



# Luxembourg as an ICT centre The 'Post-ICT- Infrastructure Age': the foundation of Luxembourg's future?

**Marc Halmes**  
Partner  
Technology & Enterprise  
Application  
Deloitte

**Jesper Nielsen**  
Director  
Technology & Enterprise  
Application  
Deloitte

Both the international and the Luxembourg business environments have changed dramatically in recent years and governments as well as the private sector have been instrumental in these changes. The basis of competition in the world is changing, investments for starting new business are low and barriers to entering an industry are in some cases disappearing. Some industries are being completely redefined as a result of these changes, while new ones are appearing.

Information Technology has become prevalent in all aspects of our lives, and even more so in business. The technical infrastructure in Luxembourg is currently of a very high standard, and there are also other factors making Luxembourg an attractive place to do business. Nevertheless, the world is not standing still! The evolution of technology, especially information and communication technology, is causing waves of change, and what was an advantage yesterday might be a barrier tomorrow.

So how does Luxembourg measure up when it comes to ICT? Are the current changes going to improve the country and make it an even more attractive place to do business? Will the technical foundation be further strengthened in order to attract new businesses? Two areas driving business and ICT forward in Luxembourg are innovation and the government initiative 'Digital Lëtzebuerg'. Will they be able to make a difference and ensure that the business and ICT landscape in Luxembourg remains strong and vibrant? We have taken a fresh look and asked for expert opinions.

#### **What is changing in Luxembourg?**

What can be done to set Luxembourg apart as one of the ICT centres in Europe? What can still be done to improve its status? Where do the opportunities for development lie?

For Luxembourg, with a large and well-established international business community, it is critical to ensure that new sectors are supporting existing businesses, and not hindering their success. The large potential value can be found where these new digital sectors converge with traditional businesses, and this should be Luxembourg's key focus.

As touched upon before, for many years, a great deal of effort has been spent on developing Luxembourg into an innovation hub with a large mix of ICT-related services. Some areas are poised to impact and change the Luxembourg ICT landscape in the years to come.

#### **'Digital Lëtzebuerg'**

A new initiative called 'Digital Lëtzebuerg' seeks to gather and coordinate diverse projects and create a holistic approach to 'digital' for the government. Close collaboration with the private sector is intended to create solutions to improve digital in capabilities for businesses Luxembourg.

This new government initiative builds on the recent years of strong ICT focus, what can be called the 'ICT-Infrastructure Age'. The objective of the new 'Post-ICT-Infrastructure Age' is twofold. Firstly, to strengthen Luxembourg's position as an ICT centre, and secondly for Luxembourg to become a 'High-Tech' centre of excellence for specific sectors and industries.

---

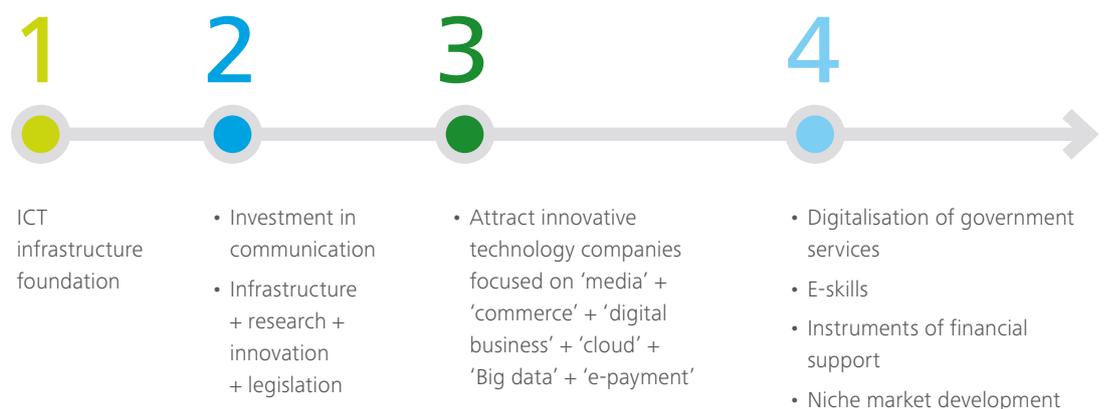
“This overall goal is for Luxembourg to become an open, modern, and highly connected digital economy.”  
Jean-Paul Zens

The ‘Digital Lëtzebuerg’ framework aims to enable the best possible collaboration between public and private parties to attract business to Luxembourg. FinTech and related initiatives are creating an edge for Luxembourg as a financial IT centre with regard to e-payments, virtual currencies, etc. and a similar edge should be created with the help of ‘Digital Luxembourg’ (i.e. the Luxembourg Privacy Cluster initiative) for the ICT sector in general.

