Feasibility study for the Design and Implementation of Demand-side Innovation Policy Instruments in Estonia

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Executive Summary

Demand-side innovation policy instruments can effectively support supply-side instruments in stimulating economic growth. Over the last decade, and especially during the economic crisis since 2008, governments have been seeking new ways of supporting businesses and communities. Europe 2020 has set challenging targets towards inclusive growth in all EU member states, linking the use of the EU Structural Funds 2014-2020 with smart specialisation. Estonia has defined the following smart specialisation areas as the most promising sectors for economic growth:

- ICT horizontally across other sectors;
- Health and healthcare technologies;
- More effective use of resources.

The R&D strategy “Knowledge based Estonia 2014-2020” and the “Entrepreneurship growth strategy 2014-2020” focus explicitly on supporting companies which have growth potential in smart specialisation areas. Since a “business as usual” policy will not bring the country closer to sustainable economic growth, the Ministry of Economic Affairs and Communications has sought new opportunities to implement its innovation policy. While Estonian R&D and innovation policies have hitherto mainly focused on facilitating supply-side innovation policy, attention has now shifted to the possible use of demand-side innovation policy instruments as a key for further growth. Demand-side policy refers to an approach where the government stimulates the country’s economy with policies on enhancing the demand for more innovation. An accompanying benefit is that, as a result of innovation, public services may be provided more efficiently and effectively, in the long run saving public money.

For stimulating both market supply and demand with a combination of supply and demand-side innovation policy instruments is considered as a potential. Direct support to companies, competitive grants, government subsidised loans or credit guarantees are seen as typical supply-side innovation policy instruments supporting improving economy’s productive potential. At the same time procurement of innovation, pre-commercial procurements, buyers’ incentives or smart regulation are the most used demand-side instruments supporting improving domestic demand and innovation potential.

The aim of the feasibility study was to analyse how demand-side policies can be integrated into other (supply-side) policies in order to address innovation policy objectives. The key issue was to understand how to introduce and integrate demand-side measures to the specific Estonian innovation policy contexts in order to make them stronger. The study, provided by Technopolis Group and Manchester Institute of Innovation Research, comprised: 1) international benchmarking and case studies, 2) analysis of the Estonian situation and potential for new types of policy measures through individual interviews and focus groups with key stakeholders and potential beneficiaries, 3) development of policy recommendations for introducing demand-side innovation policy measures in Estonia, with a specific focus on smart specialisation areas.

There are several examples of the experience of using demand-side instruments (including those in the UK, Netherlands, Finland, Sweden, Denmark, Austria). A qualitative benchmarking of policy contexts was provided in order to understand the policy context in which successful demand-side innovation policy measures can operate and what Estonia can learn from their experience. This formed an important piece of information, which led to the understanding that no demand-side innovation policy can be successfully implemented without first addressing necessary policy preconditions. Ignoring horizontal preconditions will not deliver the expected economic impact from demand-side innovation policy.

A knowledge of the existing situation in Estonia concerning the implementation of innovation policy, together with the overall policy context and the general objective of innovation policy (economic growth), the fourth and missing piece of this policy jigsaw – the formulation and selection of appropriate demand-side innovation policy instruments – can be developed. Towards this end, the market potential of each smart specialisation area as well as the awareness and readiness of relevant stakeholders was analysed and the sub-sectors of smart specialisation areas with most potential were identified. In order to define the appropriate policy mix and thereby the most appropriate demand-side innovation policy instruments – can be developed. Towards this end, the market potential of each smart specialisation area as well as the awareness and readiness of relevant stakeholders was analysed and the sub-sectors of smart specialisation areas with most potential were identified. In order to define the appropriate policy mix and thereby the most appropriate demand-side instruments for each of these areas, an analysis of the key barriers and drivers of innovation of the key stakeholder groups was undertaken. Based on this it was possible to identify the potential and appropriate innovation policy measures that could...
be used to strengthen the incentives of each stakeholder group to engage in, support and demand innovation. These incentive structures were then used as a basis for defining the appropriate policy mix for each of the selected smart specialisation areas, including specific demand-side measures that could be introduced to best strengthen the overall policy mix. This allowed the development of tentative action plans with recommended actions to introduce specific demand-side instruments for each sub-sector of smart specialisation. Introducing demand-side policies is a learning process. Principles of measuring the impact of implementation of the demand-side innovation policy were developed to support this.

Addressing the necessary preconditions is essential for the successful introduction of demand-side innovation policy instruments.

