching the procedure and closely reviewed and checked during the execution of the contract (via milestones meetings for examples)
5. In Innovation Procurement, flexibility is needed. In the context of SCIFI, a good way to ensure it is a “stop & go” clause in the contract. This means that in case of delays or interruptions, the contract can be stopped for a certain period of time and subsequently restarted within the duration of the contract. This also helps to avoid the administrative burden of having to renegotiate extensions afterwards.
6. Regular meetings help to keep the momentum: keeping regular contact and closely monitoring the project and the technology vendors is a good practice. Specific issues should be followed up in separate meetings.

Depending on the stage of the development of the solution (i.e. the TRL of the solution) a closer follow up might be needed.
7. After the meetings, draft reports and action points. This is very useful to comply with milestones and to keep momentum. It is especially helpful for a municipality that is new on innovation procurement.
8. To implement Innovation Procurement, municipalities’ mindset towards innovative ideas, to think outside the box and to get outside their comfort zone is crucial.

For that, it is important to have risk mitigation measures (such as a step by step approach to de-risk the procedure and solve the friction between risk taking and accountability).
9. Reach out to the correct companies. For that, previous knowledge on the market and its dissemination channels is needed. The support of experts can be helpful.
10. Define the scope in a clear and precise manner in order to give the technology vendors the chance to develop a real fitting solution.

** In some cases, it is better to define a narrow challenge - even if it means that less proposals will be received - that really addresses the need at hand. This ensures that the selected project will deliver a satisfying solution and reduces the workload of the municipality when reviewing the proposals. The aid of local experts is extremely useful at this point.*
11. Spend time on the contracts and procurement documents to detect and solve problems early on. Pay special attention to Intellectual Property provisions and open data aspects. Who will own the IP of the results? Will the municipality have access to these results for the upcoming procurement procedure for the deployment of the solutions? The contracts need to be adapted to the specific requirements of the project.

12. Include clauses regarding not only the sharing, ownership and utilization of the data existing previous to the project, but also regarding the data that the project will generate.
13. Think about the procurement approach (PCP, PPI, Innovation Partnership, Prototype testing) before launching the procurement procedure. It will help to define the approach in relation to the state of the art and the technology readiness levels (TRL) and manage the expectations of the technology vendors.
14. Contact well in advance other municipalities, contracting authorities, public/private buyers that might have the same needs as you and build a network where you can share the lessons learnt and gather insightful information for your procedure.
15. Share your knowledge with other municipalities, local entities, public buyers, etc. For that, it is important to participate in city clusters, local support groups, network of cities and local authorities. Be willing to join different actors and networks. There is no use in reinventing the wheel.
16. Joint procurement can help to decrease costs for all the participants. It is important to consider which additional public/private buyers might be interested in the same solution.
17. Using complete contract templates, which can be modified depending on the project and specific requirements (e.g. if the company involved is from another country), can be very useful. The templates, which should take into account different milestones and requirements, should be as simple as possible (in an administrative sense), but need to include all the necessary information.

** Using the same template twice helps to benefit from the decreasing learning curve. I.e. if something works, keep on using it.*
18. Use clear and straightforward contract templates. If the templates are clear from the very beginning, technology vendors will be more confident and it helps to avoid requesting revisions or appealing for remedies.
19. Always include a clause with grounds for termination of the contract, as well as positive and/or negative incentive clauses for noncompliance, in order to avoid paying for serviced that weren't rendered.
20. Clearly indicate if there is a distinction between the piloting phase and the subsequent deployment phase. Establish safeguards in order to ensure equal treatment among all the tenderers of the second phase, including the technology vendors that participated in the piloting phase.

21. Think about the follow up of the procurement procedure and translate the technical aspects learnt from the pilot into the tendering documents in order to achieve the best solution for the deployment phase.
22. Take into account that the selection and award criteria for the deployment phase will be different from the R&D/piloting phase. Deployment capabilities to be requested from the technology vendors will be different from the R&D capabilities.

9 Conclusions and recommendations

Whether in the form of PCP or PPI, innovation procurement accelerates the modernization of public services and is a unique tool to drive development of open data-related solutions. In conducting innovation procurement, municipalities are uniquely advantaged by the local nature of data and their connection to users, features which they can capitalize upon in their open data procurements. Similarly, coordinated or joint cross-border procurement holds strong potential to increase the 'openness' of solutions procured by a single municipality and create exponential long-term benefits, with opportunities for learning effects and capacity building from knowledge sharing. Opportunities for industry of procuring in such a manner include stimulating the competitiveness of SMEs by offering them opportunities to innovate around open data, providing meaningful products and services for which the public benefits (either directly or indirectly). Including open data in procurement approaches is pivotal to long-term system integration and interoperability as it can break lock-in to a particular technology/service or supplier. Despite these benefits, we see that municipalities have not taken up open data procurement (including using joint cross-border approaches) to its full extent, meaning that efforts must be taken to facilitate movements from policy implementation to project planning and execution. Once more projects have been planned and executed, the additional data that this provides will allow for further study of the methods and benefits of open data innovation procurements, particularly by municipalities.

The findings of the use case assessment and analysis for this report, combined with previous experience of the contracted suppliers Corvers/Vtrek, suggest that two different **approaches** to open data procurement can be surmised. The first of these is the **public procurement of an ICT network or system**, such as is seen in the case of Gijon, where the procurement of a hardware product (in the case of a centralized physical database facility) or software hosting system, (such as cloud services) is the first step. This is since providing the possibilities for open data generation and storage is a necessary prerequisite for enabling the use of that data by future suppliers. The latter serves as the second approach to open data procurement, where contracting authorities procure **solutions from suppliers** which they have already (in the case of PPI) or plan to (in the case of PCP) develop, such as in the case of Water Board Limburg. These solutions must be compatible with the installed network or system, and would use open data in a way that creates meaningful value to the end-user, be that public servants or the public itself.

In conclusion, the current state of open data innovation procurement in the public administration is still at a preliminary stage, namely at the level of purchasing systems which simply enable open data services. It therefore becomes the responsibility of project managers, procurers, and policy makers to ensure that the initial intentions, which served as an explicit driver for the openness of the data, follow through to subsequent procurement projects, such that subsequent applications which depend on the open data platform or use of its data, for example, are also sufficiently open. This will support fair competition in the market place, in particular by fostering the SMEs' participation in the (new) markets and, at the same time, it will strengthen the European competitiveness of the best open data products and services.

In other words, solid policies that stimulate the development and use of open data are a necessary driver to boost the economic and end-user benefits derived from an effective innovation procurement.

9.1. SCIFI conclusions and recommendations

This section adds to the main conclusions of the Guide, the relevant aspects of the SCIFI innovation procurement, in particular, a view on how the ([Eafip](#)) step-by-step business case methodology has been applied and recommendations for future procurement projects.

1. An innovation procurement starts with a genuine need that cannot be satisfied by a solution already available in the market. In SCIFI, the needs were set as urban challenges related to energy, mobility and environment. The cities did not describe the solution, but only defined the problem/challenges to be solved through a small-scale research and development (R&D) phase.
2. The R&D is a tangible and iterative process which leads the way for a follow up procurement → collect all the insights needed to launch a procurement to deploy a solution (functional and technical requirements). It is a good learning by doing process.
3. The SCIFI innovative approach to procure R&D is a win-win situation: the experts can test innovative solutions without investing a lot of resources and the policy makers are publicly acknowledge as Innovation Procurement experts. The technology vendors are being presented in different venues and other public buyers contact them.
4. The challenge driven approach (instead of a solution driven approach), in a very small-scale development and for a very short period of time, helps to determine with the minimum resources possible if the solution proposed is feasible. This helps to save time and money. Only once this has been assessed, further implementation can follow. To make it work it is important to have a good procurement organisation within the city. It is also important to reach out to the correct companies.
5. Cross-border procurement may entail practical and administrative aspects of working with technology vendors located in another country. For example, prepare on how to deal with VAT. Consider the complexity of the technology (e.g. different electricity networks and phone companies among others) to mitigate risks upfront. A good initial preparation is important to define certain technical requirements and exit clauses beforehand.
6. Joint cross-border procurement is a cost-efficient way to solve common challenges/problems. It also widens the potential commercial possibilities for the technology vendors. When cities act as launching customer (in the deployment phase), technology vendors have an incentive to scale and commercialize their solutions. To procure together, cities can agree on a procurement approach, a lead procurer and the law applicable to the procurement. Due to national legal frameworks and practices, this may be challenging in itself, but possible nevertheless. One way is to follow the European [Eafip](#) step-by-step guidance on innovation procurement.

