# LUXEMBOURG

# i2010 Annual Report 2007

European Commission
Information Society and Media

i2010
Information Space
Innovation & Investment in R&D
Inclusion

**Luxembourg scores very high on most i2010 household indicators, while enterprise level performance is average and with less growth.**

## Luxembourg Today

Broadband take-up was high and Luxembourg keeps its position somewhat below the group of best performers. With more than a third of all connected households still relying on slower connection types, Luxembourg seems to be in a good position for further rapid growth in broadband. Broadband connections are largely Digital Subscriber Line (DSL). Citizen use of the internet is generally high, without being exceptional; Internet telephony use is especially high. Luxembourg's internet users are avid consumers of audiovisual digital content, but this has not yet been harnessed commercially – possibly due to the market's limited size. 3G is present, and within the top ten countries of take-up.

Despite a very low supply of eGovernment services, use of these services among citizens is reported to be high. Business use is also reported high for basic services, but low for advanced services. These scores might reflect the focus of the few services available, but still underline a need to improve supply levels. The number of connected computers in schools is high, but both actual teacher use and access to broadband is average.

The workforce is skilled in ICT, and performs above the EU average both on user and expert skill levels. However, enterprise use of broadband is only close to the EU average and growth among enterprises is slower. Enterprise use of eBusiness and eCommerce tools is not level with general citizen use, and in some cases now even below the EU average.

## Luxembourg ICT Policy

Luxembourg emphasises the promotion of Luxembourg as a location for eCommerce, the construction of advanced infrastructure and the promotion of ICT take-up among enterprises and individuals.

**eTrust and eCommcerce:** A public-private partnership was set up to issue advanced digital security certificates and a consortium was chosen to install a public key infrastructure. Measures to address online security issues and to raise awareness about them included an online education platform, an IT threat observatory and a publicly-funded research programme.

**Infrastructure:** An organisation was set up to construct, manage and market an advanced fibre optic infrastructure and connections with international backbones. A fourth 3G-licence was issued and the transition to digital TV is almost complete.

**eGovernment:** One-stop-shops for enterprises and citizens are being rolled out until 2010 and a digital assistant for enterprises is to go online in 2007.

**eInclusion:** A convention on the legal status of teleworking was signed and ICT will be employed in initial and ongoing education, particularly for long distance learning.



**See Table Overleaf**

| Broadband | 2003 | 2004 | 2005 | 2006 | EU25 | Rank |
|---|---|---|---|---|---|---|
| Total DSL coverage (as % of total population) | 100.0 | 100.0 | 100.0 | | 87.4 | 1 |
| DSL coverage in rural areas (as % of total population) | | | 100.0 | | 65.9 | 1 |
| Broadband penetration (as % of population) | 2.8 | 7.1 | 13.4 | 19.7 | 15.7 | 7 |
| DSL penetration (as % of population) | 2.4 | 6.2 | 12.0 | 17.9 | 12.8 | 5 |
| Predominant download speed | | | 0.5-1Mbps | | | |
| Households having broadband (as % of those having access to the internet at home) | 16.2 | 27.7 | 51.7 | 62.8 | 62.1 | 16 |
| % of enterprises with broadband access | 39.1 | 48.0 | 64.2 | 76.0 | 74.5 | 11 |
| Number of 3G subscribers per 100 inhabitants | | | 6.1 | | 5.0 | 7 |
| Digital Television in households | | | 6.7 | | 30.6 | 20 |
| Music: number of single downloads per 100 inhabitants | | | | | | |
| **Internet Usage** | | | | | | |
| % population who are regular internet users | 48.1 | 58.9 | 63.4 | 65.2 | 46.7 | 7 |
| **Take up of internet services (as % of population)** | | | | | | |
| Sending emails | 47.5 | 59.2 | 62.6 | 64.8 | 43.8 | 7 |
| Looking for information about goods and services | 46.5 | 52.8 | 60.7 | 63.7 | 42.9 | 7 |
| Internet telephoning or videoconferencing | 4.6 | 5.9 | 10.9 | 16.3 | 7.1 | 2 |
| Playing/downloading games and music | 17.3 | 29.0 | 29.8 | 26.4 | 18.2 | 7 |
| Listening to the web radio/watching web tv | 8.9 | 14.9 | 19.1 | 21.6 | 11.8 | 6 |
| Reading online newspapers/magazines | 22.4 | 27.8 | 29.4 | 29.1 | 19.0 | 9 |
| Internet banking | 23.3 | 34.6 | 37.1 | 40.8 | 22.0 | 8 |
| **Places of access** | | | | | | |
| % at home | 43.2 | 58.6 | 64.7 | 65.1 | 42.6 | 7 |
| % at work | 25.8 | 26.5 | 26.3 | 31.7 | 23.0 | 7 |
| % at educational place | 10.2 | 7.1 | 9.6 | 7.7 | 8.0 | 18 |
| % at PIAP | 14.4 | 7.8 | 2.9 | 1.9 | 6.8 | 28 |
| **eGovernment Indicators** | | | | | | |
| % basic public services for citizens fully available online | 8.3 | 8.3 | | 8.3 | 36.8 | 23 |
| % basic public services for enterprises fully available online | 25.0 | 37.5 | | 37.5 | 67.8 | 24 |
| % of population using e-Government services | 28.1 | 44.8 | 46.0 | 45.8 | 23.8 | 5 |
| of which for returning filled in forms | 10.9 | 21.2 | 18.7 | 17.3 | 8.1 | 4 |
| % of enterprises using e-Government services | 64.8 | 71.5 | | 82.7 | 63.7 | 7 |
| of which for returning filled in forms | 25.0 | 25.6 | | 32.3 | 44.8 | 23 |
| **ICT in schools** | | | | | | |
| Number of computers connected per 100 pupils | | | | 18.3 | 9.9 | 5 |
| % of schools with broadband access | | | | 77.0 | 67.0 | 11 |
| % of teachers having used the computer in class during the last 12 months | | | | 70.2 | 74.3 | 16 |
| **e-Commerce** | | | | | | |
| E-commerce as % of total turnover of enterprises | | | | | 11.7 | |
| % enterprises receiving internet orders | 9.1 | 10.9 | | | 13.9 | |
| % enterprises purchasing on the internet | | 32.8 | 40.0 | | 37.9 | |
| **e-business. % enterprises:** | | | | | | |
| with integrated internal business processes | 40.2 | 35.8 | 44.7 | 39.8 | 37.3 | 11 |
| with integrated external business processes | 15.3 | 15.9 | 16.1 | 13.7 | 13.5 | 10 |
| Security: % enterprises using Secure servers | 57.4 | 53.2 | 57.7 | | 41.0 | |
| % using digital signatures for authentication | 14.3 | 12.8 | | 10.2 | 14.3 | 17 |
| **Employment and Skills** | | | | | | |
| % employees using computers connected to the Internet | 32.7 | 35.5 | 32.9 | 32.2 | 36.1 | 16 |
| % of persons employed with ICT user skills. | 23.9 | 26.9 | 27.3 | | 18.5 | |
| % of persons employed with ICT specialist skills | 3.1 | 3.6 | 3.6 | | 3.1 | |
| **Indicators on growth of ICT sector and R&D** | | | | | | |
| ICT sector share of total GDP | 5.0 | | | | 5.5 | 14 |
| ICT sector share of total employment | 3.8 | | | | 4.0 | 13 |
| ICT sector growth (constant prices). | 3.6 | | | | 3.6 | 6 |
| R&D expenditure in ICT by the business sector, as % of GDP | | | | | 0.3 | |
| === as % of total R&D expenditure | | | | | 25.7 | |