

ESIC European Service Innovation Centre
REPORT

Policy Brief for Luxembourg

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Introduction

This policy brief has been prepared by the European Service Innovation Centre (ESIC) for Luxembourg with the objective of providing concrete recommendations and outlining an action plan that will help to make better use of the 'transformative power' of service innovation.

The European Service Innovation Centre is a two-year initiative commissioned by the European Commission's Directorate-General for Enterprise and Industry to capture and demonstrate the dynamics and large-scale impact of service innovation, as well as to assess how service innovation impacts on competitiveness, industrial structures and regional development.

The context of ESIC is that service innovation plays an increasingly instrumental role in the transformation and upgrading of traditional economic sectors and industries, such as manufacturing industries, into more productive, competitive and high value-added business eco-systems. There is a growing need to assess, analyse and demonstrate what impact service innovation has on industrial change and to assist Member States and regions towards a greater understanding of service innovation as a driver of industrial transformation and future competitiveness.

Primarily, ESIC provides customised advice to six selected model demonstrator regions (the Canary Islands, Emilia-Romagna, Limburg, Luxembourg, Northern Ireland and Upper Austria) that were selected following a call for expression of interest by the European Commission's Enterprise and Industry Directorate-General. The concept of the 'model demonstrator region' or 'large-scale demonstrator' is the cornerstone of a new systemic approach launched by the European Commission that aims to foster economic growth by addressing a specific problem or societal challenge through service innovation, under real life conditions.

The ESIC initiative also helps other European regions and Member States to make better use of the transformative power of service innovation in strengthening existing and emerging industries and markets and in developing better industrial policies and smart specialisation/cluster strategies. The goal of creating a favourable eco-system for service innovation will boost supportive infrastructures and business conditions that, in turn, will facilitate the take-up of innovative services throughout the economy.

This policy brief responds to the initial challenge identified by Luxembourg in its application to participate in this initiative. The policy brief is based on a regional summary assessment prepared by a team from ESIC that analysed the potential role that service innovation could play for the region. It also follows a peer review meeting that took place on the 6-7 February 2014 in Luxembourg, where the regional stakeholders and the peer review panel reviewed the findings of the summary assessment and outlined the potential ways forward.

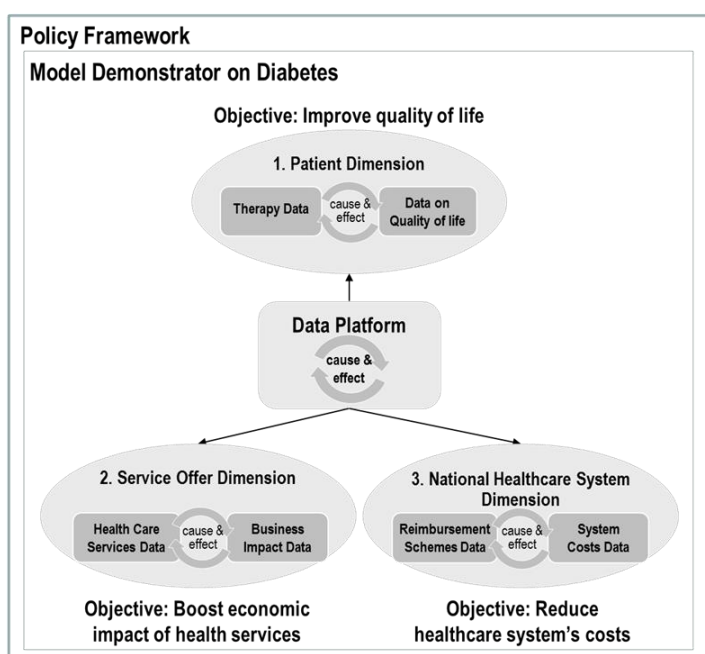
The European Service Innovation Scoreboard, the Summary Assessment Reports and Policy Briefs are available on the ESIC website at: http://ec.europa.eu/enterprise/initiatives/esic/index_en.htm

1. The Regional Challenge: Towards a Large-scale Demonstrator

In terms of the regional challenge, the situation of Luxembourg is quite unique on an EU, if not on a global, scale. The high level of income has allowed Luxembourg to maintain a healthcare system that is very comprehensive and expensive. Over the years, it has become evident that the country cannot afford to maintain such an expensive system in the long run. The Luxembourgish model demonstrator strategy relies on a more personalised and integrated approach to healthcare, which is expected to increase the efficiency and effectiveness of the system, especially regarding life-style related chronic diseases such as diabetes.

