



Commission for  
**Communications Regulation**

# **Opportunities for Wireless Broadband in Ireland**

**Alex Chisholm**

**Commissioner for Innovation**



## Agenda

- 1. Introduction to ComReg**
- 2. Contribution of Radio Spectrum to the Irish Economy**
- 3. A Snapshot of FWALA**
- 4. Making spectrum available:**
  - **Spectrum Releases for Wireless Broadband**
- 5. The Digital Dividend**
  - **Status and Plans in Ireland**
- 6. Facilitating Innovation**
  - **ComReg's Test and Trial Licence Scheme**



## Overview of ComReg

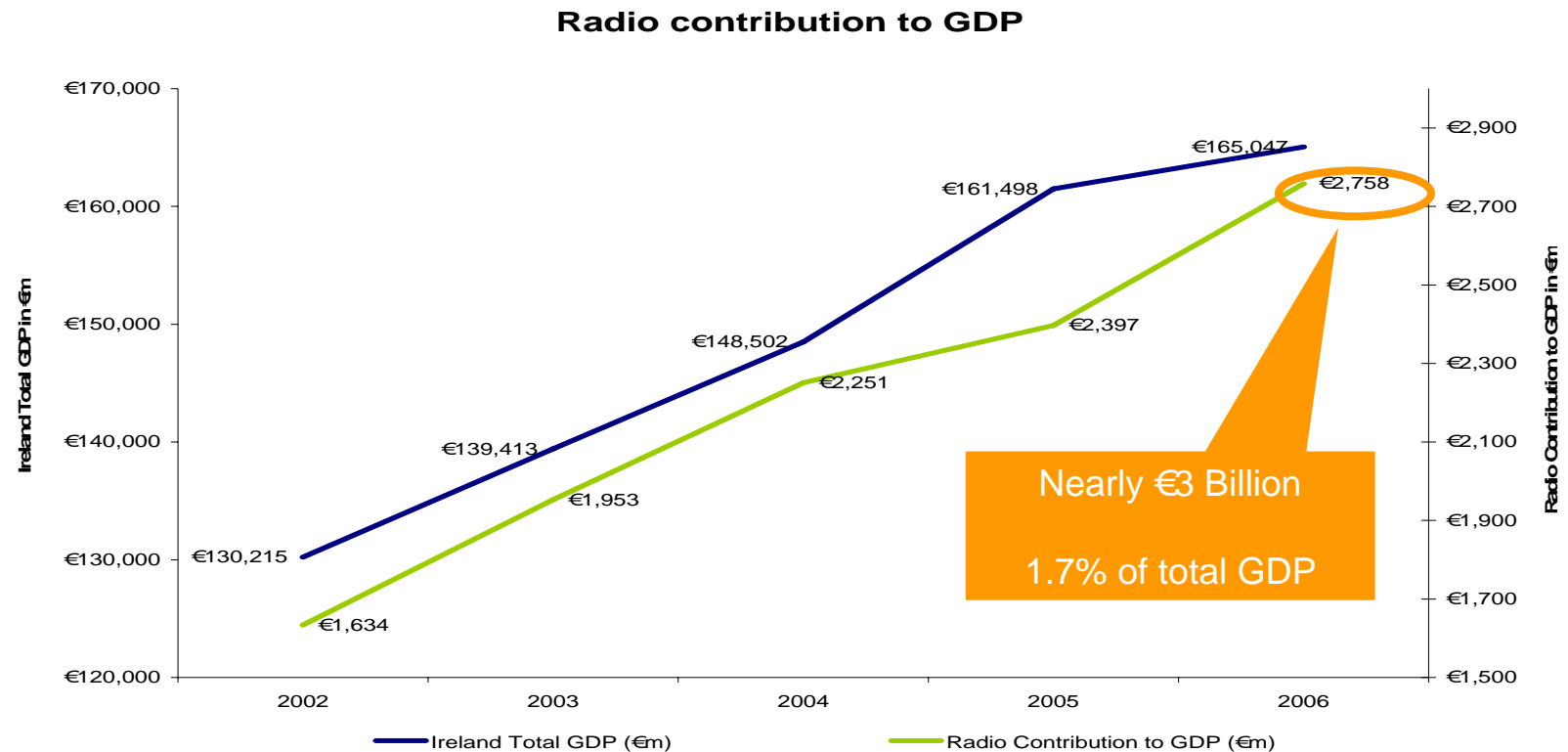
- **Commission** established in **Dec 2002** – replacing ODTR (1997)
- Responsibilities in **Electronic Communications** and **Postal** sectors:
  - Promote **Competition**
  - Contribute to development of the **Internal EU market**
  - Promote **efficient use of Spectrum**
  - Promote **Innovation** and **Investment** in the sector
  - Promote the **development** of the Postal Sector
  - Promote the **interests of End Users** and protect and inform **consumers of electronic communications services**
- **ComReg staff** – analysts, accountants, engineers, economists, lawyers (mainly private sector experience) – 120 persons (maximum)



