



Commission for
Communications Regulation

ComReg Submission

ComReg Submission to the Department of the Taoiseach's Innovation Taskforce

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An Coimisiún um Rialáil Cumarsáide
Commission for Communications Regulation

Abbey Court Irish Life Centre Lower Abbey Street Dublin 1 Ireland
Telephone +353 1 804 9600 Fax +353 1 804 9680 Email info@comreg.ie Web www.comreg.ie

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1 Introduction

This document sets out the Commission for Communications Regulation's (ComReg's) submission to the Innovation Taskforce which has been appointed by the Taoiseach to advise the government on its Strategy for positioning Ireland as an International Innovation Hub and to assist in making the Smart Economy a reality.

ComReg appreciates the opportunity to make this submission on what is clearly a important issue for Ireland.

1.1 About ComReg

ComReg was established on 1 December 2002 and is the statutory body responsible for the regulation of the electronic communications sector (telecommunications, radiocommunications and broadcasting transmission) and the postal sector.

ComReg's remit includes the regulation of the fixed, mobile and broadcasting transmission networks as well as the management of Ireland's radio spectrum resource. In carrying out our functions in relation to the communications sector, ComReg is responsible for the promotion of competition, for protecting consumers and for encouraging innovation.

1.2 Focus of this submission

This submission highlights four areas within ComReg's remit that we consider key to the realisation of a Smart Economy.

1. The deployment of Next Generation Broadband (NGB) networks and their potential to facilitate the development of a wide range of new digital services.
2. The growing trend towards ubiquitous communications and the opportunity for Ireland to benefit from becoming an early mover in the commercialisation of the "Internet of Things".
3. The digital dividend and its potential to create significant economic growth in Ireland.
4. ComReg's Test and Trial Ireland Licensing Programme – Test and Trial Ireland – and the valuable and practical advantage this can give companies carrying out R&D activities in the wireless communications sector.

2 The deployment of Next Generation Broadband (NGB) networks

The deployment of a high-speed broadband communications infrastructure, and development of the associated services, have a key part to play in supporting Ireland's economic recovery and in acting as a driver for our future competitiveness and growth.

The Government's framework for sustainable economic renewal, "Building Ireland's Smart Economy"¹ recognises that broadband is a key enabling technology for the knowledge-intensive services and activities on which our future prosperity will increasingly depend. The Department of Communications, Energy and Natural Resources (DCENR)^{2 3} also identifies the availability of high speed broadband as being critical in attaining the Government's twin goals of becoming a 'Smart Economy' and a 'Knowledge Society'.

ComReg sees the deployment of NGB networks as of critical importance in enhancing Ireland's position as a location that supports the development of high-end ICT industries and the securing of domestic and inwardly-invested research and development that can significantly contribute to Ireland's overall competitiveness.

In a country the size of Ireland, it makes sense to encourage a collaborative open access NGB network model which allows access to rival operators. The return on investment for such a model will benefit traffic at both wholesale and retail level and can improve the economic viability of a wide-scale NGB network deployment. Additionally Ireland can benefit from the range of new applications that will evolve in an open access network environment.

ComReg has recently published its discussion document on "*Next Generation Broadband in Ireland – promoting the timely and efficient development of high speed broadband infrastructure and services*"⁴. This paper offers perspectives on the range of policy, technical and regulatory issues which can support a timely and efficient move towards the increased availability of high speed next generation broadband services and outlines a number of key principles that will guide ComReg's regulatory approach to NGB.

These principles include:

- the provision of a clear and predictable regulatory environment within which service providers can make NGB investments;

¹ Available at www.taoiseach.gov.ie, December 2008.

² "Next Generation Broadband - Gateway to a Knowledge Ireland", <http://www.dcenr.gov.ie/Communications/Regulation+and+Postal+Division/Next+Generation+broadband>

³ Technology Actions to Support the Smart Economy" <http://www.dcenr.gov.ie/Communications/Knowledge+Society/>

⁴ Available at <http://www.comreg.ie/fileupload/publications/ComReg0956.pdf>, July 2009.

- the adoption of a technology neutral approach (i.e. wired, wireless, cable) in considering NGB issues;
- promoting effective and sustainable competition at both the network and service levels through the application of appropriate regulatory remedies (where necessary) that take into account collaborative industry approaches; and
- taking account of risks borne by service providers in making efficient NGB investments and taking appropriate account of such risks in applying the regulatory framework.

In the context of the Innovation Taskforce's remit, ComReg's discussion document and DCENR's reports can provide useful insights as to how NGB networks can support the concept of Ireland becoming an International Innovation Development Hub.

3 The Internet of Things and Ubiquitous Communications

Increasingly, everyday devices have communications capabilities, and a key characteristic of the new digital world will be the extension of the internet to harvest and harness information coming from these peripheral devices – the so called “Internet of Things”⁵.

Technologies such as Radio-Frequency Identification (RFID), short-range wireless communications, real-time localisation and sensor networks are becoming more common. The deployment and extensive use of these technologies will bring the Internet of Things closer to us all as we move towards a ubiquitous networked society.

An early form of this evolution is of course mobile and wireless devices which now form such an integral element of our professional and social lives. Ireland has embraced these technologies: as of June 2009⁶, Ireland had a 117% mobile subscriber penetration rate, and 38% of Ireland's broadband market was provided via radio spectrum.

