Official Journal of the European Union

C 267

English edition

Information and Notices

Volume 64

6 July 2021

Contents

EN

IV

(Notices)

NOTICES FROM EUROPEAN UNION INSTITUTIONS, BODIES, OFFICES AND AGENCIES

EUROPEAN COMMISSION

COMMISSION NOTICE

Guidance on Innovation Procurement

(2021/C 267/01)

DISCLAIMER:

The purpose of this Notice is to offer practical guidance on innovation public procurement. It is not legally binding. While the Notice occasionally paraphrases the provisions of EU legislation, it is not meant to add to or diminish the rights and obligations set out in that legislation. Insofar as the Notice could be understood as interpreting EU legislation, it warrants stressing that only the Court of Justice of the European Union is competent to give a legally binding interpretation of EU law.

Although the information in this Guide has been carefully checked, the European Commission accepts no liability concerning the specific cases mentioned in it.

TABLE OF CONTENTS

EXECUTIVE SUMMARY

Innovation procurement can improve the economic recovery of the EU after the COVID-19 crisis with better public investment. It is a major tool to foster the transformation of our economy towards a green and digital economy. Adopted in the context of the Communication on 'A renewed European Agenda for Research and Innovation – Europe's chance to shape its technological leadership' and the input to the Leaders' informal dinner in Sofia on 16 May 2018, this guidance is updated following the adoption of the European SMEs and Industrial Strategies ([1]) and of the Recovery and Resilience Facility ([2]). It aims to support public buyers so that they can contribute better to the economic recovery, the twin green and digital transition and to the resilience of the EU.

This guidance document presents in a concise manner the fundamental aspects of innovation procurement: **why** it is important, **who** has interest in it and **how** this process can be done.

The present document reflects the responses received in a prior public consultation. The level of detail has been deliberately chosen so that it reaches the widest professional public (buyers, policy makers and suppliers) and triggers interest in those who never thought of it, those who never felt concerned. Even the most advanced readers will find useful references to the recent initiatives and examples.

The 2014 public procurement directives adjusted the public procurement framework to the needs of public buyers and economic operators arising from technological developments, economic trends and increased societal focus on sustainable public spending.

Innovation procurement offers untapped opportunities for startups and the development of innovative solutions as pointed out by the Commission in its recently adopted SME Strategy and Action Plan on Intellectual Property Rights ([3]).

Public procurement rules are no longer only concerned with '**how to buy**' – they provide scope for incentives on '**what to buy**', without prescribing them. The objective of **spending tax-payers' money well** is gaining new dimensions, beyond merely satisfying the primary needs of public entities. With each public purchase, the public opinion is rightly interested to know whether the procured solution is not only formally compliant, but also whether it brings the **best added value in terms of quality, cost-efficiency, environmental and social impact** and whether it brings **opportunities for the suppliers' market**.

Innovation procurement addresses all of the above concerns. It opens the door to higher **quality** and more **efficient solutions that value environmental and social benefits**, better **cost-effectiveness**; and **new business opportunities for enterprises**. In addition, this guidance should be read in conjunction with the Commission's 2019 guidance on the participation of third country bidders and goods in the EU public procurement market, which also addresses strategic and innovation procurement ([4]), and provides public buyers with practical advice on how to deal with third country participation in their public tenders.

This Guidance is therefore designed as follows:

Chapter 1 clarifies the **innovation procurement concept**, its overarching dimension and added value.

Chapter 2 outlines the **policy framework** that is necessary to make strategic use of innovation procurement.

Chapter 3 illustrates how to **open the doors of public procurement to innovators**, including start-ups and innovative SMEs.

Chapter 4 describes how to put **public procurement procedures at work** to modernize public services with innovative solutions and to create growth and jobs, namely with regard to the management of Intellectual Property Rights (IPR).

([1]) Communication from the Commission. A new Industrial Strategy for Europe, COM(2020) 102 final, 10.3.2020. *https://ec.europa.eu/info/sites/info/files/communication-eu-industrial-strategy-march-2020_en.pdf*. Communication from the Commission. An SME Strategy for a sustainable and digital Europe, COM(2020) 103 final, 10.3.2020. *https://ec.europa.eu/info/sites/info/files/communication-sme-strategy-march-2020_en.pdf*

([2]) *https://ec.europa.eu/info/business-economy-euro/recovery-coronavirus/recovery-and-resilience-facility_en*

([3]) Communication from the Commission. Making the most of the EU's innovative potential – An intellectual property action plan to support the EU's recovery and resilience. COM (2020) 760 final, 25.11.2020. *https://ec.europa.eu/docsroom/documents/43845*

([4]) C(2019) 5494, accessible at the following address: *https://ec.europa.eu/docsroom/documents/36601*

Chapter 5 refers to certain criteria that innovation procurement should fulfil to avoid granting **State aid** to a supplier

Annexes provide practical information to buyers on IPR, and tools to help buyers organise meetings with suppliers.

This Guidance could be a source of inspiration for all actors involved in public procurement:

— public procurement officers

— final users of the procured solutions

— decision-makers and policy makers whose contribution to creating favourable conditions is key

— suppliers who can learn how to compete better with their innovative solutions in public procurement

1. GETTING ACQUAINTED WITH INNOVATION PROCUREMENT

1.1. *What is innovation procurement?*

Innovation can have multiple meanings ([5]). This Guidance embraces a wide-ranging view. 'Innovation procurement' refers to any procurement that has one or both of the following aspects:

— buying the process of innovation – research and development services – with (partial) outcomes

— buying the outcomes of innovation

The public buyer first describes its need, prompting businesses and researchers to develop innovative products, services or processes, which do not yet exist on the market, to meet the need.

In the second instance, the public buyer, instead of buying off-the-shelf, acts as an early adopter and buys a product, service or process that is new to the market and contains substantially novel characteristics ([6]).

Such innovation, bringing better performance and added value for various stakeholders, sometimes fits the traditional setting (**incremental innovation**), but often disorders the old system by creating different actors, flows, values (**disruptive innovation**) or even requires a more comprehensive transformation, as it addresses unmet needs and calls for structural or organisational reforms (**transformative innovation**). This guidance attracts attention to the benefits of various forms of innovation and explains how to approach them in the public procurement process.

([5]) Examples of definitions:
— For the purposes of Directive 2014/24/EU of the European Parliament and of the Council of 26 February 2014 on public procurement and repealing Directive 2004/18/EC (OJ L 94, 28.3.2014, p. 65), its Article 2(22) 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 inter alia with the purpose of helping to solve societal challenges or to support the Europe 2020 strategy for smart, sustainable and inclusive growth'*;
— the OECD's 2018 Oslo Manual defines innovation as *'a new or improved product or process (or combination thereof) that differs significantly from the unit's previous products or processes and that has been made available to potential users (product) or brought into use by the unit (process).'*.

([6]) Early adopters refers to the first 20 % customers on the market that are buying a new or significantly improved product, service or process. This includes procurements of products, services or processes that have already been demonstrated on a small scale, and may be nearly or already in small quantity on the market, but that have not been widely adopted by the market yet. This also includes existing solutions that are to be utilised in a new and innovative way.
The role of early adopter customers in diffusing innovations is widely recognised, also in the public sector: Rogers Everett (2003), 'Diffusion of Innovations', 5th Edition. Simon & Schuster. ISBN 978-0-7432-5823-4. OECD (2014), 'Intelligent Demand: Policy Rationale, Design and Potential Benefits'.

1.2. ***Why innovation procurement?***

1.2.1. **Boosting the economic recovery, the green and digital transition and the resilience of the EU**

Public investment and innovation are two essential ways to meet the challenges of the recovery, the green and digital transition and the creation of a more resilient economy in the EU. The new Recovery and Resilience Facility ([7]) will drive public investment after the COVID crisis, and a large part of this investment will be channelled through public procurement. EU benchmarking shows that Europe is exploiting only half of the potential power of innovation procurement to fuel economic recovery and that there is large underinvestment in particular in the procurement of digital solutions and in R&D procurement, both of which are key for strenghtening the EU's strategic autonomy and competitiveness ([8]). Public buyers will need to boost innovation procurement and help businesses to develop innovative solutions in key industrial ecosystems, in particular where public buyers are critical investors. Public buyers will also have to foster the resilience of the European economy by diversifying sources of supply in essential commodities, such as pharmaceutical ingredients as revealed by the COVID-19 pandemic, and by promoting new solutions.

Using the innovative procurement of EU space-based applications by public authorities at national, regional and local levels can greatly contribute to the implementation of the green deal and the digitalization of the interaction between companies/citizens and public administrations. It has also a considerable potential for cross-border cooperation. There are many fields of application for space-based data and services provided by the EU space programme in which procuring innovative solutions is the most effective approach to stimulate digital & green transition as market forces alone would not deliver.

EXAMPLE

SPACE SERVICES

Why was an innovative solution considered?

Public authorities are an important user of space-based technology, in particular in areas such as:

— Public safety (emergency services & disaster relief, search and rescue, firefighting, border management)

— Critical infrastructures protection

— Public transport (management of public transport, autonomous shuttles, smart cities)

— Maritime, aviation, and rail operations run or supervised by public authorities

What was done differently?

Innovation procurement can therefore be a promising instrument to promote the use of advanced space-based technology and services – providing public authorities with incentives to engage innovative companies as 'first customers'. In October 2019 EC launched the H2020-SPACE-EGNSS-2020 pilot call on 'Pre-commercial procurement of EGNSS (EGNOS & Galileo) applications for public authorities', aiming to develop innovative solutions using EU GNSS technology to tackle issues of public interest for which there is a lack of supply on the market (a typical market failure, due to high technology/market risk perception and monopsony/limited demand).

What was the outcome?

The selected BROADGNSS project will exploit the unique and advanced features of EGNOS and Galileo Signals in downstream public safety applications, to improve the services of Public Safety and Disaster relief organisation's (PPDR's) to Europe's citizens.

([7]) The Commission proposed the Facility on 27 May 2020 as the centrepiece of NextGenerationEU, a temporary recovery instrument that allows the Commission to raise funds to help repair the immediate economic and social damage brought about by the coronavirus pandemic. See *https://ec.europa.eu/info/business-economy-euro/recovery-coronavirus/recovery-and-resilience-facility_en*

([8]) 'Benchmarking of R&D procurement and innovation procurement investments across Europe', European Commission, October 2020: *https://ec.europa.eu/newsroom/dae/document.cfm?doc_id=69920*

Details are available at:

https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/space-egnss-5-2020

1.2.2. **Delivering higher quality public service on an optimal budget**

An innovative solution is rarely procured for its innovative character alone. In most cases, an innovative solution becomes interesting for public buyers when it enables similar or even better results at optimised costs.

EXAMPLE

INNOVATION DELIVERS GREENER AND CHEAPER ENERGY TO CITIZENS:

Combined heat and power plant in Vilnius

Why was an innovative solution considered?

Gas imports resulted in high heat-related costs for citizens of Vilnius. In addition, the high dependence of the city on gas consumption affected negatively the environment with heavy CO2 emissions.

What was done differently?

The city decided in 2018 to invest in an innovative, domestic facility for producing green energy and reducing its reliance on gas import and CO_2 footprint. The whole procurement project was completed within one year. The CHP plant is composed by a waste incineration facility and two biofuel systems. The largest part of the investment was possible through the help of the EU Structural Funds and a loan from the European Investment Bank (EIB).

What was the outcome?

Almost 40 % of the citizens can now fulfil their energy demand with reduced CO_2 emissions. When the system will operate at full capacity mid-2020, prices for citizens are estimated to drop by 20 %. CO_2 emissions can be significantly reduced by about 436 000 tons per year. The innovation contributes to the circular economy thanks to a smooth conversion of waste into energy.

Details are available at:

https://renewablesnow.com/news/lietuvos-energija-breaks-ground-on-vilnius-chp-scheme-601749/

https://www.euroheat.org/news/vilnius-chp-project-gets-green-light-ec/

https://ec.europa.eu/regional_policy/en/projects/major/lithuania/new-power-plant-boosts-renewable-energy-use-in-vilnius-lithuania

https://www.eib.org/attachments/registers/74370788.pdf

1.2.3. **Addressing an arising need**

In some cases innovation procurement is necessary to respond to unmet needs or new expectations, which are not adequately addressed through the existing solutions on the market.

EXAMPLE

INNOVATION RESPONDS TO SOCIAL CHANGE:

Motivating students to learn with technology

Why was an innovative solution considered?

Many children today are more interested in computer games than in maths or science. School and university drop-out rates increase, as the enthusiasm for learning these 'difficult" subjects decreases. This affects the next generation of Europeans' chances of finding good jobs in the increasingly knowledge-based economy.

What was done differently?

Schools from Halmstad in Sweden, Viladecans in Spain, Magdeburg in Germany and Konnevesi in Finland decided to procure together to address the challenge. They commissioned research and development from seven innovative suppliers and then tested and compared the solutions these suppliers came up with. Out of the seven suppliers, four made it to the prototyping stage and two went on to develop innovative tools, which the schools adopted. They offer a more personalised, gaming-like learning experience to children in primary and secondary schools by continuously analysing behaviour patterns with the help of artificial intelligence.

What was the outcome?

The participation of over 600 students and 45 teachers across the four countries showed that the new solutions make students 55-75 % more motivated and more successful in learning mathematics, technology, physics and chemistry, as well as more likely to pursue careers in those fields. The solutions have meanwhile been sold to various schools. Kuulammen koulu school in Finland for example, confirmed that the innovative solutions also reduce teachers' planning and assessment time by 30-40 %, and create savings on learning material for the schools. (1 license costs 10 times less than school books for the entire school). The company that delivered the solution in Finland has meanwhile also attracted venture capital investment and expanded its business to other market segments as well (for training of employees in companies).

Details are available at:

www.imaile.eu

(EU Framework Programme seven co-funded project)

1.2.4. **Modernising public services**

Innovation procurement can match the way public services are provided to the expectations of the increasingly technophile, environmentally responsible and socially conscious citizen and to improve the public service experience.

EXAMPLE

INNOVATION REDUCES THE USE OF CARS BY PUBLIC AUTHORITIES:

The Car Fleet Shared Management Platform of the Portuguese Ministry of Health

Why was an innovative solution considered?

The Portuguese Ministry of Health sought to optimise the route management, reduce environmental impact and overall cost of the car fleet used by all the services under the umbrella of the Ministry and the Portuguese National Health Service institutions.

What was done differently?

Instead of simply buying new cars, the Ministry of Health rethought the way the car fleet could be deployed. It envisaged an electronic platform where all the information related to the use of the car fleet would be centralised. In 2017, the *Shared Management of the Car Fleet Platform of the Ministry of Health* (GPFMS) was delivered by an external contractor selected through a public procurement procedure in which the desired outcomes where expressed in terms of functional requirements.

What was the outcome?

The platform will allow users to share all the available resources (vehicles and routes). This will result in a reduced number of vehicles, the associated costs (such as insurance, fuel and maintenance costs, etc.) and the environmental impact. It will also produce reports on the real-time use of the resources, providing indicators to induce efficient, transparent and conscientious planning, management, use and control of the car fleet. It fits with the objectives of the Commission's digital and green transition.

Details are available at:

http://spms.min-saude.pt/2016/05/spms-desenvolve-gestao-partilhada-frota-do-ministerio-da-saude

EXAMPLE

INNOVATION RESPONDS TO ENVIRONMENTAL CONCERNS:

Protecting the water supply

Why was an innovative solution considered?

The residual water left over from the production of coins in Austria contained chemicals in excess of the legal limits.

What was done differently?

Austria's Federal Procurement Agency launched a three-stage public procurement procedure to find an innovative solution for the Austrian Mint (the entity responsible for coin production). Potential suppliers were invited to provide information about innovation track-record. Precise targets for the water treatment were included in the contract terms.

What was the outcome?

The selected, easy-to-install vacuum evaporation mechanism filters a wide range of particles including metal, galvanic, photo, print, pharmaceutical and food, which makes it suitable for use in a variety of industries. In addition, the Austrian Mint's need of fresh water has been reduced by 97 %, saving 4 million litres of water per year.

Details are available at:

http://ec.europa.eu/environment/gpp/pdf/news_alert/Issue58_Case_Study117_BBG_Austria.pdf

1.2.5. **Helping start-ups and innovative SMEs launch and grow**

At the level of the EU, the purchasing power of public buyers accounts for around 14 % of the GDP ([9]). In many parts of Europe, it represents a considerable share of local economies. This means that public buyers can encourage innovation among established market players, but also provide vital opportunities to SMEs and new innovative companies who may have solutions to unmet needs but face difficulties in bringing them to the market.

By acting as a lead customer, public buyers can provide innovative companies with an opportunity to test their new solutions under real-life conditions. Moreover, by becoming their customer and thus increasing their turnover, contracting authorities might encourage other investors – both public and private – to invest in their activities. Finally, by using digital platforms widely, public buyers can give more opportunities to economic operators – SMEs, start-ups – to develop or propose innovative solutions and facilitate cross-border access to public procurement markets ([10]).

1.2.6. **Moving markets towards innovation**

When a product is not readily available on the market or when only poor quality products are on offer, the public buyers' purchasing power can spur the market towards innovation.

EXAMPLE

INNOVATION RESPONDS TO PUBLIC CONCERNS:

Healthier patient care in hospitals

Why was an innovative solution considered?

The Swedish city of Örebro wanted to procure catheters free from harmful PVC substances. Although the market did not offer them on a wide basis, the city decided to launch a call for tenders anyway. At that time, only one supplier could respond to the call.

([9]) *http://ec.europa.eu/growth/single-market/public-procurement_en*
Public procurement indicators yearly study available at:
http://ec.europa.eu/growth/single-market/public-procurement/studies-networks_en

([10]) *https://ec.europa.eu/info/sites/info/files/communication-sme-strategy-march-2020_en.pdf*

What was done differently?

Despite the challenges, the city succeeded in procuring the desired catheters.

What was the outcome?

Eight years down the line, all suppliers offered a PVC-free product.

1.3. *Why guidance on innovation procurement?*

Public buyers' main objective is to secure the most stable and reliable procurement outcome. They usually tend to reduce risks by:

i. seeking established economic operators with flawless reputations, tax histories and substantial turnovers and

ii. requesting standard solutions that have proven to be reliable.

In this context, it may be difficult to build a case for innovative products and services involving an increased margin of risk despite the fact that the decision to buy innovation brings clear benefits to the public buyer. These benefits – be they savings, solutions to new needs or better answers to old needs – have to be clearly identified, described in a detailed and transparent way, set as targets and measured objectively. Legal, budgetary and reputational risks should be anticipated and mitigated. This Guidance aims at providing the initial impulse and ideas for public procurement policy makers to take up this challenge.

Together with various partners, the European Commission has already issued a number of guidance materials on this topic and these documents remain valid reference. ([11]) Building on previous experience and responding to the repeated calls from stakeholders, this Guidance elaborates on more detailed practical considerations; it focuses on certain unexplored aspects of the tools proposed by the EU rules and it brings them into a wider perspective, including in the context of the EU-wide support for start-ups and innovative SMEs.

This Guidance therefore aims at:

— providing arguments for building a business case for innovation procurement,

— suggesting actions that provide the necessary support for innovative projects,

— helping to navigate around uncertainties based on an explanation of the EU legal framework for public procurement as applied to innovative procedures as well as real-life examples.

Examples mentioned in this guidance prove that ideas advanced herein should be feasible in all Member States as the core public procurement rules originate from the same Public Procurement Directives.

2. CREATING A POLICY FRAMEWORK FOR INNOVATION PROCUREMENT

Innovation procurement is an opportunity for public buyers, citizens and businesses. A comprehensive policy framework that provides vision, strategy and appropriate means is essential for turning this opportunity into reality. The following paragraphs outline the main components of a policy framework for innovation procurement.

2.1. *Clear policy mandate*

A clear policy vision provided at political level to the institutions and the professionals involved in strategic procurement makes a difference, as it provides them the necessary mandate to act. When accompanied by a clear communication campaign and supported by a long-term budgetary commitment, the policy vision has greater chances to succeed.

([11]) Major sources of the EU level guidance on innovation procurement include:
— European Assistance for Innovation Procurement (EAFIP) toolkit (2018),
— *http://eafip.eu/toolkit*
— Public procurement as a driver of innovation in SMEs and public services (2015), *https://publications.europa.eu/en/publication-detail/-/publication/f5fd4d90-a7ac-11e5-b528-01aa75ed71a1*
— *https://ec.europa.eu/growth/industry/innovation/policy/public-procurement_en*
— *http://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-cutting-issues/innovation-procurement_en.htm*
As the promotion of innovation is also a central feature of the EU Cohesion Policy, the Public procurement guidance for practitioners on avoiding the most common errors in projects funded by the European Structural and Investment Funds refers to ways of reflecting environmental, social and innovation policy goals in public procurement procedures: *http://ec.europa.eu/regional_policy/en/policy/how/improving-investment/public-procurement/guide/*

EXAMPLE

THE SWEDISH NATIONAL INNOVATION COUNCIL

The Swedish National Innovation Council brings together government ministers with innovation-related portfolios and experts. It is chaired by the Prime Minister. This forum allows for a discussion on innovation at the highest level, which helps to consolidate the government approach. For example, it has helped to clarify the use of functional criteria in public procurement.

Details are available at:

http://www.government.se/government-policy/national-innovation-council

The strategic potential of innovation procurement is immense, especially in supporting technological development in and by the public sector. Industries that depend on sales to the public sector can be motivated to innovate and adopt new technologies through public demand. Social sectors such as health care, water treatment, district heating, roads and railways almost exclusively depend on expressions of public demand. In these cases, public procurement is a clear vehicle for voicing that demand and for driving technological progress.

EXAMPLE

INNOVATION HELPS MEET ENVIRONMENTAL TARGETS AT MUNICIPAL LEVEL:

Copenhagen's environmental targets met with innovative technologies

Why was an innovative solution considered?

Having set the ambitious target of becoming carbon neutral by 2025, Copenhagen is currently transforming how it manages energy. One key requirement for achieving this target is a substantial reduction of the energy consumption from street lighting. For this purpose, nearly 20 000 street lanterns needed replacing.

The City of Copenhagen's lighting objectives were as to:

— Replace the high-pressure sodium lamps on Copenhagen's residential roads, larger streets and highways with an efficient custom designed LED lantern,

— Achieve substantial energy and CO_2 savings to help the city achieve its target of being carbon neutral by 2025,

— Improve the quality of street lighting to increase security and comfort,

— Integrate lighting control with traffic density data to adapt lighting levels according to road use in the future,

— Create a central management system for the effective management and control of street lighting

What was done differently?

