Commission for
Communications Regulation

Irish Communications Market

Quarterly Key Data Report

Data as of Q2 2008

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  Mobile subscription data has been amended to include active SIMs bundled with HSDPA datacards and USB modems for internet access via laptops/PCs as well as SIM cards used in mobile phones for voice and data service for the periods Q3 2007, Q4 2007 and Q1 2008. Mobile subscription data has also been amended for these periods based on revisions to operator data. In addition, mobile revenue data has been revised for the period Q1 2008.

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1 Overall Market Data

Data presented in this report is based on quarterly questionnaires completed by authorised operators for the period from 1st April 2008 to 30th June 2008. The report is based on submissions from 63 active operators[1].

1.1 Number of Authorisations

Figure 1.1.1 - Total Number of Authorisations

Total Authorisations	September 2008
No. of fixed and wireless authorisations	338
No. of mobile telephony authorisations	6
No. of broadcasting authorisations (incl. Cable TV, MMDS, Deflectors)	84
Total Number	428

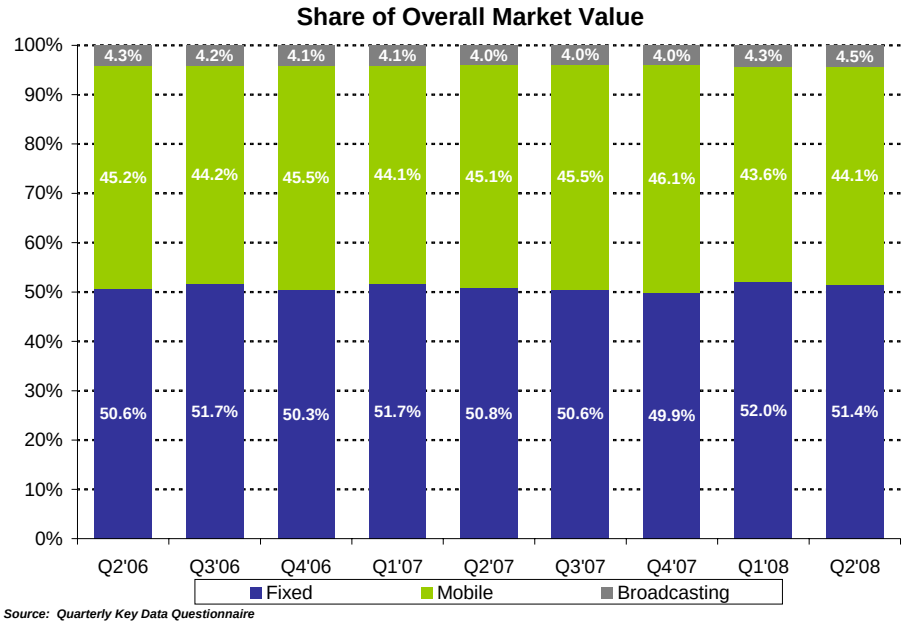
Before providing networks or services to third parties, operators are required to submit a notification to ComReg for the purposes of compiling a register of authorised operators. At the date of publication there were 428 authorised undertakings in Ireland. It should be noted that the list above refers to the number of general authorisations granted by ComReg under the European Framework for Authorisations, and does not necessarily reflect the total number of commercially active organisations or entities currently operating in the market. The total includes a number of undertakings who are authorised to use license-exempt spectrum for the provision of services.

1 Please note that the data used in this report for Blue Face Ltd., Equant, EU Networks and Hughes Network Systems Ltd., is based on their submissions for Q1 2008.

1.2 Overall Electronic Communications Revenues[2]

Data presented in Figure 1.2.1 examines the proportion of industry revenue attributable to the provision of fixed line, mobile and cable broadcasting services.

Figure 1.2.1 – Fixed, Mobile & Broadcasting as a % of Total Revenues[3]



Source: Quarterly Key Data Questionnaire

Overall electronic communications network and service revenues at the end of June 2008 were over €1.11bn for the quarter. Based on this, annualised revenues would be €4.46bn. Annualised industry revenues increased by 0.2% in this quarter but have fallen by 1.13% compared to Q2 2007. While mobile and broadcasting revenues increased in the latest quarter, fixed revenues declined by just over 0.9%.

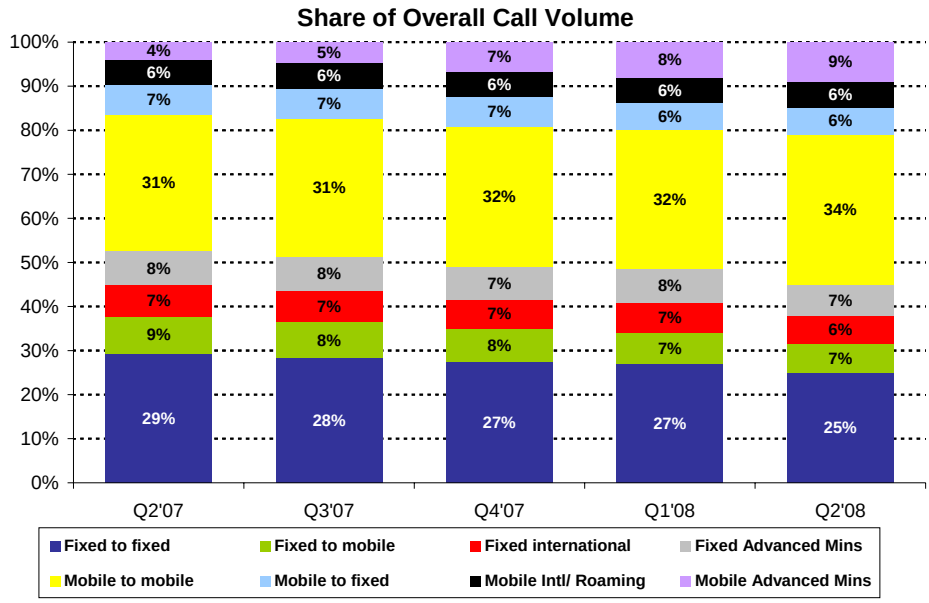
In Q2 2008 fixed line revenues accounted for 51.4% of total electronic communications revenues, a 0.6% point decrease since the last quarter. In contrast the mobile industry's share of revenue, increased from 43.6% in Q1 2008 to 44.1% in Q2 2008. Broadcasting revenues increased over the year from 4% in Q2 2007 to 4.5% in Q2 2008.

2 For further detail on terms and definitions see ComReg Document Number 08/75a Explanatory Memorandum to Quarterly Key Data Report.

3 The following services are accounted for in the total revenues Figure: fixed (interconnection, retail narrowband services, leased line & managed services including PPC revenue as well as other revenues ((including web-hosting, co-location services, directory publication & other services)) broadband), mobile (connection, voice and data services, roaming) and broadcasting (including cable/MMDS broadcasting services, connection, rental and other charges).

1.3 Overall Call Volumes

Figure 1.3.1 - Share of Total Voice Call Volumes (Minutes)[4]



Source: Quarterly Key Data Questionnaire

Figure 1.3.1 profiles volumes of voice calls by call type for both fixed and mobile voice on a quarterly basis. Voice minutes for the second quarter of 2008 totalled over 5.1 billion minutes. This was a 4.5% increase on the previous quarter when total voice minutes were over 4.9 billion minutes and represents a 15.6% increase in total voice minutes on the second quarter of 2007. Traffic originating on a fixed line network accounted for 45% of all voice minutes, while mobile originating voice minutes accounted for the remaining 55%. Figure 1.3.2 shows the total voice traffic in Ireland at the end of Q2 2008. While fixed voice minutes declined in this quarter, mobile minutes grew significantly this quarter. This is a further sign of continued substitution, in terms of usage of voice services, from fixed lines to mobile phones.

Figure 1.3.2 – Total Voice Traffic in Ireland

	Q2'08 Mins ('000s)	Quarterly Growth Q1'08 – Q2'08	Year-on-Year Growth Q2'07 – Q2'08
Fixed voice minutes	**2,329,443**	**-3.19%**	**-0.91%**
Mobile voice minutes	**2,849,278**	**+11.69%**	**+33.90%**
Total voice minutes	**5,178,721**	**+4.47%**	**+15.63%**

4 Fixed advanced minutes include premium rate services minutes, freephone minutes, VoB minutes, operator services minutes, national and international virtual private network minutes. Mobile advanced minutes include premium rate services minutes and other mobile minutes such as voicemail, DQ, call completion minutes etc.

1.4 Pricing Overview

This section examines Ireland's current and previous rankings based on a comparison of prices for specific consumer baskets in a number of EU countries. Data on PSTN[5] and mobile baskets is provided to ComReg by Teligen who use an OECD-approved methodology to compare fixed (PSTN) and mobile tariffs.

This format follows a basic three-step process consisting of:

- the construction of one or more baskets of telephone services (including variable (e.g. calls) and fixed (e.g. rental) charges);
- the pricing of those baskets; and
- the conversion of the individual currencies to standard units (i.e. US Dollars or euros and Purchasing Power Parities (PPPs)).

Countries are then ranked based on PPPs, with the least expensive country ranked 1st. The charts presented in this section provide an overview of Ireland's ranking relative to 19 other EU member states for which data is available since the revision of the OECD baskets in February 2006. Individual pricing charts for each basket for May 2008 are analysed under the heading "Pricing Data" in the specific mobile and fixed sections of this document. Ireland's position is ranked in relation to other EU member states.

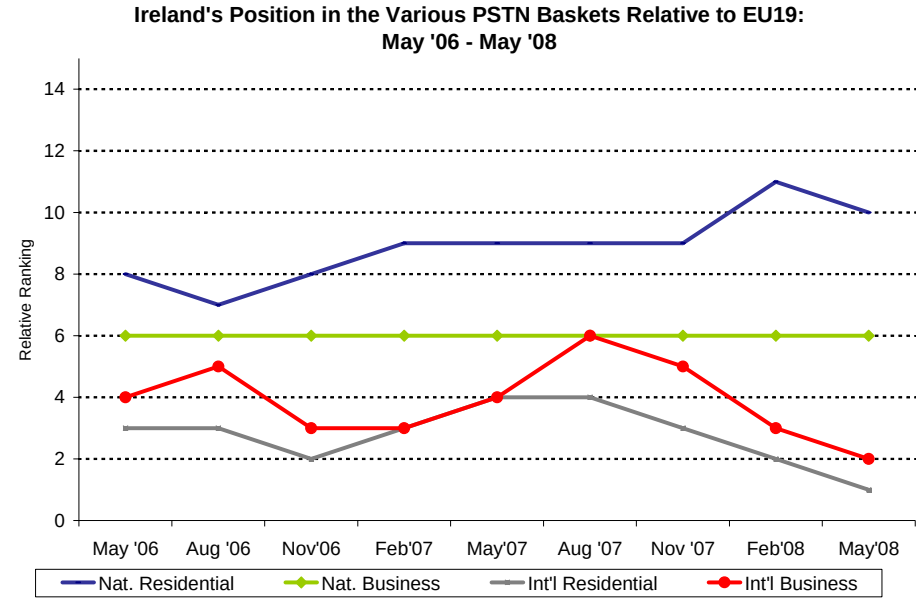
For further information on Teligen's methodology please see the accompanying memorandum ComReg 08/75a.

1.4.1 PSTN Baskets

Figure 1.4.1.1 shows the movement in Ireland's position relative to EU19 countries in all PSTN baskets since May 2006, where the least expensive country based on the methodology is ranked 1st. Ireland remains less expensive than the average basket cost across all of the PSTN services analysed. This quarter, Ireland's position in the national residential call basket improved by one place to 10th. Ireland's position in the national business call basket is the same as Q1 2008 (6th). Ireland's position in the national business basket has been ranked at 6th consistently since February 2006. Ireland's position has improved in the international residential basket, moving from second to first place, while Ireland's international business basket placing has improved one place since February 2008 and is now ranked second.

5 PSTN refers to a public switched telephone network or copper telephony network, on which calls can be made. A PSTN line is more commonly known as a copper telephone line.

Figure 1.4.1.1 – Ireland's Position in the Various PSTN Baskets

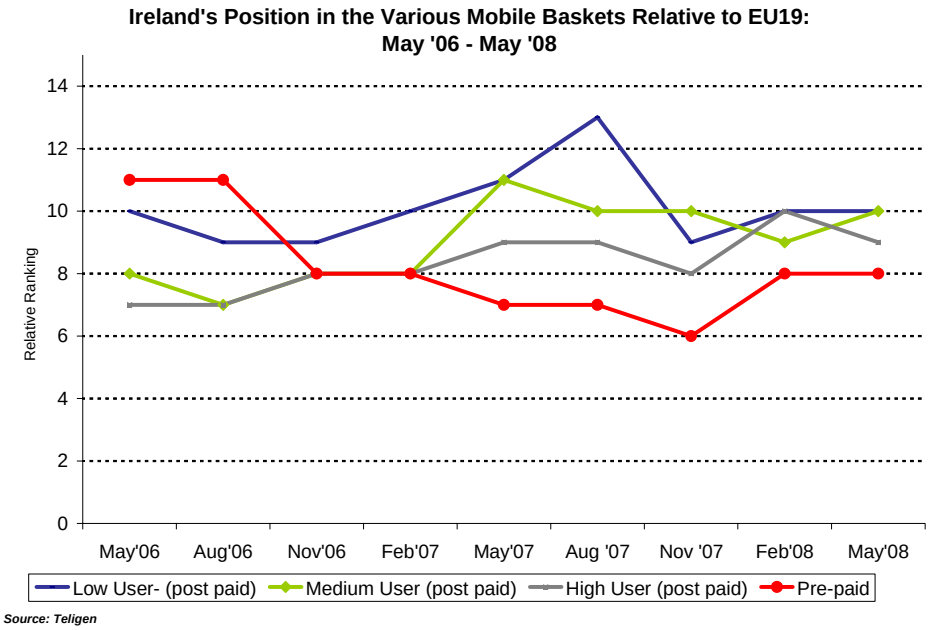


Source: Teligen

1.4.2 Mobile Baskets

Figure 1.4.2.1 shows the movement in Ireland's position in all mobile baskets since May 2006 relative to EU19 countries, where the least expensive country is ranked 1st. Ireland's position in the low user post paid basket has remained the same since the last quarter. Ireland's position has dropped by one place in the medium user post-paid basket, moving to 10th position. Ireland improved by one place in the high user post-paid basket and is now in 9th position. Finally, in the pre-paid basket Ireland's position has remained the same since the last quarter in 8th position.

Figure 1.4.2.1 – Ireland's Position in Various Mobile Baskets



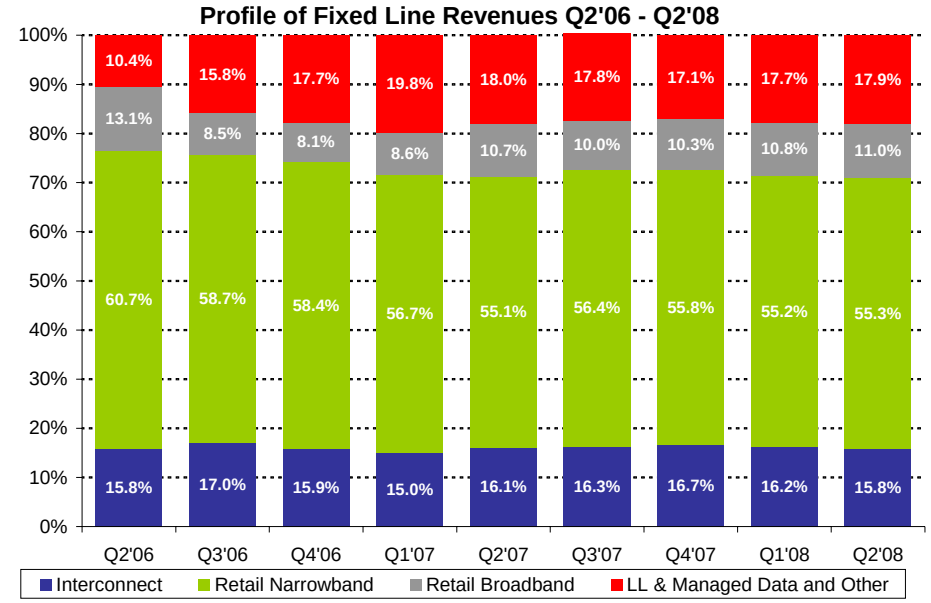
Source: Teligen

2 Fixed Market Data

2.1 Total Fixed Line Revenues

Figure 2.1.1 shows the profile of fixed line revenues in Q2 2008, which totalled over €573 million. This was almost a 1% decrease since last quarter revenues of almost €579 million. In terms of the share of total fixed revenues, retail broadband revenues increased marginally in this quarter. Wholesale revenues (from interconnect services) declined in the quarter while other retail revenues (from leased lines, managed data and other advanced data services) grew by 0.1% in absolute terms in Q2 2008.

Figure 2.1.1 – Profile of Fixed Line Revenues

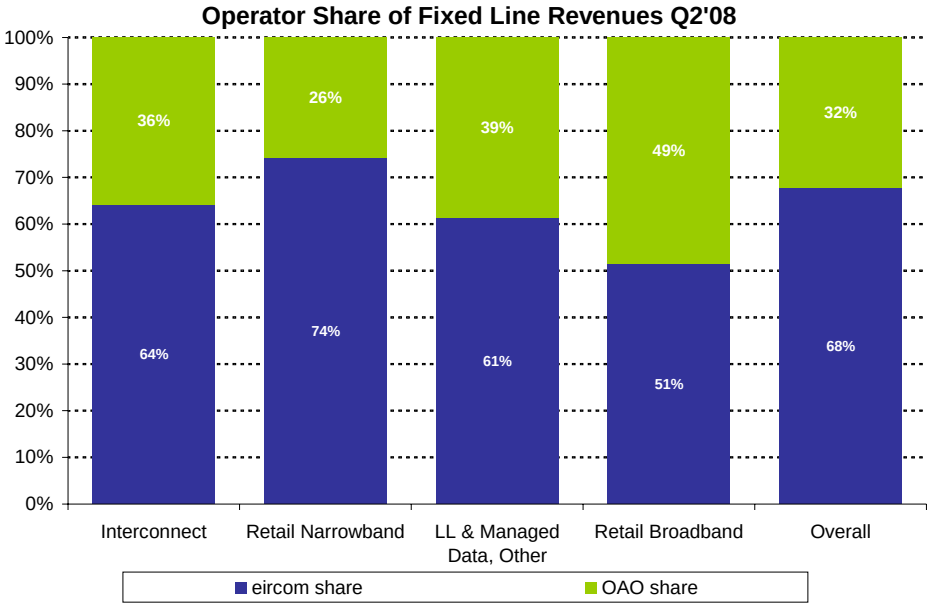


Source: Quarterly Key Data Questionnaire

2.1.1 Authorised Operators' Share of Overall Fixed Line Revenues

Figure 2.1.1.1, below, shows the market shares of the incumbent and other authorised operators (OAOs) in each of the fixed line service categories set out, above, in the chart analysing the profile of fixed line revenues. Market shares are grouped within a number of revenue categories to link related services; however this classification does not necessarily reflect the specific markets identified in ComReg's Market Review process.