# The Contribution of Radio Spectrum to the Irish Economy



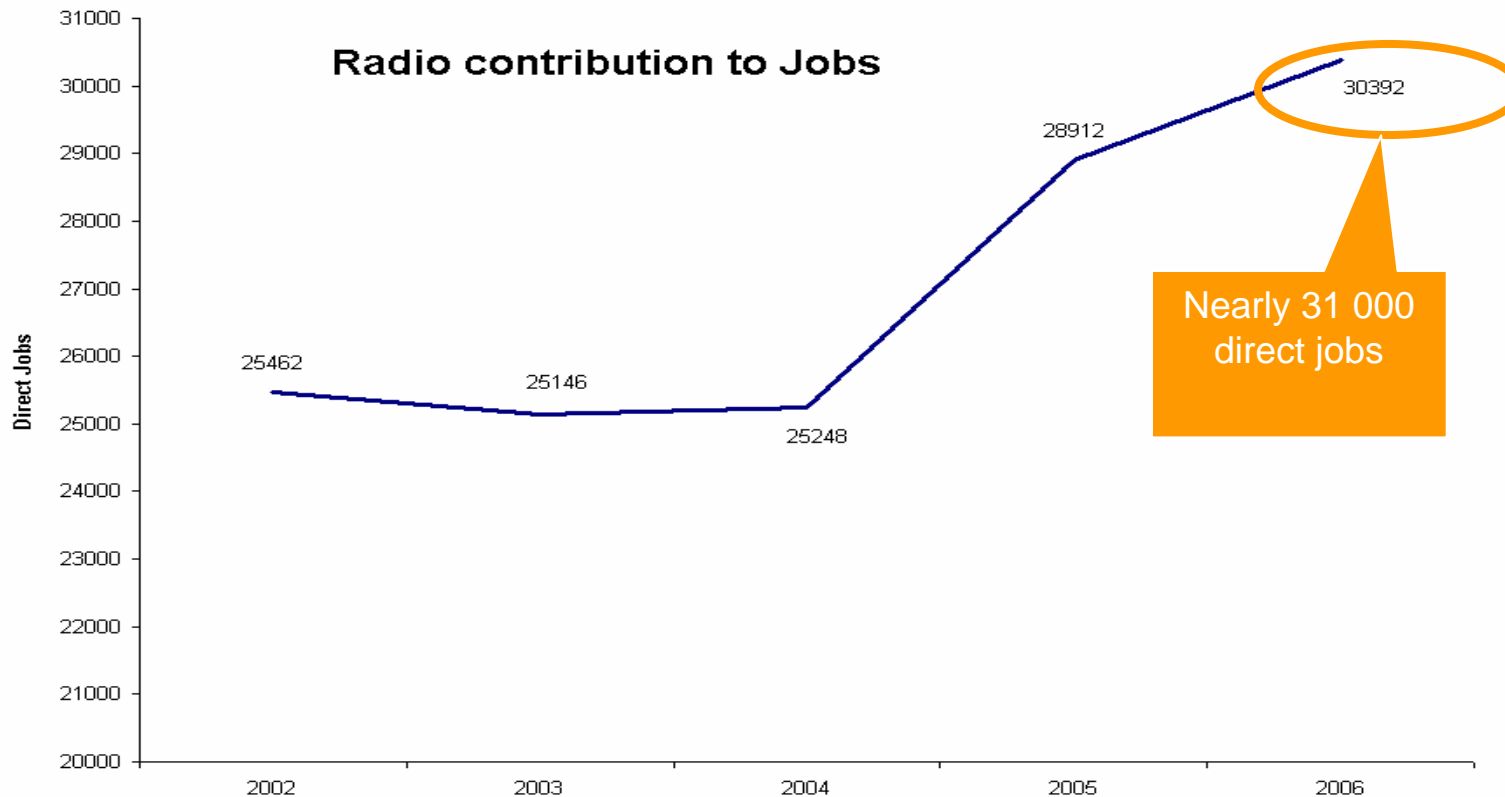
## The Importance of Radio Spectrum (1)



