

2

EXECUTIVE SUMMARY

SPECTRUM MANAGEMENT STRATEGY STATEMENT 2005 - 2007

Commission for
Communications Regulation

2 Executive Summary

This document sets out ComReg's strategy for managing the use of the radio spectrum in Ireland over the next two to five years. The radio frequency spectrum is a vital and finite natural resource which provides the means to convey audio, video or other information content over distances from a few metres to thousands of kilometres. Radio spectrum is essential for the provision of mobile communications and to provide wireless reception of broadcast services. It is also fundamental to the safe operation of air and maritime transport, is used widely by the defence forces and emergency services and supports important scientific applications such as meteorology and radio astronomy. ComReg's spectrum strategy is intended to ensure that Ireland can leverage the maximum benefits economically, strategically and in a wider social context, from use of the radio spectrum.

As part of its strategy development, ComReg commissioned research to determine the contribution made by the use of radio spectrum to the Irish economy. This research estimated that the contribution for 2003 is almost €2 Billion, equivalent to 1.4% of total GDP. The number of employees whose jobs are dependent on use of the radio spectrum was, conservatively, estimated to be over 24,000.

ComReg's broad spectrum strategy focuses on four main **Objectives**, namely:

- (i) Facilitating access to radio spectrum, particularly for innovative technologies and services;
- (ii) Maximising the economic and social benefits arising from the use of radio spectrum;
- (iii) Promoting the efficient use of scarce radio spectrum resources; and
- (iv) Ensuring compliance with national and international requirements and the avoidance of harmful interference.

For each of these objectives a number of specific goals have been set and specific actions identified for the various categories of spectrum use. The following table highlights for each radiocommunication **service** the **key issues** identified and the **strategy** in each case for dealing with these issues in relation to one or more of the four **objectives** shown above.

Service	Key Issues	Strategy	Objectives	Section
All	Promotion and protection of use of the radio spectrum in Ireland	Continue to represent and promote Ireland's position both at home and abroad, with regard to all radio services in bilateral discussions with neighbouring countries and at the relevant international fora within the European Union (EU), International Telecommunications Union (ITU) and European Conference for Postal and Telecommunications Administrations (CEPT).	i, ii, iii, iv	5.1.4.
Public Mobile	Future expansion spectrum for 3G mobile services	Consider future of 2010 – 2025 MHz band for other services.	i, ii	5.3.1.1.
		Consultation with industry to develop a coherent strategy to facilitate the development of Third Generation (3G) services in the 2.6 GHz band subject to market demand whilst accommodating any ongoing requirement by Multipoint Microwave Distribution System (MMDS) operators and their customers.	i, ii, iv	
	Demand for innovative wireless services (e.g. wideband Public Access Mobile Radio)	Consider possible future uses for remaining Global System for Mobile Communication (GSM) and International Mobile Telecommunications 2000 (IMT-2000) spectrum. Consider other frequency bands which may be used for these services.	i, ii, iii	5.3.1.2.
		Designation of 900 / 1800 MHz GSM bands for 3G mobile.	Participate in European work on this initiative and consult with all interested parties on implications.	i, ii, iii
Broadcasting	Introduction of digital broadcasting in Ireland	Monitor the development of digital modulation techniques that have the potential to replace the analogue radio service with high quality broadcast services in the short wave, medium wave and long wave broadcast bands.	i, ii, iii	5.4.1.
		Continue planning and co-ordination for rollout of Digital Terrestrial Television (DTT).	i, ii, iii	5.4.2.

2

Executive Summary Continued

Service	Key Issues	Strategy	Objectives	Section
Broadcasting	Television and Sound Broadcasting	Review spectrum options for Digital Video Broadcasting (DVB) and/or Digital Audio Broadcasting (DAB) based delivery of content to mobile platforms and handheld/portable devices.	i, ii, iii	5.4.2.
		Ensure operator compliance and protect authorised services from illegal spectrum use.	iii, iv	
		Prepare for RRC-06: ComReg is working with the DCMNR, the Broadcasting Commission of Ireland (BCI) and Radio Telefís Éireann (RTÉ) in preparation for the forthcoming 2006 Regional Radiocommunication Conference to re-plan the broadcast bands III, IV and V, currently covered by the Stockholm Agreement. The frequency plan(s) to be agreed at the RRC will form the basis for Very High Frequency/Ultra High Frequency (VHF/UHF) broadcasting in Europe for possibly the next 20 to 30 years.	i, ii	5.4.1.
Fixed Terrestrial Services	Dealing with congestion / encouraging efficient use	ComReg will review the spectrum usage and requirements of licensees to ensure the continued efficient use of spectrum.	i, ii, iii,	
		ComReg will review its current licensing strategy to ascertain if there are circumstances where the licensing of a block of spectrum may lead to improved efficiencies and if so, how and in what spectrum, could we facilitate this type of licensing approach.	i, ii, iii	5.5.1.
		Encourage operators to use the latest technology in order to ensure efficient use of the spectrum.	iii, ii	
		Review fixed links frequency plans with a view to rationalisation where possible.	i, ii, iii	
		Study sharing implications between Satellite and Fixed services in the 4 GHz band which is currently unused in Ireland. This band could be used for the provision of further national networks.	i, ii, iii	

