5 Telecoms and networks

5.1 Broadband availability

All homes in Northern Ireland are connected to an ADSL-enabled exchange, while 75% are connected to an LLU-enabled exchange

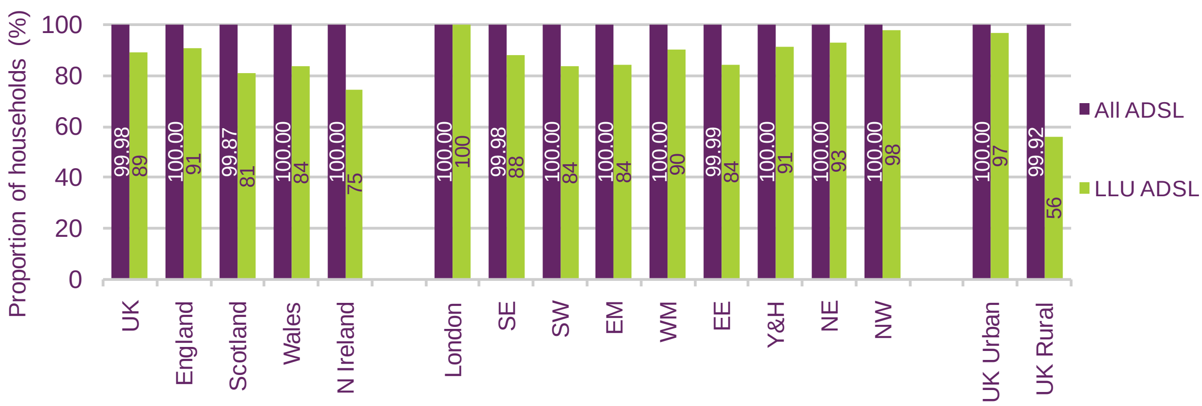
ADSL broadband is delivered over the copper phone line running from the local telephone exchange to the user's premises and has the highest availability of all of the technologies capable of delivering fixed broadband services in the UK. ADSL coverage therefore gives a good indication of overall UK broadband availability.

At the end of 2010 over 99.9% of UK homes were connected to an ADSL-enabled local exchange (although some people living in these areas may not be able to receive ADSL broadband services, or may be able to do so only at very slow speeds, as a result of the long length or poor quality of the copper telephone line from their premises to the local telephone exchange). All local exchanges in Wales and Northern Ireland were ADSL-enabled, while across England and Scotland 26 local exchanges were not ADSL-enabled (20 in Scotland and six in England) meaning that only a small proportion of households could not access fixed-line broadband services (Figure 5.1).

Households connected to an ADSL-enabled exchange have access to broadband services delivered by the incumbent operator (BT for the whole of Northern Ireland and all of the UK except Hull), and consumers can choose between retail services provided either by the retail arm of the incumbent (BT Retail), or other retail services which use wholesale services provided by the incumbent.

In addition, many exchanges have been 'unbundled'. This means that a local-loop-unbundling (LLU) provider has sited its own equipment in the BT's local exchange and provides ADSL broadband (either on a standalone basis or in conjunction with fixed voice services) over the incumbent's copper wire from the exchange to the customer premises. Those living in an unbundled exchange area are therefore likely to have a greater choice of providers and tariffs available to them than those living in exchange areas which have not been unbundled. At the end of 2010, 75% of homes in Northern Ireland were in exchange areas that had been unbundled, the lowest of all the UK nations. However, this is up from 69% of Northern Ireland households at the end of 2009, and just 10% at the end of 2006.

