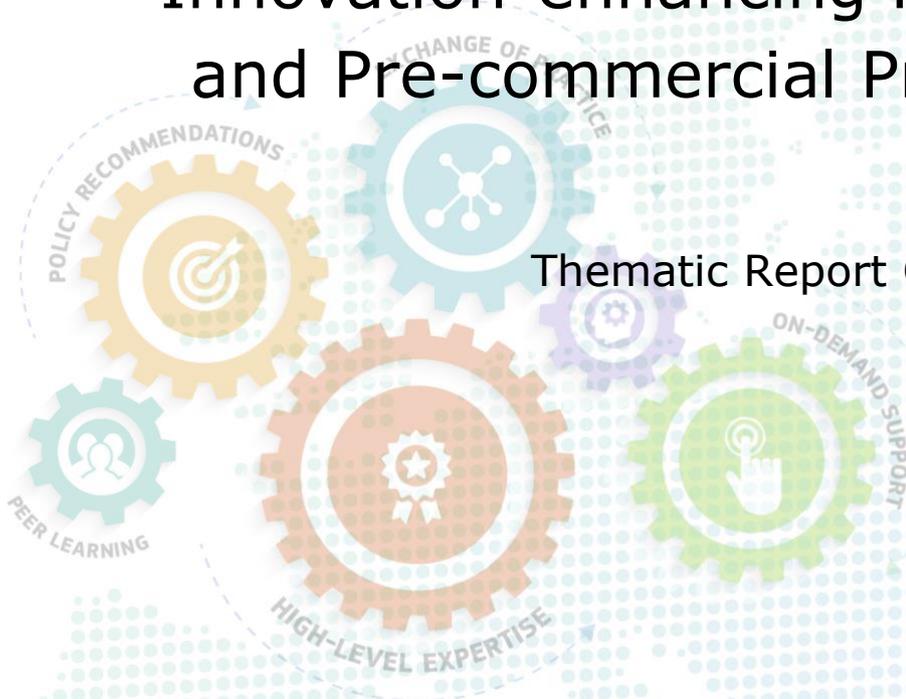


Mutual Learning Exercise on Innovation Related Procurement

Financial Mechanisms in support of
Innovation-enhancing Procurement
and Pre-commercial Procurement

Thematic Report C



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Mutual Learning Exercise on Innovation Related Procurement - Financial Mechanisms in support of Innovation-enhancing Procurement and Pre-commercial Procurement - Thematic Report C

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SUMMARY

This is one of four thematic reports created within the context of the Mutual Learning Exercise (MLE) on Innovation-related Procurement (listed below), which was carried out in the period 2017 - 2018. The purpose of the MLE on innovation-enhancing procurement was to set up an EU knowledge-sharing service on innovation-enhancing procurement, encouraging mutual-learning, identifying good practices and providing advice in the field.¹

This report sets out the rationale for financing in support of innovation related procurement and considers the framework conditions necessary for successful financing mechanisms. It concludes with several recommendations arising from the MLE process and includes national profiles summarising the different approaches taken at a national level.

The Topic C MLE process concluded that there is a clear rationale for financing for innovation related procurement in the context of the overall policy framework, be it at a national or EC level. Financing should support both financing measures for procurements and enabling activities such as capacity building and assistance with implementation. It should support both the demand and supply-side of the process, ideally in an integrated manner.

Thematic Report Topic A | Developing strategic frameworks for innovation related public procurement (Charles Edquist)

Thematic Report Topic B | Capacity building for innovation related procurement: evidence and lessons learned (Eva Buchinger)

Thematic Report Topic C | Financial mechanisms in support of innovation - enhancing procurement and pre - commercial Procurement (Gaynor Whyles)

Thematic Report Topic D | Monitoring, evaluation and impact assessment of innovation - enhancing procurement (Jon Mikel Zabala - Iturriagoitia)

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¹ <https://rio.jrc.ec.europa.eu/en/policy-support-facility/mle-innovation-related-public-procurement>

1 INTRODUCTION

1.1 Introduction to the report

Innovation related procurement requires a broad policy framework to which financial mechanisms form an important but subservient part. Other MLE reports address the broader framework while this report focuses on the financial mechanisms for supporting innovation enhancing procurement (IEP) and Pre-commercial procurement (PCP) and reflects the practical experience of the MLE experts and participants.

The discussion of financing mechanisms can be complicated by the language used, which mixes financing 'instruments' with, methods and policy mechanisms. Similarly, financing is often referred to in general terms in the literature, with little information on purpose or details about its implementation, although those involved will of course be well aware.

In the absence of a considered academic literature on financial mechanisms the MLE process has tried to address the issues by provide a typology of financing mechanisms as a tool for communication and to fill the information gap by sharing and collating national examples and experience.

This report takes a broad view of financing mechanisms to include not only "direct" financial incentives but also "indirect" funding for "soft" activities such as skills and organisational support for innovation procurement. However to keep a focus on the financial mechanisms and stay within the remit and time constraints of the MLE process, the report does not address in any detail related fiscal and regulatory measures (e.g. taxes or mandatory budget allocations to innovation related procurement) nor a detailed analysis of the national programmes and there is scope for further work in these areas.

There are many aspects of financing of innovation procurement that could be discussed, for example:

- Rationale: What is the rationale for financing IEP and PCP?
- Mechanisms: What are the different financial mechanisms / incentives being used?
- Impact: Have the different financial mechanisms delivered the expected outcomes?
- Challenges and success factors: What are the challenges faced when financing IEP and PCP? What are the success factors?
- Features: What are the important features of financing mechanisms from the point of view of different actors e.g. the end user, the contracting authority, and the provider?
- Missing links: Are additional or alternative financial mechanisms needed? Are opportunities being missed?
- Synergy: How can the different financing mechanisms be used together to achieve maximum impact?
- Framework conditions: What are the framework conditions for effective financing of IEP and PCP?

- Balance: The level and relative value of financing for IEP and PCP and the level and relative value of financing for direct and indirect mechanisms; both at the national and European level.

It was not possible to cover all of these topics in this short exercise, but most were at least touched upon, while some were reflected upon in more detail. In the national profiles included in the annex to this report examples of the different financing mechanisms that exist at the national level can be found.

Evidently, many countries are actively financing innovation procurement activities, and others are on the cusp of doing so. Many have specific national financing mechanisms, others access the European Structural and Investment Funds (ESIF), and some have no specific mechanisms but are using other existing mechanisms to support innovation-related procurement:

"As no specific tools for the financing of Innovation Procurement have been developed until now, we use a mix of existing tools to support public bodies wanting to launch Innovation Procurement initiatives.", National Profile, Belgium

"In Portugal, there is no formal political mandate for the establishment of PCP/PPI demand or supply side financial support. Although there are financing instruments available, which can be used for PPI and PCP.", National Profile, Portugal

Sometimes the nature of the policy framework, or lack of it, hinders the establishment of financing mechanisms.

You will find in these annexes creativity and both similarities and diversity in the approaches being taken, all adding to the richness of experience. Moreover mechanisms are continuing to evolve and adapt based on learning and experience of what works.

This report aims to provide a framework for further discussion and a snap-shot of current thinking across Europe.

1.2 Overview of the state of play

Financial mechanisms are defined as 'the method or source through which funding is made available'.² Ultimately, financing needs to be justified on how effectively it delivers the desired outcomes, or has the desired effect (see rationales for policy evaluation in the Thematic Paper D).

We should keep in mind that financial mechanisms exist to support and help to deliver the overall policy framework for innovation-related procurement; they are a means to an end, not an end in themselves.

The role of financing may be to:

- Incentivise, i.e. to 'motivate or encourage someone to do something; incite to action or greater effort' or provide a 'a payment or concession to stimulate greater output or investment';

² <http://www.businessdictionary.com/definition/financial-mechanism.html>

- Mitigate risk i.e. 'taking steps to reduce adverse effects'
- Enable, i.e. 'to make something possible; empower, allocate resources, competence, or ability to; authorise or make possible'.

The OECD (2017) report on good practices and strategies for public procurement of innovation³ comments that:

"Countries use various measures to support innovation procurement, mostly policy instruments, regulations or legal instruments. Others include comprehensive programmes, e.g. on smart procurement in general or on research and development (R&D), followed by financial instruments, such as finance dedicated to innovation procurement".

The OECD survey, included in the aforementioned report⁴ identified that support for innovation procurement was widespread and that many member states have finance dedicated to innovation procurement, as does the European Commission (EC). Moreover, the report identified that a lack of financial support is one of the main challenges in innovation procurement and noted that, of the success stories featured in the report: "sufficient financial resources was one of the key facilitating factors".

The importance of financing was also identified in the country survey reports included in the OECD report and 'increasing or solidifying' financial resources for innovation-related procurement was reported as one of the most frequently used measures to overcome challenges. It is therefore not surprising that a key area identified for action by this report was provision of financial support, calling on countries to: "Dedicate sufficient budgets, funds and other financial incentives".

The OECD report (2017) goes on to comment that:

"Financial support has two different roles in innovation procurement: on the one hand, sufficient funding is a necessary prerequisite for undertaking it; on the other hand, the form of funding can act as an important policy lever".

Arguably the largest source of 'finance' for innovation procurement is the public procurement budget itself:

- In 2015 public procurement accounted for 15 - 20 percent of GDP in many EU Member States and for more than 2 trillion euros across the EU as a whole.⁵
- Public sector spending, which ranges from 30 to over 50% of GDP,⁶ is greater than the often quoted public sector procurement budget and also has potential to support innovation.

³ OECD (2017), Public Procurement for Innovation: Good Practices and Strategies, Annex C, OECD Publishing, Paris

⁴ OECD (2017), "OECD Survey on Strategic Innovation Procurement 2015", in Public Procurement for Innovation: Good Practices and Strategies, Annex C, OECD Publishing, Paris.

⁵ According to the results of the ERAC consultation (see ERAC 1209/15), the latest estimations for public expenditure on works, goods and services were close to €2.3 trillion in year 2009, equalling 19.4% of European GDP.

⁶ <https://data.oecd.org/gga/general-government-spending.htm> OECD (2017), General government spending (indicator). doi: 10.1787/a31cbf4d-en (Accessed on 02 October 2017)

- The implementation of multiannual programmes co-financed by the European Structural and Investment Funds (ESI Funds⁷) for the 2014-2020 programming will lead to more than EUR 450 billion of investment in this period, again with considerable scope for stimulating and supporting innovation.

"The use of structural funds can leverage the implementation of PPI at the national level: providing liquidity to the procurer", MLE Participant

The ERAC opinion⁸ was that that Member States should: "provide financial incentives for contracting authorities to undertake innovation procurement, in the form of grants or loans" and moreover, should aim at developing and providing a comprehensive set of financial incentives and that such a policy could involve grant programs with co-financing for innovation procurement with the aim of encouraging 'innovation via procurement policies'.

The financing used to support IEP by enabling and incentivising actions are aimed at orientating parts of the considerable public spend to stimulate the development and procurement of innovative goods and services.

Similarly, the National and EU research programmes are substantial (e.g. Horizon 2020 has a budget of nearly EUR 80 billion⁹). The financing to support PCP by enabling and incentivising actions are aimed, in one way or another, at reorienting parts of this spend in support of demand led supplier innovation, and increasing the opportunity for greater supplier-customer cooperation and co-creation.

Over the last 12 years or so, the imperative to re-orientate public spend in support of demand led innovation and R&D in response to unmet needs, has led to policy shifts, adjustments to the legal framework, and, critically, financial mechanisms being made available, to effect this change.

As a result, there is now a growing evidence base for the benefits of innovation procurement for public sector services, suppliers and society. Methodologies for IEP and PCP have been tested and refined and are becoming ever more established. There is a growing cohort of procurers experienced in innovation related procurement. One could therefore argue that the measures financed and delivered so far have been effective in raising awareness, developing new skills and capabilities (see Topic B), and incentivising and enabling change. Monitoring and evaluation studies aim to objectively determine if this is the case (see Topic D). However, it remains true that achieving the wide spread adoption of the practice of innovation procurement remains some way away and further efforts will continue to be needed.

1.3 A typology of financing of innovation-related procurement

The primary EU innovation procurement financial support measures can be distinguished into two broad categories: Direct and Indirect. These can be further distinguished by

⁷ The "European Structural and Investment Funds" or "ESI Funds" is the common designation for five European funds: the European Regional Development Fund (ERDF), the European Social Fund (ESF), the Cohesion Fund (CF), the European Agricultural Fund for Rural Development (EAFRD) and the European Maritime and Fisheries Fund (EMFF), which operate under a common framework (i.e. the CPR) as well as under fund-specific regulations.

⁸ ERAC Opinion on Innovation Procurement, ERAC 1209/15, 23 June 2015 <http://data.consilium.europa.eu/doc/document/ST-1209-2015-INIT/en/pdf>

⁹ https://ec.europa.eu/research/horizon2020/pdf/press/fact_sheet_on_horizon2020_budget.pdf

whether they are targeting primarily the supply side or the demand side of the innovation spectrum.

- **Direct financial support targeted to the demand side:** There are two types. The first relates to direct financing / co-financing for procurers for the cost of purchase of an innovation. This largely concerns the IEP type of procurement and serves to overcome disincentives such as the higher cost or risk of new to market products. The second type is for procurement of R&D services: where the aim is primarily to inform the public sector procurer of potential solutions to its needs. Finance via the PCP programmes is available for this where the procurement of R&D services is non-exclusive with respect to IPR, is competitive among suppliers of the services and is obtained at market rates
- **Direct financial support targeted to the supply side for supporting R&D and innovation:** related to direct financing of demand led near market R&D, channelled to suppliers via procuring organisations or more often organisations acting as surrogates (e.g. innovation agencies). An example of this is SBIR financing.
- **Indirect financial support targeted to the demand side:** related to enabling and supporting procurers to undertake innovation related procurement activities. This includes for example capacity building, facilitation support and other enabling actions.
- **Indirect financial support targeted to the supply side:** related to enabling and supporting suppliers to engage in innovation related procurement activities. This includes for example hackathons, small grants, professional advice, addressing skill gaps. Many SME and start up business support schemes fall into this category where innovative products are being developed but often without sufficient demand side involvement.

Ideally these mechanisms would be coordinated to act coherently across the innovation spectrum from demand to supply and be combined with other non-financial measures such as regulations. The direct and indirect elements are both seen as important, and again best operate in concert.

A comment from an MLE participant summarises this point and emphasises the need for indirect demand side support:

"Both public and private parties need risk financing. Public sector may need the extra leverage in order to be able to take risk and prioritise long-term developments. The financing must be made available in combination with in-depth innovation competence support."

As we will discuss later in the report, countries are all too aware of the need for coordination and continuity, and new mechanisms such as Innovation Partnerships are emerging to fulfil this need. This introduces a 5th category:

- **Integrated mechanisms for financial support:** Treating the steps in the innovation process as a single managed process resulting (if successful) in a procurement. Identifying financing for the complete innovation procurement process from needs definition, solution development and testing (if required), product procurement and typically incorporating competence support for the different actors. While in principle existing research, PCP and IEP mechanisms can

be combined, in practice additional risks and timing discontinuities occur. The Innovation Partnership procedure attempts to address these issues.

It is worth mentioning that financial support can take forms other than the usual grants.

Awards and challenge competitions have gained increasing interest among policy makers. Unlike in formal procurements (where the award is a procurement contract), winners of these competitions may receive their award in different forms (e.g. a pre-procurement contract, lump sum of money, an equity investment, etc.).

A less developed but potentially very effective mechanism to manage risk is the use of guarantees or insurance to suppliers for unexpected costs, or lost investment costs if the procurement fails to occur. These measures are in their infancy at present and there is little experience to share.

2 WHAT IS THE RATIONALE FOR FINANCING IEP AND PCP?

In market economies there is a presumption against public finance interventions (and particularly direct interventions) in the market. The rationale (i.e. the why) of any financing therefore needs to be clearly defined and understood in order to build a coherent and convincing case for financing intervention. The case also needs to demonstrate alignment with the policy framework and related strategies; effectiveness in terms of delivering expected outcomes; and impact, i.e. will this investment deliver solutions that meet the expected societal objectives on the anticipated scale?

In discussing financing mechanisms for IEP and PCP the question of 'why?' cannot, therefore, be avoided, and is worth exploring in some detail in order to create a firm foundation for a consideration of the mechanisms themselves. Let us first consider the context within which financial mechanisms operate.