Figure 2.1.1.1 – Operator Share of Fixed Line Revenues[6]



Source: Quarterly Key Data Questionnaire

6 Eircom's retail broadband share includes DSL, FWA and Satellite revenues.

Eircom's overall share of fixed line market revenue remained unchanged since the last quarter but has declined by 1% since Q3 2007. Figure 2.1.1.2, below, shows Eircom's market share on a quarterly basis from Q2 2007 to Q2 2008.

Figure 2.1.1.2 – Eircom's Market Share

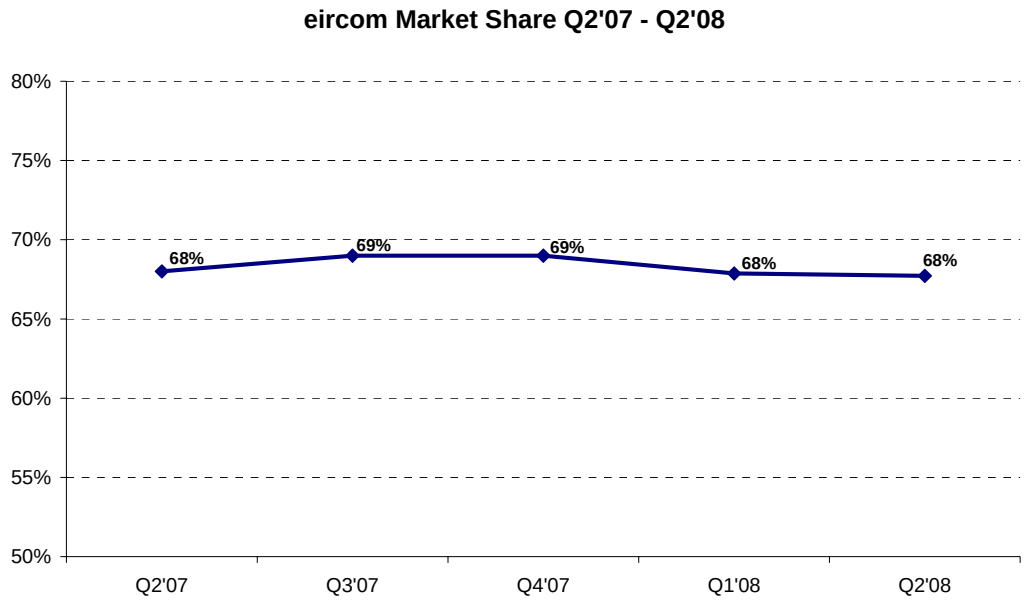
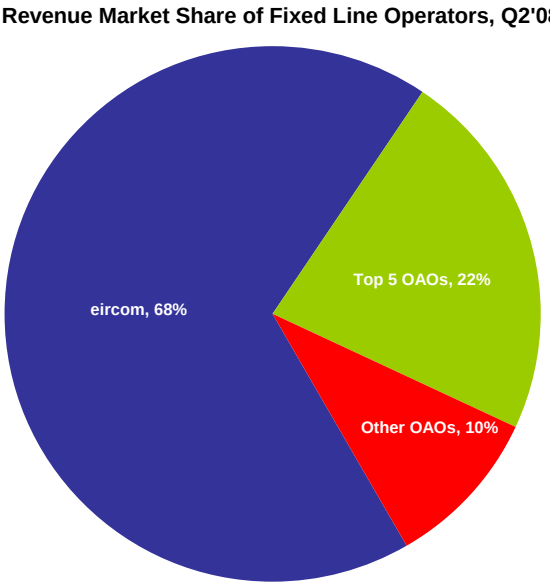


Figure 2.1.1.3, below, outlines revenue market share in Q2 2008 by breaking out the total fixed market in terms of revenue shares held by the incumbent fixed line operator, the top five OAOs, and all other OAOs.

Figure 2.1.1.3 – Revenue Market Share for Incumbent, Top 5 and Other Authorised Operators



After Eircom, the largest revenue-earning operator in the market with 68% market share, ComReg estimates that the next five largest operators in terms of revenue contribute a further 22% of industry revenue. The remaining 10% of revenues is generated by all other operators in the fixed line market. Eircom's market share has fallen by 2% since Q1 2007 and the majority of this fall off in the incumbent's market share has been taken up by the top 5 OAOs.

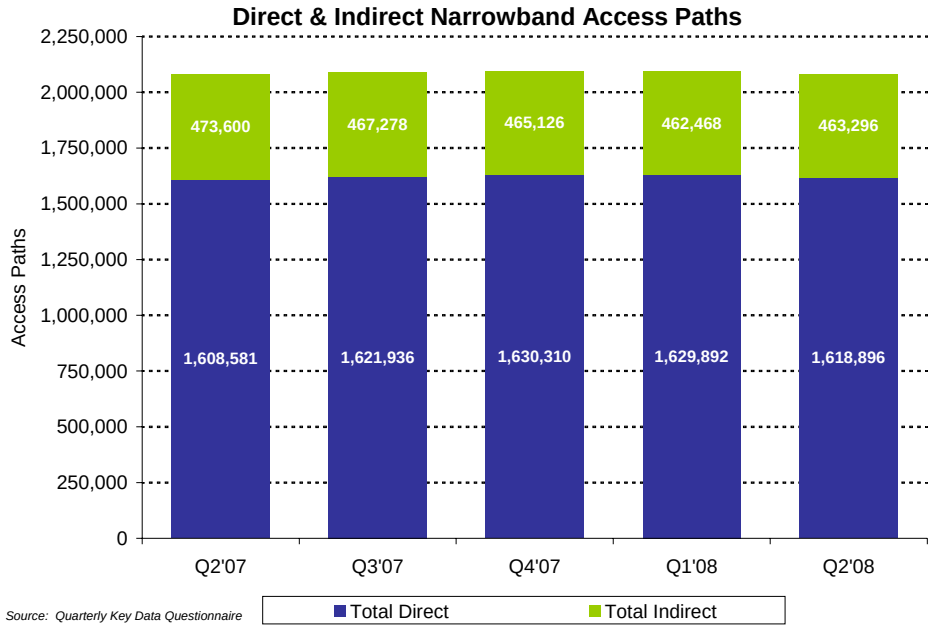
Figure 2.1.1.3 is presented as additional analysis of the fixed market, and should not be interpreted as a definitive statement of market shares in particular fixed line market segments.

2.2 Fixed Line Access Paths

2.2.1 Access Paths

Figure 2.2.1.1 presents the total number of narrowband fixed access paths (PSTN and ISDN) broken out by direct and indirect access[7]. These paths are used for voice services and dial up internet access. There were just over 2 million direct and indirect PSTN and ISDN access paths in the Irish market in Q2 2008. Although total narrowband access paths declined slightly from the previous quarter they remain relatively unchanged from Q2 2007. In Q2 2008, indirect access accounted for 22% of all access paths in the fixed market.[8] This figure has remained relatively constant for the last two years. While this chart shows the number of narrowband only access paths in Ireland, voice and data can also be transmitted by other means such as broadband. Details on the broadband market in Ireland can be found in chapter 3 of this report.

Figure 2.2.1.1 – Direct & Indirect Narrowband Fixed Access Paths



Source: Quarterly Key Data Questionnaire

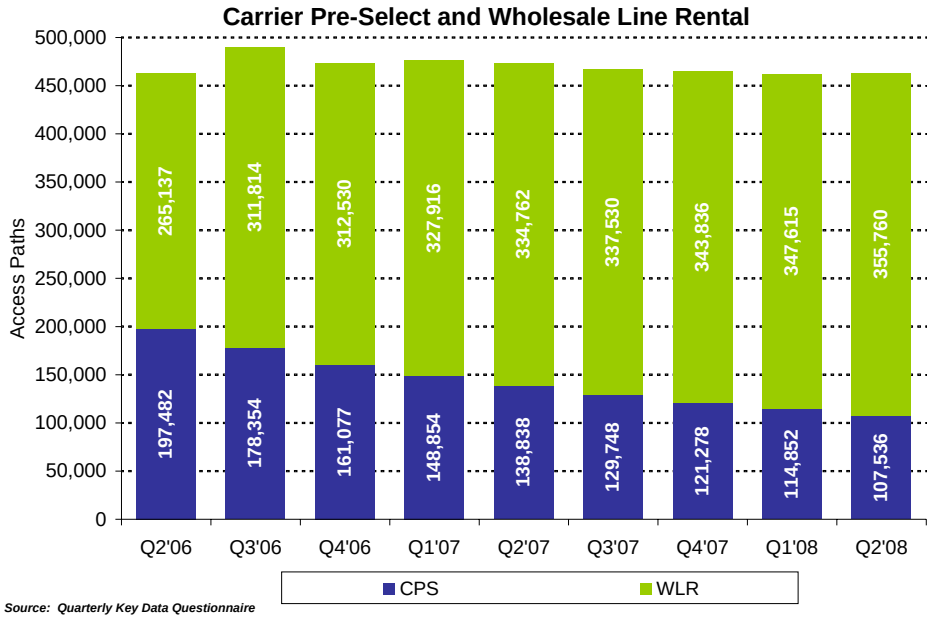
7 Indirect access paths relate to telephone lines provided to customers by means of carrier pre-select only or wholesale line rental. Carrier pre-select allows the user to receive all or a portion of calls from one provider and line rental from another provider (usually Eircom). Wholesale line rental (also known as single billing) allows the user to receive every aspect of telephone service, including all calls and line rental from one single supplier.

8 Access paths are not synonymous with access lines as for example in the case of ISDN paths, there may be more than 1 path provided via a single ISDN line.

2.2.2 Indirect Access Paths

Figure 2.2.2.1 illustrates the overall number of PSTN and ISDN paths provided by means of either Carrier Pre-Selection (CPS) only or Wholesale Line Rental (WLR). In Q2 2008, there were over 463,000 indirect access paths in Ireland. The number of indirect access paths has remained relatively unchanged this quarter. Year on year, indirect access paths for the 12 months to the end of June 2008 decreased by 2.2%. This chart shows how OAOs are continuing to migrate their customer base to single-bill services, i.e. WLR rather than CPS-only (i.e. calls only) services to customers. WLR managed by OAOs now account for 77% of indirect access paths compared to 57% in Q2 2006. In contrast to CPS which declined over the period, WLR continued to grow quarter on quarter between Q2 2006 and Q2 2008.

Figure 2.2.2.1 – Narrowband Indirect Access Paths



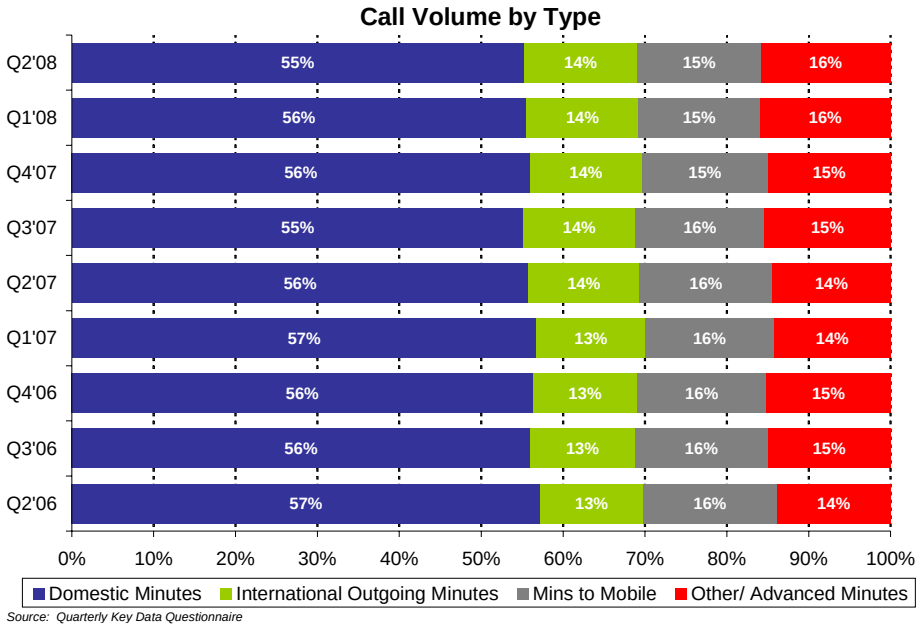
Source: Quarterly Key Data Questionnaire

2.3 Fixed Voice Call Volumes

Fixed call traffic in Q2 2008 was almost 2.33bn minutes, which was a 3% decrease since Q1 2008 and a fall of 1% since Q2 2007. Voice over broadband minutes now account for almost 2% of this total. ComReg data provided by operators shows over 45m VoB minutes for Q2 2008, while total fixed call minutes are over 2.3bn.

The year-on-year decrease in total fixed line traffic reported by operators is largely due to a fall in absolute volumes of fixed domestic and fixed to mobile traffic minutes between Q2 2007 and Q2 2008. Since this analysis began in Q4 2004, the percentage split between domestic, international, mobile minutes and other minutes has revealed a slow decline in the percentage of fixed to mobile minutes and domestic minutes in particular. Changes in the volumes and profile of fixed line traffic continue to be monitored by ComReg for evidence of changes in fixed line usage, such as increased fixed-mobile substitution. Figure 2.3.1 illustrates trends in fixed voice call minutes since Q2 2006.

Figure 2.3.1 – Fixed Voice Call Volume[9]



Source: Quarterly Key Data Questionnaire

9 Domestic Calls include local & national calls. Advanced service and other minutes include minutes to premium rate numbers, freephone numbers, callsave, operator services, VoB minutes, VPN minutes, payphones and other services.

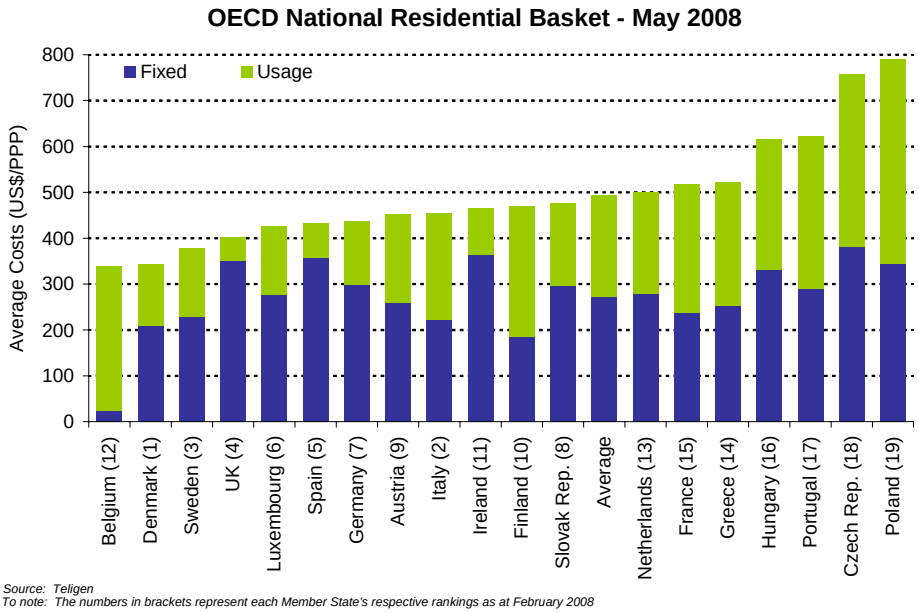
2.4 PSTN Pricing Data

ComReg presents independently-collated Teligen data using an OECD-approved methodology to examine the relative costs of a number of specific baskets of national and international telecoms services for both residential and business users. The data presented includes all EU countries for which data is available[10]. Using this methodology, data is presented using USD ($) and Purchasing Power Parities (PPPs). The latter provides an indication of the cost of telecoms services in countries analysed in relation to the cost of all other products and services, and takes account of exchange rate differences.

2.4.1 OECD National Residential Basket

Figure 2.4.1.1 illustrates Ireland's ranking in the national residential basket, based on a basket of calls and fixed costs for usage over a 12 month period. This chart is based on a comparison of the cheapest incumbent package available for a specific customer usage profile. In many cases this will be a bundled service which will include both line rental and a "bundle" of call minutes for a fixed monthly charge. It should therefore be noted that the "fixed" element in this basket is not an indication of the cost of basic line rental. In May 2008 Ireland ranked in 10th position, ahead of the EU19 average in terms of the most competitive pricing for this basket. This represents an improvement of one place in Ireland's position since February 2008.

Figure 2.4.1.1 - OECD National Residential Basket – May 2008[11]



Source: Teligen
To note: The numbers in brackets represent each Member State's respective rankings as at February 2008

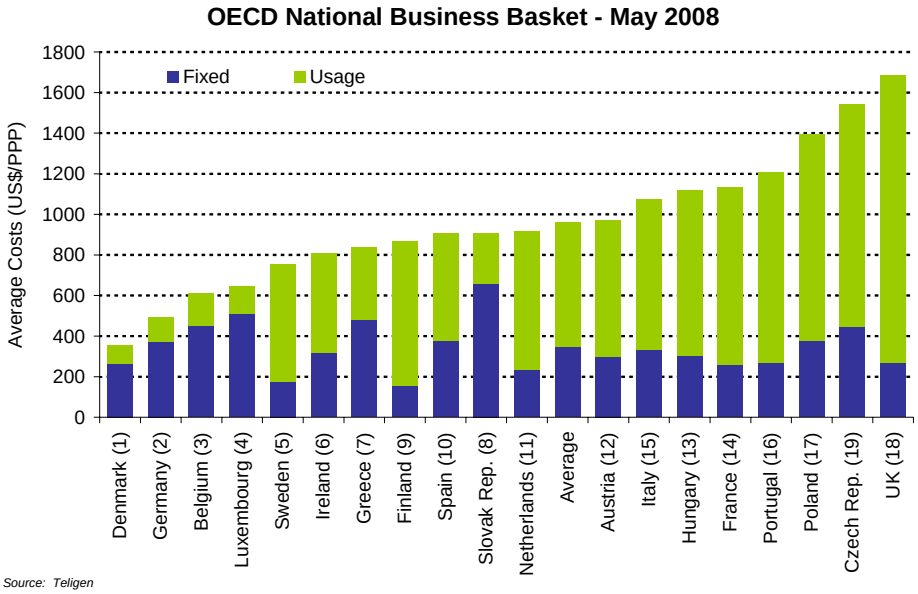
10 This will be determined by whether the EU country is also an OECD member.

11 Residential tariffs include VAT. VAT rates vary between member states.

2.4.2 OECD National Business Basket

As with the residential basket, the chart below is based on a comparison of the cheapest incumbent business package available for a set number of voice calls over a 12 month period, and in many cases will include a fixed charge for access as part of a bundled service. It should be noted that the "fixed" element in this basket is not an indication of the cost of basic line rental. Ireland remains in 6th position in the rankings, ahead of the EU19 average.