In the context of the Innovation Taskforce's remit, ComReg's believes that communications between devices will multiply in the future and that there is an opportunity for Ireland to benefit from being an early mover in the commercialisation of the internet of things.

In tandem with ComReg's responsibilities for the efficient management and use of the radio spectrum in Ireland, ComReg facilitates innovators who wish to test or trial wireless devices in a real live environment – Test and Trial Ireland. This scheme, which is discussed further in Section 5 below, provides a potential focus for testing and development of ubiquitous communications.

⁵ “ITU internet Reports 2005: The Internet of Things”
<http://www.itu.int/osg/spu/publications/internetofthings/>

⁶ “Irish Communications Market: Quarterly Key Data report, Q2 2009” ComReg Document 09/71
http://www.comreg.ie/_fileupload/publications/ComReg0971.pdf

4 The Digital Dividend

The Digital Dividend refers to the valuable radio spectrum released when analogue terrestrial television broadcasting is switched off in favour of digital transmission. This is a potentially transformational opportunity; the last time that this valuable radio spectrum band was organised was half a century ago.

The Digital Dividend is considered to be a very valuable band. This is due to a number of factors including its favourable propagation characteristics, the amount of radio spectrum that is potentially available (the harmonised European sub-band has set aside 72 MHz of spectrum, while theoretically up to 350 MHz is available in the band) and its wide range of potential uses which includes familiar services such as broadcasting or mobile and the development of other new services and technologies, e.g. cognitive radio.

The European Commission has recently consulted⁷ on the digital dividend and a recently completed Analysys Mason study⁸ suggests that digital dividend harmonisation could boost the EU Economy by up to €95 billion. ComReg has Chaired the Radio Spectrum Policy Group working group on digital dividend which has been the focus of European efforts to coordinate spectrum availability in this area.

While Ireland is currently advancing its digital dividend plans⁹, Digital Terrestrial Broadcasting has yet to be deployed and the plans for analogue switch-off have yet to be announced.

In the context of the Innovation Taskforce's remit, ComReg's believes that digital dividend has the potential to create significant economic growth in Ireland. ComReg believes that Ireland should maximise the benefit of the Digital Dividend at the earliest opportunity and consider whether additional spectrum should be allocated beyond the European harmonised sub-band of 790-862 MHz.

⁷ Transforming the digital dividend opportunity into social benefits and economic growth in Europe
http://ec.europa.eu/information_society/policy/ecomms/radio_spectrum/topics/reorg/pubcons_digdiv_200907/index_en.htm

⁸ <http://www.analysismason.com/Consulting/Services/Strategy-consulting/Regulation-and-policy-development/Spectrum-management/Digital-dividend/Exploiting-the-digital-dividend--a-European-approach/>

⁹ ComReg's National Conference 2008 "How Ireland can best benefit from its Digital Dividend"

5 Test and Trial Ireland¹⁰

In 2005, ComReg launched the Test & Trial Licensing Programme – Test and Trial Ireland - specifically designed to support the radio spectrum needs of the Research and Development community in Ireland by allowing innovators access to radio spectrum for test or trial purposes.

Compared to many other countries Ireland has a natural radio spectrum advantage, namely a relative abundance of clean radio spectrum. This advantage stems from a number of factors including our geographic location which results in fewer co-ordination issues; a low use of radio spectrum for defence purposes and Ireland's relatively low population density. This makes it possible for ComReg to consider all available radio frequency bands for test and trial purposes and means that wireless devices can be tested or trialled in almost any part of the radio spectrum.

Not only is this an advantage for Ireland, it can also be a valuable advantage for companies carrying out R&D activities in Ireland, as access to many of the most desired radio spectrum bands (e.g. the mobile or digital dividend bands) may not be possible in other countries.

Since its launch, over 110 Test and Trial licences have been issued to a wide range of companies and universities for various research purposes. Previous licensees include Ericsson, Intel, IBM, Vodafone, Telefonica O2, RTE, Altobridge, Centre for Telecommunication Value-Chain Research (CTVR), Trinity College Dublin and NUI Maynooth.

Previous Test and Trial licences have covered a wide range of research areas including next generation mobile technologies, advancements to broadcasting technologies, and the use of machine to machine communications. Given the expected increased in the use of wireless devices and services in the future, it is likely that there will be a continued demand for this facility.

In the context of the Innovation taskforce's remit, ComReg believes that Test and Trial Ireland can provide a valuable and practical advantage to companies carrying out R&D activities in the wireless communications sector and can support the concept of Ireland becoming an International Innovation Development Hub in the use of wireless technologies.

¹⁰ See www.testandtrial.ie

Appendix - ComReg reference material

Next Generation Broadband

ComReg Document 09/56, July 2009, *“Next Generation Broadband in Ireland – promoting the timely and efficient development of high speed broadband infrastructure and services”*

Available at: <http://www.comreg.ie/fileupload/publications/ComReg0956.pdf>

Test and Trial Ireland

Website: www.testandtrial.ie

Brochure: http://www.testandtrial.ie/downloads/Test_and_Trial_English.pdf

Video: <http://www.testandtrial.ie/video.php>