



Brussels, 15.5.2018
C(2018) 3051 final

Commission notice
Guidance on Innovation Procurement

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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.

The examples referred to in this Notice have not been verified for compliance with EU law. An eLibrary of examples under the e-competence centre should be established to further enrich the experience sharing.

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EXECUTIVE SUMMARY

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

The Public Procurement Package of October 2017¹ launched a stakeholder consultation on the guidance. The present document reflects the many responses received in this 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 or those who hesitated. Even the most advanced readers will find useful references to the recent initiatives and examples.

The 2014 modernised public procurement directives² 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.

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 taxpayers’ 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**.

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.

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

- public procurement officers,
- final users of the procured solutions,

¹ http://europa.eu/rapid/press-release_IP-17-3543_en.htm

² The terms “the modernised public procurement directives” or “the modernized EU rules” in this document refer to Directive 2014/23/EU, Directive 2014/24/EU and Directive 2014/25/EU. References to specific articles refer to the provisions of Directive 2014/24/EU, but most of the principles referred to apply also to Directives 2014/23/EU and 2014/25/EU.

- decision-makers and policy makers whose contribution to creating favourable conditions is key;
- and also for the suppliers who can learn how to better compete with their innovative solutions in public procurement.

1 GETTING ACQUAINTED WITH INNOVATION PROCUREMENT

1.1 Why innovation procurement?

1.1.1 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 HELPS TO IMPROVE PATIENT OUTCOMES AT OPTIMISED COST:

Innovative approach to procuring implantable defibrillators

Why was an innovative solution considered?

Leading hospitals from Spain, the United Kingdom, the Netherlands and Italy were looking for a way to manage the costs associated with implantable cardioverter defibrillators (ICD), complex devices used in patients at risk of sudden heart failure. While their budgets were fixed, the demand was increasing.

What was done differently?

The buyers' overall aim was to optimise the costs of care by limiting the number of hospital visits thanks to remote check-ups. To this end, first, a shift was made from device-based to service-based procurement. Secondly, the risks were shared between the hospitals and the contractor. Thirdly, part of the payment depended on the outcomes (3% of the total amount).

What was the outcome?

The new approach led to a 9,8% reduction in hospital visits. Moreover, inappropriate ICD shocks, which increase the risk of death, fell by 29% and the implants were successful in 98,12% cases, compared to 90% under the old approach.

Details available at:

<http://stopandgoproject.eu>

(CIP ICT policy support programme co-funded project)

EXAMPLE INNOVATION MAKES PUBLIC SERVICE LESS COSTLY FOR TAX-PAYERS AND THE ENVIRONMENT:

Illuminating the London Underground

Why was an innovative solution considered?

Transport for London (TfL) was required to reduce its costs by £2,5 billion over a period of five years, and at the same time contribute to London's target of reducing carbon emissions to 60% of their 1990 level. This prompted TfL to look at the installation, maintenance and energy costs of the fluorescent light bulbs used in the London Underground.

What was done differently?

TfL conducted a business case analysis looking at the life-cycle costs and benefits of LED lighting to establish whether – and if so, when – investment into this newer technology would be

returned. The analysis showed that although the short-term cost of deploying LED lighting would be higher than the status quo, the mid- to long-term benefits, in particular savings on labour and energy costs, would more than compensate the initial expense.

The analysis also helped the TfL mitigate their upfront investment risk: LED lighting was at first installed only above escalators and in night-access areas, where the cost of the traditional lighting – and thus the potential for savings – was highest. These early savings could then be used to install LED lighting in other parts of the London Underground network.

What was the outcome?

Over the 8-year, £8 million framework contract, the introduction of LED lighting is generating savings of 50%, which amounts to millions of pounds. Assessing the long-term value for money also resulted in a choice of products, which – with five to six times lower energy consumption – are genuinely better for the environment.

Details are available at:

http://ec.europa.eu/environment/gpp/pdf/news_alert/Issue64_Case_Study_128_London.pdf
(Connecting Europe Facility (CEF) co-funded project)

1.1.2 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?

Tests with the participation of over 600 students and 45 teachers across the four countries show 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 innovative solutions also reduce teachers’ planning and assessment time by 30-40%, and create savings on learning material for the schools.