Figure 2.4.2.1 - OECD National Business Basket – May 2008



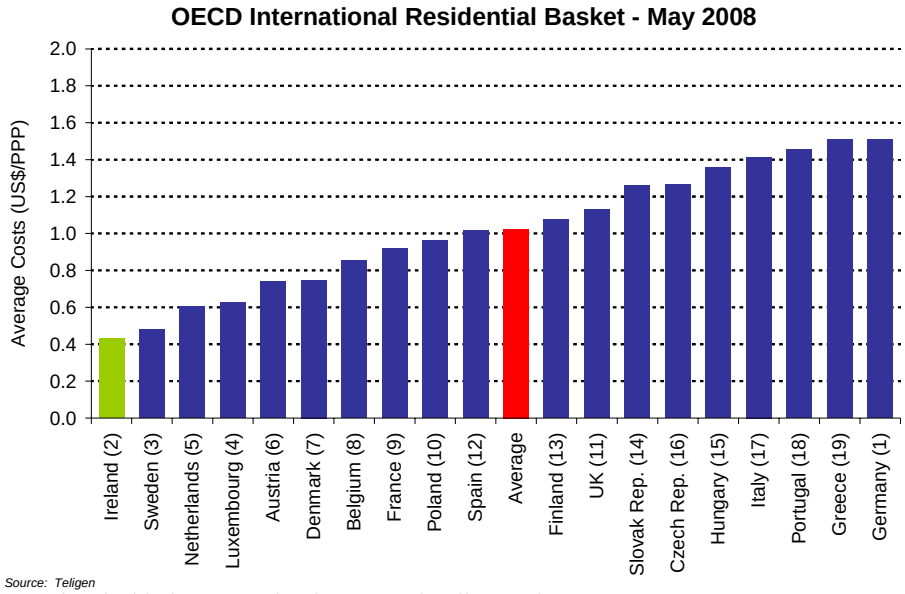
Source: Teligen

To note: The numbers in brackets represent each Member State's respective rankings as at February 2008

2.4.3 OECD International Residential Basket

Figure 2.4.3.1 shows that Ireland has moved up to 1st position this quarter in terms of the cost of three-minute peak international calls and five-minute off-peak international calls from one country to all other countries in the basket. Ireland has improved by one place since the last quarter.

Figure 2.4.3.1 - OECD International Residential Basket – May 2008[12]



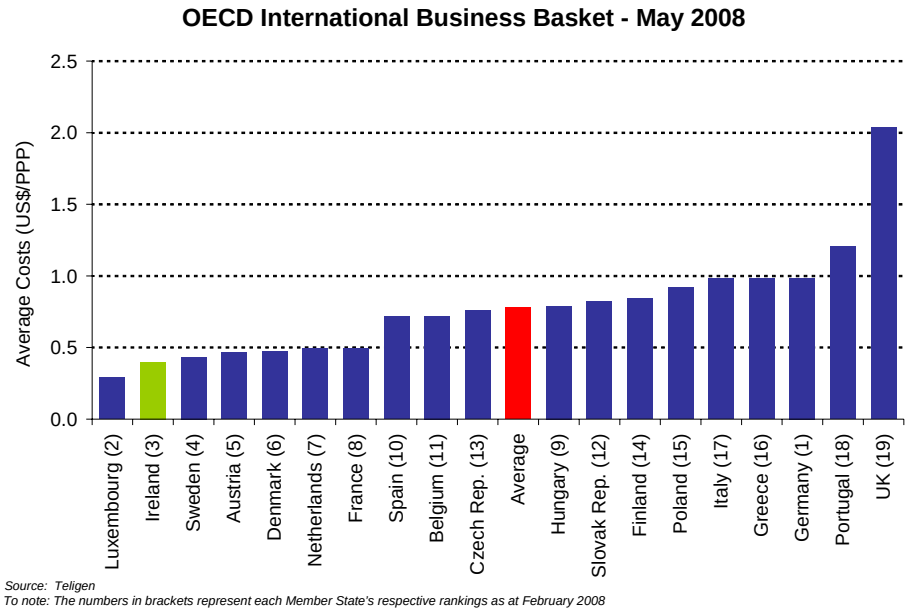
Source: Teligen
To note: The numbers in brackets represent each Member State's respective rankings as at February 2008

12 Residential tariffs include VAT. VAT rates vary between member states.

2.4.4 OECD International Business Basket

Ireland moved to second place in this service in May 2008, up one place since February 2008. As with the previous quarter, Ireland again compares favourably with the EU19 average.

Figure 2.4.4.1- OECD International Business Basket – May 2008



Source: Teligen
To note: The numbers in brackets represent each Member State's respective rankings as at February 2008

3 Internet and Broadband

3.1 Total Internet Subscriptions

At the end of Q2 2008, there were almost 1.35 million active internet subscriptions in Ireland. This is a 4.87% growth on the previous quarter and a 22.17% increase on the same period last year. Flat rate narrowband continued to decline while metered narrowband saw a very slight increase in Q2 2008. The net result was a continuation in the overall decline of narrowband. Total broadband subscriptions continued to grow strongly in this quarter, up by 6.35% since Q1 2008. Mobile broadband (HSDPA) continues to show strong signs of growth and increased by almost 20% in Q2 2008. Figure 3.1.1 shows the total number of narrowband and broadband subscriptions to internet services in Ireland.

Figure 3.1.1 – Total Number of Active Internet Subscriptions in Ireland

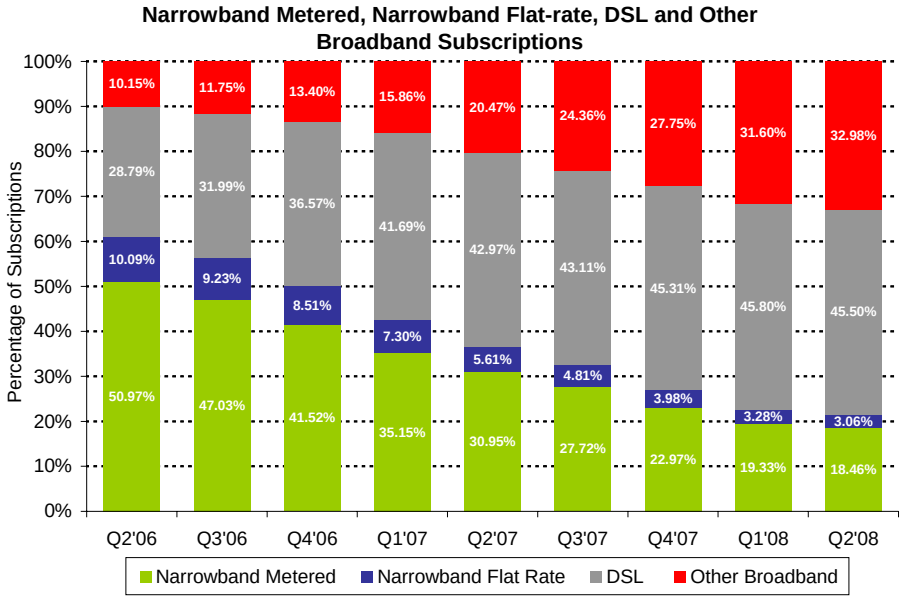
Subscription Type	Q2'08 Subs	Quarterly Growth Q1'08- Q2'08	Year-on-Year Growth Q2'07- Q2'08
Metered Narrowband	248,101	+0.14%	-27.14%
Flat Rate Narrowband	41,161	-2%	-33.34%
ADSL Broadband[13]	611,594	+4.19%	+29.38%
Other Broadband[14]	443,326	+9.47%	+96.83%
Total Internet Subscriptions	**1,344,182**	**+4.87%**	**+22.17%**

13 DSL refers to a digital subscriber line, the means by which broadband speeds (i.e. in excess of 144k downstream) are delivered over the copper telecoms network.

14 Other Broadband includes cable broadband, fixed wireless access, fibre, satellite and mobile broadband connections

Figure 3.1.2 profiles internet subscriptions in Ireland using the classifications of subscription type outlined in table 3.1.1. Broadband subscriptions, either using copper-based DSL services, or alternative broadband platforms account for 78% of all internet subscriptions. Figure 3.1.2 provides a profile for the periods Q2 2006 – Q2 2008 for historical trend purposes. However, the inclusion of mobile broadband subscriptions in the 'Other Broadband' category from Q2 2007 means quarter on quarter comparisons should not be drawn between the current period and data prior to Q2 2007 profiled in Figure 3.1.2.

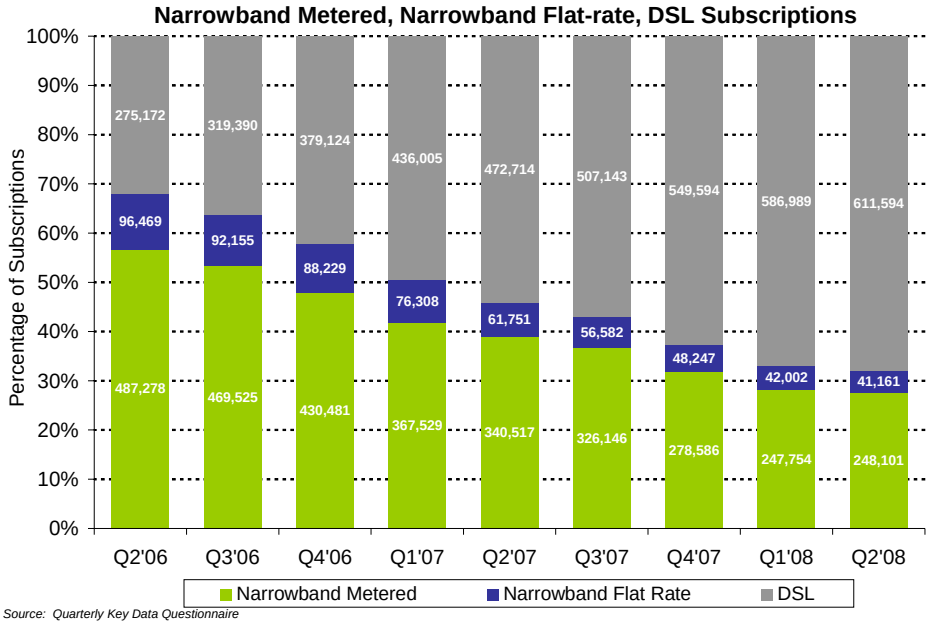
Figure 3.1.2 – Profile of Active Internet Subscriptions in Ireland



Source: Quarterly Key Data Questionnaire

Figure 3.1.3 profiles only those internet subscriptions delivered over the copper telecoms network. It includes an analysis of metered or pay-as-you-go narrowband subscriptions, flat-rate narrowband subscriptions and DSL subscriptions. There were 900,856 active internet subscriptions over the copper telecoms network at the end of June 2008, an increase of more than 24,000 (2.75%) in the total number of copper-based subscriptions since Q1 2008. DSL accounted for 68% of copper-based internet subscriptions, while metered narrowband subscriptions accounted for a further 28% of internet subscriptions over copper, with flat rate narrowband internet subscriptions making up the remaining 4% of copper-based internet subscriptions.

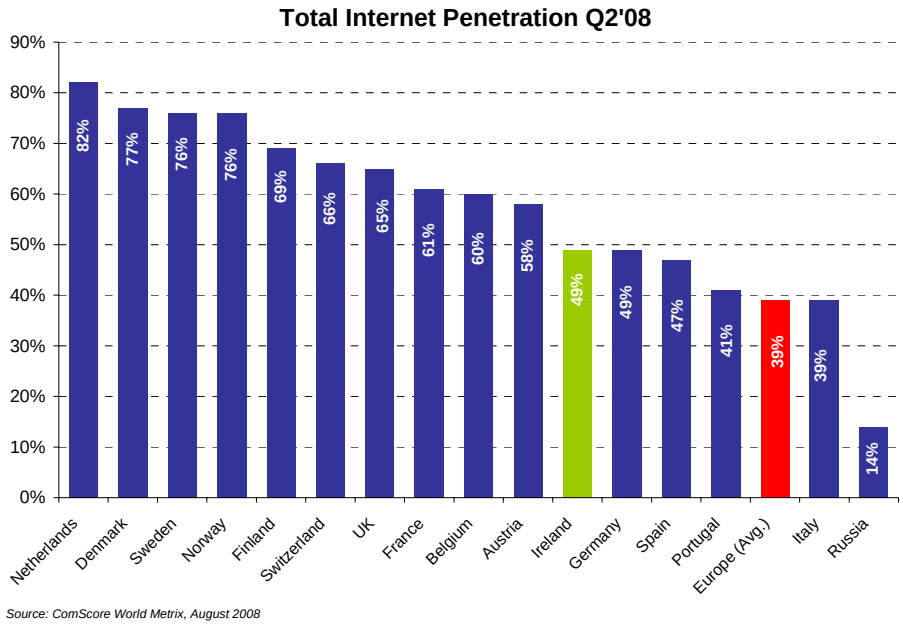
Figure 3.1.3 – Percentage of Copper Based Internet Subscriptions



Source: Quarterly Key Data Questionnaire

Figure 3.1.4 shows the total internet audience and penetration rate for 16 European countries including Ireland. The total number of European internet users grew by 8% during the past year to 241.8 million in June 2008. Although Germany ranks as the country with the largest internet audience, Russia has the fastest growing internet audience in Europe, up 27% to 17.5 million users. Ireland is ranked third in terms of fastest growing internet audience, up 15% in the year to June 2008. While Ireland has the smallest internet audience in absolute numbers, its internet penetration rate is on a par with Germany and Spain and is above the European average. Figure 3.3.8, on page 35, shows the ECTA broadband penetration rates for the EU 27 countries.

Figure 3.1.4 – Total Internet Penetration, Q2'08



Source: ComScore World Metrix, August 2008

The data presented in Figure 3.1.5 is sourced from comScore's World Metrix, published in August 2008. The table shows the average hours spent online per visitor and the average pages accessed per visitor for 16 European countries including Ireland. On average Irish internet users spend 60% less time online than the European average and 95% less time online than internet users in the United Kingdom. The average number of pages accessed, per visitor, in Ireland is also substantially lower than the European average.

Figure 3.1.5 – European Internet Usage

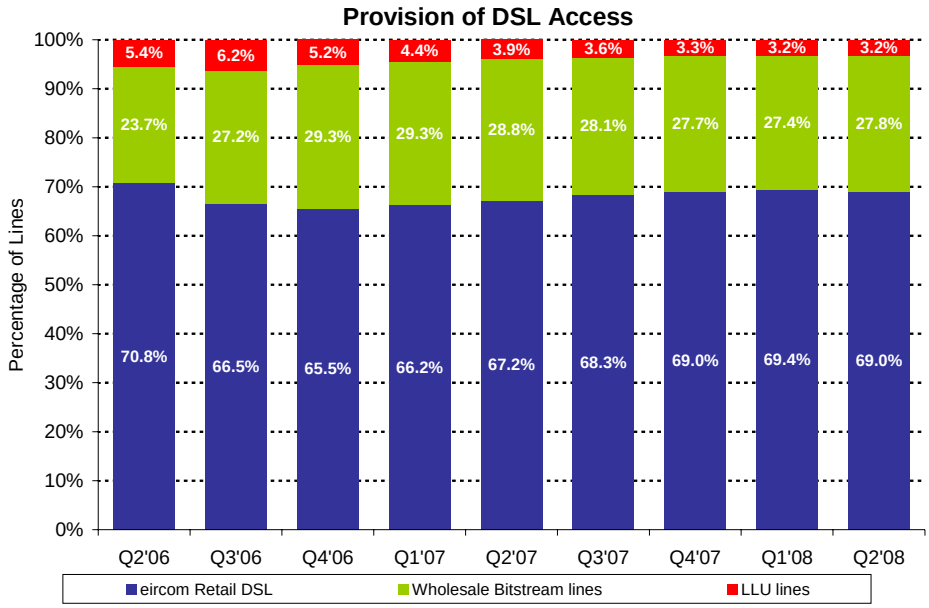
Country	Average Hours per Visitor	Average Pages per Visitor
Europe	*23.3*	*2,665*
United Kingdom	28.5	2,836
Spain	25.1	2,218
Netherlands	23.4	2,884
France	23.3	2,544
Germany	23.2	2,906
Sweden	21.7	2,901
Finland	20.0	2,644
Belgium	19.9	2,343
Norway	19.9	2,480
Portugal	19.8	2,393
Switzerland	19.0	2,176
Italy	18.8	1,971
Denmark	16.8	2,406
Austria	16.0	2,078
Russia	16.0	2,091
Ireland	14.6	1,536

Source: ComScore World Matrix, August 2008. Excludes traffic from public computers such as Internet cafes or access from mobile phones or PDAs.

3.2 Provision of DSL Access

Figure 3.2.1 examines the provision of DSL access. DSL broadband services are provided to consumers by operators using three alternative methods of access. DSL may be provided directly to the consumer by eircom using direct access to its network; this accounted for 69% of all DSL subscriptions in June 2008. Retail DSL may also be provided by alternative operators (OAOs) who use either wholesale bitstream, which enables OAOs to resell eircom's DSL service, or by offering DSL-based broadband using local-loop unbundling (LLU). At the end of June 2008, 27.8% of all DSL lines were provided by OAOs using wholesale bitstream, and the remaining 3.2% of DSL lines were provided to subscribers by OAOs using local-loop unbundling. At the end of June 2008 there were 19,568 local loops unbundled. This represents a 4% increase since Q1 2008. Eircom's market share of retail DSL lines fell slightly in Q2 2008.

Figure 3.2.1 - Provision of DSL Access



Source: Quarterly Key Data Questionnaire

3.3 Provision of Broadband Services

Figure 3.3.1 summarises the total number of broadband subscriptions at the end of the quarter by access technology.

Figure 3.3.1 – Broadband Subscriptions[15] and growth rates by Platform

Platform	Q2'08 Subs	Quarterly Growth Q1'08 – Q2'08	Year-on-Year Growth Q2'07 – Q2'08
DSL	611,594	+4.19%	+29.38%
Cable	91,462	+3.18%	+32.84%
FWA	120,301	-1.26%	+17.37%
Other[16]	9,233	+9.21%	+3.94%
Sub-Total	832,590	+3.31%	+27.51%
Mobile Broadband	222,330	+19.51%	+394.07%
Total	**1,054,920**	**+6.35%**	**+51.15%**

High Speed DownLink Packet Access (HSDPA) provides mobile broadband access to a growing number of Irish consumers. In order to fully reflect the range of broadband services available to customers in Ireland, ComReg started to include this data in its overview of the market in Q2 2007[17] report. However, country to country comparisons will continue to exclude this Figure at this time. Both the European Commission and the OECD have indicated that they intend to shortly start collecting data on mobile broadband and this should provide the basis for comparative data across countries in the near future.