The quasi-slogan *"Use the power of service innovation to turn Luxembourg into the healthiest country on Earth, one person at a time"* reflects the philosophy of the policy-approach adopted. In other words, service innovations should foster a transformation in the health economy towards personalised approaches to treatment and prevention. To address this issue, the demonstrator approach comprises three dimensions: the patient, a service offer and the national healthcare system.

Figure 1: The framework and dimensions of the Luxembourg Large-scale Demonstrator (LSD)



The key link between the dimensions is transparent public data which is currently inaccessible to most stakeholders in the healthcare system. Technical limitations can be overcome but other more resistant challenges exist, which could hamper the implementation of the Luxembourg LSD strategy. For instance, it is difficult to change widely held beliefs and it is even more demanding to alter the attitudes of individuals so that they take a proactive rather than a reactive approach to their health. For example, despite the increasing awareness of health risks, smoking has not decreased significantly and growing numbers of Europeans are becoming obese. In addition, the radical redistribution of the work and the evolution in the organisational structures that would be required by the changes causes concern at hospital level, while the government is worried about a change that may cost too much and be too disruptive, thus hindering its chances of being re-elected.

The key motivation behind the large-scale demonstrator strategy is clearly to diversify Luxembourg's economy, as well as to change the healthcare sector's approach from reactive to preventative.

2. The Regional Profile

When measured by GDP per capita, Luxembourg is the wealthiest region in Europe. Despite its very positive economic history, the region is not one of the innovation leaders in Europe. Much of the economic development and wealth creation in the region has been generated by financial services. Until recent years, Luxembourg has been able to maintain a stable socio-economic climate, even though some of its previous advantages as a financial hub and favourable tax location have decreased. Other assets include good connections and its geographical location in the middle of Europe. Luxembourg has not been hit by the recession as severely as many other regions, but it has still been affected by the economic crisis and this is illustrated by low productivity growth and increasing unemployment. In terms of its regional profile and its framework conditions that may be conducive to service innovation, there are contrasting aspects in the situation of Luxembourg:

- The structure of the Luxembourgish economy is quite specific when considering the relative weight of services, as more than 85% of companies in Luxembourg are service firms. The fact that the financial sector alone currently contributes 30% to the national GDP must also be kept in mind. In addition, the transformation in the health economy towards personalised approaches to treatment and prevention is perceived as being more a matter for service innovation rather than of technological development.
- Luxembourg's innovation system is suffering from some weaknesses and the country is considered as being in a catching-up phase in terms of knowledge development and transfer. Innovation and business model generation is not the strongest asset of the Luxembourgish innovation system. Although Luxembourg wishes to diversify its economy and has started to invest in activities targeting the healthcare sector, there is not that much focus on support for the creation and implementation of new business models.

ESIC compared the regional innovation system of Luxembourg to the average performance of the EU according to various indicators of the European Service Innovation Scoreboard. Relative performance is measured against the performance of the best performing region of the total 262 EU regions taken as 100 and of the worst performing region taken as 0.

The graph on the left-hand side of Figure 2 provides an overview of the general socio-economic situation that provides the framework for service innovation. The graph on the right-hand side reflects the importance of service innovation in the region and measures the transformative capacity of services innovation.