2.1 Context

The importance of the context in which the public procurer acts should not be underestimated when discussing IEP and PCP.

Directing public procurement towards enabling innovation (IEP) or where necessary procuring R&D (PCP), has not, historically, been the *raison d'être* of the vast majority of public procurement (one exception is defence spending where innovation is a strategic necessity). Rather, the role of public procurement has been to purchase the goods and services an organisation needs to perform its function¹⁰ at the best price possible. Innovation has not been a priority for public sector procurers.

Arguably, this is no accident; innovation is risky and perceived as costly in terms of time and money; features most procurers would wish to avoid. Furthermore, local practices of procurement in some countries are highly conservative. The changes to the procurement directives in 2014 that enable and encourage innovation and innovation procurement good practices (such as market engagement) have been welcomed, but most agree that it will take time to build awareness and competence in innovation in the public procurement function. As this process develops we can expect to see better procurement using functional specifications which, as pointed out in the Topic A report, are by their very nature innovation enhancing.

However, risk-averse procurers¹¹ (are there any other kind?) and conservative regulations can also be viewed as symptoms rather than causes. No amount of money or cajoling will persuade procurers to act contrary to the policy framework or organisational directives in which they operate; nor should it. Finance has to be aligned with policy; consequently public organisations need to have in place policies and procedures that are not only *open* to innovation, but ambitions that actively *require* innovation, in order for direct financing to have the desired effect of enhancing innovation.

¹⁰ Georghiou et al. 2014: Policy instruments for public procurement of innovation: Choice, design and assessment.

¹¹ Throughout this document 'public procurers' is used in its widest sense, meaning the 'customer', not only referring to the procurement professional

Public sector procurement constitutes a large proportion of total investment and expenditure within the global economy and many argue¹² that it should 'pull its weight' in driving innovation in the economy. Not to do so is increasingly recognised as a missed opportunity in terms of supporting the economy, addressing societal challenges and, delivering better, cost effective public services.

The normal operation of the market for public sector goods and services is therefore failing to deliver via innovation the societal benefits that, given its major role in the economy, might be expected.

It is well known that over long periods private sector productivity has increased much faster than public sector productivity. This can be attributed to the higher rates of investment and innovation in the private sector.

Many reasons have been put forward for the poor innovation performance of public sector bodies and no doubt they all have an effect. However it not clear that they explain the difference between the public and private sector performance. Public and private sector organisations suffer similar pressures on costs, annual budget cycles, short term reporting and in both cases the organisations and individual employees are equally unenthusiastic about taking unrewarded risks and in both cases the leadership is focused on short term performance.¹³

There is a difference however in the mandates for public and private organisations. Private sector organisations and their employees are highly rewarded for competing and growing the business i.e. gaining market share and capturing new markets. Reducing costs helps short term profitability but only matters long term if it supports growth. Innovation is an essential tool to achieve growth and growth is the primary justification for engaging in the risky and expensive process of innovation.

The public sector however is usually mandated to consistently deliver defined services at best cost. Growth is not a driver for most organisations in the public sector, rather cost reduction without risking service delivery or quality is the key criteria for investment. The best way to this is to implement well proven technologies efficiently – that is to be a follower not an innovator.

The direct benefits of innovation to both public and private procurers include cost reduction but the private procurer has the additional benefit of gains in competitiveness, market share and growth. The risks of innovation are the same in the public and private sectors but the rewards are not. Furthermore cost reduction is never as strong a reward for innovation as growth and public sector organisations and the individuals in them are behaving rationally by being less innovative (or more risk averse) than the those in the private sector.

However, as indicated above, the rational response of individual organisations comes at a cost to society of less innovation in the economy, weaker societal benefits and higher long term costs for public services.

¹² Mariana Mazzucato University of Sussex The Entrepreneurial State
<https://marianamazzucato.com/entrepreneurial-state/>

¹³ <https://www.pwc.co.uk/press-room/press-releases/uk-ceos-have-less-time-than-ever-to-make-an-impact.html>

If innovation is less well rewarded in public sector organisations we can expect less investment in the skills and capability for innovation, less innovative supply chains and the rise of a more conservative culture.

The lack of innovation capability and the conservative culture can manifest itself as self-perpetuating organisational silos. This gives rise to a practical difficulty in that new goods and services that cut across existing provisions or introduce disruptive innovation may have neither budgets nor staff time available for them.

In response to the OECD survey³, respondents from Germany noted this challenge related to finance.

"Mostly, the budget for investment costs is separate from the budget of operating costs. Consequently, the advantage of an innovative product is not always obvious for the procurer".

Interestingly if the mandate for the public sector service changes so does the innovation performance.

For example in some countries there is increasing pressure on the public sector to 'compete', at least to some extent, and this does act to encourage more innovation enhancing procurement practices, particularly where procurement is seen as a strategic tool to enable innovation.

A comment from the an MLE participant:

"We see that contracting authorities at some level compete with each other. Governments want to attract the best companies (for more jobs), schools want to attract more and the best pupils, hospitals want to outperform the others, societal challenges require public services to adapt. We see this all drives the need for contracting authorities to embrace innovation".

Competition with potential adversaries is also a feature of the defence sector and in sharp contrast to most other public sectors national defence boasts long term commitments, tightly coordinated and innovative supply chains and, in the US at least, substantial R&D investment.

Elsewhere, if the public sector leadership embraces goals other than just best cost, for example improvements in societal outcomes, then innovative outcomes are naturally produced by the supply chain in response.¹⁴

Changing the mandate for public sector organisations to make procuring innovation more rewarding is the province of the whole innovation related procurement policy framework rather than just the financial mechanisms.

However even where the wider policy mix has been deployed innovations that don't result in an immediate cost benefit to the procurer struggle to succeed in the public sector. The cost benefits for other public procurers in the future and broader benefits for society often don't outweigh the first mover disadvantages to the first procurer.

¹⁴ Meerveld, Nauta and Whyles 2015: Forward commitment procurement and its effect on perceived risks in PPI projects. In Public Procurement of Innovation, Edward Elgar Publishing Ltd.

If the rewards for innovation in the public sector are systemically less than in the private sector then the risk/cost/reward equation can be rebalanced for the first public procurer by reducing the extra costs or risks of innovation. This is the primary role of the financial mechanisms which are discussed in more detail in the following sections.

2.2 Direct IEP type finance: Why direct financing of procurements?

One of the principle justifications for the direct type of IEP financial support is to compensate the first public sector adopter of an innovation for the lack of rewards for incurring the first mover dis-benefits in terms of costs and risks.

The OECD report (2017), 'Innovation Procurement: Good Practices and Strategies' comments on the 'risk of failure and loss of investment' involved in buying innovative solutions. The potentially higher costs of the product or service, to the public sector customer may need to be off-set and that "To encourage the acceptance of these risks financial incentives are an appropriate instrument to support innovation procurement" These financial incentives should be aligned with policy strategies and budgets.¹⁵

"There is a first mover disadvantage which needs to be addressed directly. Co-financing mechanisms are a way to overcome this, particularly where the perceived risk outweighs the perceived benefits", MLE participant

Much the same might be said of the disadvantages to the private procurer of innovation of course. It is therefore important to recognise that the public sector procurer is in a different position to the private sector procurer. As discussed in the context section above; the direct benefits of innovation to both procurers include cost reduction but the private procurer has the additional benefit of gains in competitiveness, market share and growth. The risks of innovation are the same in the public and private sectors but the rewards are not. One of the principle justifications for the direct type of IEP financial support is to compensate the first public sector adopter of innovations for the lack of rewards for incurring the first mover dis-benefits in terms of costs (direct and indirect) and risks.

Joint or coordinated procurement by the public sector may help by spreading the risks and costs. However, it does not eliminate them, and indeed it may add new risks and additional costs. In any event, it does not affect the primary differences between the rewards of innovation to public and private sector.

It is perhaps worth mentioning here another point raised in MLE discussions; not all innovation procurement is equal, rather it has different characteristics depending on the market sector (and public actor) involved. Some may involve new to world products, others may involve modifications to services and processes. Still others will be more incremental in their innovation, but never the less, far reaching. Moreover, the risks of all innovation procurements are not equal. Changing transport or energy modalities is a different proposition from innovations in a catering contract. Financing mechanisms should be sensitive to these differences, but this is not always the case.

"Not all risk in all sectors is equal, and the level of co-financing should mirror this.", MLE Participant

The market failure in public sector procurement of innovation is the primary target for IEP financial mechanisms. Rational public procurers will continue to need such direct financing

¹⁵ Procurement for Innovation: Good Practices and Strategies, Chapter 3, OECD Publishing, Paris.

incentives to procure innovation in the same way that continued public support for R&D is required.

There are other benefits of direct financing. One relates to the effect it has on the behaviour of the beneficiary (see discussion on behavioural additionality in thematic paper D). This was raised several times in the MLE Topic discussions; finance incentivises and gives permission to 'do things differently' and / or focus on wider societal outcomes from procurements, such as environmental sustainability. External funding provides a degree of continuity of purpose in organisations that are frequently overstretched and subject to change.

The level of co-financing provided varies from country to country and there were different views expressed on the appropriate level of financing. The range is wide, some financing rates can be as high as 100%, but are typically lower. Examples of different funding rates can be found in the national examples in the annex.

2.3 Direct PCP type finance of R&D: Why direct financing of demand-led R&D?

The arguments for supporting the supply-side to develop and commercialise innovative solutions in response to customer demand are well rehearsed. Finance for R&D of innovative solutions is typically provided directly to suppliers, as grants or loans channelled by innovation agencies. Often these would have a type of demand side motivation related to prevailing industrial policy.

With the advent of PCP, a shift was brought about to focus to on demand-led R&D more directly, i.e. on the needs of a particular public entity leading potentially to a procurement by that entity. The perceived benefit is a better definition of a particular unmet need (albeit in the context of the wider needs of society) that would better support the future commercialisation of required goods and services. Here, financing is still provided to suppliers (i.e. research, development and often demonstration services are procured) but channelled via the public sector customer in EU PCP projects. In national programmes such as SBIR it is often channelled via an innovation agency acting as a surrogate customer. The rationale can be summarised as follows:

"Public procurers can drive innovation from the demand side by acting as technologically demanding customers that buy the development and testing of new solutions. This enables European public authorities to modernise public services faster and to create opportunities for companies in Europe to take international leadership in new markets. Creating a strong European market for innovative products and services is an important step towards creating growth and jobs in quickly evolving markets such as ICT".¹⁶

There are many examples of this type of financing among the national examples. This type of action is often an 'entry point' into innovation related procurement financing, for example in Lithuania:

"Direct financial support mechanisms for innovation procurement only exist for direct supply side actions in the form of PCP. For this reason, PCP is becoming more popular rather than PPI". National profile, Lithuania.

Some countries such as Spain, Estonia, Lithuania are utilising the ESIF to support these (and indeed other direct and indirect) measures and some combine both ESIF and national

¹⁶ <https://ec.europa.eu/digital-single-market/en/pre-commercial-procurement>

financing. For example in Spain there are multiple avenues for innovation related procurement financing. Funding for innovation procurement comes from national budget as well as from structural funds. There was general agreement that this approach should be more widely adopted and would benefit countries embarking on financing for innovation-related procurement, and could be more widely used to support both direct demand side and indirect measures.

2.4 Indirect demand side finance: Why finance capacity building in buyers?

The vast majority of public spend is not utilised in support of innovation:

"Only 6% of companies have taken part in any form of public procurement of innovative solutions. (Innobarometer 2014). This partly reflects the finding that even if 6% of public organisations consider innovation and low cost equally important in their tenders, the share of organisations prioritising low-cost over innovation is roughly two times higher (respectively 22% and 12%) (EPS Innovation Scoreboard 2013). Therefore, significant work remains to be done at national as well as EU level to unleash the full potential of innovation procurement". ERAC Opinion, 2015⁷.

The reasons for this have been discussed elsewhere and throughout the MLE process but as stated above if driving innovation is not a priority for the public sector there will be a lack of capability and capacity to do this. This manifests itself as a lack of awareness, a perception that innovation is costly and too risky, lack of senior management endorsement, lack of staff resource, supply chain management and development, to name but some.

if the customer doesn't know how to undertake IEP or PCP type actions effectively and confidently, chances are they won't, or do so ineffectively. Hence the widely recognised need for capacity building and expert facilitation (especially in the less familiar IEP actions), and the need for indirect financing for IEP and PCP.

Put succinctly by an MLE participant:

"Financing must be accompanied by innovation process facilitation of some sort – money (co-financing) is not sufficient".

A number of countries are planning competence and enabling financing in response to their experience in direct financing (for example Austria, Belgium and Estonia).

in Austria, the 'PPPI Project Competition' is an indirect (i.e. enabling) demand side mechanism that supports procurers to undertake Innovation enhancing procurement (IEP) by offering financial support (e.g. for covering additional administrative costs).

"It is essential to sensitise and support the Demand side in order to trigger new Innovation Procurement processes. In that sense, we are trying to support these processes as much as we can through our actual instrumentation, but we are also planning to adapt our instruments in order to better fit the demand. Moreover there is a will to put in place a support/brokerage structure in the near future", MLE Participant

"Our analysis shows, that the bottleneck of procuring innovative solutions for public sector is at the beginning of innovative process.... Therefore, we are going to support Estonian public sector organisations with an innovation-mentor-service starting in 2018", MLE Participant

Competence centres for innovation related procurement are financed at a national level in a number of countries, including Austria, Germany, and Sweden and most recently, Finland. In some cases other agencies take on this role; in Spain and Norway a number of different agencies work together to provide the necessary support.

Indeed in many countries the competence programmes are financed often without the availability of national direct demand-side co-financing for the customer. For example in Norway, the National Programme for Supplier Development, launched in 2010 with the aim of enhancing the use of innovation procurement in Norway.

"The programme provides advice, information and competence to Norwegian public entities that want to use innovative procurement processes in order to achieve smarter, greener and more efficient solutions to their needs. There is no direct financing involved. The programme has played a crucial role in setting innovative procurement on the agenda during these years", National Profile, Norway

2.5 Indirect supply side finance: Why support suppliers beyond R&D grants?

Indirect financing for suppliers is less well discussed or established but it seeks to provide the necessary skills or resources (especially in the case of SMEs), to respond to IEP and PCP activities. SMEs typically seek R&D support but may well lack sufficient resource to respond to an IEP process and engage in a co-creation process with customers. It is frequently the case that they lack skills to exploit the results of their innovation, such as market development, supply chain integration and sales.

"As far as future direction concerns, training and supporting both contracting authorities and economic operators is essential so that financing innovation procurements is enhanced", MLE Participant

The ERAC opinion refers to the need to provide support to suppliers (notably SMEs) on a 'complementary basis'.

"SMEs need to be encouraged to bid on public innovative tenders through financial incentives sharing the risks and benefits of innovative development..."

The opinion sees such funding as helping to create an environment where:

"As a result, procurement is to evolve into an open innovation process where co-creation between supplier companies and users is a critical success factor".

2.6 Integrated finance: Why support customers and suppliers 'end to end'?

A change in the EU Directive ((2014/24/EU) was the introduction of a new procurement mechanism known as 'Innovation Partnerships'. These provide a more flexible process to enable innovation procurement from R&D through to purchasing that can be with either a single, or multiple, supplier(s). Although there is limited experience to date, this is being seen as an opportunity for new financing mechanisms at the national level.

They have the potential to address a problem that can arise from direct financing for the procurement of R&D services; that the R&D services may fail to result in the commercialisation of new solutions and hence remain prototypes. As stated earlier while in principle combining separate R&D, PCP and IEP projects can address this problem, in practice additional risks and timing discontinuities occur which make this very difficult. An

integrated management approach as envisaged in the Innovation Partnership procedure explicitly joins the different stages together.

In Norway innovation partnerships are a new development in the approach innovation procurement financing and include indirect financing in the form of competence support, providing a truly integrated approach. Several other countries are developing such integrated mechanisms, including Austria and Sweden.

Case example: Innovation partnerships - a new tool for public-private innovation

The Norwegian Innovation Partnership model combines innovation, procurement and implementation/scale-up in a way that no other model has provided so far.

Type of action: Integrated, incorporating competence elements: related to direct financing for procurers with the cost of purchase of an innovation. A grant is provided to the public entity. Most of the grant is used to finance the development phase in the procurement process.

