

**Address by Commissioner Mike Byrne,
Commission for Communications Regulation (ComReg), Ireland
at the first Japan-Ireland Forum on Ubiquitous Innovation,
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Director General Ogaswara

Ambassador Scannell

Ladies and Gentlemen

It is with great pleasure that I have the opportunity to address this distinguished audience at this first joint Japan-Ireland Forum on Ubiquitous Innovation. On behalf of the visiting Irish delegation I sincerely thank and applaud the Ministry of Internal Affairs and Communications and the Embassy of Ireland in Japan for hosting this Forum and we are honoured by the attendance of such a distinguished audience.

Ireland is not only famous for its writers: James Joyce, Oscar Wilde, Sean O'Casey, J.M. Synge, Samuel Beckett, W.B. Yeats, but also for its scientists and innovators. George Boole, sometimes called The Father of Computer Science, developed his system of Boolean Algebra; Earnest Walton, was a pioneer nuclear physicist and science Nobel Laureate; Ireland was also instrumental to the birth of Communications: In the late 1890s, Marconi used Ireland as one of the locations for his pioneering demonstrations on wireless telegraphy. He later established two permanent wireless telegraphy stations in Ireland and on October 17, 1907, a defining event in world

communications occurred with the launch of the first commercial Trans-Atlantic wireless service from Clifden, Connemara, Co. Galway, Ireland and his North American complex in Glace Bay, Nova Scotia, Canada. This service effectively launched the concept of long distance radiocommunications accessibility for all.

Today's forum follows on from the meetings of Prime Minister Aso and Taoiseach Cowen in January of this year where they agreed that Ireland and Japan should work together to realise the opportunities that developments in the area of ubiquity presents for both countries, including the goal of developing a framework for collaboration in wireless R&D. It also follows the earlier meetings of Minister Masuda and Minister Ryan, and it is very good to see how much progress has been made in many of the target areas for Ubiquitous Innovations.

As mentioned by Minister Ryan today, much progress has been made in joint collaborations on the deployment of electric vehicles, energy efficient technologies in call centres, in the delivery of cloud computing, fibre optic and laser technologies and in the provision of more efficient data communications networks to name but a few. This joint forum is another step towards further collaborations, as it examines how Japan and Ireland, at a public and private level, can work together to facilitate, encourage and enable more ubiquitous innovation.

Before, discussing the areas of further joint collaboration, I'd first like to applaud Japan and in particular the Japanese Ministry of Internal

Affairs and Communications for taking global leadership in creating the necessary technical, regulatory and business context to enable development of the next generation of fixed and wireless Internet.

Japan is internationally renowned as being at the forefront of ICT developments. Many Japanese companies are household names in Ireland and worldwide ... Fujitsu, NEC, Panasonic, Sony, the list could go on, and such recognition is a testament to Japan's ongoing support of innovation and international collaboration.

Japanese mobile carriers are the recognized world wide leaders in next generation technology enabling advanced data communications and Japan was the first country in the world to trial and then commercially deploy 3G services.

The spectrum allocation policies that ensure open-access interconnection for non infrastructure operators, such as Mobile Virtual Network Operators (MVNOs), are unprecedented in any market. This bodes well towards enabling a wide variety of participants from outside the traditional mobile industry, such as software content and consumer electronics, to take part in stimulating the next generation of computing technology such as Cloud Computing. Open-access advancements such as this will enable technological progression and help stimulate the economies of the participating countries such as Japan and Ireland.

As our presentations today will show, networked technology is driving today's modern world and communications is an integral part of this world. Across the world, or across the room, communications is a key part of our everyday lives... and indeed upon which our lives can depend.

