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THE TECHNOLOGY,  
MEDIA AND  
TELECOMMUNICATIONS  
REVIEW

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THIRD EDITION

EDITOR  
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LAW BUSINESS RESEARCH

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## Chapter 15

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# LUXEMBOURG

*Franz Fayot and Linda Funck<sup>1</sup>*

### I OVERVIEW

The Luxembourg TMT sector has evolved from being predominantly a provider of voice services into a diverse, competitive and interconnected industry using terrestrial, satellite and wireless transmission systems. Today Luxembourg has first-class infrastructures and telecommunication networks and counts among the top locations for electronic communication services and infrastructures.<sup>2</sup>

Traditionally the sector was limited to very few players. Telecommunication and postal services were operated over several decades as a public monopoly of the state-owned *Entreprise des Postes et Télécommunications* ('EPT'). The radio and television sector was controlled and developed from its early years by a privately owned company. Indeed, the first radio broadcasting in Luxembourg was initiated by the founders of the current broadcaster CLT-UFA. The privately held operator ensured a leading role in the national and international development of the radio and television sector and RTL Group today ranks as the top television and radio broadcaster in Europe. Luxembourg has also been a pioneer in non-terrestrial communication technology. SES-Astra, a Luxembourg-based company created in 1985, was Europe's first private satellite operator and nowadays SES has global standing.

The presence of important market players in the TMT sector in Luxembourg and the related know-how and experience has led the Luxembourg government to make efforts to maintain, create and further develop its electronic telecommunication technologies with the aim of being among the best places in Europe and abroad to do business within the sector and becoming a hub for e-services in Europe.

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1 Franz Fayot and Linda Funck are partners at Elvinger, Hoss & Prussen.

2 IDC.

Luxembourg has many benefits for the development of an ICT sector, including the diversity and multilingual skills of the population and workforce, a central location in Europe and an important financial industry in need of highly performing communication technologies. In addition, Luxembourg has developed an excellent state-of-the-art digital infrastructure, international telecommunication connections (offering fast, reliable connectivity to other European cities at low latency rates), efficient national communication networks, performant data centres, powerful legal framework, cutting-edge research, safety and security, which all contribute to Luxembourg's increasing attractiveness to technology organisations and electronic communication services, but also to financial institutions and other businesses. Luxembourg has become one of the top locations for ICT infrastructures (data centres, high-speed connectivity and Internet traffic) and it offers specialised expertise to keep data safe.

The excellent communication infrastructure has led numerous players in the gaming sector (online video games) and gambling sector to set up their headquarters in Luxembourg or even install their technology centres for the European area in Luxembourg.<sup>3</sup> Luxembourg, as new European online gambling hotspot, is attractive for low-latency Internet providers who expand their ICT location to Luxembourg. Global brands in the media and Internet world such as Amazon, eBay, iTunes, PayPal and Skype all have European headquarters or major operations in Luxembourg.<sup>4</sup>

The government encourages the establishment of new businesses (notably through 'Luxembourg for Business – proud to promote ICT'<sup>5</sup>) and is keen to further develop the TMT sector in line with the major industry trends. Efforts are also being made in ICT research with a focus on security, reliability and trustworthiness of ICT systems and services.<sup>6</sup> In the context of increasing influence of digital technologies on every aspect of our lives and throughout all business areas, and with the recent development in cloud computing and e-archiving, digital security is a key element of the success of the digital economy. Luxembourg is very present at European-level discussions and negotiations and stout in its defence of its position in the global process of harmonisation and liberalisation, while supporting the direction of European regulation. At a national level, research and development in the ICT sector is conducted by certain government-promoted institutions.<sup>7</sup> In developing its communication networks in the context of the

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3 Including OnLive Inc (which implemented a cloud gaming platform and chose Luxembourg to locate all its servers for the European distribution of its services), Big Fish Games, Agapier, Bigpoint, Kabam-Europe, Nexon Europe Sàrl and Innova.

4 'Luxembourg an e-Hub for Europe', [www.pwc.lu/en/information-communication-technology/docs/pwc-publ-lux-an-e-hub-for-Europe.pdf](http://www.pwc.lu/en/information-communication-technology/docs/pwc-publ-lux-an-e-hub-for-Europe.pdf).

5 New video available at [www.investinluxembourg.lu/ict/clip-luxembourg-your-gateway-europe](http://www.investinluxembourg.lu/ict/clip-luxembourg-your-gateway-europe).

6 Interdisciplinary Centre for Security, Reliability and Trust (SnT), Computer Science and Communication (CSC).

7 For instance, CRP Henri Tudor ('CRP') and the University of Luxembourg, which has a computer science and communications research unit. Centre Gabriel Lippmann (which is expected to merge with the CRP) is active in applied scientific research and technological development.

investment realities and opportunities in the telecoms and media sector, the challenge is to direct investment in a way that ensures that the right type of network is built and that public investment works in cooperation with the private sector so as to promote a more competitive telecoms environment. The government has been very active in negotiating and defending the interests of Luxembourg in the adoption process of the European Telecoms Package.<sup>8</sup> Similarly the government is actively taking part in the discussions regarding the forthcoming Data Protection Reform.<sup>9</sup>

The development of the information society is one of the key priorities of the government. In addition to the aforementioned policies, it has created an action plan called 'e-Luxembourg' with the ultimate goal that Luxembourg administrations, corporations, education personnel and individuals may efficiently use and have access to electronic communication means and to help improve their quality of life. At present many filings, registrations, requests to public administrations such as tax, social security and energy sector can be made online. The government has adopted a GED system (electronic document management), banning the use of paper. An action plan for the period 2010 to 2014 regarding the introduction of information technologies within the Luxembourg state administrations has been adopted.

