

Spectrum Management at the Edge of Europe



www.comreg.ie



Commission for
Communications Regulation

Samuel Ritchie

Manager: Spectrum, Strategy and Competitions
Commission for Communications Regulation
Ireland

Topics

A quick look at Ireland

Building the Market: Study on FWALA

Enhancing the Business Case: Study on
Cross-Border Licencing

You want it, We got it, Come and get it.
Test and Trial licencing

Summary of Lessons Learned

A quick look at Ireland

- **Small country – 4 million people**
- **An island country at edge of Europe, with relatively few close neighbours**
- **Northern Ireland is part of the UK so close liaison on telecom matters is required between jurisdictions.**

Ireland is named 'best country'

Ireland is the best place to live in the world, according to a "quality of life" assessment by Economist magazine.

The country's combination of increasing wealth and traditional values gives it the conditions most likely to make its people happy, the survey found.

Ireland was followed by Switzerland, Norway and Luxembourg. All but one of the top 10 were European countries.

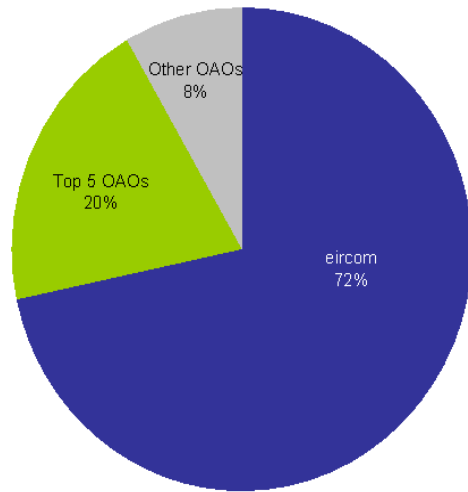


Dubliners have reason to be cheerful, the survey finds