7. The SCIFI piloting phase allows the co-creation of the solution to tackle the needs of the municipality. If the pilot is successful, the chances of commercialization increase. To buy the solution, a follow up procurement is needed. On the basis of objective criteria set upfront in the tender/procurement documents, the proposals of participating companies capable of offering (alternative) solutions can be assessed.
8. If technology vendors can showcase their solution with references of working with the municipality, even if it is in a small scale, this helps them to sell their solution to other potential customers.
9. The execution of a contract can be the most difficult part, this can be tackled through a clear contractual framework with concrete milestones, a good project management and a clear governance structure between the contracting authority and the technology vendor. Efficient monitoring helps to take needed measures in due time.
10. The challenge with innovative projects is that you cannot know what will come up. The results can only be evaluated after a year or two when it becomes clear if there are actual improvements.
11. Consider contractual provisions on the ownership, access and re-use of open data (existing before the project and created during the pilot). Transparency of the conditions from the start of a procurement is a must.
12. Aim at 'open access policies', following the principle of 'open by default' and compatible with the FAIR principles (FAIR data are Findable, Accessible, Interoperable, Reusable).
13. Take into account concerns relating to intellectual property rights, personal data protection and confidentiality, security and legitimate commercial interests, in accordance with the principle of 'as open as possible, as closed as necessary'.

Keep the momentum with regular meetings.

Think outside the box, get out of the comfort zone!



Be willing to join forces with different networks.

It makes no sense to reinvent the wheel again and again.



If something works, keep on using it!
If you have to fail, fail fast!



Partners:



Mechelen

As Lead partner, the City of Mechelen will work with citizens and other city partners to create a cross-border market for innovative and data-driven smart solutions.



Bruges

The city of Bruges is the third biggest city in Flanders, dealing with various challenges in sustainable urban development, mobility and climate. Our goal is to keep the city vibrant and livable for our citizens.



Delft

Like many cities, Delft faces challenges in energy, environment and mobility. In 2016 the city decided to invest in open data and becoming a smart city. It will be a test-bed for piloting new smart solutions.



Agoria

Agoria is paving the way for technology-inspired companies in Belgium which seek to contribute to the world's advancement by developing innovations. They will facilitate dialogue between cities and industry.



Cambridge Cleantech

Cambridge Cleantech acts as a business matchmaker linking "buyer" organisations with SMEs developing innovative technologies. They bring their cluster of 300 companies with potential smart city solutions to the project.



Bax & Company

Bax & Company is a leading European innovation consultancy. Their Data and Smart Cities cluster helps cities use data and technologies to address daily challenges in a way that is driven, open, scalable and financially sustainable.



Saint Quentin

The City of Saint-Quentin has solid experience in open data policy and enabling citizen participation in new projects. They will define their smart city challenges and test the solutions.



University of Southampton

As Expert Partner they provide best practice guidance and assessment across all parts of the project: approach, challenges, solutions and co-creation.



Faubourg Numérique

Faubourg Numérique's role is to provide cities with technical and strategic expertise to make their public data market-ready and manage the inter-operability of solutions.

10. Annexes

10.1. Annex 1 – Use cases according to type of open data innovation procurement

In this section, a summary of use cases is provided, according to types of open data innovation procurement which were developed partly on the basis of use cases and desk research conducted as a part of this project. Using the aforementioned mechanisms, a number of different approaches to open data innovation procurement exist. Namely, these are either services to enable for the collection of open data, such as platforms or catalogues, and services using existing open data. The latter consists of direct services to citizens as end-users, to citizens through contracting authorities, or for contracting authorities themselves. The former consists of procurement of open data platforms and of digital layers, referred to as INSPIRE spatial/geo open data.

For INSPIRE spatial/geo open data, it is possible to procure solutions to collect and categorize open data in 34 categories. The availability of open data -and specifically spatial data- in itself is a service both to CAs and third parties/citizens. The other possibility is to procure solutions that use the available and categorized open data for specific purposes which could be both for the use of CAs or for the use of third parties/citizens (directly or through the CAS, some services could be developed without procurement, like free apps made by programmers).

“INSPIRE Network Services specify common interfaces for web services (discovery services, view services, download services, transformation services, services allowing spatial data services to be invoked). Based on these common interfaces, generic client applications can be developed that allow users to search for INSPIRE data sets, to download them or to visualise them in interactive maps. Network services and spatial data services are accessed by applications and geoportals via the INSPIRE services bus.”

The Infrastructure for Spatial Information in the European Community (INSPIRE) has to comply with specific regulations on the interoperability of spatial data⁴⁸ According to Article 5(1) of INSPIRE Directive 2007/2/EC, Member States shall ensure that metadata are created for the spatial data sets and services corresponding to specific themes and that those metadata are kept up to date. The procurement of a solution for the collection of spatial data is a service to a CA, and the data can be used to provide services.

⁴⁸ For example, <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32011R0102&from=EN>
<https://inspire.ec.europa.eu/inspire-roadmap/61>

Table 1 - Classification of the identified use cases according to types of open data innovation procurement

Case study	Type of procurement	Type of open data innovation procurement				
		SERVICES TO (ENABLE FOR THE) COLLECT(ION) OF OPEN DATA (PLATFORMS/CATALOGS)		SERVICES USING EXISTING OPEN DATA		
		Open data platforms	Digital layers - INSPIRE spatial/geo open data 34 themes	Direct services to citizens	Services to citizens through CA	Services for CA
6.1 Energy System Catapult (UK): Smart heating system monitoring system	Off-the-shelf				Smart Heating systems allowing for future-proof and economic local heating solutions for the UK	
6.2 Gijon Impulsa Empresas (Spain): Intelligent Data Analysis Tool	PPI			Intelligent data analysis tool. Big data analytics to generate information for citizens, companies and policy makers.		
6.3 Flemish Department of Mobility and Public Works (Belgium): Digital Elevation Models - DEMs	PPI					3-4D modelling /acquisition of data from sensors
6.4 Helsinki Region (Finland): Helsinki Region Infoshare (HRI)	PPI	Open datasets, available through the web platform Helsinki Region Infoshare (www.hri.fi)				
6.5 Het Waterschapshuis (Netherlands): Dike Data Service Center	PPI	Open source platform to combine different data sources and to store and use information for the assent management of water barriers				Solution based on which the Dutch water boards can prioritize more easily their works and can enhance the level of water safety
6.6 Het Waterschapshuis (Netherlands): Central Distribution Layer – CDL			Achieve nationwide harvesting and servicing of data relevant to the EU INSPIRE Directive (2007/2/EC) and other Open Geo Data provided by all regional water boards (Waterschappen) in The Netherlands			
6.7 Belfast City Council (UK): Data analytics boosting rate revenue	PCP					Data analytics, mining existing public sector data to identify businesses escaping rate payments or paying lower rates than appropriate
6.8 Water Board Limburg (Netherlands): Pilot of big data analysis – maintenance prediction model	PPI					Big data analysis -maintenance prediction models. Monitoring and prediction model based on the data provided by sensors in 7 waste water pumps
6.9 City of Namur (Belgium) - Système de Transport Intelligent	Off-the-shelf				An Intelligent System based on a number of remote devices aimed at reducing traffic and enhancing of mobility	

10.2. Annex 2 – Considerations for the personal data

Personal data is any information related to a natural person or 'Data Subject', that can be used to directly or indirectly identify the person. It can be anything from a name, a photo, an email address, bank details, posts on social networking websites, medical information, or a computer IP address.