At the end of June 2008, there were 1,054,920 broadband subscriptions in Ireland. This represents growth of 6.35% in the number of subscriptions for this quarter. FWA subscriptions declined in Q2 2008 by 1.23% while mobile broadband was the fastest growing platform, growing by almost 20% in Q2 2008. In the 18 months approximately since mobile broadband was made available in Ireland, subscriptions have increased by 394%.

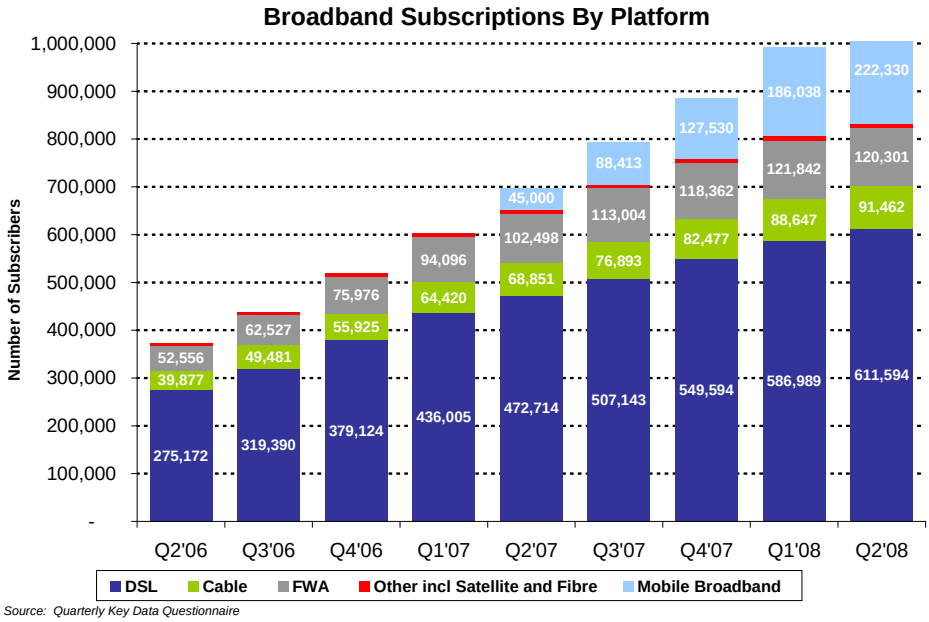
15 ComReg notes that the data provided in this section relates to active subscriptions reported by operators. It takes into account multiple active subscriptions to broadband offerings by individual subscriptions

16 Other Broadband includes Satellite and Optical Fibre broadband subscriptions.

17 In Q2 2007 an estimate of 45,000 mobile broadband subscriptions was used.

DSL remains the largest broadband access platform in terms of subscriptions, accounting for almost 58% of all broadband subscriptions, while other platforms account for the remaining 42% of connections. Figure 3.3.2 illustrates the growth in total broadband subscriptions in the Irish market since Q2 2006. Mobile broadband subscriptions were included in Figure 3.3.2 for the first time in Q2 2007. Therefore total subscriptions levels from Q2 2007 presented in Figure 3.3.2 are not directly comparable with previous periods.

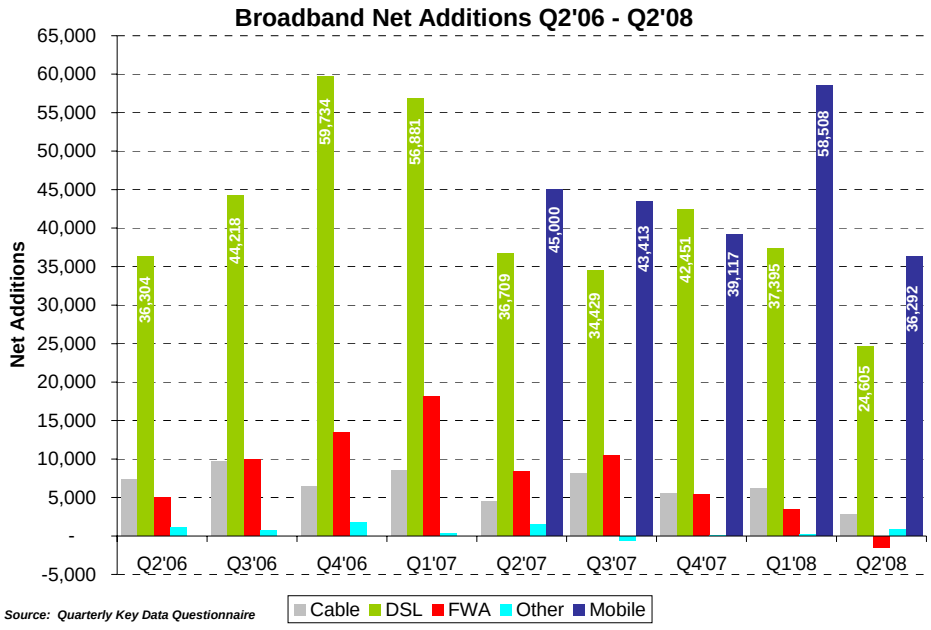
Figure 3.3.2 – Broadband Subscriptions by Platform



Source: Quarterly Key Data Questionnaire

Figure 3.3.3 shows the number of broadband net additions by platform for each quarter from 2006. Although DSL remains the main means of broadband access to the internet, mobile broadband was the largest contributor to new broadband growth in Q2 2008, as it has been in every quarter since it was introduced. Mobile broadband experienced growth of over 36,000 customers followed by DSL which grew by over 24,000 customers. New DSL additions to broadband reached a peak in Q4 2006 while FWA reached a peak, in terms of new additions, in Q1 2007 and this quarter have declined by 1,500 subscriptions.

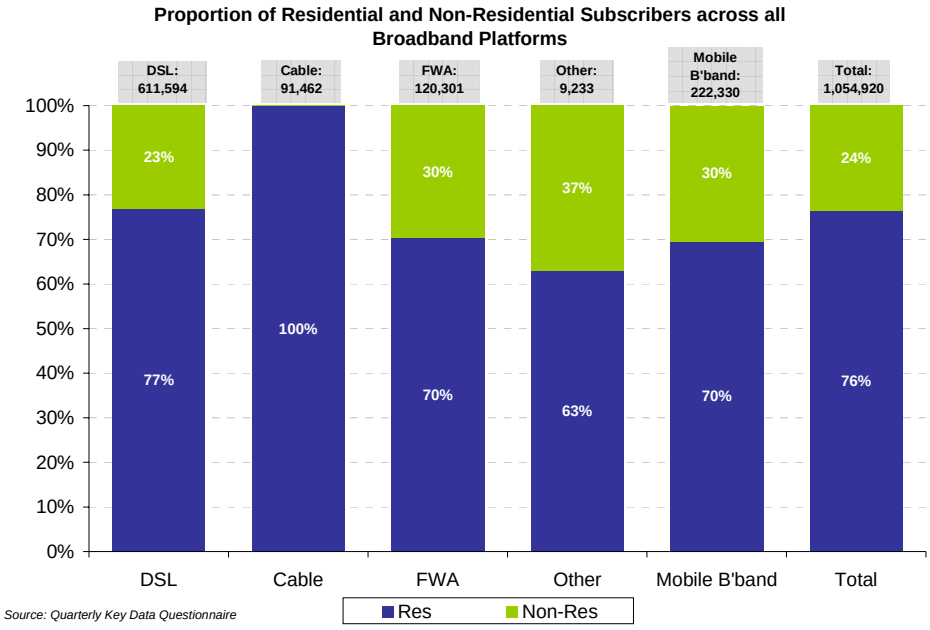
Figure 3.3.3 – Total Broadband Net Additions, 2006 - 2008



Source: Quarterly Key Data Questionnaire

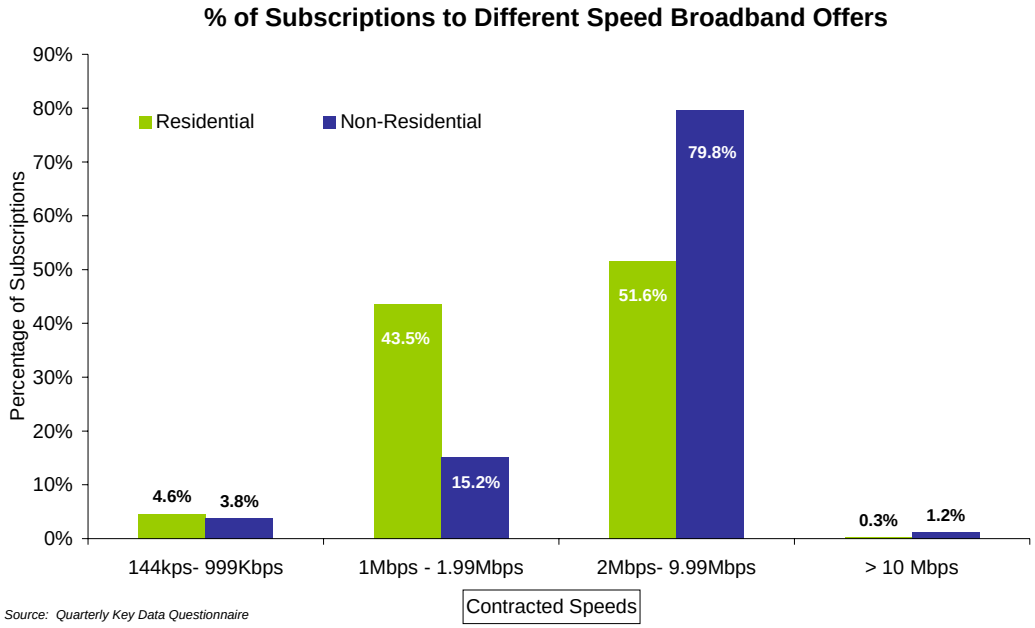
Figure 3.3.4 breaks down broadband subscriptions to provide an estimate of the proportion of business and residential subscriptions to DSL, cable, fixed wireless, mobile broadband, fibre and satellite broadband services. At the end of June 2008, 76% of broadband subscriptions on all platforms were residential broadband subscriptions. This has not changed since the last period. The platform with the highest percentage of residential subscriptions is cable broadband, while satellite and fibre broadband lines (classified as "Other") have the highest percentage of business customers.

Figure 3.3.4 – Broadband Subscriptions by Type



ComReg provides a breakdown of broadband subscriptions by speed across all broadband platforms. Figure 3.3.5 illustrates that residential users are more likely to subscribe to packages of between 1Mb - 2Mb, whereas business subscriptions are more likely to subscribe to broadband offers in the 2Mbps - 10Mbps category. The trend of customers moving to higher speeds has continued in Q2 2008 with significant increases in both residential and non-residential subscriptions in the 2Mbps – 9.99Mbps range. There was a slight increase in the >10Mbps range while the percentage of subscriptions in the 1Mbps – 1.99Mbps range declined for both residential and non-residential users.

Figure 3.3.5 – Broadband Subscriptions by Contracted Download Speeds

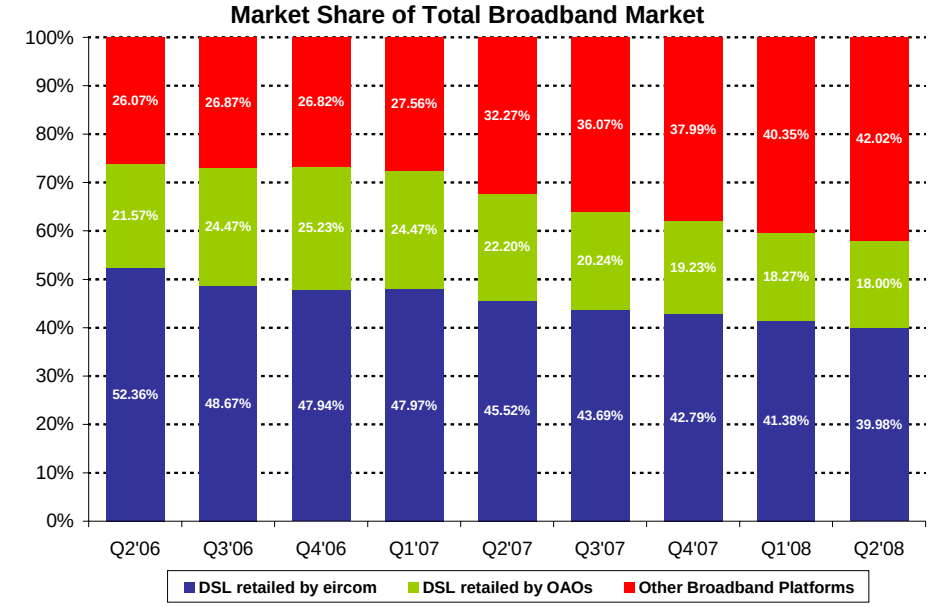


Source: Quarterly Key Data Questionnaire

Figure 3.3.6 illustrates eircom's market share of total broadband subscriptions when compared to other authorised operators' (OAO) share of overall broadband subscriptions, including DSL and alternative access technologies (which includes mobile broadband subscriptions).

In this period, eircom's market share has fallen slightly to just less than 40% of all retail broadband subscriptions. DSL provided by OAOs using either Bitstream or LLU also declined slightly in Q2 2008 and now represents 18% of all broadband subscriptions. The remaining 42% of subscriptions was held by operators on alternative broadband platforms which include cable broadband, fixed wireless, fibre, satellite and mobile broadband subscriptions. Please note that data from Q2 2007 cannot be compared to previous quarters as it includes mobile broadband for the first time. Data prior to Q2 2007 is included here for illustration of previous trends.

Figure 3.3.6– Market share of Total Broadband Market



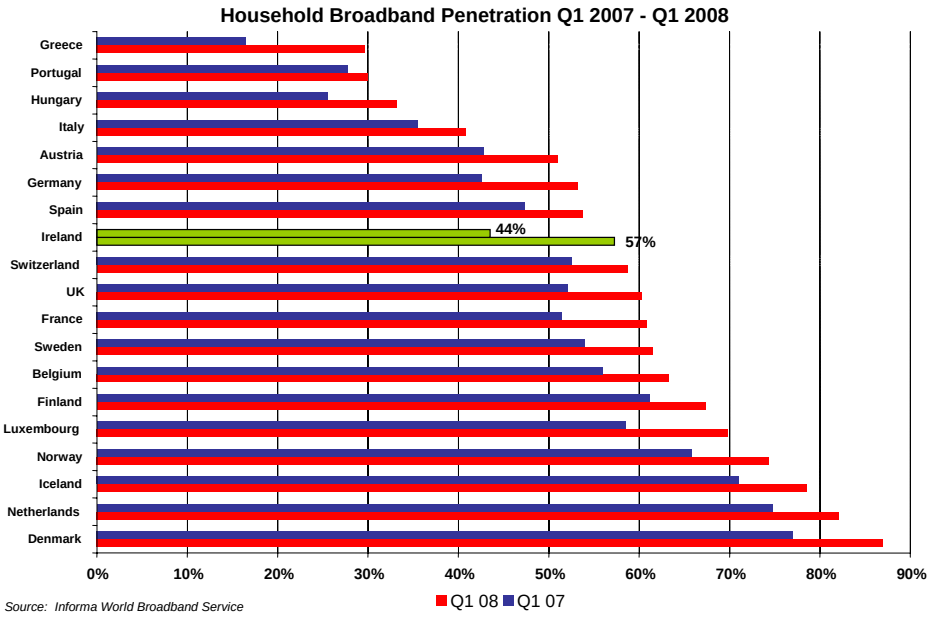
Source: Quarterly Key Data Questionnaire

In presenting broadband penetration benchmarks for European countries, ComReg uses the OECD, the European Competitive Telecoms Association (ECTA) or European Commission data. ComReg will endeavour to publish this data on a quarterly basis as detailed in Figure 3.3.7. The data presented is based on the most recently published statistics at the time of publication. Figure 3.3.8 illustrates a year on year, cross country comparison of household broadband penetration rates calculated by Informa at the end of Q1 2007 and Q1 2008. Ireland's household broadband penetration rate was 57% as at March 2008, compared to 44% the previous year[18]. Based on the penetration data used by Informa, Ireland ranks just behind the UK, while Denmark and the Netherlands have the highest household broadband penetration rates.

Figure 3.3.7 – Broadband Penetration Data Publications

Source	Publish Date	Data Period	Included in ComReg Quarterly Report
OECD	October 2008	January – June 2008	Q3'08
ECTA	February 2009	April – September 2008	Q4'08
OECD	April 2009	July – December 2008	Q1'09
ECTA	September 2009	October – March 2009	Q2'09

Figure 3.3.8– Household Broadband Penetration Rates Q1'07-Q1'08

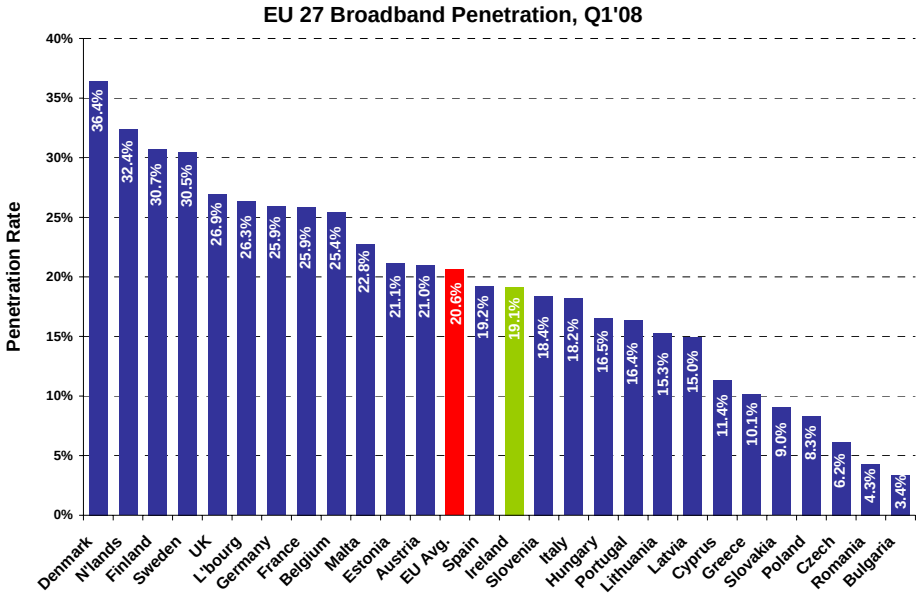


18 The OECD has defined broadband as 256 kbit/s in at least one direction. Mobile broadband is not included in this data.

The total number of broadband subscriptions in Ireland for Q2 2008 was 1,054,920. This was a 6.35% increase since Q1 2008. The broadband penetration rate in Q2 2008 was 24.3%. Without mobile broadband, the penetration rate was 19.2%. Figure 3.3.9 illustrates broadband penetration rates calculated by ECTA on a per capita basis as at the end of March 2008. ECTA does not include mobile broadband and has calculated Ireland's broadband penetration at 19.1% for Q1 2008.