The contracting authority opted for a competitive dialogue procedure. The evaluation criteria were balanced: price 25 %, task performance and organization 25 %, lighting solution 20 %, energy and environmental qualities 30 %. The procedure took 16 months until the signature of the contract.

What was the outcome?

With the change to LED lamps the energy consumption has been reduced by 57 % reducing both the carbon footprint and maintenance costs (1,6 million EUR annually, for an investment of 26 million EUR).

Details are available at:

http://spice-project.eu

http://spice-project.eu/wp-content/uploads/sites/14/2017/08/Copenhagen_Street_Light.pdf

It is important to recognise that, along with numerous advantages, innovation procurement also entails risks and costs. It requires a cultural shift not only among the public buyers themselves, but also in the entire ecosystem: among the economic operators, political authorities, auditors, and even the academia. In this context, a clear policy statement is essential to address risk aversion and possible additional costs arising from blocking innovation.

EXAMPLE

INVOLVEMENT OF ELECTED OFFICIALS:

The Public Procurement Board of the City of Paris

Why was an innovative solution considered?

The city of Paris wanted to strengthen its strategic approach to public procurement and implement it more efficiently as well as involve the (elected) members of its Council more.

What was done differently?

In 2016, the Council of Paris set-up the Public Procurement Board (*Commission d'anticipation des achats*). It is composed of 10 members representing all political groups on the Council of Paris.

The Board discusses upcoming public procurement projects and the way to implement the strategic approach in specific procedures. This way the elected representatives can receive information, exchange opinions and contribute at an early stage, well before the procedures are launched.

What was the outcome?

Thanks to the greater involvement of all political groups at an early stage, the strategic approach to public procurement has gained greater legitimacy. It is also constantly refined in the light of the in-depth exchanges taking place in the meeting of the Board. Specific public procurement procedures take greater account of strategic considerations.

This inclusive approach and greater involvement of the politicians also led to a shortening in the duration of public procurement procedures (1 to 3 months shorter than before the setting up of the Board).

A powerful way of expressing strong policy mandate is through targets, i.e. defining a percentage of the public purchases that has to be dedicated to innovation procurement. Although this approach may not work in all settings and has its challenges, in particular as regards definition, measurement and accountability, it can create strong institutional incentives for overcoming administrative inertia and risk aversion.

TARGETS AROUND THE WORLD AND IN EUROPE

Authorities around the world have set targets to direct a percentage of their public procurement budgets to research and development and innovation. For example, the US strives to spend at least 500 million US dollars (~2,5 % of GDP) on research and development procurements, while South Korea aims to spend 5 % of its public procurement resources on developing and 20 % on deploying innovative solutions.

In Europe, there are national and regional targets. Typically, between 2-5 % of public procurement is dedicated to the update of innovation. Some local authorities have set higher targets. For example, the City of Ghent has reserved 10 % of its information and communications technology procurement budget for research and development and innovation. The Scale-up Europe Manifesto recommends minimum targets of 3 % for pre-commercial procurement and 20 % for public procurement of innovative solutions.

Ghent target:

https://www.digipolis.be/sites/default/files/20140929_DO_charter%20pdf.pdf

National/regional targets across EU:

https://ec.europa.eu/digital-single-market/en/news/innovation-procurement-initiatives-around-europe

Scale Up Europe manifesto:

http://scaleupeuropemanifesto.eu

The ERAC Opinion:

http://data.consilium.europa.eu/doc/document/ST-1209-2015-INIT/en/pdf

The study on benchmarking national policy frameworks and expenditure on innovation procurement (that gives an overview of targets used across Europe) is available at:

https://ec.europa.eu/digital-single-market/en/news/study-benchmarking-strategic-use-public-procurement-stimulating-innovation-digital-economy

INNOVATION FRIENDLINESS OF NATIONAL POLICY FRAMEWORKS – STUDY

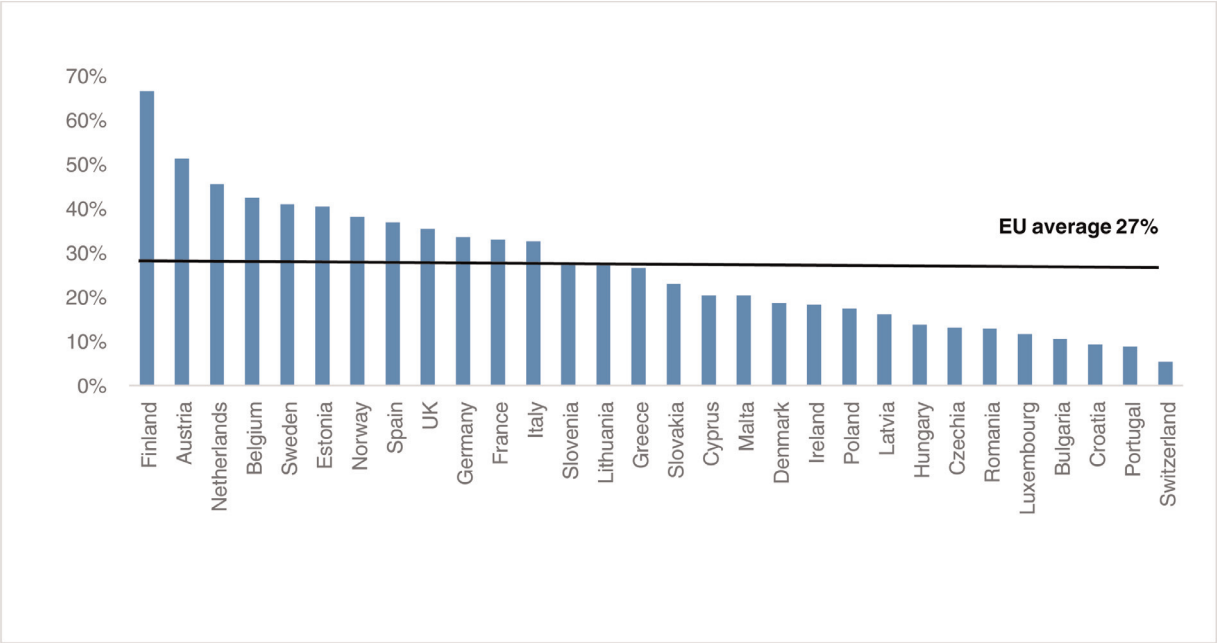
Benchmarking results show how far Europe has already progressed in rolling out national policy frameworks for innovation procurement. The overall innovation policy framework across Europe is only working at just above one fourth of its potential power.

Globally, it can be observed that innovation procurement is not yet a strategic priority in many countries. Incentives and capacity-building structures are also insufficient to support public buyers in implementing innovation procurement.

However, it has been established that Member States that are at the forefront of innovation in general have also put in place a policy framework for innovation procurement. Therefore, strengthening investment in the development of a more strategic policy framework for public procurement of innovation in Europe could contribute to increase the competitiveness of the European economy.

Graph 1

Europe wide benchmarking of national innovation procurement policy frameworks



Souce: Study on benchmarking national policy frameworks and expenditure on innovation procurement referred in the above box.

2.2. *Innovation as means of achieving various policy goals*

Innovation is both a key driver of sustainable growth, recovery and resilience to which public buying power can substantially contribute, and an important means of enhancing value for money of public services for which government bears responsibility.

In addition, the policy vision has to be clear about linkages between other policy objectives and innovation procurement, e.g. strenghtening resilience of the economy, reducing environmental footprint, increasing energy efficiency, addressing climate change, sustainable healthcare for the ageing population, facilitating the access of start-ups and SMEs to the market, life-cycle cost reduction, modernising public service delivery, etc.

EXAMPLE

INNOVATION HELPS IMPLEMENT ENVIRONMENTAL AND HEALTH POLICIES:

A fresh approach to cooling down a Polish hospital

Why was an innovative solution considered?

Climate change has made heat-waves more common in Poland. The hospital in Sucha Beskidzka was one of many Polish hospitals in which the impact of high room temperatures on staff and patients' well-being as well as medical equipment were of increasing concern. The Ministry of Public Health responded by requiring all healthcare providers to install 'sun-blocking equipment in patients" rooms that are exposed to excessive sunlight. But air-conditioning patients' rooms in the summer months strained the budget of the Sucha Beskidzka hospital.

What was done differently?

Rather than buying more of the same, the hospital asked the market for available solutions within a technical dialogue. Then, using functional criteria (temperature reduction of 2°C) instead of prescribing a specific solution in an open procedure, it procured a healthier and more sustainable solution: the building's facade was equipped with solar panels, which provide shade without darkening the rooms. Using a whole-lifecycle-costing model was crucial for a procurement outcome that benefited the hospital patients, staff and management.

What was the outcome?

The temperature inside the hospital dropped by 10 % even as the outside temperatures increased by 20 %. The solar panels also supply 5 % of the hospital's electricity needs, which compensates for the initial investment. This example shows the significant role that public procurement and innovation can have to meet the challenges of the recovery and the green transition.

Details are available at:

http://www.ecoquip.eu/procurement-projects/cost-effective-and-low-carbon-solutions-to-maintain-the-thermal-comfort-of-patients.html

http://eafip.eu/wp-content/uploads/2016/11/2_M.Kautsch.pdf

2.3. ***Setting the level of ambition***

'Start small, scale up fast' is the motto for innovation procurement. The experience can be challenging and is perhaps best introduced as a step-by-step learning process. In other words, the many changes – from cultural to procedural – required for innovation procurement need not be made all at once. Designing a successful project involving innovation could even be organised from the bottom up, by starting to focus on simple, practical problems.

The starting point could be the identification of a number of themes (e.g. environment/climate change, health, etc.) on which to focus that would benefit from an innovative approach. The focus could be to start with those sectors and projects in which innovation can be implemented more easily and where it can make the biggest difference. Starting small will build credibility and confidence and eventually be a magnet for bigger projects.

The EU rules provide public buyers with a set of tools that fit well with the various possible levels of ambition. These will be presented in Chapter 4.

EXAMPLE

SOLUTIONS FOR ALL LEVELS OF AMBITION:

Model environmental criteria of the Swedish Public Procurement Agency

Why was an innovative solution considered?

In Sweden, the national policies for environment, energy and transport endorse innovation procurement as a strategic priority. However, practical implementation on the ground of those political ambitions requires specific guidance, model criteria and template documents. But one size does not always fit all.

What was done differently?

The Swedish Public Procurement Agency has organised innovation-related environmental criteria for public procurement procedures into three levels: Basic, Advanced and Spearhead (e.g. hydrogen cars are currently categorised as a Spearhead solution). The criteria and levels are agreed upon in a set of meetings between all the relevant stakeholders: public buyers from the local, regional and national level, manufacturers, car dealers, taxi and courier companies, etc. They are updated regularly, according to technological progress in each field. Once there is agreement on a criterion, the Agency develops a corresponding legal text that can stand up in court and can be copied-and-pasted by each public buyer in tender specifications for their procurements. The criteria are voluntary and free to use.

What was the outcome?

This approach has triggered the deployment and market diffusion of innovative solutions in energy-intensive sectors, such as white goods, public transport or heating, helping to reduce Sweden's dependency on nuclear energy by 15 %.

Details are available at:

https://www.upphandlingsmyndigheten.se/en/sustainable-public-procurement/sustainable-procurement-criteria

For a specific case study see:

http://www.ecomotion.us/results/pdfs/108es.pdf

2.4. ***Translating ambitions into actions and commitments***

To ensure that ambitions are translated into action on the ground, it is important to build a strategic policy framework together with an action plan for innovation procurement. The policy framework typically spells out the policy objectives and priorities, including definitions, indicators, roles and responsibilities. An action plan commits to a number of clearly defined actions, actors, tools, resources, budgets, expected results and implementation timeline. Stakeholder engagement is a key aspect in building the action plan to ensure that there is commitment of all parties involved.

In Europe, as evidenced by the above-referred benchmarking study, four Member States (Austria, Belgium, Finland, and the Netherlands) have adopted a dedicated action plan for innovation procurement and five others (Denmark, Estonia, Greece, France, and Sweden) have included specific objectives and concrete measures on innovation procurement in wider national strategies or programmes, often with a dedicated budget and with a clear commitment of key actors.

EXAMPLE

TURNING VISION INTO ACTION:

The Austrian federal strategy for research, technology and innovation

Why was an innovative solution considered?

Since 2011 'Innovation promoting public procurement' has been a priority within the Austrian federal strategy for research, technology and innovation.

What was done differently?

An action plan has been adopted to put the strategy into practice and to reinforce synergies with other policy domains. The Federal Procurement Agency acts as the central Austrian competence centre for innovation procurement offering training, documentation, assistance and small grants to Austrian public buyers to prepare pre-commercial procurement or public procurement of innovative solutions. SMEs can obtain a financial guarantee, which facilitates their access to tenders. In 2014, a monitoring system was setup to measure annual expenditure on innovation procurement in Austria.

Details are available at:

http://www.ioeb.at

https://era.gv.at/object/document/2177

Innovation procurement does not take place in isolation from other policies. It can flourish better when it is supported by other sectorial and horizontal policies that enable innovation. Specific actions on innovation procurement can be foreseen in policy frameworks and action plans for specific sectors (e.g. security, health, climate change, etc.) and for other horizontal enabling policies (e.g. research and innovation, taxation, etc.).

2.5. ***Building up capacity***

Innovation procurement requires undertaking a number of specific activities that cannot be improvised. Regardless of the level of ambition, they will require some time, money and expertise. Specialised training (2.5.1), cooperative procurement (2.5.2) and fostering a generally entrepreneurial culture can help to build the necessary capacity for innovation procurement at a manageable cost.

12 Member States have created national competence centres on innovation procurement that provide a one-stop-shop to raise awareness, coordinate capacity-building activities and assist public buyers in the implementation of innovation procurements ([12]).

COMPETENCE CENTRES

The European Commission funds networking activities among national competence centres through the European network of national competence centres on innovation procurement –Procure2Innovate project.

https://procure2innovate.eu

https://ec.europa.eu/digital-single-market/en/eu-funded-projects

Professional bodies and trade associations can provide similar support in terms of manuals, guidance materials, template documents, draft evaluation criteria or measurement methodologies. Given their detailed market knowledge, transmitting their expertise to public buyers will enable the latter to define the needs and draft the technical specifications in the most state-of-the-art fashion ([13]).

2.5.1. **Training and assisting people**

Professionalism ([14]) is one of the key factors of success. Some of the most successful examples of innovation procurement, such as those found in Barcelona, Lombardy, Austria or Sweden, combined a strong policy mandate that puts innovation at the heart of local economic policies with highly motivated and professional staff.

([12]) Examples of competence centres across Europe (for more info see *https://procure2innovate.eu*):
- *https://www.pianoo.nl/pianoo-in-english*
- *http://www.procurementcompetence.fi/*
- *https://www.koinno-bmwi.de/en/*
- *https://www.vinnova.se/en/*
- *http://www.ioeb.at/*

([13]) Examples of sector specific guidance materials
- Catering: *http://www.contract-catering-guide.org*
- Security services: *http://www.securebestvalue.org*
- Health care (Concept Framework):
  - *http://www.medtecheurope.org/sites/default/files/resource_items/files/ECONOMIC%20VALUE%20AS%20A%20GUIDE%20FOR%20INVESTING%20IN%20HEALTH%20AND%20CARE%20Concept%20Framework_3.pdf*
- Health care (Policy Framework):
  - *http://www.medtecheurope.org/sites/default/files/resource_items/files/ECONOMIC%20VALUE%20AS%20A%20GUIDE%20FOR%20INVESTING%20IN%20HEALTH%20AND%20CARE%20Policy%20Framework_3.pdf*
- Value-based procurement in health sector in Canada: *http://www.conferenceboard.ca/e-library/abstract.aspx?did=7480*

([14]) In this field, the Commission has recently adopted a Recommendation (Commission Recommendation 2017/1805 of 3 October 2017 on the professionalisation of public procurement – Building an architecture for the professionalisation of public procurement (OJ L 259, 7.10.2017, p. 28), available at *https://eur-lex.europa.eu/legal content/EN/TXT/PDF/?uri=CELEX:32017H1805&rid=8*

In order to successfully engage in innovation procurement, a public buyer should tap into knowledge and skills in areas, which include:

— Knowledge:
  — market and stakeholders engagement
  — relevant products or services
— Basic skills:
  — relevant legal framework
  — negotiation
  — contract management
— Innovation specific skills:
  — risk assessment
  — intellectual property rights (IPR) management
  — policy entrepreneurship

This capacity can be built through internal training, targeted recruitment, by relying on external experts and consultants or pooling expertise with other public buyers. Even at a lower level of ambition, good knowledge of the market and the capacity to use the basic tools offered by the EU rules, such as the Most Economically Advantageous Tender (MEAT) criteria or functional requirements will help.

This learning process does not concern the public buyers alone. Companies, especially start-ups and innovative SMEs, also need to gradually engage in the innovation-centred business processes with the public sector and become acquainted with specific administrative practices.

EXAMPLE

PROFESSIONALISATION OF PUBLIC PROCUREMENT:

Barcelona City Council's staff training

Why was an innovative solution considered?

Innovation procurement requires skill and knowledge.

What is done differently?

Barcelona City Council, in cooperation with the European Institute for Public Administration (EIPA), organises a training programme on innovation procurement for city managers, civil servants, consultants, enterprises and legal advisers. This *Public Procurement for Innovation and Pre-Commercial Procurement in Cities* programme offers hands-on information on how to become a top city in promoting innovation from the demand side.

Details are available at:

http://seminars.eipa.eu/en/activities09/show/&tid=6141

http://formacio.eapc.gencat.cat/infoactivitats/AppJava/DetalleActividad.do?codi=10251&ambit=1&edicio=1&any=2017

EXAMPLE

INTERNATIONAL EXPERIENCE SHARING

The European Commission has co-financed the creation of an online platform for sharing experience of innovation procurement. The platform is operated by ICLEI. Through a procurement forum and resource centre, it helps public buyers, policy makers, researchers and other stakeholders harness the power of innovation procurement.

Details are available at:

www.innovation-procurement.org

2.5.2. **Considering cooperative procurement**

The term cooperative procurement encompasses various modalities of cooperation between public buyers.

Establishing or mandating dedicated entities, such as central purchasing bodies (CPBs), associations of cities, European Research Infrastructure Consortia (ERICs) ([15]), Joint Undertakings (JUs) ([16]) or European Grouping of Territorial Cooperation (EGTCs) ([17]), to perform cooperative procurement on a regular basis is the most structured means of cooperation. Central purchasing bodies are institutions that manage the public procurement process for other public buyers. Central governments may choose to establish central purchasing bodies at the national level, while local authorities can do the same at theirs. They can also be created by public buyers within a specific sector.

CENTRAL PURCHASING BODIES (CPBs)

CPBs are becoming a key element of the organisation of public procurement in the EU Member States. Many CPBs have been established across Europe and operate at different levels (central ([18]) regional ([19]) and sectoral ([20])). There are around 50 CPBs that award more than 15 contracts each year and as many as 200 that award between 5 and 15 contracts.

More information is available at:

https://ec.europa.eu/growth/content/public-buyers-save-money-cooperative-procurement-0_en

Cooperative procurement in general and using permanent structures for this in particular has several features that facilitate innovation procurement:

— They make it easier to engage professional staff that has the expertise to articulate specialised and complex needs, to engage with the market in a structured way and design procedures that will lead to innovation,

— They bring about economies of scale which are necessary to create first markets for innovative products and services,

— They enable innovative solutions to have greater impact as each solution can be deployed by different public buyers.

However, it is important to note that cooperative procurement as such needs to make sure it does not close the public procurement market to individualised or customised products by standardising too much.

Cooperative procurement can also take less structured forms, such as public buyers' networks and associations of public buyers that join forces on an ad-hoc basis to implement a specific innovation procurement together, organise exchanges of good practices and mutual learning.

EXAMPLE

JOINING FORCES ON HIGH PERFORMANCE COMPUTING PROCUREMENT:

From an ad hoc buyers group to a dedicated procurement entity

Why was an innovative solution considered?

High Performance Computing (HPC) is used in a number of areas within the public sector, including cybersecurity, energy, climate change and health, as it makes it possible to develop, test and implement particularly complex applications.

([15]) ERICs are legal entities setup under the community legal framework to establish and operate new or existing research and innovation infrastructures with European interest. ERICs are, within the limits and under the conditions laid down by the international conventions establishing such ERICs or by headquarters agreements, exempt from VAT and may adopt their own procurement procedures while respecting the Treaty principles. There are for example ERICs that operate infrastructure across Member States in the field of health, ageing, carbon capture, big data, sea and climate change, etc. For more info: *https://ec.europa.eu/research/infrastructures/index.cfm?pg=eric*

([16]) JUs are undertakings setup jointly by the EU and other partners under Article 187 of the Treaty: *https://eur-lex.europa.eu/summary/glossary/joint_undertaking.html*

([17]) EGTS are a legal instrument in European Regional Policy to facilitate and promote cross-border interregional cooperation. An EGTC enables public authorities of various Member States to team up and deliver joint services, without requiring a prior international agreement to be signed and ratified by national parliaments. More info: See art. 39(5) of Directive 2014/24/EU on public procurement.
http://ec.europa.eu/regional_policy/nl/policy/cooperation/european-territorial/egtc/

([18]) Examples include *http://ogp.gov.ie/; http://www.consip.it/; https://www.bbg.gv.at/english/about-the-fpa/; https://www.ugap.fr/; https://www.espap.pt/Paginas/home.aspx; https://www.avropa.se/topplankar/In-English/; https://contrataciocentralizada.gob.es/en/quehacemos.*

([19]) Examples include *https://bric.brussels/en/our-solutions/purchasing-group; https://www.estar.toscana.it.*

([20]) Examples include *http://www.resah.fr/; http://www.amgros.dk/en; https://www.gdekk.de.*

What was done differently?

In 2017, leading supercomputing centres from France, Italy, Spain and Germany formed an ad hoc buyers group to execute a joint public procurement of innovative solutions. The public buyers coordinated their roadmaps for providing more energy efficient HPC resources across Europe.

What is the expected outcome?

The total planned budget for this first joint procurement of innovative HPC solutions is 73 million EUR. The first deployments have led to a significant improvement in the HPC infrastructure. The good collaboration paved the path for a further EUR 1 billion-worth of joint investments in Europe via the EUROHPC Joint Undertaking, a dedicated entity that was setup by between the EU and Member States to carry out HPC procurements across Europe in the future in a coordinated way, which was signed January 2018.