The EU [General Data Protection Regulation \(GDPR\)](#)⁴⁹ is the most important change in data privacy regulation in 20 years. The GDPR is to protect all EU citizens from privacy and data breaches in an increasingly data-driven world. The GDPR applies to all companies processing the personal data of data subjects residing in the Union, regardless of the company's location. The GDPR will apply to the processing of personal data by controllers and processors in the EU, regardless of whether the processing takes place in the EU or not. The GDPR will also apply to the processing of personal data of data subjects in the EU by a controller or processor not established in the EU, where the activities relate to: offering goods or services to EU citizens (irrespective of whether payment is required) and the monitoring of behavior that takes place within the EU. Non-EU businesses processing the data of EU citizens will also have to appoint a representative in the EU. Under GDPR organizations in breach of GDPR can be fined up to 4% of annual global turnover or €20 Million (whichever is greater).⁵⁰

The data subject rights under GDPR are:

- **Breach notification:** when data breach is likely to result in a risk for the rights and freedoms of individuals”.
- **Right to access:** the right for data subjects to obtain from the data controller confirmation as to whether or not personal data concerning them is being processed, where and for what purpose.
- **Right to be forgotten:** entitles the data subject to have the data controller erase his/her personal data, cease further dissemination of the data, and potentially have third parties halt processing of the data.
- **Data portability:** the right for a data subject to receive the personal data concerning them, which they have previously provided in a 'commonly use and machine readable format' and have the right to transmit that data to another controller.
- **Privacy by design:** calls for the inclusion of data protection from the onset of the designing of systems, rather than an addition.
- **Data protection officers:** DPO appointment will be mandatory only for those controllers and processors whose core activities consist of processing operations which require

⁴⁹ <https://www.eugdpr.org/>

⁵⁰ <https://www.eugdpr.org/key-changes.html>

regular and systematic monitoring of data subjects on a large scale or of special categories of data or data relating to criminal convictions and offences.

10.3. Annex 3 – Open market consultation document (template example)

Open market consultation document

{Name of the project}

1. Introduction

[Include for example: the public procurer(s) initiating the project; the background and scope of the project and the main challenges/ambitions; the objectives of the market consultation; the scope of the market consultation and how it is envisaged to be organized]

2. The public procurer

[Include more in depth information about the public procurer and its mandate in relation to the tasks of the public procurement and the project]

3. Background

[Include information about the background situation, justifying and/or grounding the commencement of the project]

4. The project

[Include detailed information about the project and the sought solutions, in terms of functional outcomes: i.e., flexibility, cost effectiveness etc.]

5. The market consultation

[Include a detailed process description about the market consultation exercise: i.e., what form it will take, when and where it will be organized, what is the process to be followed, what is the objective thereof, whether it will consist of one or more rounds, how will the results be interpreted etc.]

6. Other documents attached to the PIN and market consultation document

[Include links to information]

7. Disclaimers

[Several disclaimers could be included in the market consultation document. These disclaimers could regard, for example, the participation to the market consultation, the separation of the market consultation step from the procurement itself, the dissemination of the market consultation results, the treatment of the information provided by the market etc.]

10.4. Annex 4 – Methodology followed to prepare the SCIFI results in the guide

A step-by-step approach was followed to prepare this section of the Guide:

- Two questionnaires were developed in coordination with Agoria: one addressed to municipalities, the other one addressed to technology vendors (see annexes).
- The questionnaires were fine-tuned based on the feedback of Johanna Walker⁵¹ from University of Southampton.
- Representatives of SCIFI in the municipalities of Bruges, Delft, Mechelen and Saint Quentin were invited to answer the questionnaire and participated in a more in-depth interview.
- Technology vendors who delivered services were invited to complete the questionnaire online in an anonymised manner.
- Additional information available online, especially on the SCIFI website was consulted.
- The key points have been summarised to transfer the core knowledge of the project.

The content's of the guide is based on the answers to the questionnaires, the insights obtained during the interviews and relevant information consulted online.

⁵¹ Ms. Walker is an expert is an academic in the field of open data.

10.5. Annex 5 – Summary of the interviews with Municipalities

10.6. Annex 6 - Completed and Ongoing projects

10.7. Annex 7 - EU Survey questionnaire – Municipalities

10.8. Annex 8 - EU Survey questionnaire – Technology vendors

10.9. Annex 9 - Contract templates

10.9.1 Appendix 1 - MODEL AGREEMENT With regard to the carrying out of the 7 Challenges Open Innovation Accelerator Program

MODEL AGREEMENT
With regard to the carrying out of the
7 Challenges Open Innovation Accelerator Program

Client,
City of [.....]

And
Contractor,
[.....].

This model agreement may only be used within the INTERREG SCIFI project for supporting the accelerator activities between the local governments and the companies.

The information contained in this model agreement has been obtained from sources believed to be reliable. Neither the SCIFI partners nor Corvers Procurement Services B.V. nor any of its subcontractors shall be responsible for any errors, omissions, or claims for damages, including exemplary damages, arising out of use, inability to use, or with regard to the accuracy or sufficiency of the information contained in this model agreement.

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Agreement

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Article	5	Budget, invoicing and payment
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ANNEXES

Annex 1 Plan of action

Annex 2 General terms and conditions of the City

Annex 3 Model declaration for subcontracting

Annex 4 Equipment provided by the City

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APPENDICES

Appendix I	Publication in the http://smartcityinnovation.eu/apply/ portal
Appendix II	SCIFI Guidelines, the challenge description, including associated annexes and documents
Appendix III	Proposal of the Contractor as submitted on the call for proposals and associated annexes and documents
Appendix IV	Registration of the Contractor
Appendix V	Presentation of the Contractor
Appendix VI	Further clarifications (optional)

AGREEMENT

UNDERSIGNED

I The City of [...], with its registered office in [...], represented in this case by [...].

hereinafter referred to as: "**Client**" or as "**City**".

and

II [...], registered office in [place], registration number (...), VAT number (...) domiciled in [place] at the [address], represented in this case by [name], hereinafter referred to as: "**Contractor**"

Client and Contractor hereinafter jointly also referred to as: "**Parties**"

PREAMBLE

A With this assignment, the Client aims to address [...] in the framework of the 7 Challenges for the call of proposals from SCIFI.

B More specifically, the Client aims to carry out the Smart Cities Innovation Framework Implementation (SCIFI) - Interreg 2Seas-funded - Open Innovation Accelerator Programme bringing together citizens, corporate and public-sector organisations that have smart city

needs, challenges and/or data with start-ups, companies and students that have innovative solutions with data for these needs/challenges.

- C The SCIFI accelerator programme aims to facilitate joint and innovative cross-border procurement. Therefore the accelerator has several tracks based around 7 Challenges set by the cities, and during the accelerator start-ups, companies and students will develop solutions (with as much citizens involvement as possible) to meet these challenges. The solutions must be conceived in a way that they are applicable in multiple cities (scalable).
- D In the context of the aforementioned Framework, the Client has followed an innovative procedure through a call for proposals to address 7 challenges according to the published guidelines [<http://smartcityinnovation.eu/wp-content/uploads/2018/06/SCIFI-ACCELERATOR-Guide-for-applicants-.pdf>];
- E The SCIFI call 2018 for proposals has been as follows:
- publication **(Appendix I)**;
 - challenges guidelines and description of the challenges **(Appendix II)**;
 - proposal of the Contractor as submitted on the call for proposals and related information **(Appendix III)**;
- F On [.....] the Contractor has applied to the SCIFI call 2018 and made a proposal for creating impactful, innovative products and services in response to the challenges defined by the cities in SCIFI with the following characteristic [.....] **(Appendix IV)**;
- G The Contractor gave a presentation for the Client on [.....] **(Appendix V)**;
- H The Contractor has provided further clarifications at the request of the Client with respect to his proposal **(Appendix VI)**;
- I On the basis of the proposal and the presentation [and any further clarifications] of the Contractor (hereinafter referred to jointly as "the offer"), the Client has decided to award the contract to the Contractor;
- J The Contractor has come to his offer after he: (i) thoroughly studied the SCIFI Guidelines and the information notes and had the opportunity to ask questions about it; (ii) has conducted further research to the extent deemed necessary; (iii) has established no reason to warn the Client of any inconsistencies, errors or inadequacies in the information provided by the Client;
- K The Contractor indicates that it is able to deliver in accordance with the SCIFI Guidelines, including appendices, and the provisions of this Agreement, in order to complete the Open Innovation Accelerator Programme.
- L The Contractor acknowledges the importance of: (i) timely and proper execution and delivery of a Proof of Concept (POC); (ii) the absence of additional costs;
- M The Parties wish to lay down what they have agreed to in this agreement.

AND DECLARE TO HAVE AGREED AS FOLLOWS

1 Definitions

The following definitions apply in this Agreement (including the Preamble and the Appendices).

the words included in the definitions are capitalized in their definitions and where definitions are given in the plural or singular, they are also considered to include the singular and plural respectively, unless explicitly stated otherwise or the context shows otherwise, and where definitions apply male and female respectively, they are also considered to include female or masculine, respectively, unless expressly stated otherwise or the context shows otherwise

Agreement

This agreement including the Preamble, the Articles, the Annexes and the Appendices.

