



Test and Trial Ireland Drives Wireless Innovation

ComReg is actively exploiting Ireland's natural radio spectrum advantages in order to foster wireless innovation on Ireland's shores



Joe Lynch, Spectrum Development, ComReg – Ireland

Joe is passionate about radio science and propagation phenomena in wireless communications systems. He holds a Master of Science degree in Experimental Physics from Maynooth University and an Executive MBA degree from University College Dublin. Joe has thirteen years communications experience in various positions in regulation including as a delegate for Ireland at the ITU Regional Radio Conference held in Geneva in two sessions between 2004 and 2006. Since 2013 he has managed ComReg's Test and Trial Ireland service, and as a former Irish triathlon champion he delivers energy and drive into promoting the benefits of this service to potential clients.

Q: Can we talk about Test and Trial Ireland, why it was set up and the points that make Ireland unique?

A: Technology companies have been choosing to locate in Ireland and to carry out their research and development

activities here for a large number of factors – the educated English speaking workforce, the favourable tax-regime and because it is an entry point into the EU. But in the area of wireless technologies, Ireland has a number of unique advantages.

Ireland's geographic location on the western edge of Europe, its low population density, low State use of spectrum (such as by the Irish Defence forces) and single international border means that Ireland has a relative abundance of unused radio spectrum.

Test and Trial Ireland offers companies and innovators easy access to Ireland's radio spectrum without any of the usual red-tape processes. It is an innovative step taken by ComReg to make getting access to this medium really simple and hassle-free so that Ireland can benefit from non-commercial tests and trials.

The barriers are low as ComReg typically turns around applications in less than ten days, can make almost any radio frequency band available and charges a minimal administration fee of €200 for a 12 month test licence. ComReg's Test and Trial Ireland is essentially a connection into Ireland's wireless R&D ecosystem at various points and across many levels. To date we have had over 170 clients and supported indigenous small and medium enterprises, large multi-national corporations and university researchers and students, to gain access to licensed radio spectrum to conduct non-commercial tests and or trials.

Q: Could you explain the work that you have been completing with clients as diverse as Ericsson, Intel Labs Europe and Panasonic Aviation, and why they chose Ireland?

A: The clients we have helped are the ones who had an idea for a wireless product and/or service and wished to validate their idea quickly for scale up (to European and/or global markets). Other clients sought to convert research

► into exploitable IP and save costs doing so.

Ireland is regularly selected as the location of world's first wireless tests. Ericsson conducted a world first TD-LTE product test at its R&D headquarters in Dublin during 2010. Significant contributing factors to it selecting Ireland for these tests were that the 2.3 GHz band was almost entirely available for the duration of the tests. Further, ComReg operated a sophisticated spectrum monitoring programme to confirm the ongoing availability of 'clean' test frequencies.

Last year, the Intel Labs Europe (and its partner Trinity College, Dublin) established a world's longest Internet of Things backbone using TV whitespace spectrum connecting a mesh of sensors around Dublin city to its headquarters on the outskirts of Dublin approximately 20km away. In 2014, the National Geographic named Dublin as a capital of Internet of Things.

Panasonic Aviation is a returning client of Test and Trial Ireland. It conducts compliance testing of in-flight connectivity which requires initial testing of all equipment on the ground. Shannon Airport is a major transatlantic hub in the west of Ireland and provides the ideal location for a variety of such tests. Shannon's geographic location, on the west of Ireland adjacent to the Atlantic Ocean, means it receives low levels of harmful radio interference as compared to other locations.

Q: In September 2015 ComReg won a prestigious award for Business in Excellence for Research and Development in the Irish Public Sector, that award must have been an honour?

A: Ireland has a unique industry partnership model attracting international investment and creating indigenous growth in various technology sectors. And in the area of wireless technology, ComReg was awarded the Business in Excellence for Research and Development for its Test and Trial Ireland service. That award honours the valuable contribution and difference that Test and Trial Ireland makes to wireless innovation in Ireland.

ComReg is a supportive regulator whose reputation and expertise in the wireless sector is second to none. In the recent past ComReg has chaired the high level advisory group to the European Commission, the Radio Spectrum Policy Group, as well as the Body of European Regulators for Electronic Communications.

The award, which was received in September 2015, also recognises ComReg's activities in wireless education outreach programmes. For example, for the seventh year in a row ComReg sponsored an award in the category of radio communications technology innovation at the national Young Scientist & Technology Exhibition in Ireland. ComReg also designs and sponsors a teaching aid concerning radio physics and propagation. This aid is used by teachers to mentor and encourage young Irish talent in 2nd level schools to think critically about problem solving in wireless communications.

Q: How do you view your role in the future of spectrum testing and development and what would be your future utopia for Ireland?

A: As you can see there is a great diversity of industry sectors and organizations which have used Test and Trial Ireland. Our pitch to companies operating across the wireless technology sphere is "Come to Ireland and test it out first".

Our belief is that Test and Trial Ireland can grow Ireland's wireless R&D environment. We have a long standing tradition of excellence in radio communications in Ireland from the first successful commercial transatlantic wireless telegraph sent from Clifden to Nova Scotia in 1907. Test and Trial Ireland builds on that tradition and it puts Ireland in a unique position.

ComReg places a substantial effort to support Ireland's wireless R&D agenda and to help nurture the next generation of talent, all of which should yield dividends for Ireland and wireless innovation in the future.

For more information please visit: www.testandtrial.ie



ComReg Commissioner Gerry Fahy and Joe Lynch - receiving the prestigious public sector award for business and excellence research & development