Figure 2: Regional profile of Luxembourg on the European Service Innovation Scoreboard

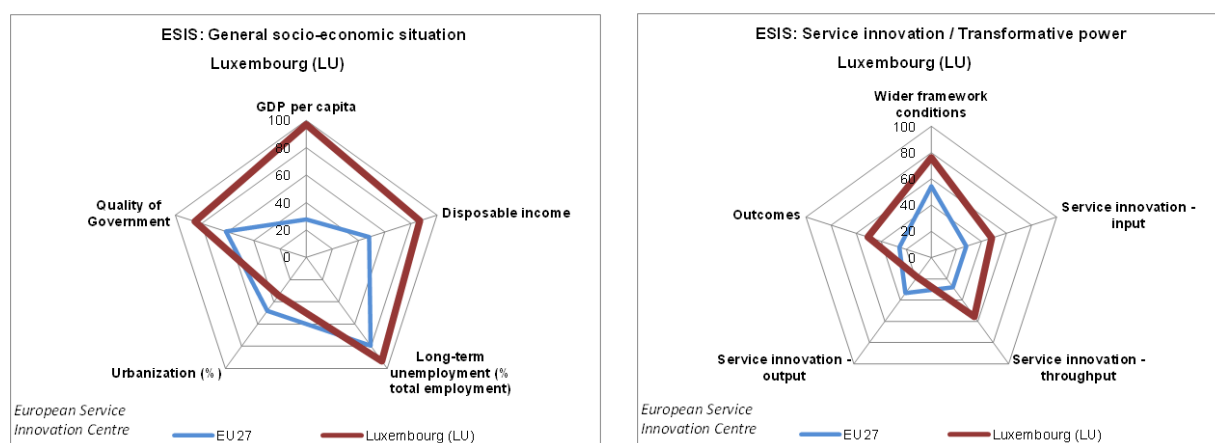
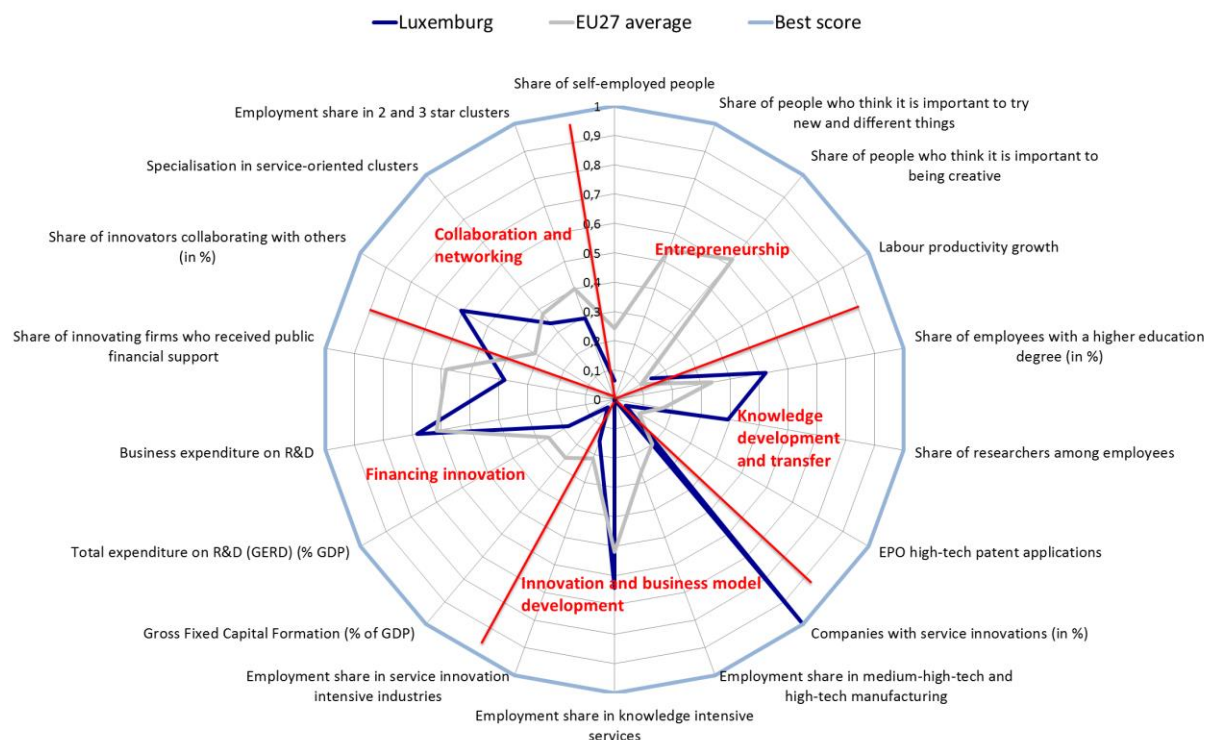


Figure 3 consists of indicators capturing five innovation system dimensions such as entrepreneurship, knowledge development, innovation, financing and collaboration.