Appendices

Documents exchanged between the Parties within the Smart Cities Innovation Framework Implementation (SCIFI), prior to the conclusion of this Agreement which form part of this Agreement.

Annexes

The annexes to this Agreement.

Articles

The articles of this Agreement.

Challenge

The specific challenge addressed by the Proposal in the context of the 7 SCIFI Challenges call for innovation in mobility, energy, and clean environment..

Client

The City of [.....].

Contractor [.....]

Documentation

All documents (including the documents mentioned in the SCIFI Guidelines). The Documentation must be and remain such that it provides a correct, complete and detailed description of the services to be performed by the Contractor. This also means new versions of the documentation.

General Terms and Conditions

General Terms Conditions of the City of [.....], established by the Council of the City of [.....] on [date..... and reference].

ICT-environment

The entirety of components consisting of (peripheral or development) equipment as described in **Annex 4**, including firmware (IoT devices, Raspberry Pi, ...), security, network, communication and connectivity infrastructure, cabling and other facilities, with which and to which the ICT-solution must be duly functioning as described globally in **Appendix III** and **Annex 1**, as recommended by the Contractor and provided for by the Client.

ICT-solution

The solution developed and delivered by the Contractor, with which and to which the ICT-environment must duly function, such as software.

Milestones

Tasks with a duration of zero which signify achievement in the project and are used as a way showing forward movement and progress in the development of the ICT-solution, also comprising the milestones for invoicing (Article 5.2).

Parties

Client and Contractor jointly, with "Party" is the Client and Contractor separately.

Plan of action

The plan to be drawn up by the Contractor in consultation with the Client and subsequently approved by the Client only, which will then form (as new **Annex 1** to be added) part of this Agreement. A draft of this plan has been added to the Proposal in **Appendix III**. This plan includes at least a detailed planning of the Service and a description of the ICT-environment and the ICT-solution. The relevant plan also contains provisions for the reporting obligations, the provision of services, and for the project organization (s). The plan includes at least a project plan and detailed planning, as well as an elaboration of the way in which the development process is monitored and continually improved, in order to guarantee the increase in productivity and the efficiency and effectiveness of the development process is constantly being improved.

Presentation

The Contractor's presentation as included in **Appendix V**.

Programme requirements

The SCIFI call 2018 guidelines of the Client and the challenge description contained in the instructions as **Appendix II**.

POC (Proof of Concept)

The integrated set-up of the ICT-solution with the ICT-environment.

Proposal

The Proposal of the Contractor as included in **Appendix III**.

Public data

The data provided by the City to the Contractor to execute the Agreement in order to develop the ICT-solution and deliver the POC, as described in the Plan of action.

Smart Cities Innovation Framework Implementation (SCIFI)

The framework for collaboration across partner cities, and between public service providers, citizens, innovators and experts to achieve Smart City products and services (applications, software or algorithms) that address joint urban challenges such as parking, air quality, and energy efficiency

SCIFI Guidelines

The document attached as **Appendix II**, including the accompanying documents, appendices, annexes and any additions.

Services

The (research and development) services and / or any and all related activities of the Contractor aimed at the execution of the Agreement.

Specifications

The complete set of specifications set out in the Plan of action as accepted by the City. The set of specifications agreed at any time by the Parties is laid down in the annexes attached to the Plan of Action as this set of specifications may be changed by mutual consent.

Representatives

Representatives of the Parties in (the implementation of) this Agreement, as elaborated in Article 9.

Users

The authorized natural persons (employees) working at or working for the Client, who make use of the POC.

Work day

Every calendar day, not being a Saturday or a Sunday or a generally recognized, rest or public holiday in the [...], prescribed by the [...] government.

Object and purpose of the Agreement

Client and Contractor undertake a mutual cooperation in good faith to tackle the Challenge as described in the recitals. Client and Contractor mutually agree that due to the nature of this Agreement, the POC shall not be used in a fully operational environment but solely for the purpose of evaluation and analysis.

During the accelerator, the Contractor will work together with mentors and advisors to help the Contractor develop its proposal idea into a sustainable transnational business if this possibility is offered by the Client. The Contractor will attend in-person and remote meetings (in the Netherlands, Belgium and/or Northern part of France) with their city partner and other quadruple helix stakeholders. The Contractor will also be required to attend as an active participant, internal reviews, relevant SCIFI events, a kick-off event and a smart cities matchmaking event, as required by the Client. Companies responding to a SCIFI city challenge will be expected to engage with the city to gather feedback about the added value of their solution for the business problem described in the challenge. These conditions have been discussed in more detail during the negotiation phase as laid down in the Plan of action.

The Proof of Concept and prototypes made by the Contractor in consultation with the Client and in co-creation with stakeholders remain the final responsibility of the Contractor. The evaluation of the Proof of Concept and prototypes will determine if these products are of the quality as set in the proposal and comply with the requirement of interoperability, and whether it can serve in the development of specifications for further commercialization and deployment.

The Contractor is aware that as the result of the present Agreement he may have access to open databases and (possibly) strictly confidential information that cannot be shared with third parties as provided in the Confidentiality Agreement (**Annex 5**).

The Contractor will ensure:

The data-centric Smart City solution's Proof of Concept and/or prototype is delivered in compliance with the document " " (**Appendix III**).

That its obligations are compliant with any and all of the Milestones as attached to the Plan of action or if required by the Client in a separate Annex to this Agreement. The Milestones shall relate at least to:

Functional and technical specifications of the POC

List of necessary software licenses (if any).

To accomplish with the object of this Agreement, the Client will provide the Contractor with the necessary equipment agreed as a result of the Plan of action (**Annex 1**) and the relevant documentation (**Annex 4**). Contractor warrants that the equipment as described in Annex 4 fully and unconditionally operational and interoperable with the other components of the ICT-environment. Contractor agrees that in case the equipment or any part thereof is not properly working with any other component of the ICT-environment, the City has not obligation to provide alternatives for the non-functioning equipment or any component thereof. The Contractor is aware and accepts that the ICT-environment and any component thereof is solely provided by the Client to the Contractor to render the Services and to develop the ICT-solution and to deliver the POC. No ownership to or in any part of the ICT-environment is (being) transferred to the Contractor. The Contractor has been granted the non-exclusive and non-transferrable right to use the ICT-environment for the duration of this Agreement for the sole purpose of rendering the Services, to develop the ICT-solution and to deliver the POC.

The Contractor declares and guarantees, that he and all its personnel will bring “state-of-the-art” knowledge about the use and application of the ICT-solution and the POC.

The Client declares that as a result of this Agreement, Contractor shall not be excluded from the participation in a follow-up procurement, unless the Contractor is in breach of any of its obligations as stated in Annex 5 (Confidentiality Agreement).

Duration of the Agreement

The duration of the Agreement comprehends a six-month period up and to the moment of evaluation of the POC in the framework of the Accelerator programme which concludes with requested activities as active participant, by the Client in case of a successful outcome.

This Agreement is entered into for a period of 6 months commencing on the day of signature by both Parties, therefore on [14 December 2018] - and terminates with the evaluation of the POC at the end of the Accelerator Programme, and acceptance thereof by the Client, but no later than [30 June 2019].

Obligations which by their nature are intended to continue even after termination of the Agreement will continue to exist after termination of this Agreement, in any case the Confidentiality Agreement (**Annex 5**) and the stated in this Agreement regarding intellectual property.

General terms and conditions

Solely the General terms and conditions of the Client (**Annex 2**) apply to this Agreement, with exclusion of any terms and conditions used by the Contractor. In case of a conflict between the stated in the articles of this Agreement and the stated in the general terms and conditions of the Client, the stated in the articles of this Agreement shall prevail. In case of a conflict between the General terms and conditions of the Client and the stated in the Confidentiality Agreement (**Annex 5**), the stated in the Articles of the Confidentiality Agreement shall prevail.

Budget, invoicing and payment

The Contractor will obtain funding of up to €10,000 [please insert the actual amount and indicate if this amount includes VAT or not] to support its Services and its obligations under this Agreement.

The Client will compensate the Contractor during the six-month Accelerator Programme through the following payments:

Invoicing and payment

<u>Milestones</u>	<u>Percentage of the maximum funding as set in 5.1</u>	<u>Estimated invoice schedule</u>	<u>Estimated payment schedule</u>
<u>Contract signed including Plan of action and Milestones</u>	<u>50%</u>	<u>January 2019</u>	<u>February 2019</u>
<u>Positive evaluation by the Client after pitch of Contractor</u>	<u>30%</u>	<u>March 2019</u>	<u>April 2019</u>
<u>Positive evaluation by the Client after pitch and demonstration of the POC by the Contractor</u>	<u>20%</u>	<u>June 2019</u>	<u>July 2019</u>

The Contractor is aware and accepts that he is only entitled to submit an invoice and to receive subsequent payment if the respective Milestone for that invoice has been met.