The Importance of Radio Spectrum:

1. Contribution to GDP

The rapid development of wireless technology and the increasing demand for bandwidth, especially for mobile and broadband uses, have raised the importance of access to radio spectrum for all economies and all societies. In the European Union, it is estimated that the total value of radio spectrum-dependent services is around €250 billion or about 2.2% of GDP¹. In Ireland, based on data evaluated by ComReg in preparing its Strategy for Managing the Radio Spectrum 2008 – 2010², the total contribution of industries dependent for their operation on spectrum in 2006 was conservatively estimated to be almost €2.8 billion, up from €1.6 billion in 2002. *Particularly in these current times of financial crisis and its broader economic repercussion, an efficient use of radio spectrum and the maximisation of its potential benefits through supporting innovation is*

¹ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Reaping the full benefits of the digital dividend in Europe: A common approach to the use of the spectrum released by the digital switchover - COM (2007) 700 final - 13 November 2007.

² Available at <http://www.comreg.ie/fileupload/publications/ComReg0850.pdf>

therefore a prime responsibility of policy-makers and regulators, whether at national or regional level or indeed globally.

On the positive side, the digital convergence of communication networks, media content and devices is happening – with Japan the recognised world-leader in this field.

Both Japan and Ireland recognise that efficient spectrum management **and** support for innovation are two of the key drivers that underpin the success of convergence. It is this strong desire to support the introduction of new and innovatory applications, services, technologies and platforms that best benefit consumers and this is the corner-stone of my opening remarks today.

2. Socio-economic benefits

The socio-economic benefits of radio spectrum, while difficult to quantify, are as many and varied as the uses and services which spectrum supports. The benefits accruing to society from the wide range of public services that use spectrum are immense. Ranging from security and safety services, to communications and broadcasting, health and welfare, scientific and research applications, the list is endless and the non-economic benefits to society incalculable.

Spectrum is important in our everyday lives. Life-saving services such as fire, ambulance and coastguard save countless numbers of lives each year and they all depend on fast, reliable wireless

communications. Travelers by sea and air rely on services that use spectrum, such as radar and collision avoidance systems to reach their destinations safely. Numerous applications for spectrum in the home and at work make our citizens daily lives more enjoyable and productive. Access to the media via broadcasting and the internet keep us informed and entertained.

Clearly, many tangible and intangible benefits accrue to society from the use of radio spectrum.

3. Innovation in Special Ubiquitous Z in Japan

ComReg applauds the foresight of Japan (through the Ministry of Internal Affairs and Communications) in establishing (in 2008) "special ubiquitous zones" throughout the country. These are 'deregulation zones' for innovative radio spectrum use with the objective of developing and demonstrating experiments of the 'world's most advanced services' involving the convergence of fixed communications, mobile communications, content and applications.

The ability to test, develop and demonstrate new innovations in a real live environment gives Japanese researchers a practical edge over competitors as it allows you to develop devices that will meet the rigours and expectations of the commercial market place.

Similar to Japan, Ireland has developed a wireless licensing programme, *Test and Trial Ireland*, which has been specifically designed for the needs of the wireless research and development

community. This programme allows researchers to test and trial wireless communications devices across all available frequency bands and in any part of the country. Like Japan Ireland's policy makers also believe there are many practical benefits to testing wireless devices in a real life environment.

4. Irelands Spectrum Advantage

The rapid evolution of wireless technology in Ireland provides an excellent opportunity to encourage Japanese companies and organisations to choose Ireland as a test-bed for new product or service concepts. Ireland's geographic position on the western edge of Europe and low population density provides a key natural advantage, namely, that there is a relative abundance of unused spectrum. This includes unused spectrum in a number of frequency bands ideally suited to new wireless technologies in the mobile and broadband wireless access space.

Test and trial licences enable developers to gain timely access to appropriate radio spectrum for a limited period, whilst avoiding any adverse effects on existing users. A relative lack of congestion in most frequency bands means that spectrum can be made available to test products aimed at the local Irish market, the regional markets of Europe or Asia or the wider global market. Such tests may range from purely technical tests, for example, to determine coverage characteristics in different frequency bands, or to trials for the evaluation of user attitudes to new services.