**In 2006 Use of the Radio Spectrum contributed €3bn = 1.7% of Ireland's GDP**



## The Importance of Radio Spectrum (2)

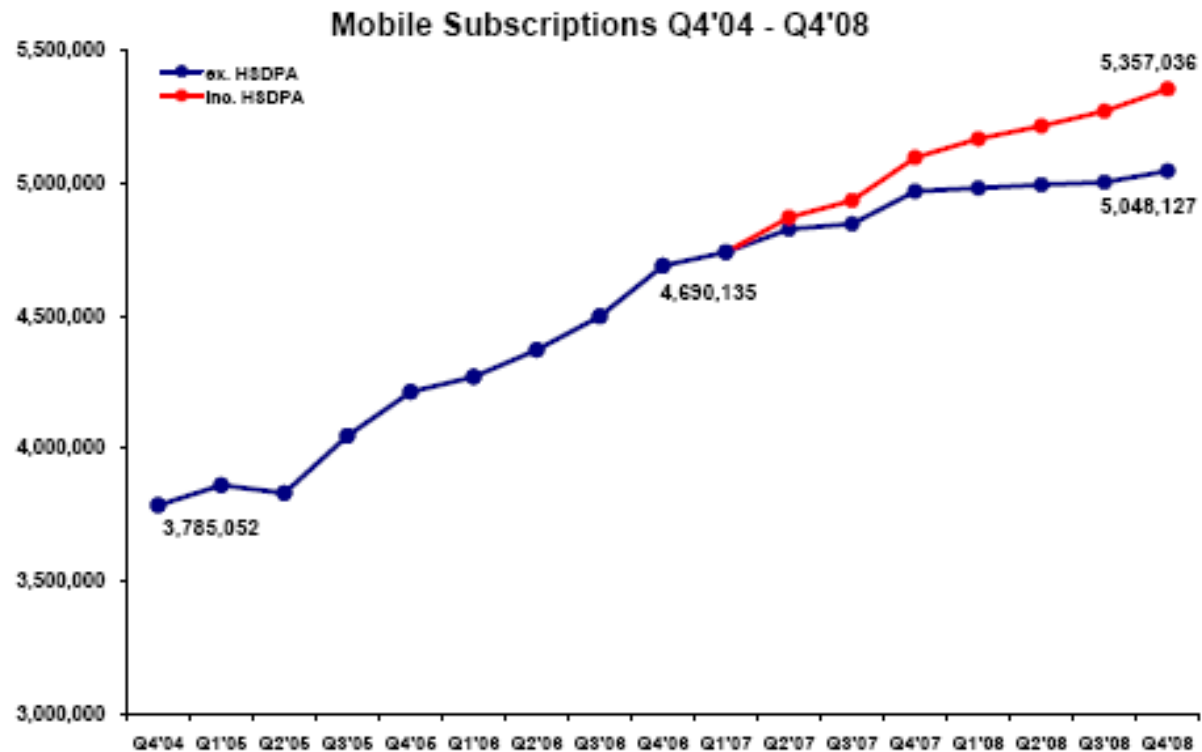


**In 2006 nearly 31,000 direct jobs were supported via use of Radio Spectrum**



## The Importance of Radio Spectrum (3)

Figure 4.1.1 – Mobile Subscriptions

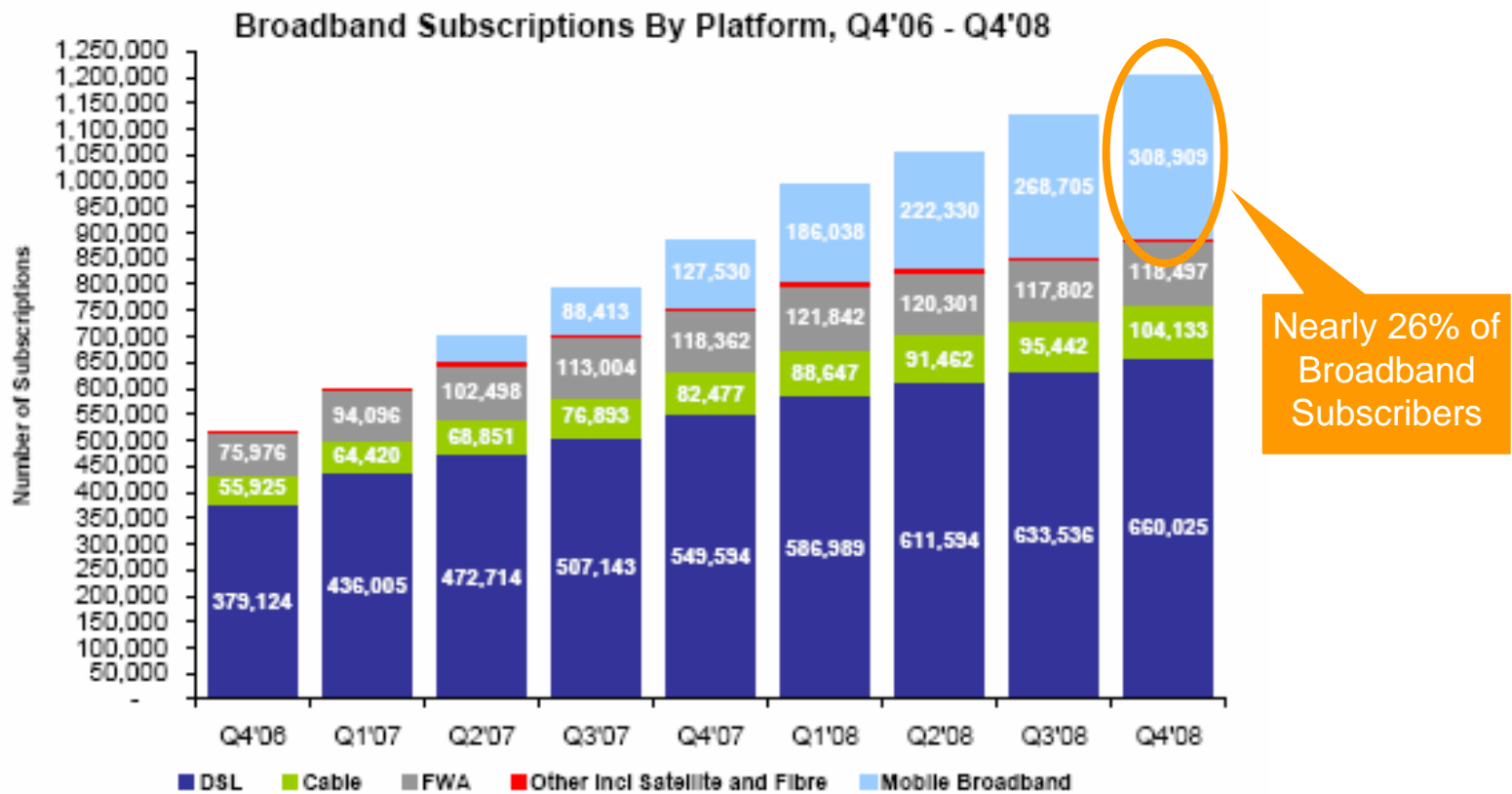


Source: Quarterly Key Data Questionnaire