Figure 3: Distance of Luxembourg from the best performing regions and EU27 average in terms of service-innovation related structural indicators



Note: The dark blue line is interrupted due to unavailable data

Luxembourg clearly exceeds the EU27 average in the general socio-economic situation, as well as the wider framework conditions of service innovation. The only aspect **requiring improvement is service innovation output**. Luxembourg's performance measured by indicators is better than, or close to, the European average within all of the five functions of the regional innovation system but lags behind, for instance, in labour productivity growth and European Patent Office applications where the distance to the best score in Europe is the greatest. The service innovation-related structural indicators reveal a significant difference in the percentage of companies with service innovations, which is amongst the best in Europe, and the employment share in service innovation intensive industries, which is rather low.

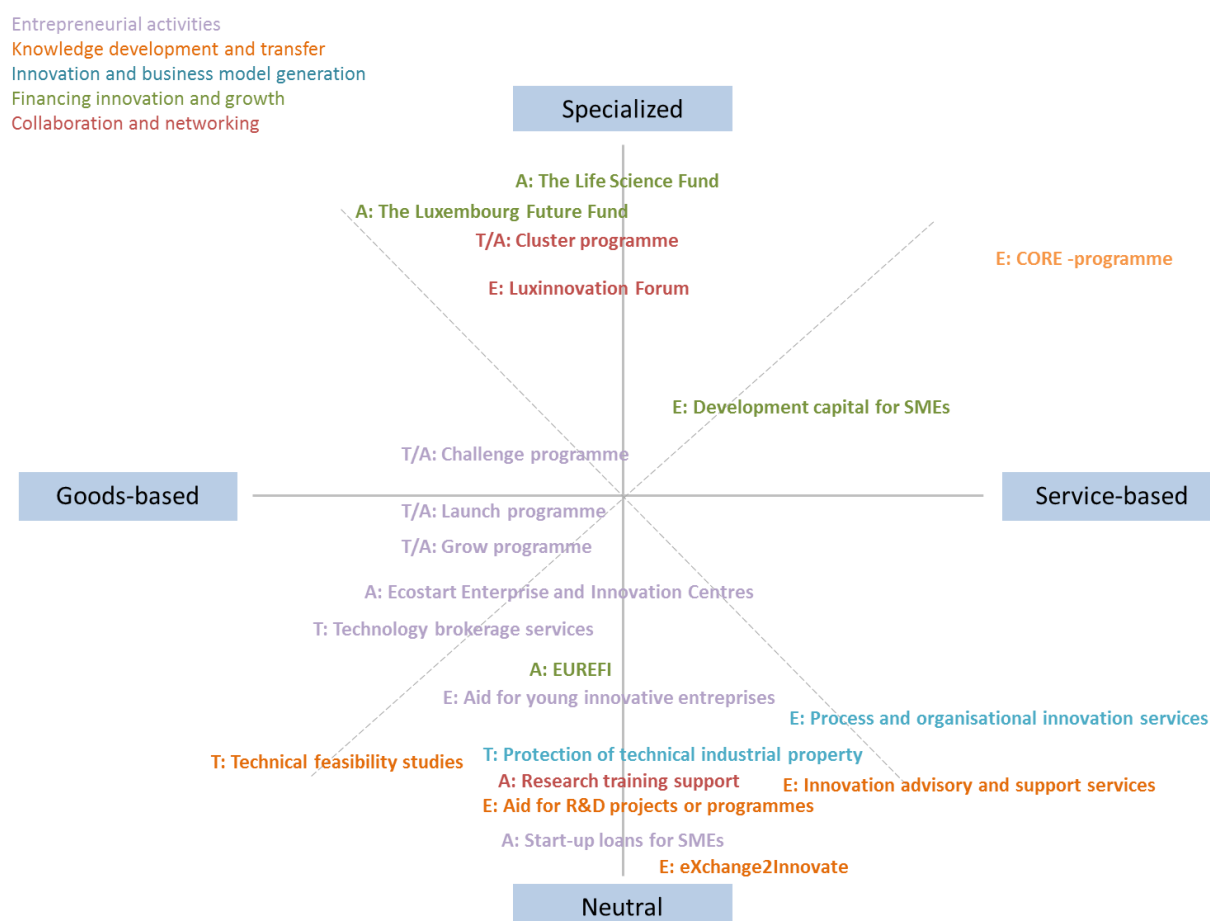
To sum up, there are currently a great number of service jobs and firms, but these are not mainly the types that contribute most strongly to innovation processes and regional innovation-led development. More specifically, when it comes to the targeted transformation in the Luxembourgish health economy, service innovation can be considered as a means to induce the transformation due to its non-technological and interdisciplinary nature. Nevertheless, service innovation has not been used to its full potential in Luxembourg.