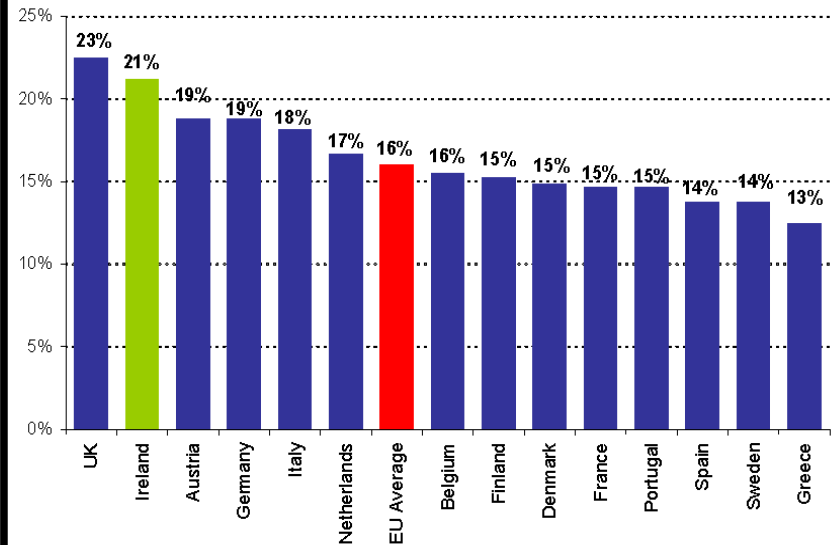


Revenue Market Share for Top 5 OAOs and all other market operators

Revenue Market Share of Fixed Line Operators, Q3 2006

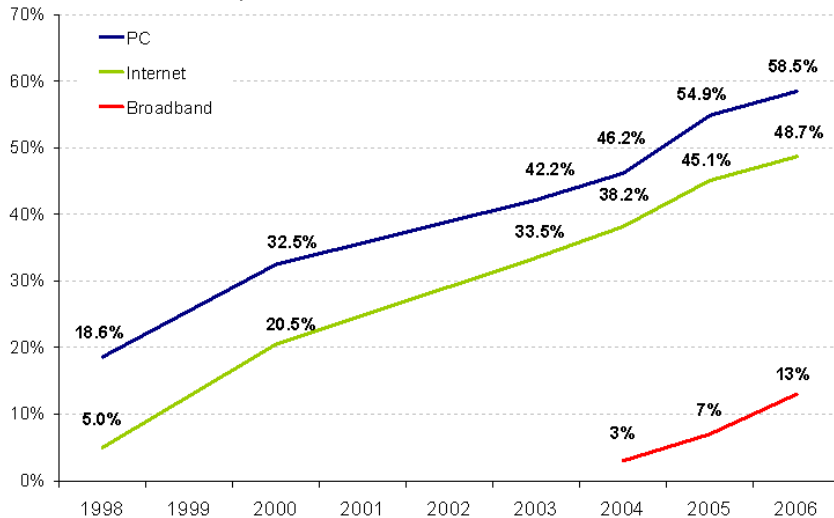


Data Revenues as a % of Total Mobile Revenues Q3, 2006



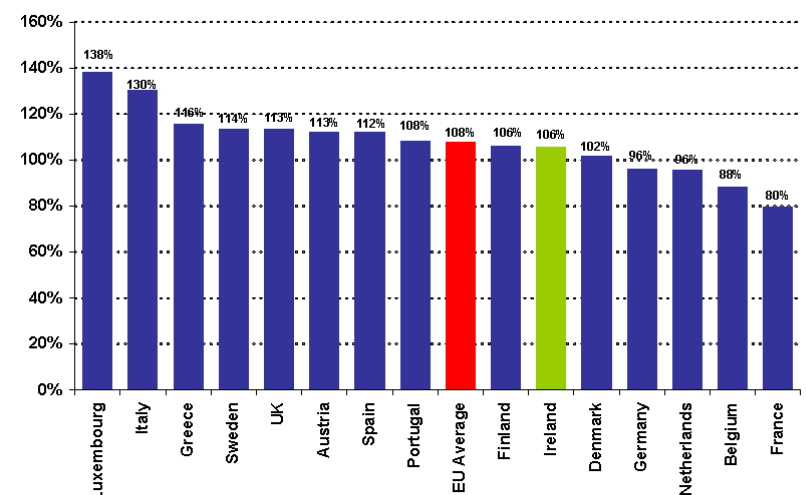
Source: Yankee Group

PC, Internet and Broadband Penetration



Source: Central Statistics Office

European Mobile Penetration- end September 2006



Source: Baskerville Mobile Communications (includes 3G subscriptions)

Building the Market: FWA Local Access

Prior to 2003:

- 3 national FWA licences issued in 1999 by beauty competition
- Only one licensee rolls out a minimal service, No business case for national BWA

Post 2003:

- Take back two national licences
- Offer spectrum on:
 - First-come-first-served basis:
 - Minimum mandatory requirements
 - Voluntary commitments in case of competition
- Service on a local areas basis (typically 15 km radius).
- Defined a generic service area and generic interference zone
- Technology Neutral (3.5 GHz, 10 GHz, 26 GHz bands)
- Minimum Fees - €2800

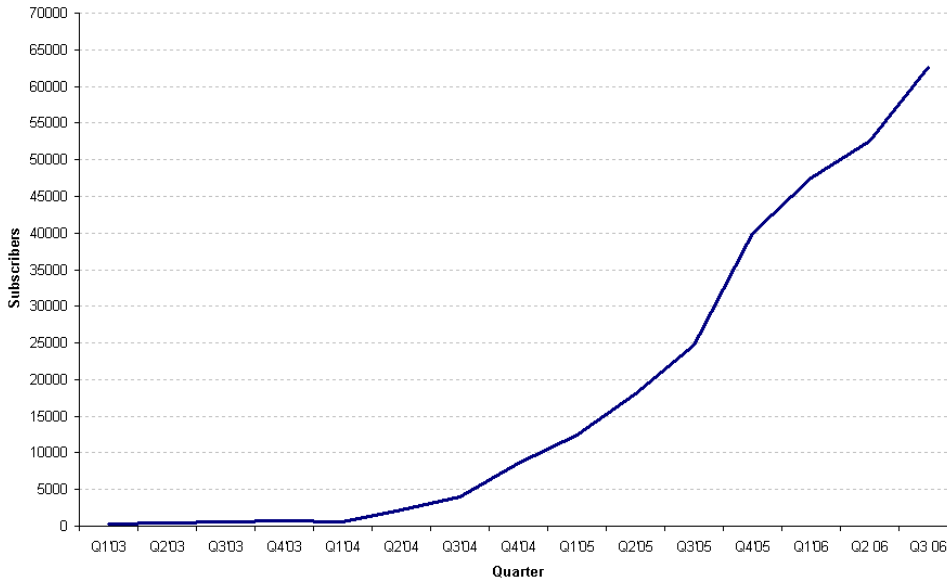
} Elements of a beauty competition.