**Nearly 5.4 Million Mobile Subscribers = 121.1% Penetration**



## The Importance of Radio Spectrum (4)



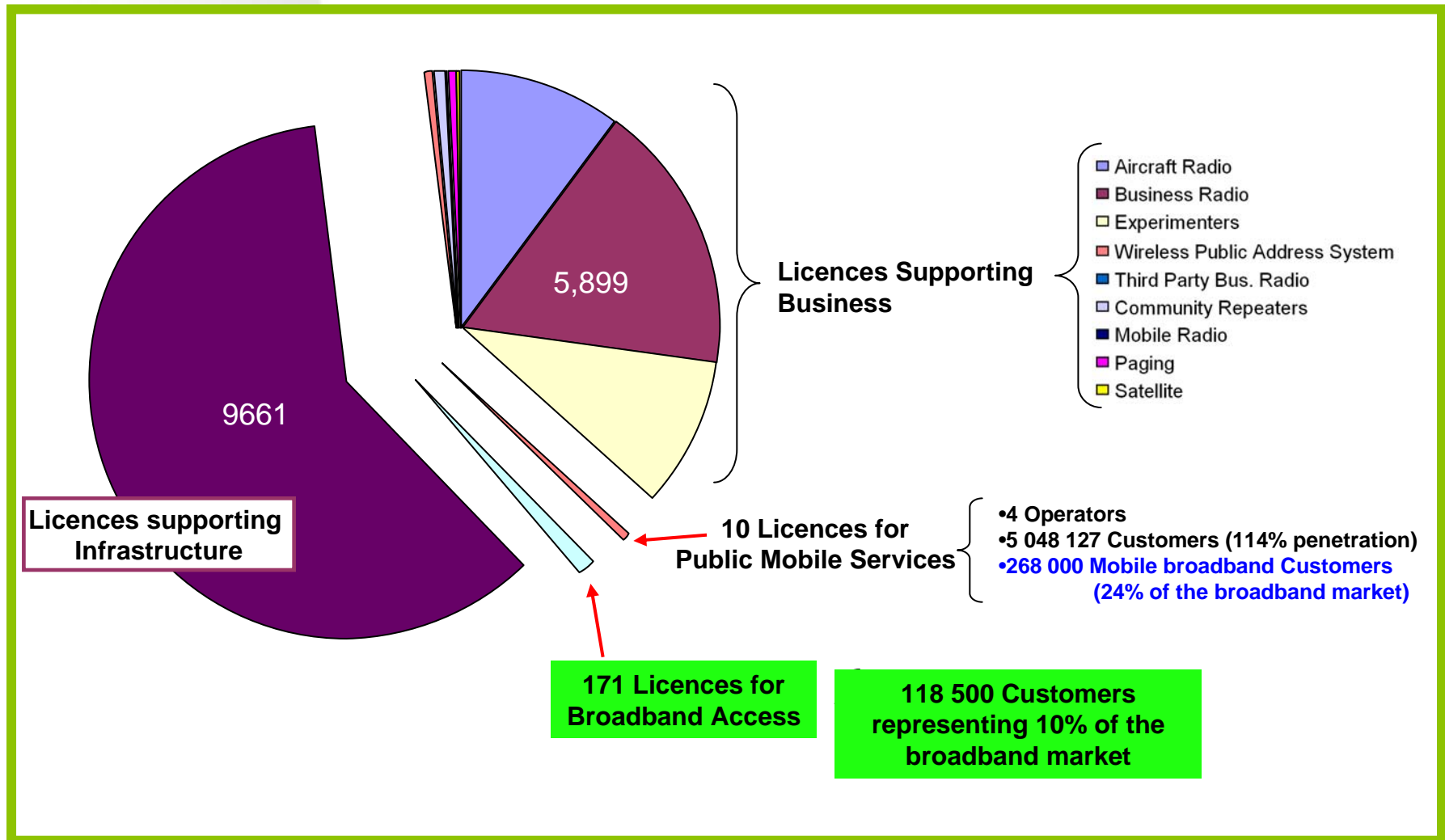
Source: Quarterly Key Data Questionnaire

**427,400 Broadband subscriptions provided via wireless**





# Active Wireless Licences

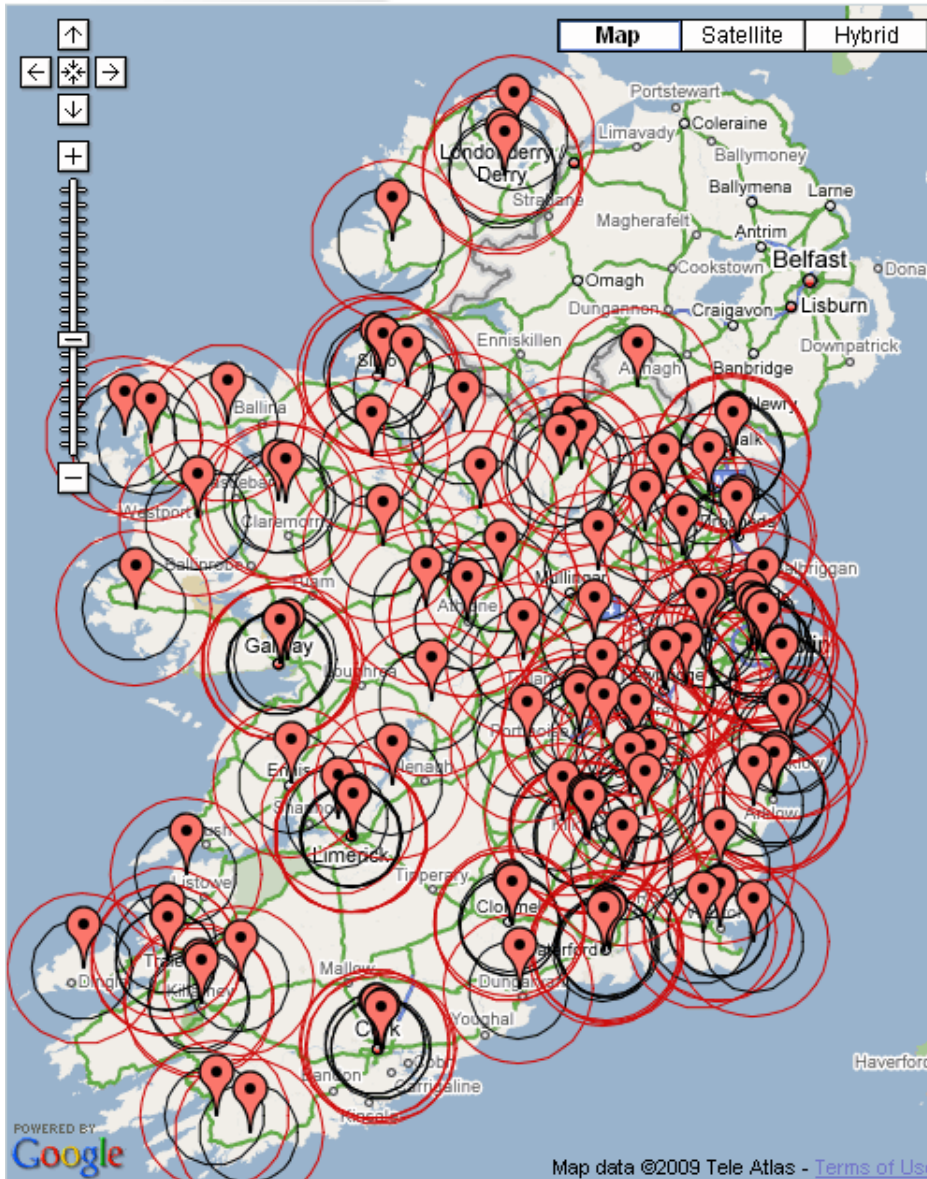




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**A Snapshot  
of  
Fixed Wireless Access Local Area (FWALA)**