Convergence has been achieved by creating rules and regulations, regulatory authorities, consulting entities at national, European and international level, which embrace the diversity, interconnectivity and interrelatedness of the various industries and players. The increasing convergence between telecommunications, information technology and media has called for further adjustment of the current legislation and regulations, which led to the adoption of the regulatory framework which was introduced into Luxembourg law by two laws of 27 February 2011 (*'Paquet Telecom'*). The *Paquet Telecom* is designed to provide for one set of rules for all electronic communication services and networks.

As a result of convergence, it is extremely important that interconnectivity and free access to all operators and service providers within the TMT sector is ensured in an equal manner. The use of one infrastructure for different types of services is of particular importance and it is crucial that the operators and owners of the infrastructure or networks make these available to the other participants in the TMT sector. This is particularly true in Luxembourg because of the small size of the market. Efforts are constantly undertaken to ensure competitiveness among the players in the TMT sector. Ensuring Luxembourg's international connectivity is at the top of the agenda for the coming years with the aim of ensuring the lowest latency rates with major capitals, the lowest prices and the presence of the most important carriers.

Importantly, the government supports the principle of network neutrality (i.e., keeping a free architecture, open and non-discriminatory, guaranteeing access without unjustified conditions on electronic communication networks). Competition among

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8 Directives 2009/140/CE of 25 November 2009 and 2009/136/CE of 25 November 2009.

9 The European Data Protection Reform, proposed by the European Commission in January 2012 for the purpose of satisfying the modernisation of the data protection frameworks, will entail amendments to the existing data protection laws.

incumbent operators and alternative operators remains an important element for the e-industry players.

## II REGULATION

TMT services cover an extremely wide scope of technology and services, with different laws and regulations applicable that entail various regulatory authorities to supervise different services and related technology. The competent ministry in Luxembourg for the telecommunication and media industry is currently the Ministry for Communication and Media.

### i Telecommunication, radio frequency, energy, railway service and postal service

The Law of 1997 created the Luxembourg Institute of Telecommunications ('the ILT'), whose duty it is to supervise and regulate the telecommunications sector. In 2000, the responsibilities of the ILT were broadened to encompass the Luxembourg energy sector and postal services and, as a consequence of the Law of 1997, it was renamed 'the Luxembourg Institute of Regulation' ('the ILR').<sup>10</sup> The ILR's remit has been modified on several occasions, the last time by the Laws of 27 February 2011 and 26 July 2011. The ILR is an independent regulator financed by the operators of the sectors supervised and regulated by the ILR rather than being funded by tax payers out of public state funds.

Its competences in the different sectors are set by the Electronic Communication Law and the Spectrum Law (see Section II.iii, *infra*). The recent amendment of the Spectrum Law has introduced clarifications on the allocation of competences between the Minister for Communication and the ILR. The ILR is entitled to set rules in accordance with European Directives and national law. Additionally, it controls the efficient use of infrastructure for the benefit of the consumer. It is entitled to determine the fees and conditions at which communication networks are operated and services rendered so as to allow the formation of a competitive market. It has the authority to also draw up reports and proposals, which it must submit to its board and the government. It gives advice, and prepares statistics and regulations.

The ILR is competent to receive notifications and grant authorisations or licences in relation to the provision or operation of electronic communication network services and is assisting the competent minister in the allocation of licences for radio spectrum. It is also in charge of establishing the plan of frequencies, updating public registers required by law for the various TMT sectors.

The ILR has the power to issue administrative sanctions against operators that breach laws or regulations. It may also act as a dispute settler between competing operators. The ILR in addition acts as mediator between customers and operators.<sup>11</sup>

The ILR is not empowered to monitor and regulate abuse of dominance. It is however responsible for ensuring that dominant players do not exclude other competitors

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10 [www.ilr.lu](http://www.ilr.lu).

11 ILR Regulation 11/151/ILR of 4 April 2011.

from the sector. It may take measures and issue rules to re-ensure a competitive market if in its opinion proper competition is no longer warranted.

## ii Media

The Media Law (see Section II.iii, *infra*) creates several governmental commissions, the first of which is the Communication Media Service ('the CMS'), which assists the minister in the determination and the execution of the Luxembourg media policy. Its main responsibilities are to:

- a* promote the development of the programmes viewable by the Luxembourg population;
- b* promote, in concert with other commissions and committees, Luxembourg as European centre for audio-visual and communication activities;
- c* assist government representatives responsible for the supervision of the beneficiaries of licences or authorisation, the CIR;<sup>12</sup> and
- d* ensure communication with international organisations responsible for the supervision of the audio-visual sector and ensure representative function within certain European committees.

The CMS does not have any regulatory or supervisory functions, but has solely consultative and recommending powers.

The Independent Radio Broadcasting Commission (the 'CIR') has three main functions: (1) implementing of provisions relating to authorisations of low power transmitters, (2) advising the government in authorisation matters and (3) arbitration of specific potential disputes. The CIR will ensure that legal and regulatory provisions are complied with. It is empowered to grant or withdraw authorisations.