This new tool has evolved from the earlier programmes (above) in response to seeing that we need to MOVE ON from piloting new solutions that never reach the market and incremental innovation in the public sector that does not result in improved efficiency and higher public productivity. Innovation procurement must be connected to organisational, process-innovation in the public sector and this mechanism provides the possibility of a fully connected process from needs identification through development and procurement.

A call for new Innovation Partnerships was launched on May 31, 2017. Four major projects have received financing from Innovation Norway. There is a cooperation agreement/contract in place for each of the Innovation Partnerships, where all agencies and the public receiver of the grants is part, where our tasks and responsibilities are outlined. The cooperation will be further fine-tuned in 2018.

2.7 Conclusion

There are clear rationales for both direct and indirect financing for IEP and PCP, but these need to be in context of a supporting policy framework, where innovation objectives align with the policy and organisational context. This is reflected in the range of financing mechanisms in place at the national level. Although many countries have some kind of financing in place, some countries first need to establish this policy framework and make the case for financing.

Different types of financing are needed, and should act together. As an MLE participant summarised:

"Both public and private parties need risk financing. Public sector may need the extra leverage in order to be able to take risk and prioritise long-term developments. The financing is must be made available in combination with in-depth innovation competence".

Another message arising from the MLE was that the lack of capacity, competence and awareness, and unambitious public sector policies, can lead to both the take-up of grants and finance being disappointing.

"The level of interest among procuring organisations has not been as high as expected, and has not distributed evenly across potential sectors. The ambition level has been modest considering adoption of new technology, stimulating demand-based R&D, or systemic change. Further efforts in raising awareness among procurers will be needed", National Profile, Finland

In Germany one mechanisms has been dis-continued:

"The Federal Ministry of Economic Affairs and Energy (BMWi) used to offer grants for pre-commercial procurement but ceased to do so as interest in the grants was minimal despite a lot of communication and marketing effort. There are currently no plans to reinstate the programme".

It is clear from the national profiles and MLE exchange that both direct and indirect mechanisms are needed and that we can expect to see a growing number of integrated financing mechanisms.

The following table summarises the current situation on national financing for innovation related procurement. However, it should be noted that the levels and types of financing varies considerably. For more detail on the different types of financing please refer to the national profiles included in the annex.

Table 1 Overview of national financing mechanisms by category in the countries participating in the MLE

Country	Financing provided?	Direct	Indirect	Integrated
Austria	Yes	Yes	Yes	In preparation
Belgium	Yes	Yes	Proposed	Planned
Estonia	Yes (via ESIF)	Yes	To be introduced 2018	-
Finland	Yes	Yes	Yes	-
France	No	-	-	-
Netherlands	Yes	Yes	Yes	Yes
Germany	Yes	No	Yes	-
Greece	No	-	-	-
Lithuania	Yes (mainly via ESIF)	Yes	Yes	-
Norway	Yes	Yes	Yes	Yes
Portugal	Yes	No	Yes	-
Spain	Yes (via ESIF and national funds)	Yes	Yes	-
Sweden	Yes	Yes	Yes	In preparation
Turkey	Yes	Yes	No	-

3 THE WHO, WHAT, AND HOW OF IEP AND PCP FINANCING

Having looked in detail at the context and rationale for financing, the MLE process provides insights into the following:

- Who. Subjects: who are the providers and the beneficiaries?
- What. Object: what action is it supporting?, and closely related to this;
- How. Instruments and mechanisms: how is it delivered? What are the significant features and details?
- How much (What is needed, allocation, planned and relative spend in support of IEP and PCP) was not addressed in the MLE, but some insights are included here in the interest of completeness.

3.1 Who? The Providers, Intermediaries and beneficiaries

The diverse nature and structure of national administrations means it is hard to be specific, and the experts on their national structures are the MLE participants. It is possible however to generalise to some degree regarding the main roles and actors in financing.

It is proposed here that we can distinguish three (see figure 1):

1. Providers: those that decide the need for, secure and provide finance
2. Intermediaries: those that manage or transmit monies
3. Beneficiaries: those that access, receive and use the finance

Figure 1 The actors in IEP and PCP financing



3.1.1 Providers

Providers are typically public agencies at a national or European level that manage allocated budgets. This includes national and regional government departments, their agencies and special purpose vehicles, and these may be national or regional. The EC provides financing via several Directorate Generals, DG Connect DG Grow; DG RTD; DG Regio. The allocation of budgets is driven by policy, and the primary concern is likely to be: will this finance deliver the expected and desirable outcomes?

3.1.2 Intermediaries

Financing is often channelled via managing intermediaries, including innovation agencies and competence centres. There are inevitably grey areas: is a competence centre or advice centre a recipient or an intermediary? The role of the intermediary is to ensure due diligence in the use of public funds and compliance with any rules. It is also likely to have

a management function in terms of individual grants or programmes, and in many cases provide a support function to assist the beneficiaries.

There are often a number of organisations, departments or similar engaged at a national level, and their effective coordination and synergy of actions achieved. For example, providers of different programmes may focus on IEP or PCP type actions.

The role of the intermediary is clearly an important one and there are many examples, many innovation agencies take on this role such as Vinnova in Sweden and Innoviris in Belgium. There are quite a number of 'special bodies', including competence centres such as those in Sweden, Germany and Austria.

3.1.3 Beneficiaries

Beneficiaries may be of two types: public sector bodies and suppliers.

However, 'public sector bodies' is an all-encompassing term for a highly diverse group of organisations, operating in a wide range of conditions and under different pressures and constraints.

They may be schools, hospitals, social services, housing associations or local government or City authorities, highways and environmental agencies, central or devolved government Departments, and public companies or utilities. This is a wide spectrum; as well as the context in which they operate, their needs, motivation and capacity will vary considerably. Understanding financing from the beneficiaries point of view would seem essential to its effective design and delivery.

Suppliers are also diverse in nature, from start-ups, SMEs, to large corporations. Typically SMEs are often the target beneficiaries as these are the private sector actors that may lack financial or staff resource and / or skills, experience, capability.

3.2 What? The types of action being financed

Conversations around financing typically focus on the 'what' will be financed. The following table provides an overview of different types of activities being financed and their purpose.

These are considered individually here, but usually, and arguably most effectively, they are incorporated into programmes at a national level.

Table 2 Typology of IEP and PCP financing actions

Type	Purpose
DIRECT: Demand side	<i>Related to the purchase of an innovation (for example, part-finance, loans, grants, insurance etc.). This largely concerns the IEP type of procurement.</i>
Co-financing goods and services procurement	To address market failure by offsetting risk and / or additional cost of product or trials.
Insurance schemes	Offsetting risks of innovation for the customer

Loans	To address cash flow barriers and delays in realising (cash) benefits of investments. Often provided on preferential terms
DIRECT: Demand side procurement of R&D services	<i>Where the aim is primarily to inform the public sector procurer of potential solutions to its needs. Finance via the PCP programmes is available for this where the procurement of R&D services is non-exclusive with respect to IPR, is competitive among suppliers of the services and is obtained at market rates</i>
Financing procurement of R&D / prototypes	To overcome the market failure of R&D provision and orientation to customer needs and societal outcomes. Trials and demonstrations can be costly and outcome in terms of sales revenues uncertain.
DIRECT: Supply side	<i>Related to direct financing of demand led near market R&D, channelled to suppliers via procuring organisations or more often their representatives (e.g. innovation agencies). Examples of this include SBIR financing.</i>
Co-financing procurement of R&D / prototypes	To overcome the market failure of R&D provision and orientation to societal outcomes. Trials and demonstrations can be costly and outcome in terms of sales revenues uncertain.
INDIRECT: Demand and Supply side	<i>Related to enabling and supporting procurers and suppliers to undertake IEP and PCP type activities (training, informing, supporting, policy initiatives, regulations, targets, small grants...etc.).</i>
Staff resourcing / co-financing	To off-set the additional time resource needed by buyers engaged in innovation-related procurement
Awareness raising	To mobilise engagement of customers in innovation-related procurement
Technical support	To address technical knowledge gaps on the part of the customer regarding certain goods and services e.g. ICT. Not limited to innovation-related procurement but a frequent concern of customers buying innovation.
Customer capacity building	To build the necessary and new skills needed to effect change in procurement process towards innovation
Supplier capacity building	To address skills gaps and enable suppliers to respond to IEP/PCP; to help level the playing field for SMEs
Innovation-related procurement targets	Motivate public procurers to adopt innovation-related procurement (and create a market for other actions)

Supplier incentives (fiscal)	Tax incentives for R&D and / or for participating in innovation procurements
Innovation vouchers	Incentivising innovation by providing a simple transaction between supplier and skills providers
Networking events	For example to mobilise collaborative / joint action, breakdown barriers between buyers and suppliers, and build a peer learning community
INTEGRATED: Demand and supply-side	To provide integrated financing for the whole innovation cycle through to procurement. Usually includes elements of competence support.
Co-financing of innovation partnerships	Aims to overcome the problem of pilots and prototypes failing to reach the market by enabling and R&D or prototyping within the procurement process.

There is a degree of commonality in the activities that are financed in support of innovation procurement across different countries, although their characteristics differ. The table below provides a non-exhaustive list of different activities with examples.

Table 3 Examples of activities financed in support of innovation-related procurement

Activity	Example ¹⁷
INDIRECT: Demand and supply side	
Advice / competence centres	In 2013 the German Federal Ministry of Economic Affairs (BMWI) created a German competence centre for innovation procurement that provides information and advice and assists procurers with PCP and PPI, with the aim of modernising the public administration by increasing the share of total public-sector purchasing that goes to innovation procurement.
Expert project facilitation	In 2010, 'Innovation for Sustainability' an innovation procurement action learning programme was developed as a pilot in the UK focusing on procurement of innovative, environmentally sustainable goods and services.
Training events and programmes	Many examples: e.g. In France a training programme on innovation procurement dedicated to public procurers in order to develop their understanding of innovation
Guidelines and publications	Many examples: e.g. In the Netherlands a 'toolbox' provides all practical information on innovation procurement: procurement instruments, innovation routes and cases of innovation procurement.

¹⁷ In part taken from <https://ec.europa.eu/digital-single-market/en/news/innovation-procurement-initiatives-around-europe>, from 2014.

	<p>In France, a "public procurement innovation" guide and other tools to advise procurers and to facilitate the understanding of the regulation to contract with innovative companies has been distributed to all public procurers.</p> <p>In 2011, the Department for Business Innovation and Skills in the UK published 'Forward Commitment Procurement. Practical Pathways to Buying Innovative Solutions' based on the learning from the pilot projects and providing practical methodologies for innovation-related procurement.</p>
Awareness raising events	<p>There are many examples of such, which may be at a national, regional, organisational level or addressed to particular sector of theme. In Estonia seminars for procuring were held to inform about possibilities of innovation procurement; and thematic idea days/marketplace type events public sector procurers and entrepreneurs are brought together to discuss needs and the possible solutions and identify grant and support opportunities.</p>
Development of buyers groups	<p>The EC under the CIP programme supported the development of buyers groups through a grant programme.</p>
Meet the supplier events	<p>In France, the organisation of events where innovative SMEs presented their innovative products to public procurers.</p>
Development of PCP	<p>In Germany, Region of North-Rhine Westphalia, helped regional public procurers until 2017 to participate in EU funded PCP projects post evaluation by providing monetary support to cover or contribute to the financial contribution required from the public procurers to participate in such projects (up to maximum 200.000 EURO).</p>
Mobilisation of EC funding (H2020, EISF, ERDF)	<p>Synergy building in North-Rhine Westphalia by ensuring an efficient coordination between H2020 and ESIF (http://www.brueckenbildung-nrw.de/)</p> <p>In Spain the INNOCOMPRA programme, implemented through FID (Fostering Innovation through Demand) Agreements, is managed by the MINECO and uses ERDF funds to co-finance Innovation Procurements carried out at regional level. To date some 21 operations have been covered by this instrument mobilizing some 270 M€.</p>
Procurement Platforms	<p>In Austria, an online-platform that creates a bridge between procurers and suppliers. The online platform enables public authorities to announce their specific needs and problems (so-called "challenges") free of charge.</p> <p>In Estonia, an eProcurement platform is collecting information on innovation within public procurements.</p>
Networking (social, events and projects)	<p>In France, a network of Innovation procurement officers has been created in each Region in order to raise awareness of public stakeholders and SMEs on innovation procurement issues. Also a social network ("Respae") has been created for all purchasers of the State: pooling good practices and feedback, and sharing sourcing companies</p> <p>In 2011 the Nordic Ministers of Industry launched a Nordic lighthouse initiative in the healthcare domain to strengthen collaboration between Norway, Finland, Sweden, Denmark and Iceland on PCP and PPI. In the meantime also the Baltic states Estonia, Latvia and Lithuania joined the initiative. In support of this initiative Tekes, Vinnova, the Danish Business Authority, Innovation Norway, Rannis and Nordic Innovation jointly launched a call for projects which supported so far 3 Nordic networking projects.</p>

Technical support for customers	CENEX, a not for profit consultancy focused on Low Carbon Transport provided technical support in trialling low carbon solutions for Birmingham City Council, funded via EC FP7 project TRANSFORM.
Prizes and awards	In Austria, the PPPI project competition (national funding scheme) took place for the first time in 2014, and has been continued to date. The broad scope of winning projects ranges from an innovative room management system with radio and online components to an internal digital measuring system for energy and water consumption, an electronic signage system as well as a mobile scanning system for trucks and trains (for the Austrian customs authority).
Small grants	The Department of Health in the UK provided small grants (circa EUR25K) for energy audits and similar as a means to engage hospitals in considering smart, LED lighting and access to innovation procurement training provided by the Department for Business, Innovation and Skills. Innovate UK provided small grants for SMEs to access support on marketing, design, IPR and similar
Insurance schemes	The water protection program in the Netherlands, where projects that fail are restored at the cost of other water boards.
Innovation vouchers	In Northern Ireland, an Innovation Voucher provides funding to small and medium sized businesses to work with an expert Knowledge Provider from a University, College or other Public Sector Research Body bringing new knowledge to help businesses innovate, develop and grow. NOTE: Not explicitly linked to innovation-related procurement
DIRECT: Demand side	
Co-financing goods and services	The EC CIP programme (Competitiveness and innovation framework programme) funded a number of projects focused on development of buyers groups for innovation procurements. Funding for 19% of the cost of the joint or coordinated procurement with a cap at 500 000 EUR for all procurement from each project; 95% of the coordination costs of the buyers group
Innovation vouchers	In Austria, vouchers were awarded on the basis of competition. These can then be used by contracting authorities for expert consulting or other relevant support measures.
Loans	INNODEMANDA financing instrument in Spain provides loans to potential bidders in procurements that may want to improve their innovative solutions, before or during the participation in public calls of IP
DIRECT: Demand side procurement of R&D	
Co-financing demand led R&D	H2020 provides co-financing procurement of R&D services through its PCP financing instrument.
DIRECT: Supply side	

Co-financing demand led R&D	There are many examples. Some use national budgets or a combination of national and ESIF funds
Tax incentives	In Portugal, SIFIDE, aims to boost the competitiveness of companies by supporting their R&D efforts through a corporate tax deduction applied to expenditures of such nature.
INTEGRATED: Demand and supply side	
Innovation partnerships	In Norway, a new financing mechanism provides flexible grants for contracting authorities embarking on innovation partnerships. The funding can be used to offset the additional costs, R&D activities where needed and / or final procurement.
Co-financing innovation partnerships	In Austria, The R&D innovation partnership will be implemented in 2018 by the Austrian Research Promotion Agency (FFG). Its aim is to financially support the R&D part of the innovation partnership process.

3.3 How? The mechanisms and how they are implemented

3.3.1 Mechanisms

Mechanisms are the methods through which funding is made available. The 'how' can simply refer to the type of mechanisms used for IEP and PCP, as distinct from the 'what' of the actions. Grants to contracting authorities for example are frequently used to support IEP and PCP. The ERAC opinion (2015) was that that Member States should: *"provide financial incentives for contracting authorities to undertake innovation procurement, in the form of grants or loans"*

In the case of grants and grant programmes, a sum of money is given by a government or other public organisation for a particular and specified purpose to an eligible recipient. Grants are usually conditional upon certain qualifications as to their use, for example: achieve certain targets, maintenance of specified standards, or provision of a proportional contribution by the grantee or other grantor(s). H2020 is the prime example of a grant programme.