## FWALA licences in 3.5 GHz Bands

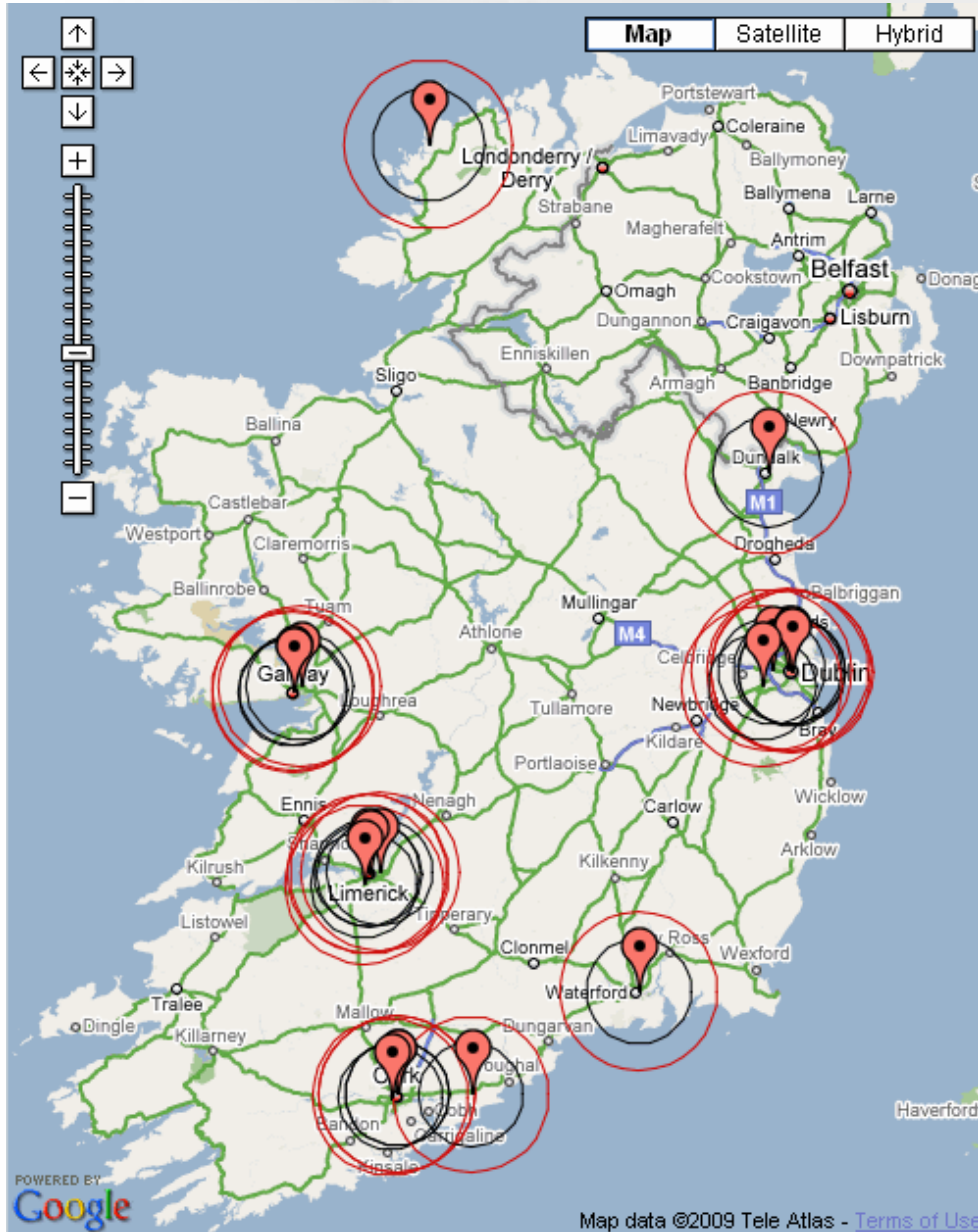
**114 Licences**

**13 operators**

**Customers = corporate, SME, residential**







## FWALA in licences in 26 GHz Band

19 Licences

4 operators

Customers = backhaul,  
corporate, SME



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## **Making Spectrum Available**

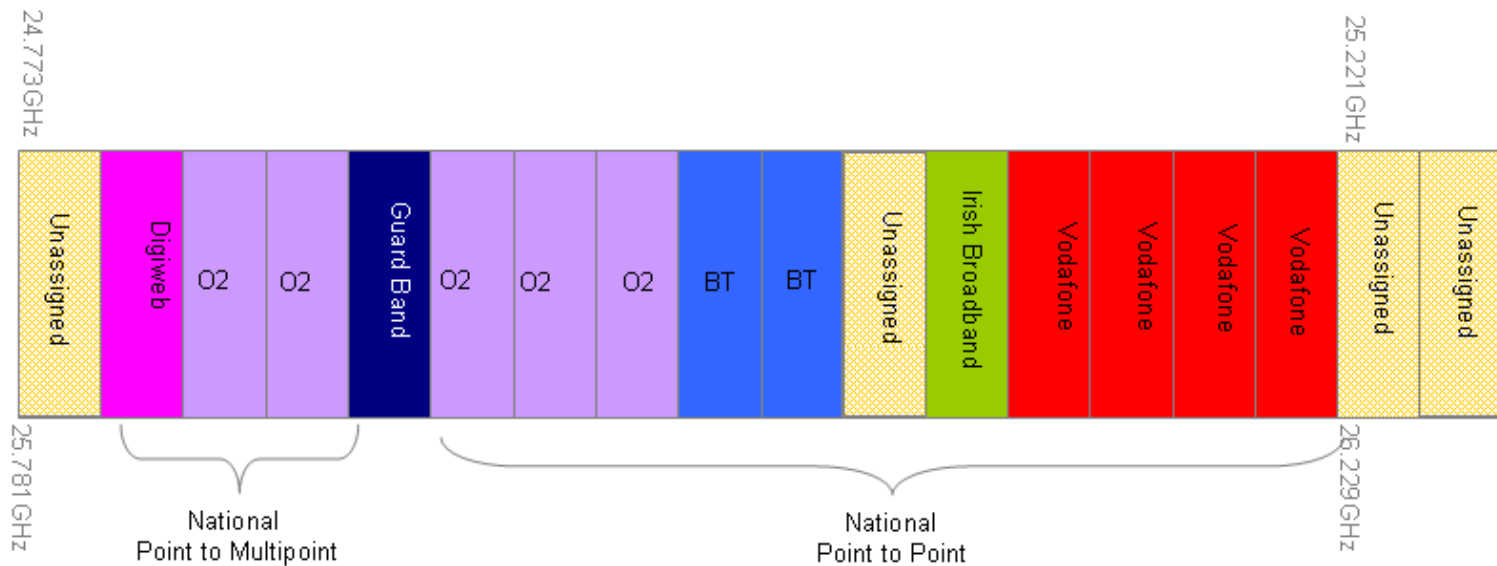
**Recent and Future  
Spectrum Releases  
for  
Wireless Broadband**