Further information about the indicators is to be found through the European Service Innovation Scoreboard at: http://ec.europa.eu/enterprise/initiatives/esic/scoreboard/index_en.htm.

3. The Regional Policy Mix to foster Service Innovation

Figure 4 provides an analytical overview of the regional innovation policy mix of Luxembourg. Current policy measures are plotted on a matrix in which the horizontal axes indicate the extent to which a certain measure is specific to goods or services. The vertical axis enables a distinction to be made between measures that are 'neutral' or 'horizontal' in terms of sectors and measures that are 'specialised' or 'vertical'. The colours refer to the functions of the innovation system to which a particular measure is relevant.

Figure 4: Regional innovation policy instruments in Luxembourg



Despite being well-balanced and neutral, the policy mix of Luxembourg is not fully conducive to promoting service innovation and its potential role in transformation. There are a few measures that contain elements supportive to service innovation, especially the CORE-programme. Overall, the mix supports entrepreneurial activities as well as knowledge development and transfer, whilst less attention is paid to new business models or new modes of innovation. In addition, there is a good number of innovation support instruments, which seem to be working well, but the instruments are by and large focused on enhancing product innovation. There is also an obvious lack of support instruments designed specifically for service innovation. In the strong service economy of Luxembourg, this is a significant policy issue.

4. Policy Recommendations

Based on the regional assessment carried out by the ESIC team of experts, as well as on the discussions and feedback received during the peer-review meeting in February 2014, we hereby propose the following policy recommendations for the successful implementation of Luxembourg Large-Scale Demonstrator strategy

1 – Refine the LSD strategy to fully utilise the service innovation potential

The overall rationale behind Luxembourg's Large-Scale Demonstrator policy has been found to be very relevant, topical and most of all, important. Also the 'triple helix' approach defined for the Luxembourg LSD concept is considered well thought out. Based on the feedback from experts and regional stakeholders, there are, however, areas within the current strategy which need to be developed further in order to take full stock of the service innovation potential. The current LSD approach is foreseen to be implemented 'from inside-out', starting with a small concrete piloting within the field of diabetes, and once demonstrated successful, to be expanded into other areas. This approach is good, but may not be sufficient in terms of making fast enough progress or showing broad enough benefits to attract and engage all the different stakeholders that are needed to make this transition process happen.

It is therefore suggested that, in parallel to the already selected focus area, *other complementary focus areas and relevant means (pilots) are included into the Luxembourg LSD strategy*. A number of such focus areas have already been identified and they largely address either current challenges or envisaged opportunities in the dynamics of Luxembourg healthcare system.¹ Ideally, these focus areas and pilots should form a 'portfolio of actions,' which would complement each other in terms of their stakeholders, time-span, beneficiaries and risks. This would also enable a wider group of stakeholders to become responsible for the implementation of the LSD process.