Loans on preferential terms could be used in the context of IEP and PCP for contracting authorities to purchase innovation or R&D services. For example, procurers may receive loans to support procurements in low carbon technologies. Loans are not always innovation friendly if they require short payback times and onerous conditions.

Grants and loans can be used help SME suppliers to invest in demonstrations and development of prototypes. This works particularly well in the context of an IEP where the prospect of a sale enhances the business case.

Insurance schemes and tax incentives are also mentioned as mechanisms that support IEP and PCP but seem to be less frequently used or so specifically targeted. One example is however Portugal, where the programme SIFIDE, operated by ANI (Portuguese Innovation Agency), aims to boost the competitiveness of companies by supporting their R&D efforts through a corporate tax deduction applied to expenditures of this nature.

The MLE participants have provided more information on the different types of mechanisms being implemented at the national level in the national profiles, included in the annex.

3.3.2 Features and conditions of financing mechanisms

As well as considering the mechanisms in general terms, it is helpful to consider the detail of how they are structured and operated in practice, and how the financing is experienced by the beneficiary on the one hand and providers on the other.

In looking more closely at the 'how' we get the 'coal face' of innovation-related procurement financing. Although the different type of actions recur in different national settings, their features and detail differs. These differences are likely to influence effectiveness and impact. This suggests that we need to be cautious about drawing conclusions about the relative merits of actions without understanding the detail. The country examples of financing mechanisms included in the Annexes to this report aim to gather this information and illustrate these differences.

For example, the following features will be of considerable interest to the beneficiary:

- the way the mechanisms are structured,
- how the competition for funding is managed,
- the nature of the financing (grants, loans),
- the levels of financing provided,
- the way they are administered,
- the way they are managed or supported,
- over what period of time they are available,
- their flexibility, etc.

Let us look at an example: co-financing of goods and services. The purpose of this action is to mitigate risk and incentivise the customer. However, the following features of the action will influence the extent to which risk is mitigated and the customer incentivised:

- Level of financing (% of procurement value; lump sum);
- Conditions applied to the financing (how certain is it?)
- Time lag between procurer spend and co-finance being received (weeks, months, years?)
- Restrictions on what type of solution can be procured (sector specific calls for proposals for example).

These differences have important implications for the public customer, the end user of the financing. It is accepted that because government grants are funded by taxes, they require stringent compliance and reporting measures for ensuring the money is well-spent. However the way that this is done can have un-intended consequences and adversely affect the outcomes.

"The ultimate test of a financing mechanism is how it is experienced on the ground- does it trickle down and it is understood, does it work. If a mechanism is perceived as adding risk it defeats its objective", MLE participant, Minutes of Topic C MLE

To continue with this example, co-financing is meant to incentivise and mitigate risk, but depending on how it is managed it may in fact add risk (will we get the funding in the end?). This extends beyond co-financing to other public financial incentive measures. For example, a business case that depends on a carbon price has the added risk of fluctuations in that price. As discussed earlier, the level of financing needs to be commensurate with the level of risk and the level of risk depends on the sector concerned. In response to the OECD survey, respondents from Germany noted that accessibility and risk were important features to prospective beneficiaries:

"The complexity of the instrument of PCP and the costly measure to start a competition between companies and research organisations: Procurers have to finance more than one organisation. For them, it is not obvious that these higher costs at the beginning will pay off in the future".

The local context and culture will likely have an effect on the impact of different measures. As mentioned previously, no amount of finance will entice applications where the organisational and policy context is unsupportive of the approach and/ or innovation and where risk taking is unrewarded.

3.4 Coordination and synergy of financing mechanisms

The fragmentation or failure to connect up financing is a challenge, and one referenced in the OECD report (2017).

"Finances can represent one of the main challenges in the innovation procurement process. Availability of sufficient funds is one aspect. Countries also mentioned fragmentation of funding: in some cases, funding might be available in the budget of one body, but not accessible for another".

It was also recognised as a subject of important in the MLE process: is how can direct and indirect financing be brought together to support the overall objective; i.e. successful commercialisation of innovative goods and services to meet the unmet needs of the customer and society? Similarly, how can direct and indirect support for customers can be linked with indirect support for suppliers?

Case example: Coordination of funding mechanisms

An example where efforts have been made to achieve synergy between financing programmes, despite the considerable challenges, is in Spain. Here, the INNODEMANDA financing instrument supports potential suppliers to respond to innovation procurement calls from customers and is synchronized with financing programmes supporting demand-led procurement of goods, services, and R&D. The programme provides loans to potential bidders that may want to improve their innovative solutions, before or during the participation in public calls of IP. Managed by CDTI, this programme provides funds in the form of loans to develop or improve solutions and to cover innovation contracting costs with the public body.

Some countries are attempting to overcome this issue by working to synchronise different calls for financing.

As noted by one of the MLE participants, ideally the National and EC programmes would also operate with a degree of synergy:

"It is important to try to align the different national programmes that may support innovation-related procurement (e.g. Innocompra and Innodemanda in the Spanish case) seeking for synergies with other instruments from other levels (e.g. H2020, ESF, ERDF, etc.).", MLE participant

An example of how different financing mechanisms (EC and National) came together is the PPI award winning Erasmus MC Sustainable Bed-washing facility. Here synergy between indirect and direct financing for the customer and indirect support for the supplier were critical to the projects realisation and overall success. It was this mix of financing that led to the success of the project, and without one of these elements it is likely to have failed or stalled. It is often not the scale of the financing, but its timeliness and flexibility that are the most important features.

Case example: Use of multiple funding mechanisms within an IEP procurement

Erasmus MC, located in Rotterdam, The Netherlands adopted the Forward Commitment Procurement methodology to trigger the development of a new solution (VMarc Robotic Bed washing facility) and co-create the final product with the suppliers through an iterative process. This case study concerns a 'good practice' example of innovation enhancing procurement to meet unmet needs of the University Hospital in the centre of Rotterdam. It was enabled by the EU/LCB-Healthcare and EcoQUIP projects and won the European Commission's Innovation Procurement Award in 2014. These two projects were funded under the CIP programme. The first enabled the project to be set up and developed; the second facilitated the co-financing of the solution. The latter enabled Erasmus to 50% fund the VMarc prototype stage within the context of a conditional contract for the purchase of two machines. In addition the supplier applied successfully for a small grant from the Dutch Government to assist in the concept development and respond to the tender with a completely new solution.

As well as demonstrating that the power of technology neutral market demand, it highlights how judicious use of grant funding interventions can enable innovation, provides a practical example of co-creation of a solution with a supplier, and how prototypes can be developed and demonstrated within the context of a procurement process. Within this project we can distinguish a number of funding and support measures that enabled the project to succeed.

Staff time	CIP(EC)	Funding covered 95% of the costs of Erasmus staff for those working on the project.
Co-financing of procurement	CIP(EC)	EC funding under EcoQUIP provided up to 20% and €125,000 for co-financing of the procurement. This was used to co-finance the prototype, which made it easier to get management approval for the conditional contract.
SME Support	National funding	IMS Medical (Dutch SME) received a small grant to support the development of concept during the pre-procurement stage.

Within the European financing environment, the EC supports the development of innovation procurement with financial incentives, e.g. in the European Research and Innovation Programme - Horizon 2020 (European Commission, 2016c), and the European Structural and Investment Funds (ESIF) (European Commission, 2016d), by enabling

synergies (European Commission, 2016e) between ESIF and Horizon 2020 and other research, innovation and competitiveness-related EU programmes.¹⁸

At a national level, in Germany, [North-Rhine Westphalia](#) (NRW) helps regional public procurers to participate in EU funded PCP projects after their successful evaluation by providing the financial contribution of public procurers to participate in such projects up to maximum 200.000 EURO. There are also efforts in supplier of building synergy building in NRW by ensuring an efficient coordination between H2020 and ESIF.

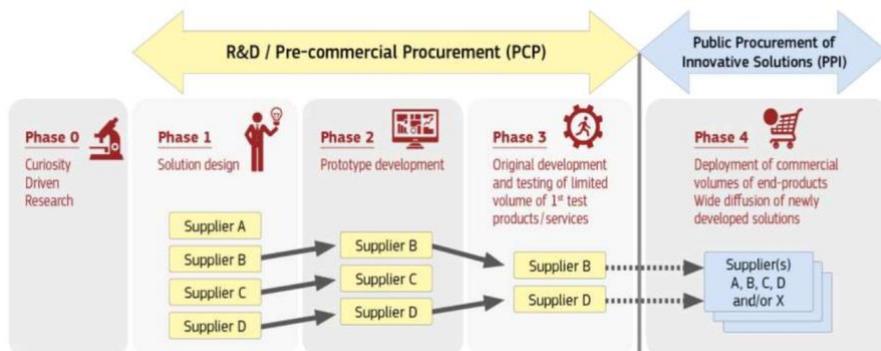
3.4.1 Linking demand, R&D and commercialisation

The EC envisages a synergy also between their PCP and PPI instruments within one programme i.e. Horizon 2020. These two instruments can operate in a consecutive manner, and coordination and support actions (CSAs) can be used to 'set up' subsequent PPI projects i.e. identify requirements, build buyers groups etc.

An example of where a PCP project has led onto a successful PPI bid are the projects THALEA 1 and THALEA 2, concerning telemedicine for intensive care units.¹⁹

Figure 2 The potential link between the H2020 PCP and PPI financing instruments²⁰

- **PCP** to steer the development of solutions towards concrete public sector needs, whilst comparing/validating alternative solution approaches from various vendors
- **PPI** to act as launching customer / early adopter / first buyer of innovative commercial end-solutions newly arriving on the market



However, synergy can be a challenge for the providers and the beneficiaries. A number of practical barriers present themselves, for example: the uncertainty that having secured PCP funding, that the subsequent PPI funding will be awarded; and that having set up a PPI, that the co-financing or joint action costs will be provided; time lags involved in the different mechanisms and alignment with (often uncertain) procurement budgets. Similarly the problem with continuity from coordination and networking actions (such as EC Coordination and Support Actions (CSA)) was referenced – networks are built but are difficult to maintain and links to future financing support uncertain.

"Continuity of purpose stalls ongoing participation and prevents building on experience and creating momentum. For example, what happens at the end of a CSA action? In theory that may lead to a PPI, but who knows and what about the timing, delays and uncertainty.

¹⁸ (See Guide for Synergies,

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

¹⁹ <http://www.thalea-pcp.eu/node/13>

²⁰ <https://www.securityresearch-cou.eu/sites/default/files/Plenary-Lieve%20Bos-Innovation%20Procurement.pdf>

Also experience was that one CSA is not really enough. A route for CSAs to follow through to the next stage, perhaps be invited based on an evaluation to proceed to the next stage over an extended time period. There should be more CSA actions, with phased stages to creating continuity of purpose and building on relationships to take forward to subsequent stages". MLE participant

To overcome this issue, as referenced earlier in the report, other countries are now supporting a complete integrated, end-to-end process for innovation related procurement in the form of financing programmes that support Innovation Partnerships, together with competence support. Norway is leading the field in this area, with a number of other countries such as Austria, Belgium and Sweden planning or preparing this type of action.

3.4.2 Multi-year programmes

One of the conclusions of the MLE process was that multi-annual programmes would help in building a common purpose and commitment and would provide a welcome roadmap to enable contracting authorities and innovators to select those programmes that aligned with their own budgets, resourcing and priorities. Multi-year programmes go some way to address the lack of policy continuity that damages long term joint activities such as innovation.

"Not all risk in all sectors is equal, and the level of co-financing should mirror this. This can be done in programmes but difficult to achieve in calls that are not part of an integrated programme", MLE participant

The nature of these programmes was also commented upon. The MLE discussions on EC programmes recommended that they should be broadly based and proposals evaluated against the impact on societal challenges. Programmes should certainly avoid over-defining the processes to be followed, technologies to be adopted and unmet needs to be addressed.

"Since the issue of timing and alignment of procurement budgets presents a barrier to participation for contracting authorities in time defined and specific calls, the programme should have a high degree of flexibility, allowing proposals to define their own needs. This would overcome problems of proposals 'jumping on the train', creating needs that don't really exist or are peripheral to the organisations agenda", MLE Participant.

It is not all about the level of financing; flexibility in approaches taken and a low administrative burden are important. There is more than one way for customers to stimulate innovation in the supply-chain.

This need for a multi-annual appears to be broadly line with one of the recommendations of an impact study commissioned by DG CNECT,²¹ for a 'reinforced dedicated EU funding program for PCP/PPI', but the detail of implementation and level of flexibility should be carefully considered.

²¹ See presentation of DC CNECT to the MLE Country Seminar, Madrid, November 2017 at <https://rio.jrc.ec.europa.eu/en/policy-support-facility/mle-innovation-related-public-procurement>

3.5 How much?

The MLE did not analyse this issue in detail but a discussion of financing is not really complete without asking how much are we spending? How much do we plan to spend in the future? And critically how much is needed?

When asking the question how much, a response may be to shrug and say 'Who knows?'. However, we can attempt to dimension the question. It is as well to remember that we are not looking at the total spend on innovation in the public sector but on the spend needed to incentivise and support its wide spread use and deployment across the public sector.

Arguably, for the public sector to "pull its weight" on innovation it should be spending a similar amount to the private sector. It should at a minimum be spending enough to generate the long-term cost savings associated with innovation. More than this it can be argued that it should be deploying innovation to capture cost effectively the social and environmental benefits that are often "externalities" in private markets.

As we have discussed, the majority of this "finance" comes from spending money that is going to be spent anyway but spending it differently, i.e. in an innovation enhancing way. This is one of the primary aims of indirect demand side financing. Furthermore, this requires a supply side that is capable of responding and hence the need for indirect supply side finance.

Public (government) funded R&D in universities and research establishments is used by the private sector in industrial R&D laboratories to develop new products. For example, it is well known²² that the iPhone depended for all its key ingredients on publicly funded R&D. But Apple needed to invest in further industrial R&D to turn those ingredients into a product. The equivalent of the latter for societal and public sector outcomes are the demand led R&D projects in PCP type procurements. Should therefore PCP programmes have a similar share of GDP to industrial research?

Investment in innovation in the private sector is driven by monetary returns and competitive advantage while in the public sector the gains are societal and the quality and cost effectiveness of public services. In this context the Scale Up Europe manifesto²³ identifies that US Government agencies have to devote at least 3% of overall annual budget for small business SBIR programs and recommends that Europe devote 3% of government agency spending to PCP and 20% to PPI to create a healthy market in public procurement.

3.5.1 National Targets

National or regional targets for innovation-related procurements is not strictly a financing mechanism, rather it is a way to identify a proportion of the public procurement spend for innovation. Finland for example has a 5% procurement of innovation target.

²²Mariana Mazzucato University of Sussex The Entrepreneurial State
<https://marianamazzucato.com/entrepreneurial-state/>

²³ http://scaleupeuropemanifesto.eu/pdf/Scale_Up_Europe_Brochure.pdf

The questions we might ask of such targets: what is the right percentage? how much is enough? Does that mean the rest is not supporting innovation? Is 100% the right answer?²⁴ What difference would making the targets mandatory make and how does doing innovation for the sake of innovation square with the requirement to spend public money to achieve best value. As stated in the introduction the MLE did not address these issues in any detail.

Such targets are both incentivising and, as a secondary but non-the-less important consequence, are awareness raising, i.e. creating a market for the other direct and indirect actions, notably training and capacity building.

The OECD Survey references targets used by a number of countries to 'incentivise' innovation procurement or 'incentivise' SME participation. In the report they are distinguished as quantitative or qualitative an example provided:

Examples of quantitative innovation-related procurement targets:²⁵

- Government programme 2015 includes a 5% target for innovative public procurement (Finland).
- SMEs must reach 2% of innovation procurement by 2020 (France).
- An ambition of 2.5% to be spent on innovation (Netherlands).
- A national target of 3% in new investment for innovation procurement (Spain) was established. This has since been discontinued.

Examples of countries with qualitative innovation-related procurement targets:

- Indicative targets to stimulate innovation procurement (Netherlands, Belgium/Flanders)

²⁴ I acknowledge here the presentation of Wouter Stolwijk, Procurement Expert, Ministry of Economic Affairs, Netherlands at the Innovation Procurement Conference in Tallinn, October 2017.

²⁵ Source: Country responses to OECD (2016), "OECD Survey on Strategic Innovation Procurement 2015", in Public Procurement for Innovation: Good Practices and Strategies, Annex C, OECD Publishing, Paris.