Figure 5.1 Proportion of homes connected to ADSL-enabled and unbundled exchanges



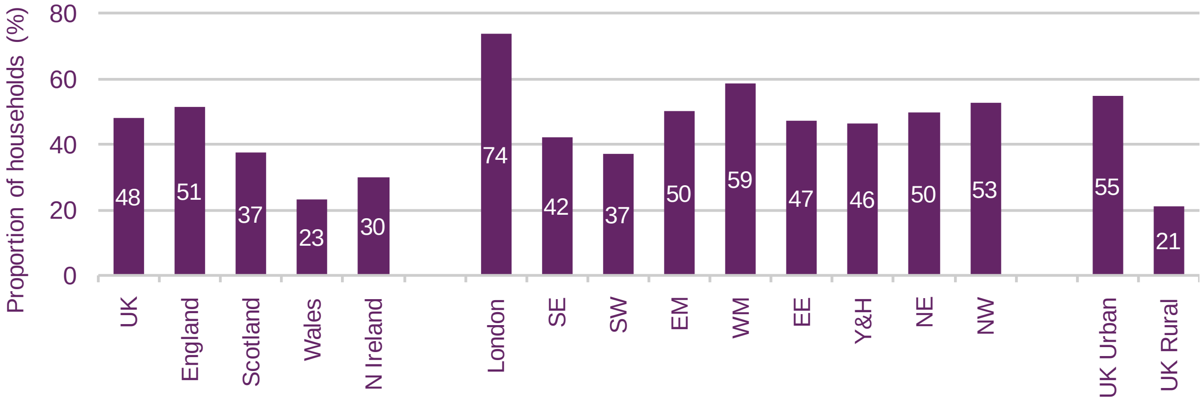
Source: Ofcom / BT, December 2010 data

Northern Ireland had the second lowest proportion of homes passed by Virgin Media's cable network, at 30%

After ADSL broadband, cable broadband is the second most popular broadband technology in the UK and in June 2010, 30% of Northern Ireland homes were passed by Virgin Media's cable broadband network, compared to 48% of all UK households. The cable network offers headline connection speeds of 'up to' 50Mbit/s (and 100Mbit/s in some areas including parts of Belfast, Glengormley and Derry/Londonderry City) and is concentrated in urban areas, as the original cable franchises concentrated the network build in highly populated areas in order to maximise their potential customer bases.

This is reflected in Figure 5.2 below, which shows that while 55% of homes in urban areas were passed by Virgin's cable broadband network in June 2010, only 21% in rural areas were. This largely explains the difference between the nations - the proportion of homes passed by Virgin Media's cable broadband network was lowest in Wales at 23%, and highest in England at 51%.

Figure 5.2 Proportion of households passed by Virgin Media's cable broadband network



Source: Ofcom / Virgin Media, June 2010 data

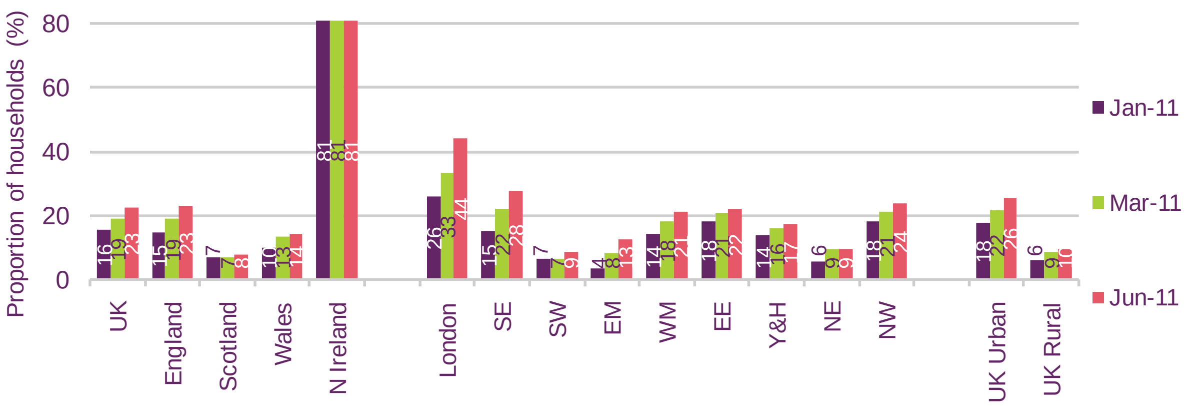
More than eight in ten Northern Ireland homes are passed by fibre-to-the-cabinet broadband –higher than the rest of the UK

Fibre-to-the-cabinet (FTTC) broadband involves running fibre-optic cable from the local exchange to the street cabinet and then using VDSL (a fast form of DSL) to provide broadband service to the end-user over the copper wire from the cabinet to the customer's premises. BT's current FTTC service offers headline speeds of 'up to' 40Mbit/s, although it recently announced that this will be increased to 'up to' 80Mbit/s in 2012[6]. Ofcom research finds that average speeds delivered by BT Retail's *Infinity* service were around 32Mbit/s, more than four times as fast as average speeds delivered by 'up to' 20/24Mbit/s ADSL services

BT is now rolling-out FTTC, passing around 80,000 new premises every week, and aims to make it available to two-thirds of UK homes by 2015[7]. Northern Ireland has benefited from early deployment and at the beginning of June 2011 81% of homes were connected to an exchange where FTTC has been deployed – compared to around 23% across the UK as a whole.