The Client is entitled at all times to have the invoices sent by the Contractor checked by an independent accountant to be appointed by the Client. The Client will only use this right if he has reasonable doubt about the correctness of an invoice. The Contractor will, if necessary, provide that accountant with access to his books and documents and provide him with requested information. Such a check is confidential and will not go beyond what is required for checking the invoices. The Client is entitled to suspend payment of the invoice that is being investigated. The costs of the audit will be borne by the Client unless the investigation shows that the invoice is not entirely accurate, then they will be at the expense of the Contractor.

The Contractor will send invoices to the Client in singular form. The invoices must contain the title of the Agreement and the contract number and must be provided with a clear specification and the related Milestone. The Client is not obliged to pay invoices that do not meet these requirements.

The Client shall pay the Contractor the amount owed to him no later than within thirty days of receipt of the relevant invoice.

Exceeding a payment term by the Client or suspension of payment due to suspected incorrectness or of the invoice or due to the Contractor's failure to properly comply with this Agreement does not entitle the Contractor to suspend or terminate the performance of this Agreement.

Payment is no proof of acceptance and will take place without prejudice to all rights of the Client.

The Client is entitled to deduct fines due by the Contractor (for example pursuant tobreach of Confidentiality Agreement).

POC development and evaluation

The Services provided by the Contractor must comply with the Plan of action in terms of procedure and approach leading to the development of a Proof of Concept (POC) to tackle the Challenge.

The rationale of the POC is to learn about its functioning and performance in accordance with the requirements set to tackle the Challenge. Therefore, the outcome of the POC will be subject of a joint analysis and evaluation carried out by the Client, the Contractor, and the relevant stakeholders to determine whether the ICT-solution satisfies the Challenge and complies with the requirements of interoperability and with any other requirement as agreed upon.

The results of the analysis and evaluation of the POC will be drawn up in a written report at the end of the Accelerator Program with the aim to translate the successful outcomes into functionalities and/or generic (functional and/or output based) specifications which could be used as a basis for a (follow-up) procurement. Contractor warrants that the Client is and shall remain unconditionally entitled to use the analysis and the evaluation and the aforementioned functionalities and/or specifications (or any parts thereof) for any follow-up (joint and/or cross border) procurement and/or purchase.

Usability

For the purpose of this Article 7 and the evaluation phase, usability means that the ICT-solution can be applicable and scalable to multiple cities.

Audit

The Client is entitled at all times to carry out one or more audits at a time and place at the discretion of the Client concerning all parts relating to the performance of this Agreement and agreements resulting therefrom.

On first request, the Contractor is obliged to co-operate free of charge and to provide all requested information which, in the opinion of the Client, is necessary for this audit.

Deficiencies (of whatever nature) that are found during the audits are reported to the Contractor which is obliged to rectify these defects within one month after the report, unless otherwise agreed.

Representation

Each of the Parties will designate one or more persons within ten (10) Work Days after signing this Agreement that will act as his representative (s) in matters (the implementation of) this Agreement and is held within the mentioned term - to forward the names of his representative (s) in writing to the other Party.

Without prejudice to the provisions of this Agreement, the Representatives shall be deemed to be fully authorized within the framework of the Agreement to represent "their" Party unless any restrictions in the power of attorney have been communicated in writing to the other Party in advance.

Each Party may assume the power of representation of the Representatives appointed by the other Party and notified to it in accordance with the provisions of this Article until the moment when the written notice reaches him that the authority to represent has been withdrawn or changed.

Applicable law and dispute settlement

General

By "dispute" in this Agreement is meant a dispute or disagreement between the Parties (of whatever nature) as a result of or arising from or in connection with this Agreement or as a result of or arising from or in connection with agreements between the Parties arising from or in connection with this Agreement. There is a dispute if a Party so informs the other Party in writing.

Amicable settlement

In the event of a dispute regarding the compliance and / or the implementation of acceptance (test) criteria, the Parties are obliged to jointly endeavour to settle the dispute amicably within a period of five (5) Work Days after one of the Parties has informed the other Party in writing that there is a dispute with regard to that Party, and seeks to address the dispute by means of a steering committee to be set up by the Parties. In all other cases the Parties are obliged to make joint efforts to settle a dispute amicably within a period of fifteen (15) Working Days after one of the Parties has informed the other Party in writing of such a dispute.

In the event of a dispute - other than as described in Article [] - the Parties are obliged to jointly endeavour to settle the dispute amicably within a period of twenty-five (25) Work Days after one of the Parties has informed the other Party in writing that there is a dispute concerning that Party.

If the Parties do not reach an amicable settlement as referred to in the third paragraph of this Article, the interested party shall be entitled to submit the dispute to the competent Court and in accordance with the applicable law, as set out in the General terms and conditions of the Client.

Transfer at the end of the Agreement

After the Agreement has ended following the completion of the six-month period of the Accelerator Programme resulting in the evaluation of the POC and the written report, the Contractor is obliged to terminate its access to the ICT-environment and to return any parts of the ICT-environment to the Client which was under the control of the Contractor. The Contractor is further obliged to provide all the necessary cooperation and related measures, as required by the Client under the rules of the INTERREG program within one year after termination of this Agreement.

Intellectual property and user rights

The Contractor will be the sole owner of the results and outcomes of his project (including any data and source code developed or produced in the execution of the Services), and all associated Intellectual Property, with exclusion of the ICT-environment and the Public Data.

The Contractor grants to the Client a non-exclusive, royalty free access right to the results and outcome of this project for non-commercial use for the duration of this Agreement.

The Client itself will not retain an equity stake in the Contractor's company, nor will it retain any IPR. The Client does expect openness by the Contractor in the approach and learnings. The Client may require Contractor to present his work as part of public relations and networking events, in order to showcase the benefits of the innovation programme.

The Contractor shall indemnify the Client against all third-party claims in respect of a stated infringement of any (intellectual) (ownership) right to everything that was provided to the Client in connection with the execution of the Agreement. Taking into account the duration of the Agreement, in case of third party claim, the Client is unconditionally entitled to terminate the Agreement by written notice (leaving unimpeded Client's others rights).

For the purpose of the project leading to the development of open data solutions for Smart Cities, the Client grants the Contractor access to Public Data and/or open data published by the Client and other Cities. All the data available via the open data to which the Contractor has been granted access to are free to use and reuse for commercial and non-commercial purposes in accordance to the applicable open data licenses.

The user rights for the Contractor to the ICT-environment will end upon termination of the Agreement. Subject to the provisions of paragraph 2.6 and the provisions of this paragraph, the user rights to the ICT-environment are not subject to any (other) restrictions on use.

Insofar as the intellectual property rights of parts of the ICT-solution are not vested in the Contractor but are vested in third parties, the Contractor declares and guarantees that he is entitled to grant the rights as described in this Agreement to the Client. Upon first request of the Client, the Contractor provides a full description of the third party rights.

Final Provisions

Entire Agreement

This Agreement (therefore including the provisions in the Appendices and Appendices) includes the entire agreement and all agreements between the Parties regarding the subject matter of this Agreement made up to and including the signing of this Agreement and (i) supersedes all (possible) previous agreements - whether or not laid down in writing - between the Parties concerning the subject of this Agreement and (ii) replaces everything that the Parties have exchanged - even if not in writing - up to and including the moment of signing of this Implementation Agreement.

The Annexes and Appendices form an integral part of this Agreement. The provisions in (the Articles of the Agreement prevail over the provisions in the Annexes and Appendices. The provisions in the Annexes prevail over the provisions in the Appendices. The above applies with the provision that more detailed provisions prevail over less detailed ones unless the less detailed provisions are of more recent date.

In case of a conflict between the Articles of this Agreement or any other provisions in the Annexes and Appendices, with the stated in the Confidentiality Agreement (**Annex 5**), the stated in the Articles of the Confidentiality Agreement shall prevail.

Distance

If the Parties at any time fail to enforce a provision of this Agreement from the other Party, or Parties fail to require the fulfilment of provisions of this Agreement from the other Party, this shall not be construed as waiving the right to make use of such a provision, nor as recognition of any claim by the Parties or any other position of the Parties, nor does it affect the validity of this Agreement or any part thereof, nor the right of the Parties to provision in accordance with this Agreement.