Details are available at:

www.imaile.eu

(Horizon 2020 co-funded project)

1.1.3 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 were 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.

Details 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

1.1.4 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 GDP³. 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.

RESULTS FROM THE SURVEY OF EU-FUNDED PRE-COMMERCIAL PROCUREMENTS⁴

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 (71% of contracts are awarded to SMEs/start-ups);
- stimulating cross-border expansion (34,6% of contracts are awarded on a cross-border basis); and
- strengthening the European competitiveness (97,5% of contractors perform 100% of their research and development in Europe).

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>

³ 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

⁴ Pre-Commercial Procurement, as defined in section 4.2.3.2 below, is an approach that uses an exception from the application of the Directive provided for in Article 14 and consists in procuring research and development services from several economic operators. This occurs where the public buyer does not reserve all the benefits from the research and development service contract exclusively to itself. Risks and benefits must be shared with the economic operators under market conditions, in line with State aid rules, in particular section 2.3 of the 'Framework for state aid for research and development and innovation' (R&D&I-Framework); see 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.

1.1.5 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.

What was done differently?

Despite legal 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.

1.2 What is innovation procurement?

Innovation can have multiple meanings⁵. 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 created of others.

In the first instance, the public buyer buys the research and development services of products, services or processes, which do not exist yet. The public buyer describes its need, prompting businesses and researchers to develop innovative products, services or processes 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 characteristics⁶.

⁵ Examples of definitions:

- Directive 2014/24/EU 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 Oslo Manual defines innovation as "*the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations*";

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.

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.

1.3 Why guidance on innovation procurement?

Public scrutiny and pressure on public finances make public buyers understandably risk-averse. Their 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 environment, it may be difficult to build a case for innovative products and services involving an increased margin of risk. It is essential that the decision to buy innovation bring 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 accept this challenge.

As a rule, public authorities use State resources to purchase products or services. It is critical to check whether or not a company participating in procurement receives an advantage that is more favourable than market terms⁷. Therefore, this guidance refers to certain criteria which a public procurement of R&D-services should fulfil to avoid State aid to the supplier.⁸ Generally, the Commission will consider that no State aid is awarded to companies delivering the relevant R&D-services as long as an open tender procedure for the public procurement is carried out in accordance with the applicable directives.

Together with various partners, the European Commission has already issued a number of guidance materials on this topic and these documents remain valid reference.⁹ Building on

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'

⁷ 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 common market, in so far as it affects trade between Member States.

⁸ These criteria are specified in point 2.3 of the R&D&I-Framework: http://ec.europa.eu/competition/state_aid/modernisation/rdi_framework_en.pdf.

⁹ 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>
- Public Procurement of Innovation Guidance (updated 2014 edition):

previous experience and responding to the repeated calls from stakeholders, this Guidance elaborates on more detailed policy considerations; it focuses on certain unexplored aspects of the tools proposed by the modernised 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 policy actions that provide the necessary political and organisational support for innovative projects; and
- helping to navigate around uncertainties through 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. In order to be a good source of inspiration and reference, they will be elaborated on in more detail in specific fiches published on the **e-competence centre**¹⁰ of the European Commission website for public procurement and the list of examples will be regularly expanded. If available, contract notices, technical specifications, contracts or post-contractual documentation will be referenced, making it easy to reuse or serve as detailed inspiration.

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.

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 of 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.

<http://www.innovation-procurement.org/about-ppi/guidance/>

- 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:

¹⁰ http://ec.europa.eu/regional_policy/en/policy/how/improving-investment/public-procurement/guide/

https://ec.europa.eu/info/policies/public-procurement/support-tools-public-buyers_en

Details 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 follows:

- 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 CO₂ 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 annually, for an investment of € 26 million EUR).

Details 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 political authorities, review bodies, auditors, and even the press. 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 \$50 million (~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 is available at:

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

2.2 Innovation as means of achieving various policy goals

The mandate for innovation procurement has to make clear that innovation is both a key driver of sustainable growth 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.

EXAMPLE INNOVATION HELPS TO ACHIEVE SUSTAINABILITY GOALS:

The Scottish public procurement legislation

Why was an innovative solution considered?