It should be noted that it is usual in FTTC deployments that not all cabinets in an FTTC-enabled exchange area have fibre-optic cable run to them. This means that it is likely that the proportion of homes in Northern Ireland that are able to receive FTTC services will be slightly lower than the 81% that are connected to an FTTC-enabled exchange.

Figure 5.3 Proportion of households connected to an FTTC-enabled exchange



Source: Ofcom / BT, January 2011 data

5.2 Mobile coverage

Although around nine in ten households in the UK have a mobile phone, there remain areas of the country where a lack of network coverage means that making mobile calls is not possible. These areas, sometimes known as 'mobile not-spots', are characterised by low population density and/or challenging terrain which present physical and economic obstacles that may deter operators from erecting and maintaining mobile masts.

[6] http://www.btplc.com/News/ResultsPDF/q411release.pdf
[7] http://www.btplc.com/news/Articles/ShowArticle.cfm?ArticleID=B6241B17-F6F9-43E1-954C-D88EFD2150FC

How we measure the availability of mobile telephony in this report

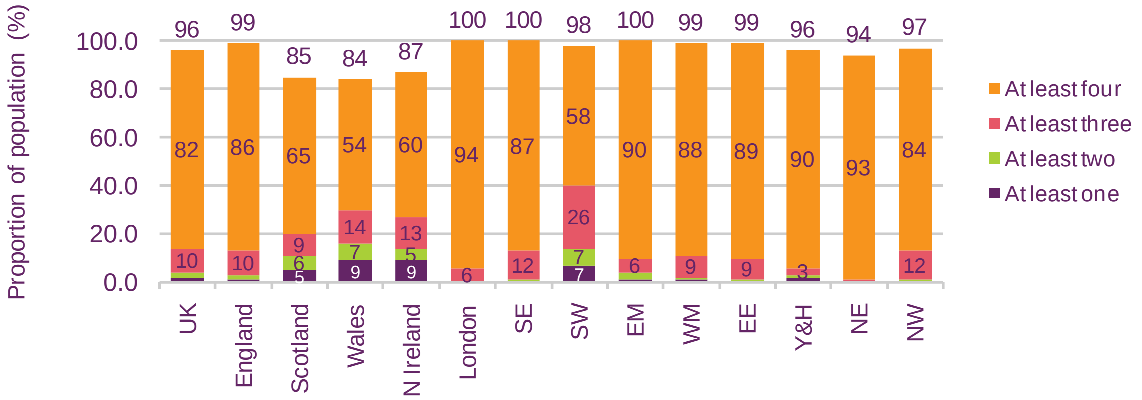
To evaluate the availability of mobile telephony services across the UK we examine the number of mobile networks with second generation (2G) and third generation (3G) coverage in each postcode district. For an operator to be counted as having coverage, its network footprint has to cover at least 90% of the postcode district, and by using this information in conjunction with population figures we can calculate the proportion of people living in postcodes that fall within this coverage threshold.

It is important to note that even if a postcode district does not meet or exceed the 90% threshold, it does not mean that mobile services are not available there; rather, that none of the mobile operators meets the 90% threshold that we have set in this analysis.

Figure 5.4 details levels of mobile coverage based on population – it shows that 96% of people across the UK live in a postcode district with at least 90% 2G area-coverage from one or more operators. In the chart pack for this report we also detail mobile coverage by geography and provide maps indicating areas of mobile coverage.

2G mobile coverage is lower in Northern Ireland than in the UK as a whole – 13% of the population in Northern Ireland live in postcode areas where no operator has more than 90% coverage. Lower network coverage in Northern Ireland, Wales and Scotland than in England is a reflection of large areas of low population density and areas where hilly or mountainous terrain limits the range of cellular masts.

