

Irish spectrum lures Japan

Ireland is offering Japanese companies cheap access to its radio spectrum in the hope of generating investment and jobs, writes Karlin Lillington

IN THE mobile and wireless technology stakes, few countries are as cutting edge as Japan. But Ireland has one wireless resource that is scarce in the east Asian country: lots of radio spectrum for trying out devices and services.

Enticing Japan and other spectrum-scarce countries over to dabble with our radio aplenty is a goal of communications regulator ComReg, which has been quietly working to develop a global market around unused Irish spectrum but has begun to specifically target countries such as Japan.

Spectrum is attractive for comprehensively testing and trialling wireless products that would only have small lab-based networks available for such experimentation elsewhere. In many countries, most available spectrum is already divided up between research, industry and military and policing services.

As Ireland moves towards digital broadcasting for television and radio, additional spectrum is being freed up too – the so-called “digital dividend” – because digital utilisation of spectrum is far more efficient.

However, Ireland isn't the only EU country trying to flog its spare spectrum.

“Every country in Europe is trying to maximise their spectrum market, but the others don't have our advantages,” says ComReg commissioner Mike Byrne.

Those include nicely isolated, interference-free chunks of spectrum thanks to being an island nation, and plenty of spectrum, especially in the eagerly sought after mobile device ranges.

ComReg has put in a dedicated website – www.testandtrial.ie – and stresses Ireland has amongst the lowest international prices for test or trial licenses – €200 for the former and €500 for the latter.

But surely this is hardly a money-making industry, then?

Byrne says it's not the license income per se – deliberately kept very low – but the fact that offering spectrum may bring in new companies, innovative research and development projects and, ultimately, jobs.

Hence, using spectrum as an innovation and jobs lure was one of the aspirations highlighted by Communications Minister Eamon Ryan this week, when he claimed there was the potential to create a major content and services industry here.

Many of the projects he mentioned, such as the SmartBay sensor project in Galway Bay, involve ComReg because they make use of radio spectrum.

But a wider effort to bring in international spectrum projects is already under way. In hopes of attracting Japanese companies here, ComReg headed to Tokyo at the start of summer to make formal presentations to 120 Japanese companies at a one-day “Japan-Ireland Forum on Ubiquitous Innovation”, sponsored by the two governments.

Such was the interest from Japanese industry that the event was oversubscribed, says Byrne, who travelled over for the event. Alongside him were Dr Linda Doyle of the Irish universities' spectrum-focused Centre for Telecommunications Value-chain Research and Mike Fitzgerald, chief executive of Kerry mobile services company Altobridge, to give a research and industry perspective on spectrum use.

Now is the time to be talking to such East Asian nations, Byrne says, because the Japanese market is saturated with devices and services, and handset makers, mobile operators and service providers are looking to Europe and other regions for fresh income.



A man watches television on his mobile phone while commuting on a train in Tokyo earlier this month. Photograph: Yuriko Nakao/Reuters

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“[Japanese telecommunications operator] DoCoMo had profits last year of €5 billion. The scale [for telecommunications services and devices in Japan] is massive. But they need to expand out of their markets,” Byrne says.

“A lot of those companies have to look abroad.”

Europe, another sophisticated mobile zone, is an especially attractive market for the Japanese, as well as for the South Koreans and other Asian mobile-focused countries, he says.

The issue is persuading those industries to come to Ireland, where we have what amounts to “a spectrum playground”, says ComReg spectrum development manager Kevin Kennedy.

If Japanese companies and universities decide to set up projects here, many benefits could be realised. The Japanese government already has developed what it calls “special ubiquitous zones” in regions of Japan where infrastructure is put in to support research and innovation.

The possibility of developing sister sites in Ireland for joint innovation was discussed in Japan, says Byrne. No spectrum license sales have come as a direct result of the Japanese event yet, says Byrne, but Kennedy is confident several projects will be in the offing by the end of the year.

Many of the contacts are “a long game”, with Japanese business players traditionally moving cautiously into new ventures, says Byrne, but these should develop over time.

Along with the potential for cutting-edge research in spectrum use, other possible research and development projects could be in life and medical sciences, mobile communications, broadcasting or development of commercial products, he says.

“Any area of innovation that requires a wireless network, we're here,” concludes Byrne.

Big waves: what they do

Radio spectrum is the range of radio wave transmission frequencies that can be used for communications by various devices over set channels, with a channel defining a given slice of radio spectrum.

Frequencies are generally measured in megahertz, units describing how many millions of times the radio wave oscillates per second. Lower frequencies use kilohertz, while higher frequencies use gigahertz.

Commonly thought of in terms of radio or television reception, radio spectrum is utilised for anything from mobile phone networks, garage door openers, air traffic control and medical devices, to flying model aircraft, house alarms, global position system satellites and more.

With ever more wireless devices and services demanding access, spectrum has become an important national resource for countries. Ireland is in a fairly comfortable and unusual position regarding spectrum because, lacking a large military or security service reserving large swathes of it, we have so much of it that is available.

As an island with no bordering jurisdictions except Northern Ireland and with a low population density, we have few problems with frequency overlap and interference. Contrast that with Germany, whose borders touch on 10 other nations. That makes Ireland's spectrum attractive for test and trial networks.

As the administrator for Ireland's spectrum, ComReg has developed a programme around marketing test and trial spectrum licences to other countries and corporations.