The CIR is composed of five members, nominated by Grand-Ducal regulation, for five years. The CIR may ask for assistance from the CMS and technical support from the ILR.

The National Programming Council (the 'CNP'), is an independent body advising the government on matters of surveillance of certain specific television and radio programmes and proposes a balanced content for socio-cultural radio programmes. The CNP's mission is to ensure that legal and regulatory provisions applicable to the content of the programmes are complied with.

A new bill of law (see Section II.iii, *infra*) aims at centralising the competence of the three existing commissions into one single authority, the Luxembourg Independent Audio-visual Authority, which will gain disciplinary powers and adopt the status of a public institution.

The National Commission for Data Protection ('the CNPD'), created by the Law of 2 August 2002 on the protection of individuals with regard to the processing of personal data, is the authority in charge of the supervision of the electronic communication market, as far as data protection issues are concerned.

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12 See *infra*.

The CNPD controls the processing of personal data in Luxembourg and ensures compliance with the data protection regulations, in particular those relating to the confidentiality and security of processing operations. In addition, it has advisory competence towards the government. Although the CNPD is a public institution, it enjoys independence in order to carry out its mission.

The CNPD has investigative competence that allows it direct access to data of processing operations. As an investigation body, the CNPD is allowed to issue administrative sanctions.

### iii Main sources of law

The TMT sector is extremely broad and diversified. Due to the specifics of the various industries on the one hand and the interrelatedness on the other hand, it appears that laws and regulations apply to more than one specific service within the TMT sector, resulting thus in a large number of applicable legislation and regulations.

The main laws are:

- a* Law of 27 July 1991 as amended by Law of 17 December 2010 and the Law of 8 April 2011 on electronic media ('the Media Law');<sup>13</sup>
- b* Law of 11 April 2010 on freedom of expression in electronic media, amending Law of 8 June 2004 (as amended) on the freedom of expression in the media sector;
- c* Law of 27 February 2011 on electronic communication services and networks ('the Electronic Communication Law'), abrogating Law of 30 May 2005 on electronic communication services and networks ('the Former Electronic Communication Law');
- d* Law of 30 May 2005 as amended by Law of 27 February 2011 on organisation and management of radio spectrum ('the Spectrum Law');
- e* Law of 30 May 2005 regarding the organisation of the ILR as amended by the Law of 26 July 2010;
- f* Law of 30 May 2005 on the specific provisions regarding the protection of individuals as to the processing of personal data in the electronic communication sector and amending Articles 88-2 and 88-4 of the Criminal Instruction Code as amended by the Law of 27 July 2007 and the Law of 24 July 2010 and more recently by the Law of 28 July 2011 ('the Electronic Data Protection Law');<sup>14</sup>
- g* Law of 14 August 2000 on electronic commerce as amended;
- h* Law of 18 April 2001 on copyrights as amended ('the Copyright Law');
- j* Law of 2 August 2002 as amended (for the last time by a Law of 28 July 2011) regarding the protection of individuals as to the processing of personal data ('the Data Protection Law');<sup>15</sup>
- k* Luxembourg Constitution;
- l* Law of 11 August 1982 on privacy ('the Privacy Law');

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13 A bill of law has been adopted by the government council.

14 A bill of law has been adopted by the government council.

15 The European Data Protection Reform (see footnote 9, *supra*).



- m* Articles L222-12 to L222-23 of the Consumer Code regarding distance contracts on financial services, abrogating the Law of 18 December 2006 on distance selling of financial services; and
- n* Articles L222-2 to L222-11 of the Consumer Code.

General laws are applicable for all aspects not specifically regulated by specific laws or regulations, in particular the provisions of the Luxembourg Criminal Code (e.g., in relation to pornography, discrimination, racism, violence, theft and piracy).

In addition, a large number of Grand-Ducal regulations and other regulations (particularly from the ILR) have been adopted in relation to the implementation of the various laws.

#### **iv Ownership restrictions**

Luxembourg rules and regulations do not, in principle, impose ownership restrictions within the TMT sector, except for certain specific sectors. Regarding telecommunications services, the previous authorisation regime has been replaced by a less stringent notification regime.

There are no ownership restrictions for being granted a concession to operate Luxembourg satellite systems or broadcast a Luxembourg programme via satellite or cable except that for the latter a broadcasting licence may only be granted to a legal entity incorporated under Luxembourg law.

Because spectrum is considered a rare resource, its management and use is reserved to the Luxembourg state. Licences to use spectrum may, however, be granted to third parties subject to the conditions of national legislation, related regulations or international or European agreements and treaties.

There is no specific national regulation on cross-ownership of media companies. However, general laws on competition still apply.

#### **v Mergers and acquisitions**

There is no specific Luxembourg authority regulating mergers or acquisitions in the TMT sector. The ILR's competences are to guarantee competition on the Luxembourg TMT market and thus it will monitor acquisitions and mergers in the sector so as to evaluate their position on the market *ex post*.