Since the previous ECTA scorecard was released for September 2007 there has been a 2.3% increase in per capita penetration for Ireland. However, Ireland has dropped by one place in the rankings since the last ECTA report. The large jump in Malta's penetration rate has caused this decline in Ireland's ranking. Denmark, the Netherlands and Finland continue to be the top three in terms of broadband penetration, while Bulgaria is the country with the lowest broadband penetration according to the ECTA data.

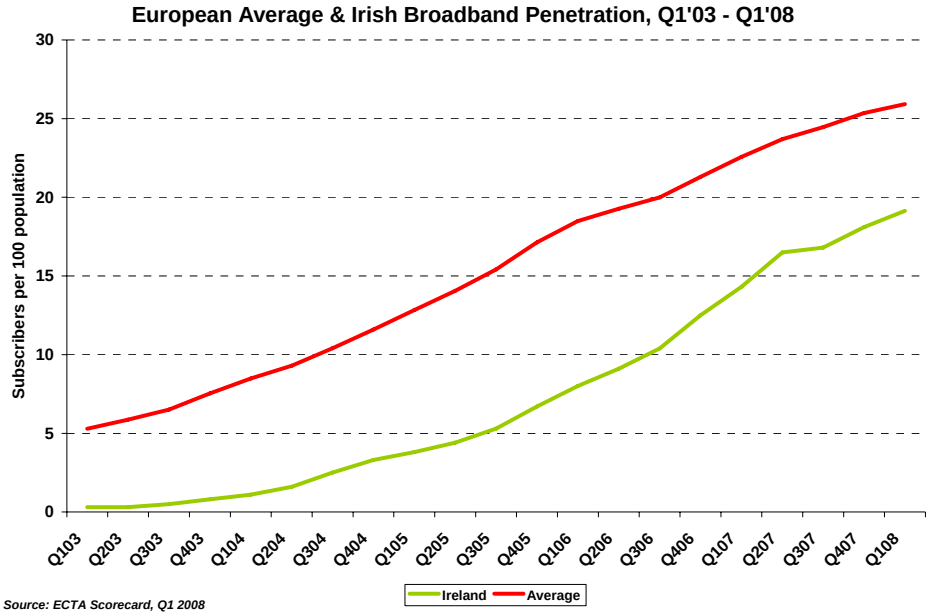
Figure 3.3.9– EU 27 Penetration Rate Q1 2008



Source: ECTA Scorecard, Q1 2008

Figure 3.3.10 charts the Irish broadband penetration rate against the average European rate over the last five years. The gap has remained at approximately 5% over this period. The 12 countries included in the average are those that ECTA has been collecting data on since it began its broadband scorecard.

Figure 3.3.10 – European Average & Irish Broadband Penetration, Q1'03-Q1'08



Source: ECTA Scorecard, Q1 2008

3.4 WiFi Broadband Access

ComReg provides data on the provision of public and private broadband services over WiFi as such access provides an alternative means of internet access for those users without internet access at home and/or a supplementary means of access for users who are away from their home or office. ComReg presents data on the WiFi market based on the number of WiFi hotspots and access points located nationally. Internet hotspots are typically public wireless access points where a computer, usually a laptop, or other portable device can connect to the internet. A WiFi hotspot can be made up of one or more WiFi access points[19].

WiFi hotspots tend to be found in airports, hotel lobbies and cafés and restaurants. In most cases, the user pays for high-speed internet access at an access point, based either on a vouchered payment for a specific amount of time online or a recurring monthly

19 A WiFi access point is a base station through which WiFi users can access the internet

subscription. There are a number of providers of these services in Ireland including Bitbuzz, eircom and BT Ireland.

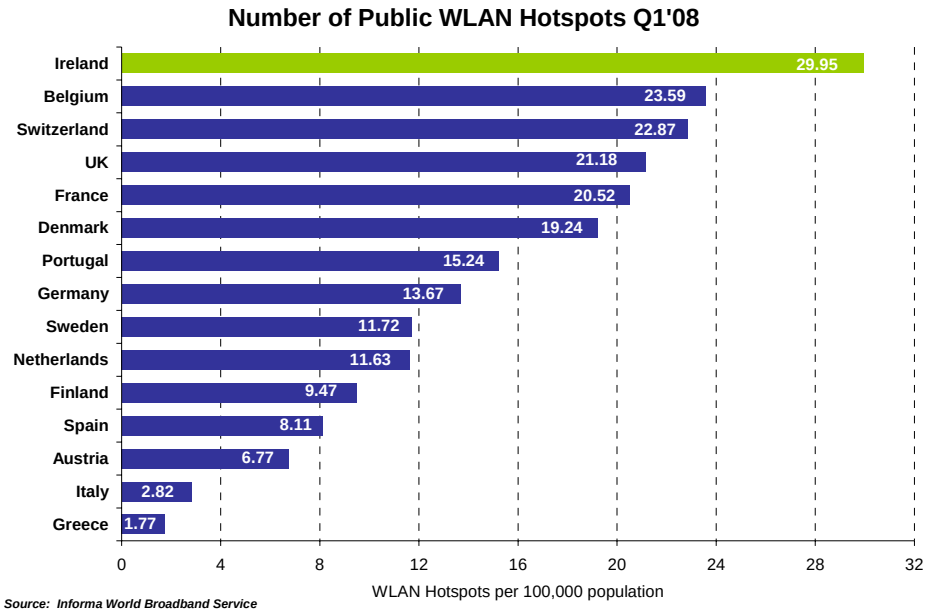
The number of WiFi Access Points has increased by 33% between Q2 2007 and Q2 2008. The number of WiFi Hotspots has increased by 1.3% since Q2 2007.

Figure 3.4.1 – WiFi Hotspots and Access Points

	Q2 2008	Q1 08-Q2 08 Growth	Q2 07-Q2 08 Growth
WiFi Hotspots	1,230	+0.7%	+1.3%
WiFi Access Points	3,122	+31%	+33%

Figure 3.4.2 below shows a comparison of public WLAN hotspots among 15 European countries. Ireland has the most public WiFi hotspots per capita among the countries analysed.

Figure 3.4.2 – European Public WLAN Hotspots Q1 2008



Source: Informa World Broadband Service

3.5 ADSL Pricing Data[20]

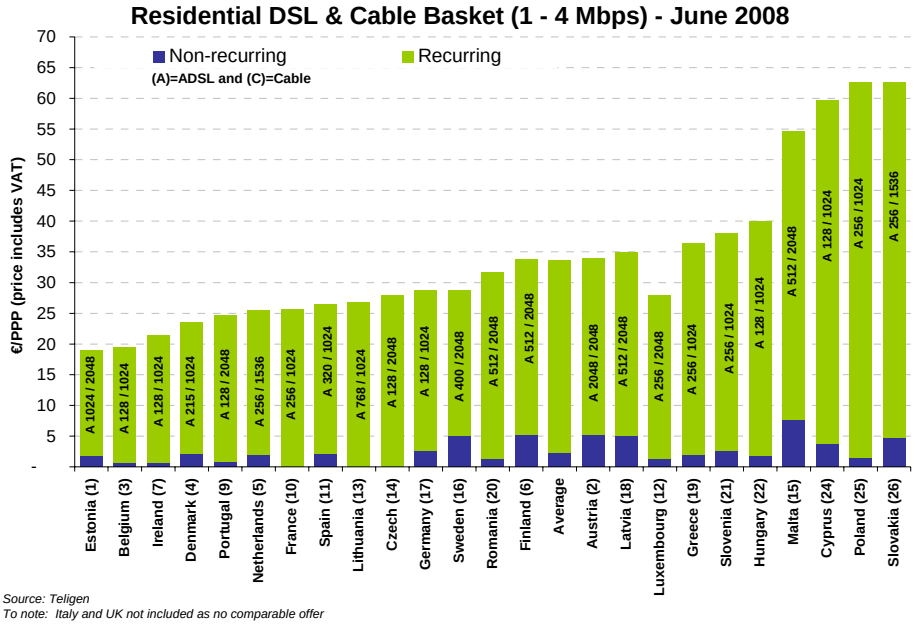
In this report broadband tariff baskets have been supplied by Teligen using their T-Connect product. In order to ensure that services can be adequately compared, the benchmarking model prices a range of DSL and cable services based on defined usage of 30 hours per month, with each session assumed to last for 30 minutes. While broadband is an always-on product, the assumption of an average user profile ensures that packages are comparable across countries. It further assumes a download usage of 5 Gigabytes every month for each service. Upload and download speeds (based on contracted speeds) are also analysed. In this report ComReg has compared residential tariffs only.

The data presented in the following chart illustrates the cheapest product available in each country from the incumbent operator under these usage assumptions for residential DSL and cable offerings. These packages have advertised download speeds of between 1 – 4 Mbps and more specific details on the upload and download speeds for each of the analysed products are included in the Figures. Speeds of 1-4Mb were chosen for incumbent operators across all benchmarked countries to ensure that a meaningful comparison can be made between packages in terms of contracted speeds offered. Incumbent operators' broadband packages are compared on the assumption that their products should be available nationally. Further information on the composition of the broadband basket can be found in the Explanatory Memorandum which accompanies this report[21].

20 This section does not include broadband tariff packages that are offered as special promotions. All tariffs are inclusive of VAT. VAT rates vary between Member States.

21 ComReg Document 08/75a

Figure 3.5.1 – Lowest Monthly Rental Residential DSL & Cable Basket (1 – 4 Mbps) – June 2008



Source: Teligen
To note: Italy and UK not included as no comparable offer

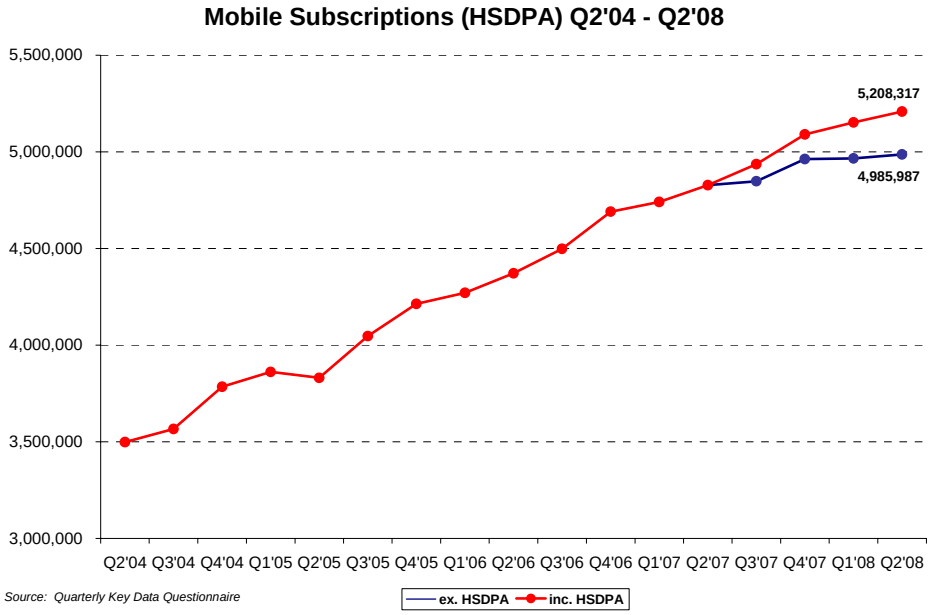
Ireland ranks in 3rd place in the DSL & Cable basket and compares very favourably with the EU27 average. The Irish broadband product benchmarked is eircom's Broadband Home Starter package.

4 Mobile Market Data

4.1 Number of Subscriptions and Penetration Rate

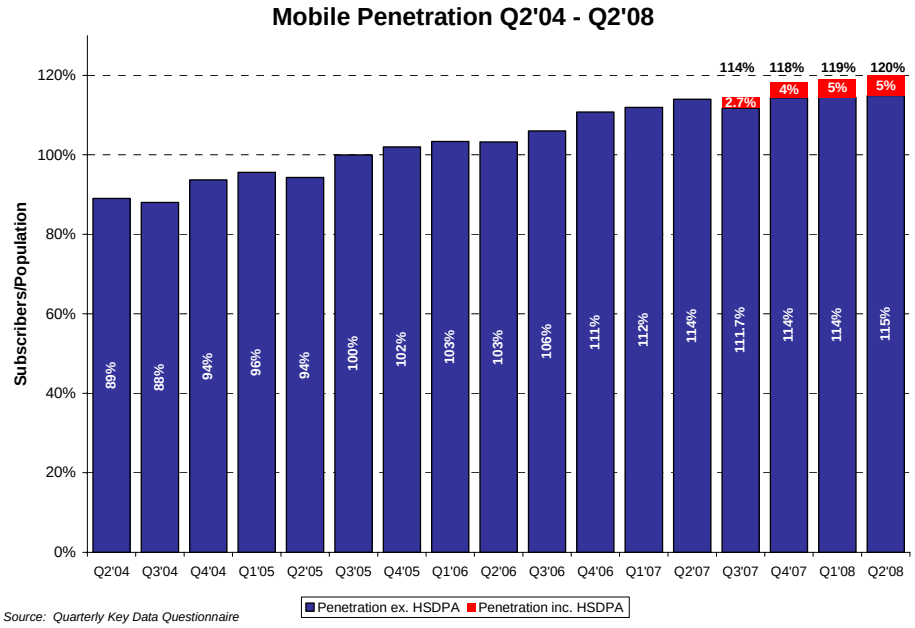
At the end of June 2008 there were 5,208,317 mobile subscribers in Ireland. Included in that total, since Q3 2007, are HSDPA mobile broadband subscriptions. If HSDPA is excluded the total number for mobile subscriptions in Ireland is 4,985,987. This information is plotted below in Figure 4.1.1.

Figure 4.1.1 – Mobile Subscriptions Q2'04 – Q2'08



Source: Quarterly Key Data Questionnaire

Figure 4.1.2 – Irish Mobile Penetration Rate



Source: Quarterly Key Data Questionnaire

At the end of June 2008, there were over 5.2 million 2G and 3G mobile subscriptions in Ireland[22]. Figure 4.1.2 illustrates the growth in mobile penetration since Q2 2004 and notes that at the end of June 2008, mobile penetration, based on a population of 4,339,000 (using CSO April 2007 estimate), in Ireland was 120%[23]. Total mobile subscriptions, including 2G/3G voice subscriptions and mobile broadband subscriptions, increased by over 55,000 in Q2 2008. Mobile penetration is recognised as the standard metric internationally to describe the adoption of mobile services, and is calculated based on the number of active SIM cards[24] per 100 of the population.

Given that some mobile users may have used more than one active SIM card during the period, there is likely to be some over-estimation of actual mobile usage using this metric. ComReg's calculation of mobile subscriptions now includes active SIMs bundled with HSDPA datacards and USB modems for internet access via laptops/PCs as well as SIM cards used in mobile phones for voice and data services. Q3 and Q4 2007 data have been revised to include these subscriptions.

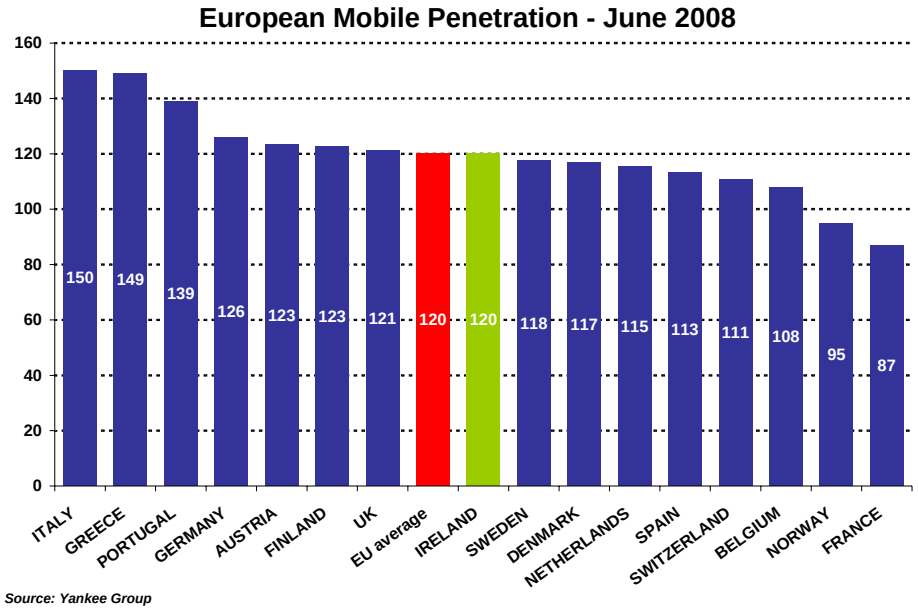
22 ComReg currently does not include a separate analysis of the 3G market in this report.

23 Figures since Q3 2007 have been amended in this report to include HSDPA subscriptions.

24 Vodafone defines an active SIM as one on which a billable event, i.e. made an outgoing call or sent a text, has occurred in the previous 8 months; all other market operators define an active SIM as one on which a billable event has occurred in the previous 3 months.

Figure 4.1.3 illustrates estimated national mobile penetration rates across European countries in June 2008. Ireland (120%) ranks level with the EU average of 120%.[25]

Figure 4.1.3 – European Mobile Penetration Rates



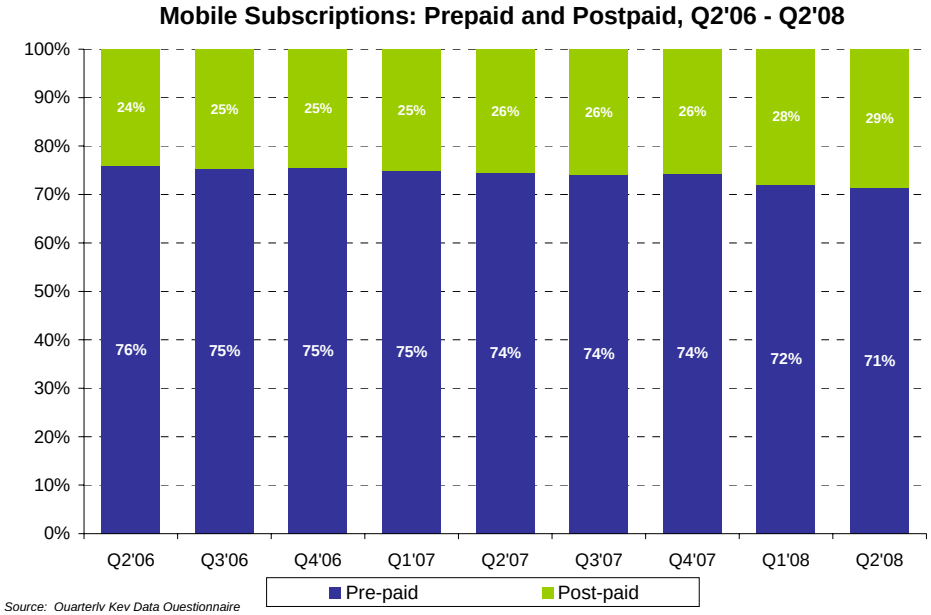
Source: Yankee Group

25 Irish data sourced from ComReg includes mobile broadband subscriptions. Not all countries in this chart may include mobile broadband subscriptions.