There are a number of barriers that need to be addressed at the overall level of policy and governance in Estonia in order to foster demand-side innovation policies. The main barrier for innovation in the public sector is too great focus on short-term activities and resources. To overcome this, and to enhance the role of public sector demand as a driver for innovation, government must place greater emphasis on defining and communicating its longer-term needs from the private sector. At the same time, the main driver for public sector innovation is the need to address societal challenges: this implies a requirement to improve governance models and/or structures accordingly. An additional driver for demand-side policies is the need to increase the leverage of public policy, especially public funding. The introduction of demand-side innovation policy in Estonia will require shifting the focus towards a more market-driven approach of innovation. In advance of the introduction of any demand-side innovation policy instruments in Estonia, the following most important policy context preconditions will need to be addressed (these can also be addressed in parallel with the introduction of demand-side instruments):

1. The Estonian Government to establish horizontal government-level, longer term, ambitious visions and strategies that feature research and innovation.
2. The Estonian Government to actively build partnerships with market actors.
3. The Estonian Government to establish systematic innovation risk management practices for the public sector.

Introducing demand-side policies in Estonia should start from specific demand-side policy instruments in selected smart specialisation areas integrated either to big national projects or as smaller, easily implementable activities.

There are three main policy options to introduce the implementation of demand-side innovation policy instruments:

1. The first option is to establish a solid foundation for innovation policies. Here, the relevant preconditions must be addressed first. Once these have been sufficiently established, appropriate demand-side measures may be designed and launched. This is the most time-consuming, but most effective option.
2. The second option is to launch experimental demand-side measures simultaneously alongside activities aimed at addressing the preconditions. This is a more risky option, but could be attempted, especially if the experimental policy measures can be designed to be flexible and sufficient learning processes are put in place.
3. The third option is the most risky one, since it would mean launching demand-side policy measures without first addressing the preconditions. This would not be advisable, since the failure to reach the desired impact may cause resistance against any subsequent attempts to benefit from demand-side policies.

Since the third option is not a real option and cannot therefore be recommended, the first two options remain as the most preferable. A potential disadvantage of the first option is that no demand-side policy measures would be launched during the next 1-2 years, since the preconditions are currently not met to a sufficient degree. As there seems to be a political desire to introduce demand-side policies rather quickly in Estonia, the second option would seem the most feasible.

As international experience shows and as policy option 2 clearly emphasises, demand-side measures should be introduced gradually while simultaneously addressing the horizontal preconditions. In order to ensure their successful introduction and to maximise their impact, those with potentially high impact should be introduced in selected smart specialisation areas.

E-government enhancing all government related and initiated activities enabling more effective functioning of the public sector as well as offering better public services.

The market for e-government solutions is driven by the public sector as the lead customer. This means that the market is dominated by public procurement carried out by the government or other public sector organisations, which makes procurement of innovation or pre-commercial procurements as a major demand-side innovation policy tool to be implemented in this sector. For supporting user-driven innovation, experimental platforms (safe environments, where failure is accepted) to test and develop innovative products, services and solutions in collaboration with public sector organisations, companies, research organisations and end-users should also be considered. In e-government big national projects like ‘Estonia in the cloud’ can be considered as potential projects for introducing innovation. These demand-side instruments should be supported by supply-side instruments such as continuous funding of R&D and innovation – supporting participation in international collaboration and networking activities addressing societal challenges as well as services to help develop innovation for, and providing access to, international markets (incl. R&D, market validation, branding, etc.). At the same time, awareness rising of both public and private sector stakeholders about international market developments, public sector needs and innovation potential should also be supported.
Healthcare with particular innovation potential in healthcare services and processes, preventive healthcare, e-health solutions and health tourism

The Government’s role in the healthcare sector is strong. In healthcare services and processes as well as in e-health sector, government policies and decisions guide what and how services are provided. This is done through regulation, standards and norms and through public procurement. The end-user (patient/all citizens) has little direct influence on the services and to what extent e-health solutions are used. In contrast, the Government, through its organisations, analyses and interprets the needs of end-users and organises healthcare services accordingly and under politically defined budgetary limitations. Governance is based on mandatory health insurance and procurement from healthcare providers (hospitals). This provides government behaviour with a high impact on innovation in the healthcare sector.

The main recommended demand-side instruments in the healthcare sector are procurement of innovation and the introduction of smart regulation. Although the area is already strongly regulated, the new regulations could focus more on defining the desired results and be performance-based rather than focusing on detailed technical specifications. This will open the possibility to introduce innovative products or solutions in the healthcare system. Similarly, as in the case of procurement of innovation and pre-commercial procurement, only the final result is specified, leaving the way open for the development of innovative solutions. This demand-based approach will better help to address the needs of end-users as well as raise the quality of healthcare services overall. Buyer incentives for adopting personalised health services and products (like arm bracelets for health monitoring or vouchers for preventive healthcare/aftercare) as well as experimental platforms to test and develop new products and solutions could also be considered. In parallel, the continued funding of R&D and innovation in the healthcare sector (as supply-side instrument) should also be maintained.

Smart construction as a whole smart living environment including conceptual developments such as smart cities, energy solutions, environment friendly materials, ICT solutions (and others) – all physical environment solutions aimed at better serving the needs of end-users.