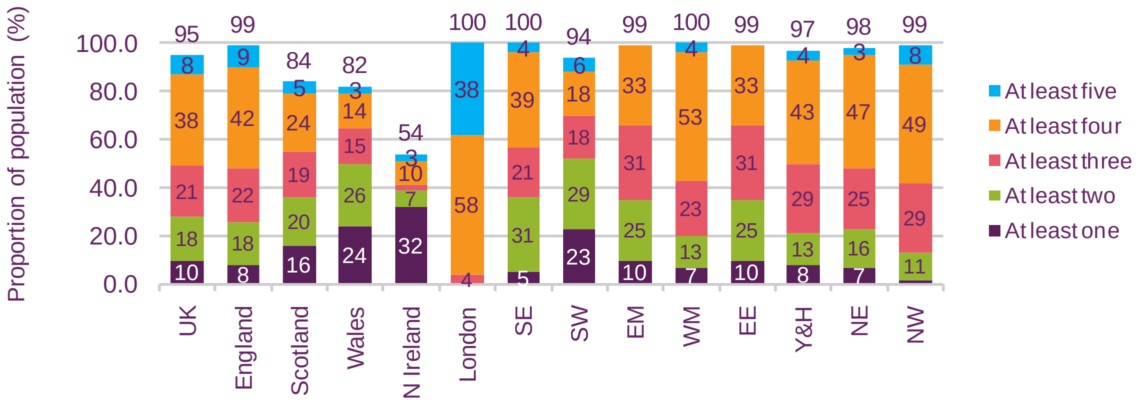
Figure 5.4 2G mobile phone population coverage (90%), by number of operators



Source: Ofcom / GSM Association / Europa Technologies; Q2 2011
Note: Figures show the percentage of population within postcode districts where at least one operator had at least 90% 2G area coverage; data not directly comparable to those published in the 2010 report.

3G mobile networks offer faster download speeds which offer a much better experience of mobile data services such as web browsing and downloading files from the internet. Across the UK 3G coverage is generally lower than 2G coverage. This is particularly true in Northern Ireland, where 54% of people live in a postcode area with good 3G coverage from at least one operator – the lowest of all the UK nations. It is also notable that the majority of those who live in an area with good 3G coverage only have it from one operator. This makes it particularly important that consumers check coverage using operators' postcode checkers before choosing a network provider.

Figure 5.5 3G mobile phone population coverage (90%), by number of operators



Source: Ofcom/ GSM Association / Europa Technologies; Q2 2011
Note: Figures show the percentage of population within postcode districts where at least one operator had at least 90% 3G area coverage; data not directly comparable to those published in the 2010 report.

5.3 Service take-up

High levels of ownership of fixed and mobile telephony in Northern Ireland

Ownership of mobile telephony has risen by four percentage points on Q1 2010 figures, with this increase driven by rising take-up in urban areas. Personal ownership of a mobile phone in Northern Ireland is among the highest in the UK, at 92%.

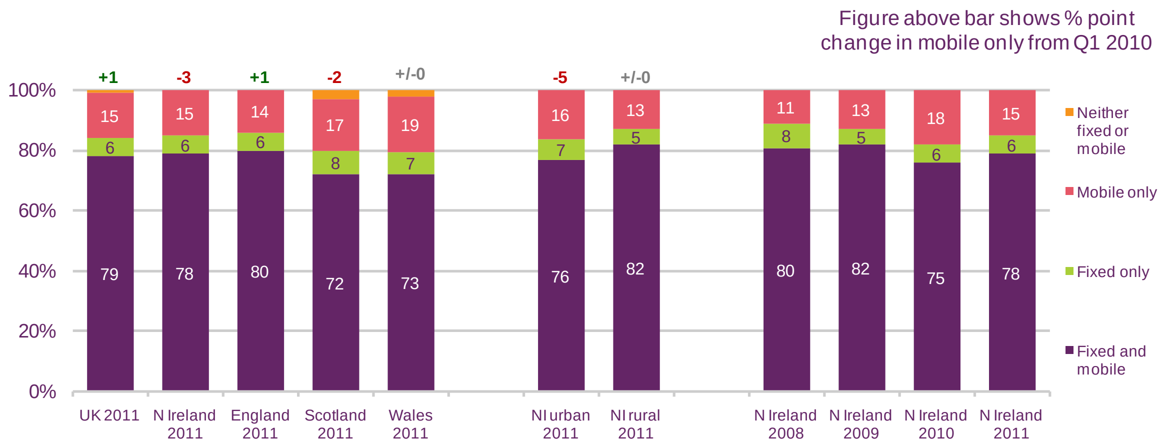
Figure 5.6 Take-up of communications services: 2011