4.2 The Profile of Mobile Subscriptions in Ireland

Mobile users in Ireland pay for their mobile service by either purchasing pre-paid credit, or by receiving a monthly bill from their mobile operator, described in this report as a post-paid payment option. Figure 4.2.1 illustrates the mobile subscription base in Ireland classified by the proportion of pre-paid and post-paid subscriptions on both 2G and 3G networks at the end of June 2008[26]. The pre-paid/post-paid subscription split has seen little change since 2006. The proportion of post-paid subscriptions increased in Q1 2008 due to the inclusion of mobile broadband datacards and USB modems and has gone up by 1% in Q2 2008.

Figure 4.2.1 – Proportion of Pre-Paid and Post-Paid Subscriptions

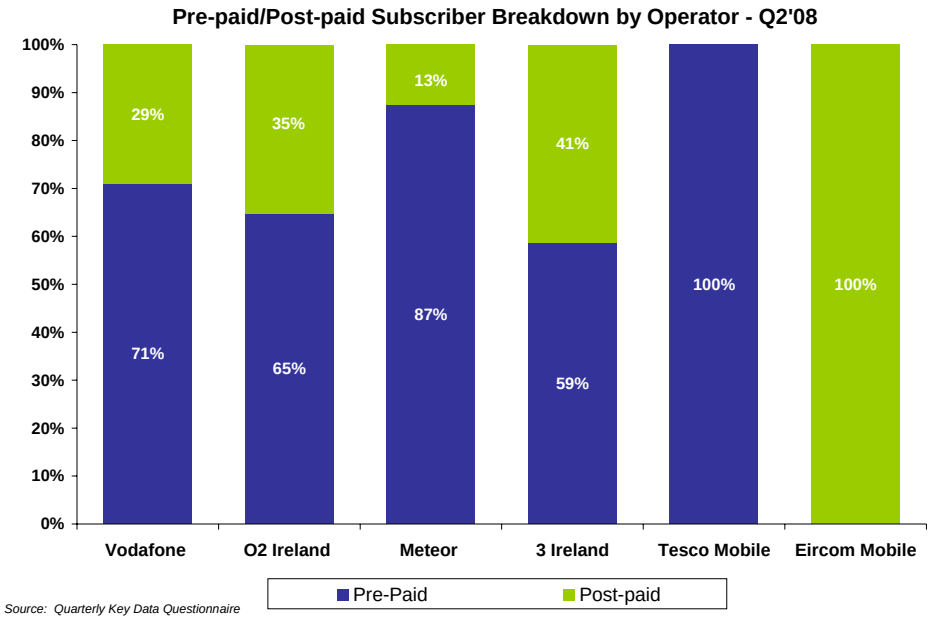


Source: Quarterly Key Data Questionnaire

26 Mobile broadband subscriptions (HSDPA) are included only from Q1 2008 in this chart.

Figure 4.2.2 indicates the pre-paid and post-paid subscription profile of each of the mobile operators in the Irish mobile market (mobile broadband has been included since Q1 2008). Eircom Mobile, which is a business only service, has the highest proportion of post-paid customers with all of its subscriptions in the post-paid category. Tesco reports the largest proportion of pre-paid subscriptions, with its entire subscriptions base using the pre-paid payment option. Vodafone's subscription base for pre-paid subscriptions is 71%. The majority of O2 and Meteor's subscription bases are also pre-paid, at 65% and 87% respectively. 3 Ireland's subscription base is more evenly split between post-paid and prepaid subscriptions.

Figure 4.2.2 – Profile of Pre-Paid and Post-Paid Subscriptions – by Operator



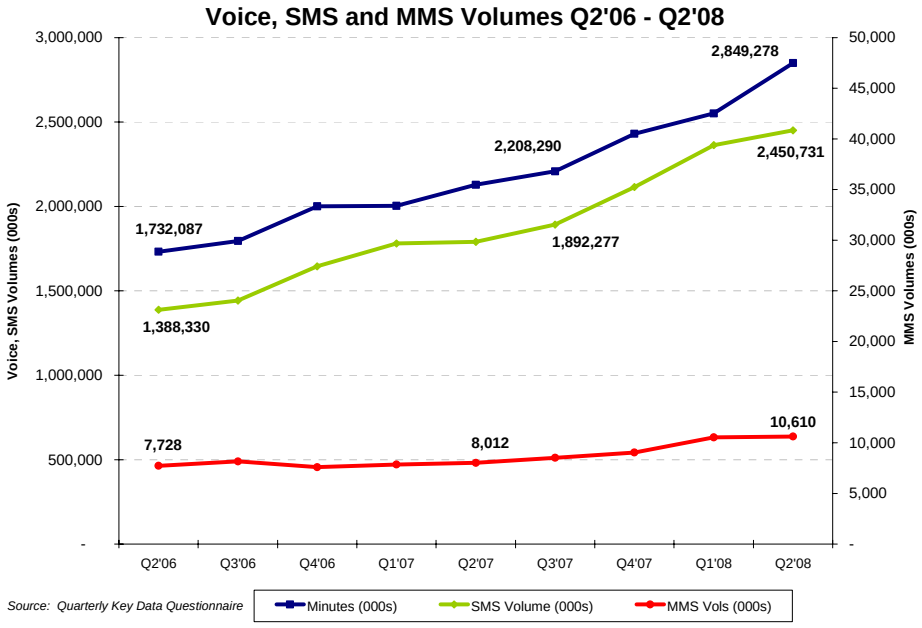
Source: Quarterly Key Data Questionnaire

4.3 Mobile Volumes

4.3.1 Total Voice, SMS and MMS Mobile Traffic

Figure 4.3.1.1 illustrates the growth in voice minutes, SMS, and MMS (Multimedia Messaging Service) messages sent over mobile networks since Q2 2006. Total retail mobile voice traffic totalled over 2.8 billion minutes in Q2 2008. This represents a growth rate of 12% in voice volumes since the previous quarter. It represents a 34% increase in voice volumes since the same period in 2007 and a 64% increase since Q2 2006. Mobile originating minutes now account for 55% of all voice traffic in the Irish telecommunications markets. The total number of SMS messages sent by mobile users in Ireland totalled 2.45 billion in Q2 2008. SMS messaging grew by 4% quarter on quarter, and volumes of SMS have increased by 37% since Q2 2007 and by 76% since the same quarter in 2006. If the total volume of text messages is averaged over all active subscriptions, an average of 157 SMS messages were sent per subscription, per month in Q2 2008, compared with 124 in the same period last year.

Figure 4.3.1.1 – SMS, MMS and Call Minutes

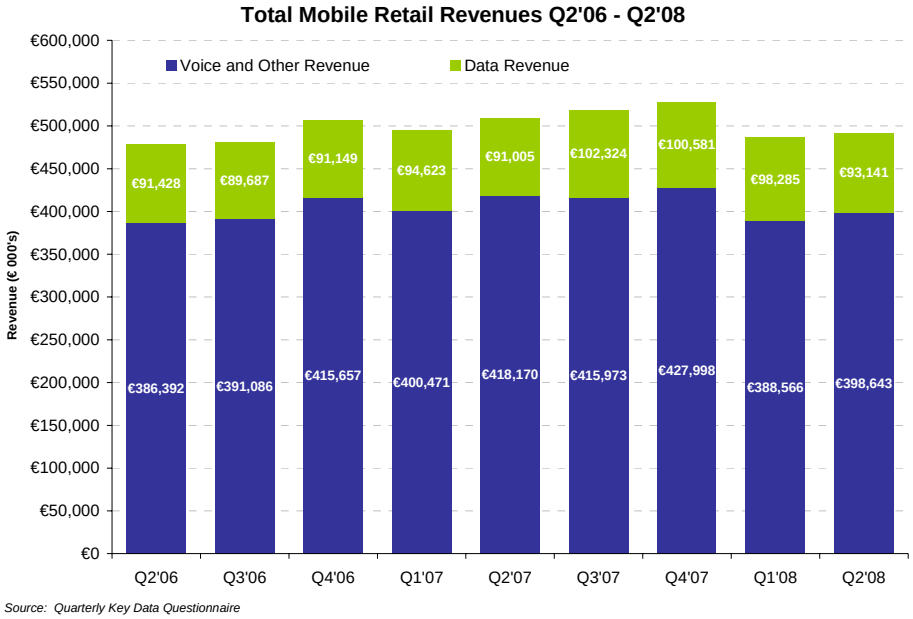


The number of MMS messages, or multimedia messages such as picture messages, sent in the quarter, though relatively low when compared to voice minutes and SMS volumes, continues to increase. There were just over 10.6 million MMS messages sent during the quarter. This is an increase of 1% on the previous quarter.

4.4 Mobile Revenues

Figure 4.4.1 shows that mobile retail revenues for the quarter were almost €492 million, an increase of almost €5 million on the previous quarter.

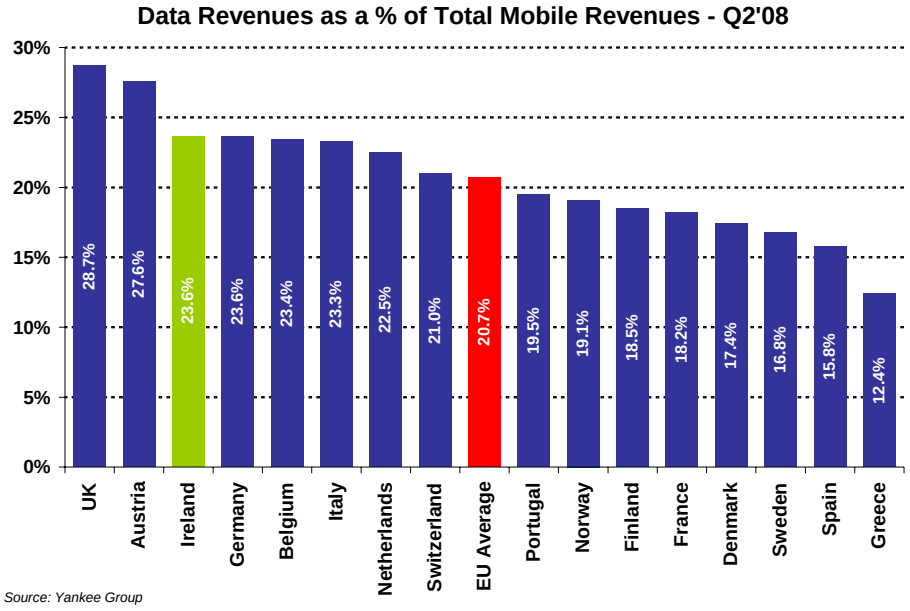
Figure 4.4.1 – Total Mobile Retail Revenues Q2'06- Q2'08



Source: Quarterly Key Data Questionnaire

Figure 4.4.2 outlines the percentage of mobile revenues attributable to all data revenues in the Irish market compared to a number of other EU-15 markets. This benchmarking data is calculated independently by the Yankee Group, and includes data revenues not only from SMS and MMS messaging, but also data revenues from GPRS data services and 3G data services. Irish mobile operators rank third in comparison to other European operators in terms of levels of data revenues as a percentage of overall revenues. In Q2 2008, for Ireland, more than 23% of total mobile revenues are contributed by data revenues. This is a 4.4% increase since Q1 2008 and a 7.3% increase since Q2 2007.

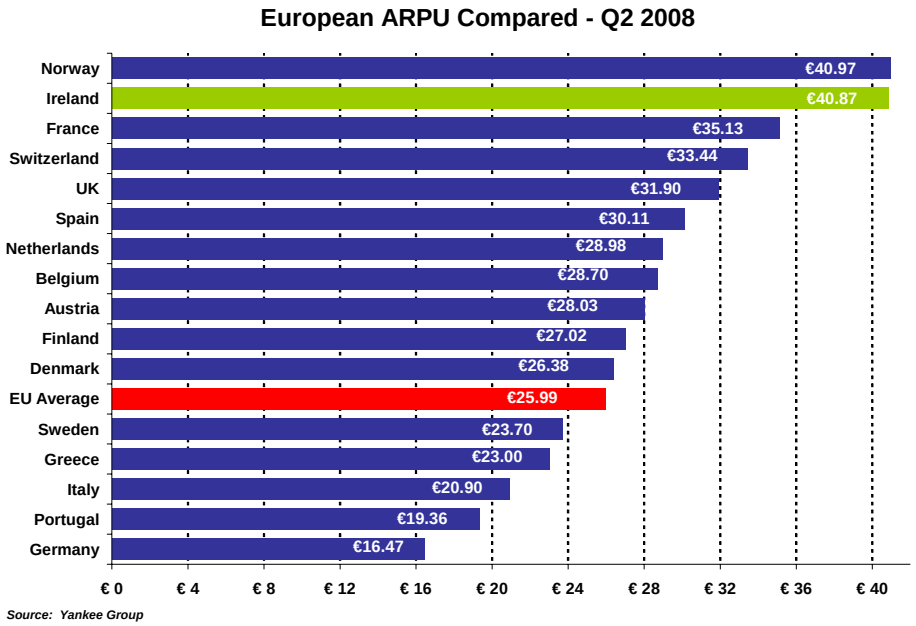
Figure 4.4.2 - Data Revenues as % of Total Mobile Revenue



Source: Yankee Group

Figure 4.4.3 compares ARPU (average revenue per user) across 16 European countries[27]. Average revenue per user is an indication of average monthly revenue generated by mobile subscriptions in each country. Mobile ARPU in Ireland is estimated at €40.87 per month in Q2 2008, a 6% decline in ARPU since the last quarter and a 7.3% decline since the same period in 2007. The EU average ARPU has also fallen over this period. Mobile ARPU in Ireland is now lower than in Norway, although it is still above the European average.

Figure 4.4.3 - European ARPU Compared – Q2 2008



27 As far as possible, ARPU Figures are obtained directly from operators. Where unavailable, ARPU is calculated by dividing annual service revenues by the mid-term installed base (the sum of the opening and closing customer bases for the period divided by two). Once the Yankee Group has obtained or calculated all individual ARPU Figures, they are applied to each operator's mid-term user base to obtain service revenues by operator, which are then combined to obtain a country total. This total revenue Figure is then divided by total mid-term users to derive country-level ARPU. Note that the graph relates to EU-15 countries except Luxembourg where no data was available.

4.5 Average Minutes of Use

Mobile monthly ARPU is a function of both the price of mobile services and the level of usage of mobile services. The most frequently used metric to determine levels of mobile telephony usage is monthly minutes of use. ComReg has collected monthly minutes of use data from all operators in the Irish market since Q1 2007. Further information on the definition and calculation of average minutes of use by ComReg is detailed in the explanatory memorandum which accompanies this report[28]. Average minutes of use in Ireland for Q1 2008 were 241 minutes per month, a 6.2% increase on usage since the previous quarter.

Figure 4.5.1 – Minutes of use Q1'08 – Q2'08

Country	MoU Q1'08	MoU Q2'08	Quarterly Change Q1'08 – Q2'08
France	240	255	+6.1%
Ireland	227	241	+6.2%
UK	173	177	+2.1%
Spain	161	166	+3.1%
Italy	127	130	+2.4%
Portugal	118	121	+2.8%
Germany	111	114	+2.6%

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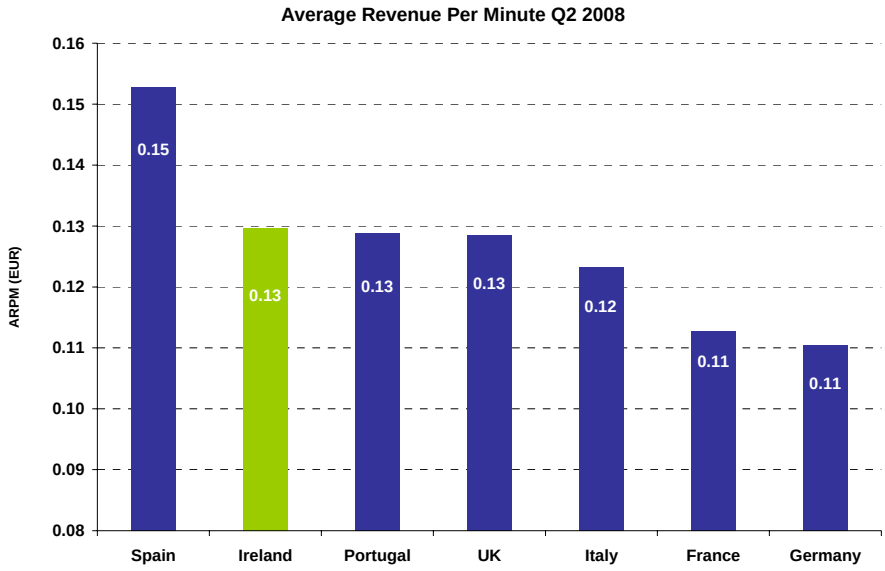
Yankee Group has provided ComReg with data which provides estimates of monthly minutes of use for mobile markets in 7 European countries. Figure 4.5.2 plots Average Revenue Per Minute (ARPM) for these countries[29]. ARPM is not the rate per minute that would be paid by a customer in any of these countries. It is an indicative per minute rate based on a limited data set, not split by pre- and post-paid revenues[30]. ARPM shows that revenues per minute of use by an Irish customer have fallen by 12.5% in Q2 2008 and remain below those of Spanish subscriptions and similar to those of Portuguese subscriptions.

Figure 4.5.2 – Average revenue per minute (ARPM), Q2'08



Source: Yankee Group

29 The necessary data for calculating ARPM was only available for Ireland, France, Spain, UK, Germany, Italy, and Portugal.

30 Average Revenue Per Minute is calculated by dividing monthly voice-only ARPU by MOU. Revenues used in the calculation include those related to roaming and wholesale termination.