FWALA – Some Statistics

Jan 07

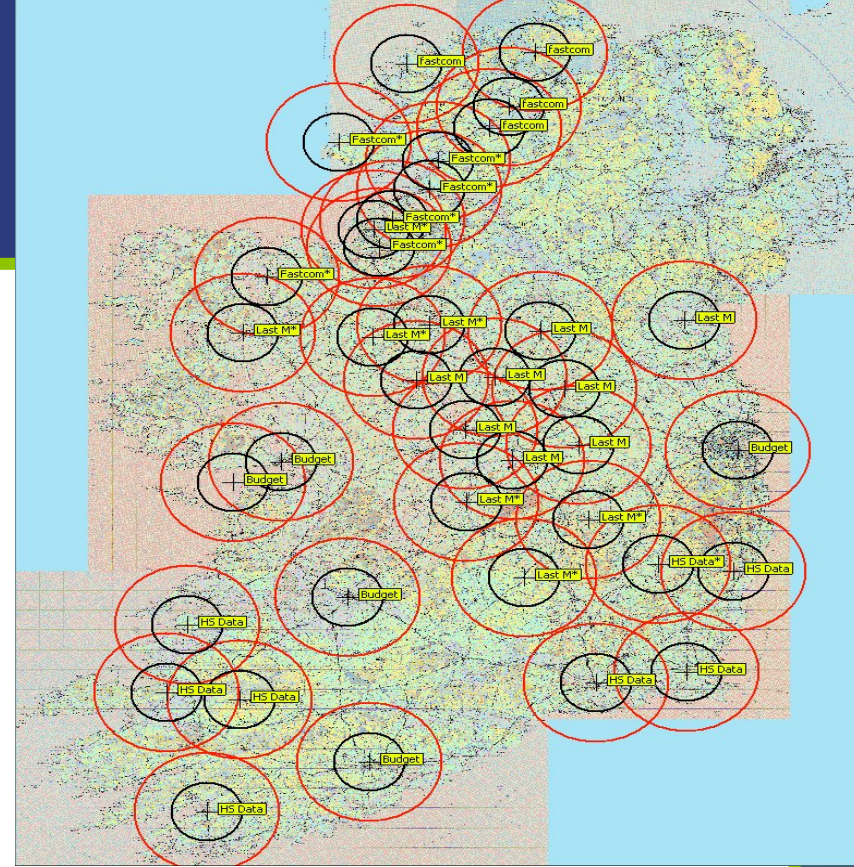
- 180 licences
- 14 operators

FWA Broadband Subscribers



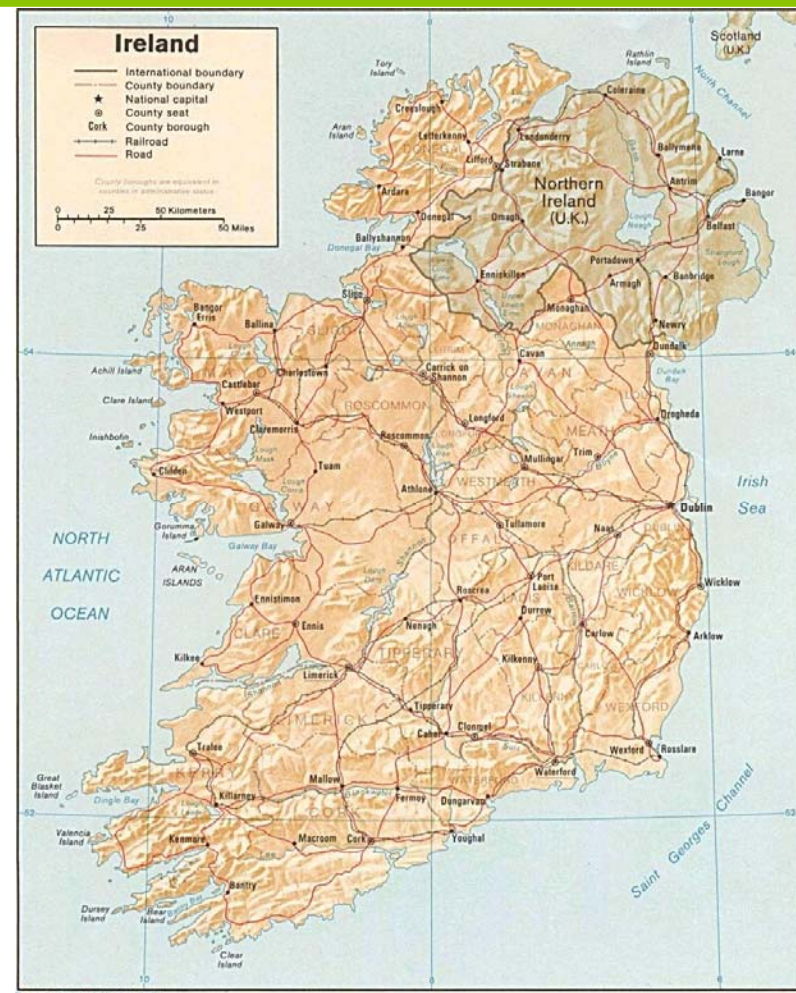
Q3 06

- 62500 subscribers (14% of total broadband users)
- > 31% in 6 months



Enhancing the Business Case: Study on Cross-Border Licencing

- Issue a licence that cuts across international borders.
- A new milestone in co-operation between the Irish NRA and the UK NRA.
- Opportunity to explore innovative approaches to securing optimal use of the radio spectrum for the benefit of citizens and consumers throughout the island of Ireland.
- Potential to create and develop wireless-based electronic communications services throughout the island of Ireland for the benefit of citizens and consumers in both jurisdictions.