Conversion

If a provision in this Agreement is to some extent considered void, voidable, invalid, illegal or otherwise non-binding, that provision will, insofar as necessary, be removed from this Agreement and replaced by a provision that is legally binding, is legally valid and that approaches the content of the non-valid provision as much as possible. The remainder of the Agreement will remain unchanged in such a situation.

Project organization, cooperation with Client, communication and information

Parties will agree upon how consultation and cooperation between the Parties will take place and will agree upon this in a separate document, either attached as a separate annex to this Agreement or as an annex to the Plan of action. Written reports will be made of the consultation. These reports will not entail any amendment or addition to the Agreement on the penalty of being null and void. Reports are only binding on the Parties if and insofar they have been approved in writing by both Parties. Correspondence, e-mail and the like is only binding if the information contained therein is included in a written report and this report has been approved in writing by both Parties.

The Client shall provide all reasonable cooperation to the Contractor, which is necessary in order to enable the Contractor to carry out its work properly.

Parties are mutually obliged to inform each other in a timely manner of facts or circumstances that could lead to [reasonable estimates that the terms mentioned in this Agreement are not met]. The above does not detract from the fact that unforeseen delays are for the account and risk of the Contractor.

The Client is obliged to inform the Contractor of changes in the documents made available that - insofar as the Client can reasonably estimate - are important for the fulfilment of the obligations of the Contractor.

Transfer of rights and obligations

The Contractor may not transfer all or part of the rights and obligations under this Agreement to third parties or have these third parties take over without prior written approval from the Client, which approval will not be withheld on unreasonable grounds.

Liability and indemnity

Liability of the Contractor for damage is limited to a maximum amount of 10.000 Euros.

The Contractor indemnifies the Client against all third-party claims for compensation of damage (including costs) as a result of the Contractor's failure to comply with the provisions of this Agreement. The above applies unless there is Force Majeure on the part of the Contractor.

The Contractor indemnifies the Client against all third-party claims for compensation of any damage whatsoever (including costs) that apply to the Client for the reason that - due to the default of the Contractor towards the Client - the Client is in default in the performance of its contractual obligations with third parties.

The limitation of the liability as referred to in this Article shall lapse in case of intent or gross negligence of the party causing the damage or death to his personnel.

The limitation of the liability as referred to in this Article does not affect the obligations on the part of the Contractor arising from the other provisions of this Agreement, for example with respect to the Confidentiality Agreement.

Costs

The Parties will each bear their own costs arising from or relating to the conclusion of this Agreement.

Public law duties and obligations

The contents of this Agreement shall not affect the exercise of the statutory tasks by the Client. If this performance of duties leads to actions and / or decisions which are detrimental to the execution of what has been agreed upon under this Agreement, the Client shall in no case be liable for the disadvantages thereby incurred for the Contractor and any third parties engaged by it, unless the Client has acted unlawfully towards the Contractor.

Nor shall the content of this Agreement affect the acquisition of permission from higher authorities insofar as this permission for the Client for the performance of what has been agreed by or pursuant to this agreement or parts thereof is legally required.

If an irrevocable refusal of such permission is detrimental to what has been agreed by or pursuant to this agreement, the City shall in no case be liable for the disadvantages thereby created for the Contractor and / or third parties engaged by the Contractor.

SIGNATURE

Signed in [duplicate] in [place] on [date],

Client,

[.....]

Name:

Function:

Contractor

[__Name__]

Function:

ANNEX 3 MODEL SUBCONTRACTING DECLARATION

[If this appears from the [Proposal and / or Guidelines], there may also be subcontracting; this declaration will then be adjusted in consultation]

The undersigned:

....., established in at the , legally represented by its director,, hereinafter referred to as ["Contractor"]

en

considering that:

The Contractor in the context of [.....] on behalf of the City of [.....] (hereinafter called 'Client') wishes to engage [Subcontractor];

The Contractor has entered into an agreement with the Client in the context of the execution of the aforementioned assignment (hereinafter: the agreement);

Parties thus wish to laid down the following.

Declare to have been agreed as follows:

The contractual relationship between the Client and the Contractor is governed by the agreement.

Subcontractor acknowledges the right of the Client to have it checked whether the Subcontractor duly fulfils and / or fulfils its obligations under the agreement concluded between the Contractor and the Subcontractor.

Subcontractor declares that he is willing to perform those actions which are necessary, so that the Contractor can properly fulfil his obligations under the agreement with the Client. Insofar as this is necessary, Subcontractor declares that it is willing to provide all reasonable cooperation in respect of the Client.

Subcontractor undertakes at least the same confidentiality and confidentiality that the Supplier

The provisions of this Declaration of Subcontracting do not affect the final responsibility of the Contractor in the contractual relationship with the Client under the agreement.

The parties renounce the right to demand dissolution of the present declaration, both by means of an extrajudicial declaration and by judicial intervention.

The parties agree that a copy of this signed declaration will be sent to the Client.

If a provision of this Declaration turns out to be void, invalid or unenforceable, this will not affect the other provisions.

[.....] law applies to this Declaration. All disputes related to the Declaration which cannot be by negotiation or mediation will be brought before the competent court of [.....].

As agreed it is signed if duplicate:

Contractor

On behalf of

Name:

Date:

Place:

Subcontractor

On behalf of

Name:

Date:

Place:

10.9.2 Appendix 2 - MODEL AGREEMENT With regard to the carrying out of the 7 Challenges Open Innovation Accelerator Program

Confidentiality Agreement

With regard to the secrecy of information and prevention of conflicting interests

Client,

[.....]

and

Contractor,

[.....]

This Confidentiality Agreement may only be used within the INTERREG SCIFI project for supporting the accelerator activities between the local governments and the companies.

The information contained in this confidentiality agreement has been obtained from sources believed to be reliable. Neither the SCIFI partners nor Corvers Procurement Services B.V. nor any of its subcontractors shall be responsible for any errors, omissions, or claims for damages, including exemplary damages, arising out of use, inability to use, or with regard to the accuracy or sufficiency of the information contained in this confidentiality agreement.

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Agreement

ANNEXES

Information description of the Client

Individual confidentiality statement

AGREEMENT

UNDERSIGNED

I, hereinafter **“Client”** or (“name”) with registered office in (place.....),
represented in this case by (name.....);

and

II, Registration number (...), VAT number (...), with statutory seat in
(place.....), and office in (place.....) at
(address.....), represented in this case by
(name.....),

hereinafter: **“Contractor”**

Client and Contractor jointly also hereinafter referred to as: "**Parties**"

CONSIDERATIONS

Client and Contractor have entered into (or intend to enter into) a Contract with regard to the carrying out of the 7 Challenges Open Innovation Accelerator Program, the content of which the parties know so that no further explanation is required; if this Contract may have a reference number, reference numbers may be referred to in further correspondence for further details.

hereinafter referred to as: "**Contract**"

Parties wish to lay down what they have agreed to in this Agreement.

AND DECLARE TO HAVE AGREED AS FOLLOWS

Definitions

In this Agreement (including the considerations and the Annexes) the following definitions apply:

the words included in the definitions are capitalized in their definitions and where definitions are given in the plural or singular, they are also considered to include the singular and plural respectively, unless explicitly stated otherwise or the context shows otherwise, and where definitions apply male and female respectively, they are also considered to include female or masculine, respectively, unless expressly stated otherwise or the context shows otherwise.

Articles

The articles in this Agreement.

Annexes

The annexes of this Agreement.

Information

The (complete set of) data and information of the Client, in whatever form. This includes but is not limited to security instructions, financial and business information, data of employees, strategic information, customer data and supplier data, personal access codes to facilities, computers and data. Under Information is at least (but not exclusively) the information described in **Annex 1**. Available public open data shall not qualify as information in the sense of this Agreement, and does not fall under the obligation of confidentiality.

Client

City of (name.....).

Contractor

[.....]

Agreement

This Agreement including the considerations and the Annexes.

Parties

Client and Contractor jointly, with "Party" is the Client and Contractor separately.

Representatives

Representatives of Parties in this respect (the implementation of) this Agreement, as elaborated in Article 7.

Work days

Every calendar day, not being a Saturday or a Sunday or a generally recognized, rest or public holiday in the [.....], prescribed by the [....] government.