# Spectrum Band Releases - 1

June 2008

1000 MHz of Spectrum released in 26 GHz band to meet needs of growing data and telecommunications networks

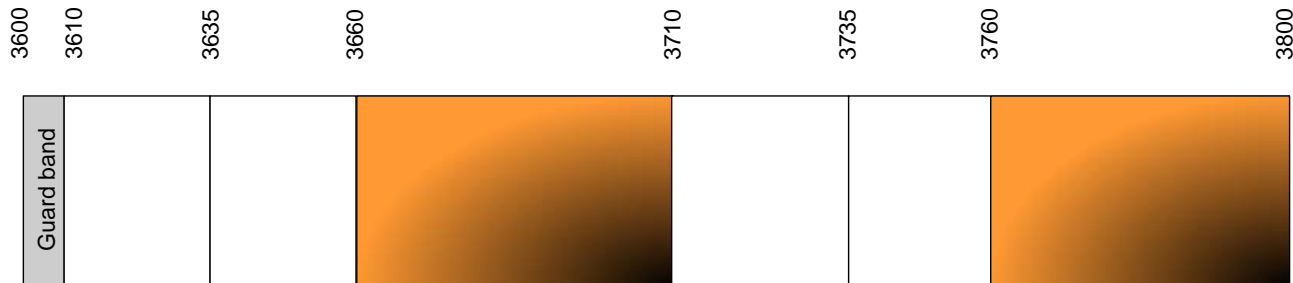
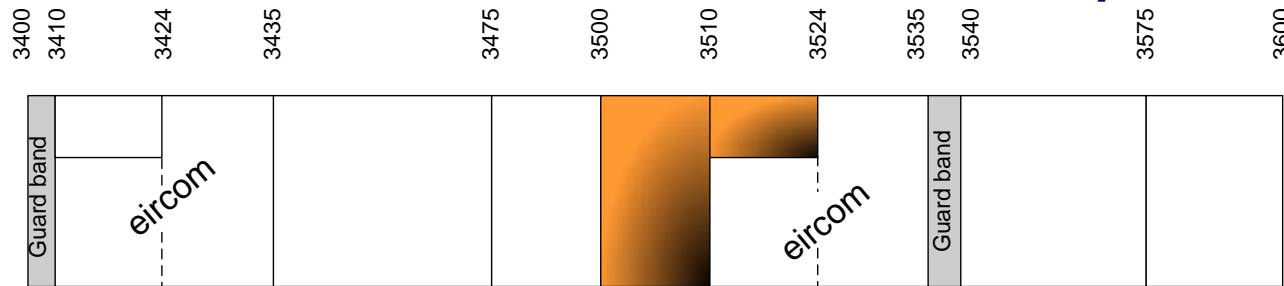




## Spectrum Band Releases - 2

January 2009

> 100 MHz of Additional Spectrum released in 3.5 GHz band to meet demands of broadband access providers



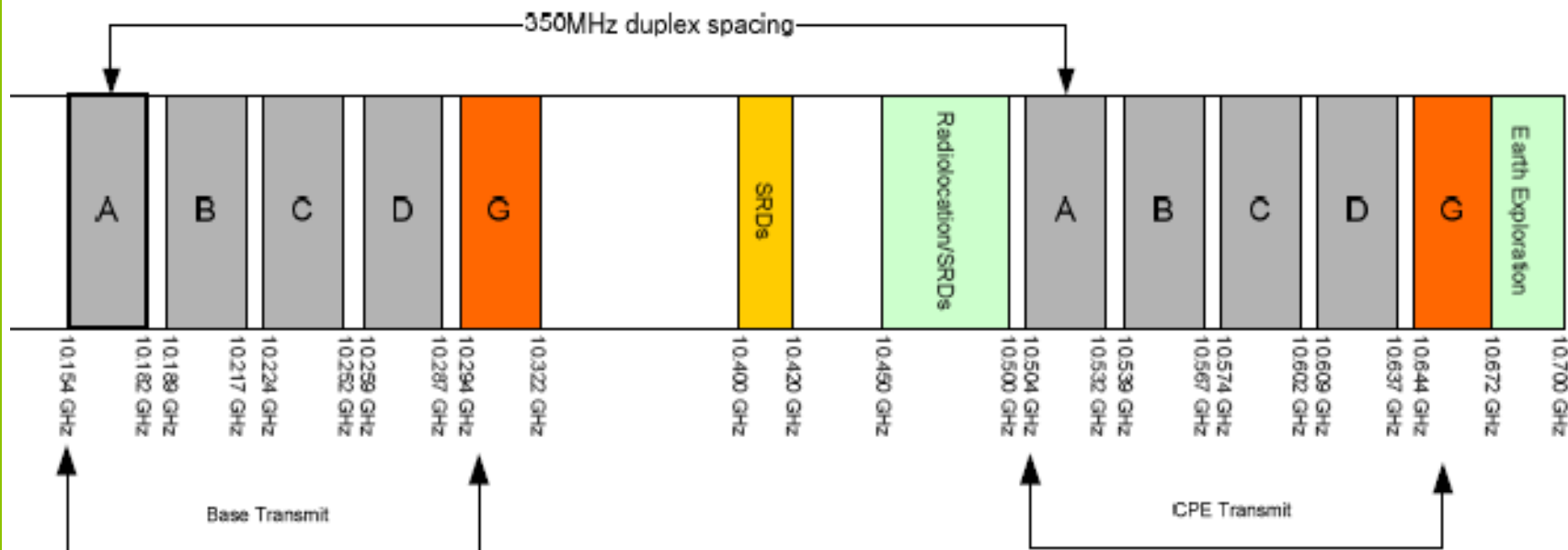




## Spectrum Band Releases - 3

May 2009

14 to 28 MHz of Additional Spectrum (Channel G) released in  
10 GHz band to meet demands of business broadband  
access providers