Scotland has had a policy on using social clauses in public procurement since 2008. The Procurement Reform (Scotland) Act 2014 introduced a “sustainable procurement duty” to clarify the legislative framework for procurement decisions that will deliver added social and environmental benefits.

What was done differently?

The “sustainable procurement duty”:

- applies to goods, services and works;
- includes a requirement to facilitate access to a variety of business types (SMEs, third sector and supported businesses);
- includes a requirement to consider opportunities to innovate; and,
- is framed in a transparent manner.

For example, the Act requires public bodies with significant procurement expenditure to prepare and publish organisational procurement strategies and to report on these each year, which will aid visibility of the purchasing activities of these bodies and allow them to demonstrate how their procurement activity delivers value for money and supports broader aims and objectives.

A wide range of training and guidance was provided to the public sector in Scotland, so that they would understand the policy priorities and flexibilities that the new suite of legislation afforded.

What was the outcome?

Over 140 public bodies have published their first procurement strategies under the Act. The first annual procurement reports by those bodies are expected following financial year 2017-18 with the first Scottish Ministers report on public procurement activity in Scotland based on information contained in those individual annual procurements expected by the end of March 2019.

The Procurement Reform (Scotland) Act 2014 is available at:

<http://www.legislation.gov.uk/asp/2014/12/contents>

<http://www.gov.scot/procurementreform>

Statutory guidance is available at:

<http://www.gov.scot/publications/2016/03/8410>

Sustainable Procurement Tools are available at:

<http://www.gov.scot/Topics/Government/Procurement/policy/corporate-responsibility/Sustainability/ScottishProcess>

<http://www.gov.scot/Topics/Government/Procurement/policy/corporate-responsibility/Sustainability/ScottishProcess/SustainableProcurementTools>

In addition, the policy vision has to be clear about linkages between other policy objectives and innovation procurement, e.g. 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 health care 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 façade 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.

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.

Policy makers and public buyers could start by identifying 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 modernised 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?

Many public buyers welcome guidance, model criteria and document templates. 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.

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.). In this context, the new EU action plan on VAT¹¹ plans to enable Member States to set lower VAT rates. This would enable Member States to set even zero VAT rates, for example for public procurements of research and development services that create growth and jobs in Europe¹².

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.

Several 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 procurements¹³.

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

<https://www.innovation-procurement.org/projects/others/procure2innovate>

https://cordis.europa.eu/project/rcn/213117_en.html

Professional bodies and trade associations can provide similar support in terms of manuals, guidance materials, template documents, draft evaluation criteria or measurement methodologies. Based on their detailed market knowledge, transmitting their expertise to public buyers would be

¹¹ EU action plan on VAT: https://ec.europa.eu/taxation_customs/business/vat/action-plan-vat_en

¹² Zero VAT rates on research and development services would make them 18% (Malta) to 27% (Hungary) less expensive for public buyers. This could provide a real boost to innovation procurement in Europe.

¹³ Examples of competence centres across Europe:

- <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/>

useful to enable the latter to define the needs and draft the technical specifications in the most state-of-the-art fashion¹⁴.

2.5.1 Training and assisting people

In order to deliver real value for money, people involved in innovation procurement need a high level of motivation and expertise. Professionalism is one of the key factors of success. Some of the most successful examples of innovation procurement, such as those found in Barcelona, Lombardy or Austria or Sweden, combined a strong policy mandate that puts innovation at the heart of local economic policies with highly motivated and professional staff.

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 modernised 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.

¹⁴ Examples of sector specific guidance materials – no endorsement by the European Commission:

- 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>

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 or European Grouping of Territorial Cooperation (EGTCs)¹⁶, 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.

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 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

EGTCs 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. The applicable procurement law is that of the Member State in which the official EGTC headquarters are located. More info:

http://ec.europa.eu/regional_policy/nl/policy/cooperation/european-territorial/egtc/

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 (central¹⁷, regional¹⁸ and sectoral¹⁹). 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.

¹⁷ 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://contratacioncentralizada.gob.es/en/quehacemos>.

¹⁸ Examples include <https://bric.brussels/en/our-solutions/purchasing-group>; <https://www.estar.toscana.it>

¹⁹ Examples include <http://www.resah.fr/>; <http://www.amgros.dk/en>; <https://www.gdekk.de>

EXAMPLE JOINING FORCES FOR AN AD-HOC BUYER'S GROUP OF INNOVATION:

Public procurement of high performance computing

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.