In 2005, and in response to market demands and to encourage and maximize the use of radio spectrum for the benefit of industry and research institutions in Ireland, ComReg launched the wireless Test and Trial licensing programme to take advantage of any unused or unassigned radio spectrum. Since then, this programme has been updated annually to best enable innovators to carry out tests and trials of wireless technologies in a live environment and today you will see it presented as *Test and Trial Ireland*.

Test and Trial Ireland has to date enabled a wide variety of organisations to test and develop new services and products, and my colleague Mr. Kevin Kennedy will provide more details on this programme later in the day.

5. Examples of Trials from today's speakers

However I would like to highlight two examples: On our panel today are the leaders of two organisation that have successfully used Test and Trial Ireland to support their ambitions for success in the development of new communications tools for businesses and consumers, and in field of research.

a. Altobridge:

As Mr. Mike Fitzgerald of Altobridge will outline today, in 2002-2003, the founders of Altobridge carried out an extensive feasibility study into the barriers-to-entry that had prohibited the provision of cost-effective wireless communications service towards the estimated one

million remote communities still cut off from the global telecommunications network.

Working within the Test & Trial environment available from ComReg, this research translated into early success for Altobridge within two important markets; Aeronautical communications and Maritime communications. The Test & Trial environment assisted Altobridge in formulating a methodology to ensure that these systems would avoid interference with land based systems, a key prerequisite to the commercial success of these two markets.

In 2005 the company successfully licensed its technology to *Aeromobile*, one of the leading in-flight personal mobile communications service providers. Today the system is being rolled out on an increasing number of international airlines. Further success followed within the maritime sector which led to a lateral decision to demerge this communication application and create a new private company; Blue Ocean Wireless. Today Blue Ocean Wireless' principle shareholders include leading Mobile Network Providers; *NTT DoCoMo* (Japan) & *Smart* (Philippines), as well as Altobridge.

In another example, this time in for the research community

b. CTVR

... Professor Linda Doyle will present on the success of the *Centre for Telecommunications Value-chain Research* (CTVR). The CTVR have used spectrum provided by Test and Trial Ireland to test

reconfigurable software-based radio and dynamic spectrum management techniques.

This has contributed to the CTVR becoming a national multidisciplinary telecommunications research centre that focuses on industry informed research. It is headquartered in the world-famous Trinity College, University of Dublin and brings together over 100 researchers from leading Irish universities. Since its beginnings in 2004, CTVR has carved out an international leadership position in wireless and optical communications research. Bell Labs Ireland were the founding industry partners for CTVR and CTVR now has 12 industrial partners including NEC Communications Systems.

Technology transfer and commercialisation activities are very much an important part of the CTVR agenda and the ability to realistically test its research ideas in clean, dedicated spectrum enabled CTVR to significantly advance its reconfigurable radio systems and opens the potential for them to convert its high-quality academic output into exploitable intellectual property.

Ireland's supportive Government and regulatory environment has played a key enabling role for the CTVR, both from a research and a commercialisation perspective, and it is this kind of support that has contributed to CTVR/NEC in taking the leadership position it has in cognitive radio, and Altobridge/DoCoMo for securing new global markets for its products and services.

A summary of the Altobridge and CTVR experience shows that Ireland has developed a unique R&D culture which is strongly backed by the Irish Government and its agencies, academic institutions and industry. Ireland's abundance of uncongested spectrum allows ComReg to quickly accommodate requests for any frequency bands not currently being used. You will see many more examples from my colleagues today to support this. Clearly, it is very important for both Japan and Ireland that we build upon our successes and in doing so take cutting-edge research ideas and turn them into real commercial communication products and services systems nationally, regionally or globally.

Summary and Conclusions

Finally in summary, your attendance and participation today at this first Japan-Ireland joint forum on Ubiquitous Innovation provides the opportunity to expand the domain of cooperation and further stimulate joint research between our two nations, particularly in the wireless field where I would hope to see our efforts crystallise into a framework of collaboration between our two nations' industries, institutes and Governments.

It has been my great honour to have had this opportunity of addressing you here today. I thank you very much for your kind attention and I will be happy to respond to some questions during the panel session.

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