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Fixed Terrestrial Services		Study the use of 26 GHz band with a view to developing it for point to multipoint systems. (Also see Wireless Broadband Services below).	i, ii	5.5.1.
		Study the potential and demand for new fixed links bands, e.g. 58 GHz bands.	i, ii	
		Study introduction of administrative incentive pricing to encourage use of more bandwidth efficient technologies in congested bands / areas.	iii	
		Clear all remaining links from the old 1.5 GHz band to allow future introduction of Terrestrial Digital Audio Broadcasting (TDAB).	i, ii, iv	
Wireless Broadband Services	Bringing Irish broadband penetration into line with other EU countries.	Continue work of Fixed Wireless Access Local Area (FWALA) Operators Forum, the objectives of which include promoting FWA as a viable & reliable alternative platform for the provision of electronic communications services.	i, ii	5.5.1.
		Continue to identify appropriate spectrum allocations, both licensed and licence-exempt, for Wireless Broadband Services which are supported, or likely to be supported, by ready availability and choice of equipment.	i, ii, iii, iv	
		Encourage introduction of new cost-effective wireless technologies.	i, ii, iii	
		Seek opportunities for further licence-exempt FWA services.	i, ii	
		Carry out a comprehensive review of the 26 GHz band in early 2005 in order to rationalise the use of the band and improve its usefulness to a range of services.	i, ii, iii, iv	

2

Executive Summary Continued

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Licence Exempt Services	Development of new SRD products, applications and technologies	Facilitate new Short Range Device (SRD) applications by making spectrum available where appropriate for such applications, subject to demand and technical feasibility.	i, ii, iv	5.6.2.
	Other Licence exempt services	Continue to exempt services from requiring a licence where this is appropriate in the Irish context.	i, ii	
	Impact of short-range licence-exempt applications and technologies	Monitor and contribute to international developments in licence-exempt applications and technologies and ensure these can be accommodated in Ireland.	i, ii	
Aeronautical & Maritime	Maintaining safe and effective aeronautical and maritime communications	Continue to provide protection from interference for aeronautical and maritime safety of life services.	ii, iv	5.7.1. 5.8.1.
	Availability of spectrum for new applications	Promote the use of spectrum efficient technologies in the aeronautical and maritime bands, thereby maximising the spectrum available for growth and new applications.	i, iii	
		Ensure spectrum is available for use by new emerging systems, in line with international requirements.	i, ii, iv	
		Review fees associated with these licence types.	iii	
Radar and Radio-navigation	Efficient and effective use of spectrum for radar and radionavigation applications	ComReg will introduce a once-off licensing fee for these services.	iii, iv	5.7.1. 5.8.1. 5.13.1.

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Satellite Services		To review current satellite legislation with a view to adapting it to cover future licensable services such as High Density Fixed Satellite Services (HDFSS). The review will ensure that the spectrum efficiencies offered by HDFSS are reflected in a new fee structure that is proportionate to the existing fee structure.	i, ii, iii, iv	5.9.1.
		Maintain an awareness of international developments.	ii, iv	
		Where possible, ComReg intends to exempt most low interference risk terminals which are typified by operating in harmonised spectrum to harmonised standards.	i, ii	
Defence		Maintain an awareness of international civil/military issues.	ii, iv	5.10.1.
		Liaise with the Defence forces as required to resolve spectrum related concerns.	i, ii, iii	
Business Radio		Continue to support the requirements of the Private Mobile Radio (PMR) industry and users.	i, ii	5.11.1.1.
		Encourage the development and use of new technologies.	ii, iii	
		Review frequency bands with a view to ensuring there is adequate spectrum for the introduction of new and emerging digital technologies.	i, ii	
		Continue to monitor PMR installations to ensure compliance with licence conditions.	iv	
		Consult on proposals to introduce a new national business radio licence scheme for the provision of services to third parties.	i, ii, iii	

2

Executive Summary Continued

Service	Key Issues	Strategy	Objectives	Section	
Business Radio	Meteorological service protection	Introduction of GSM for Railways (GSM-R) service: Subject to demand, ComReg may consider appropriate licensing options for the GSM-R service.	i, ii	5.11.1.4.	
Public Safety Services		Ensure spectrum is available to meet the future needs of the emergency and law enforcement services.	i, ii	5.11.1.5.	
		Ensure spectrum is interference free.	ii, iv		
Radio Experimenters (Amateurs)		Make frequency bands available to support the needs of experimenters, in line with international developments.	i	5.12.1.	
Science Services		Liaise with Met Éireann and other scientific organisations to ensure that current and future spectrum requirements of the Science Services are fully understood and, wherever possible, incorporated into national plans for future spectrum planning conferences. Remain appraised of possible means of reducing unwanted emissions to protect Radio astronomy, Frequency and Time Services and other passive services.	i, ii, iv ii, iii, iv		
		Continue to offer a high degree of protection to the Meteorological services, in view of their use in the safeguarding of human life and property.	ii, iv	5.13.1.	
		Introduce a licensing scheme for meteorological radars.	i, ii		
		Continue to offer a high degree of protection to Earth-exploration services in view of the potential impact of interference on passive and active sensors which could severely disrupt scientific research programmes.	ii, iv		
Other Services		Wireless Public Address System	Introduction of a new service to meet the needs of religious and other community organisations.	i, ii, iii	5.14.1.