The Law of 23 October 2011<sup>16</sup> on competition, which prohibits restrictive agreements and abuses of dominant position, provides for an independent authority which is the Council for Competition Matters ('the CCM') appointed to be in charge of the investigation of cases, consultative missions and sectorial inquiries (or by types of agreement). The former Investigation Division for Competition Affairs has been abolished. The CCM is also the decision-making body and exercises various powers for the execution of its mission (i.e. the finding and sanctions of legal violations, drafting of opinions, market studies, information of companies and execution of missions allotted to the national CCM). Decisions by the ILR in relation to regulation of competition

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16 Amends and replaces the Law of 17 May 2004.

must be taken in agreement with the CCM. None of the relevant authorities has *ex ante* powers nor may they prevent mergers or acquisitions.

### III TELECOMMUNICATIONS AND INTERNET ACCESS

#### i Internet and Internet protocol regulation

Internet services were regulated, prior to the Electronic Communication Law, by the Law of 21 March 1997 relating to telecommunication services and the operation of telecommunications networks ('the Law of 1997').

Even though the Law of 1997 did not provide for specific Internet or Internet protocol regulations, but covered telecommunications services and networks more generally, in the absence of the express exclusion of Internet services and in the light of the definition of 'telecommunication services and networks',<sup>17</sup> Internet services were considered to be governed by this law.

The Former Electronic Communication Law introduced certain changes and widened the scope of existing regulation to a larger range of communication technologies and introduced the definitions of 'electronic communication network' and 'electronic communication services' as opposed to 'telecommunication services'. The new terminology reflected the increased scope of the services and networks that are regulated. Express reference to Internet services is made.

Neither the Law of 1997 nor the current Electronic Communication Law provide for any specific rules applicable to Internet services or IP-based services as opposed to traditional telephony services, except that due to the specific nature of the telephony services, certain additional rules apply to the provision of telecommunication services that are offered to the public. The Electronic Communication Law provides for certain specific obligations applying to publicly available telephony services and public telephone networks.<sup>18</sup> These specific regulations are due to ensure a universal service to the resident population and apply only to traditional telephony.

As previously noted, the ILR is the competent regulator in charge of the supervision of the services rendered both in relation to Internet services and traditional telephony services. With the adoption of the Former Electronic Communication Law, the operation or provision of electronic communication services or networks is no longer subject to licence but only to notification to the ILR.<sup>19</sup> No distinction is made between traditional telephony and Internet or IP-based services.

The Electronic Communication Law provides for a global legal framework applicable to all electronic telecommunication services and networks, with certain

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17 The abrogated Law of 1997 provided for a definition of 'telecommunication services' and 'telecommunication networks', with 'telecommunication' having been defined as 'each transmission, issue or reception of signals, images, sounds or data of any nature, by wire, radio, by optical or by electromagnetic means'.

18 Articles 11 and 12 of the Electronic Communication Law.

19 Article 5.

specifics depending on the type of service or network, ensuring however that the whole sector is consistently governed by the same legislative and regulatory national framework.

## **ii Universal broadband service**

The development of communication infrastructure in Luxembourg is among the top priorities of the governmental programmes in the field of the information and communication technology. The government has been actively developing the broadband infrastructure service since 2004.

In 2011, 91 per cent of households were connected to the Internet. At the end of 2011, Luxembourg has achieved the DAE<sup>20</sup> target by securing a basic broadband coverage (in the order of 2MB/s) to all Luxembourg households.<sup>21</sup> Mobile broadband penetration (all active users in January 2012) amounts to 64.8 per cent.

In terms of fast broadband and ultra-fast broadband the deployment is less advanced in terms of coverage and take-up. The government is, however, committed in the NGA deployment and pursues its ambitious strategy initiated in April 2010 aiming to be the first fully fibred country in Europe. The installation of the optical fibre is in constant progress since 1997 and LuxConnect<sup>22</sup> is joining the efforts to cover the whole territory with optical fibre. In the meantime, before the optical fibre has been deployed throughout the country, efforts are also being made on the existing networks so as to increase the broadband speed.

In Luxembourg a notable market trend towards bundled offers (broadband mobile or fixed telephony and TV) continues. Luxembourg currently benefits from an extremely developed FTTH architecture.

The ultimate aim of the government is to provide households and businesses with access to ultra-high-speed broadband by 2015 (100MB/s) and reach a capacity with downstream speeds ranging to 1GB/s and upstream speeds of 500 MB/s in 2020.<sup>23</sup> EPT has obtained the approval of the competent authorities to launch offers for ultra-high-speed Internet access under the name of 'Lux Fibre' and first offers have been launched. Other alternative operators have also launched their offers.

## **iii Content regulation and protection**

Pursuant to the Electronic Data Protection Law and the Data Protection Law, ISPs and operators of electronic communication services and networks are compelled to ensure the confidentiality of the communications exchanged by way of electronic communication means. The general rule is that other than the user, no person is allowed to listen, intercept or store communications and data relating to the traffic and location without the agreement of the user.

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20 Digital Agenda for Europe.

21 Luxembourg 2011 Telecommunication Market and Regulatory Developments.

22 Luxconnect was created at the initiative of the government.

23 At the end OF 2011, depending on the operator, capacity with downstream speeds of 20 MB/s and upstream speeds of 50 MB/s.

