

Innovation Policy Review of Luxembourg - April 2015

In 2007, the OECD conducted a Review of Luxembourg's Innovation Policy, and found the country's innovation system to be in a state of significant transformation. The Grand Duchy had just created the University of Luxembourg and established a new research funding council. The Review welcomed the Government's objective of further strengthening the public research base as a springboard for innovation-led growth. Recommendations focused on improving the steering and funding of the public research centres and the University, as well as lifting governance mechanisms to the level required by the increased scale of investment in R&D, and the role innovation was expected to play in Luxembourg's future development.

Since 2007, major reforms have been implemented in the steering and funding of public research organisations, notably the introduction of performance contracts. Two interdisciplinary centres at the university – on biomedicine and IT security – with strong links to industry and hospitals, perform leading-edge research and play an important role in attempts to diversify the Luxembourg economy, which continues to be heavily dependent on the financial sector. Public spending on R&D increased from €137M in 2007 to €326M in 2014 (an increase of 238%), putting Luxembourg firmly on the map of European research.

After this period of rapid, largely government-financed expansion – especially in public research – and substantial reforms in the organisation and governance of the research and innovation system and its main institutional actors, Luxembourg has now entered a period of consolidation. This is the right time and opportunity to take stock. The OECD hereby presents its second Review of Luxembourg's Innovation Policy.

The challenges facing Luxembourg in 2015

The overriding task of Luxembourg innovation policy is to strengthen innovation as a driver of sustainable growth and increased standards of living. Innovation policy can make important contributions to the major strategic challenges the country faces. These include:

- **Achieving adequate productivity growth.** Productivity is recognised as the main driver of economic development in the long term, and the major source of differences across countries in GDP per capita, notably for high-income countries. Luxembourg's high living standards are supported by its high level of labour productivity. For the most developed countries, innovation tends to be the main driver of Multifactor productivity (MFP) growth, i.e. the joint efficiency of the use of labour and capital in the production process. Thus, long-run economic performance depends on the level and quality of innovation activities.
- **Diversifying the Luxembourg economy** within the financial sector but also through the development of new high value-added economic activities in non-financial services and manufacturing. This would help to reduce, over time, the economy's heavy reliance on the financial sector. Diversification could contribute to strengthening the resilience of the economy and mobilising new sources of growth, notably through innovation-driven economic activities. High-value-added activities tend to be technology and knowledge-intensive, and require investment in human resources R&D and innovation.

Major tasks to be addressed in this next phase include:

- to **consolidate the progress** Luxembourg made over the past decade, and advance further to become a widely recognised location for research and innovation in Europe;

- to **better link and orient more strategically** the promising initiatives in the area of research and innovation that have been initiated during the recent period of rapid growth and change; and
 - to **improve governance** and steer the innovation system in a way that enhances co-ordination across ministries and agencies; strengthens linkages between public research centres (the CRPs) and the University of Luxembourg; and helps better target long-term funding to the most promising research areas and groups.

Specific recommendations

Create **critical mass and excellence** in chosen research areas:

- Implement additional measures to **extend and deepen collaboration between the CRPs and the University of Luxembourg**, such as joint staff appointments (which would help build and strengthen co-operation between the two, e.g. through joint PhD supervision and joint research projects), specific provisions in the performance contracts or new co-ordination mechanisms that may now be feasible in light of the co-location at Belval.
- Promote further the **international focus** of the CRPs by encouraging greater participation in EU funding programmes and greater co-operation with firms outside of Luxembourg.
- Consider **further infrastructural investments** so as to ensure Belval has sufficient space and facilities to co-locate all of the University of Luxembourg and CRP research groups as originally planned.
- Ensure international **branding and promotion** of Belval, to raise the visibility and attractiveness of research and innovation activities in Luxembourg.

Improve **public governance**, steering and coordination:

- Implement a **national innovation strategy** that strengthens the links between research investments and their likely impacts on the government's economic diversification, social well-being, and sustainability goals.
- Pay particular attention to **implementation** and introduce as required funding and regulatory reforms to enact the strategy's objectives. All of the main actors of the innovation system – including government ministries, agencies, other intermediaries, and research performers – should also be asked to formulate and implement strategic organisational plans reflecting the national strategy's orientation and objectives.
- Update **FNR national research priorities** and translate them into extra support for priority areas.

Fostering innovation in **the business sector**:

- Consider adjusting some of the instruments promoting business-sector innovation so that they better **align with national sectoral and research priorities**. This would facilitate creating research and innovation PPPs and help strengthen the national diversification strategy.
- Make business R&D support **more competitive and selective** and consider instituting competitive funding for larger, more strategic or collaborative projects in addition to current generic R&D support with low barriers.
- **Routinely evaluate programmes and instruments** supporting business. Evaluation can improve the effectiveness and efficiency of innovation policy, particularly with respect to longer-term goals. Evaluating current innovation programmes would help strengthen the evidence base for future amendments of legislation on R&D and innovation. Making evaluations public would create awareness and facilitate learning.

To access the 2015 Innovation Policy Review of Luxembourg

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The OECD *Reviews of Innovation Policy* offer a comprehensive assessment of the innovation system of individual OECD member and partner countries, focusing on the role of government. They provide concrete recommendations on how to improve policies which impact on innovation performance, including research and development (R&D) policies. Each review identifies good practices from which other countries can learn.