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 innovation public procurement of innovative solutions. The public buyers coordinated their roadmaps for providing 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. This will allow for a significant enhancement of the HPC infrastructure from 2019 and pave the path for a further € 1 billion-worth of joint investments in Europe via the EUROHPC Joint Undertaking between the EU and Member States, which was signed January 2018.

Details are available at:

<http://www.prace-ri.eu/pcp>

<https://www.ppi4hpc.eu>

<http://eurohpc.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 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 due 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 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

A number of EU countries 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 info 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

15 pre-commercial procurements (PCPs) have started in Lithuania in 2017 following the 2016 first call of the government's PCP support program. The support program is co-financed by ESIF. A second call was launched in 2017 to invite Lithuanian public buyers to submit fresh ideas for new pre-commercial procurement projects.

Details available at:

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

In future, risk management mechanisms, such as insurance or guarantee schemes could be explored.

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 solutions²⁰, 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 (3.2).

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 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 new 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)²¹ – 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.

This new approach will become even easier for public buyers when Member States incorporate the ESPD²² into their legal frameworks and interoperable e-procurement platforms. ESPD services are already running in several Member States today in 2018 and more are to come. 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.

²⁰ 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 their solutions.

²¹ <https://ec.europa.eu/tools/espd>

²² Article 59 of Directive 2014/24/EU

In more integrated e-procurement and e-government system²³, 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 manual submission of information that the Member States already have within their systems. Together with the eCertis²⁴ 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 available at:

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

www.hanki-palvelu.fi

3.1.2 Adjusting the selection criteria

Excessive financial guarantees are often required from economic operators to demonstrate their financial capacity. It happens that the requested turnover is 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, who may have the necessary capacity and – even more importantly – a better solution.

Under the new rules, public buyers can no longer require turnover higher than two times the estimated contract value, unless duly justified by specific circumstances²⁵. This rule facilitates the participation of start-ups and innovative SMEs which are, more likely to have been recently established and have 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?

²³ Compulsory e-Procurement as of October 2018

²⁴ <https://ec.europa.eu/growth/tools-databases/ecertis>

²⁵ Article 58(3) second indent of Directive 2014/24/EU

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->

[OcEvhL2HhcgUNWcpu88X7fxW924VOOHEzNzxKwtt9AEmKozNO9Ffi8e7wyLKl0NjYuXOTNYe uacOZtTzn5lzVzXG-PHslUMVSXYC6iO06UxAkYy-4J10I8LIWSzTszVd8YtfzXCoSHCMGZ8cHeoDwhWflqLC](http://ted.europa.eu/udl?uri=TED:NOTICE:433112-2017:TEXT:EN:HTML&src=0&ticket=ST-28215527-OcEvhL2HhcgUNWcpu88X7fxW924VOOHEzNzxKwtt9AEmKozNO9Ffi8e7wyLKl0NjYuXOTNYe uacOZtTzn5lzVzXG-PHslUMVSXYC6iO06UxAkYy-4J10I8LIWSzTszVd8YtfzXCoSHCMGZ8cHeoDwhWflqLC)

<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)

3.1.3 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 contracts²⁶. 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.

²⁶ Article 46 of Directive 2014/24/EU

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 CO₂ 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>

3.1.4 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 ecosystems. 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 City entered into an innovation partnership. The single 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:

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>

3.1.5 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 and innovative SMEs to participate in public tenders, the City of Paris increased advance payments from 5 to 20% in 2017.

Details 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 available at:

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

3.2 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.

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 itself²⁷ – is open, transparent and non-discriminatory.

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 used to take three 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 vast possibilities for start-ups to grow.

²⁷ Even if part of this is implemented by an innovation broker on their behalf.

Details 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

„Building the bridge between public buyers and suppliers“ is the mission of the Competence Centre on Procurement Innovation in Austria (IÖB-Servicestelle). To facilitate this idea, 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 contact details, for a wide range of different innovative products and services, which are evaluated by independent experts and ready for use in the public sector. Moreover, the platform 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 are online and enable suppliers to get in touch with public buyers. In the meantime, over a dozen public buyers have published the challenges they have faced in fields including automation, marketing & PR, sensor technology and facility management. They have received more than 230 different ideas from the market.