2 CONCLUSIONS

Financing for innovation-related procurement will continue to be necessary if we are to overcome the inherent failure of the public sector market to pull its weight in terms of driving and supporting innovation.

Getting the right financing mechanisms in place will be essential if the potential of innovation procurement is to be realised and hence finance is an important part of the policy framework. Finance should encompass both co-financing and enabling aspects, and work in concert to fulfil the ultimate aim of innovation-related procurement namely securing the best possible public services and driving an innovative growing economy.

Those making the case for financing need to be able to demonstrate not only the rationale for financing in the first place, but that the investment delivers value to the public purse. The opportunity to begin this exchange on this complex and difficult topic has therefore been welcomed by the participating countries.

"It seems that every country is struggling with deferent solutions and approaches of supporting innovation procurement. This variety has been a great source of inspiration", MLE Participant

"This type of exchange moments is really enriching and motivating. It gave us a better insight into the do's and extra motivation to continue our implementation process", MLE Participant.

Financing (both direct co-financing and indirect financing of enabling actions) is necessary for public procurement to fulfil its potential to drive innovation in public services and in the wider economy.

All innovation involves risk and potential first mover disadvantages but the rewards of taking this risk are less for public sector organisations than in the private sector and financing of all types can help to bring the risk to reward ratio back into balance for the public sector procurer. Co-financing and R&D financing clearly addresses this need but the ability to manage the risks is also critical and financing for the capacity building identified in Topic B is also vital in this respect.

There are therefore coherent arguments for both the use of some public procurement spend to stimulate and support demand led innovation and to use some of the R&D budget to respond to unmet public customer needs.

"The financing of the public purchase of innovation is an essential tool for the development of the implementation of innovative solutions in the public sphere". MLE Participant

Arguably the largest source of 'finance' for innovation procurement is the public procurement budget itself.

Arguably the largest source of 'finance' for innovation-related procurement is the public procurement budget itself: as mentioned earlier, public procurement accounts for 15% to 20% of GDP in many EU Member States and for more than 2 trillion euros annually across the EU as a whole. In effect, all innovation-related procurement financing mechanisms exist, in one way or other, to mobilise this spend for innovation.

However, money will not persuade procurers to act contrary to the policy framework or organisational directives in which they operate; nor should it. Finance has to be aligned with policy; consequently public organisations need to have in place policies and procedures that are not only open to innovation, but ambitions that actively require innovation, in order for direct financing to mobilise the procurement budget for innovation.

Moreover, the implementation of multiannual programmes co-financed by the European Structural and Investment Funds (ESI Funds²⁶) for the 2014-2020 programming will lead to more than EUR 450 billion of investment in this period, again with considerable scope for stimulating and supporting innovation. The practice of mobilising ESIF for innovation procurement, as is being done in for example Spain, Lithuania, and Estonia, is one that could be more widely adopted.

"The main success factor for implementing and developing Spanish policies fostering EIP and PCP has been the allocation of structural funds.", National Profile, Spain.

Finance support has to be aligned with an organisations policy – and the policy has to be ambitious enough to require innovation.

Consequently, public organisations need to have in place policies and procedures that are not only open to innovation, but ambitions that actively require innovation, in order for finance support to be useful. Without the incentive and the need the will to innovate does not exist.

Co-financing for the procurement of goods and services is a cornerstone of financing for innovation procurement, being a good mechanism to both incentivise and mitigate risk.

Participants generally agreed that, while the country context is critical, in the vast majority of cases, up to 50% co-financing is adequate and that contracting authorities needed to take a share of the risk. However, not all innovation procurement is equally risky, being higher in some sectors (e.g. transport, energy) and lower in others (e.g. catering). Ideally a financial mechanism would be able to assess the relative risk and fund appropriately.

There are many different types of financing mechanisms being provided and these should continue to evolve to take into account learning and practical experience with more integrated mechanisms coming to the fore.

New and hybrid mechanisms are being developed. The MLE process distinguished two broad categories of financing co- financing (Direct) and enabling (indirect), with support of both types being necessary for both customers and suppliers. In an ideal financing scenario these would operate in synergy, which although challenging, would bring real added value.

The integrated mechanisms that are emerging in response to the difficulties experienced in many direct supplier mechanisms to lead to commercialisation are a welcome addition and hold the promise of enabling the whole cycle of innovation procurement – from needs identification through to commercial procurement (see Norway National Profile).

²⁶ The "European Structural and Investment Funds" or "ESI Funds" is the common designation for five European funds: the European Regional Development Fund (ERDF), the European Social Fund (ESF), the Cohesion Fund (CF), the European Agricultural Fund for Rural Development (EAFRD) and the European Maritime and Fisheries Fund (EMFF), which operate under a common framework (i.e. the CPR) as well as under fund-specific regulations.

As was mentioned a few times in the MLE discussion, taking ideas through to commercialisation is a dance involving both suppliers and customers, and while you can dance alone, it takes two to tango. This type of mechanism has the potential to create the necessary conditions for such a dance to take place.

Multi-year programmes of financing dedicated to innovation procurement are strongly recommended.

Multi-year programmes for European and National financing are important for building common purpose and commitment and would provide a welcome roadmap to enable contracting authorities and innovators to select those programmes that aligned with their own budgets, resourcing and priorities. Multiyear programs go some way to address the lack of policy continuity that damages long term joint activities such as innovation.

The programmes should be broadly based and proposals evaluated against the impact on societal challenges and the benefits to the economy. Programmes should certainly avoid over-defining the processes to be followed, technologies to be adopted and unmet needs to be addressed. It is not all about the level of financing; flexibility and a low administrative burden are important.

"Procurement of innovation needs to be connected to long-term, more complex needs in order to address the major societal challenges (demographical changes, climate...)", MLE Participant

There is scope and value to be had from further exchange on financing

Finally, there seems considerable scope for further exchange and mutual learning on this topic, summarised by an MLE participant

"I greatly appreciated the level of the exchanges. Since we do not have a specific mechanism dedicated to the purchase of innovation, I learned a lot from the interest of structuring the financing of innovation. It is not clear over two half days to measure all the issues related to this topic. I recommend, if it is possible to re-organize a meeting on this topic to deepen the subject and discuss, for example the limits of the systems put in place and the recommendations to be made when a State or a region wants to embark on the adventure of financing", MLE participant

For example; while some countries have accessed the ESIF programmes to finance both direct and indirect mechanisms (notable Spain, Lithuania, Estonia), this has not been the case in others (such as Greece, Portugal, Latvia); the newly emerging integrated mechanisms were seen as a positive development by the participating countries and learning from the first movers would be welcomed in the coming years and bringing together those embarking on innovation partnership type mechanisms would facilitate mutual exchange and learning that could be widely shared.

5 ANNEX: NATIONAL PROFILES, FINANCING MECHANISMS AND INSIGHTS

5.1 Austria

Overview

Financial support is provided via two instruments: the PPPI project competition and PCP pilot actions. A new support instrument is in preparation for innovation enhancing procurement. It will use the new "innovation partnership" procurement mechanism.

"Financial incentives are necessary but the commitment of the public procurer is crucial. A new instrument for supporting Innovation Partnership projects is in preparation".

PPPI Project Competition

Type of action: Indirect (i.e. enabling) demand side: Enabling and supporting procurers to undertake IEP by offering financial support (e.g. for covering additional administrative costs).

The PPPI project competition uses funds provided by BMVIT and BMDW (formerly BMWFW). The total funding allocated between 2014-2017 is approximately 280.000 €. It is administered by the PPPI Service Centre and is currently being re-designed.

An example of the type of project supported:

Enzyme-based waste air cleaning exhaust air purification in public kitchens. Provision of an environmentally friendly alternative to common product. This led to a cost reduction of up to 50%.²⁷

Contact Hannes Pöcklhofer, Head of Public Procurement Controlling Department of Upper Austria: hannes.poecklhofer@ooe.gv.at, for more information.

PCP Pilot Action

Type of action: Combines direct demand side and direct supply side approaches. The PCP pilot actions use funds provided by BMVIT, BMDW, ASFINAG (Austrian Highways Operator) and ÖBB (Austrian Federal Railways), in total approx. 3 Mio. €.

Administration by FFG (Federal Research Promotion Agency).

An example of the type of project supported:

Mobile traffic management system for the motorway network (road work areas and major incidents). Enabled the development of two functioning proof of concept prototypes. ASFINAG deployed the solutions on their network after the PCP.

Increased the quality of work due to competitive setting.

See video: <https://www.youtube.com/watch?v=Oeg9m0XKuC4>

²⁷ See slides presented by Pöcklhofer at the MLE Vienna meeting at:

<https://rio.jrc.ec.europa.eu/en/policy-support-facility/mle-innovation-related-public-procurement>

5.2 Belgium

Overview

Public procurement is an economic policy tool with a strong impact on the economy, but at the same time it requires a professionalization of buyers in order to optimize it and take into account a series of considerations necessary for the sustainable development of our societies and economies (social, ethical and environmental clauses, privileged access to SMEs, innovation, etc.).

The public order is thus invested with a triple mission:

- Satisfy the needs of the community (with increasingly limited resources);
- Stimulate the creation of innovative solutions;
- Optimize the economic, social and environmental impact of the purchasing process.

Innovation public procurement is largely in line with this win-win approach because it allows, on the one hand:

- Supporting the growth of innovative companies;
- To consolidate the positions of innovative Brussels start-ups in highly competitive sectors;
- To enable them, through public commissioning, to overcome the "valley of death" i.e. the first five years after creation;
- To establish the notoriety of start-ups which become privileged partners of public administrations.

Our vision is that it is essential to sensitize and support the Demand side in order to trigger new Innovation Procurement processes. In that sense, we are trying to support these processes as much as we can through our actual instruments but we are also planning to adapt our instruments in order to better fit the demand. Moreover there is a will to put in place a support/brokerage structure in a near future.

Although we don't have a specific instruments to support Innovation Procurement, we try to support public bodies as much as we can through our existing financing programs. Hereunder you will find a description of the context and the tools we use to support these public bodies within our current programs.

The different cases of Innovation Procurement we have been encountering until now, were initiated within the framework of our Living Lab program Testit.

Within the 2017 Testit call "Living Labs Brussels Retrofit", two Living Lab consortia have decided to launch Innovation Procurement processes, in order to allow the involvement of different stakeholders throughout the renovation project (from the R&D phase to the implementation/renovation phase) and thus to work in a real "Living-Lab setup".

In the context of the 2018 Testit call, one Living Lab consortium has also decided to launch an Innovation Procurement process.

Type of action: As no specific tools for the financing of Innovation Procurement have been developed until now, we use a mix of existing tools to support public bodies wanting to launch Innovation Procurement initiatives:

- Direct Supply side: we have several financing instruments that permit us to finance the supply side
- Direct Demand side: except if the public body is a non-profit or for-profit organization, our actual instruments doesn't allow us to finance Direct Demand side support
- Indirect supply or demand side : legal support & financial support for technical/innovation aspects

Funding and administration: In the actual framework, Innoviris handles most of the financing and administrative aspects. With time we would like to develop a framework, wherein the public bodies launching Innovation Procurement processes, gradually take over the responsibilities and wherein Innoviris only has an advisory role.

Description

Our actual support process within the Testit program is the following:

- Selection of cases through calls
- Legal & Technical external support (through consultancy in subcontracting), throughout the drafting & market consultation processes
- max 45k€ for the Legal support
- max 25k€ for the Technical support
- Co-financing of the R&D phase (% depending on the legal form of the public body)

As the three tendering processes described above will only be launched in February 2018, we don't have any feedback yet.

Where to find more information:

<http://www.innoviris.be>

Technical Information:

Gaëtan Danneels, Scientific Advisor - gdanneels@innoviris.brussels

Legal Information:

Catherine Moné, Legal Advisor - cmone@innoviris.brussels

5.3 Estonia

Overview

Estonia has a long experience in the field of procuring innovative (digital) solutions for public sector, using common procurement methods. Support grants for innovative procurement initiatives became available from the end of 2015 and we are waiting for first outcomes in 2018.

Our current experience is that this mechanism may be not enough to achieve a considerable amount of innovation in public sector – the indication for this result is low amount of applicants.

Our analysis shows, that the bottleneck of procuring innovative solutions for public sector may appear quite in the beginning of innovative process, where the new ideas are measured and selected for market research. Therefore, we are going to support Estonian public sector organisations with special innovation-mentor-service starting in 2018, so that they can develop their innovative ideas with more ease. In addition, we will continue with different promoting activities, to rise more awareness of innovation among the public sector decision-makers.

Support for Innovation Procurement Initiatives

Type of action: Direct demand side: related to direct financing for procurers with the cost of purchase of an innovation and preparation activities.

Funding and administration: via Enterprise Estonia, using European Regional Development Fund finances

Possible beneficiaries includes all public sector procurers: state institutions; municipalities; public foundations or other public institutions

Up to 50% of eligible costs is provided. Up to 25% of costs can be spent for market research, project management and consultations and not less than 75% for purchasing the object of procurement.

Projects can be up to 500 000 euros per project.

There is up to four calls in a year, so it is always possible to apply for the grant without much waiting. First, the potential applier has to notice Enterprise Estonia about the plan 2 months before call ending. It gives Enterprise Estonia the possibility to support the applier with consultations and it helps to minimize the amount of faulty applications.

A commission of experts evaluates applications. The main point of evaluation is to measure the predicted economic impact of the project – how big is the potential market for the product of procurement in Estonia and in the world.

The supported lifespan of the project is 2 years and it can be prolonged, if the need arrives. Currently we are waiting for possible outcomes of few interesting projects – for example “Clinical decision making support system for general healthcare” of Estonian Health Insurance Fund and “Optimal road construction methodology” by the Estonian Road Administration.

Where to find more information

<https://www.eas.ee/teenus/innovatsiooni-edendavate-hangete-toetamine/>

Kaido Sipelgas: kaido.sipelgas@eas.ee

5.4 Finland

Overview

In Finland, The Innovation Funding Agency Business Finland provides funding to public authorities through their Innovative Public Procurement financing instrument.

Name of the mechanism: Innovative Public Procurement (IJH)

Type of action: Indirect demand side: Related to enabling and supporting procurers and suppliers to undertake IEP and PCP type activities.

Funding and administration: The Innovation Funding Agency Business Finland. Until 2018 Business Finland operated under the name Tekes.

Business Finland provides support funding to public sector organisations for planning and specifying innovative procurements. All public procurers are eligible recipients of funding. The grant covers 40-50 % of project's total costs in the preparation stage of a procurement. It may cover development, piloting and adoption of new products and services. The recipient public procurer should use the grant to source additional expertise, build collaboration, undertake market consultation, and carry out pilots or R&D work. This is to strengthen cooperation with potential providers and end users in planning and preparation of innovative public procurements.

Comments and observations

Around 100 projects have been financed so far between 2008-2017. There is no earmarked budget for the scheme. Business Finland may allocate funding on the basis of supply of high quality proposals.

The key criteria applied by Business Finland in evaluating applications are novelty, prospects for scalability and export potential. Diffusion of products already existing on the marketplace are therefore not prioritised but rather solutions with genuinely innovative character. Also, bespoke solutions tailored to user-specific requirements with little potential for replication are not favoured, but scalable solutions with larger potential on the market, and ultimately export potential. The procurement size should be of sufficient size to boost the sector in question, at least on a regional scale.

The grant award rules permit Business Finland to finance both procurement preparation (phase 1) as well as procurement deployment projects (phase 2). So far most of the projects have focused on the phase 1. Typically the projects finalising the phase 1 did not select a procurement strategy with a high level of novelty involved. Thus risk sharing support has not been needed, which is the main focus of the phase 2 funding.

Funding can be applied continuously, there are no specific application submission deadlines. Applicants are encouraged to enter into dialogue with Business Finland financing officers and experts to discuss the potential of their project to meet the funding objectives and criteria. On the basis of the initial application, Business Finland may provide feedback and engage in dialogue with applicants in order to further specify the scoping and planned activities before submitting the final application to Business Finland for financing decision.

Where to find more information

Website:

<https://www.businessfinland.fi/en/for-finnish-customers/services/funding/public-services/innovative-public-procurements/>

Further information:

Piia Moilanen, Business Finland, +358 (0) 2950 55748, piia.moilanen@businessfinland.fi

General comments on financing

The financing mechanism, and associated activation programme Smart Procurement 2013-2016, have been key to raising awareness among public procurers about opportunities in innovation procurement. The sectors most active in utilizing the financing have been construction, health and social care, and transportation.