All-Island Spectrum Award

- For jurisdictional reasons the two auctions must be separate legal processes.
- **Coordinated approach.** This means that, as far as possible, the key elements of the proposed spectrum packaging and licensees' rights and obligations, whilst legally separate in each jurisdiction, will be identical.

Spectrum band. 1785 to 1805 MHz: 20 MHz of un-paired spectrum

Interference to/from other users. Technology and application neutral 'block edge' spectrum mask

Application restrictions. Licence will be application and technology neutral to the maximum extent possible

Basic auction format: Single Sealed bid – 2nd price Auction

Reserve Prices.

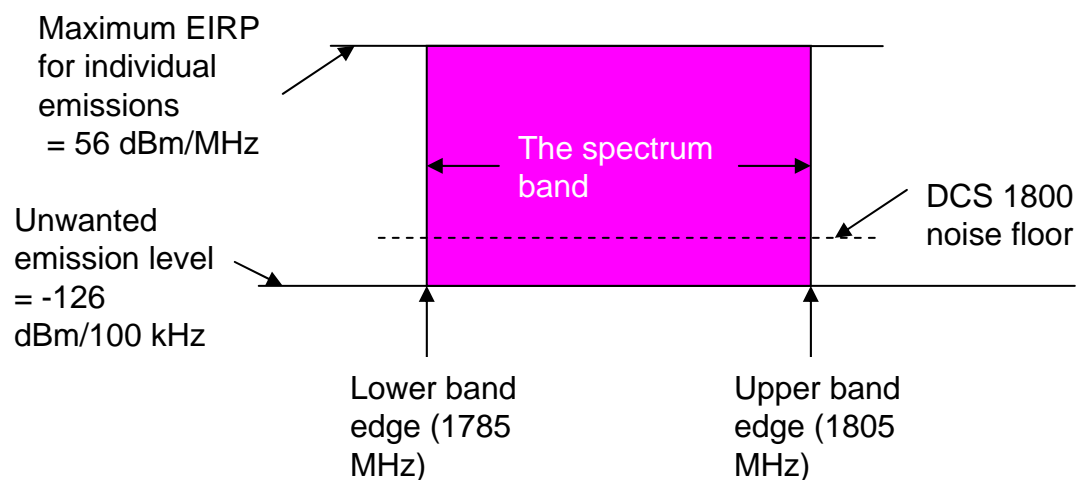
Reserve price for Ireland licence: €150,000

Reserve price for Northern Ireland licence: £50,000

} Reflects market size.

All-island: Technical conditions

- Spectrum rights reflect the need to protect the adjacent users.
- Any technologies permitted provided that they meet the limits defined by the Block Edge Mask:



You want it, We got it, Come and get it.
Test and Trial licencing



Strengths:

- A relative abundance of spectrum
- Ireland's geographic location
- Single land border
- A highly developed information/communications technology sector
- A strong academic base
- Pro-active Regulator

A New initiative launched in May 2005

- To provide an environment for technology developers to test, develop and manufacture new products for home, European or international markets
- To provide application developers with the opportunity to market test their products and services

Test and Trial Licencing

Test licences:

- 12 months
- Standard fee of €200 per annum
- Encourage test and development activities in all available frequency bands
- Permit testing of new technologies, e.g. UWB, SDR on a non-interference basis

Trial licences:

- Service trials involving third parties - including members of the public
- Up to 1,000 participants
- 12 month duration with renewal
- Non-commercial basis - cost recovery only
- Standard fee of €500 per annum
- Will enable new service concepts to be tested in a realistic environment

5 Key Lessons Learned

1. **Spectrum packaging must suit your market.** (e.g. National vs. Local Assignments)
2. **There is no shame in being a Technology Follower.**
3. **Great advantages in having good relationships with neighbours.**
4. **Mould your allocation practises to follow your strengths** (e.g. test and trial licensing.)
5. **Incremental Liberalisation rather than big bang:**
 - Technology neutral spectrum allocation – avoid picking technology winners
 - Service Neutral spectrum allocation where possible.
 - An authorisation/licensing process that fits the situation
 - E.g. Relatively low demand = first come, first served
Demand exceeds supply = auction
 - Auctions to allocate spectrum – let industry choose the price
 - Start with simple auction formats (sealed bid) and incrementally increase knowledge.



Spectrum Management at the Edge of Europe

www.comreg.ie



Commission for
Communications Regulation

Samuel Ritchie
Manager: Spectrum, Strategy and Competitions
Commission for Communications Regulation
Ireland