Details available at:

www.innovationspartnerschaft.at

European Innovation Brokers pilot project

In 2017, the European Commission launched a pilot project for an Innovation Procurement Broker to develop and implement a sustainable method for the successful facilitation of public procurement of innovation. The focus will be on the broad range of topics related to environmental sustainability and energy efficiency within the European Single Market.

The general objective of this call for proposals is to establish an Innovation Procurement Broker that will bring together and facilitate commercial links between public buyers, suppliers of innovation (with a special focus on SMEs and start-ups), investors, and researchers.

Details available at:

<https://ec.europa.eu/easme/en/cos-linkpp-2017-2-02-innovation-procurement-broker-creating-links-facilitation-public-procurement>

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 modernised 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 of the Maltese strategy are available at:

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

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 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 and increase objectivity, needs assessment can 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 tenders²⁸. Optimised cost and increased efficiency of the public service should balance the cost of such service.

4.1.2 Preliminary market consultation

Once their needs are clear, public buyers can screen the market for solutions. Suitable innovative solutions may already exist or could result from adapting or combining the existing ones. The market may also be able to develop an innovative solution on time provided it has the opportunity to do so. The main purpose of the preliminary market consultation²⁹ is thus to check the state of the art.

By adding a dedicated article on preliminary market consultations, the modernised Directive 2014/24/EU institutionalised the former “technical dialogue” mentioned in recital 8 of Directive 2004/18/EC to enhance legal security of public buyers when consulting the market before drafting technical specifications.

This market consultation can take various forms, such as physical and online meetings or questionnaires. Presentations and testing of samples allowing end-users to verify the suitability of the proposed solutions in real-life conditions can complement these meetings. Less conventional methods, such as competitions, hackathons, idea markets or category innovation roadmaps can be considered.

EXAMPLE WEB-BASED PRELIMINARY MARKET CONSULTATIONS FOR MEDICAL EQUIPMENT:

Cardiovascular Disease Institute of Eastern Slovakia (VÚSCH)

Why was an innovative solution considered?

As a specialist medical centre, VÚSCH needed a way to communicate with suppliers about its special needs for medical equipment. In 2015, VÚSCH developed its own website to conduct preliminary market consultations with suppliers of medical equipment. The key objective was to streamline the preparatory phase of procurement and strengthen its effectiveness.

What was done differently?

This electronic tool grants the general public access to the entire consultation process, thus ensuring transparency and participation. Interested participants can easily ask questions or submit electronic comments to ongoing consultations. Importantly, the online tool significantly reduces the duration of prior market consultations from 180 days to approximately 90 days.

What was the outcome?

²⁸ Article 41 of Directive 2014/24/EU

²⁹ Article 40 of Directive 2014/24/EU

Thanks to effective communication, the web-based tool allows the medical centre to determine appropriate parameters, avoid setting discriminatory criteria, ensure high participation and obtain better value for money accompanied by significant price reductions in its tenders. In addition, it serves as a tool for increasing transparency and generating interest in participating in the tender.

Details available at:

<http://www.vusch.sk/pripravne-trhove-konzultacie>

http://ec.europa.eu/regional_policy/sources/good_practices/GP_fiche_22.pdf

Under any circumstances, the consultation has to be transparent and non-discriminatory, i.e. without privileging one product, technology or process over others. In today's digital era, electronic platform with EU-wide or nation-wide publication of notices seems most appropriate to advertise an upcoming preliminary market consultation and disseminate essential related information and conclusions.

Since innovative solutions inevitably entail uncertainty and possible detours, starting the consultation process as early as possible is key. In repetitive procurements, it may be worthwhile maintaining preliminary market consultation as a continuous process.

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 (ICU)-patients at increased risk of dying from sepsis.

What was done differently?

The hospitals announced a preliminary market consultation through a prior information notice in Tenders Electronic Daily (with the results also later published online). The market consultation 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 the art. It confirmed that the budget foreseen for the procurement was adequate and revealed what additional information to challenge.

What was the outcome?