Currently, the ongoing investment in infrastructure, research and innovation is being fine-tuned and targeted Changes to the legislation on ICT, data and privacy are being made to enable new strains of

business. This will in turn attract innovative technology companies who will enable new types of businesses, but also fuel development in existing sectors. There are two parts to the ‘Digital Lëtzebuerg’ initiative. One part focuses on government services offered by various ministries in order to digitalise government services and functions. There will be greater focus on governmental e-services and the three leading (see below) ministries will be responsible for ‘evangelising’ to other public administrations. The other part focuses on how the private sector can be involved in developing digital capabilities in Luxembourg (e.g. through ICT Luxembourg).

The chosen format involves using working groups on specific topics/areas where it is deemed necessary.



Three parties are leading the initiative from a public sector perspective. From the Ministry of State Jean-Paul Zens, from the Ministry of Economy Mario Grotz (& Romain Fouarge) and from Luxembourg for Finance Nicolas Mackel.



The first part of the framework has been divided into eight defined stages. It takes stock of existing projects and pinpoints gaps between the current situation and the desired future state. Then, a strategy can be developed and implemented. Once started, the focus will be extended to cover international communication and target strategies.



Inventory of the government's ongoing projects



Status of existing projects and planning



Analysis and evaluation of the new axis of development



Definition and agreement of the strategy



Strategy execution and monitoring



Craft external communication strategy



Definition of target countries



Promotion abroad in target countries

---

## “Data protection is made in Europe. Strong data protection rules must be Europe's trademark.” Viviane Reding

Much greater coordination is required to solve current and future skills problems. Many of the skill sets required for the future are not currently taught today, and only learned through experience. It will take time to change the education system and it is therefore critical to be able to import and attract new talent from abroad for both the public and private sectors.

The second part of the initiative, concentrated on the private sector, has two areas of focus:

- Improving the use of digital ICT into existing companies
- Encouraging innovative ICT companies to settle in Luxembourg

There is not yet a clear roadmap for this part and efforts are being mobilised to address how this collaboration will take place.

One important question is whether or not ICT companies should have a ‘front-row seat’ to create further advantages for this industry. For example, should the government invest in start-ups to assist as a fundraiser? The best approach for Luxembourg is not yet clear and a lot of effort is currently being put into this to create a viable strategy.

Security and data protection are considered critical topics and enablers for creating further advantages for existing companies in Luxembourg or those wanting to start up here. One of the issues is how to implement the forthcoming EU data protection regulation. This can potentially be done faster in Luxembourg than in other jurisdictions, creating an ‘enhanced data privacy’ approach. The new EU data protection law is intended to replace the current patchwork of national laws.

Following the US data spying scandals, data security and protection is an increasingly competitive advantage for businesses. The Privacy Capability Cluster proposal from SnT (securityandtrust.lu, an interdisciplinary centre of the University of Luxembourg) is an example of how data security and protection can be aligned and affect the direction ICT assets and investments will take in Luxembourg in the future.

These elements all play a critical part in the ‘Digital Lëtzebuerg’ framework forming Luxembourg’s digital agenda for the future.

### Innovation—required for long-term success

For Luxembourg to enter the ‘Post-ICT-Infrastructure Age’, there are several factors that will need to be considered and combined. Simply remaining an ICT-infrastructure centre will not suffice in the future. Taking advantage of innovation and developments in technology and combining them into specific value propositions and solutions is a necessity.

**Luxinnovation’s** objective is to stimulate the competitiveness of the Luxembourg economy through research, innovation, creativity and design. The agency offers a wide range of services to businesses in general and to innovative start-ups in particular. This is done by helping them shape and implement their innovation projects, notably by facilitating access to knowledge, funding and technologies, to research infrastructures and markets, to business cooperation and business opportunities.

According to Jean-Paul Hengen, ICT Cluster Manager at Luxinnovation, the main reasons for start-ups and entrepreneurs to come to Luxembourg are:

- A promising economic and legal environment to do local business and expand internationally
- A dynamic start-up scene with numerous public and private initiatives supporting company creation
- The public research sector is well developed in a range of fields. The University of Luxembourg’s Interdisciplinary Centre for Security, Reliability and Trust (SnT) conducts high-level research in the field of IT security and collaborates extensively with private sector partners

- The government offers grants for R&D and innovation projects carried out by companies. In addition to projects carried out by individual businesses, collaborative R&D work involving several partners is encouraged

**Technoport** is taking this to the next level and making it practical for specific ideas/people. It acts as an incubator for technical and innovative business ideas. It is possible to participate in different start-up programmes, the use of facilities to work and develop (even using their prototyping lab, Fab Lab), and collaboration with like-minded people. According to Diego De Biasio, Technoport CEO, Technoport offers two work programmes.

- Pre-commercial (or for challenging ideas) is free for up to 4 months (not legal entity yet). There were 130 applications in 2013 (65% ICT related) and 84 applications in the first 6 months of 2014
- Start-up (or 'launch your business') is a more formal, longer and fee-based programme where the actual business will be formed. There were 9 companies in 2013 supported by Technoport and 3 new companies were supported in the first 6 months of 2014

The Technoport Belval facility is mainly used by ICT entrepreneurs and with its 4000 m<sup>2</sup> office space it is well suited to support them. Foreign companies primarily come to establish R&D or innovation activities in Luxembourg using Technoport as a facility to get started with their innovations.