Details are available at:

https://ec.europa.eu/digital-single-market/en/news/european-procurement-cooperation-delivers-more-powerful-and-energy-efficient-supercomputers

https://www.ppi4hpc.eu

https://eurohpc-ju.europa.eu/

EXAMPLE

THE 'BIG BUYERS' INITIATIVE:

Public procurement of innovative goods and services in specific areas

Meeting the needs of big buyers

Why was an innovative solution considered?

The main aim of this pilot initiative was to increase the uptake of innovation procurement in Europe through partnerships with public buyers. ICLEI run the pilot initiative together with EUROCITIES on behalf of European Commission's DG Internal Market, Industry, Entreprenership and SMEs (DG GROW) as they managed the secretariat of the project. In the pilot, three subgroups were identified by big buyers (mainly large cities, but also utilities or CPBs) as areas to focus on: zero emission construction sites, heavy duty electric vehicles, and 'circular' construction material.

What was done differently?

As an example, the participants in the heavy duty electric vehicles subgroup (Amsterdam, Budapest, Helsinki, Lisbon, Malmoe, Oslo, Paris, Porto, Rotterdam, Belgian Post, and Stavenger) have: (i) joined forces to jointly prepare their engagement with suppliers; and (ii) shared information for tender preparation (planning, tender documents, award criteria, results of pilot initiatives regarding emission-free vehicles, etc.).

What is the expected outcome?

The objective is to draft a common statement of demand and agree on a number of issues and technical/ legal criteria for the public procurement call. This call will concern the development of heavy duty (waste trucks, street cleaning, heavy delivery) electric vehicles, currently not available on the market. Collaboration between big buyers is expected to help stimulate the market for innovative products. A similar approach is followed in the other subgroups.

Details are available at:

http://www.bigbuyers.eu/

Moreover, the benefits of cooperative procurement can be reaped by individual public buyers with sufficient purchasing power, such as major cities or big utility companies. These public buyers are natural candidates for innovation procurement, as they have the capacity to identify and test innovative goods and services before buying in bulk as a mainstream product.

EXAMPLE

EHPPA (EUROPEAN HEALTH PUBLIC PROCUREMENT ALLIANCE):

What is EHPPA?

EHPPA is an alliance of non profit procurement organisations. It aims to pool expertise, improve performance, and provide its members with a strategic position in the European health procurement market. Founded in 2012, EHPPA is a registered association under French law, with headquarters in Paris.

What did EHPPA make to accelerate the purchase of innovation?

On 28 and 29 September 2017, CCI France International and EHPPA organised the first 'EHPPA Days', a European forum for the procurement of health innovation, in Paris.

The objective of this event was to put healthcare public buyers (e.g. central purchasing bodies, hospitals, etc.) in touch with innovative French and European suppliers, as well as to obtain information on the different purchasing practices of each European country.

Who attended?

It was attended by start-ups, SMEs, middle-market companies, and French and European suppliers offering innovative solutions in every branch of the healthcare sector. These branches included: pharmacy, pathology, biomedical engineering, patient management, medical equipment, biotech, e-health and digital support, accommodation, infrastructure & technical services, energy and sustainable development, and telecommunication and IT services.

The report for EHPPA Days 2017:

http://www.ehppa.com/Ressources/FCK/files/EHPPA%20Days%202017%20-%20Web%20REPORT.pdf

Similar initiatives:

https://beneluxa.org/

https://www.euractiv.com/section/health-consumers/news/southern-eu-states-present-unified-front-in-drug-talks/

EXAMPLE

JOINING FORCES FOR A STRUCTURED INNOVATION ORIENTED ACTION:

The Norwegian National Suppliers Development Programme

Why was an innovative solution considered?

Many innovative public procurement processes undertaken by individual public buyers produce good solutions, but stop after the piloting or prototyping stage because a single buyer does not represent sufficient demand.

What was done differently?

The Norwegian National Suppliers Development Programme works systematically to get public buyers with similar interests (e.g., reaching a particular policy target for climate or health) and with similar needs to join forces from the outset and challenge the market together to deliver a solution that will enable them to reach their common target. The joint projects offer potential suppliers predictability, clarity, and – critically – the volume needed for commercialisation and serial production.

What was the outcome?

In one joint project, the Development Programme has worked with the largest public buyers in the country that initiate and oversee construction projects, including building new schools, kindergartens, universities, hospitals, and government buildings. Their common challenge was to come up with more sustainable building processes and thus contribute to Norway's commitments under the Paris Climate Change Agreement. With the Development Programme's support, they issued a joint challenge to the market to deliver zero-emission construction sites, with respect to machinery. They disclosed their combined building budget for the next five years to demonstrate to the potential suppliers the potential size of the market. Technology development, which would not have been possible without the market volume, is underway.

Details are available at:

http://innovativeanskaffelser.no/about

2.6. ***Overcoming risk aversion by creating incentives to innovate***

It is important to acknowledge the fact that doing innovation procurement entails risk, e.g. of unsuccessful delivery of the product or service, of a mismatch between the expected results and the delivered solution, etc. Public buyers are often sceptical about additional risk in their procurement procedures because they manage public money. Moreover, not being subject to the market pressure as economic operators, the risk arising from procurement of innovative solutions is more difficult to justify. This is why these concerns should be given attention in the design of innovation procurement projects. Overcoming risk aversion is a matter of changing the motivation for public buyers using financial and non-financial incentives.

Non-financial, behavioural incentives include for example rewarding good practices (e.g. via national innovation procurement prizes), setting innovation procurement as an objective in the yearly career objectives of procurement officials or managers (e.g. by setting Key Performance Indicators), providing improved promotion opportunities for public buyers that successfully implement innovation procurements that modernize public services faster. Another possibility is to focus on the impact that innovation procurement can have on their constituencies.

INNOVATION PROCUREMENT AWARDS

Every year, the German innovation procurement competence center KOINNO honors exemplary innovation procurements of German public buyers with the 'Innovation creates advantage' prize, awarded under the auspices of the German Federal Ministry for Economic Affairs and Energy.

Similarly, Procura+ European Sustainable Procurement Network awards annual prizes for sustainable and for innovative procurements. Short description of all praised projects is available on their website, explaining the most important features of the innovative approach.

Details are available at:

https://www.koinno-bmwi.de/koinno/innovationspreis

http://www.procuraplus.org/awards

Financing is often a key decision factor for starting innovation procurement, especially when the level of ambition is high in terms of innovation. In order to justify the decision to direct public procurement budgets towards innovation, it is important that public buyers make a good business case clearly demonstrating that the expected benefits of the innovative solutions (e.g. quality/ efficiency improvements, cost reductions over life-cycle, etc.) outweigh the required investment costs. Evidence of potential benefits of new technologies is thus important for the public buyer in formulating the business case to make the investment decision. Certification of innovative solutions helps reassure public buyers that new technologies can deliver on their promises.

In addition, there are a number of sources of funding that provide financial incentives for public buyers to engage in innovation procurement. Specific funding may cover many of the additional costs associated with innovation procurement, e.g. the cost of preparing and managing the procurement, preliminary market consultation, negotiations, research and development (e.g. prototyping, testing and certification), mobilising specific technical or legal expertise, adapting administrative procedures, etc. It may also compensate for the intangible costs of cultural shift and change of habits.

NATIONAL AND REGIONAL INNOVATION PROCUREMENT SUPPORT SCHEMES

14 EU Member States have set up national or regional innovation procurement support schemes. These typically provide some funding to public buyers for preparing and/or implementing innovation procurements to offset some of the risks involved with innovative solutions. For example, Finland's innovative procurement program has already supported over 70 innovation procurements. The Italian region of Lombardy has included pre-commercial procurement and public procurement of innovative solutions as a political objective in its regional law and allocated funding to organise regular calls to collect innovation needs from public buyers in the region for which new procurements are then started.

Details are available at:

https://ec.europa.eu/digital-single-market/en/news/innovation-procurement-initiatives-around-europe

http://www.regione.lombardia.it/wps/portal/istituzionale/HP/DettaglioRedazionale/servizi-e-informazioni/imprese/ricerca-e-innovazione-per-le-imprese/appalti-pre-commerciali

EU FUNDING SCHEMES

The EU supports innovation procurement through various funding programmes.

The EU's main program for research and innovation, **Horizon 2020**, regularly funds calls for coordination and support actions (that finance coordination and networking activities to prepare future innovation procurements), calls for pre-commercial procurements (PCP) actions (that co-finance also the costs to procure research, development and testing of innovative solutions) and calls for public procurement of innovation solutions (PPI) actions (that co-finance also the costs to procure and deploy innovative solutions).

An overview of all innovation procurements funded so far can be found here:

https://ec.europa.eu/digital-single-market/en/eu-funded-projects

More information on Horizon 2020 support for innovation procurement:

http://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-cutting-issues/innovation-procurement_en.htm

https://ec.europa.eu/digital-single-market/en/innovation-procurement

The EU's programme for supporting small and medium sized enterprises (SMEs) – COSME (*https://ec.europa.eu/easme/en/cosme*) funds innovative projects involving SMEs.

EU Member States and their regions can also co-finance innovation procurements, including pre-commercial procurements, from the European Structural and Investment Funds (ESIF) in the context of their smart specialisation strategies. See the dedicated guide that explains how innovation procurement can be used in ESIF also in synergy with Horizon 2020 funding:

http://ec.europa.eu/regional_policy/sources/docgener/guides/synergy/synergies_en.pdf.

For examples of innovation procurement projects financed by ESIF see: *http://ec.europa.eu/regional_policy/sources/good_practices/GP_fiche_30.pdf*.

EXAMPLE

LITHUANIA'S ESIF FUNDED INNOVATION PROCUREMENT SUPPORT PROGRAM

21 pre-commercial procurements (PCPs) have already started and 13 are about to start in 2020 in Lithuania following regular calls of the government's PCP support program since 2016. The support program is co-financed by ESIF. Regular calls invite Lithuanian public buyers to submit fresh ideas for new pre-commercial procurement projects.

Details are available at:

https://www.interregeurope.eu/ecoris3/news/news-article/1607/the-start-of-pre-commercial-procurement-in-lithuania

Risk management mechanisms, such as loan, insurance or guarantee schemes could also be explored. Indeed, insurance or guarantee mechanisms intended to offset the risks of innovation for public buyers have already been tested, especially to cover potential damage in case of failure of the implementation of the solution. This system contributes to reduce the risk borne by the buyer, which would have the effect of creating a climate of trust among stakeholders.

LEVERAGING FINANCIAL INSTRUMENTS TO REDUCE RISK

The European Investment Bank (EIB) and and European Investment Fund (EIF) provide, with the support of the **Horizon 2020** Access to Risk Finance work programme, two types of financial instruments to reduce the risk of innovation procurements for both public buyers and companies (in particular also for start-ups and SMEs).

Under '***Innovfin large projects/science***', the EIB provides loans for individual or groups of public buyers to start pre-commercial procurements and public procurements of innovative solutions. This enables the buyers to overcome the financial difficulty of investing up front in something innovative that will only pay itself back later.

Indeed, the pay-back period of the loan can be set so that the public buyer only has to start paying back the loan once the innovation starts delivering actual quality and cost improvements for the buyer. The loan can also relieve difficulties of synchronising financial resouces for starting a cooperative procurement, because a loan can enable all members of the group to start procuring together immediately, while enabling each of them to pay back their part with different individual timescales.

In light of '***Innovfin for innovators***', the EIB and EIF can help companies that are involved in pre-commercial procurements and public procurements of innovative solutions to gain easier access to loans, guarantees, counter-guarantees, hybrid, mezzanine and equity finance to grow their business during an innovation procurement in view of wider commercialisation of solutions.

Details are available at:

Innovfin large projects/science:

https://www.eib.org/en/products/blending/innovfin/products/science.htm

Innovfin for innovators: *https://www.eib.org/en/products/blending/innovfin/index.htm*

3. ATTRACTING INNOVATORS

Attracting innovators, in particular high-tech start-ups and innovative SMEs, is one of the main challenges of innovation procurement. In some sectors, these companies strongly rely on public buyers for uptake of their innovative solutions ([21]), while the public buyers may need their innovation potential to provide state-of-the-art public services. At the same time, start-ups and SMEs often lack the robust capacities and performance track record usually required by public buyers.

Public buyers can consider two major avenues: adapting the procurement procedure to these innovators (3.1) and mobilising innovation brokers (3.3).

3.1. *Opening the doors of public procurement also to smaller innovators*

Under the Treaty principles all innovation procurements, above or below the public procurement thresholds, have to be open to economic operators of all sizes. Nevertheless, innovation procurements attract more interest of small innovative companies rather than regular procurements for off-the-shelf products. The EU public procurement rules in 2014 have enabled public buyers to design procedures that are adapted not only to large companies but also to smaller innovative suppliers.

3.1.1. **Engage with the market**

The first step towards receiving an innovator's offer is simple: engage with them. This dauntingly simple approach addresses two problems: a lack of awareness among companies about public contracts; and a lack of trust. Speaking to an economic operator directly can resolve both of these problems. Just like with sales pitches, speaking directly can even convince an otherwise sceptical company to do business with public buyers.

([21]) Private demand is very low in some sectors (roads, traffic management, waste management, etc.). Public procurement markets are often the only or the main outlets for solutions in these sectors.

The means of communication could be an email or a call to pre-identified companies. It could also be through networking and handing out information at trade fairs. The communication may be minimalistic and low-effort (e.g. sending a web link to a procurement notice to some companies or industry associations) or elaborate (e.g. a presentation of the procurement documents at a trade fair, webinar or social media campaign). In countries with low levels of trust in public procurement, such contacts also play an important role of putting a human face on a procedure and increasing the confidence of companies that the contract will be awarded on the basis of fair competition.

However, to avoid discrimination and unequal treatment, public buyers are also subject to restrictions on the means through which they share information with suppliers. To ensure open and effective competition, no potential supplier may be granted exclusive or preferential access to documents or information. Public buyers must also sufficiently document any oral communication they have with business ([22]).

EXAMPLE

A PROACTIVE APPROACH TO PROCUREMENT:

Life-saving telemedicine in the intensive care units of European hospitals

Why was an innovative solution considered?

Hospitals in the Netherlands, Spain, Belgium and Finland sought the development of a highly interoperable telemedicine platform for tele-detection and tele-care of Intensive Care Unit -patients at increased risk of dying from sepsis.

What was done differently?

The hospitals started promoting the upcoming procurement as soon as possible by publishing a prior information notice (PIN) in TED and by collecting information from potential bidders through a preliminary market consultation that was conducted as a series of physical meetings complemented by an online questionnaire. This approach gave the public buyers a wide-ranging insight into the current state of play. It confirmed that the budget foreseen for the procurement was adequate and revealed what additional information to challenge.

Promotion for the procurement started via the THALEA ([23]) website and via posts on other health, IT and innovation procurement websites, fora and newsletters. The buyers also promoted the PIN and the contract notice at trade fairs in the health and IT sector. Targeted mailings informed industry associations, chamber of commerce, Horizon 2020 programme national contact points for the health and IT sector, and companies known to be active in the field. Promotion was reinforced via social media to reach in particular also SMEs e.g. via the Start-up Europe, EU SME instrument, the EU Digital Single Market and the EU health twitter accounts.

What was the outcome?

The pre-commercial procurement attracted bids not only from large companies but also from smaller innovators, including start-ups. The result of the procurement is that two start-ups and one large player successfully delivered novel algorithms and improved risk-detection solutions. They provide earlier diagnosis and improve the efficiency of the intensive care unit significantly. This resulted in a 25 % reduction in sepsis mortality. It also shortened the lengths of hospital stays by 20-50 %.

The hospitals have enlarged the buyers group for a follow-up procurement to deploy these type of innovative solutions more widely across Europe. They have launched a new open market consultation for this procurement to promote the new upcoming call for tender to innovators and to stay up-to-date on the latest developments in the state-of-the-art.

Details are available at:

http://www.thalea-pcp.eu/market-consultation

([22]) For further details see Section 4.1.2 on Preliminary market consultation.

([23]) THALEA stands for Telemedicine system to meet the demands of; Hospitals concerning early warning; Assisted by innotive ICT for; Life saving co-morbid patients in Europe; As part of a patient personalised care program. Thalea was funded by the European Union as part of the Seventh framework programme (FP7-ICT-611855).

http://www.thalea-pcp.eu/thalea-2-ppi-overview

http://ted.europa.eu/TED/notice/udl?uri=TED:NOTICE:69348-2018:TEXT:EN:HTML

3.1.2. **Reducing the administrative burden**

Bureaucratic burden often deters SMEs and start-ups from participating in public procurement procedures. Depending on the Member State and contracting authority, they have to provide administrative certificates evidencing their legal standing, economic and financial capacity along with their offer for verifying the exclusion and selection criteria.

The updated EU rules simplified these requirements. Now, tenderers can provide a self-declaration indicating whether they fulfil all administrative prerequisites. In addition, they provide certificates confirming their self-declaration only if their tender is evaluated as the best one. It makes more business sense to assemble certificates just before signing the contract than at the beginning of a procedure.

With the electronic version of this self-declaration – the European Single Procurement Document (ESPD) ([24]) – the process is even simpler. The ESPD allows the reuse of data so that tenderers can apply more quickly. This is a significant simplification for both public buyers and tenderers.

ESPD services are running in most Member States ([25]). The ESPD is a ready-made list of possible elements of the self-declaration that can be required for the participation in public procedures. For each procedure, public buyers select the relevant requirements, to which the tenderer has to respond.

In more integrated e-procurement and e-government system ([26]), electronic links between the ESPD and the state owned electronic registers generating the relevant certificates are encouraged to implement the once-only principle. Under this principle, public buyers can access the necessary evidence directly. This relieves the tenderer from the submission of information that the Member States already have within their systems. Together with the eCertis ([27]) service, which is a mapping service of evidence of all European countries, this is possible in a cross-border context.

THE EUROPEAN SINGLE PROCUREMENT DOCUMENT (ESPD) SERVICES:

Finland demonstrates its simplification potential

ESPD services are currently delivered all over Europe. Some offer basic functionalities such as evidence of fulfillment of exclusion criteria (taxes and social benefits paid, etc.). However, there is a growing number of services connecting ESPD to national databases and other added value services. These can include storing of company profiles to reduce administrative burden for authorities and suppliers.

In Finland, the central eTendering service was connected to eight national databases during the implementation of the ESPD service. Authorities now directly access information provided by suppliers that will be stored in a company profile for easy reuse. In addition, the lead supplier can invite consortium members and subcontractors to fill out the ESPD directly from the eTendering platform. This makes the participation of SMEs in larger public procurement projects much easier.

Details are available at:

https://ec.europa.eu/tools/espd

www.hanki-palvelu.fi

3.1.3. **Adjusting the selection criteria**

Public buyers will often require economic operators to prove they have the financial and/or economic capacity to carry out a contract. This is usually part of a due diligence approach to mitigate any risk of a contractor going into liquidation during a contract term and affecting supplies to the public service. Usually, public buyers seek information on annual accounts and turnover levels for this purpose.

([24]) *https://ec.europa.eu/tools/espd*
([25]) A list of ESPD providers is available at *https://ec.europa.eu/docsroom/documents/38181*.
([26]) Under the public procurement Directives the electronic submission of the tender has become compulsory as of October 2018.
([27]) *https://ec.europa.eu/growth/tools-databases/ecertis*

At times, important financial requirements were sought from economic operators to demonstrate this capacity. For example, the required minimum turnover level is often several times higher than the value of the contract in question. Such a requirement does not necessarily ensure good performance of the contract. It also excludes all potential tenderers with lower turnover, which might have the necessary capacity and – even more importantly – a better solution.

Under the new rules, public buyers can no longer require turnover more than twice the estimated contract value, unless duly justified by specific circumstances ([28]). This rule facilitates the participation of start-ups and innovative SMEs which are more likely to have been recently established and have a relatively low turnover.

EXAMPLE

CREATING OPPORTUNITIES FOR SMEs:

Drones and personal protective equipment for forest firefighting in Bulgaria and Serbia

Why an innovative solution was considered?

The towns of Kula in Bulgaria and Boljevac in Serbia wanted to buy specialized vehicles, surveillance drones and personalised protective equipment to fight forest fires. As in this domain innovative SMEs can deliver good quality solutions, the public buyers wanted to make sure the procurement would be accessible to them.

What was done differently?

Both towns issued similar calls for tenders. The required minimum turnover under the financial capacity criteria was equal to the value of their offer (not more). The average annual turnover of the tenderer over the past three years with closed accounts had to exceed the value of their offer.

As the buyers also divided the contract into lots – the total contract value was split over the different lots – vehicle, drone and protective equipment – the financial capacity requirement was doable for SMEs.

What was the outcome?

This approach enabled SMEs to win the contracts for innovative equipment.

Details are available at:

http://obshtina-kula.com/bg/?p=1915

http://ted.europa.eu/udl?uri=TED:NOTICE:222939-2017:TEXT:EN:HTML&src=0 (for Kula)

http://ted.europa.eu/udl?uri=TED:NOTICE:433112-2017:TEXT:EN:HTML&src=0&ticket=ST-28215527-OcEvhL2HhcgUNWcpu88X7fxW924VOOHEzNzxKwtt9AEmKozNQ9Ffi8e7wyLKl0NjYuXOTNYeuacOZtTzn5lzVzXG-PHslUMVSXYC6iO06UxAkYy-4J10I8LIWSzTszVd8YtfzXCoSHCMGZ8cHeoDwhWfIqLC

http://ted.europa.eu/udl?uri=TED:NOTICE:99979-2018:TEXT:EN:HTML&src=0 (for Boljevac)

(co-financed by Interreg-IPA Cross–Border Programme Bulgaria-Serbia)

To prove their technical abilities to carry out the public contract in question, economic operators are often required to provide a list of works carried out, supplies delivered, or services performed in the past. This list must often be accompanied by certificates of satisfactory execution or other details. This requirement poses a challenge for start-ups, which have just been established and have not yet had time to build references. This approach might therefore exclude them from participating in some public procurement procedures, although the start-up might well have the necessary abilities to perform the contract – maybe even with a more innovative technical solution.

Public buyers have the option to request other evidence from economic operators as a means of proof ([29]). Depending on the contract, the economic operator may provide the educational and professional qualifications of the service provider or contractor or those of the undertaking's managerial staff or an indication of the supply chain management

([28]) Article 58(3) second indent of Directive 2014/24/EU.
([29]) See Annex XII Part II of Directive 2014/24/EU.

and tracking systems that the economic operator will be able to use when performing the contract. Means of proof that do not require a bidder to have been in business for many years, also enable start-ups to compete for the contract.