The subsequent pre-commercial procurement successfully delivered novel algorithms and improved risk-detection solutions. They provide earlier diagnosis and improve the efficiency of the ICU 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 innovative solutions more widely across Europe. They have launched a new open market consultation for this procurement 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>

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

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

4.1.3 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.

4.1.3.1 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.

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 Gehry'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

4.1.3.2 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.³⁰ 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.

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 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>

4.1.4 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

³⁰ A similar website already exists with green public procurement criteria:
http://ec.europa.eu/environment/gpp/eu_gpp_criteria_en.htm

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 buyer 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 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

4.1.5 Award criteria

Economically most advantageous tender (MEAT) is the only award criterion mentioned in the modernised 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:

4.1.5.1 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, e.g. Scotland)³¹. 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.

³¹ Articles 67 and 68 of Directive 2014/24/EU provide some instructions on 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.'*

4.1.5.2 Cost

In addition to the price criterion, public buyers can also consider 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.

Combining price and cost award criteria 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.

<p>EXAMPLE SECURING BETTER OUTCOMES THROUGH LIFE-CYCLE COSTING METHODOLOGY: <i>Greener vehicles for Slovenian public services</i></p> <p>Why was an innovative solution considered?</p> <p>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.</p> <p>What was done differently?</p> <p>When purchasing vehicles, the agency calculates the life-cycle cost of vehicles using the obligatory common methodology for calculating CO₂ emissions lifetime costs defined in the EU Clean Vehicles Directive.</p> <p>E.g.: Operational lifetime cost of the CO₂ emissions of a passenger car for a car with CO₂ emissions of 155g/km: 200 000 km x 0,155 kg/km x 0,04 EUR/kg = 31 000,04 € imputed operational lifetime cost for CO₂.</p> <p>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 CO₂ emissions societal value) will win the contracts.</p> <p>What was the outcome? By applying life-cycle costing as part of the award criteria and setting requirements for maximum levels of CO₂, the Slovenian public procurement agency obtains offers for vehicles with lower CO₂ emissions. This resulted in a decrease in emissions between 3g/km to 45 g/km per vehicle.</p> <p>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</p>
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4.1.5.3 Quality

Best price quality ratio (BPQR) is the term used in the modernised 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.

<p>EXAMPLE INSISTING ON QUALITY IN THE SELECTION PROCESS: <i>More environment- and user-friendly printers for the European Commission</i></p> <p>Why was an innovative solution considered?</p> <p>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.</p> <p>What was done differently?</p> <p>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.</p> <p>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.</p> <p>Tenders can also win extra points in the evaluation if additional features, such as reduced noise levels, reused cartridges, or wheelchair-user-friendly ergonomics.</p> <p>Details are available at: http://ted.europa.eu/TED/notice/udl?uri=TED:NOTICE:287253-2016:TEXT:EN:HTML</p>
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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.

<p>EXAMPLE IMPLEMENTING HOLISTIC VIEW INTO THE PROCUREMENT PROCESS <i>Purchasing incontinence diapers in Denmark</i></p> <p>Why was an innovative solution considered?</p> <p>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 change a diaper and all the expenses it gives, if they use the wrong diaper for the patients etc.</p> <p>What was done differently?</p> <p>The following award criteria were used:</p> <ul style="list-style-type: none">• Economy 40%<ul style="list-style-type: none">○ Product price 30%○ Total costs 70%• Quality 25%• Education/consultancy 20%• Economic follow-up: 15% <p>Details available at: http://ted.europa.eu/TED/notice/udl?uri=TED:NOTICE:069650-2015:TEXT:DA:HTML</p>

4.1.6 Intellectual Property Rights management

For all public procurements that may involve innovation, it is important that public buyers clearly define upfront, in the tender documents, the allocation of intellectual property rights linked to the

public contract³². The EU public procurement directives and State aid rules leave open the choice to allocate intellectual property rights to the public buyer or to transfer intellectual property rights to participating economic operators³³.

There are two main options, while variations among the two are also possible. The first option is that the public buyer obtains all new intellectual property rights resulting from the project. The second option is that the supplier obtains all new intellectual property rights resulting from the project. The first option is the classical option as the procuring entity pays 100% of the costs, it is entitled to all results. However, 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 reason³⁴. The suppliers may thus be prevented from re-using or even adapting/improving the product or service in a different context or for a different customer.