This prohibition does not apply to (1) communications relating to emergency calls, (2) commercial transactions to the extent that they constitute proof of the transactions, (3) authorities investigating and acting in relation to a *flagrante delicto* or within the scope of criminal offences in order to ensure national and public security, and (4) cookies. In relation to data resulting from commercial transactions and cookies, the user or parties to the transaction must be informed that their data may be processed, the conditions (in particular the duration) and aim of the storage, and the possibility of the user opposing such data processing. Moreover in relation to the cookies, a specific consent to the storage (opt-in) is required as a result of the recent change of law. Discussions on exemption to the opt-in principle are taking place at a European level. For the purpose of criminal law enforcement, specific conditions must be met to be able to have recourse to intercepted communications data. In addition, for the purpose of research, monitoring and pursuit of criminal offences and with the sole aim to provide relevant information to the judicial authorities, each ISP or operator must store traffic information and locational data for a period of six months. The Law of 24 July 2010 has amended the scope of criminal offences by limiting the possibility of only consulting the data in relation to criminal offences resulting in penal sanctions of more than one year's imprisonment. A Grand-Ducal regulation determines the category of traffic data that may be useful for the research, observation and prosecution of criminal offences, as well as the manner pursuant to which such information is made available to the authorities.<sup>24</sup>

Intellectual property theft and piracy are regulated by:

- a* the Copyright Law;
- b* the Luxembourg Criminal Code;<sup>25</sup>
- c* the Privacy Law; and
- d* the Electronic Data Protection Law and the Data Protection Law.

There is currently no public authority in Luxembourg that exercises a global supervisory or monitoring power on the content and traffic data of network operators, ISPs and users as this would violate the essential privacy principles.

Similarly, and for the same reasons, network operators may not control the content, application and services accessed by their network users.

The practice of deep packet inspection is prohibited in Luxembourg as it infringes confidentiality rules and constitutes an invasion of privacy, in complete violation of the aforementioned legislation. The same analysis would apply to filtering of data processed by means of electronic communication means.

However, network operators are obliged, in order to comply with the secrecy or confidentiality requirements, and avoid invasion of privacy, piracy or intellectual property theft, to take appropriate technical and organisation measures and have systems and procedures (firewalls, encryption, secured and restricted access, etc.) in place that render the network and the data processing via their network secure.

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<sup>24</sup> Grand-Ducal Regulation of 24 July 2010.

<sup>25</sup> Articles 309, 460, 488, 505, 509-1 and following of the Luxembourg Criminal Code.

**iv National security**

The Electronic Communication Law, the Electronic Communication Data Protection Law and the Data Protection Law provide for specific applicable measures to ensure national interests.

In certain circumstances, where national security (including public health and public order) is endangered, the government may requisition the entire electronic communication network established in Luxembourg, as well as the connected equipment, or prohibit the provision of some or all electronic communication services.

The government may also, in order to maintain access to the emergency services, dictate special conditions for the use of electronic communication services and networks. Although storage of personal data is generally prohibited, the Electronic Communication Law provides an exception in relation to storage of traffic data relating to emergency calls or inspection of false alerts or attacks or abusive calls.

**IV SPECTRUM POLICY**

**i Development**

The increasing development of wireless communication, media and information technology also affects spectrum policy in Luxembourg.

The need for radio spectrum has increased significantly over the past few years and Luxembourg actively participates in the elaboration of a pan-European spectrum policy and favours a more flexible and efficient use of spectrum.

Luxembourg has, in its contribution paper to the European Commission of 15 April 2010 indicated that it is in favour of a more flexible use of spectrum, emphasising, however, that it is crucial that the more flexible use will not negatively impair the current quality of services or entail harmful interferences. Luxembourg has expressed its concern that a more flexible use would need to take into consideration the characteristics of more specific and sensitive technology, which would be more prone to harmful interference than others.

During the negotiations that led to the adoption of the European Telecoms Package, Luxembourg explained that one of its top priorities was to maintain national competence in relation to the management of the spectrum and full subsidiarity in this area.

**ii Flexible spectrum use**

As a result of the Law of 27 February 2011 amending the Spectrum Law, allocated licences are no longer personal.<sup>26</sup> On that account it is currently possible to sell, transfer or sublease allocated spectrum, thus enhancing the flexibility of spectrum use. The Spectrum Law also provides for the possibility of spectrum sharing.

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<sup>26</sup> Article 2 of the Law of 27 February 2011 amending Law of 30 May 2005 on organisation of the management of electronic waves.

The mobile use of spectrum dedicated to fixed use is possible as a matter of applicable law and regulations and is in line with the principle of technological neutrality.

### **iii Broadband and next-generation mobile spectrum use**

Luxembourg aims towards the objective of broadband for all by 2013. As described in Section III, *supra*, the government is actively developing the terrestrial broadband infrastructure. In order to achieve this aim, a mixture of technologies must be put in place to take into account both topographic and demographic facts; so in addition to the terrestrial infrastructure, wireless terrestrial systems and satellites will be used.

In Luxembourg, the increasing need for spectrum for use by the offer of increasing broadband services is partly solved by opening additional frequencies or release of spectrum for the use of broadband and next generation mobile services.

Luxembourg completed the switch-off of analogue television broadcasting on 31 August 2006, replaced by DTTV. The released spectrum (referred to generally as ‘the first Digital Dividend’) is used for next-generation mobile services.

The ILR has adopted a new frequency plan, which came into force in January 2012. The new plan transposes the latest European Commission’s decisions on spectrum. The 900MHz and 1,800MHz frequency bands have been made available for various mobile communication technologies, and the 800MHz and 2.6GHz bands have also been opened. Further, Luxembourg concluded an agreement in October 2011 with its neighbouring countries regarding reducing the risks of interference due to overlapping coverage in the 790–862 MHz frequency band.

