Connected Nations update

Spring 2022

Connected Nations update: Spring 2022 – Welsh overview available

REPORT:

Publication date: 20 May 2022

Contents

Section

1. Overview

This is the first interim update to our December 2021 annual Connected Nations report. It is based on mobile coverage and fixed broadband availability across the UK as of January 2022.

Key findings

Number of homes able to get gigabit capable broadband is up to over 19.3 million homes (66% of all UK homes), up from 13.7 million (47%) since our last update. In December 2021, Virgin Media O2 announced that it had made its entire network gigabit capable, which accounts for much of this large increase.[1]

Full fibre coverage continues to increase at pace, up to 33% from 28% in the four months between September 2021 and January 2022, an increase of five percentage points, with just under 9.6 million homes now covered.

Superfast broadband coverage across the UK remains at 96%, with England, Northern Ireland and Wales all seeing an increase of one percentage point in superfast coverage.

The number of premises unable to get decent broadband, when factoring in fixed wireless and fixed line, has dropped from 123,000 to 99,500 premises since our December report and those unable to achieve decent broadband over a fixed line has dropped from 650,000 to 506,000 over the same period.

Mobile coverage remains stable and operators are beginning to roll out coverage to new areas through the **Shared Rural Network** scheme, agreed with the UK Government in 2020. As a result, nationwide coverage is set to increase in the coming years. 5G coverage is developing and we present some early coverage figures in the tables below.

As with previous updates, we have published dashboards and an interactive report that has both the latest and historical data.

We have also used the data in this report to update our broadband and mobile coverage checker.

Key findings – Fixed broadband

Gigabit capable broadband: availability of broadband capable of delivering Gigabit[2] speeds for consumers continues to improve at a rapid pace, with nearly 19.3 million UK homes[3] (66%) now able to access these faster services, up from 13.7 million homes (47%) reported in our December 2021 report. This has been driven by a combination of the continued rollout of full-fibre broadband and Virgin Media O2's network upgrade programme.

[1] Virgin Media O2, Virgin Media O2 completes gigabit upgrade in boost for Britain's broadband target, 7 December 2021.
[2] Gigabit capable networks include full fibre networks as well as any network that is able to offer at least 1Gbit/s download speeds (such as the latest version of Virgin Media O2's cable network technology – DOCSIS 3.1).
[3] Note that we report on residential properties (homes) for full fibre, and superfast coverage, but report on both residential and commercial properties for 'decent' broadband.

Full fibre deployment: A third (33%) of homes have access to full fibre services. Full fibre coverage is now at just under 9.6 million, up from 8.2 million (28%) reported in our December 2021 report. This is driven predominantly through deployments by the larger fibre infrastructure operators but supported by a number of smaller providers across the UK serving individual communities and regions.

Superfast broadband (download speeds of at least 30 Mbit/s): Superfast broadband rollout across the UK continues to grow although at a reduced pace (coverage remains at 96% of UK homes). This may be due to the increasing difficulty in reaching the final 4% of properties, as well as the increased focus on rolling out new full fibre and other gigabit capable connections across the UK.

Decent broadband (at least 10 Mbit/s download and 1 Mbit/s upload speed): the vast majority of UK properties can access decent broadband. The number of properties (both residential and commercial) that cannot receive a decent broadband service from a fixed line stands at around 506,000 (remaining at 2%), having dropped from 650,000 since our December 2021 report.

Broadband services are also available from Fixed Wireless Access (FWA) networks, provided via mobile networks or through Wireless Internet Service Providers (WISPs). If managed well, FWA networks can deliver a decent broadband service, and can be used as an alternative network technology where consumers do not have access to a decent broadband connection on a fixed network. We continue to collect data from WISPs and based on the coverage reported by these providers, we now estimate that 7% of premises can receive a decent broadband service from a WISP (the same as in our December 2021 report). FWA coverage from mobile networks capable of providing decent broadband is available to almost 94% of premises.

Factoring in the coverage estimates provided by FWA providers, we estimate that there remain around 99,500 premises that do not have access to a decent broadband service from a fixed network or an FWA network. This has fallen from our estimate of 123,000 in our December 2021 report.

Of these, 78,600 premises are not expected to be covered by rollout by publicly funded schemes within the next twelve months. These may be eligible for the broadband USO product subject to further checks and confirmation by the Universal Service Providers (BT and KCOM).

The above figures show the availability of broadband services across the UK; we shall report on take-up of broadband services in more detail in our annual Connected Nations report in December 2022.

Key findings – Mobile

We measure mobile coverage in a way that reflects the likely experience of people using their mobile phones[4] There has not been a significant increase in coverage since our last report, but we expect the Shared Rural Network, agreed between the UK Government and industry in 2020, to drive forward coverage improvements over the coming years.

4G: Coverage of 4G mobile networks across the UK has not seen significant changes over the last reporting periods. Around 92% of the UK landmass is predicted to have good 4G coverage from at least one operator, and this area includes nearly all of the premises in the UK. This is expected to rise

[4] Detailed definitions are available in the December 2021 report methodology.

to 95% by end of 2025 as a result of the SRN. Coverage for both Scotland and Wales is currently significantly lower. It should be noted that individual MNOs are committed to achieving between 85% and 88% coverage in Wales by 2027[5] under the government's SRN investment, and between 82% and 85% in Scotland.