3.1.4. **Using lots**

Dividing public contracts into lots is another way to attract innovators. The size of each lot can be commensurate with the operational capacities of start-ups and innovative SMEs. Using lots is also a way to reduce supplier lock-in, even in cases with predominantly large suppliers. In these cases, the public buyer can set interoperability and/or open standards requirements to interconnect different blocks of a system that vendors provide in different lots. In this respect, the contract entered into with the supplier should set out rules on the future use of any new intellectual property right resulting from the project.

Under the new EU rules, public buyers are expected to consider lots in all public contracts ([30]). In practice, they have to find the right balance between two considerations: on the one hand, using lots to facilitate the participation of smaller innovative suppliers and foster the move to more open, interoperable solutions and on the other hand, minimising their own administrative burden by contracting with a single contractor who will take care of all tasks.

EXAMPLE

OPPORTUNITIES FOR SMES WITHIN LARGER PROJECTS:

Future-proof traffic management centres for England and the Netherlands

Why was an innovative solution considered?

The Dutch and English road authorities, Rijkswaterstaat and Highways England, wanted to move towards an open modular software platform for their next generation of traffic management centres. The objective was to remove supplier lock-in and pave the way for smaller innovative companies to provide new innovative services.

What was done differently?

To achieve their objective the public buyers launched two joint procurement procedures that ran in parallel:

1) a public procurement to replace their custom made software platform with a new one with open interfaces

2) a pre-commercial procurement to develop new innovative traffic management modules to run on top of the new open platform. To ensure sufficient vendor competition and interoperability between the different modules, the public buyers split the pre-commercial procurement in lots per module

What was the outcome?

The first procurement created healthy competition between existing larger vendors to open up the underlying software platform. With the second research and development procurement, more SMEs entered this market, including SMEs that were not active in the domain of traffic management before.

This resulted in excellent new modules for: i) advanced distributed network management that reduce traffic jams and CO_2 emissions, ii) prediction and prevention of road accidents that increase road safety and iii) cooperative intelligent transport systems that facilitate the introduction of smart cars and other technological innovations.

In addition, this approach based on this open modular architecture was benchmarked to create 20 % cost savings.

Details are available at:

http://charmprogramme.com

([30]) Article 46 of Directive 2014/24/EU.

3.1.5. **Using standards, open data, open interfaces and open source software**

Standards, open data, open interfaces and open source software are another way to open up markets. They can create room for smaller innovators to play a role in large projects or to enable smaller innovators to win contracts on their own and grow their business. The contracts should however set out the rules on access to pre-existing intellectual property rights necessary to complete the innovation process and access to the new intellectual property rights created by the innovation process.

EXAMPLE

PROCURING AN OPEN INNOVATION PROCESS:

A smart grid for the 'City of Light'

Why was an innovative solution considered?

The City of Eindhoven in the Netherlands wished to improve the quality of life in the city and enhance its reputation as the 'City of Light'.

What was done differently?

Instead of acquiring a specific product or solution, the municipality procured an open innovation process. This new approach was based on a Roadmap projecting the City's ambitions until 2030. It was driven by an ongoing cooperation between a service provider, citizens, research institutions and the municipality. At its core, users were involved within a 'living lab' to capture and respond to changes that the buyer could not anticipate at the outset.

The procurement process consisted of a market consultation, a competitive dialogue (in three consecutive rounds, with three pre-selected consortia), a tender phase and a pre-award phase to validate the winning bid. 'Innovative power', including views, strategy and experience with the implementation of open innovation, was among the selection criteria. The selection process relied on a 'Best Value' methodology.

What was the outcome?

The selected supplier developed a linked, smartly designed 'open' system of lighting systems in public space. It is used (or may be used) to perform multiple services by various other innovative suppliers, including start-ups and innovative SMEs for continuous innovation.

Details are available at:

https://www.jouwlichtop040.nl

EXAMPLE

EMPOWERING START-UPS FOR GROWTH:

Preserving cultural heritage in innovative open-source digital archives

Why was an innovative solution considered?

National cultural institutions, audio-visual archives, public libraries and local heritage institutions from Sweden, Belgium, Ireland, the Netherlands, Germany, Spain, Estonia and Greece all wanted to address the same challenge: improving the quality of digital files that preserve cultural content for the long-term future to prevent degeneration of data storage quality over time.

What was done differently?

Together they procured research and development from several companies to build new standardised open-source tools that will help the archivists ensure that all files conform to the requirements that make them fit for long-term preservation.

What was the outcome?

The contracted vendors were small innovative companies, mostly start-ups. Out of the six companies taking part in the procurement, three successfully developed innovative tools that (i) reduce costs; (ii) improve the accuracy and overall quality of digitisation and long-term preservation of the cultural content.

Heritage institutions in other parts of the world, including the USA, use some of the most advanced solutions developed by the successful start-ups.

Details are available at:

http://www.preforma-project.eu

3.1.6. **Designing SME-friendly payment schemes**

Start-ups and innovative SMEs need early and regular payments, as they lack the financial buffers of larger companies. Public buyers can envisage various payment schemes depending on whether an SME is a direct contractor or a subcontractor.

In the case of a direct contractor, advance payments could be a decisive factor in enabling SME participation.

In the case of a subcontractor, Member States may require that public buyers make direct payment to subcontractors. With such a shorter payment chain, subcontractors, e.g. start-ups and innovative SMEs, will be paid earlier. They will also avoid the risk of late payment due to any shortcoming by the main contractor.

Where direct payments are not the most appropriate option, subcontractors can be supported in other ways, such as by incentivising the main contractors to shorten the payment periods.

FUELLING START-UPS WITH TIMELY PAYMENTS

Providing advanced payments

The City of Paris noticed that the usual payment schemes with small interim payments and a large final payment at the end of the procurement were a barrier to SME participation. In order to enable start-ups ad innovative SMEs to participate in public tenders, the City of Paris increased advance payments from 5 to 20 % in 2017.

Details are available at:

https://www.paris.fr/professionnels/l-entreprise-au-quotidien/achats-et-marches-publics-3526#la-politique-fournisseur_1

Discouraging late payment

According to the Spanish Code of Public Contracts, contracting authorities can list, amongst the criteria for assessing the financial capacity, the average payment period towards subcontractors. In 2016, the City of Madrid included in the contract for waste collection a penalty for non-payment to subcontractors, which could amount to 50 % of the amount owed.

Details are available at:

https://www.boe.es/legislacion/codigos/codigo.php?id=031_Codigo_de_Contratos_del_Sector_Publico&modo=1

3.2. ***Develop an ecosystem approach to innovation***

What is an ecosystem in innovation?

The ecosystem of innovation consists of business participants, start-ups, academia, technical and support services, and the individuals that drive innovation. Each of these plays a significant role in creating value in the larger ecosystem by transforming new ideas into reality through access to financial investment. The ecosystem of innovation creates an active flow of information and resources for ideas to transform into reality. Through these ecosystems, innovators and entrepreneurs develop and launch solutions to solve real-world problems faster than would be the case without the ecosystem. This process creates expertise in new areas, helps to diversify the economy, and allows businesses to meet their customers where they are.

What is an ecosystem approach to innovation?

The goals of an ecosystem approach are to identify and interact with the key innovators – start-ups, innovators, and academics, and engage them to help develop innovation capabilities.

What does this mean for public buyers?

Ecosystem of innovation give the public buyer a better vision of several issues: where will the next generation of ideas and concepts come from? How interesting are the innovative developments? At what stage in the development of innovation is it relevant to participate? What value could the innovative solution create over existing solutions? Who are the emerging players in the ecosystem to watch for in the context of supplier market intelligence?

The public purchaser should forge links with ecosystems of innovation: clusters, incubators, innovation agencies or living labs, (at local, regional, national or even European level) and learn to work with them. Another good practice for getting to know the players in a specific ecosystem can be the use of hackathon ([31]).

Through these activities, the public buyer will be able to better identify innovators and initiate valuable co-creation collaboration, assess the readiness of a new product and identify the costs of applying the innovative technologies.

EXAMPLE

WORKSHOP ORGANISED BY THE FRENCH MINISTRY OF TRANSPORT WITH PUBLIC BUYERS AND ACTORS FROM THE ECOSYSTEM OF INNOVATION IN THE MOBILITY SECTOR (JANUARY 2020):

The French Ministry of Transport organised a training workshop in a living lab bringing together several local authorities of different sizes (from cities with more than 2 million inhabitants to more than 30 000 inhabitants), large companies managing mobility infrastructure (such as public transport), start-ups and technical specialists in transport. Organising this workshop in a living lab allowed buyers to be connected to actors of innovation in the mobility sector.

The aim of the event was to organise a collaborative effort between all the participants to firstly revise the technical specifications for purchasing a carpool application and then, build innovative technical specifications allowing innovative companies to submit a bid.

This workshop was instructive for both companies, who were able to better understand the legal framework of public procurement, and public purchasers, who could consider how to make a project more open to innovation. For example, the buyers prepared a dashboard to determine the results expected by an innovative solution. The buyers also suggested that the specifications could include a short video summary presenting the key points of the request.

Details are available at:

https://www.francemobilites.fr/

https://www.liberte.paris/

3.3. *Mobilising innovation brokers*

The links between start-ups offering innovative solutions and innovative SMEs, on the one side, and public buyers, on the other side, are often weak and do not arise spontaneously. Innovation brokers can help to build or strengthen them.

Innovation broker can be any institution with the capacity and purpose to match nascent innovation with a need on the demand side. The broker can be part of the overall innovation life cycle and a driving force behind the innovation procurement. It can be actively engaged in funnelling ideas from potential suppliers of innovation to networks of potential public buyers of innovation, be it cities, hospitals, civil protection authorities or any other relevant public buyer. Inversely, it can communicate to the relevant industry the needs of the public buyers. Innovation brokers can also facilitate the preparation of innovative ideas for specific public procurement procedures.

([31]) The word hackathon is a combination of the words 'hack' and 'marathon' where hack stands for experimental, creative problem solving with a playful approach and marathon stands for the duration of the event. The hackathon has its origin in software and hardware engineering, but the concept is now also successfully applied in other industries for developing innovative solutions. A hackathon lasts between 24 and 48 hours and is dedicated to a specific topic or challenge. The participants work in small groups in a unique environment that encourages creative thinking and leads to surprisingly innovative new concepts, ideas, and prototypes. The result of the hackathon is a finished prototype for an innovative product, service or business model.

Their tasks may include:

— Advising public buyers on how to define their needs that could potentially be satisfied through innovation procurement

— Organising public buyers interested in innovation procurement into networks to share knowledge, exchange good practice and communicate to the market (e.g. market consultation, joint commitment for future innovation procurement)

— Identifying promising innovative solutions that are suitable for matching the needs of the public buyers. Typically, such solutions have potential for commercialisation and scaling up of disruptive rather than incremental innovation

Depending on their business model, they can also facilitate access to funding and help manage intellectual property rights.

Innovation brokers should not act as sellers of unsolicited proposals to the public buyers, nor are they substitutes for public buyers. Public buyers remain responsible that the whole procedure – engaging with the market before the procurement and executing the procurement itself ([32]) – is open, transparent and non-discriminatory.

EXAMPLE

INNOVATION BROKERING IN EUROPE:

TekesMatch in Finland

A recent Finnish innovation, TekesMatch, is a 'semantic matching' software that will match investors and innovators within minutes. This task used to take 3 weeks, before this innovative tool was put to use. TekesMatch was invented with the help of a design contest and a hackathon. Facilitating investment with this type of software opens up vast possibilities for start-ups to grow.

Details are available at:

http://www.aalto.fi/en/current/news/2017-03-06/

https://www.twobirds.com/en/news/press-releases/2017/finland/tekesmatch

Austrian matchmaking platform

The mission of the Competence Centre on Procurement Innovation in Austria (IÖB-Servicestelle) is to 'build a bridge between public buyers and suppliers'. To facilitate this mission, IÖB-Servicestelle successfully launched a digital platform which is increasingly used by public buyers as part of their regular market research activities.

The platform offers information, including the contact details, on a wide range of different innovative products and services, which are evaluated by independent experts and ready for use in the public sector. The platform also gives public buyers the option of publicising their latest challenges in order to consult the market on new ideas and concepts.

In 2018, more than 100 innovative solutions in product categories such as IT, energy, mobility, facility management or health listed on the platform, enabling suppliers to get in touch with public buyers. Since then, over a dozen public buyers have published the challenges they face in fields including automation, marketing & PR, sensor technology and facility management. These public buyers have received more than 230 different ideas from the market through the platform.

Details are available at:

www.innovationspartnerschaft.at

European innovation brokers pilot project ([33])

The project aims to create a model for an innovation procurement broker that will bring together contracting authorities, suppliers of innovation (with a special focus on SMEs and start-ups), investors and researchers to facilitate the procurement of innovative goods and services.

([32]) Even if part of this is implemented by an innovation broker on their behalf.

([33]) List of existing brokers:
— *https://www.agid.gov.it/*
— *https://www.gate21.dk/*
— *http://procurementtransformationinstitute.com/*

To explore the creation of an innovation procurement broker, a call for proposals was launched in 2018. A consortium of seven different entities (two innovation agencies, a network, a specialist procurement consultancy and a contracting authority) was formed. As a result, five IPB networks are tested in five different Member States (Spain, Demark, Ireland, Germany and Austria). This should help identify which type of organisation and method are best placed to undertake an innovation broker scheme.

The two-year project ended in August 2020. The results are the development and implementation of an innovation broker business model, but also the creation of business opportunities for SMEs with public buyers in the Member States concerned. A total of eight innovative purchasing projects will be launched, mainly on sustainable innovation.

Details are available at:

https://innovation-procurement.org/innobrokers/

4. ATTRACTING INNOVATION

Once the door is open to all kinds of potential innovators, public buyers can focus on attracting innovation within each public procurement procedure.

Many tools can be incorporated into any public procurement procedure, including the widely used open and restricted procedures (4.1). Alternative public procurement procedures can also specifically cater for innovation, such as negotiated procedure with competition, competitive dialogue, design contest, innovation partnership or the pre-commercial procurement approach (4.2).

The choice of procedure and technical specifications belongs to public buyers. Ultimately, successful innovation will depend on their decisions. What follows is not a one-size-fits-all prescription. It is rather a flexible toolbox to inspire new approaches made possible under the EU rules.

4.1. *Innovation-friendly tools for all types of procedures*

This section describes options that are available to all public procurement projects. A relatively small investment in preparing and organising the procurement procedure in an innovation-friendly way is sufficient to start seeing benefits for both the public buyer and the supplier market.

4.1.1. **Needs assessment**

Before drafting technical specifications, public buyers should perform a wide-ranging needs assessment in order to define the problem to solve. This step may seem superfluous, as the purpose of the public procurement procedure is usually obvious. In fact, this is the crucial moment when innovation uptake may originate. Instead of simply replacing outdated equipment with more of the same or renewing expired service contracts, the public buyer carries out a functional analysis of the needs of the organisation and its partners/users and identifies any problems or areas for improvement. This analysis will reveal whether the equipment and services used until now are (still) the most appropriate ones.

EXAMPLE

LISTENING TO THE USERS OF PUBLIC SERVICES:

Tallinn's smart port

Why was an innovative solution considered?

To tackle the challenge of managing increasing traffic, the Tallinn Port Authority in Estonia wanted to purchase a new electronic check-in system for both passenger and cargo vehicles.

What was done differently?

To identify its needs, the public buyer conducted forty interviews with passengers, six interviews with drivers, four interviews with representatives of ferry operators, two interviews with stevedore service providers and four interviews with employees of the Port.

What was the outcome?

The assessment of the users' needs allowed the public buyer to procure an innovative solution that addresses the whole travel process for cars and lorries, from online pre-registration to check-in and a fully-automated traffic management which directs vehicles onto the ship.

Details are available:

http://www.portoftallinn.com/smart-port

EXAMPLE

ASSESSING THE ACTUAL NEEDS INSTEAD OF BUYING MORE OF THE SAME:

Malta's move to cloud computing

Why was an innovative solution considered?

At the end of the life of a data storage device, public buyers typically tender for another public supply contract for a similar data server. This might not be the best way of addressing the current needs, which may be different from the past.

What was done differently?

The Maltese government is moving towards cloud-based infrastructure to optimise government data storage. Public buyers assess their data storage needs in terms of capacity, security, access conditions for different categories of users (e.g. in-house *v.* teleworking), mobility, etc. They can also consider alternative solutions, such as a shared datacentre with other administrations or cloud solutions. In addition to cost savings on hardware and maintenance costs, cloud-based data storage also improves data portability and thus the mobility of workers.

Details are available at:

https://procurement.mita.gov.mt/open-calls/t04717-on-premise-private-cloud-enabling-infrastructure-and-software

(Project co-financed by the European Structural Funds)

The definition of needs requires sufficient distance from the current solution to assess it with maximum impartiality. It is important to keep an open mind about introducing modifications or replacing the existing solutions altogether. In some cases, a deep organisational change may be required, especially if workflows have been automated. In practice, the needs assessment may lead to considering a different type of contract than the existing one with the incumbent, i.e. instead of supply contract, a service contract or a mixed (supply and service) contract may be more appropriate for the new technologies or processes.

In order to allow new trends or exploit technological advantages that public buyers are not aware of yet, they can also screen the market ([34]). Public buyers might discover new, innovative solutions to provide public services, to increase service levels or add additional functions through the use of new technologies. Thus, public buyers can tailor their needs based on a thorough understanding of the market, which also enables them to incorporate innovate solutions into the procurement process.

To increase objectivity, needs assessment can also be performed based on a public service contract by specialised external entities or potential suppliers who have the necessary expertise. In order to avoid preferential treatment, all information exchanged should be published or communicated to other potential tenders ([35]). Optimised cost and increased efficiency of the public service should balance the cost of such service.

([34]) See Section 4.1.2 on Preliminary market consultation.

([35]) Article 41 of Directive 2014/24/EU and Article 59 of Directive 2014/25/EU of the European Parliament and of the Council of 26 February 2014 on procurement by entities operating in the water, energy, transport and postal services sectors and repealing Directive 2004/17/EC (OJ L 94, 28.3.2014, p. 243).

4.1.2. **Preliminary market consultation**

The main purpose of the preliminary market consultation is to check the state of play before launching a procurement procedure. Procuring innovation requires good preparation on the part of the public buyer. To gain better insight into the relevant market, public buyers can communicate with potential suppliers in prior market consultations. They can use these to gather information, in particular on price structure and market capabilities. Suitable innovative solutions may already exist, or could result from adapting or combining existing ones. The market may also be able to develop an innovative solution on time, provided it has the opportunity to do so.

A proper preliminary market consultation can help overcome a recurring problem observed in the application of procurement rules, i.e. the absence of, or little prior, market research, resulting in non-realistic or outdated specifications.

A preliminary market consultation can take various forms. In some cases, public buyers might already have a good understanding and overview of the market, and so just need some minor clarifications or updates, whereas in other cases, extensive research might be necessary to gain the necessary knowledge to launch a procurement procedure. Therefore, there is not a one-size-fits-all approach to preliminary market consultations.

Article 40 of Directive 2014/24/EU states that you can seek advice from independent experts, authorities or market participants, provided this does not have the effect of distorting competition and does not result in a violation of the principles of non-discrimination and transparency.

It is crucial to ensure that any information provided during market consultation is also made available to other operators and that adequate time is allowed for the submission of tenders. Public buyers have a responsibility to ensure that all bidders are treated equally in procurement procedures, so market consultation should not result in an unfair advantage or disadvantage for a bidder.

Preliminary market consultation will enable the public buyer to:

— find creative ideas from the market

— define the conditions for solving the problem

— create opportunities for market parties to work with each other and with public buyers

— measuring the ability of his/her organisation to take on the risk of innovation.

When done well, the market consultation process enables a public buyer to get feedback from the market on a proposed project, including examining the potential opportunities, risks and solutions associated with it. This should ultimately lead to the definition of the best contractual terms and conditions.

To conduct a market consultation process properly, it is necessary to follow a few steps:

Step 1: Carry out research for a consultation framing note, to include:

— the objectives pursued by the market consultation process;

— the expected features of the process, such as the category of goods/service, whether it is open to an innovative solution, the potential for cross-border joint procurement, etc.;

— information on the current market available, including market leaders, new entrants, alternatives, etc.:

— information on how other buyers operate in this market – both public and private sector buyers

— the various constraints on the procurement project (timeline, existing equipment, internal processes and costs, budgetary constraints, etc.)

— who the key internal stakeholders are for the procurement project (public procurers, technical experts, end users, etc.).

The framing note will enable the public buyer to identify the best type of prior market consultation to be carried out, and in broad terms the main topics to be discussed during future interviews/meetings. The buyer will decide what type of market consultation is useful, e.g. online questionnaire, ‘meet the buyer’ events (group or individual participation meeting), online/physical meetings, hackathons, challenges, etc.

Step 2: Preparing the market consultation

— The buyer may invite input from suppliers by publishing a request for information on e-procurement platforms, the buyers webpage, specialised websites or by contacting potential suppliers through dedicated forums. All of these initiatives can help to broaden the group of actors that will have a chance to make their innovative ideas and/or solutions known before the technical specifications are drafted.

The Prior Information Notice (PIN) is a useful tool that can be used for this purpose, to formally advertise a consultation.

Step 3: Prepare for and conducting the interviews/meetings

— Preparing for the interview/meeting is a crucial step in the process and one of the keys to its success: the buyer must gather as much information as possible to define the need and set up the project. The preparation can take the form of an interview grid, which will make it possible to supervise the exchanges and compare the answers provided by the suppliers (see Annex III for the template questionnaire). The interview grid can be sent to the suppliers prior to the meeting.

— Suppliers may be invited to answer questions by email, via an online questionnaire, telephone or in a face-to-face meeting (see Annex II for the supplier invitation template). The buyer will ensure that the same level of information is given to all suppliers.

— For any face-to-face meetings, the buyer should ensure that at least two people present, and take detailed minutes.

Step 4: Use the results

— It is advisable to keep a good record of the market consultation. During the meeting, the buyer should take notes on all the important points, solutions and – above all – the information the buyer provides to the supplier. After the meeting, the drawing up of a report on each individual discussion will enable the buyer to trace the exchanges as efficiently as possible.