On 1 February 2012, the ILR launched a public consultation regarding two licences in the 900MHz frequency and two in the 1,800MHz frequency that expire in 2012. The licences within the 900 MHz have been renewed to the existing operators and one new operator and the use thereof has been expanded to different technologies. These licences allow the introduction of 4G technology specifically in Luxembourg (LTE). In addition the three operators have been allocated additional spectrum in the 1,800MHz band allowing flexibility for the introduction of innovative new technologies. Certain operators<sup>27</sup> have rolled out an operational 4G network covering a large number of the Luxembourg population. Tests on 4G equipment are currently being carried out by the relevant Luxembourg operators.

In July 2012, the ILR launched a public consultation regarding the allocation of licences in the 800MHz and 2.6GHz frequencies. The purpose of the consultation is to allow the competent Minister to determine the criteria of selection and allocation procedures for the licences to be granted. Opinions from the interested operators will be presented to the ILR by 1 October 2012.

### **iv Auction of spectrum and user fees**

Given the small size of the market and the limited number of operators, the experience of the authorities shows that allocations of spectrum through auctions or ‘beauty contests’

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27 Orange, Tango and EPT.

does not produce satisfactory results. Hence, although theoretically possible as a matter of law, auctions are not currently practised.

The Spectrum Law provides for various procedures for the allocation of spectrum licences such as competitive selection, comparative selection or by a public bidding procedure for the best offeror. The competent minister will determine the applicable procedure on a case-by-case basis after having made a public consultation and publish this decision in the Luxembourg Official Gazette and in the EU Official Journal at least one month prior to the launch of the procedure.<sup>28</sup>

The fees payable to the Luxembourg state (as owner of the national spectrum) for the allocated spectrum are determined by Grand-Ducal regulation. These fees comprise administrative management taxes as well as user rights fees. The Law of 27 February 2011 amending the Spectrum Law has modified the allocation and recovery of the fees payable in relation to spectrum licences in favour of the ILR. Public services and authorities are not subject to the payment duty to the extent that spectrum is used for the provision of services within the scope of national defence, public security or emergency services.

## **V MEDIA<sup>29</sup>**

The Media Law has been amended by a law of 17 December 2010 and 8 April 2011. The amendments are deemed to adapt themselves to the newest sorts of audio-visual and radio media. More importance is attributed to content regulation. Rules are set related to enhance the protection for children and non-discriminatory content and the form and the content of commercials advertising are more regulated.

### **i Digital switchover**

Luxembourg took the decision not to develop a switchover plan with specific target dates for terrestrial broadcasting because the government favoured a market-driven approach.

Luxembourg's penetration rate of cable as a means of receiving television programmes is among the highest in Europe: some 95 per cent of households subscribe to cable networks. The average household catches around 46 channels. EPT launched an IPTV service (in particular VOD) entitled 'La Télé des P&T' in March 2008. Initially offered in nine locations, the service now covers a large part of the country. The basic offer includes more than 80 channels. By the end of 2011, four providers offered VOD services. The switch-off of the analogue channels in the cable network, although contemplated to be achieved by end 2011, is not yet fully complete but only the principal channels remain available through analogue broadcasting. A growing number of households are able to receive television through ADSL and to choose between two competing methods of receiving a complete range of TV programmes.

The switchover to DTTV was completed in Luxembourg in 2006, when CLT-UFA moved the main channels used for terrestrial broadcasting to the terrestrial digital

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28 Article 6 of the Spectrum Law.

29 Information in this section has been largely drawn from the government's annual report 2011.

spectrum. Luxembourg holds sufficient spectrum for programme distributors other than CLT-UFA, as well as for new applications such as mobile television or HDTV.

The evolution of digital terrestrial radio transmission in Europe is being followed by the government and the ILR. In Luxembourg, the Broadcasting Centre Europe has set up different DRM short and middle-wave transmitters allowing international coverage. CLT-UFA now broadcasts its German-speaking RTL programme digitally.

About 50,000 households watch TV via satellite, with SES being the principal operator.

## **ii Internet-delivered video content**

It is difficult to measure the importance of Internet video distribution in Luxembourg given the absence of surveys or statistics on this phenomenon. The only indicator is the fact that, as in most other western countries, people watch less traditional TV, which seems to indicate that Internet video is becoming more popular, particularly with the younger public. Given the general availability of cable and satellite TV, the impact so far has been minimal. Also, based on the high connection rates of Luxembourg residents to the Internet, it should be expected that this move will not pose dramatic problems for consumers.

## **iii Globalisation and foreign investment**

Luxembourg has taken important steps towards providing the type of infrastructure demanded by ICT companies and has a long-standing official policy of welcoming pan-European companies, in addition to creating the appropriate framework for the development of local businesses.

With regard to foreign investments, given the small size of the market, global media companies have so far shown little interest in acquiring interests in local media players or in building up a presence in Luxembourg. As Luxembourg is a market economy, however, foreign investments are not restricted and neither is foreign control over Luxembourg companies. The size of the Luxembourg stake in SES is linked to the state concession pursuant to which SES operates orbital slots allocated to Luxembourg. Any direct impact on local programming or national culture is very limited if not non-existent.