		UK	N Ireland	England	Scotland	Wales	NI urban	NI rural
Individual								
Voice telephony	Fixed Line	**85%**	84%	85%	80%	80%	83%	87%
	Mobile	**91%**	92%	92%	86%	87%	91%	92%
Internet	PC	**77%**	78%	78%	65%	74%	78%	80%
	Total Internet	**76%**	76%	78%	64%	72%	76%	75%
	Broadband (fixed and mobile)	**74%**	75%	76%	61%	71%	75%	74%
	Fixed Broadband	**67%**	67%	68%	57%	65%	67%	67%
	Mobile Broadband	**17%**	13%	18%	9%	16%	15%	10%

Source: Ofcom research, Q1 2011
Base: All adults aged 16+ (n = 3474 UK, 511 Northern Ireland, 1983 England, 487 Scotland, 493 Wales, 259 Northern Ireland urban, 252 Northern Ireland rural))
QC1. Is there a landline phone in your home that can be used to make and receive calls?/ QD2. Do you personally use a mobile phone?/ QE1. Does your household have a PC or laptop computer?/ QE2. Do you or does anyone in your household have access to the internet/ World Wide Web at home?/ QE9. Which of these methods does your household use to connect to the Internet at home?

Just as in the UK as a whole, 15% of adults in Northern Ireland live in a mobile-only home, so are reliant on mobile telephony for incoming and outgoing calls. Across Northern Ireland nearly eight in ten homes (78%) have fixed and mobile telephony – with this being more prevalent in rural (82%) than in urban (76%) areas.

Figure 5.7 Cross-ownership of household telephony services



Source: Ofcom research, Q1 2011
Base: All adults aged 16+ (n = 3474 UK, 511 Northern Ireland, 1983 England, 487 Scotland, 493 Wales, 259 Northern Ireland urban, 252 Northern Ireland rural, 629 Northern Ireland 2008, 652 Northern Ireland 2009, 761 Northern Ireland 2010, 511 Northern Ireland 2011)
QC1. Is there a landline phone in your home that can be used to make and receive calls?/ QD1. How many mobile phones in total do you and members of your household use?

Nearly two-thirds of mobile users in Northern Ireland (65%) have a pre-pay (or 'pay-as-you-go') package rather than a contract (or 'pay-monthly') subscription, compared to 50% in the UK as a whole. It is also notable that while there has been a trend in the rest of the UK for consumers to move from pre-pay to contract, in Northern Ireland the proportion on pay monthly was stable (up one percentage point between Q1 2010 and Q1 2011).

Another characteristic of the Northern Ireland mobile market is the high share of O2 customers, with 67% of mobile users claiming to use the O2 network most often – significantly higher than the 26% UK average.

Figure 5.8 Type of mobile subscription

Source: Ofcom research, Q1 2011
Base: Adults aged 16+ who personally use a mobile phone (n = 3091 UK, 425 Scotland, 1786 England, 416 Wales, 464 Northern Ireland, 205 Northern Ireland urban, 220 Northern Ireland rural, 744 Northern Ireland 2008, 877 Northern Ireland 2009, 1237 Northern Ireland 2010, 425 Northern Ireland 2011)
QD11. Which of these best describes the mobile package you personally use most often? (NB 2008 survey did not cover type of contract)

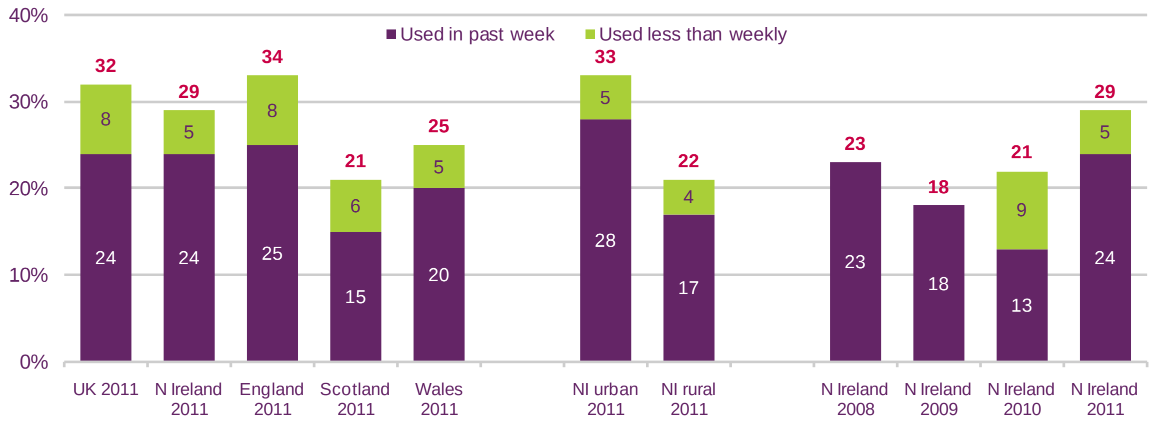
Nearly a quarter of mobile phone users now own a smartphone