— At the end of the market consultation, it is important to produce a summary report that will clarify the most useful information and help formalise the final procurement strategy (choice of the procurement procedure, choice of selection criteria, aspects of to the performance of the solution sought, etc.).

— Last but not least, when launching the call for tenders, the buyer must take all necessary appropriate measures to ensure that competition is not distorted by the participation of the economic operators that were involved in the preliminary market consultations.

EXAMPLE

CITY-MARKET COLLABORATION FOR ZERO-EMISSION CONSTRUCTION SITES:

An innovative approach to procuring non-road mobile machinery in Copenhagen

Why was an innovative solution considered?

In line with the City of Copenhagen's ambitious climate targets, the city was looking to minimise carbon emissions linked to the construction sector. Construction sites are notoriously disruptive in urban centres due to noise, dust and gas emissions linked to the heavy machinery on site.

What was done differently?

Copenhagen held exploratory dialogues to test the market's readiness for fossil-free and zero-emission machines. Feedback from the market shaped the city's strategic procurement and pilot plans for transitioning to more sustainable construction machinery. Copenhagen formed a collaborative forum on zero-emission construction sites with stakeholders from the whole value chain, and piloted use of several small electric machines through minimum requirements in tenders.

What was the outcome?

Copenhagen is moving progressively towards zero-emission construction sites through piloting and the refinement of its procurement approach. The city has established longer-term 'trust partnerships' with suppliers to balance their initial investment in innovative machines. Copenhagen is also collaborating with other ambitious cities on the topic of procuring zero-emission construction sites in a 'Big Buyers Initiative' working group funded by the European Commission.

EXAMPLE

CITY-MARKET COLLABORATION FOR ZERO EMISSION PRODUCT AND SERVICE DELIVERY:

Changing the way products and services are delivered in Oslo

Why was an innovative solution considered?

The City of Oslo aims to reduce CO_2 emissions by 95 % by 2030. Studies demonstrated that a significant proportion of city traffic and exhaust emissions originated from vehicles delivering either products or services (such as plumbing, window cleaning, maintenance and waste disposal) to the city administration.

What was done differently?

The city administration carried out a programme of market engagement activities over 2018 and 2019 with service providers in the city. This included individual interviews with existing suppliers, a supplier questionnaire and joint dialogue event, the aim being to understand potential pathways to achieving zero-emission delivery options over the short and medium term. The response was very positive, with a clear indication from the market that they were interested and able to move towards zero-emissions delivery, provided this was clearly and consistently requested by customers such as the city administration.

Based on the responses received, a series of pilot procurement activities were carried out, giving preference in the evaluation phase to the use of zero-emissions vehicles in service delivery. The results were even better than expected.

What was the outcome?

Oslo has now published procurement guidelines for zero-emissions delivery, for use in all contracts the city procures. The guidelines include minimum requirements on vehicles used, as well as award criteria on the use of zero-emissions vehicles, with the option to introduce these into service provision during the contract. These guidelines will be regularly updated.

In 2020, fully fossil-free construction sites debuted in Copenhagen, Helsinki and Trondheim. Amsterdam, Brussels, Budapest and Vienna are in the process of identifying suitable pilot sites to have their first fossil- and/or emission-free construction sites. By spreading to all these cities this initiative has the potential to help economic actors develop innovative solutions in a key industrial ecosystem (construction) in which public buyers are critical investors.

Details are available at:

http://www.buyzet.eu/wp-content/uploads/2019/05/POLIS_BUYZET-Handbook_EN_web.pdf

EXAMPLE

BUILDING A SUSTAINABLE PRE-SCHOOL:

Working with the market to deliver ecolabel compliance

Why was an innovative solution considered?

The Finnish municipality of Hyvinkää wished to combine the environmental aims outlined its municipal strategy, with the an emphasis on providing a healthy and safe learning environment for children under the national Early Childhood Education and Care Act. In this context, the municipality decided to aim for a new pre-school to be the first awarded an ecolabel.

What was done differently?

Recognising the innovative nature of the requirements being set, the municipality decided to engage with the market early to understand what the options were. A Request for Information was posted on the Finnish national procurement portal, and this was followed up by a more detailed questionnaire and individual interviews with the suppliers that responded to the questionnaire.

What was the outcome?

The market engagement demonstrated the market's ability to deliver an ecolabelled pre-school. It also allowed the market sufficient time to prepare quality bids. The ecolabel requirements were set in the tender specifications. Five compliant bids were finally received, and offered at a cost that was much lower than anticipated. As a result, the municipality won the 2017 Procura+ Sustainable Procurement prize.

Details are available at:

https://ec.europa.eu/environment/gpp/pdf/news_alert/Issue75_Case_Study_150_Hyvinkaa.pdf

https://procuraplus.org/dev/awards/awards-2017/

EXAMPLE

EIC ePITCHING WITH PROCURERS ON COVID-19:

Finding common solutions together (Procurement in the European ecosystem of innovation)

In a fully online event, the European Innovation Council (EIC) brought together more than 50 public and private procurers, five European companies and more than 20 SMEs supported by the EIC in the first 'ePitching with Procurers', a session dedicated to COVID-19 solutions.

Both public and private sector procurers, and the SMEs had the opportunity to pitch their needs and respective solutions and follow-up via dedicated one-to-one sessions in the afternoon.

Two different sessions were organised, in which the SMEs presented their solutions on medical devices and on new innovative biotechnological applications. At the end of each session the participants had the opportunity to select the best pitch.

This event highlighted the importance of creating synergies between SMEs and procurers.

https://ec.europa.eu/easme/en/news/eic-epitching-procurers-covid19-finding-common-solutions-together

4.1.3. **Using optional fields in the standard forms**

From 25 October 2023, public buyers will have to fill in new and updated standard forms ([36]), allowing them to provide information on the use of innovation procurement. The updated standard forms will include an optional field where public buyers can indicate that are purchasing innovative goods, works or services though the procurement procedure. By using this option public buyers contribute to more accurate data collection and analysis of the use of innovation procurement in their country and across the EU.

Good implementation of eForms is an investment. It requires sufficient time and resources, but will have considerable returns in time saved for all implementers and users. In particular, contrary to previous standard forms, eForms are intended to be to a large degree filled in automatically by eProcurement systems, not users, thus significantly reducing administrative burden.

eForms can be tailored to national needs. To understand better the process and options please see the eForms Policy Implementation Handbook ([37]).

4.1.4. **Technical specifications**

With appropriate market consultation, public buyers gain a better understanding of the existing solutions – their parameters, special properties and measurable indicators. This can help them draft better technical specifications, allowing the most efficient and innovative solutions, including new ones, to compete and provide the public buyer with the best benefit. In concrete terms, public buyers can draft technical specifications descriptively or functionally. Each of these methods has certain advantages; however, functional requirements are far more innovation-friendly.

4.1.4.1. Descriptive requirements

There is relatively little chance that descriptive technical specifications stimulate the market to bring forth an innovative solution. They will – at best – reflect the current market capabilities. In case of descriptive technical specifications reaching out beyond what is currently on offer on the market, the public buyer runs the risk of receiving no response.

Descriptive technical specifications may be not wide enough to allow a fair competition between solutions based on different types of technologies, processes or applications. There is a high risk of favouring a specific one. This could endanger the public procurement procedure through review claims. Public buyers have therefore an additional interest in checking the state-of-the-art prior to drafting specifications with an appropriate preliminary market consultation.

([36]) Commission Implementing Regulation (EU) 2019/1780 of 23 September 2019 establishing standard forms for the publication of notices in the field of public procurement and repealing Implementing Regulation (EU) 2015/1986 ('eForms') (OJ L 272, 25.10.2019, p. 7).

([37]) See *https://ec.europa.eu/growth/single-market/public-procurement/digital/eforms_en*

With descriptive technical specifications, the public buyer prescribes the detailed solution and bears full responsibility for its quality and performance levels. Some economic operators may tender a solution substantially exceeding the minimum requirements set by descriptive technical specifications. This is, however, unlikely to happen: a cheaper solution that is less innovative, but still within the minimum requirements, may stand a better chance of success. This leaves only a small margin for manoeuvre for innovation in a competition based on the quality-price ratio.

Descriptive technical specifications are thus best used in cases where the contracting authority perfectly knows the market potential. Even in such cases, leaving part of the performance open to innovation process may help achieving the requested result.

EXAMPLE

A SUCCESSFUL USE OF DESCRIPTIVE SPECIFICATIONS:

Construction of Bilbao's Guggenheim Museum

Why was an innovative solution considered?

The Guggenheim Museum in Bilbao ranks among the most iconic buildings in Europe. Architect Frank Ghery's detailed technical specifications prescribed the exact shape, size and materials to be used. The most difficult part of the construction was the curvy titanium roof, the shape and colour, which have to stand the sun and the wind.

What was done differently?

To make this architectural feat possible and deliver within the specifications as well as the timing and constraints, the contractors used innovation in the production and building process. They used advanced software conceived for the aerospace industry to calculate the size and to cut and fold the titanium panels.

What was the outcome?

The digitisation of the design, production and building processes and the use of super-thin titanium panels revolutionised the construction world. It helped the company that cut and delivered the titanium roof achieve global recognition and success.

Details are available at:

https://www.guggenheim-bilbao.eus/en/the-building/the-construction

http://www.gastdoz.arch.ethz.ch/pmeyer/Infos/Pollalis/case_Guggenheim.pdf

4.1.4.2. Functional requirements

Technical specifications set in terms of functional requirements shift the responsibility for achieving better results to the market. The public buyer sets minimum requirements in order to avoid an abusively low-performing tender, but is not overly prescriptive as regards the means of achieving a desired outcome. Economic operators enjoy openness and flexibility to reach the optimal performance.

Formulating the correct functional requirements and criteria for their evaluation remains however, a challenge, which a good knowledge of the market potential and most suitable technologies can help overcome. Such knowledge is crucial for setting ambitious but realistic requirements, and can be collected through a preliminary market consultation.

A platform where public buyers and economic operators could share, comment and evaluate their experience with the functional technical specifications and award criteria could be set up ([38]). Although the database will not provide legally 'bullet-proof' information, many users have demonstrated interest in this source of inspiration.

EXAMPLE

CHANGING THE FOCUS OF PROCUREMENT:

The Italian National Purchasing Body's functional approach

Why was an innovative solution considered?

The objective is to increase the chance of success with procurement specifications built on the goal to achieve instead of the means to achieve it.

([38]) A similar website already exists with green public procurement criteria: *http://ec.europa.eu/environment/gpp/eu_gpp_criteria_en.htm*

What was done differently?

The Italian National Central Purchasing Body, CONSIP, approaches innovation from a functional point of view. Instead of buying heating or cooling systems, it buys 'temperature' for its clients. The tender specifications require suppliers to guarantee a pre-determined comfort situation, energy savings and carbon dioxide reduction. Specifications include a temperature to be achieved inside the buildings; installation of electronic meters for constant monitoring of the indoor temperature; an assessment of the optimal consumption level for heating and energy services; and energy audits for every building. The contract includes a performance clause requiring a minimum amount of energy saved.

What was the outcome?

The energy saved under the framework contract is sixteen times higher than the minimum required.

Details are available at:

http://www.sppregions.eu/fileadmin/user_upload/Resources/POBS_Best_Practice_Report.pdf

http://www.consip.it/media/news-e-comunicati/consip-vince-il-premio-european-energy-service-award

4.1.5. **Variants**

Public buyers may allow tenders with 'variants': one or more alternative solutions usually based on alternative technologies or processes, can accompany the offer that closely matches the technical specifications. Suppliers can propose, alongside a traditional 'safe' solution, a more innovative solution. This may attract the attention of public buyers because of the potential for better-than-expected results in terms of cost, quality or flexibility. Public buyers may even require the submission of variants only (complying with the minimum requirements).

This can facilitate the participation of start-ups and innovative SMEs that provide one innovative solution only.

In case public buyers authorise or prescribe variants, procurement documents have to indicate the minimum requirements the variants have to meet, including their presentation. It is important to make clear whether a tenderer can submit variants on their own, or as complement to a tender only (which is not a variant).

The use of variants is one of the simplest and safest ways to stimulate innovation in public procurement. Public buyers have only to authorise the use of variants. Should the more innovative variants not work, an economic operator still has a fair chance of winning the contract with the more conservative tender.

The use of variants is most efficient when combined with functional requirements and award criteria that enable the buyer to compare various solutions in terms of their performance, efficiency, cost effectiveness, versatility or durability. Without these parameters, it is difficult to compare the variants.

EXAMPLE

LOWERING RISK THROUGH VARIANTS:

French localities' gradual transition towards renewable energy sources

Why was an innovative solution considered?

Looking for a new energy provider, the local authorities of Bourg-en-Bresse wanted to allow innovation but without incurring extra cost or taking big risks.

What was done differently?

The tender specifications allowed suppliers to propose variants to the traditional fossil offer. Suppliers could still offer traditional fossil fuel.

What was the outcome?

Thanks to the variants, a supplier made an offer that included 3 % biogas with guarantees of origin and hardly any additional cost.

Details are available at:

http://primes-eu.net/media/12194495/1-case-study-bba-natural-gaz-1_vulc-4.pdf

4.1.6. **Award criteria**

Economically most advantageous tender (MEAT) is the only award criterion mentioned in the directive. A smart setting of MEAT award criteria, rewarding both quality and price, represents an important potential for innovation procurement.

MEAT criteria consist of the following:

4.1.6.1. Price

Public buyers can decide to use only the price criterion, if this is allowed by their national legislation (Member States have the option of making other criteria mandatory in their transposition) ([39]). In this case, price refers solely to the purchase value of the supplies, services or works (regardless of the payment modalities). It does not cover any further cost related to use, maintenance, recycling or disposal. Using only price as the award criterion carries very little chance of stimulating innovation, unless the price award criterion is applied in combination with functional requirements and/or variants.

4.1.6.2. Cost

Public buyers can also consider the cost. This typically refers to the monetary value of the production, acquisition, use, consumption, maintenance, interconnecting, recycling and/or disposal of the subject matter of the public contract. To calculate it, public buyers should use accessible and objective life-cycle costing methodologies.

An appropriate costing methodology will attribute meaningful numerical values to the justified interests of the public buyer, e.g. consumption and maintenance cost for a car fleet. The value attributed to each cost component will vary depending on the nature of the public buyer and its specific needs, e.g. postal vehicles operating in an urban setting call for a different valuation of criteria than long-distance delivery vehicles that will drive on motorways and in the countryside with fewer opportunities for refuelling and servicing.

Using cost as an award criterion can stimulate innovation. An innovative vehicle might offer better results in terms of consumption, green energy or maintenance intervals, even if its initial purchase price is higher than the standard offering. This will optimise the life-cycle cost for the public buyer – not only will its initial outlay be recouped, the overall expense over the life-cycle may be less with the innovative solution. Meanwhile, the economic operators will be able to sell innovative products that might otherwise not find their place in the market, thanks to the recognition of their better performance according to the cost criteria.

EXAMPLE

SECURING BETTER OUTCOMES THROUGH LIFE-CYCLE COSTING METHODOLOGY:

Greener vehicles for Slovenian public services

Why was an innovative solution considered?

The public procurement agency in Slovenia purchases vehicles for 130 public authorities. It is bound to 'green' its purchases under the national green public procurement action plan.

What was done differently?

When purchasing vehicles, the agency calculates the life-cycle cost of vehicles using the obligatory common methodology for calculating CO_2 emissions lifetime costs defined in the EU Clean Vehicles Directive.

E.g.: Operational lifetime cost of the CO_2 emissions of a passenger car for a car with CO_2 emissions of 155g/km: 200 000 km × 0,155 kg/km × 0,04 EUR/kg = EUR 31 000,04 imputed operational lifetime cost for CO_2.

This value can then be added to the purchase price and any other operating cost. The vehicle tendered for the best aggregate value combining all parameters (price, cost and CO_2 emissions societal value) will win the contracts.

([39]) Articles 67 and 68 of Directive 2014/24/EU explain how to use the economically most advantageous tender (MEAT) criteria in practice. Article 67(2) last indent: '*Member States may provide that contracting authorities may not use price only or cost only as the sole award criterion or restrict their use to certain categories of contracting authorities or certain types of contracts.*'

What was the outcome?

By applying life-cycle costing as part of the award criteria and setting requirements for maximum levels of CO_2, the Slovenian public procurement agency obtains offers for vehicles with lower CO_2 emissions. This resulted in a decrease in emissions between 3g/km to 45 g/km per vehicle.

Details are available at:

https://ec.europa.eu/transport/themes/urban/vehicles/directive_en

http://ec.europa.eu/environment/gpp/pdf/news_alert/Issue17_Case_Study40_Slovenia_vehicles.pdf

4.1.6.3. Quality

Best price quality ratio (BPQR) is the term used in the EU rules for defining the relationship between the price of the subject matter of a public contract and any criteria that are of particular importance for a public buyer. Quality criteria may include qualitative, environmental, social or innovative aspects of products, services or works. Public buyers enjoy a wide margin of freedom in formulating these criteria and attributing weights according to their specific needs.

EXAMPLE

INSISTING ON QUALITY IN THE SELECTION PROCESS:

More environment- and user-friendly printers for the European Commission

Why was an innovative solution considered?

The European Commission seeks to reduce the impact of its administration on the natural environment and make its working environment better for staff, including employees with special needs.

What was done differently?

Office printers are only considered if they fully meet the requirements of the Energy Star 2.0 Programme and the RoHS (Restriction of the use of certain Hazardous Substances) Directive. They must also allow for the use of 100 % recycled paper.

Life cycle costing is used to take into account environmental considerations and minimise energy consumption through the complete life cycle of a printer until its final disposal as waste.

Tenders can also win extra points in the evaluation if additional features, such as reduced noise levels, reused cartridges, or wheelchair-user-friendly ergonomics.

Details are available at:

http://ted.europa.eu/TED/notice/udl?uri=TED:NOTICE:287253-2016:TEXT:EN:HTML

Carefully chosen BPQR requirements can objectively justify giving preference to products, services or processes that thanks to their innovative features are a better match for the public buyer's ethos and needs.

EXAMPLE

IMPLEMENTING HOLISTIC VIEW INTO THE PROCUREMENT PROCESS:

Purchasing incontinence diapers in Denmark

Why was an innovative solution considered?

The public buyer decided to make a tender using a holistic view because it was clear that the main costs in continent care was not the diaper – the product price – but all the extra costs in diaper care. E.g. the time the nurses use to chance a diaper and all the expenses it gives, if they use the wrong diaper for the patients etc.

What was done differently?

The following award criteria were used:

— Economy 40 %

  — Product price 30 %

  — Total costs 70 %

— Quality 25 %

— Education/consultancy 20 %

— Economic follow-up: 15 %

Details are available at:

http://ted.europa.eu/TED/notice/udl?uri=TED:NOTICE:069650-2015:TEXT:DA:HTML

4.1.7. **Intellectual Property Rights (IPR) management**

Member States and public buyers are encouraged to take a strategic approach to IPR when dealing with public procurement.

Public procurement of innovative goods or services, in particular when research and development services, studies, or software are being procured, may lead to the generation of new intellectual property rights (e.g. patents or copyrights, design rights, trademarks). In procurement competitions that do not specifically aim to buy innovative products or services, a contractor may also propose an innovation during contract implementation. Defining clear IPR clauses in the tender documents is thus important for all public procurements ([40]).

Public buyers must ensure that the allocation of intellectual property rights in their procurement takes into account the applicable IPR legal framework in Europe ([41]) and at national level ([42]), such as for instance the provisions on the minimum rights of use of lawful users of software, of databases, etc. Without prejudice to this IPR legal framework, the EU public procurement directives and State aid rules leave open the choice to require in the tender documents a transfer of intellectual property rights from the participating economic operator to the public buyer ([43]). There are two basic options available to public buyers for the allocation of intellectual property rights resulting from a project, with many variations in between:

— the public buyer requires the transfer of the new intellectual property rights; or

— the public buyer does not require such transfer and the intellectual property rights remain with the contractor.

As these rights are a valuable asset and may have an impact on the attractiveness of public procurement for innovators, it is important that public buyers clearly define upfront, in the tender documents, the allocation of intellectual property rights linked to the public contract, taking into account the various interests at stake, namely the public interest and policy objectives ([44]).

As the procuring entity pays 100 % of the costs, it often considers that it is entitled to all results. However, transferring the intellectual property rights that are attached to those results to the public buyers may stifle innovation. The contractors may be prevented from re-using or even adapting/improving the innovation in a different context or for a different customer, which might also result in lower quality and higher costs for the public buyer. In many cases, suppliers are better placed than public buyers to commercialise the innovations resulting from a public procurement, to secure the appropriate protection of the intellectual property, and defend the intellectual property rights in courts. Hence, companies complain that, compared to other parts of the world, public buyers in Europe stifle innovation by keeping intellectual property rights to themselves, without good reason ([45]).

([40]) Useful guidance on IPRs for the procurement of ICT-based innovation as well as templates for IPR provisions may be found in the Commission Staff Working Document 'Guide for the procurement of standards-based ICT — Elements of Good Practice' SWD (2013) 224 final.

([41]) See notably the EU copyright legislation. This consists in a set of 13 directives and 2 regulations, which harmonise essential rights for authors, performers, producers and broadcasters https://ec.europa.eu/digital-single-market/en/eu-copyright-legislation

([42]) See indicator 10, sub-indicator 'IPR regime',Study SMART 2016/0040 'Benchmarking of national innovation procurement policy frameworks across Europe' *https://ec.europa.eu/digital-single-market/en/news/benchmarking-national-innovation-procurement-policy-frameworks-across-europe*

([43]) Article 42 of Directive 2014/24/EU and Article 60 of Directive 2014/25/EU state that 'The technical specifications may also specify whether the transfer of intellectual property rights will be required'.

([44]) Point 33(b), COM (2014) 3282, *'Framework for state aid for research and development and innovation', http://ec.europa.eu/competition/state_aid/modernisation/rdi_framework_en.pdf*

([45]) Public consultation on the respect of IPR and trade secrets in public procurement in Europe, 2016, *http://ec.europa.eu/growth/content/consultation-respect-intellectual-property-public-procurement-procedures_en*

INTELLECTUAL PROPERTY RIGHTS MANAGEMENT IN PUBLIC PROCUREMENT IN DIFFERENT COUNTRIES

Europe's major trading partners assign the intellectual property rights linked to public procurements, by default, to the participating economic operators, unless there are exceptional overriding public interests at stake. In most EU Member States, the legal framework for public procurement is silent about IPR allocation and leaves it to the public buyer to define the allocation of intellectual property rights in its tender documents. As this is not always an easy task for individual buyers, 11 countries in Europe have adopted a national policy on IPR allocation in public procurement, that leaves the IPR ownership in principle to the contractors: notably Belgium and Spain (via public procurement legislation), Finland, France and Switzerland (via the general terms for government contracts), and Estonia, Ireland, Luxembourg, Hungary and Slovenia (via official guidelines).