In particular, in cases where there is no overriding public interest in the public buyers' retaining all or some of the intellectual property rights, these rights may be left with the suppliers. In certain circumstances, suppliers may be better placed than public buyers to commercialise the innovations derived from a public procurement, to secure the appropriate protection of the intellectual property, and defend the intellectual property rights in courts. In those cases, however, it may be necessary for public buyers to retain – royalty-free – rights to use the innovative solutions. Public buyers may also require the suppliers to license the rights to certain third parties under fair and reasonable market conditions. These arrangements may be necessary in cases of extension or takeover of the project in order to avoid supplier lock-in.

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. However, only a few European countries, notably Belgium, Finland, France, Sweden and Switzerland, leave the intellectual property rights ownership by default to the companies. In most EU Member States the legal framework for public procurement does not attribute the intellectual property rights to companies by default.

Details available at:

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

Leaving intellectual property rights ownership with suppliers can fuel industrial commercialisation of innovative solutions and reduces the procurement cost for the public sector. Member States could therefore consider leaving by default intellectual property ownership to the participating suppliers under the conditions described above and ensuring that incentives for enterprises to innovate are not distorted and that access to markets is not foreclosed.

4.1.7 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

³² 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

³³ Article 42 of Directive 2014/24/EU and Article 60 of Directive 2014/25/EU

³⁴ 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

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 targets³⁵;
- 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.

Contract performance clauses can also contain the co-called value-engineering clauses³⁶. 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 the 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>

³⁵ 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

³⁶ 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>

4.2 Specific innovation friendly procurement procedures

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

One of the novelties of the modernised 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 precision³⁷. In these circumstances, the modernised EU rules give the public buyers a choice between two procedures: competitive procedure with negotiation³⁸ and competitive dialogue³⁹.

The main difference between the competitive procedure with negotiation and competitive dialogue 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.

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.

As the Competitive procedure with negotiation has been introduced only recently by 2014 Public Procurement Directives, transposed in most Member States in 2016, no relevant examples were found at the moment of drafting of this document in early 2018. Nevertheless, examples may be included in the future in the e-library under the e-competence centre⁴⁰.

³⁷ Article 26(4) of Directive 2014/24/EU

³⁸ Previously, negotiated procedure with publication of a contract notice was allowed only in specifically delimited situations following unsuccessful outcome of other procedures.

³⁹ The competitive dialogue has been substantially simplified under the modernised directives.

⁴⁰ https://ec.europa.eu/info/policies/public-procurement/support-tools-public-buyers_en

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 2.2.
- Eindhoven example under 3.1.4

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 to ensure accessibility for people with disabilities. 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 point 33 of the research and development and innovation State Aid Framework which applies to all cases where no open tender procedure in accordance with the Public Procurement Directives has been carried out.

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

One way of procuring research and development services consists in using a procedure listed in the EU directives (e.g. open or restricted procedure), as for any other type of services. As long as an open and transparent tender procedure is carried out in accordance with the Public Procurement Directives, the Commission will generally consider that no state aid is awarded to suppliers. The same applies to restricted procedures, unless interested providers are prevented from tendering without valid reasons.

According to the modernised EU rules⁴¹, 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 directives⁴². An important part of the technical specifications and the subsequent contract should thus be dedicated to the

⁴¹ Article 25 of Directive 2014/23/EU, Article 14 of Directive 2014/24/EU and Article 32 of Directive 2014/25/EU.

⁴² See below section 4.2.3.2. on pre-commercial procurement

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, conditions must be attached to avoid distorting competition through State aid. In particular, the supplier must pay compensation equivalent to the market price. The actual market value of the intellectual property rights resulting from the bidding procedure may be determined *ex-post*.

The public buyer may attach additional conditions which, for example, entitle the public buyer 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.

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 2007⁴³. It puts in practice the exemption from the public procurement directive for research and development services in one specific case⁴⁴: 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 conditions⁴⁵.

Under this benefit sharing scheme, the public buyer leaves the new intellectual property rights resulting from the contract with the participating economic operators, but keeps i) the right to use the research and development results and ii) the right 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.