In order to clearly demonstrate how different LSD activities contribute to the overall aims of the Luxembourg strategy, a pre-empting impact model, or logical framework, should be developed for the LSD concept. The impact model will also be very useful tool for the discussions with stakeholders and in the further planning and effective management of the LSD process.

2 – Identify, engage and mobilise stakeholders at large

Initiating a transition within the regional healthcare system is a complex process that requires input from many different stakeholders ranging from politicians and responsible civil servants to healthcare professionals and service providers. In particular, it is crucial to engage the key ministries (Ministry of Health, Ministry of the Economy) from the very beginning. This may require a further development and concretisation of the anticipated benefits related to each stakeholder (cf. impact model above). This, in turn, requires access to health data controlled by General Inspectorate of Social Security (IGGS). The data should be used to provide decision-makers with evidence of the increasing impacts of life-style related illnesses and the burden that this phenomenon places on Luxembourg's economy, as well as of the anticipated benefits of solutions proposed by the LSD process.

It is important that the key stakeholders work closely together with CRP-Santé, the e-Health agency, the General Inspectorate of Social Security, the data protection committee, patient organisations and service providers such as Integrated Biobank of Luxembourg (IBBL). Such cooperation may be motivated by raising awareness of the importance and urgency of the issues concerned. It has to be acknowledged that as the actor network grows, securing commitment will be essential and this requires a shared understanding of the procedures and goals. Participatory activities can be an effective way of building this understanding and of making the efforts more visible.

In addition, a collaborative platform could be organised to facilitate regular meetings, brainstorming and knowledge exchange amongst the LSD stakeholders. It is also recommended that a high level 'project owner' (minister) with sufficient political backing should be identified, engaged and given the mandate to deliver the project. In order to maximise publicity and the interest of the general public, a statement should be prepared, which highlights the formal backing and commitment of the Luxembourg Government to the LSD goal and to the activities its attainment requires.

¹ Such areas could be, for example, related to enhancing public-private partnerships, open access to health data and facilitation of eHealth.

3 – Operationalise and launch the LSD process

The peer review meeting held on 6-7 February 2014 confirmed that the operational component of the LSD concept in Luxembourg needs further development in order to be initiated effectively and carried within a reasonable timeframe. Special attention needs to be paid to systematic procedures. The operational phase requires the definition of a vehicle that is capable of driving and delivering the anticipated transformation process. As the aim is to initiate systemic change and collaboration across sectors, a suitable option could be a *cluster programme*. The EU Commission has launched a call for expressions of interest to facilitate continuity in the follow-up ESIC regions². Whether it is a platform, programme or cluster initiative, the mode of the exercise needs to be decided to enable further steps to be taken. In terms of the current LSD plan, the summary assessment report points out that the change process is not yet sufficiently concrete as the key phases, organisation, financing and the leading actors have not been precisely identified.

Furthermore, a mutually trusted intermediary organisation, such as Luxinnovation, should be selected, assigned and resourced to facilitate and coordinate the LSD process and its activities amongst the stakeholders. Due to the large number of stakeholders, it is recommended that appropriate roles for the nodes and integrators should be defined. Transforming the whole healthcare system is a joint network activity which should have many drivers. Also the nature of the exercise needs to be specified – is it a platform for collaboration, a programme with a clear mission or a cluster initiative to engage various stakeholders into enhanced joint activities?

4 – Elaborate innovation support instruments to better address services

The policy analysis shows that the current set of innovation support instruments in Luxembourg does not support service innovation to its full potential. The need to reconsider the selection criteria for the funding of service innovation projects was already identified in 2011, in conjunction with the 'Understand, measure and promote service innovation in Luxembourg' seminar. However, it seems that not much has changed since then and the need to amend the current policy mix remains if the mix is to better address and harness the characteristics of service innovation. This is particularly important for Luxembourg, where significant innovation potential lies in financial services and the health-related services. For instance, service inclusiveness could be increased if the selection criteria for funding reflected an assessment of the added value for the user, how the needs of users are taken into account and how cross-sectoral and multi-disciplinary co-operation is supported and conducted. At this point in time, there does not seem to be a need to establish completely new measures rather the emphasis should be on making existing measures more service-inclusive.