Details are available at:

Leaving IPR ownership with companies in public procurement – practices around the world:

http://ec.europa.eu/newsroom/dae/redirection.cfm?item_id=56812

More detail on IPR allocation in public procurement in different countries around Europe:

see indicator 10 in the country profiles of the study SMART 2016/0040

Public buyers should therefore consider leaving intellectual property rights with suppliers, unless there are overriding public interests at stake. This could be the case when the supplier should not be allowed to use the results of the public contract (e.g. for security or confidentiality reasons), when the supplier is not able to use the results of the public contract (e.g. the design of marketing campaigns or logos specifically for public buyers), or when the public buyer has to make all results publicly available (e.g. certain policy reports/studies, open data objectives). Taking the approach of leaving intellectual property rights with the suppliers whenever appropriate can contribute to enhancing the attractiveness of public procurement for innovators.

In cases where intellectual property rights are left with suppliers, public buyers still can and should protect their reasonable interests, as well as public interest. Consequently, it may be necessary for public buyers to retain the following, which should be reflected in the contract ([46]):

— Sufficient usage and adaptation rights: royalty-free rights to use and adapt the innovative solutions. To allow for use and adaptation, public buyers must have access to the documentation and may also need the right to share it with (a limited number of) peers (e.g. other administrations that need to interconnect with the buyer's solution).

— Conditional right to license out: public buyers should have the right to require suppliers to grant licenses to certain third parties to operate/modify the solution for the buyer under fair and reasonable market conditions. If the supplier refuses to do so, the public buyer should have the right to give such licenses itself to third parties to protect public interests.

— Appropriate publication rights: while it is advisable to leave the IPR to the public buyer if all the results need to be made publicly available (e.g. copyright for certain policy reports/studies), in other cases where the IPR ownership is left with the supplier, the access and publication rights for derived data should be secured (e.g. certain public data that is of interest to the general population, or that the public buyer may wish to publish voluntarily to enable reuse by third parties e.g. to develop other innovative solutions).

To conclude, leaving intellectual property rights ownership with suppliers can fuel the industrial commercialisation of innovative solutions while fully protecting the reasonable interests of public buyers and reducing the procurement cost for the public sector. Member States could therefore consider leaving intellectual property ownership to suppliers under the conditions described above and ensure that incentives for enterprises to innovate are not distorted and that access to markets is not foreclosed.

For further information on IPR, including general aspects and the type of deliverable under procurement, see Annex I. For information on the interplay between IPR and State aid, see Chapter 5.

([46]) For more detailed guidance, see Annex I on Intellectual Property Rights (IPR).

EXAMPLE

DUBLIN CITY COUNCIL PRE-COMMERCIAL PROCUREMENT PROJECT:

Flood management through gully monitoring

Why was an innovative solution considered?

In recent years, rainfall in Dublin has often overwhelmed the existing drainage system, caused by more extreme weather events, and exacerbated by the blockage of drains and gullies. This has led to the flooding of roads and properties in the Dublin City area. The current system for flood management relied on local knowledge and historical information, but the Council saw the potential benefit of having real-time information available to help manage situations as they developed. Such information could also help the longer-term flood management planning for the area.

Market analysis showed that while there were a small number of possible technological solutions available, these were not low-cost or scalable – two key objectives to what Dublin City Council required.

What was done differently?

Enterprise Ireland is the government organisation responsible for the development and growth of Irish enterprises in world markets. The organisation has been tasked with promoting Pre-Commercial Procurement through its Small Business Innovation Research programme ([47]). Dublin City Council carried out an innovation procurement competition for a gully monitoring solution via this programme, offering funding for a number of companies along the path to the development of a low-cost, scalable, and viable result. To help the companies to further develop beyond the procurement process, the Intellectual Property Rights (IPR) were granted to them, but with certain usage rights retained by Dublin City Council (DCC), and an additional clause that the rights will revert to DCC upon request if these are unused by the companies for commercial exploitation within 3 years.

What was the outcome?

During the procurement competition, the Council funded feasibility studies, the building of prototypes, and the testing of solutions in a real-world environment. DCC began working with 6 companies to trial and test solutions and by elimination through a competitive process are now working with two companies to co-design low power, low cost devices that can send alerts in the harsh environment of a gully.

The Council is currently validating the results from 50 active sites, and hopes to procure a scalable and low cost solution by the end of the process. One of the companies is now selling their solution, and variations of it, to other cities.

Details are available at:

https://ted.europa.eu/udl?uri=TED:NOTICE:158589-2017:TEXT:EN:HTML (contract notice)

https://smartcitiesireland.org/projects/gully-monitoring/

EXAMPLE

EU BLOCKCHAIN PRE-COMMERCIAL PROCUREMENT:

New cross-border services for EU citizens, businesses and public administrations

Why was an innovative solution considered?

The European Commission in cooperation with EU Member States, Norway and Liechtenstein are creating together the European Blockchain Service Infrastructure (EBSI). New blockchain innovations are needed to deliver high throughput EU-wide cross-border public services with the highest standards of security and privacy while reducing environmental impact.

([47]) Despite the name, the Irish SBIR pre-commercial procurement programme is not limited to small business only. Businesses of all sizes can participate.

What was done differently?

The European Commission launched the EU blockchain pre-commercial procurement to get new innovative solutions developed and tested. As the EBSI also has the objective to help create new business opportunities and to establish new areas of leadership for European companies, specific clauses were created for the procurement that strengthen the opportunities for businesses to protect their IPR and commercialise their solutions in Europe and that strenghthen also EU strategy autonomy, resilience and security interests.

What was the outcome?

The above recommendations from this guidance were put into practice: contractors are allowed to obtain IPR ownership, while securing for the EC and the EBSI countries sufficient usage and adaptation rights, the conditional right to license out and appropriate publication rights. The contracting authority encourages the contractors to contribute to standardisation and publication of results. The EU has the right to object against the transfer or licensing of IPRs to third countries for EU strategic autonomy and security reasons. Participation in the procurement is limited to economic operators that are established and controlled from EEA countries. Place of performance conditions are used to ensure that 70 % of the work for the contract and 100 % of the work on the security components is done in Europe. The EU has the right to require the transfer of the ownership of IPRs generated by the contractor during the procurement to the buyer in case the contractors do not commercialise the results within 4 years after the procurement to a large extent in Europe, in line with EU strategic autonomy and security interests, or if the contractor does not comply with the place of performance and control requirements, or if the take-over or merger of the contractor would negatively impact the access to or commercialilsation of the results in line with EU strategic autonomy and security interests. To increase resilience and competitiveness in the supply chain, the procurement uses multiple sourcing: it has allocated budget to buy R&D from 7 suppliers in parallel in the first design phase, 4 suppliers in the prototyping phase and 3 suppliers in the product development and testing phase.

The market showed great interest in the approach taken by the procurement. Over 500 people participated in the different stage of the preliminary market consultation and 268 participants left their contact details in the online networking space for the EU blockchain PCP indicating their interest to partner up with other stakeholders for the EU blockchain PCP.

Details are available at:

https://ec.europa.eu/digital-single-market/en/news/european-blockchain-pre-commercial-procurement

4.1.8. **Contract performance**

None of the previously described instruments will work, unless the contract terms reflect the relevant – innovation-friendly – aspects. If the public contract is awarded based on quality or performance criteria but cannot be enforced by contractual penalties, such as price indexation or early termination of the contract, the public buyer may miss an opportunity to achieve an innovative solution. This could lead also to various forms of redress.

Contract performance clauses should have at least the following aspects:

— Contract performance criteria, measurable indicators of quality and performance targets ([48])

— Exit clauses in case of underperformance or in case that the market brings even more suitable solution than the one currently under development (with fair exit conditions for the supplier)

— Contract modification clauses, due to volatility and high potential of further innovation ascertained during the contract performance ([49]).

([48]) For an example of a holistic view in preparing tender documentation using Key Performance Indicators (KPI) in the outcome based contract performance phase, please see Stop and Go project's European Specifications Template: *http://stopandgoproject.eu/wp-content/uploads/2017/04/WP2_STOPandGO_D2.2_Update_European_Specification_Template_v1.2.pdf*

([49]) Article 72(1)(a) of Directive 2014/24/EU and Article 89(1)(a) of Directive 2014/25/EU.

Contract performance clauses can also contain the co-called value-engineering clauses ([50]). The latter encourage suppliers not only to deliver solutions that meet the performance requirements, but also to continue to improve the quality and cost of delivered solutions during the implementation phase. These clauses may provide for the payment of bonuses to suppliers for improving the quality of the solutions; they may share with suppliers extra cost savings that they realise for the public buyer during the implementation of the contract. For more information about value engineering, see European Assistance for Innovation Procurement toolkit module 3 (*http://eafip.eu/toolkit*).

EXAMPLE

INSISTING ON QUALITY DURING CONTRACT PERFORMANCE:

Continuous improvement of water quality in the Province of Limburg

Why was an innovative solution considered?

The Limburg water company wanted to obtain a cheaper and more reliable IT system for managing water distribution across its network.

What was done differently?

As software is a continuously evolving field, also after contract signature, the public buyer included value-engineering clauses to encourage vendors to increase the quality and lower the cost of the delivered solutions during contract implementation.

What was the outcome?

This approach resulted in a higher quality and lower cost system: the amount of servers and corresponding maintenance cost was reduced from 50 to 4 and downtime was reduced to 0,005 %.

Details are available at:

http://eafip.eu/wp-content/uploads/2015/06/ParijsLV7.pdf

https://www.croonwolterendros.nl/nl/industrie/actueel/revolutie-procesautomatisering-waterketen-helder-proces-voor-schoon-water

4.2. *Specific innovation-friendly procurement procedures*

4.2.1. **Adjusting ready-to-use innovation – procedures with negotiation**

One of the novelties of the EU rules is the possibility to use a negotiated procedure for public contracts calling for adaptation of readily available solutions (including designs or innovative solutions) that are of particularly complex nature, or where technical specifications cannot be established with sufficient precision ([51]). In these circumstances, the EU rules give the public buyers a choice between two procedures: competitive procedure with negotiation ([52]) and competitive dialogue ([53]).

The main difference is a situation in which the competitive procedure with negotiation is used and a situation in which a competitive dialogue is used lies in the degree of clarity the public buyer has about the project. In the former, the public buyer has a more precise idea of the nature and the subject matter of the public procurement contract, whereas in the latter more upstream choices are still to be made.

COMPETITIVE PROCEDURE WITH NEGOTIATION V COMPETITIVE DIALOGUE

The competitive procedure with negotiation will be more suitable when the public buyer knows that a two-way tunnel has to be built under the riverbed as a public works contract financed from its own budget. The negotiations will focus only on the technical aspects of the works, including price and quality considerations.

([50]) Additional information about result driven payment schemes/value engineering can be found in the following example with various references:
— *www.senat.fr/rap/r16-668/r16-6685.html*
— *http://www.hbs.edu/faculty/Pages/item.aspx?num=47450*
— *https://innovation.cms.gov/initiatives/cjr*

([51]) Article 26(4)(a) of Directive 2014/24/EU.

([52]) Previously, negotiated procedure with publication of a contract notice was allowed only in specifically delimited situations, in particular following unsuccessful outcome of other procedures.

([53]) The competitive dialogue has been substantially simplified under the directives.

By contrast, the public buyer could use competitive dialogue to determine whether a bridge or a (one or two-way) tunnel (on or under the riverbed) should be built as a public works contract or a works concession and whether it should be financed with its own funds or with external sources of funding.

4.2.1.1. Competitive procedure with negotiation

The competitive procedure with negotiation offers public buyers more flexibility in awarding contracts, where readymade solutions are not available on the market. It can also be used where a relatively straightforward, transparent and documented negotiation may enable public buyers to negotiate adaptations of existing elements or conditions for the development of an innovative solution that will meet the needs described in the technical specifications.

This procedure should bring public buyers closer to the industry. It opens a direct dialogue on specific characteristics of the solutions to be developed.

Functional or performance requirements, appropriate award criteria in terms of quality and other measurable indicators, including eventually a prototyping phase may be the necessary elements for successful innovation under this procedure.

4.2.1.2. Competitive dialogue

The competitive dialogue is a two round procedure, where the public buyer describes its needs in a descriptive document or contract notice, sets the minimum requirements for candidates and defines the contract award criteria based on Best Price Quality Ratio (BPQR).

After verification of the selection criteria of the candidates, the buyer initiates the competitive dialogue with the participants meeting the minimum requirements. The negotiations take place individually with each candidate, ensuring confidentiality of each solution. They require high level of expertise from the public buyer's staff as well as allocation of sufficient time. Setting milestones helps evaluate the progress of negotiations and eventually shortlist the candidates.

The innovation potential of this procedure consists in the wide range of solutions that participants can propose. In this context of a close and thorough negotiation, candidates should have enough time to receive all relevant information for providing a tailor made innovative solution. The innovative character may consist in technical, financial or administrative aspects or in completely reshuffling the operational process of the public buyer.

Once the public buyer considers that the competitive dialogue reached an optimal stage, the remaining participants are requested to submit the final tenders. The contract is awarded on the basis of the Best Price Quality Ratio. The initial request for tenders shall include carefully set quality criteria so they are objectively measurable and comparable.

For examples of competitive dialogues, please refer to:

— Copenhagen example under Section 2.1.

— Eindhoven example under Section 3.1.5

4.2.2. **Design contests**

The design contest is traditionally used for designing works in the fields of town planning, architecture, engineering and data processing. However, under the EU rules this procedure is suitable also for other types of projects, such as financial engineering. Design contests may be organised in view of awarding prizes (with payments) or service contracts by means of a follow-up negotiated procedure without publication of a contract notice.

With design contests, the public buyer provides the participants with a large room of manoeuvre in proposing the best solution for the needs described in the contest notice. That is where the potential for innovation lies. An autonomous jury composed of members that are independent from the participants performs the evaluation of the design proposals. At least one third of the jury members should have the qualification that is required of the participants. The jury may ask participants clarification questions and decides based on criteria set out in the design notice.

Design contest has also one specific advantage. In this context, the jury may provide a professional and autonomous evaluation of criteria such as user friendliness, suitability, ergonomics, and artistic, reputational or innovative character of the proposal. All these aspects may be more difficult to measure, compare and evaluate in other types of procedures where objective and measurable indicators may be difficult to establish and rank.

The challenge for this procedure is to ensure the most objective and transparent way of evaluation. To this end, it may be prudent to use a combination of criteria, such as objectively measurable acquisition and performance cost, efficiency, quality criteria in a proportionate and justifiable relation.

For an example of a design contest use to procure innovative ideas, please refer to TekesMatch example under 3.2 Innovation Brokers.

4.2.3. **Triggering innovation by procuring Research and Development**

A public buyer may need to procure research and development services in order to develop a tailor made innovative solution. That may be the case where the market does not offer a satisfactory solution or where an adaptation of existing solutions is unlikely to meet the needs. Depending on the procedure, the result of the research and development process will help to draft technical specifications for the next step, which is the procurement of the practical deployment of the innovative solution.

Procuring fundamental research and development supplies or services is a specific task that institutions with expertise carry out. It is also an option for public buyers in general. It may help them bring a breakthrough solution to the market or adopt an innovative solution from a different area for its own purposes. Procurement of research and development services obviously require a certain degree of professional and financial capacity, experience and resistance to risk implied by such innovative projects.

Nevertheless, if carefully prepared and successful, it is possible to balance all these difficulties and additional development cost by improved cost, increased quality or societal benefit of the innovative solution for public buyers. This can be the case with measures ensuring accessibility for people with disabilities (which, except in duly justified cases, are compulsory for technical specifications pertaining to procurements intended for use by natural persons). The market will also benefit from a launching customer in case of procurement of innovative solutions based on the research and development outcomes. This can create potential for further deployment and open business opportunities.

To ensure compliance with State aid rules, public buyers should pay particular attention to Section 5 of this guidance document, which describes, *inter alia*, the conditions under which the Commission will consider that public procurement of research and development services will not entail State aid.

The following sections will describe main features of the specific public procurement procedures involving the procurement of research and development. In many cases, designated funding of the research and development phase may be available at national and EU level. This is not contemplated in this document.

4.2.3.1. Procurement of research and development services and allocation of intellectual and property rights

According to the EU rules ([54]), where the public buyer reserves for itself all the benefits of the research and development (including all intellectual and property rights), purchases of research and development services fall under the remit of the public procurement directives. Where the public buyer does not reserve all the benefits of the research and development services for itself, these purchases are exempted from the public procurement directives ([55]). An important part of the technical specifications and the subsequent contract should thus be dedicated to the allocation of the intellectual property rights resulting from the research and development services.

If the public buyer keeps the intellectual property rights, it can decide to implement the innovative solution resulting from the research. In this case, the technical specifications of any follow up public procurement procedure can build on the result of such research and development contract. It is also possible that the public buyer decides to license the new intellectual property rights to all interested parties free of charge with the objective of stimulating further innovation. The license terms may provide that any further innovation based on those intellectual property rights should be made available to other interested parties free or charge.

If the public buyer decides to leave the new intellectual property rights resulting from the research and development contract with the supplier, technical specifications should reflect such distribution of intellectual property rights, in particular the market value of the rights left with the supplier in order to avoid potential distortion of competition. For example, the public buyer may foresee to use those rights to implement the solution and/or require the supplier to license those rights to third parties in certain situations under fair (open, transparent and non-discriminatory) and reasonable market conditions.

([54]) Article 25 of Directive 2014/23/EU of the European Parliament and of the Council of 26 February 2014 on the award of concession contracts (OJ L 94, 28.3.2014, p. 1), Article 14 of Directive 2014/24/EU and Article 32 of Directive 2014/25/EU.
([55]) See below Section 4.2.3.2 on pre-commercial procurement, COM(2007) 799 final and SEC(2007) 1668.

4.2.3.2. Pre-Commercial procurement

Pre-commercial procurement consists in procuring research and development services at advantageous conditions from several economic operators.

Pre-commercial procurement is an approach that has been available since 2007. It puts in practice the exemption from the public procurement directives for research and development services in one specific case ([56]) where the public buyer does not reserve all the benefits from the research and development service contract exclusively to itself, but shares them with the economic operators under market conditions ([57]).

Under this approach, the public buyer leaves the new intellectual property rights resulting from the contract with the participating economic operators, but keeps the right:

(i) to use for its own needs the research and development results; and

(ii) to (require the economic operators to) license to third parties under fair and reasonable market terms.

This may be a mutually beneficial solution. Economic operators can commercialise the solutions to other public buyers or on other markets. As for public buyers, apart from the right to use and license the solution in a follow-up public procurement to deploy solutions, they may save costly registration and/or maintenance process that result from the ownership of intellectual proprietary rights. Evidence from pre-commercial procurements shows that the price was on average 50 % lower and up to 4 times more and higher quality offers were received ([58]).

The object of pre-commercial procurement contract falls within one or several categories of research and development (fundamental research, industrial research, experimental development). The contract must be of limited duration and may include the development of prototypes or limited volumes of first products or services in the form of a test series. The purchase of commercial volumes of products or services must not be an object of the same contract. However, the contract can include the purchase of the prototypes and/or the limited volumes of final products or services developed during the pre-commercial procurement as long as the value of the services exceeds that of the products covered by the contract ([59]).

It follows from the definition that research and development service contracts are used in those areas where existing solutions on the market do not meet a public buyer's needs.

For the public buyer, there are several advantages. It is possible to obtain input for a future public procurement; it puts into competition more economic operators, progressively selected based on their performance obtained for pre-defined milestones and their offers for the next phase. Lastly, public buyer has the possibility to terminate the project at any point of time when the results do not meet expected objectives.

For economic operators, this procedure may also be attractive. It is possible to bring a solution to a need that the current market cannot satisfactorily address. In case of success, it may open an interesting market among similar public buyers experiencing the same lack of readily available solutions on the market.

The public buyer can use the lessons learnt of the pre-commercial procurement in the tender documents of a follow-up procurement. This has always to be non-discriminatory so that any economic operator is able to tender. The public buyer however cannot disclose details that would (i) hinder application of the law; (ii) be contrary to the public interest; (iii) harm the legitimate business interests of providers involved in the pre-commercial procurement ([60]); or (iv) could distort fair competition between the participating research and development service providers or others on the market.

([56]) Article 25 of Directive 2014/23/EU, Article 14 of Directive 2014/24/EU, Article 32 of Directive 2014/25/EU and Article 13(f)(j) of Directive 2009/81/EC of the European Parliament and of the Council of 13 July 2009 on the coordination of procedures for the award of certain works contracts, supply contracts and service contracts by contracting authorities or entities in the fields of defence and security, and amending Directives 2004/17/EC and 2004/18/EC (OJ L 216, 20.8.2009, p. 76).

([57]) Pre-Commercial Procurement is a specific approach to procuring R&D services (competitive development in phases) whereby the public purchaser does not reserve the R&D results exclusively for its own use but shares the risks and benefits of the R&D with the service providers. Organising the risk benefit sharing and the entire procurement process in a way that ensures maximum competition, equal treatment and transparency enables the public purchaser to identify the best possible solutions the market can offer and to avoid State aid under certain conditions. See section 2.3 of the *'Framework for State aid for research and development and innovation'*, COM(2014) 3282, (R&D&I-Framework) *http://ec.europa.eu/competition/state_aid/modernisation/rdi_framework_en.pdf*

([58]) *https://ec.europa.eu/digital-single-market/en/news/impacts-eu-funded-pre-commercial-procurements*

([59]) This possibility was used for example by the THALEA project in Section 3.1.1 who purchased as part of the pre-commercial procurement the use of the developed solutions for 4 years after the project.

([60]) E.g. regarding specificities of their individual solution approaches that are commercially confidential or protected by intellectual property rights.

With pre-commercial procurement, it is also possible to shorten time-to-market. In the specific circumstances of the procurement procedure, economic operators have the possibility to develop and test innovative solutions over a certain period. This experience has a twofold benefit, for buyers and for suppliers: buyers have a closer contact with the market players and suppliers get earlier customer feedback on their innovative potential in real circumstances.

This is of particular interest for innovative start-ups, scale-ups or SMEs willing to receive first potential customer references.