In the construction sector the programme has accelerated the demonstration and uptake of low-energy solutions and new project commission models through public building projects.

In the social sector, the practice of contracting care services on the basis of performance-based procurements has progressed through several projects.

Innovative solutions in transportation have focused on low-carbon vehicle procurement (e.g. electric buses) and smart mobility services involving application of IT in transportation services.

The level of interest among procuring organisations has not been as high as expected, and has not distributed evenly across potential sectors. The ambition level has been modest considering adoption of new technology, stimulating demand-based R&D, or systemic change. Further efforts in raising awareness among procurers will be needed. Also, closer coupling with supply-side R&D project results could be an opportunity to raise the ambition level of procurements.

A potential future direction is formulation of buyers' groups around service development and procurement needs that are shared between several potential buyers. This could assist in signalling larger demand base to suppliers, share the risks among procurers, and share the preparation costs for procurement.

Pooling public demand around shared needs is expected to play a role in meeting expectations that public procurement stimulates demand for emerging business ecosystems prioritised by the government such as bio-based solutions, circular economy, intelligent mobility and health technology.

Another future direction is reinforced risk sharing financing to the actual uptake of an innovative solution. Particularly in the domain of clean technology it is often the case that novel cleaner alternatives have a higher initial investment cost due to small batch production without economy of scale. Public co-funding or risk guarantee instruments to level off the higher initial price could accelerate reaching a cost competitive level of innovative supply.

5.5 France

Overview

Measure 32 of the National Pact for Growth, Competitiveness and Employment established the principle of "the state as an exemplary buyer" in order to stimulate innovation and support the development of SMEs with innovative solutions. By 2020, 2% of public procurement must be achieved by the State, its public institutions and hospitals.

The purchase of innovation is therefore a demand-driven public policy that encompasses three issues:

1. Support the growth of innovative companies by financing the development of their innovations and offering them access to new markets and quality reference;
2. Control public spending because the introduction of innovation improves the performance and efficiency of public procurement;
3. Develop public support for financing innovations.

This first activity could be described as 'enabling' financing for innovative companies, albeit not directly related to public procurement. There are currently no specific financing mechanisms dedicated to the purchase of innovations in France.

5.6 Germany

Overview

The competence centre for innovation procurement (KOINNO) is financed by federal public funds. KOINNO provides direct support to public procurers, policy makers and other stakeholders, though offers no grants or other direct financial support. This is then a form of indirect financing.

Some German states offer grants for innovation procurement. These are usually one-off, for specific topics or product groups and have limited reach.

The Federal Ministry of Economic Affairs and Energy (BMWi) used to offer grants for pre-commercial procurement but ceased to do so as interest in the grants was minimal despite a lot of communication and marketing effort. There are currently no plans to reinstate the programme.

Contact for further information:

Ulrich.Romer@bmwi.bund.de

5.7 Greece

Overview

In Greece, for the time being, there are no financial tools promoting directly innovation procurement has been developed so we cannot provide relevant information or experience on the matter. However, it will probably one of the top priorities to be considered in a national policy to promote innovation procurement.

When talking about policy and especially about financing procurements promoting innovation, what is of high importance is to have a strong political will establish and promote such incentives along with a well-structured and reliable mechanism to regulate payments.

"As far as future direction concerns, training and supporting both contracting authorities and economic operators is essential so that financing innovation procurements is enhanced".

Simplifying financing procedures would also be helpful, moreover, linking European and national level through various contact points would facilitate things to that direction.

5.8 Lithuania

Overview

Direct financial support mechanisms for innovation procurement in Lithuania only exist for direct supply side actions in the form of PCP. For this reason, PCP is becoming more popular rather than PPI.

There are two direct financial support mechanisms for PCP in Lithuania described below:

EU Structural Fund's instrument "Pre-commercial Procurement LT" ("Ikiprekybiniai pirkimai LT"). Funding is channelled via the Lithuanian Business Support organization (LVPA). Co-financing of up to 85% is provided to procurers to purchase R&D services.

- National budget co-financing. The financing institution is the Agency for Science, Innovation and Technology (hereinafter – MITA).²⁸ The level of co-financing varies depending on the needs of the particular project and currently is quite low.

In addition there are two enabling actions financed and these are described below:

- "Promotion of new type of public procurement - PCP and PPI" ("Naujo tipo (inovatyviųjų ir ikiprekybinių) pirkimų skatinimas")
- "Innovation Consulting and Support Services for Business (InoSpurtas)" ("Inovacijų konsultacinės ir paramos paslaugos verslui (InoSpurtas)")

"The funding mechanisms in Lithuania are focused on PCP but not PPI. As a result, PCP is getting popular among public procurers. Companies also see PCP as a chance of funding of their R&D on certain innovative products which public procurers are or might be interested in. But the public procurers are not interested in PPI and don't see the benefit

²⁸ Promotion of PCP and PPI is only one function of MITA which itself is mainly research funding organization. Main objective of MITA is to promote innovation, cooperation of science and business.

of PPI. The situation might change if there would be any financial support mechanisms for PPI launched”.

Pre-commercial Procurement LT

Type of action: Direct supply side. Funding is provided for suppliers via public contracting authorities.

Funding and administration: EU Structural Fund’s instrument “Pre-commercial Procurement LT” (“Ikiprekybiniai pirkimai LT”) provides the financing. The programme is managed and the projects are administered by the LVPA.

As the projects funded via this financial measure are considered ‘state planned projects’, their administration involves the Ministry of Economy of the Republic of Lithuania (hereinafter – Ministry of Economy), and MITA. If the project exceeds EUR 1 million the Council on R&D&I of the Government of the Republic of Lithuania (hereinafter - Council on R&D&I) is also involved.

This mechanisms is in its early stages with the first round of proposals still in the approval stage (at January 2018). It is anticipated that 17 projects, will be co-financed (two of which being over EUR 1 Million) and will start in early 2018. Percentage of co-financing for each PCP project will be up to 85 %.

The procedure to receive funding is as follows:

1. Submissions for PCP projects are received from public contracting authorities.
2. MITA’s external experts evaluate the proposal according to criteria to establish that the project is necessary and credible e.g. a solution is not on a market, R&D is necessary, the need of the solution is genuine etc. and gives a permission for the PCP to proceed.
3. For those PCPs which exceed EUR 1 million the permission of the Council on R&D&I is also required.
4. Ministry of Economy launches a call for proposals.
5. Those projects that have received permission can be submitted by the procuring organisation.
6. Ministry of Economy evaluates the proposals and drafts the list of state planned projects approved by the minister.
7. LVPA launches a call for projects.
8. Only the contracting authorities and the PCPs mentioned in the list of state planned projects can submit projects.
9. LVPA evaluates the projects and makes agreement for funding with the contracting authority.
10. MITA continues to participate in all PCP as expert institution by being a member of each PCP commission at the procuring organization and providing external experts for the evaluation of tender documents and results of each stage of PCP.

At the end of the project, the contracting authority should either prove that the products of PCP were commercialized, or to do a follow on PPI project.

As the programme is new, and projects are still being evaluated, the impact is difficult to foresee. What we do know is that as a result of this mechanisms contracting authorities are becoming more interested in innovation procurement.

The challenges are:

1. Procedures to receive funding take too long;
2. Too many different institutions involved in the funding scheme;
3. Applicants have to fill too many different documents about the same PCP.

Where to find more information

Web of Ministry of Economy:

<http://ukmin.lrv.lt/lt/veiklos-sritys/es-parama/2014-2020-m/ikiprekybiniai-pirkimai-lt>

Contact person: Rita Šniukienė, e-mail: rita.sniukiene@ukmin.lt

Web of MITA:

<https://mita.lrv.lt/lt/veiklos-sritys/programos-priemones/ikiprekybiniai-pirkimai>

Contact person: Sigutė Stankevičiūtė, e-mail: sigute.stankeviciute@mita.lt

Web of LVPA: <http://lvpa.lt/lt/httplvpa.ltltnovaciju-priemones-ikiprekybiniai-pirkimai-lt>

National Co-financing for PCPs

Type of action: Direct supply side. Funding is providing for suppliers via procuring organizations.

Funding and administration: Funding and administration is provided by MITA. If PCP value exceeds EUR 1 million. EUR also the permission of Council on R&D&I is required.

Percentage of funding varies according to the needs of procurers and the size of national budget.

The procedure to receive funding:

1. MITA's external experts evaluate if the description of planned PCP provided by procurer meets the requirements for PCP (if the object is not on a market, R&D is necessary for creation thereof, the need of the object exists and etc.) and gives a permission for procurer for PCP.
2. For those PCPs which exceed EUR 1 million. EUR also the permission of the Council on R&D&I is required.
3. Procurers writes an application for co-funding.
4. MITA makes an agreement on funding with procurer.

5. MITA continues to participate in all PCP as expert institution by being a member of each PCP commission at the procuring organization and providing external experts for the evaluation of tender documents and results of each stage of PCP.

The only PCP funded until now in Lithuania is co-funded by MITA, but the co-funding percentage is very small. Since a financial measure "Pre-commercial procurement LT" is launched with possibility of funding up to 85%, the co-funding possibility is not so attractive for procurers although the procedure is much more simple.

Where to find more information

Web of MITA:

<https://mita.lrv.lt/lt/veiklos-sritys/programos-priemones/ikiprekybiniai-pirkimai>

Contact person: Sigutė Stankevičiūtė, e-mail: sigute.stankeviciute@mita.lt

Promotion of new type of public procurement - PCP and PPI ("Naujo tipo (inovatyviųjų ir ikiprekybių) pirkimų skatinimas")

Type of action: Indirect demand side.

Funding and administration: This is a state planned project implemented by MITA. The funding organization is European Social Fund Agency.

Promotion of PCP and PPI is funded via state planned project in Lithuania. MITA received 100% funding for project activities. The MITA's project activities are directed to public procurers and are as follow:

1. Preparation of methodologies on organization and performance of PCP and PPI;
2. Organization of lectures for public procurers on PCP and PPI;
3. Finding and funding of experts of specific R&D fields who are competent to help public procurers in organization and performance of PCP and PPI;
4. Providing consultations on PCP and PPI;
5. Creation of an online platform on PCP and PPI.

"MITA project helps not only helps to disseminate the knowledge among public procurers about PCP and PPI but also encourages them to do PCP and PPI".

Where to find more information

MITA: <https://mita.lrv.lt/lt/veiklos-sritys/mita-vykdomi-projektai/naujo-tipo-viesuju-pirkimu-skatinimas>

Contact person: Sigutė Stankevičiūtė, e-mail: sigute.stankeviciute@mita.lt

Innovation Consulting and Support Services for Business (InoSpurtas) ("Inovacijų konsultacinės ir paramos paslaugos verslui (InoSpurtas)")

Type of action: indirect supply and demand side.

Funding and administration: It is a state planned project implemented by MITA. The funding organization is Lithuanian Business Support Agency.

The objective of the project is to increase the innovation and to foster development of R&D activities to provide innovation consulting and innovation support services to enterprises.

One of the activities of the project is to promote PCP for enterprises and public procurers.

Where to find more information

Web: <https://mita.lrv.lt/lt/veiklos-sritys/mita-vykdomi-projektai/inospurtas>

Contact person: Vilma Vilutyte - vilma.vilutyte@mita.lt

5.9 The Netherlands

Overview

Innovation Procurement is preliminary financed by the contracting authorities themselves. PIANOo is funded by the Ministry of Economic Affairs and Climate Policy provides guidance free of charge.

The Ministry of Economic Affairs and Climate Policy also co-finances PCPs (SBIRs) and in some cases innovation partnerships (in cases in which the Ministry is part of the partnership) in the Netherlands. Apart from these generic means, multiple specific policy programs include financing mechanisms for innovation procurement. For example, the Netherlands Space Office finances SBIRs for the use of satellite data and the High Water Protection Program includes risk sharing and financing mechanisms.

Lastly, decentral governments can also have financing mechanisms for innovation procurement. We are currently only aware of the province of Overijssel which designed a specific financial instrument to stimulate innovation procurement.

Direct financial support instruments focus on the R&D component of innovation procurement, most particular co-financing PCPs (SBIRs) and Innovation Partnerships.

Indirectly financial support instruments such as incentivising innovation procurement by risk sharing mechanisms are more often used in the procurement of innovations without an R&D component.

Innovation Procurement Program PIANOo

Type of action: indirect demand side

Funding and administration: Ministry of Economic Affairs and Climate Policy

Description

PIANOo provides guidance and advise for contracting authorities on innovation procurement. Advice of PIANOo is free of charge and is strategic and tactical from nature. The advice can be one-on-one for a specific procurement, policy or organisational challenge or more generic via presentation meetings and its website. PIANOo does not provide operational support for innovation procurement or in depth evaluation of procurement policies.

Comments and observations

Contracting authorities are aware of the expertise and services that PIANOo provides and PIANOo can be approached by all Dutch contracting authorities for their innovation procurements (priority is given to procurements related to policies of the Ministry of Economic Affairs).

Where to find more information

www.pianoo.nl

SBIR

Type of action: Direct supply side

Funding and administration: Ministry of Economic Affairs and Climate Policy

Contracting Authorities are co-financed up to 50% of the R&D costs for a PCP (SBIR) or Innovation partnership per project. Projects are selected based on the relevance for the ministry of Economic Affairs and Climate Policy.

Some examples:

Innovation Partnership Quay walls Amsterdam -
<https://www.amsterdam.nl/ingenieursbureau/kademuren/>

SBIR reduction noise hindrance - [http://noord-holland.nl/Actueel/Archief/2018/Januari_2018/Provincies Noord en Zuid Holland testen samen slimme innovaties tegen geluidoverlast](http://noord-holland.nl/Actueel/Archief/2018/Januari_2018/Provincies_Noord_en_Zuid_Holland_testen_samen_slimme_innovaties_tegen_geluidoverlast)

Where to find more information

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

Innovatiegericht Inkopen Ruimtevaart (Innovation Procurement Space)

Type of action: Direct supply side

Funding and administration: Netherlands Space Office

Netherlands Space Office finances and facilitates SBIRs for challenges of Dutch Contracting Authorities to stimulate the use of satellite data by developing applications and services. Contracting authorities with a solid need are identified by the Netherlands Space Office. For these needs SBIRs are initiated. The contracting authorities play a significant role in the execution of the SBIR in order to realise a demand driven approach. They are the first contact for the participating value adding companies that offer satellite based solutions related to the need. Multiple SBIRs have resulted in the procurement of the developed solution by the contracting authority.

Comments and observations

Examples of end-users using operational services resulting from successful completed SBIR projects are:

- The Netherlands food and consumer product safety authority (NVWA)
- The National fire department
- National and local Water Authorities
- Multiple municipalities
- The National Gas Union
- National network operators
- The Netherlands Enterprise Agency

Where to find more information

SBIR Innovation Procurement Space: <https://www.spaceoffice.nl/en/activities/national-programme/funding-schemes/sbir/>

Themes: <https://www.spaceoffice.nl/en/activities/satellite-applications/themes/>

SBIR was evaluated in 2017:

<https://www.rijksoverheid.nl/documenten/publicaties/2017/07/25/evaluatie-small-business-innovation-research-sbir>

Dutch Bureau for Economic Policy Analysis analysed SBIR:

<https://www.cpb.nl/publicatie/notitie-cpb-analyse-en-internationale-vergelijking-sbir>

5.10 Norway

Overview

Innovation Norway is the public innovation agency in Norway, owned by the Ministry of Trade and Industry and the Regional authorities (counties). The agency provides loans, grants, competence programmes and advice to start-ups, clusters and SMEs with growth potential. Innovation Norway is also a formal innovation policy adviser to the Government.

There are several social challenges facing Norway. Our innovation policy advice to our Government is (among other) to become a front-runner for public-private innovation. We are also advising that a new risk mitigating programme for public-private innovation is established. There is currently a very high level of political interest in this field.

in Innovation Norway are scaling up their efforts in 2018, building capacities in their regional offices and aiming to provide risk financing on a broad scale as a larger financial instrument. 2016, 2017 and 2018 efforts are building blocks on the way. They enjoy considerable political support for this and are frequently discussing their lines of action with owners, making sure that they are in line with Government policy.