5 – Establish a mechanism for LSD governance, monitoring and learning

In order to be able to monitor and manage the LSD process, Luxembourg should establish milestones and, based on the presentation Dr Dentzer gave at the peer review meeting, at least a tentative timeline for the project has been established. The milestones must be clearly stated and measured against an agreed set of key performance indicators (KPIs). In an ideal situation, the milestones and possible policy interventions should represent a long-term vision that has cross-sectoral support and political acceptance. The setting of goals and indicators should enable the monitoring and further evaluation of the activities conducted in the context of the Luxembourg Large-scale Demonstrator strategy.

Progress monitoring should be reported to the governance structure of the LSD. For this purpose, it is recommended that a governing body (e.g. Steering Committee) should be established representing the key stakeholders and with sufficient power to execute decisions and to engage resources.

Another point related to monitoring and evaluation is linking feedback with policy making. This link should assist the detection of early signs of change and the identification of additional barriers to transformation which might be affected by public policy. Monitoring and evaluation activities are also related to showcasing successful innovations as means of influencing general attitudes towards healthcare and the life-style related chronic diseases, as well as promoting changes in healthcare practices and approaches.

² <http://www.mobilise-europe.mobi/call-for-the-expression-of-interest-to-select-six-model-demonstrator-regions-for-developing-modern-cluster-strategies/>

6 – Systematic benchmarking and building on the experience of other regions

Although the regional starting point of Luxembourg is in many ways unique, there are a number of regions that have successfully improved the dynamism and effectiveness of their healthcare systems. During the ESIC peer-review the experience of the Basque country and Estonia were outlined, and this providing a number of good practices and useful experiences. It is highly recommended that Luxembourg LSD systematically gathers the references, practices and lessons from other countries, which can then adapted, improved and used as much as possible.

An example of such a transferrable practice is related to the absence of common care guidelines for diabetes in Luxembourg. It is difficult to monitor the impact of healthcare services on patients without harmonising the procedures employed by doctors in hospitals and private clinics. The example of the Basque country can be used directly in tackling the challenges of the Luxembourg healthcare system. The so-called 'integrated care model' aims to simultaneously address the problems of availability, efficiency and effectiveness, and is based on the empowerment of citizens. In this regard, the model also reflects a broader paradigm change towards network governance in public services.

There are several elements of the integrated care model that could be included in Luxembourg's Large-scale Demonstrator strategy to make it more service-oriented and to ensure the smooth functioning of the whole system. These elements include, for instance: structured clinical follow-up and case management; multidisciplinary care teams with less hierarchy; multiple clinical pathways for various patient segments; and feedback, reminders and education that support the patient's self-management. In order to make the integrated care model work in practice, collaboration between professionals and patients and cross-disciplinary practices amongst professionals should be implemented in addition to the use of ICTs and biotechnological knowledge. In the development work, continuous interaction between the systems level and the practical level is vitally important. Systemic problems cannot be observed directly, but they manifest themselves in the various practical issues that arise and these can be analysed to understand the underlying reasons and their complexities.

7 – Awareness-raising to broaden the reach of the clients and end-users

The issue of service innovation was to a great extent analysed in terms of technology at the peer review. The respective changes in the service processes and in the roles of providers and customers (patients) were not, however, brought to the fore. In addition, the summary assessment report and the proceedings report of the Luxembourg peer review state that despite its good efforts the region still lacks an understanding of service innovation or, more precisely, how service innovation can be used to support the transformation of the regional economy.

This implies that there may be great risks involved in any attempts to deploy the transformative power of services and thus to the consequent emergence of systemic innovations. Several experiences in carrying out systemic innovations indicate that the essential point is to organise the simultaneous development of technology, services, organisations and the roles of actors. There are some good examples of companies focusing on the needs of the users, for instance, several SMEs have developed e-payment services. Such user-driven approaches to innovation should be adopted across sectors in businesses and also in public administrations.