Twenty-three per cent of adults with a mobile phone in Northern Ireland now have a smartphone handset. Ownership of smartphones is below the UK average of 30%, but still represents the rapid adoption of a technology that has only been widely available to consumers for the past 2-3 years. In Northern Ireland 16-34 year olds (37%) and ABC1 socio-economic groups (29%) are among those most likely to have a smartphone (see Figure 1.4 in section 1).

Significant rise in use of mobile handsets to access the internet

Hand-in-hand with the adoption of smartphones is an increase in the use of mobile phones to access the internet. In Q1 2011, 29% of adults in Northern Ireland said that they used a mobile phone handset to access the internet (up from 23% in Q1 2010), and 24% had done so in the past week. One in three adults (33%) used a phone to access the internet in urban areas, compared to one in five in rural areas (22%).

Figure 5.9 Use of mobile phone to access the internet



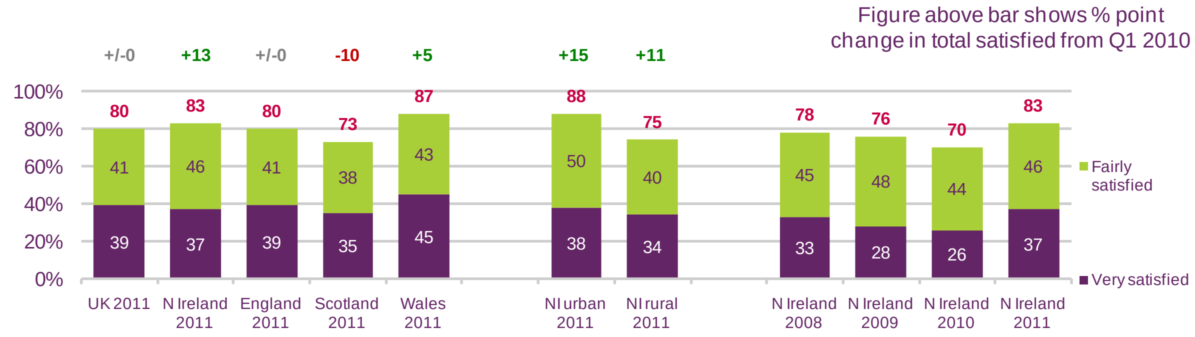
Source: Ofcom research, Q1 2011
Base: All adults aged 16+ (n = 3474 UK, 511 Northern Ireland, 1983 England, 487 Scotland, 493 Wales, 259 Northern Ireland urban, 252 Northern Ireland rural, 629 Northern Ireland 2008, 652 Northern Ireland 2009, 761 Northern Ireland 2010, 511 Northern Ireland 2011)
QD28A-B. Which, if any, of the following activities, other than making and receiving calls, do you use your mobile for?/ And, which of these activities have you used your mobile for in the last week? (NB 2008 and 2009 surveys did not cover use in past week – 2008 and 2009 measures show any use)

5.4 Satisfaction

Satisfaction with fixed broadband speeds increases in Northern Ireland

Overall satisfaction with fixed broadband connections has increased significantly over the past year in Northern Ireland – rising 13 percentage points to 83% satisfied, while the UK figure has remained stable at 80%. Consumers in urban areas are more likely to be satisfied with the speed of their service (88%) than those in rural areas (75%), which is likely to reflect better average performance due to factors such as shorter line lengths between exchange and home and the greater availability of cable. However, despite high satisfaction with fixed broadband speeds in Northern Ireland, as with the rest of the UK, there is low awareness of speed of connections – 58% were unaware of the advertised speed of their connection, while 53% did not know their actual speed.