There are three main programmes financed:

- National Programme for Supplier Development (advice and mobilisation)
- Innovation Contracts (financing development)
- New programme 'innovation partnerships' (facilitation of the whole process and financing development)

"Procurement of new innovative solutions involves a higher degree of uncertainty, compared to procure a proven solution. These uncertainties are often major barrier to innovation. Public financing plays an important role in order to manage this risk. Financing schemes should complement other types of support given to public procurement departments. It is therefore important that innovation agencies and the procurement agencies work closely together in order to follow up on publicly finance projects".

Experience to date indicates that:

- Any programme aiming at stimulating innovative procurement must also stimulate the public sectors ability/competence to use innovation as a development tool, for strategic organisation changes.
- Technology/products are efficient means to make things more efficient or smarter, but the real innovation is normally more demanding/the most challenging as it concerns established structures and work processes involving people on the public sector side.
- Financing must be accompanied by innovation process facilitation of some sort – money is not sufficient

National Programme for Supplier Development

Type of action: Indirect demand side

The programme is a joint initiative by the Confederation of Norwegian Industries, Difi (Agency for Public Management and eGovernment) and KS (Norwegian Association of Local and Regional Authorities). Recently, Innovation Norway joined as a co-owner.

The programme was launched in 2010 with the aim of enhancing the use of innovation procurement in Norway. The programme provides advice, information and competence to Norwegian public entities that want to use innovative procurement processes in order to achieve smarter, greener and more efficient solutions to their needs. There is no direct financing involved. The programme has played a crucial role in setting innovative procurement on the agenda during these years.

The close partnership on agency/policy level has been crucial to the creation of ONE seamless model/tool with one point of access but with resources from several agencies, providing goal-orientation and sound steering throughout the running of the projects.

- Innovation Norway provides risk financing and innovation competence, as well as participation in steering groups and project groups
- Difi provides legal and procedural guidance
- The National Programme for supplier development provides market dialogue guidance and valuable support to project groups



Four new Innovation partnership projects were selected by Innovation Norway in 2017 (out of 23 applications). The very first such project was initialised late in 2016. These projects are starting out Oct/Nov 2017 and will run for 18-24 months. There will be an external evaluation.

Where to find more information

<http://innovativeanskaffelser.no/about/>

Innovation contracts

Type of action: Direct supply-side

Norway has a long history of innovation in the public sector, including public-private development projects. The scheme "Innovation Contracts" was established in 1968 with the ambition of developing new solutions for the public sector. Innovation Norway manages this tool, which provides risk financing to companies running projects with a public (or private) pilot customer. There is no obligation for the public party to buy the solution that is being developed.

Where to find more information

(<http://www.innovasjon Norge.no/no/finansiering/ifuofu-information-in-english/>)

Innovation partnerships: a new tool for public-private innovation

The Norwegian Innovation Partnership model combines innovation, procurement and implementation/scale-up in a way that no other model has provided so far.

Type of action: Integrated, incorporating competence elements: related to direct financing for procurers with the cost of purchase of an innovation. A grant is provided to the public entity. Most of the grant is used to finance the development phase in the procurement process.

This new tool has evolved from the earlier programmes (above) in response to seeing that we need to move on from purely piloting new solutions that never really reach the market and incremental innovation in the public sector that does not result in improved efficiency and higher public productivity. Innovation procurement should be connected to organisational, process innovation in the public sector, and this mechanism provides the possibility of a fully connected process from identification of needs through development and actual procurement.

A call for new Innovation Partnerships was launched on May 31, 2017. Four major projects have received financing from Innovation Norway. There is a cooperation agreement/contract in place for each of the Innovation Partnerships, where all agencies and the public receiver of the grants is part, where our tasks and responsibilities are outlined. The cooperation will be further fine-tuned in 2018.

The Innovation Partnership is an actual development and procurement process – but also a useful working model for efficient and strategic public-private innovation process. We have launched this tool with the help of close cooperation across several key actors in the innovation and procurement agencies in Norway.

This close partnership on agency/policy level has been crucial to the creation of ONE seamless model/tool with one point of access but with resources from several agencies, providing goal-orientation and sound steering throughout the running of the projects.

- Innovation Norway provides risk financing and innovation competence, as well as participation in steering groups and project groups
- Difi provides legal and procedural guidance
- The National Programme for supplier development provides market dialogue guidance and valuable support to project groups

There is sound political interest for IEP in Norway. A government White Paper on Public Procurement is under preparation at the Ministry of Trade, Industry and Fisheries. Innovation Norway has recommended the Government set up a permanent programme on public-private innovation from 2019, in its formal budgetary dialogue with the ministries.

Figure 3: Innovation Partnership as a working model

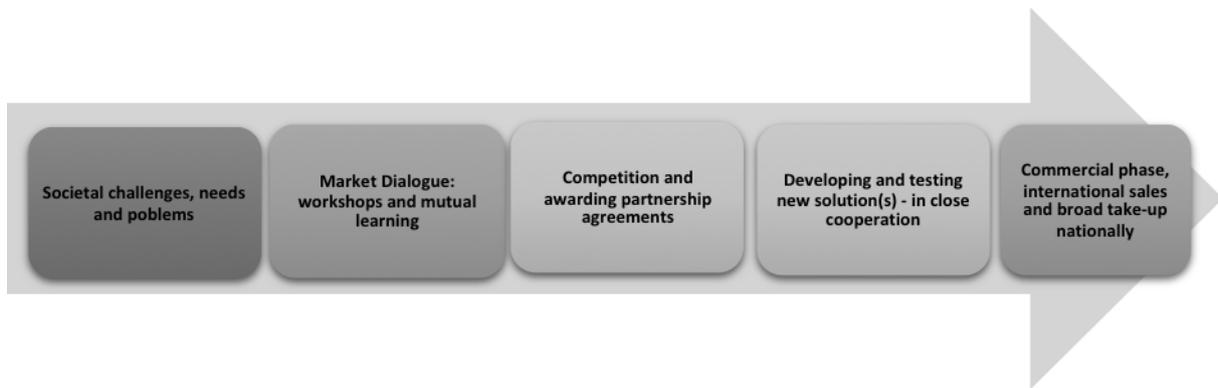
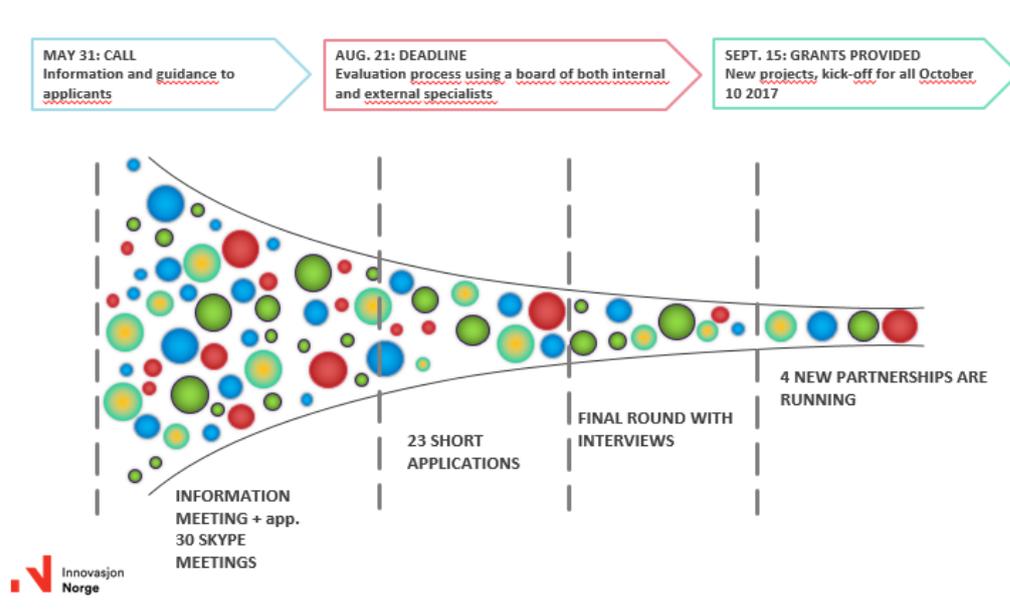


Figure 4: Innovation partnership application process in Norway 2017



There will be a new call for Innovation Partnerships 7th February 2018, with new funding from the Ministries of Trade (50 M NOK) and Transport (15 M NOK).

Projects will be evaluated on the basis that they:

- Result in better public budgets – in the long-term
- Result in better quality in public services, better work processes and services
- Build new solutions in the private sector, using new enabling technologies, digitisation, automation, artificial intelligence etc.
- Partnerships between buyers/problem owners
- Encouraging partnerships on the private side as well, more system solutions and building “national champion teams” that can go global

Successful applicants will need to demonstrate:

- The problem that needs to be solved
- What the costs are currently

- The applicant is THE best organisation to run the project on behalf of others (i.e. municipalities)
- The project will be driven through by top leaders in the public entity (-ies), top level ownership is crucial if we are to realize the larger innovation potential (this means, for instance, CEO running the project steering group)
- Full-time project manager must be internal, and have backing from own leadership.

Lessons learned

- There is a need for more insight and data on the value of innovation and procurement in the public sector. Fully digitalising all procurement processes would be a long-term goal and would build big data on a large scale
- Procurement of innovation needs to be connected to long-term, more complex needs in order to address the major societal challenges (demographic change, climate...). Cross-sectorial needs cannot be solved at the micro level by procuring entities one by one, when the problem is shared by many (no entity fully owns the challenge and there is a lack of incentive to drive for a solution).
- Both public and private parties need risk financing. The public sector may need the extra leverage in order to be able to take risk and prioritize long-term developments. The financing should be made available in combination with in-depth innovation competence.
- The projects need to be steered and supported by top management in public entities, due to the potentially demanding financial investment due in the late stages; i.e., the actual procurement of a new solution. Also, a new technology or solution should address both qualitative (i.e. patient) needs, but also address budgetary constraints and lead to increased productivity in the public sector.
- A new technology or solution may be accompanied by other types of innovation in the public sector: improved work processes or other. The trade unions/employees' representatives and other key stakeholders need to be involved and feel "ownership" to the project, in order to increase the potential of a successful outcome.
- There is a need to work thoroughly with the need/problem understanding, both internally and in the market dialogue.
- Companies have shown great interest in the one Innovation partnership procedure that so far has reached the competition phase.

5.11 Portugal

Overview

In Portugal, there is no formal political mandate for the establishment of PCP/PPI demand or supply side financial support. Although there are financing instruments available, which can be used for PPI and PCP.

“Depending on how much governments recognise as useful the strategic use of public procurement to promote innovation and R&D, the scenarios of supporting procurers with direct demand side financial instruments appear more or less robust”.

R&D in co-promotion

Type of action: This could be used as a Direct Supply Side mechanism. However, as far as it is reported, until now this mechanism was not used by suppliers within procurement procedures.

This funding scheme is managed by ANI-Portuguese Innovation Agency.

The “Research and Technological Development” Incentive Scheme aims to support co-promotion projects between companies or between companies and other entities in the R&I System, in line with the priority areas identified by [the National Research and Innovation Strategy for Smart Specialization](#), that aim, by conducting industrial research and experimental development activities, to strengthen their competitiveness and international integration.

Co-promotion projects are carried out in partnership between companies or between companies and non-corporate entities of the R&I system, and are led by companies, comprising industrial research and/or experimental development activities that may lead to the creation of new products, processes or systems, or to the introduction of significant improvements in existing products, processes or systems. The average % of co-financing is 40-60 depending of the regions.

Where to find more information

<http://ani.pt/en/incentives/rd-in-co-promotion/>

SIFIDE - Tax Incentive Scheme for Business R&D

Type of action: Indirect supply side

SIFIDE, aims to boost the competitiveness of companies by supporting their R&D efforts through a corporate tax deduction applied to expenditures of this nature.

This tax incentive scheme is managed by ANI-Portuguese Innovation Agency.

For companies investing in R&D between 2013 and 2020, the following R&D-related expenses can be eligible:

- Research expenses: acquisition of new scientific or technical knowledge;
- Development expenses: exploitation of research results

Deduction on corporate income tax:

Base rate: 32.5%;

Incremental rate: 50% of the increase in expenses incurred during that period compared to the average from the previous two fiscal years, capped at € 1,500,000 (for newly established companies, the incremental rate will not apply; in case of newly established SMEs: base rate + 15 pp).

Applications must be submitted by the end of July, each year.

As far as it is reported, until now this mechanism was not utilised by suppliers within procurement procedures. However, a proposal is being developed for a policy mix- Innovation + Procurement, with the goal to introduce a positive discrimination in the R&D tax credit, giving a bonus of 10-20% on R&D expenses driven from innovation procurement.

Where to find more information

<http://sifide.aninov.pt/>

5.12 Spain

Overview

Funding for innovation procurement comes from national budget as well as from structural funds ex-post funding. The Secretariat General of Science and Innovation (SGSI) of the Ministry of Economy, Industry and Competitiveness (MEIC) through its Deputy Directorate General for Promotion of Innovation (SGFI) developed a set of instruments to promote innovation procurement and support the implementation of the legal framework. The Spanish Innovation Agency CDTI, chaired by SGSI, manages some of these instruments.

Spain has prepared a new set of EIP and PPI proposals for a global amount of EUR 300 million, co-financed with the ERDF Technological Fund of ESIF, through the Spanish Programme (INNOCOMPRA-FID) for the period 2014-20. Within this, is the Programme FID SALUD that aims to systematically improve public health services portfolio through annual calls for EIP/PPI. To date, this programme has involved every regional health service (of which there are 18, including Ceuta and Melilla). It is technically co-ordinated by the Health, Social Security and Equality Ministry in order to prevent duplication and to foster synergies. Structural financing and oversight is provided by the MEIC. To date more than 40 proposals have been independently assessed by ISCIII (Health Institute Carlos III) and 15 have been approved mobilising some EUR 62 million just for the 2015 call.

Other EIP and CPP initiatives in Spain are financed directly by their procurers from regional (Autonomous Communities) and local public services.

Details of the main programmes, INNOCOMPRA –FID and INNODEMANDA, are set out below, together with five examples of projects financed through these two mechanisms. All these examples received financing from INNOCOMPRA-FID and the final two were financed jointly with INNODEMANDA.

Mechanism: Programme INNOCOMPRA-FID

Type of action: Direct demand side

Funding and administration: SGFI- MEIC

Description

Provides pre-financing for PPI and EIP for Spanish procurers via ESRF-ESIF.

Specific actions to support innovation procurement at the national level are, inside the INNOCOMPRA programme, implemented through FID (Fostering Innovation through Demand) Agreements. This programme is managed and pre-financed by the MEIC and uses EU Structural Funds, ERDF, to co-finance innovation procurements. Funding is provided directly to procurers at the regional level. At July 2014, 21 operations had been supported by this instrument, mobilising EUR 230 million. INNOCOMPRA-FID has, up to July 2017, encouraged more than 26 innovation procurements within Spain, either EIP or PCP, with 7 more in the pipe-line.

Where to find more information

<http://www.idi.mineco.gob.es/portal/site/MICINN/menuitem.8ce192e94ba842bea3bc811001432ea0/?vgnnextoid=fa85b7fe276cd510VgnVCM1000001d04140aRCRD>

Mechanism: Programme INNODEMANDA

Type of action: Direct supply side

Funding and administration: CDTI - MEIC

Description

This programme is synchronized with procuring endorsement processes, and finances via loans potential suppliers/bidders that may want to improve their innovative solutions, before or during their participation in public calls of IP. The loans help companies to cover innovation contracting costs with the public body.

Where to find more information

<http://www.cdti.es/index.asp?MP=4&MS=0&MN=1&textobuscado=innodemanda&tipo=1&TR=A&IDR=38&tipoO=Contenido&id=1549&xtrmc=innodemanda&xtrcr=2>

Some examples of projects financed by INNOCOMPRA-FID and INNODEMANDA programmes

2007-2013 INNOCOMPRA - FID

Agreements of the former Ministry of Science and Innovation (MICYT) – now MEIC -with SERGAS (Health Service of Galicia) on the Projects HOSPITAL 2050 and INNOVA SAUDE. The aim of INNOVA SAUDE was to define a new model of hospitalisation and acute treatment. It concerned a shift to the concept of continuity of care, with a paradigm of assistance focused on the patient, as opposed to the traditional model of acute care linked to physical infrastructure. The aim of HOSPITAL 2050 was to develop infrastructures and demonstration scenarios focused on the user in which to evaluate and validate new health products and services resulting from health innovation projects, using a real environment integrated in a high capacity Hospital Complex, and using the advanced methodologies of a Living Lab.