The Government plays a dual role in the construction sector. On the one hand it controls the markets using regulations, standards and norms; for instance, control over where, what and how building may be carried out is based on permits issued by the local government, city or municipality. This effectively defines boundaries for innovation in the construction sector. Relevant regulations, standards and norms for the construction sector include the use of construction materials, safety during construction, safety of buildings/houses, land use, energy and other utilities, waste management, etc. An increasing number of these are now defined at the EU-level. The other role of the government in the construction sector is related to public buildings and infrastructures. The construction and renovation of public buildings may represent an opportunity to enhance the demand for innovation in the construction area.

The construction sector is the best area to start the introduction of pre-commercial procurements and procurement of innovation. Riigi Kinnisvara, as the owner and operator of many public buildings, forms a logical facilitator and leader for the purchase of innovation and smart construction solutions. Riigi Kinnisvara can be considered as quick and easy start for introducing procurement of innovation. The innovative behaviour of a government owned company would give a strong signal to the market about the government’s innovative approach. This would also facilitate innovation in other areas. Smart construction also requires smart regulation – similar to its use in the healthcare sector, defining the final results and focusing on performance could form the basis of smart regulation in the construction sector. Due to the sector’s characteristics, increased awareness of international market developments has also to be considered. Construction is strongly related to the use of new materials, ICT solutions and the addressing of environmental challenges, all of which require high awareness of the use of these possibilities. The setting up of experimental platforms to develop and test new solutions is also recommended. These demand-side instruments should be supported by supply-side ones such as the funding of R&D – collaborative research, innovation activities (Cluster-type arrangements) - as well as access to international markets.

The introduction of demand side innovation policies in Estonia requires a holistic approach.

Ideally, although the introduction of demand-side innovation policy in Estonia would take years to be fully implemented, it is important to start with small and clearly understandable steps. These initial activities to introduce demand-side innovation policy instruments will give a strong signal to the market that the Government is open to innovation and will serve as facilitator to increasing the domestic demand for innovation. The introduction of demand-side instruments is a joint effort of the whole public sector since demand-side innovation policy requires the involvement of innovation as well as sectoral policies. Therefore, the main preliminary tasks for introducing demand-side instruments in smart specialisation areas can be divided between the Ministry of Finance, the Ministry of Economic Affairs and Communications, the Ministry of Social Affairs and the Estonian Development Fund. The following highlights are the most important actions key policy-makers should take in introducing demand-side innovation policy measures in Estonia.

As a quick start on the policy governance level the Ministry of Finance has to consider initiating the improvement of the
Introducing demand-side instruments in the healthcare sector the Ministry of Social Affairs in first hand has to recognise and introduce R&D and innovation into the longer-term strategies and action plans. For getting maximum effect from demand-side innovation policy in healthcare sector funding allocations has to be based on quality and performance to enhance the adoption of innovation. As the sector is heavily regulated a process for analysing the opportunities to improve the regulatory regime as well as standards, norms and practices has to be launched as soon as possible. It is necessary to support the transition from detailed technical approaches towards quality and performance (and safety) based approaches and processes.

The Ministry of Economic Affairs and Communications plays dual role in implementing innovation policy:

• It has the role of facilitator defining innovation policy objectives and developing strategy, launching support measures for R&D and innovation as well as awareness rising;

• It has the role of sectoral policy making in ICT and construction areas enhancing activities like defining sectoral policy objectives, changing regulations, providing trainings. For performing the task of facilitator, the Ministry, among other activities, has to initiate support measures or programmes for supporting procurements of innovation and pre-commercial procurements as well as open (experimental) platforms to test and develop new products and services. For managing innovation risks a guarantee mechanism (e.g. insurance for health tourism clients) to cover the additional costs of innovation or failure has to be initiated as soon as possible. To introduce demand-side instruments in e-governance and construction sector the Ministry has to launch a process for analysing the opportunities to improve the regulatory regime as well as standards, norms and practices to support the transition from detailed technical approaches towards quality and performance (and safety) based approaches. In addition, considering launching a programme for SMEs to pilot their innovative e-governance solutions in the public sector, would be a possible start to encouraging innovation in e-governance.

In order to support long-term strategic planning in Estonia the Development Fund has to consider relaunching policy foresight exercises and monitoring in all smart specialisation areas. This would allow the Fund to give regular strategic and operative input for decision-makers in the key ministries to support long-term evidence-based policy making.

Introducing demand-side innovation policy is a great challenge for Estonia. It requires strengthening cross-ministerial cooperation, setting up field-specific long-term R&D and innovation strategies, developing practices for identifying and understanding market trends as well as raising awareness about innovation. It also gives opportunities to learn and improve governance traditions. Demand-side innovation policy is a step ahead in implementing innovation policy in Estonia - it stimulates domestic demand – a driver to boost economic growth.

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