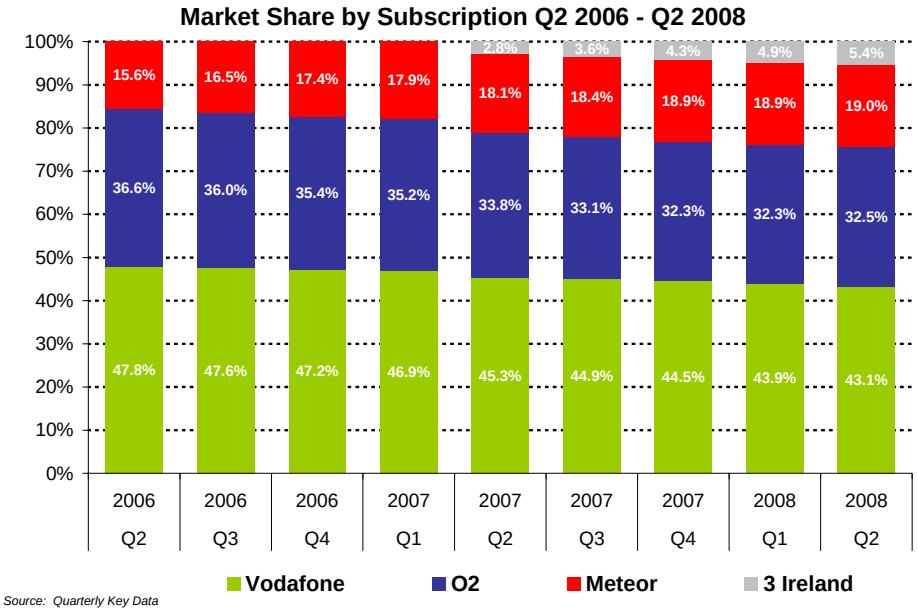
4.6 Competition in the Mobile Market

4.6.1 Mobile Market Shares- By Subscription and Retail Revenues

Figures 4.6.1.1 and 4.6.1.2 outline mobile market share based on the number of active subscriptions reported by each operator. The former includes mobile broadband while the latter excludes mobile broadband. It should be noted that while 3 Ireland's market share is presented as a percentage of all market subscriptions in Ireland, 3 Ireland operates only in the 3G sector. Tesco and eircom Mobile are not included in Figures 4.6.1.1 and 4.6.1.2.

In Q2 2008, Vodafone has seen a slight decline in its market share while O2's market share increased slightly. 3 Ireland currently accounts for 5.4% of the total active mobile subscription base in Ireland (including mobile broadband) and 4.1% when mobile broadband is stripped out. Excluding O2 and Vodafone, all other operators now account for almost 25% of the market, including and excluding mobile broadband.

Figure 4.6.1.1 – Market Share – Number of Subscriptions (inc. HSDPA)



Source: Quarterly Key Data

Figure 4.6.1.2 – Market Share – Number of Subscriptions (ex. HSDPA)

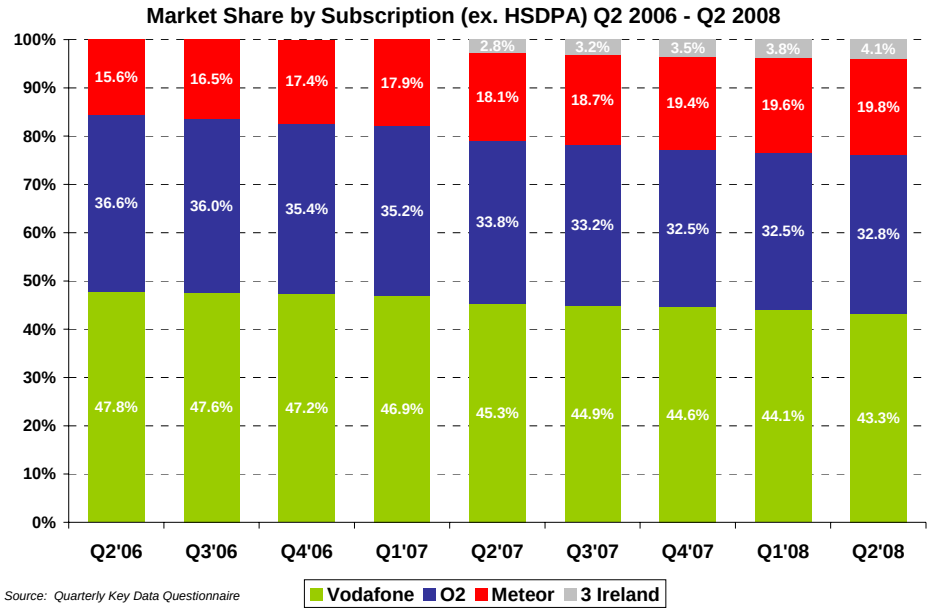
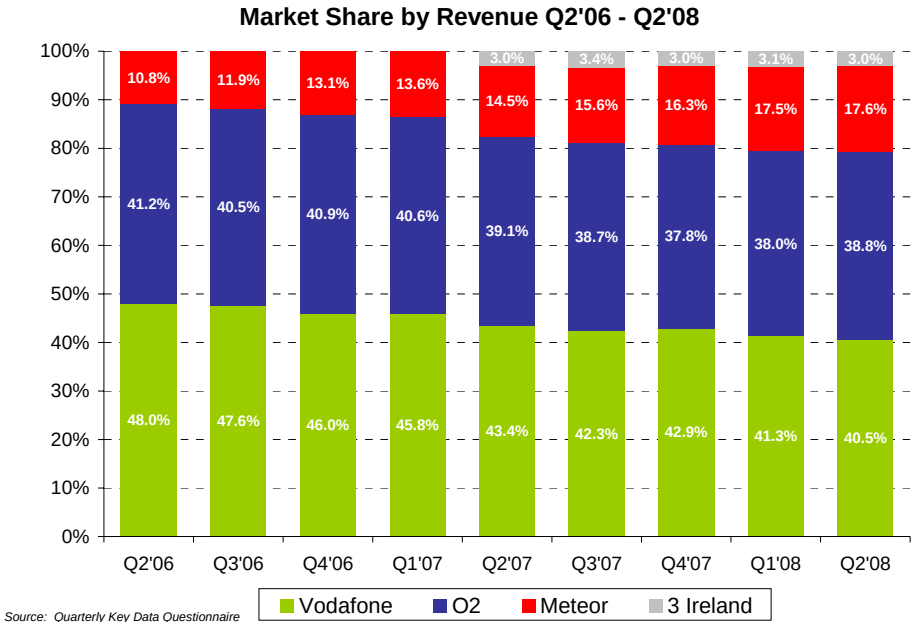


Figure 4.6.1.3 provides an analysis of market shares by revenue for mobile operators in the Irish market. Tesco and eircom mobile are not included in Figure 4.6.1.2. 3 Ireland accounted for just under 3.1% of mobile industry retail revenues in Q2 2008. Meteor's market share has continued to rise steadily and is now 17.65%. O2's market share also increased slightly in this quarter, while Vodafone's market share in terms of revenue continues to decline gradually.

Figure 4.6.1.3 – Market Share – Revenue

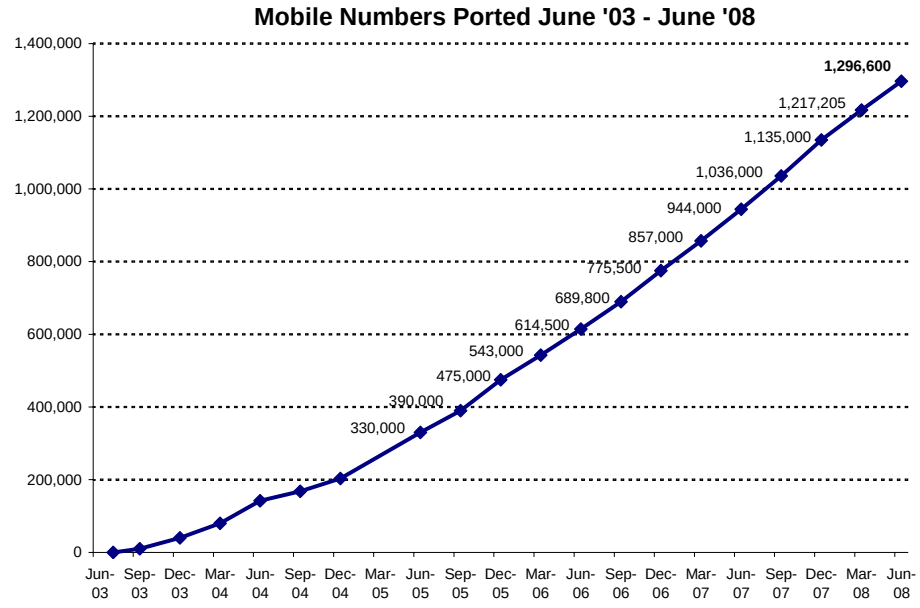


4.6.2 Switching in the Mobile Market

Figure 4.6.2.1 illustrates the cumulative total of mobile numbers ported between Irish mobile operators since the launch of Mobile Number Portability (MNP) in June 2003. MNP allows mobile subscriptions to switch mobile operator while retaining their mobile number.

A total of 1,296,600 people have used MNP to switch operator since June 2003. In Q2 2008 79,395 numbers were ported to another operator. Based on data since June 2007, an average of 88,200 numbers are ported each quarter.

Figure 4.6.2.1 – Cumulative Mobile Numbers Ported



Source: Quarterly Key Data Questionnaire

4.7 Mobile Pricing Data[31]

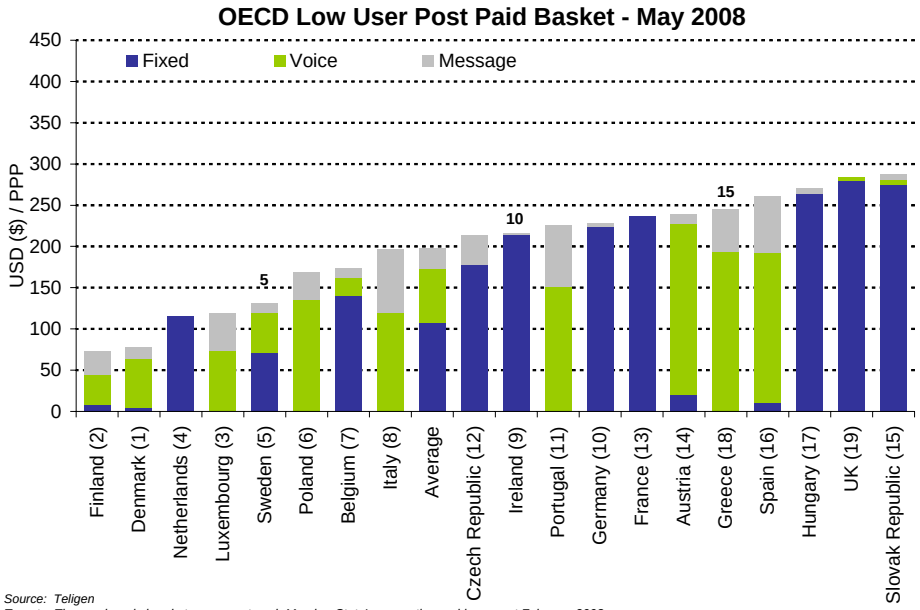
The Teligen mobile baskets presented in this Quarterly Report are based on an OECD-approved methodology using assumptions around specific usage levels for low, medium and high contract and pre-paid subscription packages. They are calculated and analysed independently by Teligen, using an OECD methodology which includes PPPs (Purchasing Power Parities) to reflect the real cost of mobile services compared to all other costs within a country. While all mobile post-paid tariff baskets presented in the Teligen baskets are currently based on typical 2G services as approved by the OECD, ComReg recognises that there may be other more competitive packages available with 3G handsets.

31 The 'Fixed' component of price refers to the standard charges imposed by operators, regardless of the amount of calls made (i.e. connection and rental). Teligen's calculation of this Figure is made up of: Installation Charge/5 + Rental charge for 1 year. The 'Voice' component of price refers to the charges imposed by operators, arising from the number of voice calls made by the user, while "Message" refers to the charges imposed by operators, arising from the number of SMS and MMS messages sent by the user.

4.7.1 Low User Post Paid Mobile Basket[32]

Ireland ranks 10th out of the EU19 countries benchmarked. Ireland has fallen by one place since the last quarter.

Figure 4.7.1.1 - OECD Low User Post Paid Mobile Basket – May 2008



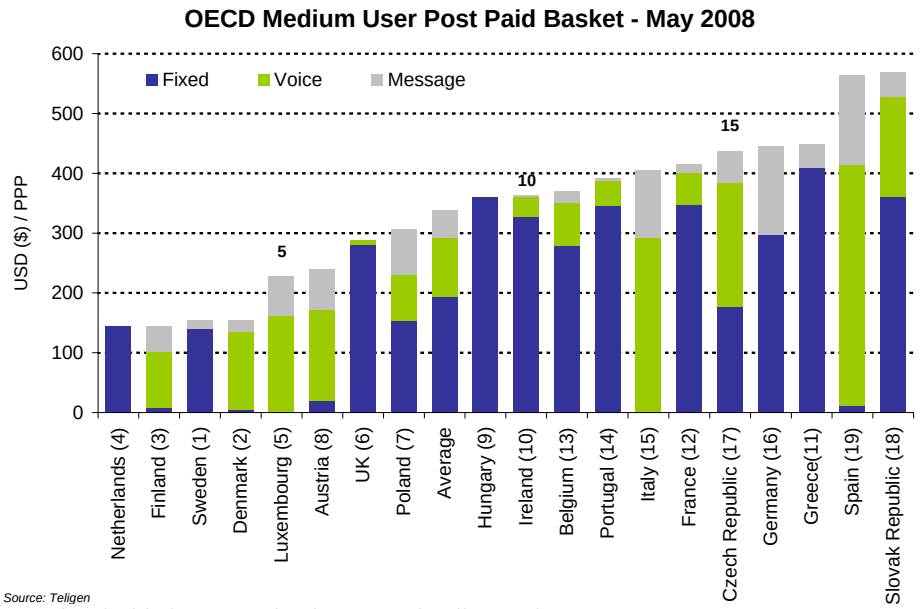
Source: Teligen
To note: The numbers in brackets represent each Member State's respective rankings as at February 2008

32 All tariffs are inclusive of VAT, rates will vary between Member States

4.7.2 Medium User Post Paid Mobile Basket

Ireland ranks 10th on this measure, remaining in the same position since the last quarter. For this usage basket, the Netherlands has the lowest cost of the countries benchmarked.

Figure 4.7.2.1 - OECD Medium User Post Paid Mobile Basket – May 2008

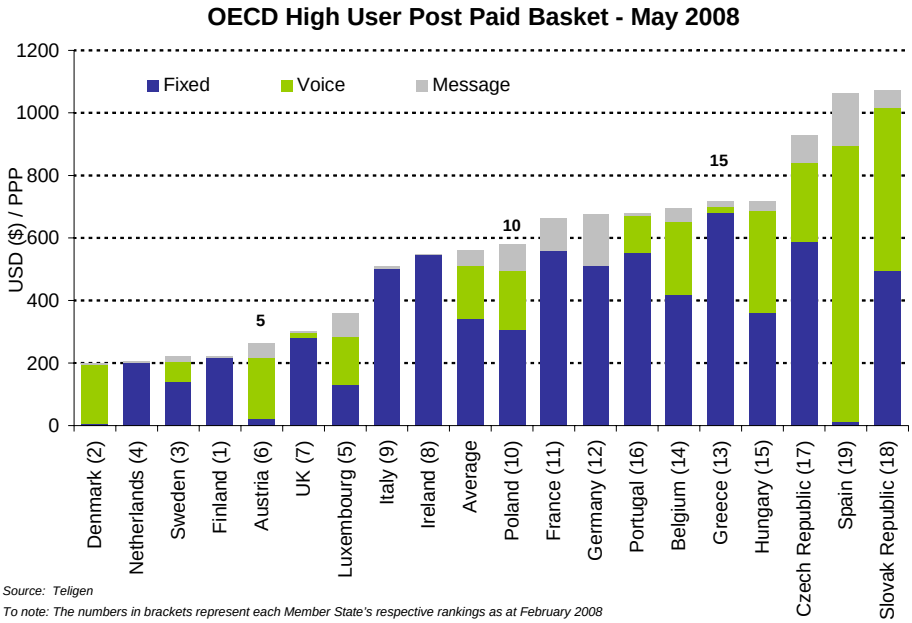


Source: Teligen
To note: The numbers in brackets represent each Member State's respective rankings as at February 2008

4.7.3 High User Post Paid Mobile Basket

In the High-User Post-Paid basket, Ireland now ranks 9th among the EU19 countries and is now just one place better than the EU19 average.

Figure 4.7.3.1 - OECD High User Post Paid Mobile Basket – May 2008

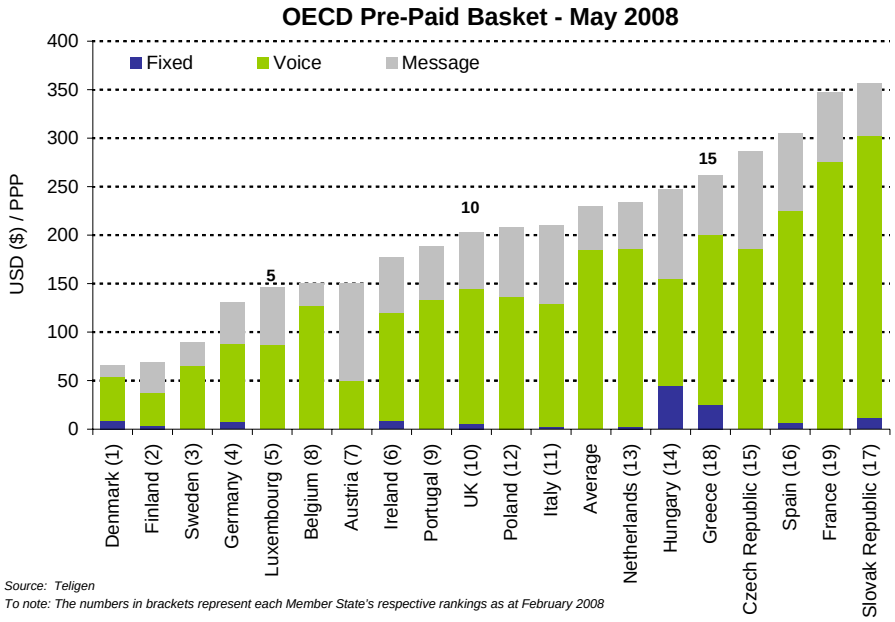


Source: Teligen
To note: The numbers in brackets represent each Member State's respective rankings as at February 2008

4.7.4 Pre-Paid Mobile Basket[33]

Ireland ranks 8th on this measure, showing no change since the last quarter. However, Ireland still ranks above the EU19 average.

Figure 4.7.4.1 - OECD Pre-Paid Mobile Basket – May 2008



Source: Teligen
To note: The numbers in brackets represent each Member State's respective rankings as at February 2008

33 The OECD has found that there is little difference between the average pre-paid usage and low-user post-paid usage. Thus, the pre-paid and low user post paid baskets are based on the same usage assumptions.

5 Broadcasting

5.1 Overall Broadcasting Market

The broadcasting analysis provided in this report uses operator data in conjunction with CSO estimates[34] of the total number of TV households in Ireland. This is particularly relevant in deriving the number of households that use only a Free-to-Air[35] television service. There are 1.46 million TV households in Ireland, based on the CSO's 2007 Information Society report.

Of the total number of TV households at the end of June 2008 there were approximately 545,325 subscriptions to cable[36]/MMDS[37] television services in Ireland. For the same period BSkyB reported 541,000 Irish satellite[38] TV subscriptions, a growth of 44,000 subscriptions since the same reporting period last year. The total number of pay TV households in Ireland (cable, MMDS and satellite) is 1.086 million.[39] Pay-TV households now represent 74.5% of all homes with a television.