8 – Establish an open platform to generate new services

One of the key objectives of the Large-scale Demonstrator is to increase the dynamism of the Luxembourg healthcare sector by enhancing service provision and supporting the establishment of new, innovative services. A particular emphasis has been put on the ESIC assessments of the availability of service innovation support policies and the effectiveness of related policies. In the light of the above, the overarching function of the Luxembourg LSD should be to operate as a common platform that facilitates the generation of new, innovative healthcare-related services. This could be done through several means or instruments, such as living labs, open innovation platforms or test-beds, etc.

It is important that these instruments take into account the specific needs of healthcare service innovation (such as the close integration of users, attention being paid to health regulations, etc.). A number of successful concepts are available and could be adapted to the needs of Luxembourg's LSD strategy. Possible pilot areas could be:

- The 'Healthcare Living Labs' project of the agency e-Santé that supports the engagement of citizens in making a proactive contribution;
- The Technoport Ec BIC that is able to coach projects coming from the demonstrator with a view to transforming the start-ups;
- Actively promote service innovation and attract investment, talent and companies to Luxembourg.

5. Action Plan and Roadmap

The following action plan is based on the ESIC analysis and outcomes of the peer review workshop with stakeholders in Luxembourg. The action plan implements the eight recommendations that have been described in the Chapter 4.

Table 1 presents the list of actions. The timetable indicates that the elaboration of the action lines will largely happen in 2014 and 2015 with additional, ad-hoc funding being required. This will be followed by the implementation phase with support being sought from the European Structural Funds for 2016-2019, as a four year programme is required.

Table 1: List of actions

Action line	Brief description of planned policy intervention	Timetable	Source of funding	Responsible organisations or departments
1. Refine the LSD strategy to fully utilise the service innovation potential	Maximising the service innovation potential by creating a portfolio of actions; demonstrating how the activities contribute to the aims of the LSD by creating an impact model	2014	Luxinnovation	Luxinnovation
2. Identify, engage and mobilise stakeholders at large	Engaging the key ministries from the start by providing evidence of benefits, raising awareness of the urgency for change among all stakeholders	2014	Luxinnovation	Luxinnovation
3. Operationalise and launch the LSD process	Paying attention to systematic procedures in the operational phase, selecting an organisation to coordinate the process	2014 -2015	Luxinnovation, the EC/ European Cluster Observatory	Luxinnovation
4. Elaborate the innovation support instruments to better address services	Reacting to the need for amending the current policy mix to better address services and service innovation	2014 -2015	Ministry of the Economy	Ministry of the Economy
5. Establish a mechanism for LSD governance, monitoring and learning	Setting clear targets (milestones) and measuring them against a set of indicators as part of progress monitoring	2014 -2015	Ministry of the Economy	Luxinnovation/ Ministry of the Economy
6. Systematic benchmarking and building on the experience of	Searching for good examples from other regions, taking stock of them, adapting	2014 -2015	Ministry of Health/ Luxinnovation	Ministry of Health/ Luxinnovation

other regions	them, and improving them for best possible use in Luxembourg			
7. Awareness-raising to broaden the reach of the clients and end-users	Increasing the awareness of using and benefitting from service innovation and its transformative capacities	2014 -2015	Ministry of the Economy	Luxinnovation/ Ministry of the Economy
8. Establish an open platform to generate new services	Establishing a platform to facilitate the creation of new, innovative services	2015 -2016	Ministry of the Economy/ Ministry of Health	Luxinnovation

A number of risks have to be taken into account when developing and implementing the action plan and roadmap. In addition to standard and very relevant risks such as consistency in political support, public funding, private commitment and private funding, the following challenges have been identified:

- No access to medical/health data is currently available and this could endanger much of the project;
- A lack of commitment. This is a real risk, since the challenge has been obvious for a long time and yet no appropriate action has been taken.

Please note that more tools and advice can be found in the Smart Guide to Service Innovation that is available at:

http://ec.europa.eu/enterprise/policies/sme/regional-sme-policies/documents/no.4_service_innovation_en.pdf

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