# **VI SECURITY**

## **i Privacy and consumer protection**

Privacy and consumer protection in the electronic communication domain is guaranteed by various laws. The adoption of the Consumer Code by the Law of 8 April 2011 was important, and the Media Law set guidelines and restrictions in relation to commercial advertisements. Specific provisions are provided for the protection of children.

Information about consumers must be treated confidentially and may not be rendered accessible to third parties; the processing of consumer data is allowed only if it falls within the criteria defined by the relevant laws. Processing of data is subject to the principle of legitimacy of processing. Each data processor located or using physical means located in Luxembourg to process data is subject to a notification or prior authorisation



procedure addressed to the CNPD depending on the nature of the data processed and the purpose for doing so.

Sharing of consumers' personal data is strictly prohibited by law, unless consumers give their express consent. Where locational data is being stored and processed by an operator, a user must be informed thereof and must be able to oppose any such action (the process of which must be clearly set out and communicated to the user).

Luxembourg law prohibits the addressing of advertisements or other unsolicited communication to persons by electronic means, unless the concerned person can simply request such actions to be stopped.

## **ii Protection for children**

There is no specific legislation or regulation that ensures the protection of children online.

In 2011 Luxembourg ratified the United Nation Convention in relation to children rights and the Convention of the Council of Europe concerning the protection of children against exploitation and sexual abuses and is involved in their implementation.

Moreover, the government is issuing a number of recommendations and is supporting various projects to render children and their parents aware of the risks related to the use of the Internet. The Project 'Bee Secure' has been drawn up in the context of the EU Safer Internet Programme, which gives directions for the use of the Internet to children, parents and educational staff.

Generally, the policy is to familiarise children with new technology rather than filtering or blocking access to various types of information (which might, however, be an alternative); the intention is to teach children how to use the Internet safely but to always be aware of the risks related to such use.

Children's rights are protected by provisions of the Luxembourg Criminal Code ('the LCC'). Bill of Law No. 6408, purporting to implement certain provisions of Directive 2011/92/EU, will further amend the LCC and strengthen the sanctions in relation to child sexual abuse matters. The 'LISA Stoptline' is a project that provides a structure to report illegal information transmitted over the Internet anonymously. The e-Commerce Law requires information service providers to withdraw or render inaccessible any illegal content they become aware of. The Media Law does include specific children protection provisions.

Luxembourg University is an active member of the 'EU Kids Online' project.

## **iii Cybersecurity**

Cybersecurity is one of the priorities of the Luxembourg government. Individuals and companies are encouraged to take appropriate technical measures to defend themselves against cyber attacks. Similarly, as for children, the government has created 'CASES Luxembourg', which is a project accessible by all Internet users, the purpose of which is to make the public aware of the potential cyber attacks inherent to Internet use and advises on how to identify them. In this context, it is worth mentioning the certification authority Luxtrust, which manages electronic certificates with the highest level of security.

Network operators and ISPs are required by applicable law to comply with stringent security measures.

As a response to increasing cyber attacks, the Luxembourg Criminal Code has been amended so as to include offences in the electronic communication sector.

The government pursues efforts to prevent and fight against cyber crime and has created in July 2011 two new structures: the Luxembourgish Cybersecurity Board ('the CB'), whose mission is to work on a strategic plan against attacks via the Internet, and the governmental Computer Emergency Response Team ('CERT'), which is responsible if an incident of cyber crime ever occurs in the public information systems. In November 2011 the CB determined five priorities (on a national and international scale) on which Luxembourg should pursue its efforts.<sup>30</sup> Furthermore, the Luxembourg government has signed a letter of intent with Belgium and the Netherlands to cooperate in the prevention and fight against cyber crime. Back in November 2011, Luxembourg has hosted a conference on cybersecurity, which was mainly aimed at experts in security matters.

In June 2012, the CB decided in its fourth meeting to adopt the role of central focal point for information, with citizens notifying it of cybersecurity incidents, which in turn allows it to provide businesses with information in order to allow them to take appropriate actions to combat security risks. Luxembourg is currently waiting to transpose the the European Council convention in cybersecurity matters into domestic law.

#### **iv Emergency response networks**

Luxembourg first responders and other emergency responders (such as police, customs and civil protection) benefit from a dedicated network. This network is still analogue and ensures total territorial coverage; however, a group of experts composed by representatives of the main concerned administrations – the ILR, the government and the Ministry of Finance – is working towards the switch to a higher-performance digital network for these services in the short term. Articles and conditions are currently being established by the state to which an operator may apply in order to provide and operate the dedicated network to emergency responders. At EU level, harmonisation of the digital frequency relating to these services has been achieved allowing interoperability.

## **VII YEAR IN REVIEW**

### **i Key legislation**

The main legislative landmark for 2011 remains the implementation of the European Regulatory Framework into Luxembourg law. Luxembourg is working together with other European countries on the Data Protection Reform. Further bills of laws are in process of being filed or adopted. A new frequency plan was adopted in January 2012, with an updated frequency plan expected to be adopted in September or October 2012.

