

Executive summary

The overriding task of Luxembourg's innovation policy is to **strengthen innovation as a driver of sustainable growth and increased standards of living**. The Luxembourg government expects innovation to make important contributions to future productivity growth and to lead to further diversification of the economy through the development of new high value-added economic activities in non-financial services and manufacturing. High value-added activities tend to be technology- and knowledge-intensive and require investment in human resources, research and development (R&D) and innovation. The government has made significant investments along these lines, contributing to a **major transformation of the Luxembourg innovation system over the last 15 years**.

The first OECD review of Luxembourg's innovation policy, carried out in 2007, found a system in rapid transition. The Grand Duchy had just created the University of Luxembourg and established a new research funding council, the National Research Fund (FNR). The 2007 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 (CRPs) and the university, and on upgrading governance arrangements to better coincide with the increased scale of R&D investment as well as the ambitious role innovation was expected to play in Luxembourg's future development.

Following the recommendations of the 2007 Review, major reforms have been implemented in the steering and funding of public research, notably the introduction of performance contracts for research funding and research performing organisations. The university has built from scratch some strong research bases that have a growing international reputation, while the CRPs have expanded their activities considerably. Public spending on R&D increased from EUR 137 million in 2007 to EUR 326 million in 2014 (an increase of 238%), **putting Luxembourg firmly on the map of European research**.

After this period of rapid, government-financed expansion, Luxembourg's public research system has now entered a period of consolidation. The government should build on the progress made over the past decade to promote Luxembourg as a widely recognised location for research and innovation in Europe. **Achieving sufficient critical mass in a small country setting** is a key challenge and will depend on strengthening the linkages between the university and the CRPs as well as their connections with users, including businesses and the public sector. It will also require a more strategic approach that better targets long-term funding to the most promising research areas and groups. This Review makes several specific recommendations along these lines, including the following:

Strengthen linkages in the innovation system

- 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 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 **the new City of Sciences** 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 the City of Sciences at Belval has sufficient space and facilities** to co-locate all relevant parts of the University of Luxembourg and CRP research groups as originally planned.

Orient more strategically promising initiatives in the area of research and innovation

- 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, if 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 be asked to formulate and implement strategic organisational plans reflecting the national strategy's orientation and objectives.
- Update the **FNR's national research priorities** in line with the national innovation strategy and translate them into extra support for priority areas.

Raise the ambition of innovation activities 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 public-private partnerships 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.



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