Confidentiality

The Contractor undertakes to observe strict confidentiality with respect to all the Information of which he / she is aware or will come to be aware of in the context of the preparation and/or execution of the Contract with the Client referred to in consideration A } and more generally regarding the Client, both during the term of the Contract with the Client and for a period of three (3) years after the expiration or termination thereof.

The Contractor undertakes the obligation not to disclose the Information in whole or in part to any third party, subject to and insofar as publication takes place on the basis of a statutory provision, a court order or with the prior written approval of the Client. This confidentiality obligation does not apply to public open data and Information that may be deemed to be of general awareness and / or for Information that can also be obtained through public channels and / or information that is intended to be made public and / or for Information that does not have a commercial value. For the purpose of confidentiality, Annex 1 refers to Information described as confidential.

The Contractor shall take all reasonable measures to prevent persons who do not have the knowledge of the Information referred to in Article 2.1 from gaining access to such Information.

The Contractor undertakes to take all necessary measures to ensure that its employees, third parties deployed by it, as well as employees of subcontractors approved by the Client, comply with the obligation of confidentiality described in Article 2.1, as evidence of which the individual confidentiality statement included in **Annex 1** must be signed by the individual employees.

The Contractor shall ensure that its employees (as well as third parties deployed by it, as well as employees of subcontractors approved by the Client) who are employed by the Client or work for the Client, declare their agreement in writing with the enclosed confidentiality statement (see Annex 1) and has sent this confidentiality statement to the Client in good time before the start of the work.

The Contractor undertakes, both during and after termination of this Agreement, not to use the Information referred to in the first paragraph for its own benefit, whether or not on a commercial basis. Without prejudice to the provisions of the previous sentence, the Contractor is permitted to use the know-how (not being the Information or any part thereof) in the framework of the Contract referred to in Subsection A above; reuse, also for the benefit of customers other than the Client.

The Contractor declares that he / she is aware that failure to comply with the secrecy obligation referred to in this Article can lead to considerable damage to the Client and that failure to comply with the relevant obligations may furthermore result in damage to third parties, such as, for example, third parties suppliers or clients of the Client. The Contractor shall therefore indemnify the Client against all third-party claims in this respect, including claims for compensation and reimbursement of costs.

In the event of any breach of the provisions of Article 2.1, the Contractor shall forfeit an immediately payable fine of € 1.000 per event, without judicial intervention, without prejudice to the Client's other rights in this respect, including but not limited to the Client's right to recover actual damage from the Contractor.

Without prejudice to the provisions of Article 2.7, in the event of any breach of the provisions of Article 2.1 by which the Client is obliged to cease or modify an ongoing purchase or tender procedure, the Contractor shall forfeit an immediately due and payable penalty without judicial intervention. of € 2.000 per event, without prejudice to the Client's other rights in this respect, including but not limited to the Client's right to recover the actual damage from the Contractor.

The Contractor will destroy all information in his / her possession, in whatever form, at the time of termination of this Agreement or, if this is impossible, return it to the Client at the expense of the Contractor.

The Client will treat the received information in writing qualified by the Contractor as "strictly confidential" as strictly confidential on a case-by-case basis, both during the term of the Agreement and for a period of three (3) years after expiry or termination thereof. This obligation does not apply to information that may be considered to be generally known and / or for information that can also be obtained through public channels and / or information that is intended to be made public and / or for information that is required by the Client for the performance of the Contract mentioned in the considerations under Subsection (A) and / or in the event of a professional error or unlawful act on the part of the Contractor, and / or in case of default by the Contractor under the terms of the Contract, or on the basis of the the Contract mentioned in the considerations under A) and / or for information that is required by the Client for policy objectives and / or for information required by the Client for the preparation and implementation of (future) market consultations, technical dialogues and / or (future) procurement or tender procedures and / or for information that has no commercial value. Moreover, the Client remains entitled to share as strictly confidential qualified information including price information with other organizations among the INTERREG-SCIFI consortium project partners (www.interreg2seas.eu) and INTERREG Project managers, INTERREG Auditors and Counselors and the third parties as named in the Contract. The Client is not bound to confidentiality if publication is effected on the basis of a statutory regulation, a court order or with the prior written approval of the Contractor.

(Optional) The Contractor is aware of and expressly agrees with the fact that in the event of any breach of the provisions of Article 2.1, the Client is and remains entitled for a period of one (1) year after termination of the Agreement. The Client is entitled by means of a registered letter to exclude the Contractor of any current of future purchase and tender processes / procedures and any future procurement and tender processes / procedures, for reasons of serious violation of professional behaviour on the part of the Contractor. If the Contractor participates directly or indirectly in a Procurement or Tender Procedure of the Client despite the notice of exclusion on the part of the Client, the Contractor shall indemnify the Client against all claims from third parties as well as for any and all damage and costs.

(Optional) The provisions of Article 2.11 do not apply if the Contractor demonstrates to the Client's satisfaction with documentary evidence that the breach of the provisions under Article 2.1 was caused by a single incident without the knowledge of the Contractor, due to intent or fault of a natural person, and if the Contractor has demonstrated to the satisfaction of the Client with documentary evidence that appropriate measures have been taken to prevent repetition.

In the event of any breach of the provisions of Article 2.10, the Client shall forfeit an immediately payable fine of € 1.000 per event, without judicial intervention, without prejudice to the Contractor's other rights in this respect, including but not limited to the Contractor's right to recover actual damage from the Client.

Each Party undertakes to examine the Information received from the other party in as short a time as possible and to indicate whether, in its opinion, it infringes or can possibly infringe on the rights of third parties. If it is of the opinion that there is or may be a violation of the rights of third parties, the Parties will enter into consultation immediately in order to reach a solution.

Conflict of interest

If the Contractor performs work for the Client in the context of the preparation or execution of a purchase or tender process, the Contractor undertakes to abstain from any activities that could give rise to a possible conflict of interest (including a conflicting professional interest) with respect to the outcomes of that purchasing or contracting process, more specifically the Contractor is prohibited from undertaking any activities that could damage the impartiality and objectivity of the Client in the context of the procurement or tender process.

If the Contractor performs work for the Client in the context of the preparation or execution of a purchasing or contracting process, he / she is obliged to cease his work immediately for the benefit of the Client - and without the Client otherwise being obliged to pay any compensation -, in the event it has been established that the Contractor, one or more of its employees or one or more third parties used by it, may have a direct or indirect interest in the outcomes of the procurement or tendering process, because of a financial, economic or personal interest. The provisions in the previous sentence apply equally to Contractor subcontractors approved by the Client.

The Contractor undertakes to take all necessary measures to ensure on the one hand that its employees, third parties deployed by it and subcontractors approved by the Client comply with the obligation to prevent a conflicting interest described under Article 3.1, and on the other hand to ensure that the Client approved subcontractors comply with the obligation to discontinue the work described in Article 3.2.

The Contractor shall indemnify the Client against all damage and costs and for all third-party claims where and when they may be instituted with regard to any breach of the provisions under Article 3.1 up to and including Article 3.3.

The Contractor is aware of and expressly agrees with the fact that in the event of any breach of the provisions of Article 3.1 up to and including Article 3.3, the Client is and remains entitled for the duration of the Contract until a period of one year after termination thereof, to exclude the Contractor by means of a registered letter of any current purchase and tender processes / procedures and any future purchase and tender processes / procedures, for reason of serious violation of professional crime on the part of the Contractor. If the Contractor participates directly or indirectly in a Procurement or Tender Procedure of the Client despite the notice of exclusion on the part of the Client, the Contractor shall indemnify the Client against all claims from third parties as well as for all damage and costs.

The provisions of Article 3.5 do not apply if the Contractor demonstrates to the satisfaction of the Client with documentary evidence that any violation of the provisions under Article 3.1 up to and including Article 3.3 was caused by a single incident without the knowledge of the Contractor due to intention or negligence of a natural person, and that the Contractor has demonstrated to the satisfaction of the Client with documentary evidence that appropriate measures have been taken to prevent repetition.

Duration of Agreement

This Agreement is entered into for a definite period of time, commencing on the start date of the Contract mentioned in the considerations under A) and automatically terminates at the moment of termination of the Contract mentioned in the considerations. If the Contract mentioned in the considerations is extended, the present Agreement shall also be extended by operation of law for an equal duration.

For the sake of completeness, the Parties establish that it is not possible to terminate the Agreement prematurely, without prejudice to the provisions of Article 6.

For the sake of completeness, the Parties establish that in the event of a possible extension of the Contract referred to in the considerations preamble, the terms and conditions of the Agreement shall remain fully applicable.