Access to this procedure is also simplified. As it does not cover the procurement of commercial volumes of innovative solutions, tenderers only need to fulfil professional qualification and financial capacity requirements for the research and development, not for deployment of commercial volumes of solutions.

The EU's international commitments at bilateral or multilateral level generally do not cover these services. Where R&D services are procured separately and the ownership of intellectual property rights resulting from the R&D is left with suppliers – as is the case in pre-commercial procurements – economic operators from third countries do not have secured access. Such services can be subject to place of performance conditions ([61]).

RESULTS FROM THE SURVEY OF EU-FUNDED PRE-COMMERCIAL PROCUREMENTS

THE BIG PICTURE

Half of the solutions developed as part of EU-funded pre-commercial procurements were deployed within a year:

— opening a route to the market for start-ups and innovative SMEs (73,5 % of contracts are awarded to SMEs/start-ups)

— stimulating cross-border expansion (33,1 % of contracts are awarded on a cross-border basis);

— strengthening the European competitiveness (99,5 % of contractors perform 100 % of their research and development in Europe)

— the commercialisation success rate of participating companies doubled (within a year: 50 % generated revenue, 24 % attracted equity investment, 18 % partnered with large corporate, 12 % underwent a merger or acquisition, 3 % already did an IPO).

Details are available at:

https://ec.europa.eu/digital-single-market/en/news/results-eu-funded-pre-commercial-procurements

INDIVIDUAL EXPERIENCE

Start-ups have identified several benefits from participating in pre-commercial procurements: shortening time-to-market, faster access to first customers that act as ambassadors for their innovative solutions towards wider markets, international growth opportunities, up to 4 times faster business growth.

See what the companies (and the public buyers) say about their experience at:

http://eafip.eu/resources/videos

https://ec.europa.eu/digital-single-market/en/news/pre-commercial-procurement-showcases

For examples of EU funded pre-commercial procurement projects, please refer to:

— Opportunities for SME's within larger projects under 3.1.4.

— Imaile, Thalea and high performance computing projects under 2.5.2 and 3.1.1.

4.2.3.3. Procuring research and development supplies

Procurement of research and development supplies includes the purchase of prototypes or the first complete products or services developed after research and development, their testing and evaluation in order to select the best option before the final large-scale purchase. This can be done by means of any public procurement procedure.

([61]) Commission guidance Notice on the access of third country bidders to the EU procurement market: *https://ec.europa.eu/growth/content/new-guidance-participation-third-country-bidders-eu-procurement-market_en*

A specific exception ([62]) allows for the use of a negotiated procedure without publication for the procurement of research and development supplies. The procured products or services have to be supplied purely for the purpose of research, experimentation, study or development and the contract may not include quantity production to establish commercial viability or to recover research and development costs. This negotiated procedure without publication may be used to buy a limited volume of supplies that were developed during a pre-commercial procurement.

EXAMPLE

PROCUREMENT AT THE FOREFRONT OF TECHNOLOGY:

Supplier - contractor relations in large scientific projects at CERN

Why was an innovative solution considered?

Success in major big science projects depends on the competence of suppliers and the contractors. The experience of the European Organisation for Nuclear Research (CERN) in this respect is telling.

What was done differently?

A key factor in the procurement organised by CERN is that in each new upgrade in its accelerators brings more challenging requirements and performances, pushing suppliers to their limits. Moreover, in some cases the market is too small to invest in producing small volumes of highly sophistical and forefront supplies. This leads CERN to design its own prototypes and collaborate closely with its suppliers.

What was the outcome?

The outcome of collaboration of this kind has also a important commercial pay-off for suppliers. A study related to procurement for the Large Hadron Collider (LHC) and contracting demostrated the clear benefits to CERN suppliers: approximately 38 % of them had developed new products, 44 % had improved technological learning, and 60 % acquired new clients thanks to contracts with CERN.

Another study providing a cost-benefit analysis of the LHC and its upgrade is being conducted by the university of Milan. The preliminary results already show a significant positive relationship between LHC procurement and improvements in suppliers R&D effort, innovation capacity and economic performance.

Details are available at:

https://home.cern/fr/resources

4.2.3.4. Innovation partnership

Innovation partnership ([63]) is a relatively new type of public procurement procedure provided for in Directive 2014/24/EU ([64]). It can be used only in cases where no solution for a public buyer's needs is available on the market.

The main feature of the innovative partnership is that the innovation occurs during the performance of the contract. In most other procedures ([65]), the public buyer already knows what type of solution it is buying: innovation occurs in the pre-contracting phase and usually ends with the conclusion of the contract, when the solution's exact features are agreed ([66]).

In an innovation partnership, the public buyer is entering into a contract with the best potential supplier(s) of innovation. The supplier(s) is (are) expected to create the innovative solution and ensure its real-scale implementation for the public buyer. The public buyer's needs should be described with sufficient precision to allow potential tenderers to understand the nature and scope of the challenge and have sufficient information to decide whether or not to participate.

([62]) Article 32(3)(a) of Directive 2014/24/EU.
([63]) Article 31 of Directive 2014/24/EU.
([64]) See also Article 49 of Directive 2014/25/EU.
([65]) Apart from procedures procuring research and development services, including pre-commercial procurement.
([66]) As described above in Section 4.1.7, such features can be further extended on the basis of value engineered contract provisions, but they will not usually concern the essential part of the innovative solution.

The innovation partnership process takes place **in three phases:**

— The **selection phase** occurs at the very beginning of the procedure. After a call for competition, one or more of the most suitable partners are selected on the basis of their skills and abilities. The contract(s) establishing the innovation partnership is (are) subsequently awarded based on the best price-quality ratio proposed. This phase is similar to a restricted procedure with a prior call for competition.

— In the next phase, the partner(s) develop(s) the new solution in collaboration with the public buyer. This **research and development phase** can be further divided into several stages designated for evaluating concepts, developing prototypes and/or testing performance. During each stage, the number of partners may be reduced on the basis of predetermined criteria.

— In the **commercial phase**, the partner(s) provides the final results, but only if they correspond to the performance levels and maximum costs agreed between the public buyer and the partner(s).

Although the procedure is called a 'partnership' and the participants are referred to as 'partners', it is still a public procurement procedure, subject to relevant EU and WTO rules, notably the basic procurement principles of competition, transparency and non-discrimination.

The innovation partnership was specifically designed to allow public buyers to establish a partnership to develop and subsequently purchase a new, innovative solution. Therefore, it is important that the innovation partnership is structured in such a way that it can provide the necessary 'market-pull', i.e. it incentivises development of an innovative solution without foreclosing the market ([67]).

In this regard, the absence of a separate procurement procedure for the purchase of commercial volumes of final products or services also requires particular attention to EU State aid principles (see Section 5 on State aid below). To ensure that public buyers do not use innovation partnerships in a way as that prevents, restricts or distorts competition ([67]), Directive 2014/24/EU, and in particular Article 31 on the innovation partnership, lays down rules to ensure that an innovation partnership is open, transparent, non discriminatory and competitive.

When conducting an innovation partnership, it is therefore important to pay attention the following aspects:

— Insight into the relevant market: Public buyers need to:

  — establish as the prerequisite for an innovation partnershipa need for an innovative solution that is not already available on the market; and

  — understand that there are serious indications that their needs are feasible, without being limited in their wish to also seek for innovative solutions.

  Public buyers can obtain useful and relevant information from market research gathered from prior market consultations, experiences from previous unsuccessful procurement competitions, and information from conferences and fairs or business standards reviews.

— Contract notice: the mandatory contract notice has to include detailed information on the innovation being sought. This ensures that all economic operators who can both develop and subsequently supply the solution can request to participate in the innovation partnership.

— Criteria used for the selection of the partner(s) presenting the best capacity to conduct research and development and to supply the real-scale implementation of the innovative solutions (e.g. on past performance, references, team composition, facilities, quality assurance systems, etc.).

— Number of partners: setting up innovation partnerships with several partners can facilitate competition and allows for exploring different solutions ([67]).

— The resulting innovation has to correspond to performance levels and maximum costs agreed between the public buyers and the partners in advance.

— Balance between the value of supplies and the investment needed to develop them; this prevents abusive use of this procedure. The duration of any subsequent supply period of the solution must not be disproportionate to it.

([67]) See Recital 49 of Directive 2014/24/EU.

— Performance clauses: the contract performance clauses will enable the buyer to:

  — monitor the quality of performance through indicators that make it possible to measure compliance levels;

  — terminate the contract if the technical, operational or economic performance targets are not met;

  — terminate the contract if the market provides an alternative solution and the innovation partnership becomes redundant;

  — make sure that the intellectual property rights are proportionate to the interest of the public buyer in owning them, taking into account any future need to adapt, amend or transfer the operation of the innovative solution to a different public buyer (see Section 4.1.7 and Annex I):

  — Make sure that the structure of the innovation partnership (in particular its duration and value) reflect the degree of innovation of the proposed solution.

INNOVATION PARTNERSHIP IN PRACTICE

Since the introduction of the innovation partnership under Directive 2014/24/EU, dozens of projects have been advertised across the EU. Different types of public entities have used this procedure, from ministries and public agencies to local authorities. The needs covered are diverse and involve different types of sectors and industries. In all cases, the market research carried out by the buyers had shown that no existing solution could meet the need.

EXAMPLES

1. **HELSINKI OLYMPIC STADIUM SEATING**

https://ted.europa.eu/udl?uri=TED:NOTICE:98072-2018:TEXT:EN:HTML

The purpose of the project

The Olympic stadium and its surrounding structures are protected under Finland's Heritage Act. The National Board of Antiquities had outlined that the old wooden benches were an important part of the architecture of the stadium and that the new designs had to meet the aesthetic requirements of building protection.

The market study revealed that there were no solutions available to meet the requirements of the Olympic stadium renovation project, which were:

— the seats should be an integral part of the architecture of the stadium and should be carefully reconstructed in the event of renovation to resemble the old form;

— based on the functional design, some seats should meet the material requirements for fire protection;

— the project should not incur costly maintenance costs for painting, fire protection, or repairs to wood stitches;

— it should be possible to use fixings for old wooden benches (innovative design).

The process

The procedure was initiated with two mandatory minimum requirements:

— seats with a swivel mechanism;

— seats and backrests with the possibility to be removed separately.

A contract notice was issued in June 2017, accompanied by a preliminary invitation based on the architect's plans. This was followed by the participation phase, which ended in the selection of tenderers. An invitation to negotiate was then sent to the selected candidates. This phase ended with the attribution of the partnership to three companies chosen basised on of the following criteria: prototype seat, development plan and cost estimate. The Innovation Partnership started in early December 2017 and included two stages of development and an interim target. The assessement criteria for each development phase were: seat evaluation, materials/lifecycle/maintenance, and price. The contract was signed in December 2018.

2. **ACQUISITION OF INNOVATIVE VERY HIGH SPEED TRAINSETS AND ASSOCIATED SUPPORT ELEMENTS**

https://ted.europa.eu/udl?uri=TED:NOTICE:234086-2015:TEXT:EN:HTML

The purpose of the project

The purpose of the project launch by the French railway company SNCF was the design, production and delivery of trainsets able to circulate mainly in France and other European countries at a speed greater than or equal to 320 km/h under optimal cost and environmental conditions.

This project consists of three phases:

i. research and development phase to prepare a detailed specification of innovative very high-speed trainsets at a set acquisition price;

ii. design and industrialisation phase for innovative very high-speed trainsets;

iii. production phase and delivery of a forecasted quantity of the trains (between 50 and 200), as well as associated support elements for the trains' operation and maintenance.

The process

A market study was carried out to demonstrate that the need could not be satisfied by an existing solution on the market. This global benchmark of available high-speed rolling stock made it possible to determine that the envisaged train was not already available on the market, and that there was a genuine need for an innovative train.

Next, performance and maximum cost levels were set. The acquisition phase could be implemented only if the result of the R&D phase corresponded to the level of performance and maximum cost agreed between SNCF and the partner. These cost and performance objectives were outlined in the tender.

To choose the winner of the partnership, negotiations were conducted with the selected candidates. The discussions focused on adjustments to the offer in light of the design, development, and production needs, and on the intellectual property rights associated with each phase of the project.

3. **ERHVERVSSTYRELSEN, ALBERTSLUND KOMMUNE, ESBJERG KOMMUNE, FREDERIKSSUND KOMMUNE (JOINT PROCUREMENT – LOCAL AUTHORITIES DENMARK)**

https://ted.europa.eu/udl?uri=TED:NOTICE:209875-2016:TEXT:EN:HTML&src=0

The purpose of the project

The innovation partnership aimed to develop new innovative solutions to prevent or mitigate dehydration of people over 65 years of age. The aim was to reduce avoidable admissions to the hospital for people over 65 that are most often caused by dehydration.

The process

As an introduction to the process of the innovation partnership, the Danish Business Authority conducted a thorough market dialogue in the form of two workshops with companies, experts and users in the participating municipalities.

The preparation phase, which preceded the launch of the innovation partnership, focused on the calculation of purchasing potential and market potential in order to attract innovative companies. The assistance of experts was necessary.

The negotiation phase made it possible to assess different models for developing IT solutions and also to discuss key points for the innovation partnership: source codes, personal data, etc.

Two innovation partnerships were awarded. During the development phase (post award), one of the two partners was unable to deliver a prototype that met the performance levels set in the contract. It was therefore decided to end the partnership with that consortium.

In conclusion, the key success factors for an innovation partnership are:

— a well conducted assessment phase to determine whether an R&D phase is really required, plus a strategic approach to intellectual property rights;

— anticipation of the general planning and the different phases of the contract;

— the setting up of a multidisciplinary project team with experts in the field concerned and the establishment of a real steer/monitoring of the contract in the long term. This will enable the public purchaser to evaluate the intermediate results of the partners;

— implementation of a collaborative and agile working method to exchange and co-construct with partners; and

— respect for the equal treatment of partners and business secrecy during the partnership's implementation phase.

5. STATE AID

When awarding public contracts, public resources are used to pay economic operators for the purchase of goods, services or works. Public authorities must therefore ensure that, when conducting these transactions (irrespective of the public procurement procedure used), they do not grant State aid in ways that would be contrary to the EU State aid rules. In particular, it is critical to check whether or not a company being awared a contract as a result of a public procurement procedure receives a payment which exceeds what it would receive on market terms. Therefore, this guidance refers to certain criteria which innovation procurement should fulfil to avoid granting State aid to a supplier.

As a general rule, these economic transactions carried out by public bodies do not confer an advantage on their counterparts, and therefore do not constitute State aid, if they are carried out in line with normal market conditions ([68]). According to the Commission Notice on the Notion of State aid ([69]), this will normally be the case if the tender procedure is competitive, transparent, non-discriminatory and unconditional, in line with the relevant EU directives on public procurement. The tender should allow for the most economically advantageous offer to match the value of the market.

However, the Commission Notice refers to some specific circumstances where the public procurement procedures will not allow for a market price to be established, for instance:

— negotiated procedures without prior publication of a contract notice, where the specific circumstances do not allow to establish the market price;

— in specific cases where only one bid is submitted, the contracting authority should be prepared to justify that the outcome of the tendering procedure reflects the market price by ([70]):

— Either demonstrating the objective character of tender specifications that do not favour any particular economic operator;

— Or verifying by additional means that the outcome of the procedure corresponds to the market price.

In addition, as regards the procurement of research and development services (including pre-commercial procurement), the Commission's Framework for State aid for research and development and innovation lays down the following cumulative specific conditions that public authorities must observe in order to avoid the presence of State aid ([71]):

— the selection procedure is competitive, transparent, and non-discriminatory, and is based on objective selection and award criteria specified in advance of the bidding procedure;

([68]) Article 107 (1) of the TFEU provides that any aid granted by a Member State or through State resources, in any form whatsoever, which distorts or threatens to distort competition by favouring certain undertakings or the production of certain goods shall be incompatible with the internal market, in so far as it affects trade between Member States.

([69]) See paragraphs 89 and seq. of the Commission Notice on the notion of State aid as referred to in Article 107(1) of the Treaty on the Functioning of the European Union C/2016/2946, *https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.C_.2016.262.01.0001.01.ENG&toc=OJ:C:2016:262:TOC*

([70]) These conditions are not cumulative (see para 93 of the aforementioned Notice on the Notion of State aid).

([71]) These criteria are specified in point 2.3 of the Framework for State aid for research, development and innovation, *http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ:C:2014:198:TOC*

— the envisaged contractual arrangements describing all rights and obligations of the parties, including with regard to intellectual property rights, are made available to all interested bidders in advance of the bidding procedure;

— the procurement does not give any of the participant providers any preferential treatment in the supply of commercial volumes of the final products or services ([72]);

— and, one of the following conditions is fulfilled:

  — all results which do not give rise to intellectual property rights may be widely disseminated (for example through publication, teaching or contribution to standardisation bodies in a way that allows other undertakings to reproduce them);

    and any intellectual property rights are fully allocated to the public buyer,

  — or any service provider to which results giving rise to intellectual property rights are allocated is required to grant the public buyer unlimited access to those results free of charge, and to grant access to third parties, for example, by way of non-exclusive licenses, under market conditions.

Where the above conditions are not fulfilled, public authorities may rely on an individual assessment of the terms of the contract between the public buyer and the undertaking, or, in doubt, notify the measure to the Commission.

For situations that involve State aid, normal State aid rules apply, i.e. the aid can be deemed compatible with the Treaty if it fulfils certain conditions ([73]).

([72]) This is without prejudice to procedures that cover both the development and the subsequent purchase of unique or specialised products or services.

([73]) Conditions under which State aid for R&D&I can be deemed compatible with the Treaty are set out in the R&D&I Framework, as well as in Commission Regulation (EU) No 651/2014 declaring certain categories of aid compatible with the internal market in application of Articles 107 and 108 of the Treaty (OJ L 187, 26.6.2014, p. 1) as amended by Regulation (EU) 2017/1084 (OJ L 156, 20.6.2017, p. 1), see *https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:02014R0651-20170710*
Commission Regulation (EU) 1407/2013 of 18 December 2013 on the application of Articles 107 and 108 of the Treaty on the Functioning of the European Union to *de minimis* aid in the agriculture sector (OJ L 352, 24.12.2013, p. 9) lays down the conditions under which the aid can qualify as *de minimis* and be exempted from the notification requirement, *https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32013R1407&from=EN*

ANNEX I

Intellectual Property Rights (IPR)

This annex elaborates on the intellectual property (IP) rights issues that may arise in public procurement practice, when it is being considered to leave the IP ownership to the contractor because the procurement at stake qualifies as 'innovation procurement' and/or because it is thought that such legal construction would be appropriate to support innovation.

Some additional guidance is given on:

— when it may be appropriate for the contracting authority to leave the ownership of the IP rights of the deliverables created as a result of the public procurement to the contractor and

— in such cases, how this should translate into appropriate contractual mechanisms.

Part I provides details on general aspects relating to IPR, while Part II explores different types of deliverables, and how these relate to IPR.

Part I – General aspects relating to IPR

When drafting or discussing the IPR clauses of the contract, the public administration should keep in mind its policy objectives and its interests, which will normally be: to obtain the rights necessary for its needs, at the correct price, while avoiding a future lock-in (with the contractor) or legal claims (from third parties or the contractor).

The guiding principle should be '*Acquire all you need, but only all you need – including in the future*'.

Should a public buyer own the IPR?

Deciding not to obtain IPR ownership still allows the public buyer to obtain all the required rights to safeguard his own freedom to operate, while leaving the responsibility and costs to protect and maintain the IPR and to deal with potential legal claims with the contractor. However, it may not be the most suitable approach if the aim is to make the results of the contract available free of charge to a broader public (unless the public buyer obtains an open licence).

In case the public buyer does not obtain IPR ownership, the tender documents should always clearly describe which rights the buyer still wants to have, their scope, and for which territory, duration and beneficiary(ies):

— regarding the **scope**, attention should be paid to obtain sufficiently broad rights (to use, to modify, etc.), including for the foreseeable future needs; under contract law in many jurisdictions, in case of doubt on the exact scope, the licence would probably be interpreted in favour of the licensor rather than of the licensee.

— regarding the **territory**, it is possible to foresee, if this makes sense, that the contractor grants the public buyer these rights worldwide;

— regarding the **duration**, the public buyer should consider if a limited duration will suffice or if the duration should be equivalent to the duration of the IP rights concerned; in practice, the latter means that the licence is irrevocable (as long as the administration respects its terms and conditions);

— regarding the **beneficiaries**, the licence may need to include the possibility to make the results available to a list of predefined other institutions or bodies e.g. other administrations that need to interconnect with the buyer (though this will in practice amount to 'carving out' part of the future market of the new product or service);

Do IPR ownership decisions impact on price?

Leaving the IP ownership with the contractor will usually lead to a lower price to pay and may attract more tenderers to bid.

It may not always be easy to verify that this is the case. A possibility can be to ask tenderers to quote two prices (one – 'actual price' - for a licence, and one – 'virtual price' - for a transfer of ownership). Alternatively, the contract can provide that royalties will have to be paid to the public administration in relation to the commercial exploitation of the product or service on the market. Various payment methods are possible (lump sum, proportionate, one-off, recurrent, etc.); if such royaties are foreseen, audit mechanisms should also be part of the contract.

How can the public buyer be protected, if it does not own the IPR?

It may be wise to include additional rights for the public buyer that prevent supplier lock-in and safeguard future access to a sufficiently competitive supply chain ([1]). A list of such rights is set out below.

— the public buyer can retain the right to require the contractor to grant (or, in case the contractor fails to do so, to grant himself) licenses to third parties to exploit the results for the buyer (i.e. to practice the innovative service or to manufacture the innovative product for the buyer) at fair, transparent, reasonable, proportionate and/or non discriminatory terms;

— if the contractor abuses the results against the public interest or fails to commercially exploit the results within a reasonable pre-agreed period after the contract, the buyer can retain the right - after consulting the contractor on the reasons for the non-exploitation - to require the contractor to transfer to the buyer the ownership of results (including IPR) resulting from the contract (so called call-back clause);

— in case wider usage of the results beyond the beneficiaries defined in the contract is desired or if interoperability or interconnectability with other systems on the market is important, the contract can foresee the right for the public buyer and/or the obligation for the contractor to contribute to standardisation (during and/or after the contract) and/or to publish summaries of the results (always in consultation with the contractor, in order to safeguard appropriate IPR protection).

How should pre-existing IPR be managed?