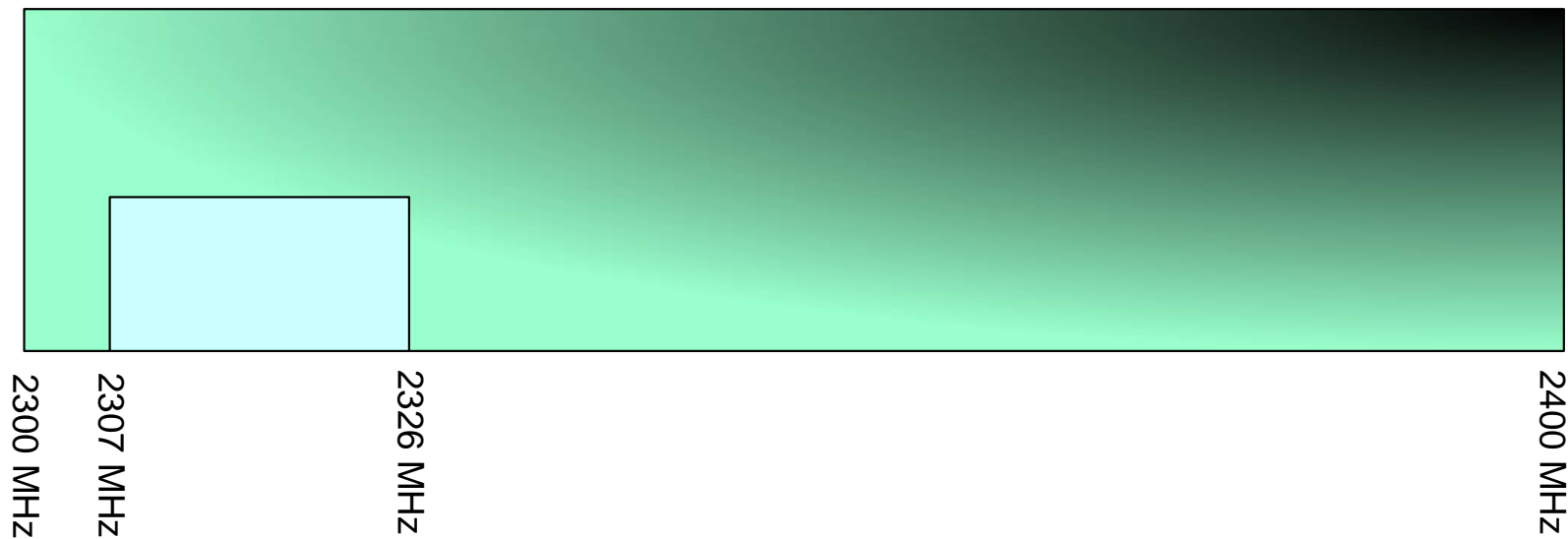




## Future Spectrum Band Releases - 1

**Early June 2009**

**Consultation on release of 2.3 GHz band  
Potentially 100 MHz of Spectrum (WiMax ?)**





## Future Spectrum Band Releases - 2

**Autumn 2009**

**Finalise Liberalisation of the GSM900 Bands**

925.0 MHz

960.0 MHz

5 MHz Channel	5 MHz Channel	5 MHz Channel	5 MHz Channel	5 MHz Channel	5 MHz Channel	5 MHz Channel
			Meteor GSM Expires 2015	Vodafone GSM Expires 2011	O <sub>2</sub> GSM Expires 2011	

880.0 MHz

915.0 MHz



## Liberalisation of GSM900 Bands

### 2 Consultations (08/57 & 09/14):

- Most recent response closed 30 April
- Currently being analysed

### 2 Options under consideration

1. **Single Auction** of whole of 900 MHz band in 2x5 MHz blocks (capped @ 2x 10 MHz) with phased spectrum availability (tied to current licence expiry); successful incumbents can convert licences to liberalised format immediately
2. **Phased Approach:** Potentially extend GSM licences to 2015; auction 2x10 MHz now; later auctions as further spectrum becomes available with remaining GSM licences auctioned by 2015

### Technology neutral

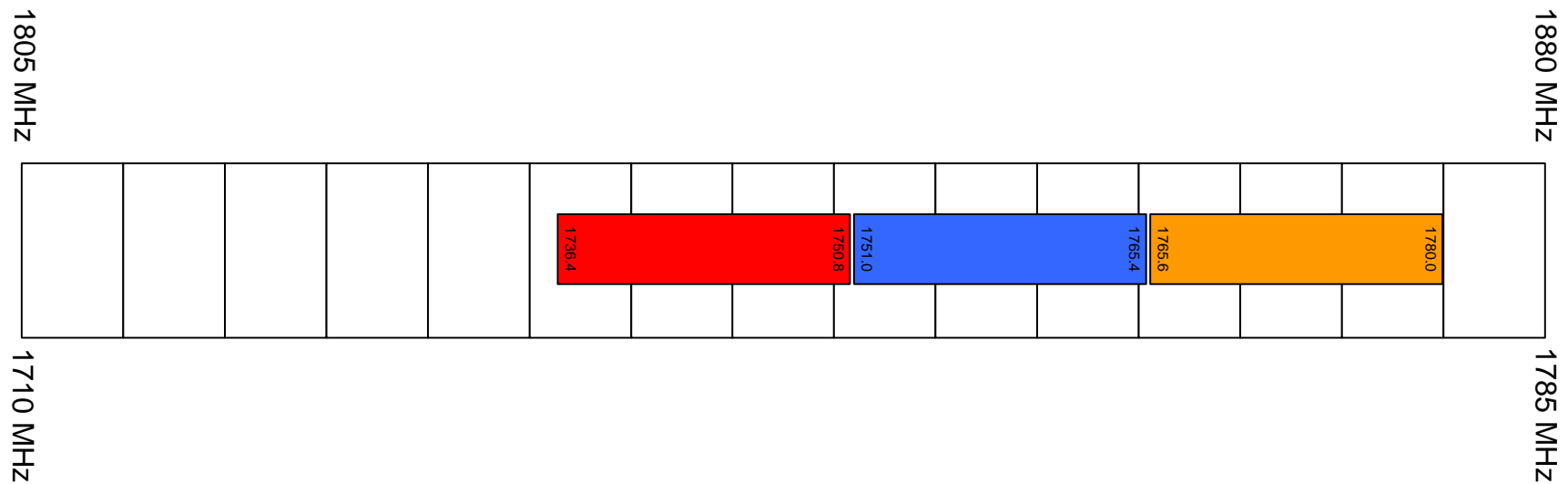
- Subject to compatibility with GSM/UMTS