Audit

The Client is entitled at all times, in consultation with the Contractor, to have one or more audits carried out at the time and place at the choice of the Client for its own account with regard to all components relating to the performance of this Agreement.

At first request, the Contractor is obliged to co-operate free of charge and otherwise without further assistance, to grant access on the location of the Contractor if necessary and to provide all requested information that is necessary for this audit in the opinion of the Client.

Any inaccuracies (of whatever nature) that are found during the audits will be reported to the Contractor which is obliged to rectify these defects within one month after the report, unless agreed otherwise.

Dissolution and interim termination

Without the following being intended to impose any restriction to dissolve the Agreement on the basis of the provisions of law, the Client shall be entitled to dissolve this Agreement out of court by registered letter:

without a notice of default being required, if the Contractor does not comply with the provisions of Article 2.1;

without a notice of default being required, if the Contractor does not comply with the provisions of Article 3.1, 3.2 or 3.3;

without a notice of default being required, if the Contractor does not fulfil any obligation under this Agreement, other than as provided in Article 2.1, 3.1, 3.2 or 3.3.

Without the following being intended to impose any restriction to dissolve the Agreement on the basis of the provisions of law, the Contractor shall be entitled to dissolve this Agreement out of court by registered letter without notice of default being required, if the Client does not comply with the provisions of Article 2.10.

If the Agreement is dissolved on the basis of the provisions of Article 6.1, this has the (legal) consequence that the Contract mentioned in the considerations will also be legally dissolved by the same date.

The Party that has dissolved the Agreement is entitled to compensation of the actual damage suffered up to a maximum of € 10,000 per event or series of connected events. The restriction

mentioned in the previous sentence does not explicitly apply to the scope and reach of any obligation to indemnify under this Agreement; the extent of any indemnification is limited to the claim of a third party related to that indemnification. The limitation as referred to in the first and second sentences of this clause 6.4 does not apply and will lapse in case of intent or gross negligence of the party causing the damage and/or death to his employees or third parties engaged by him/her.

The Contractor is aware of and agrees to the fact that, where applicable, independent supervisors are entitled to exercise supervision and control over the (fulfilment of) obligations on the part of the Contractor in the cases described in the law. The Contractor is obliged to provide any cooperation and to provide the data to the supervision and control, and to provide the data and information relevant to its supervision and control at first request and otherwise without further delay. The Contractor is obliged to accept the results of the supervision and the inspection and to implement the measures recommended on the basis of the investigation without further delay. The Contractor is aware of and agrees that, in some cases, the results of the research can be made public.

If in the case of the provisions of Article 2.13 the Parties cannot reach an agreement on a solution acceptable to both Parties, each of the Parties shall be entitled to terminate the Agreement by means of a registered letter with a notice period of no more than one calendar month, without this cancellation resulting in any liability for compensation of one of the Parties.

The provisions of this Agreement, which by its nature are intended to remain in force after the end of the Agreement, will also remain effective after the end of the Agreement. Such obligations include but are not limited to the provisions on indemnification obligations on the part of the Contractor, audit rights on the part of the Client, the applicable law and the settlement of disputes.

Representation

Each of the Parties will designate one or more persons within ten (10) Work days after signing this Agreement that will act as his / her representative (s) in matters related to (the implementation of) this Agreement and it is held within the mentioned term - to forward the names of his / her representative (s) in writing to the other Party.

The Representatives shall be deemed to be fully authorized within the framework of the Agreement to represent "their" Party, unless any restrictions in the power of attorney have been communicated in advance to the other Party in writing.

A Party may assume the power of representation of the Representatives appointed by the other Party and notified to it in accordance with the provisions of this Article until the moment when the written notice reaches him that the authority to represent has been withdrawn or changed.

Applicable law and dispute settlement

General

By "dispute" in this Agreement is meant a dispute or disagreement between the Parties (of whatever nature) as a result of or arising from or in connection with this Agreement, or as a result of or arising from or in connection with agreements between the Parties arising from or in connection with this Agreement. There is a dispute if a Party so informs the other party in writing.

In the event of a dispute the interested party shall be entitled to submit the dispute to the competent Court and in accordance with the applicable law, as set out in the General terms and conditions of the Client.

Final provisions

Entire Agreement

This Agreement (therefore including the provisions in the Annexes) includes the entire agreement and all agreements between the Parties regarding the subject matter of this Agreement made up to and including the signing of this Agreement and (i) supersedes all (possible) previous agreements - whether or not laid down in writing - between the Parties on the subject of this Agreement and (ii) in place of everything that the Parties have exchanged - even if not in writing - up to and including the moment of signing of this Agreement.

The Annexes form an integral part of this Agreement. The provisions in (the Articles of) the Agreement prevail over the provisions in the Annexes. In the event of a conflict between the provisions of this Agreement and the provisions in the Contract referred to in Subsection (A), the provisions of this Agreement shall prevail.

Terms and conditions

No conditions from the Parties shall apply to this Agreement, despite those being named.

Distance

If the Parties at any time fail to enforce a provision of this Agreement on the other Party, or Parties fail to demand compliance with the provisions of this Agreement from the other Party, this shall not be construed as waiving the right to make use of such a provision, nor as recognition of any claim by the Parties or any other position of the Parties, nor does it affect the validity of this Agreement or any part thereof, nor the right of the Parties to use the provisions in accordance with this Agreement.

Conversion

If a provision in this Agreement is to some extent considered void, voidable, invalid, illegal or otherwise non-binding, that provision will, insofar as necessary, be removed from this Agreement and replaced by a provision that is legally binding, legally valid and that approaches the content of the non-valid provision as much as possible. The remainder of the Agreement will remain unchanged in such a situation.

Costs

Parties shall each bear their own costs arising from or relating to the conclusion of this Agreement.

The Client shall not owe any compensation whatsoever for the fulfilment of the obligations under this Agreement on the part of the Contractor, of whatever nature.

SIGNATURE

Signed in (place.....) on [date_____] in duplicate,

Client

Name:

Function:

Contractor

Name:

Function:

ANNEX 1 INFORMATION DESCRIPTION OF THE CLIENT

[ADD DESCRIPTION, E.G. DETAILED ARCHITECTURE ETC.]

ANNEX 2 INDIVIDUAL CONFIDENTIALITY AGREEMENT

THE UNDERSIGNED:

Name:

Date of birth:

Place of birth:

Current address:

Hereinafter referred to as “employee”,

CONSIDERING THAT:

The employee of (name of company)_____

is employed for the purpose of carrying out activities for (name.....) (hereinafter referred to as “...”) on the basis of a contract concluded with (company name);

(company name) has also entered into a confidentiality agreement with (name of Client);

the employee may come into contact with confidential information during the performance of work for (name of Client) with regard to which the employee must observe strict confidentiality;

DECLARES THE FOLLOWING:

Recruitment recognizes that he / she has been kept secret for the confidentiality of (name of Client) of all details concerning or in connection with the business of (name of Client) or of companies affiliated with (name of Client), of which he / she understands or should have understood the confidential character or of the necessity of secrecy if the confidential character has been explicitly communicated to him / her.

Recruitment recognizes that he / she is therefore expressly prohibited, both during the period of carrying out work on behalf of (name of Client) and thereafter, in any way directly or indirectly to third parties, in whatever form and in any way whatsoever, any communication to do with regard to what happened to his / her knowledge in the performance of the work in connection with the business and interests of (name of Client) and of companies affiliated with (name of Client). This

secrecy also includes all details of clients or clients of (name of Client) that the employee has taken note of during his / her work.

Prior approval of (name of Client) must be obtained for publications in word and writing from the employee who can affect the interests of (name of Client). This approval will, however, only be refused on serious grounds derived from these interests.

The properties of (name of Client), as well as all correspondence, notes, drawings, any optically and / or electronically readable information carriers etc. relating to business matters must be submitted by the employee to (name of Client) at the end of the working period.

Recruitment is aware of and acknowledges that failure to comply with this declaration can lead to considerable (image) damage for (name of Client) and that failure to comply with this provision may also lead to serious consequences in the relationship between (name of Client) and (company name), including stopping the activities and paying fines and compensation to (name of Client).

This declaration does not affect other duties of the employee. [.....] law applies.

Drawn up and signed hereof

Name:

Place:

Date:

Signature:

10.10. Annex 10 - Other references and articles

10.10.1 Article -Digitalization in Saint-Quentin's stadiums: City-as-a-Platform Concept