The contract must clearly distinguish the IP provisions which will apply to pre-existing materials (sometimes referred to as 'background IP'), from the IP provisions which will apply to the materials that are newly created in the contract ('foreground IP'). Leaving the ownership of both foreground and background IPR with the contractor can enable the contractor to manage optimally the complete set of background and foreground rights and to offer the public buyer a better package deal for usage rights for both. In order to prevent supplier lock-in, it may also be important that the public buyer requires tenderers to declare pre-existing IPR before awarding the contract and to provide more extensive information about it upon request.

What about the transfer of the contract?

If the identity of the contractor is important (contract *intuitu personae*) or if there are security or strategic autonomy concerns, the contract could impose some restrictions on the possibility for the contractor to further transfer or exclusively license the IP ownership to a third party (such as a third party outside the EU); it could include the obligation to first notify the intention to transfer or to exclusively license, a right of veto by the public buyer, or mechanisms such as 'change of control' clauses.

Finally, rules on competition law (in particular on State aid see Chapter 5) should be taken into account to assess the legal validity of the IP mechanisms envisaged.

([1]) These additional rights are included as standard in EU funded pre-commercial procurements. For more info: *http://ec.europa.eu/research/participants/data/ref/h2020/other/gm/h2020-guide-pcp-procurement-docs_en.docx*

Part II – Type of deliverable procured and IPR

There are several different types of deliverables that a public buyer may procure and the type of deliverable can have an impact on the approach to IPR.

Technical inventions

Technical inventions can be protected by different types of IP rights: registered IP rights such as patents and utility models, and unregistered IP rights such as trade secrets.

When the deliverable of a call for tenders might result in a technical invention, the question also arises as to whether it is better that the public buyer obtains the IP ownership (and protects, defends and pursues exploitation of the invention) or if it is preferable to leave the ownership (and the possible protection, litigation issues and the exploitation/technical know-how) to the contractor.

The answer will depend among other things on considerations of public interest and security interests. It will also depend on whether the public buyer intends to only be a user of the future technology or whether it intends to actively pursue its exploitation on the market through technology-transfer agreements (for instance, as a future technical standard). In the first case, it may not need to be the owner of the invention. Another important consideration is whether the public buyer has the mission, know-how, financial and legal resources to protect and defend IPR related to technical inventions. In many cases, suppliers are better placed than public buyers to commercialise inventions resulting from a public procurement, to secure the appropriate protection of the industrial property right, and defend the IP rights in courts.

If the decision is taken to leave the IP ownership with the contractor, the following elements should be duly considered in the contract, in addition to the issues mentioned in Part I:

— A clear distinction should be made between the registered IP rights, e.g. patents and utility models, and the unregistered IP, such as trade secrets; for technical inventions, the contract should require the contractor to notify the public buyer when an invention occurs, if the contractor decides to protect it with registered IPR, and, if so, in which jurisdictions. In this way, the public buyer is always aware of the coverage of IPRs that is ensured by the contractor, and if this does not suffice, the public buyer can still seek additional IP protection for inventions that the contractor chooses not to protect.

— The needs of the public administration to disclose information about the new product or service have to be made compatible with the interests of the contractor to keep some information confidential (technical know-how, commercial secrets), in particular before patent applications, if any, have been filed.

— There could be a need to provide for technical assistance by the contractor, at least initially.

— The contract should clarify whether the public administration is entitled to future improvements to the invention, and if so under which conditions.

— As for the other IP assets, the licence to the public administration should be broad enough to cover the current and future needs of the administration, e.g the right to modify the invention, the right to authorise some other public administrations to use the invention and the right to obtain technical information.

Software

When the deliverable of a call for tenders is a software that will be specifically developed for the contracting authority (assuming therefore that such software is not yet available on the market), the question should be examined whether the contracting authority needs the IP ownership on it, or only a licence. It is worth recalling in this respect that the EU Directive on the legal protection of computer programs ([2]) grants a number of minimum rights to lawful users, which cannot be waived by contract; the public buyer will thus benefit from these rights but that will in most cases not be sufficient to cover its needs.

([2]) Directive 2009/24/EC of the European Parliament and of the Council of 23 April 2009 on the legal protection of computer programs (Codified version) (OJ L 111, 5.5.2009, p. 16).

The Open Data Directive ([3]) does not apply to software; this means that Member States are not obliged, even when they own the IP rights on software, to make it available as open source. However, the Open Data Directive allows Member States to decide to include software in the scope of their national implementing legislation ([4]).

Requiring IP ownership may be justified on various grounds, such as:

— If the purpose is to make the software available as 'open source', available for everyone (including with the source codes), it will in practice be necessary to provide that the contractor will transfer the IP ownership of the newly created software to the contracting authority; this may be the case, for instance, if the contracting authority wishes to ensure transparency on the software or to encourage contributions by the community; in principle, an alternative could be to leave the IP to the contractor yet oblige him to licence the software as open source (but this will deprive him from the possibility to derive revenues from licensing);

— If security reasons or other reasons make it necessary that the software is not made available at all to other potential users but rather remains confidential, it is also necessary to obtain the IP ownership on it; an alternative could be to contractually oblige the contractor to keep the software confidential, however this may be harder to enforce.

A logical consequence of the acquisition of IP ownership of the software is that the contracting authority must receive the source codes (and all useful technical documentation), so as to be able to effectively exercice its ownership rights.

However, in many other cases, it may be more interesting to leave the IP ownership with the software developer, thereby also leaving to the contractor the possibility to licence the new software to other clients:

— Logically, the financial offer from the tenderer should normally be more advantageous for the contracting authority;

— If the contractor is then able to licence the software to other clients, it is likely that the contractor will also continue to improve the software and make updates and upgrades available, including to the contracting authority which will thus benefit from it (possibly provided that a maintenance agreement is concluded).

In case the public buyer leaves IP ownership with the contractor, special attention should be paid in the contract to the following issues:

— The licence, which will list the rights of the administration to use the software, should include the right:

  — to make the necessary copies for internal distribution, archiving, back-up, testing, etc.;

  — to adapt the software in the future (also for maintenance and correction of errors), and the possibility to outsource this adaptation and maintenance to a third party;

  — to obtain all technical documentation and the source codes, so as to be able to effectively adapt the software (and not to be dependent upon the continuing existence in business of the contractor);

  — to make the software available to its contractors and subcontractors (e.g. in case of outsourcing) for the needs of their mission for the contracting authority;

  — as the case may be, the right of the contracting authority to make the software available to some other public institutions.

— The licence should however not allow the use of the software for commercial purposes nor the right to make the software available to users other than the authorised users; moreover, it should be prohibited for the public administration to make the software available under an open source licence.

([3]) Directive (EU) 2019/1024 of the European Parliament and of the Council of 20 June 2019 on open data and the re-use of public sector information (OJ L 172, 26.6.2019, p. 56).

([4]) For instance, France is applying the logic of the Open Data Directive to software. https://www.data.gouv.fr/fr/

— The contract must mention the duration of the licence (for instance, the whole duration of the copyright protection) and the geographical scope (for instance, the whole world); logically, the licence would be non-exclusive (as otherwise the contractor could not commercialise the software and licence it to other clients).

— Additional mechanisms may need to be put in place to avoid 'vendor lock-in' and to allow the contracting authority, at the end of the development project, to be completely independent from the developer and to have the possibility to take the project fully in-house or to continue with another contractor (the so-called 'reversibility issue'). This may include receiving all technical documentation on the software, training of internal staff, having extensive information on third-party pre-existing materials, etc.;

— In addition to the licence, a maintenance contract with the provider may be useful; as a minimum, the right to benefit from improvements to the software by the contractor should be considered.

— The use of pre-existing software in, or in conjunction with, the final deliverable should be clearly dealt with in the contract, in order to have clarity on the rights of use (including financial terms) of the contracting authority on such pre-existing software elements (which might belong to the contractor or to third parties).

Data and databases

When the deliverables of a call for tenders are data, datasets or databases, the public body should pay particular attention to how to handle the IP provisions in the call for tenders.

In many cases, the datasets are already available with an existing data provider (or data publisher). In such cases, the normal model will be a licence agreement with the data provider and the Open Data Directive will not apply to such datasets. The public body should still try, within the limits which the rules on public procurement impose, to negotiate and ensure that the limitations usually imposed by the licence are compatible with its objectives (notably in terms of sharing of the data with some other public entities with whom the public buyer needs to cooperate or with other contractors working for the public buyer in ongoing or future procurement contracts).

When the data is not available as such on the market, the deliverables of the contract will be data that first needs to be collected and/or a new database that needs to be created. The question then arises as to whether the public body should obtain the IP ownership on the datasets or leave it to the contractor.

This guidance document does recommend to, whenever it is justified, leave the IP ownership with the contractor. However, this argument of 'leaving the IP with the contractor' referred to in Section 4.1.7 should be used with particular caution when the deliverables are data; while software will normally be 'single-purpose' *tools*, data can be seen as *information* for 'multiple purposes', and transparency and accountability considerations as well as the principles and logic of the Open Data Directive (including on so-called 'high-value datasets', see Article 14 of the Open Data Directive) should also play a role in the decision on IP allocation and may lead to requiring that the ownership of the data (IP ownership or other control mechanisms) is granted to the contracting authority ([5]).

Any public buyer must carefully consider the question whether it wants to make the data available as 'open data', and there may be different reasons why the public body may wish to do so. A couple of examples are:

— the collection collection of data takes place in the context of a policy initiative and this data must be 'open' for reasons of transparency and accountability;

— the public buyer wants to release the data for free use by private companies, such as startups, in order to encourage the development of new products and services.

([5]) References in this document to 'ownership of the data' should not be understood in the strict sense of 'legal ownership' but rather as the set of prerogatives which allow to control the exploitation and use of the data.

The question should be thus examined whether the buyer needs the IP ownership or not. It is worth recalling in this respect that the EU Database Directive ([6]) grants a certain number of minimum rights to lawful users of databases and that any contractual provisions that are contrary to these minimum rights shall be null and void ([7]); the public buyer will thus benefit from these rights but that will in most cases not be sufficient to protect its future needs.

If the decision of the public buyers is to leave the intellectual property right with the contractor, attention should be paid to the following points:

— It could end up, in some cases, giving to a private contractor a form of monopoly on the datasets, and there may be situations where this would not be desirable. Even if the consequence should be that the price of the contractor's offer should be lower (than for a transfer of the ownership to the administration), the administration should consider whether, in the particular situation, this financial advantage is a sufficient reason for leaving the IP with the contractor;

— In certain cases, the data is collected via sensors allowed to be put in public spaces or on public infrastructures (streets, railroads, etc.) or could only be collected on the basis of a permission given by an administration (e.g. public-private partnerships, public undertakings, or concessions in the utilities sector). In all such cases, it will often be preferable to ensure that the data are available as open data; this could happen either at the initiative of the public administration or as an obligation imposed on the contractor;

— Sometimes the data could be seen as being of public interest. In such cases, even if obtaining full control of the data requires from the administration to pay a higher price from the contractor, it may be a price worth paying, in order notably to encourage new and innovative applications and services. The administration could otherwise end up having to re-negotiate later a right to access the data held by the private company while this could have been avoided from the outset by ensuring the acquisition of the data ownership.

There will also be situations where the call for tenders will not be mainly about data but rather about new equipment or new services, and where data will be produced/derived as a result or by-product of the deployment of the new service or use of the new equipment. There also, the question of ownership vs. licence must be carefully considered, and the considerations listed above should also be taken into account.

Studies and documents

When the deliverable of a call for tenders is a study which is meant to be used in the context of a future **policy initiative or programme**, or is meant to assess the effect of an existing policy or programme, the typical IP which would apply to such a study will be copyright. Leaving the copyright to the contractor would mean that said contractor would be entitled to decide when the study may be published, how, under what conditions, etc.

It is thus generally not recommended to leave the IP ownership to the contractor in these cases. The reasons for this are several:

— It gives the public buyer full freedom to publish the document and to allow its reuse, for transparency and accountability purposes, while also respecting the contractor's interest and rights to be mentioned as the author on the document (for reputation and prestige);

— The typical contractor will often be a university, consultancy firm, law firm, or research centre: their main interest will normally be to be mentioned as the authors of the study (for reasons of reputation and prestige); such a contractor would sometimes not be equipped to organise the publication of the study, and would often not count on deriving large direct financial revenues from the publication of the study – such revenues would usually not be very significant anyway;

([6]) Directive 96/9/EC on the legal protection of databases (OJ L 77, 27.3.1996, p. 20) (aka the EU Database Directive).
([7]) See EU Database Directive: Article 15 (binding nature of certain provisions).

— Such documents will often have a certain degree of 'generality', which means that they will not, as such, include detailed and new technological information that could, in itself, lead to the development of new products or services (for instance, documents produced in the context of contracts for conducting economic, legal or policy studies).

While the contracting authority should thus ensure that it obtains the IP ownership on the study, the contract should not unduly limit the possibility for the contractor to use the experience, knowledge or know-how acquired in doing the study (provided this does not entail disclosing confidential information of the contracting authority), as this is where benefits in terms of 'innovation', if any, could be expected.

The reasoning described above could be different for documents that result from contractual tasks that are of a **more technical nature**, for example a report on the results of a feasibility study for a new technical project, or the technical specification for the development of a prototype. Here, as opposed to documents of a general/policy-oriented character, there are not only copyrights but also more importantly industrial property rights (e.g. patents, design rights, trade secrets etc.) that might come into play. In this case, the public buyer should take into account considerations in the above sections on leaving with the contractor the IP ownership on potential innovations described in the document (e.g. patents on inventions and copyrights on software or databases described in the document). If commercialisation of the results described in the document is the aim, then it is recommended that the public buyer should leave to the contractor the possibility to, as the case may be, protect the IPR (e.g. file a patent application), and the public buyer should reflect on whether the part of the document that is not IPR/commercially sensitive can possibly be published.

The contracting authority should reflect on whether it needs to also receive, in addition to the study, the underlying raw data which may have been collected or produced as a result of the study, and whether it needs to obtain the IP ownership on such data or datasets or can leave it to the contractor (while merely obtaining a right to use them for internal purposes).

Design, logos, creative assignments, communication materials

Contract deliverables that constitute designs, logos, tradermarks or similar distrinctive signs and communication materials such audio/video/social media material, and which are the result of the suppliers' creative work, are also protected by copyright.

When the deliverables of a call for tenders are logos, trademarks or similar distinctive signs, or communication materials, there are no strong arguments to suggest that the contractor should be entitled to keep the IP ownership:

— The public administration will normally need to be able to control the use of these logos, trademarks, etc. (this is precisely the essence of a trademark registration), and this requires that it becomes the owner of them;

— More importantly, these deliverables can be very creative but will normally not be seen as contributing to 'innovation', so that leaving the IP ownership with the contractor would not bring the benefits usually expected from innovation in terms of societal impact, job creation, etc.

ANNEX II

Supplier invitation templates

These sample invitation texts can be sent to suppliers in order to inform them that a contracting authority wishes to invite them to a market participation meeting. There are templates provided for:

A. A group participation meeting – where multiple suppliers are invited to one meeting together

B. An individual participation meeting – where a contracting authority meets with suppliers individually

It is important that the invitation contains all relevant information about the process, and how it fits within the overall public procurement procedure.

A. **Group participation meeting - sample invitation text**

Dear…

The[name of the contracting authoritiy]… is preparing to launch a procurement competition for… [generic object of the market/ geographic scope, for example: contract for the purchase of buses for Bucharest municipality].

In this context, we wish to meet with suppliers' representatives in the field in order to set out the details of the procedure that will be followed, and to understand the concerns and potential of this particular market.

We intend to hold a group meeting with multiple suppliers, and would like to invite you to take part on [insert date and time] at [insert address].

In advance of the meeting, we would be grateful if you could please provide: (i) contact details for the representatives who will attend (maximum of two people), and (ii) a completed copy of the questionnaire attached to this mail; by [insert date and time for receipt of information].

Completed questionnaires and any other information provided by you in advance will be kept at the administration and treated as confidential. Notes will be taken by the contracting authority throughout the meeting, and any comments or feedback will not be attributed to any one individual, in the interest of confidentiality and unless otherwise requested.

We thank you in advance for your participation in this market research exercise.

If you have any questions, please do not hesitate to contact us at [insert relevant contact details].

Kind regards,

…

B. **Individual participation meeting - sample invitation text**

Dear…

The[name of the contracting authoritiy]… is preparing to launch a procurement competition for… [generic object of the market/ geographic scope, for example: contract for the purchase of buses for Bucharest municipality].

In this context, we wish to meet with suppliers' representatives in the field in order to set out the details of the procedure that will be followed, and to understand the concerns and potential of this particular market.

We wish to invite you to a meeting to discuss your opinions, experiences and knowledge in further details on [insert date and time] at [insert address].

In advance of the meeting, we would be grateful if you could please provide: (i) contact details for the representatives who will attend (maximum of two people), and (ii) a completed copy of the questionnaire attached to this mail by [insert date and time for receipt of information].

Completed questionnaires and any other information provided by you in advance or during the meeting will be kept at the administration and treated as confidential.

We thank you in advance for your participation in this market research exercise.

If you have any questions, please do not hesitate to contact us at [insert relevant contact details].

Kind regards,

…

ANNEX III

Template questionnaire for meeting the suppliers [1]

The objective of this template questionnaire is to help buyers gain some insight into an innovative supplier, possibly in advance of a meeting, including for instance start-ups or innovative SMEs.

During the interview, the exchanges can be split into three themes:

— Theme 1: Identifying the target category: SMEs or medium-size companies, large businesses, etc.

This section aims at properly describing the main data of the economic operator(s).

— Theme 2: Assessing the supplier's integration into the ecosystem of innovation

This section aim at assessing the supplier's level of integration into the ecosystem of innovation.

— Theme 3: Defining the maturity of the innovative solution proposed

This section aims at identifying the main features of the innovative solution proposed by the supplier.

— Theme 4: Describing the innovative solution

This section allows the buyer to identify the innovation sector concerned.

Company name:	
Company website:	
Type of innovation:	
Interview with the supplier — Date of interview: — Name of the buyer: — Name of contact person at the company:	

I - Category of company	Key data	Comments
Year of creation **Total number of employees** Of which engineers and R&D Of which commercial		
Annual turnover — N-3 — N-2 — N-1 **Type of business** — Start-up — Microenterprise — SME — Medium enterprise — Large Business		

[1] This template has been based on the template developed by the French Direction des Achats de l'Etat (DAE) and included in the Guide on operational sourcing of March 2019. *https://www.economie.gouv.fr/files/files/directions_services/dae/doc/Guide_sourcing.pdf*

I - Category of company	Key data	Comments
Company identification number		
Address of head office		
Contact (name and mail) Manager Commercial Relations Officer, where applicable		
Any existing references Private sector Public sector		
Central buying office (where applicable)		
Do you currently export to: Europe Africa Asia North America South America Oceania		

II - Ecosystem of innovation	Key data	Observations
Network integration (multiple answers possible) Are you a member of (specify name): — a competitive cluster — an incubator — a cluster — a fab lab / living lab — a coworking space — a university spin-off — a professional organisation or trade union — a multidisciplinary innovation program — other — private banks Do you benefit from: — tax credit - innovation — grants (departments, regions) — private investment — crowdfunding		

II - Ecosystem of innovation	Key data	Observations
Research partnership *If yes, specify the name* — laboratory — university — other		
R&D effort in relation to overall expenditure *(average of the last 3 fiscal years)*		
The existence of an internal research office/department — Yes, specify the number of staff — No		
Labels, awards obtained — Yes, specify the number of staff — No **Patents filed (national, international)** — Yes, specify the number of staff **Exclusivity rights** (dominant position in relation to competition)		

III - Characteristics of innovation	Key data	Observations
Innovation type [2] — *Minor* — *Incremental* — *Disruptive* — Technology — Product — Services — Customary — Process or organisation — Marketing — Of business model — Societal innovation		
Innovation maturity *Developed in-house* — Successful prototype — Industrialisation — Marketing for at least 2 years		

[2] For definitions see page 4 of this guidance.

III - Characteristics of innovation	Key data	Observations
— Distribution — After sales service *Developed within the framework of an external partnership* — Successful prototype — Industrialization — Marketing for at least 2 years — Distribution — After Sales Service		
Industrialisation methods Partnership with industry — Yes, specify the number of staff — No Planned development — first series — deadlines — quantity		

IV - Description of the innovative solution	
Information provided by the company	

V - Analysis and synthesis (part reserved for the buyer)	Observations
Entity's potential Integration into the innovation ecosystem? ☐ yes ☐ no R&D intensity (more than 15 %) First reference **Potential of the proposed product and/or service** Innovative nature of the solution? Exploitation possibilities? Competitiveness Relevant use	
Documents or information provided by the company	
References Brochure, product description Contacts	

Non-exhaustive census sheets of areas and innovation purchases	
IT and telecoms Big data Digital New technologies Cloud computing IT Security Security of electronic components RFID and sustainable development Wireless technology Internet of things	
Intellectual services, training and communication Serious game Collaborative tools Dematerialised document management Knowledge management Content management Distribution of digital content Online services media Media 2.0 Video	
Technology and equipment Lighting and related technologies Infrared and terahertz imaging Energy-saving boiler New-generation industrial work equipment Textile and agro resources Optical fibre Asbestos inerting Uncooperative vehicle stop Assistive technologies	
Buildings and infrastructure Accessibility for persosn with disabilities HEQ Energy-saving materials Digital mock-up Robotics	

Non-exhaustive census sheets of areas and innovation purchases	
Energy and environment Agronomy, agro-technology Eco-technology Low-carbon technology	
Health and nutrition Medicines and pharmaceuticals Medical equipment for hospitals, hospices, etc. In-hospital patient care Home care for patients Nutrition advice services	
Environmental metrology Energy management in buildings and equipment Air purification Consumption water quality Control of energy and fluid consumption Waste disposal	
Transport and logistics Queue management Office furniture Energy-saving lighting device Maintenance products Postage Security	
Socially innovative processes, products and services Daytime work for cleaning services Social bonding services in large organizations Processes, products and services for seniors and persons with disabilities Processes, products and services improving service to users Communication processes, products and services creation networking Processes, products and services creating well-being at work Processes, products and services of the social and solidarity economy	
Adaptation of workstations Equipment and workstations Equipment for workstations for personnel with disabilities Teleworking equipment Equipment for nomadic workstations	

ISSN 1977-091X (electronic edition)
ISSN 1725-2423 (paper edition)

Publications Office of the European Union
L-2985 Luxembourg
LUXEMBOURG

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