## Future Spectrum Band Releases - 3

~ 2012 (TBC)

### Liberalisation of the GSM1800 Bands



Probably use similar format licence competition as for 900 MHz band



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## **The Digital Dividend**

### **Ireland's Plans for the Digital Dividend**



## Digital Dividend: Why is it important?

- Because of its propagation characteristics the spectrum being used for analogue broadcasting, 470 to 862 MHz, is much sought after
  - It combines wide area coverage, high bandwidth, and good indoor reception hence its suitability for TV broadcasting since the 1961 Stockholm frequency planning Conference and Treaty
- ComReg has established licensing regimes for existing and future new digital broadcasting services in accordance with the Broadcasting Amendment Act 2007 (the 2007 Act)
  - The first DTT licence was issued to RTÉ and there are ongoing test transmissions
  - A digital terrestrial radio licence has been prepared for RTÉ and is expected to be issued in May 2009
  - Frequency co-ordination for DD and digital broadcasting is ongoing
  - ComReg will issue licences to the BCI on request
- The 2007 Act also permits ComReg to issue multiplex licences, other than those required for digital broadcasting, using the spectrum in the band 470 to 862 MHz



## Digital Dividend: A key spectrum & innovation initiative

- Moves in Europe to co-ordinate on a non-mandatory basis the availability of the 800MHz (790 to 862 MHz) band for non-broadcasting uses (ECN & ECS)
- European Commission (EC) currently studying how best to harness the benefits of the 800 MHz band on a **co-ordinated** basis in Europe
- ComReg leading on preparation of a **Radio Spectrum Policy Group Opinion** to provide strategic policy advice to EC on its roadmap for **Digital Dividend**
- ComReg benefiting from the exchange of ideas and strategies at an international level to ensure that Ireland best benefits from its DD





## Digital Dividend: Next Steps in Ireland

- ComReg is at strategic stage in planning for Ireland's digital dividend spectrum
- Public consultation closed on 7 May 09; 14 responses received from key stakeholders
- Consultation focused on:
  - The approach to spectrum assignment
  - Harmonisation issues (e.g. the 800 MHz band)
  - Accelerated access to DD spectrum
  - Reservation of spectrum for experimentation to encourage further inward investment in Ireland
  - Strategic licence conditions



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## **Facilitating Innovation**

### **“Test & Trial Ireland”**

#### **ComReg’s Test & Trial Licensing Scheme**



## Ireland's Natural Spectrum Advantage

- High Availability of Spectrum
  - Geographic Location
    - Only one international land border to coordinate with compared to other European countries which have many land borders
  - Low defence use of spectrum in Ireland
  - Relatively low population density
- Member State of EU and active member of CEPT
- Supportive Regulatory Environment
  - In 2005 ComReg launched the Wireless Test & Trial Licensing Programme
  - Any available frequency band considered





## ComReg's Wireless Test and Trial Licensing Programme

- Launched in 2005 and specifically designed for R&D and innovation purposes
  - Low cost, quick access to spectrum for Test or Trial purposes
- A Test or Trial Licence allows the
  - Testing of wireless devices in a live radio spectrum environment
- A Trial Licence allows the
  - Participation of external businesses and consumers in a trial
- In Ireland, any available spectrum is considered

*“ComReg has created a globally unique international profile for Ireland by permitting real innovation and experimentation on our national airways for broadcasting, narrow-casting and dynamic spectrum technologies”*

Dr Chris Horn, Irish Times, 5 Jan 2009





# Applications for the Test & Trial Programme

## 1. Fundamental wireless research

- Universities and Research Centres can use the practical aspects of this programme to advance their research

## 2. Product Development and Testing

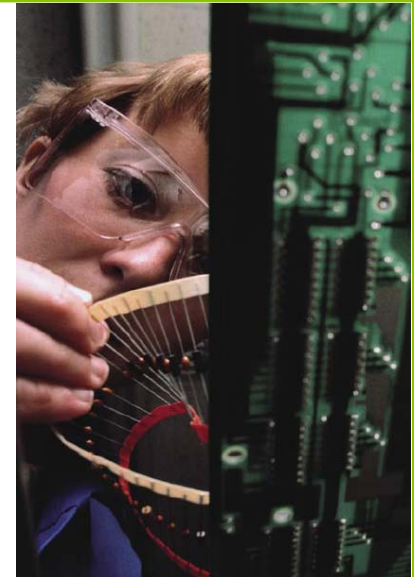
- Manufacturers of wireless systems and components can use Test & Trial Ireland to test and develop new products. As all available spectrum is considered products can be tested for deployment in any global or regional market

## 3. Product Demonstration & Network Functionality Testing

- Vendors of wireless systems can demonstrate the real-life functionality of their products.
- Service providers can test the functionality of these products on their network prior to vendor selection.

## 4. Trials of innovative new services

- Service providers can commercially trial new innovative services to garner valuable consumer feedback before committing to a commercial launch.





## Previous Licensees of the Test & Trial Programme

- >100 Test and Trial licences issued since 2005



Further Information available at

[www.testandtrial.ie](http://www.testandtrial.ie)



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**Thank you**

**Any Questions**

**&**

**Feedback?**