---

**“If you want something new, you have to stop doing something old.”**  
**Peter F. Drucker**



Diego De Biasio further explains the main reasons why international companies choose Luxembourg and Technoport as a place to start up:

- For some industries Luxembourg is a neutral place (i.e security applications) which also quickly applies new standards (i.e mobile payments)
- A great majority of start-ups aim at international markets, with Luxembourg being a good test market
- Technoport has a high success rate, with 11 out of 35 companies being acquired and further developed by the new parent

---

## The digital age is not new; it has been around since the '50s when the first electronic computers were developed, but there is something really different about today

Some of the success stories are:

- NeoValens acquired by Desktop Standard (U.S.)
- e-Xstream Engineering acquired by MSC Software (U.S.)
- Jamendo acquired by MusicMatic (B)
- LuxScan Technologies acquired by Weinig Group (D)

The various start-ups have raised more than €49 million in investments since 2009.

A lot of people and resources are clearly focusing on making Luxembourg an attractive place to start up and create new businesses and services. This has proved successful until now and all actors interviewed were optimistic about the future of the programmes and the potential for success. It is less clear however how existing companies are supported for their innovation initiatives.

### A business view

The digital age is not new; it has been around since the '50s when the first electronic computers were developed, but there is something really different about today. There is amazing innovation taking place in mobile, analytics, social, cloud and cyber segments where the potential to leapfrog the competition is at the collection point of these forces.

There will be winners and losers as a result of these changes, which we are already seeing evidence of today. Many companies are prospering and similarly, there are many examples of organisations that have not been able to change their businesses and adapt to the new reality and consequently have ceased to exist or have been taken over.

The challenges differ for new businesses like Yapital. Having the backing of a strong parent company, and being armed with sufficient resources to make the venture a success, changes the picture. Nils Winkler, Yapital CEO, explains their main reasons for settling in Luxembourg:

- Legal situation in Luxembourg is favourable for e-payment companies
- The general tax regime is good for businesses
- Luxembourg has an excellent reputation for business
- There is a skilled workforce with potential to fill most of the required roles (though some needed to be 'imported')
- Access to regulators is less complicated than in many jurisdictions, and regulators are willing to adapt and assist businesses when required
- The first-class ICT infrastructure was critical in their choice as their business requires low latency and ultra-high availability

Nevertheless, starting up an innovative and pure digital business in Luxembourg was not without problems and there are areas of improvement where new businesses should be assisted significantly to ensure efforts are directed to value-adding activities.

## Status and outlook

The 'Post-ICT-Infrastructure Age' is a reality and the combination of initiatives for innovation, digital business agenda, financial technology focus and data security and protection certainly makes a strong cocktail. However, is this enough to counteract the negative effect of other changes and where does that leave Luxembourg as an ICT centre?

From our discussions we can see a fair amount of optimism concerning the future of Luxembourg as an ICT centre and its ability to pave the way as a business enabler and critical foundation. All interviewees displayed a fresh belief that the combination of strong focus on innovation, by assisting both entrepreneurs and existing businesses to develop and cooperate, and moving forward on the 'digital roadmap' will be the enablers driving the 'Post-ICT-Infrastructure Age' in Luxembourg.

According to the Global Innovation Index 2014\*, which measures innovation capabilities and measurable results, Luxembourg has jumped from 12<sup>th</sup> position last year to 9<sup>th</sup> place in 2014. This is certainly evidence that the initiatives are bearing fruit.

During the discussions we noticed some areas for improvement:

- CIOs must become 'innovation aware' and get engaged in the digital agenda where possible. They must be open to cooperate with new organisations building new business opportunities
- Working with hacker communities can be interesting to develop a model that is strong and interesting for businesses



- Consideration for how new companies are welcomed in Luxembourg to enable them to focus on business development—not administration and finding their way

The digital agenda is here to stay, driven by massive innovation in the ICT industry, and will keep developing for the years to come. Combining this with on-the-ground innovative initiatives and projects, the groundwork has been laid for large-scale changes across all industries and sectors.

It is therefore critical that companies engage and become active in the digital and innovation agendas to take advantage of existing possibilities and find new ways of developing their business in the 'Post-ICT-Infrastructure Age'.

---

We would like to thank the following individuals for their kind participation and for sharing information and insights:

- Jean-Paul Zens, Director of Media and Communications Department, Ministry of State
- Mario Grotz, Director General for Research, Intellectual Property and New Technology, Ministry of Economy and Foreign Trade
- Nicolas Mackel, CEO Luxembourg for Finance
- Romain Fouarge, Director of Information and Communication Technologies, Ministry of the Economy
- Jean-Paul Hengen, Head of ICT Cluster, LuxInnovation
- Diego De Biasio, CEO Technoport
- Nils Winkler, CEO Yapital

\* [www.wipo.int/pressroom/en/articles/2014/article\\_0010.html#top](http://www.wipo.int/pressroom/en/articles/2014/article_0010.html#top)