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 contract⁴⁵. However, the contract can include the purchase of the prototypes and/or the limited

⁴³ http://ec.europa.eu/invest-in-research/pdf/download_en/com_2007_799.pdf

⁴⁴ Article 14 of Directive 0214/24/EU

⁴⁵ The pre-commercial procurement involves risk-benefit sharing and therefore, the assignment of the intellectual property rights to the supplier would in principle, not constitute State aid.

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.

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 procurement⁴⁶ or iv) could distort fair competition between the participating research and development service providers or others on the market.

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.

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

- Opportunities for SME's within larger projects under 3.1.3.
- Thalea project under 4.1.2.

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.

A specific exception 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

⁴⁶ e.g. regarding protected specificities of their individual solution approaches by the intellectual and property rights

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.

4.2.3.4 Innovation partnership

Innovation partnership⁴⁷ is a new type of public procurement procedure provided for in Directive 2014/24/EU that can be used only in cases where no solution for a public buyer's needs is available on the market. In such situations, innovation partnership is one of the possibilities offered by the directive to procure innovation and its implementation.

The main feature of the innovative partnership is that the innovation occurs during the performance of the contract. In most other procedures⁴⁸, 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 exact features of the solution are agreed.⁴⁹

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.

The innovation partnership process takes place in three phases:

- The **selection phase** occurs at the very beginning of the procedure, when one or more of the most suitable partners are selected on the basis of their skills and abilities. The contracts establishing the innovation partnership are subsequently awarded based on the best price-quality ratio proposed. This phase is similar to a restricted procedure.
- In the next phase, the partner(s) develop 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) provide the final results.

It is important to pay attention to two aspects:

- The criteria for the selection of the partner 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 insurance systems, etc.); and
- The contract performance clauses that will enable the contracting authority to:
 - Monitor the quality of the performance through indicators enabling a measurement of the level of compliance;
 - Terminate the contract if the technical, operational or economic performance targets are not met;

⁴⁷ Article 31 of Directive 2014/24/EU

⁴⁸ Apart from procedures procuring research and development services, including pre-commercial procurement.

⁴⁹ 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.

- Terminate the contract if the market provides an alternative solution and the innovation partnership becomes redundant (under conditions that are fair to the supplier);
- Make sure that the intellectual property rights are proportionate to the interest of the public buyer in their ownership, taking into account any future need to adapt, amend or transfer the operation of the innovative solution to a different public buyer;
- Make sure that the structure of the innovation partnership (in particular its duration and value) reflect the degree of innovation of the proposed solution.
- Ensure balance between the value of supplies and the investment necessary for their development to prevent abusive use of this procedure.

Finally, 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 fundamental EU Treaty principle of non-discrimination.

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, in particular the principle that State aid is only avoided if, among others, “*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.*”⁵⁰ This is all the more important if the innovation sought by the public purchaser is disruptive, as in that case there is a high risk of foreclosing competition in technology markets and crowding out other R&D investments.

Consequently, in order to minimise this risk, the presumption of absence of State aid only holds in situations where a public purchaser procures products or services that are so unique or specialised that the public buyer is the only potential buyer and there are no other potential providers on the market outside of the innovation partnership that could be disadvantaged.

In order to avoid State aid, the public purchaser must be able to identify in advance of the procedure all economic operators that can both perform the development and supply the final products or services.⁵¹ For example, relevant information on the availability of the solution sought or potentially interested bidders could be obtained through a preliminary market consultation, published prior to starting the procurement procedure.

As the Innovation Partnership has been introduced only recently by the 2014 Public Procurement Directives which was transposed in most Member States in 2016, examples of Innovation Partnership have only recently been put into practice. In the future, examples should be added to the e-library under the e-competence centre⁵².

⁵⁰ Point 33 (c) of the R&D&I-Framework.

⁵¹ Footnote 29 under point 33 (c) of the R&D&I-Framework explains that the condition of the ‘absence of a preferential treatment’ is “*without prejudice to procedures that cover both the development and the subsequent purchase of unique or specialised products or services;*”
http://ec.europa.eu/competition/state_aid/modernisation/rdi_framework_en.pdf.

⁵² https://ec.europa.eu/info/policies/public-procurement/support-tools-public-buyers_en