Key policies still include the April 2010 government paper on a national strategy for high-speed networks, which defines the priorities and means of the government in enhancing high-speed Internet for households and businesses in Luxembourg. Government policy aims at promoting the ITC sector and related infrastructure as one

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30 Ministère d'Etat, '*Stratégie nationale en matière de cyber sécurité*'.

of the pillars of the Luxembourg economy. The government is continuing to invest heavily in the security of the networks and infrastructures as one of the main pillars of the development of the electronic communication systems. The creation of various structures at national level demonstrates the government's commitment to preventing and combating cyber crime and other attacks on electronic communication services and infrastructures. The creation of the CB and the CERT and the adoption of a national strategy in cyber criminal matters also reinforce the government's absolute determination to fight against and prevent cyber criminality.

In the field of spectrum policy, the main developments of the past year are the availability of the 900 and 1,800MHz frequencies (and the 800MHz and 2.6GHz) to mobile telecommunication services, opening the path to the 4G development technologies. Many other decisions and policies taken in this field have been in line with European policy. During the ITU World Radio Conference in January 2012, one of the more important decisions was the intention to open additional spectrum for mobile telecommunications services in the 694–790MHz frequencies ('the second Digital Dividend'). This point will be one of the important agenda items of the 2015 Conference, but the opening of additional frequency will still need to be addressed, *inter alia*, at the Luxembourg level as to its technical implementation and Luxembourg's need for additional spectrum.

Following the recent boom in the online video games sector in Luxembourg with the establishment of internationally known companies, LU-CIX organised the LU-CIX Online Gaming Forum to gather the ICT community in mid-December 2011. The government has renewed its intention to establish efficient technical infrastructures and a business-friendly legal environment to guarantee these companies a good development in Luxembourg. This forum has had a positive impact and has consolidated Luxembourg's position as a hotspot for the set-up of ICT-related companies such as gaming businesses, which are now moving into Luxembourg in great numbers.

The recent partnership between Hibernia and LuxConnect, aiming to leverage high-capacity links from LuxConnect's facility in Luxembourg City to Hibernia Atlantic's points of presence (PoPs) and secure connectivity throughout key European and US cities, shows that Luxembourg strategy and connectivity investments are bearing fruit.

In the satellite sector, SES has continued to expand its fleet of satellites offering a global connectivity covering 99 per cent of the world population; it is investing in new onsite infrastructures. A new entity, LuxSpace, has been granted a concession to launch microsattellites and the first launch was in October 2011.

## ii Key mergers and takeover activity

In April 2011, the company Regify SA came to Luxembourg to offer its secured e-mail services. The company's arrival has a positive impact in the high-tech domain and the effectiveness of this offer is highlighted by the diversification of EPT's services.

In July 2011, through the merger between LIX and LU-CIX (being two internet exchange points), a straight highway allowing speediest traffic without barriers has been achieved. In November 2011, the partnership between LU-CIX and France IX allowed the implementation of a capacity link of 1Gb/s, already used by four members of LU-CIX (BCE-RTL, RESTENA, Luxembourg Online and Lab Group).

In mid-June 2012, ebrc, owned by EPT, won the European Award for Cloud Services as a result of its expertise in terms of data centre services, cloud and managed services and its ISO 27001 (information security), ISO 20000 (computing services management) and PCI-DSS (banking transactions security) certifications.

Sony recently chosen Luxembourg as its European platform for its digital library in Europe. Also, following the acquisition of Skype by Microsoft in 2011 (Microsoft's largest acquisition to date), it has been decided that Skype will remain in Luxembourg.

## **VIII CONCLUSIONS AND OUTLOOK**

The digital economy form is top priority of the Luxembourg government, and continuing efforts are being made to promote the development of new communication and information technologies. The development of the international connectivity and the security in the current context is among the key priorities.

The development of cloud computing services and e-archiving will continue in the short term to be a driving force in the development of the data protection legislation and Internet security sector. Luxembourg is keen to capitalise on the growing demand for high performance infrastructure bandwidth capacity and connectivity needs of the e-economy. Its geographical location close to the major European cities remains undoubtedly an asset.

Luxembourg will continue to develop high-standard data centres, services and facilities. Luxembourg has opened the first green centre in the world, showing its commitment to research and development of new infrastructures and technologies. Half of the data centres in Luxembourg offer Tier IV design; most of the others are classified as Tier III. Luxembourg is actively working on cybersecurity matters and participating in discussions and negotiations on the Data Protection Reform.

Besides the importance of developing networks and guaranteeing security, the Luxembourg government and its partners are aware that the long-lasting and efficient development of the digital economy requires e-skills and is thus active in promoting ICT business to students. Awareness of training opportunities and carriers in the ICT sector is one of the main areas of development of the digital economy in Luxembourg.

## Appendix 1

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# ABOUT THE AUTHORS

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Franz Fayot is a partner with Elvinger, Hoss & Prussen, which he joined in 1997 when he became a member of the Luxembourg Bar.

His principal fields of activity are mergers and acquisitions, banking, financial and securities laws and corporate restructuring, insolvency law and IT law. In the field of TMT, Mr Fayot regularly advises local and international companies on all IT aspects and is a regular adviser to clients seeking to establish or develop their TMT activities in Luxembourg.

He is an associate lecturer at the Université de Luxembourg, and an author of a number of articles in the field of banking law and company law. He is also a member of the publishing committee of the yearly legal publication *Annales du droit luxembourgeois*.

He holds a master's degree in law from the Université Paris I Panthéon-Sorbonne in Paris and a DEA in business law from the same University. He is fluent in English, French, German and Luxembourgish.

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