<https://www.sergas.es/Hospital-2050--Innova-Saude?idioma=es>

2014-2020 INNOCOMPRA - FID

Agreements between the Ministry of Economy, Industry and Competitiveness (MEIC) with SERGAS (Health Service of Galicia) on the Project CODIGO 100. To implement new innovation codes aimed at an aging population with the aim of converting Galicia into a reference region for innovation in active aging, where you can live in quality for 100 years and where you innovate to achieve that goal. It is specified in three themes:

- Empowerment: Prevention and self-management of health by citizens through the use of ICTs
- Advanced Therapies: New innovative and technological diagnostic therapies, especially in the field of personalized medicine
- Knowledge Management: Development of a comprehensive technological platform for health knowledge management

<https://codigo100.sergas.es/?idioma=es>

2014-2020 INNOCOMPRA - FID Agreement of MEIC with INTA (National Institute for Aeronautical Techniques Esteban Terradas) on the Project CIAR.

The aim is launching of the CIAR- Airborne Research Centre of Rozas (Lugo), thus promoting aerospace development in Galicia; its legal framework, infrastructure and necessary equipment, organization, operating procedures, management model and integration with the rest of the research infrastructures, both nationally and internationally. All this with the aim of using unmanned aircraft for atmospheric research and knowledge of the climate, promoting technological development, industrial development by offering infrastructures to test equipment, promote international collaboration and the dissemination of knowledge.

<http://www.inta.es/opencms/export/sites/default/INTA/es/ciar/index.html>

2014-2020 INNOCOMPRA - FID Agreement of MEIC with GAIN (Galicia Agency of Innovation) and AMTEGA (Galicia Agency for Technologic Modernization) – Xunta de Galicia on the Project UAVs (Unmanned Aerial Vehicles).

The general objectives of the project are framed in the following themes that will be developed by GAIN:

1. Efficient management of terrestrial resources, agriculture, livestock and biomass
2. Efficient management of aquatic resources
3. Efficient management of the territory, cultural heritage and tourism
4. Efficient social emergencies management
5. Management and control of air traffic
6. Creation of an "observatory of other actions in the field of UAVs" with the aim of identifying and establishing possible synergies with other actions in this field.

The main lines of participation of AMTEGA involves the design and development of one of the UAVs' use projects for the resolution of specific problems, such as advanced smart inspections, or the development of the platform that will support innovative solutions in all projects in the field of the primary sector, among other objectives.

<http://gain.xunta.gal/artigos/165/civil+uavs+initiative>

2014-2020 INNOCOMPRA - FID Agreement of MEIC with the Directorate- General for Roads of the Ministry of Infrastructures ("Fomento") on the Project NIEBLA-8.

EIP and PCP of anti-fog protection systems on the A-8 is aimed at the design, construction and experimentation of prototypes related to fog protection systems on the A-8 Cantabrian Motorway, on the stretch between Mondoñedo and A Xesta, province of Lugo, which minimize the adverse effects on traffic caused by the phenomenon of dense fog in the section of 4km.

https://www.fomento.gob.es/NR/rdonlyres/82E58F48-A4DD-495C-87C9-BA4D63FD85A4/131555/DPresentaci%C3%B3nDGC_Innovacarreteras1dejuliod2015.pdf

Learning

The main success factor for implementing and developing Spanish policies fostering EIP and PCP has been the allocation of structural funds for this kind of objectives proceeding of Technological Fund of ERDF-ESIF. The part assigned to Spain of this Fund is wholly devoted to these policies. Spanish proposals are managed by the SGSI under the formula of set-aside budget allocation.

Another important success factor for Spain is its performance under a structure of concerted competence centers specialised in fostering innovation related procurement (IP), forming a network piloted by the SGSI for all the innovation fields, with the Deputy Directorate General for Promotion of Innovation and the public entity CDTI (Centre for Development of Industrial Technology), and supported by two specialized nodes, which are:

- Node for health fields of IP : the Ministry for Health, Social Security and Equality (MSSSI) with Health Institute Carlos III (ISCIII)
- Node for dual technology fields: the INTA – National Institute for Aerospace Technologies Esteban Terradas, depending on Ministry of Defence

Spanish new Procuring Law has been recently published (April 2017) implementing 2014 Directives. It is an important event that should be accompanied by important changes in the way that Spanish procurers are granting public contracts based more in terms of quality rather than price. This new culture for procurers will surely open doors for EIP and PCP, not only for access to financing, but also for seeking the best advanced outcomes for Society.

New procurement approaches means we need to improve training of procurers and increase their awareness on the social and other benefits of scientific and technological advances to improve public services.

5.13 Sweden

Overview

There is governmental funding for innovation procurement support function, situated at the National Agency for Public Procurement. The National Agency for Public Procurement launched in the beginning of 2016 a programme with the aim to develop public procurement with regards to innovation and dialogue with the market. The programme will run until 2019 and focus mostly on support for the phase before innovation procurement: identifying and analysing needs as well as early dialogue with the market.

The Programme has three different focus areas:

- Methodological support to specific innovation procurement projects;
- Collect and disseminate knowledge in form of guidelines and good examples;
- Facilitate networking and experience sharing among contracting authorities.

As for funding of innovation procurement projects, there are grants available at a national level at Vinnova. The sums invested are fairly small – around 1 million euro per year in average the last years. Since 2012, around 40 projects have been funded.

The grants are available to contracting authorities. Vinnova only offers grants: Vinnova does not e.g. perform innovation procurements on behalf of the financed projects, or offer methodological support. However, such enabling support is available to the projects through a Vinnova-National Agency for Public Procurement co-operation.

Vinnova's investments have been meant to produce examples and create knowledge, rather than be a broad resource for contracting authorities wishing to try innovation procurement. Vinnova's innovation procurement project financing has mostly made use of Vinnova's existing budget and based on Vinnova-internal decisions. (The government added some funds in 2013-2014, earmarked for innovation procurement in the environmental sector).

Apart from Vinnova's funding, there are some buyer's networks are financed at the Energy Agency and the Swedish Environmental Protection Agency. Also, some larger contracting authorities such as the Swedish Transport Administration, Region Skåne, Stockholm County Council etc., have internal innovation budgets that at times are used for innovation procurement projects.

Finally, there is of course the Horizon 2020 funds. A few Swedish contracting authorities have participated in innovation procurement projects funded through the EU.

Vinnova funds different types of procurement methods, such as competitive dialogue, negotiated procedure and pre-commercial procurement. As of yet, there has been no project using innovation partnership, but Vinnova is very interested in funding this.

National financing mechanisms

The name and type investment by Vinnova in innovation procurement has changed during the years.

2011 – 2012: Precommercial procurement

This was the original programme, meant to provide learnings around PCP specifically.

2012 – 2013: Procurement of innovation

Change of name and scope, but more or less same programme. Here, the idea was to include other methods than PCP.

The change reflected the conviction that a procurement method, while interesting, is not the most crucial part of an innovation procurement. What matters is rather:

- The strategic intent: how to find the boundaries of a specific procurement situation (needs, market situation, time frame etc. etc.), and
- General methodology that is needed no matter what method or procedure is used, such as how to define needs, supplier dialogue or use functional specifications.

2014 – 2016: FRÖN

A broad call for public innovation projects in general at Vinnova. Among other things, the calls in FRÖN were open to innovation procurement projects.

2017: Strategic investments

Type of action: The innovation procurement grants cover part of the process costs as well as part of the contract costs to the suppliers. Process costs can include both personnel as well as consultants, test lab time etc.

Due to organisational change in 2017, innovation procurement projects were financed using a closed call in 2017, i.e. by invitation only.

Vinnova provides and administers the financing, but the National Agency for Public Procurement supports the projects in methodological issues. It is a part of the Agencies formal agreement. (Vinnova does however discuss set-up and progress with the projects, so some of feedback to the projects is provided.)

Since 2012 – 2013, grants have been available for contracting authorities (alone or in groups) to perform:

- pre-studies,
- innovation procurements, and
- general knowledge projects.

In 2015, Vinnova decided to also invest in:

- buyer's networks.

Co-funding is always required, since Vinnova argues that co-funding demonstrates commitment and that a true need is involved. The support levels have shifted during the different incarnations of the funding. They also depend on which type of project Vinnova is funding. For example:

- During FRÖN, Vinnovas funding was 80% for a pre-study and 50% for a procurement.
- In the first two calls, funding was 100% for process costs and maximum 50% for contract costs.
- Projects funded by the government special budget for environmental innovation procurement tended to get a higher support level.
- Funding of buyers' networks usually get a high support level when it comes to set-up.

During the PCP and innovation procurement programme, the calls were openly published, but contracting authorities first needed to go into a dialogue with Vinnova before being permitted to apply. The calls were permanently open.

In FRÖN, a more "classic" set-up was used with periodical runs. In 2014, FRÖN had two application opportunities and in 2015 and 2016, only one. This was not ideally suited to the demands of innovation procurement. When needed, Vinnova financed a few innovation procurement projects as strategic investments to avoid getting stuck in FRÖNs runs.

Vinnova's projects have been fairly small, usually between 50 000 – 100 000 euros in pre-study and 200 000 – 500 000 euros for a procurement. A buyers' network costs around 130 000 to run a year, but there are additional project costs if they want to try an innovation procurement.²⁹

Comments and learning

Vinnova and the National Agency for Public Procurement are preparing a follow-up of the projects in the spring of 2018. Thus, there is no lack structured information for discussing impacts.

Vinnova's goals were more or less met when it comes to how many projects that went from pre-study to procurement (goal: 50%) and how many of these that managed to develop new solutions (goal: 50%). There is also quite clear that the knowledge goals have been met, and that Vinnova's financing and the National Agency for Public Procurement's support and knowledge uptake has helped spreading both inspiration and process knowledge regarding innovation procurement in Sweden.

Success factors are sometimes dependent of the project in question. Generally however, a good preparation phase is essential. Needs must be properly identified (by users and end-users), prioritised and developed. Market analysis and market dialogue are essential. Therefore, contracting authority need some basic innovation management skills and strategic thinking in place. Any methods or tools that can help with this are important, such as needs processes (design thinking approaches are usually useful), or supplier dialogue workshop methodology.

It is also important that the project group includes representatives from different perspectives. E.g., procurement skills should be available from the beginning of a project, as should people from operations, and from the development functions. Support and

²⁹ There are however big differences. Vinnova is e.g. a part funder of a big PCP concerning electrification of heavy road traffic, and the third phase alone will cost 12 – 14 million euro. (This was not include this in the estimation of the Vinnova budget for innovation procurement above, as it is a special case).

preferably involvement from upper management is usually vital, and perhaps even from politicians (if the contracting authorities is e.g. a municipality or a county council.)

Where to find more information

Please contact:

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National Agency for Public Procurement: niklas.tideklev@uhmynd.se

Comments on financing of innovation procurement

There are a number of things that could be addressed in the future by providing funding. It depends on what one would like to achieve: what particular problem to focus on.

For example, there are issues that are vital for innovation procurement, but that also are of a general nature and would require a lot of muscle to address:

- Finding financial solutions that address the general funding problem that many public-sector organisations face, that prevent them to work with innovation projects.
- Target poor public-sector innovation management/ governance skills

There are issues that are specific and easier to work with, e.g.:

- Funding (more) buyers' networks to address fragmentation of public needs.
- Invest in a competence centre or lab where public procurements can be run, and where consultants and other intermediaries could gather and learn and spread knowledge.
- Build a needs/ supply hub, where public sector needs/ challenges and solutions can be published. (Integrate with e.g. need definition and prioritisation methodology, good examples, innovation competitions, innovation procurements etc.)

All or any of these (and more) ideas could be attempted. In Sweden, that later bullet points are more realistic. They would probably require a bigger budget and probably a dedicated programme. Also, co-operation with other authorities and agencies is probably needed to succeed.

5.14 Turkey

Overview

The STI policy for strengthening demand for R&D and innovation through public procurement in Turkey is comprised of two main elements which are:

- The preparation and identification of R&D based needs of Ministries and public bodies
- The implementation of a funding program for supporting the pre-identified needs of the Ministries.

This approach enhanced the STI environment in Turkey by furthering interaction between user and producer and contributed to reduction in market uncertainty for R&D and innovation activities.

Description of mechanisms

Ministries as customer organisations, are required to prepare a need analysis document which address required innovations to respond to socioeconomic and environmental needs and send them to TUBITAK with a detailed content on schedule in order to benefit from the funding mechanism.

Ministries in the main describe a function to be performed or a problem to be solved, instead of describing the product that is to perform the function. In that sense it has the properties of functional procurement (as described in the Modus Operandi of Innovation Procurement MLE). Needs analysis documents provide a common understanding among public institutions on R&D, innovation and benefits for better public service. Furthermore, those need analyses have contributed to upgrading public institutions' skills for determining their mid-term to long-term targeted research areas.

After determining the most important and urgent needs of the public institution, the needs are discussed technically by experts from all institutions including experts from universities and private companies. These experts also prepare a document that is termed as "call document".

Finally, this call document is announced to public for calling proposals through a funding program namely "Public Institutions Research and Development Projects Support Programme". Universities, private companies and public R&D centres can apply to this program by preparing their projects relevant to the call document.

Ministries and public bodies act as "Beneficiary Institutions", consortiums composed of universities; private firms or public R&D institutions act as "Project Executors".

Note: The projects proposed are assigned to one of the following units in TUBITAK according to the scope of the project:

- Public Research Grant Committee (KAMAG)
- Defence & Security Technologies Research Grant Committee (SAVTAG)"

Thanks to TUBITAK's experience in funding R&D projects and the well-functioning peer review process applied in TUBITAK, this funding mechanism brought a standardisation in

the selection of R&D projects in the public procurement process, which contributed to an increase in added value of projects for Ministries. As the Ministries in Turkey progress towards being more R&D demanding customers, this programme will be a more strategic tool for them to pioneer world-scale innovative public services.

Furthermore, integration of project outcomes to the Ministries activities and to economy as a whole is monitored regularly 3 years after the project research phase is ended. Every customer public body is required to fulfil a document namely "Project Outcomes Implementation Plan" (POIP). TÜBİTAK checks whether activities are implemented according to the approved plan of the procurement process.

The Scientific and Technological Research Council of Turkey (TÜBİTAK) administers funding program. The fund is jointly provided by TÜBİTAK and procurers.

Where to find more information:

<https://www.tubitak.gov.tr/en/funds/public-institutions/national-support-programmes>

Comments and learning

In short; TÜBİTAK designed this grant programme (Public Institutions Research and Development Projects Support Programme) in order to meet public institutions' needs effectively, solve their problems or satisfy their requirements by means of R&D projects.

Through this programme, the risk for public institutions is significantly decreased. If public institutions have a problem to be solved or a need to be satisfied, they send it TÜBİTAK. TÜBİTAK finds solution to the problem of public institutions. Then, public institution see that their problems are solved with this project and they buy the final good or service without making any payment until the last minute. If project fails to tackle the challenge of public institutions, public institutions will pay nothing. Therefore; they have nothing to lose in this mechanism.

Innovations pertaining societal problems and challenges cannot be developed in a short period of time. Firms, academicians, engineers need time to find solutions for contemporary challenges. Therefore; public institutions should determine and plan their R&D based needs for at least five years.

The public institutions should establish their needs for least in the medium term. Then; those R&D based needs should be declared to the public. In this way, patience and time which is vital for developing new goods and services will be created for innovation.

Public institutions have a tendency to become more conservative in using new products or services (innovation). They usually prefer to use obsolete products since using new goods and services brings some risks. This inhibits innovation procurement. For success of innovation procurement, a risk insurance system which retrieve public institutions' loss in case of fail of innovation should be developed. This risk insurance system will encourage public institutions for innovation procurement.

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This is one of four thematic reports created within the context of the Mutual Learning Exercise (MLE) on Innovation-related Procurement.

This report sets out the rationale for financing in support of innovation related procurement and considers the framework conditions necessary for successful financing mechanisms. It concludes with several recommendations arising from the MLE process and includes national profiles summarising the different approaches taken at a national level.

The Topic C MLE process concluded that there is a clear rationale for financing for innovation related procurement in the context of the overall policy framework, be it at a national or EC level. Financing should support both financing measures for procurements and enabling activities such as capacity building and assistance with implementation. It should support both the demand and supply-side of the process, ideally in an integrated manner.

Studies and reports