Figure 5.1.1 – Broadcasting Subscriptions and Growth Rates by Platform

Platform	Number of Subscriptions Q2 '08	Quarterly Change Q1 '08 – Q2'08	Annual Change Q2'07 – Q2'08
Analogue Cable	232,870	-2.60%	-6.3%
Digital Cable	216,135	-0.68%	+2.75%
MMDS	96,320	-5.21%	-11.54%
Satellite	541,000	-1.28%	+8.85%
Free-to-View	371,975	+5.67%	-5.48%
Total-Pay-TV Households	1,086,325	-1.81%	+2.02%

34 ComReg uses the most up to date Figure for TV households as per CSO Figures when calculating penetration of Pay TV services. The latest CSO data published in the 2007 Information Society and Telecommunications report, reported 1.4583 million TV households in Ireland. This Figure will remain fixed in future quarterly reports as the CSO will not be revising this Figure in the near future.

35 Free-to-Air television broadcasts are sent unencrypted and may be received via any suitable receiver. Although these channels are described as 'free', the viewer does pay for them by payment of a licence fee.

36 Cable television is a system of providing television to consumers via radio frequency signals transmitted to televisions through fixed optical fibres or coaxial cables as opposed to the over-the-air method used in traditional television broadcasting (via radio waves) in which a television antenna is required.

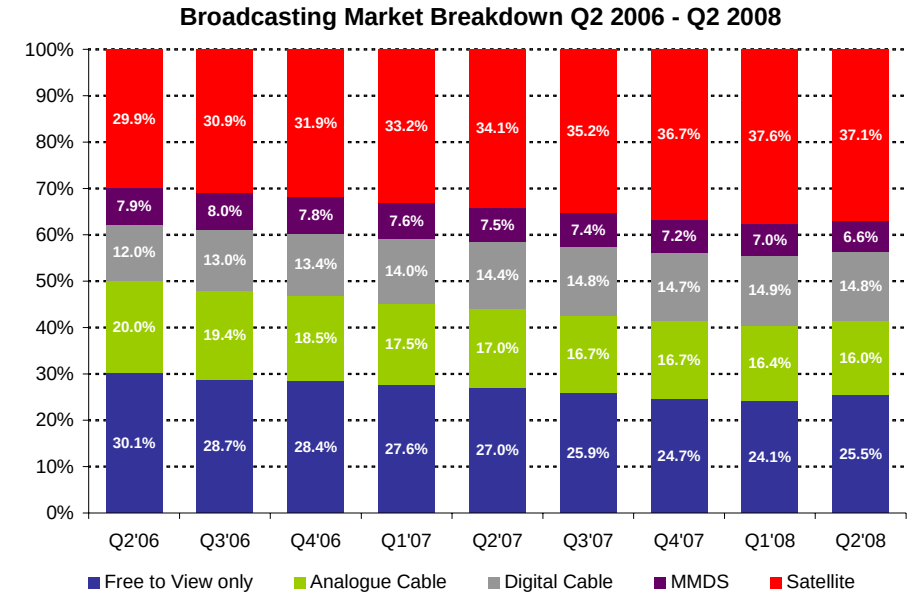
37 MMDS (Multichannel Multipoint Distribution Service) is a wireless telecommunications technology, used as an alternative method of cable television programming reception. MMDS is usually used in sparsely populated rural areas, where laying cables is not economically viable.

38 Satellite television is television delivered by way of communications satellites, as compared to conventional terrestrial television and cable television. Figures for satellite homes are based on Sky's publicly announced Figures.

39 TV can also be delivered through other mechanisms such as over the internet (IPTV). While this data is not presented in this quarter, ComReg hopes to include such information in the future.

Figure 5.1.2 profiles TV households in Ireland based on those households who subscribe to an analogue or digital cable television service, MMDS, a digital satellite service, or a free-to-air television service.

Figure 5.1.2 - Delivery of Broadcasting Services

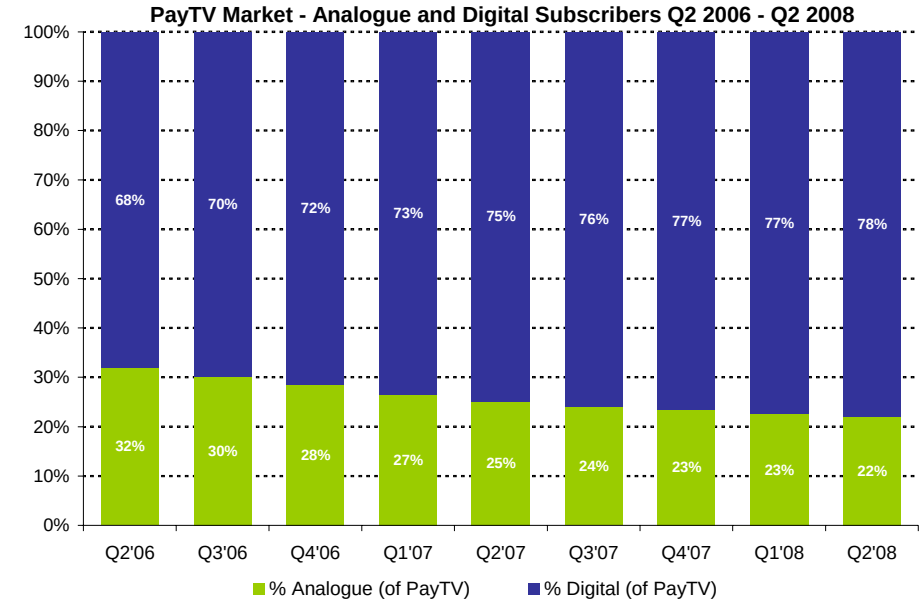


Source: Quarterly Key Data Questionnaire, BSkyB

5.2 Pay TV

Figure 5.2.1 profiles the pay-TV market in Ireland, comparing those who subscribe to an analogue service provided by cable operators, and those who pay for digital TV, provided via either a digital cable service (inc. MMDS) or satellite service. In Q2 2008 77.8% of all those subscribing to a paid television service in Ireland had a digital subscription. Although total pay-TV subscriptions declined in Q2 2008 by 1.8%, since Q2 2007 digital subscriptions in Ireland have grown by 6.1%.

Figure 5.2.1 - Pay TV Market (Analogue and Digital)



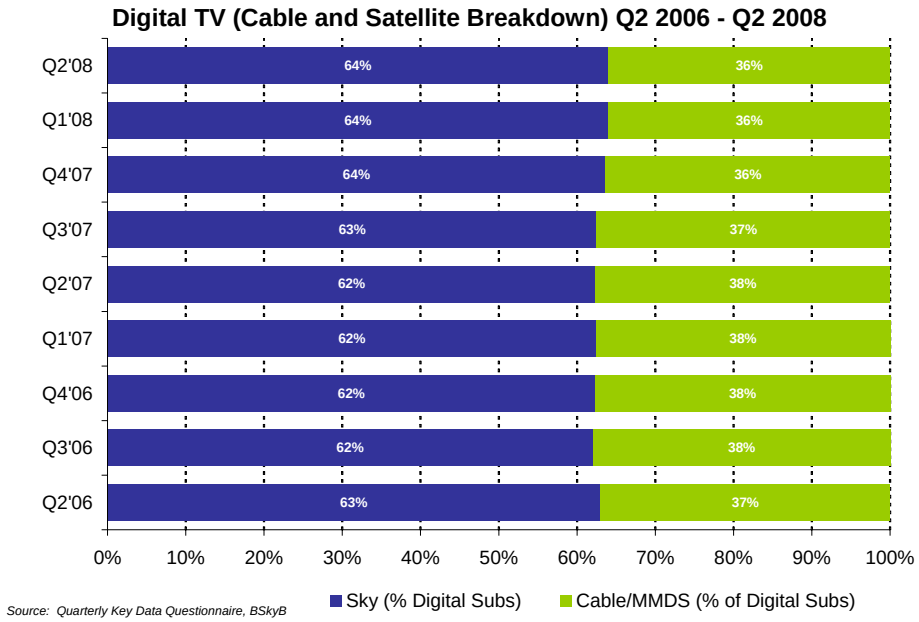
Source: Quarterly Key Data Questionnaire, BSkyB

5.3 Digital TV

At the end of June 2008, there were 845,571 digital TV subscriptions which include cable/MMDS and satellite customers. This is a decrease of almost 11,000 subscriptions since Q1 2008. 58% of all TV households in Ireland now receive their TV service via a digital television signal, based on either digital cable (inc. MMDS) or satellite.

Figure 5.3.1 profiles the digital TV market, examining the proportion of digital subscriptions who receive their TV signal via a satellite subscription compared with those using digital cable (inc. MMDS). This split of the consumer base has remained relatively unchanged over the last two years.

Figure 5.3.1 - Digital TV (Cable and Satellite Breakdown)



Source: Quarterly Key Data Questionnaire, BSkyB

6 Emerging Trends

6.1 WiMAX – Worldwide Interoperability for Microwave Access

The Emerging Trends series in the Quarterly Report aims to provide information on innovations and emerging technologies within the electronic communication sector. This quarter's Emerging Trends looks at WiMAX, a telecommunications technology that enables the delivery of last mile wireless broadband access as an alternative to other means such as cable, Mobile broadband and DSL.

6.2 WiMAX –Overview

The desire to enable blanket broadband coverage across national territories, in order to maximise revenues, has seen companies across the IT sector and communications sectors cooperating in a bid to increase the availability of broadband, both at fixed locations and while on the move. WiFi (Wireless Fidelity) networks based on IEEE standard 802.11x were rolled out in recent years to provide broadband access to consumers, particularly business consumers, at public hotspots such as airports and hotels. WiFi has been successful in terms of providing relatively affordable internet access at high speeds. However it has limitations with regard to coverage and security. WiMAX has been developed as a nomadic solution for broadband access and also as a means to supply broadband access at fixed locations to consumers for whom alternative fixed line broadband is not available or economically viable, most particularly in rural areas. Developed by the Institute of Electrical and Electronics Engineers (IEEE) in conjunction with the WiMAX Forum, **WiMAX** (**W**orldwide **I**nteroperability for **M**icrowave **Acc**ess) is a standards- based wireless digital communications system, also known as WirelessMAN or the Air Interface Standard, IEEE 802.16. The IEEE 802.16d standard was developed to deliver non-line-of-sight (NLoS) connectivity at a fixed location between a subscriber station and base station, using a point to multipoint architecture.

6.3 How it Works

6.3.1 Specifications

WiMAX provides fixed, nomadic, portable and, soon, mobile wireless broadband connectivity without the need for direct line-of-sight with a base station. In a typical cell radius deployment of three to ten kilometres, WiMAX Forum Certified™ systems can be expected to deliver capacity of up to 40 Mbps per channel, for fixed and portable access applications. WiFi operates in unlicensed spectrum (2.4 GHz and 5GHz) while WiMAX operates on both licensed and non-licensed frequencies (2-11 GHz NLoS and 10-66GHz LoS), has strong authentication mechanisms built in and has a considerably greater range than WiFi.

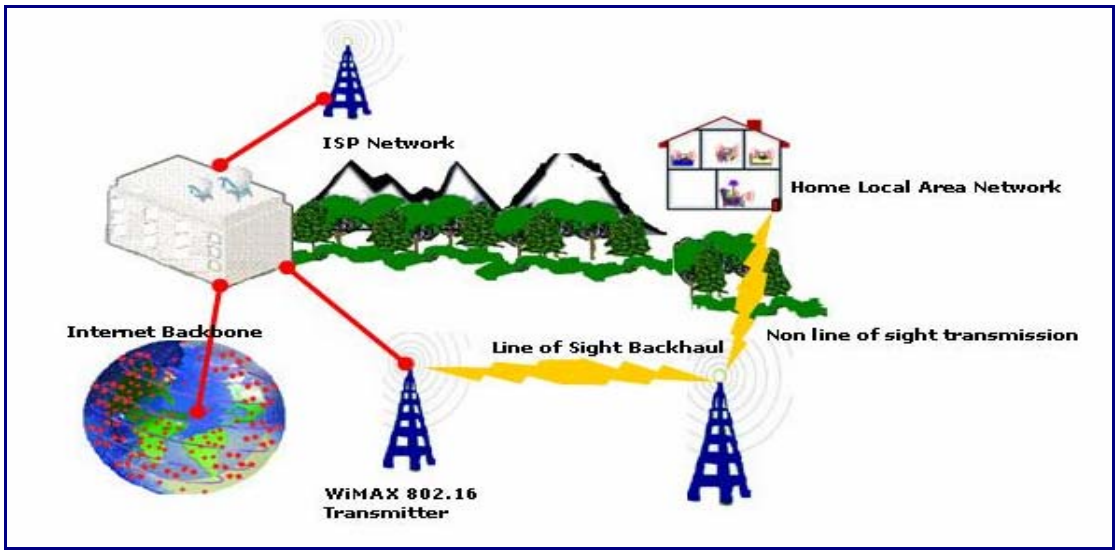
WiMAX systems are expected to deliver capacity of up to 40 Mbps per channel, and over 300Mbps with the next generation WiMAX standard[40]. Typically however, users can expect to have broadband access speeds ranging from 1-5 Mbps depending on the service provider offering. The exact data rate will depend on a number of factors, including the frequency being used, distance of the user from the base station or node, whether there is line of site to the base station, and the number of users on the network at any one time. Mobile network deployments are expected to provide up to 15 Mbps of capacity within a typical cell radius deployment of up to three kilometres. It is expected that WiMAX technology will be incorporated in notebook computers and PDAs, allowing for urban areas and cities to become "metro zones" for portable outdoor broadband wireless access.

6.3.2 How it Works

A WiMAX tower is similar in concept to a mobile phone tower and the WiMAX receiver and antenna are the size of a small box The WiMAX tower station connects directly to the Internet using a high-bandwidth, wired connection. It can also connect to another WiMAX tower using a line-of-sight, microwave link. WiMAX can provide two forms of wireless service: There is non-line-of-sight, where a small antenna on a computer connects to the tower. In this mode, WiMAX uses a lower frequency range -- 2 GHz to 11 GHz (similar to WiFi). Lower-wavelength transmissions are not as easily disrupted by physical obstructions and are better able bend around obstacles. There is also a line-of-sight service, where a fixed dish antenna points straight at the WiMAX tower from a rooftop or pole. The line-of-sight connection is stronger and more stable. Line-of-sight transmissions use higher frequencies, with ranges reaching a possible 66 GHz. At higher frequencies, there is less interference and more bandwidth available.

40 http://www.wimaxforum.org/technology/faq/

Figure 6.3.2.1 – How WiMAX Works



6.4 The Benefits of WiMAX

A key challenge for WiMAX will be interoperability of equipment offered by service providers. Other key challenges include cost of consumer premises equipment (CPE), coverage, capacity, standards and security for both fixed and mobile wireless usage models. In addition competition to WiMAX from cellular operators, who are developing solutions for mobile broadband based on HSDPA (High Speed Data Packet Access) and LTE (Long Term Evolution), is expected to be strong. Nevertheless WiMAX offers a number of potential benefits to consumers and service providers.

6.4.1 Lower cost

A standards-based platform for WiMAX technology drives down costs and delivers economies of scale for the production of affordable WiMAX equipment. In rural areas, WiMAX technology should permit the establishment of an affordable and efficient broadband network as rollout is quicker than for competing fixed broadband access platforms such as fibre or DSL. In developing countries in particular where such fixed networks have not yet been deployed on a mass scale, WiMAX technology provides the opportunity to connect people with Internet faster and more affordably than fixed technology.

6.4.2 Wider Coverage

The technology behind WiMAX has been optimized to provide non-line-of-sight (NLoS) coverage. NLoS advantages are coverage of wider areas, better predictability of coverage and lower cost as fewer base stations and less backhaul may be required, shorter towers and faster CPE install times. Techniques for improving NLoS coverage such as antenna

diversity and space-time coding, can boost coverage and signal reliability. Additionally, the non-line-of-sight (NLoS) capability means that WiMAX technology can provide good coverage despite the challenges of geography and the limited footprint of fixed line solutions.

6.4.3 Higher Capacity

A key advantage of WiMAX technology is the use of Orthogonal Frequency-Division Multiplexing (OFDM) over CDMA which is used in older technologies like Edge, GPRS, and HSPA. OFDM delivers higher spectral efficiency and therefore higher data rate and overall system capacity. It should substantially increase data speeds (over 2G/3G technologies) to support applications such as online gaming, streaming video, video conferencing, VoIP and location based services.

6.5 The challenges for WiMAX

At this stage WiMAX networks have yet to be deployed to any meaningful degree as equipment is still being developed and certified by standards bodies. A number of operators are trialling WiMAX technologies however. In addition WiMAX operates in various parts of the radio spectrum and there is currently no uniform global licensed spectrum for the technology. Growing competition from mobile operators is also posting a challenge for WiMAX deployments.

6.6 WiMAX in Ireland

To date ComReg has issued 226 FWALA licenses to 16 different operators who are providing broadband services to over 121,000 customers across Ireland using 185 MHz of spectrum in the 3.5 GHz band. While licences are currently valid for the provision of fixed and nomadic services on a technology neutral basis, ComReg is aware that a number of licensees operate WiMax as their technology of choice in this band. On the 3 September 2008 ComReg released an additional 118 MHz of 3.5 GHz spectrum to provide operators further opportunities to extend their use of WiMax in Ireland.

In addition, ComReg has also issue test licences to a number of operators to trial the mobile versions of WiMax in the 3.5 GHz band and has stated its intention to change the regulations in order to remove any restrictions on mobility.

6.7 Conclusions

WiMAX will probably find its best markets in emerging markets such as Africa and Latin America. Analysys Mason forecasts that developing regions will account for 92% (at least

90 million) of global WiMAX customers by the end of 2015.[41] In most developed markets, WiMax will be used more selectively. The biggest potential market for WiMAX is in China, where IEEE and the Chinese government are in discussion to make WiMAX the national standard for fixed broadband wireless access at 3.5 GHz. Intel has stated that they will begin to build in WiMAX capability into Centrino laptop processors in 2009. Within Ireland some deployment of WiMAX equipment is already evident amongst companies such as Clearwire, Digiweb and Irish Broadband. Eircom has also indicated that it will deploy WiMAX to supplement existing DSL service in five major urban centres. Eircom has indicated that the introduction of WiMax will ensure all potential customers will be able to receive broadband.[42] Undoubtedly WiMAX has a role to play in terms of offering an alternative platform for delivery of broadband to less populated and developing regions in a cost-effective and rapid manner and may also offer an efficient and cost-effective backhaul solution. However it faces strong challenge from both mobile operators who choose to deploy LTE or HSDPA networks for delivery of mobile broadband and fixed operators who choose to deploy very high speed networks over cable or fibre.

41 http://www.analysysmason.com/About-Us/News/Insight/Is-WiMAX-a-problem-child-or-simply-misunderstood/

42 eircom Press Release: "eircom drives broadband in Ireland", October 19th 2006