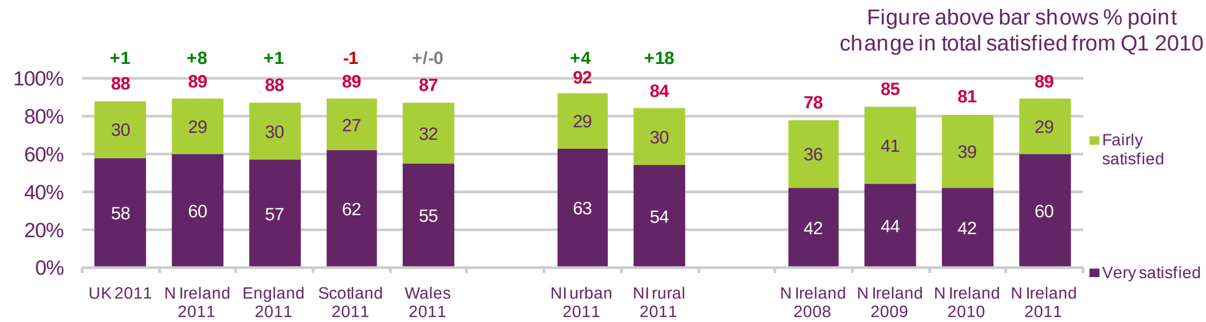
Figure 5.10 Satisfaction with speed of fixed broadband connection



Source: Ofcom research, Q1 2011
Base: Adults aged 16+ with a fixed broadband connection at home (n = 2243 UK, 335 Northern Ireland, 1311 England, 294 Scotland, 303 Wales, 169 Northern Ireland urban, 166 Northern Ireland rural, 319 Northern Ireland 2008, 388 Northern Ireland 2009, 469 Northern Ireland 2010, 335 Northern Ireland 2011)
QE8b. Thinking about your fixed broadband internet service, how satisfied are you with (main supplier) for the speed of your service while online (not just the connection)?
Note: Figures above chart columns indicate the proportion of people who were 'very' or 'fairly' satisfied with their speed of service while online

Satisfaction with mobile phone reception in Northern Ireland has increased by eight percentage points since Q1 2010, and at 89% is on a par with the UK average. This increase was particularly marked in rural areas, where satisfaction increased from 66% in 2010, to 84% in 2011.

Figure 5.11 Satisfaction with reception of mobile phone service



QD21c. Thinking about your mobile phone service only, how satisfied are you with (main supplier) for reception/ accessing network?
Source: Ofcom research, Q1 2011
Base: Adults aged 16+ who personally use a mobile phone (n = 3091 UK, 464 Northern Ireland, 1786 England, 425 Scotland, 416 Wales, 234 Northern Ireland urban, 230 Northern Ireland rural, 527 Northern Ireland 2008, 587 Northern Ireland 2009, 658 Northern Ireland 2010, 464 Northern Ireland 2011)
QD21c. Thinking about your mobile phone service only, how satisfied are you with (main supplier) for reception/ accessing network?
Note: Figures above chart columns indicate the proportion of people who were 'very' or 'fairly' satisfied with their mobile reception

5.5 Recent developments in Northern Ireland

This year has seen significant investment in the telecoms infrastructure in Northern Ireland. By July 2011, the Department of Enterprise, Trade and Investment's (DETI) *Next Generation Broadband* project had delivered fibre-to-the-cabinet (FTTC) to more than 1,700 cabinets at 166 of the 191 exchanges across Northern Ireland.

Total investment in the project was £48m, with £30m coming from BT and the remainder from DETI and the Department of Agriculture and Rural Development (DARD) through the European Regional Development Fund's European Sustainable Competitiveness Programme and the European Agricultural Fund for Rural Development's Rural Development Programme.

In January 2011, BT signed up as the first corporate partner to Derry~Londonderry's role as the inaugural UK City of Culture in 2013[8]. As part of the five-year deal, BT has promised to make the city the first in Ireland, and one of the first in the UK, to have 100% super-fast broadband with fibre being deployed to all the street cabinets.

All these investments, along with BT's own business-as-usual improvements to its network, mean that, by next year, Northern Ireland will have over 2400 fibre-enabled cabinets.

As it is doing across its network, Virgin Media has also started rolling out an 'up to' 100Mbit/s cable broadband service in Northern Ireland, making it available in Belfast, Glengormley and well as in Derry City. The service also offers 'up to' 10Mbit/s upload speeds.

[8] http://www.btplc.com/news/Articles/ShowArticle.cfm?ArticleID=FF2BBFD6-4ED2-4AB9-82A3-7AFD3C90DDC3