4G not-spots: The UK has both geographic and road not-spots (that is, areas where good 4G services are not available from any mobile operator). Geographic not-spots have remained the same as in our December 2021 report at 8%. Road coverage remains largely the same with just 4% of all roads estimated to be an in-vehicle not-spot. This varies significantly across individual nations, particularly in Scotland and Wales.

Calls and text coverage: As with 4G, predicted coverage remains largely unchanged over the previous reporting periods. 85-92% of the UK landmass is predicted to be covered, depending upon operator, for calls and text services and between 99-c.100% of premises (outdoors) in the UK, again depending upon operator.

Calls/text not-spots: Areas where people are unable to make a call or send a text from any operator (not-spots) is similarly unchanged, with around 4% of the UK geography estimated as a not spot, and with around 2% of the UK's roads estimated to be a not spot for calls and texts made or received in vehicle. As with 4G, there are marked variations for individual nations; for example, geographic not-spots across Scotland remain higher than the rest of the UK, at around 11%.

5G: We reported on 5G coverage from 'All MNOs' and from 'At least one MNO' for the first time in December 2021. We continue to report on the same basis here, with coverage levels ranging from high to very high confidence. Coverage from 'At least one MNO' now ranges from 47% (very high confidence) to 62% (high confidence) of premises outdoors, up from 42% and 57% respectively when we reported in December.

Schemes across the UK and Nations supporting broadband networks

Ofcom as part of its access review has set in place rules to drive investment which is now delivering results. These rules are set over a five-year period.

UK: On 22 February 2022, 'Gigabit Broadband in the UK: Government targets and policy'[6] was published. This re-confirmed the government commitment to reach 85% of UK households with Gigabit capable broadband by 2025 and that by 2030 this figure would reach at least 99%. The government targets for mobile include 95% geographic coverage for 4G and that the majority of population would have access to a 5G signal by 2030.

In February the Government published its response to the 'Improving Broadband for Very Hard to Reach Premises' consultation. In it they note that while the government is making significant progress in delivering improved connectivity to the country, they know that in some areas the cost of delivering gigabit-capable broadband coverage rises exponentially. Consideration of alternative

[5] This has been revised for 2026 since our last update.
[6] House of Commons Library, Gigabit Broadband in the UK: Government targets and policy, 25 February 2022.

options to connect some premises, initially estimated to be less than 100,000 in total, which are deemed 'Very Hard to Reach', is needed. The Government aims to set out policy proposals later in the year.

Scotland: The Scottish Government's Reaching 100% (R100) programme contract build is well underway with connections now live in all contract areas across Scotland, including the North Lot. Many homes and businesses due to receive superfast speeds through the R100 programme will now get even faster gigabit-capable broadband instead.[7] Additional support is provided through the Scottish Broadband Voucher Scheme.[8] In some cases, rural addresses may be eligible to combine Scottish Government funding of up to £5,000 with funding from the UK Government's Gigabit Broadband Voucher Scheme (GBVS) which provides £1,500 for rural homes and £3,500 for rural businesses.

The Scottish Government also continues to support network rollout through the Full Fibre Charter with communications providers. In April 2022, five more providers pledged support to maximise coverage in Scotland. In return, the Scottish Government offers 100% non-domestic rates relief on newly laid fibre until 2034.[9]

In addition, the Scottish Government's 4G Infill Programme continues with 27 live masts at the time of writing. Alongside the Shared Rural Network, this will help address 4G mobile not-spots across Scotland.[10]

Commercial rollout continues across Scotland. In December 2021, Virgin Media O2 announced that it had upgraded its entire Scottish network of 1.2 million homes to gigabit-capable broadband.[11] Openreach continues to expand its full fibre network in Scotland, announcing eight more Scottish locations as part of a £16.2 million investment.[12] There has also been further alt-net investment, including Lothian Broadband receiving £20m of funding from the Scottish National Investment Bank to help connect more than 70,000 new premises across Scotland over the next four years.[13]

Wales: More than 600 hospitals, police stations, libraries and other public buildings in Wales have been connected to full fibre broadband under the UK Government's drive to level up public services and speed up rollout. The Welsh Government has provided a progress update on their £52.5 million Phase 2 Superfast Cymru contract with BT, which confirms that 25,855 premises (up from 24,515 in Q3) have now gained access to fibre to the premises. The Welsh Government's Local Broadband Fund continues to support local authorities and social enterprises to deliver broadband projects locally. The Access Broadband Cymru[14] scheme also provides grants to fund (or part-fund) the installation costs of new broadband connections for homes and businesses in Wales.

[7] Digital Scotland, Ensuring access to superfast broadband, 29 December 2021.
[8] Digital Scotland, Scottish Broadband Voucher Scheme.
[9] Scottish Government, Boosting broadband access, 2 April 2022.
[10] Scottish Government, Scottish 4G infill programme: progress update, 7 March 2022.
[11] Virgin Media O2, Virgin Media O2 connects entire network in Scotland to next-generation gigabit broadband, 1 December 2021.
[12] Openreach, New £16m broadband boost for Scotland, 25 January 2022.
[13] The Scottish National Investment Bank, Lothian Broadband Group, 6 January 2022.
[14] Welsh Government, Access Broadband Cymru grant scheme, 31 March 2022.

Northern Ireland: A further 8,500 premises have been added to the Project Stratum broadband intervention scheme in Northern Ireland. The additional premises include 2,500 harder-to-reach properties that were out of scope of the original contract, plus a further 6,000 premises.

The £165 million contract for delivery of Project Stratum was awarded to Fibrus Networks Ltd in November 2020. By the end of 2021, Fibrus had delivered new infrastructure to more than 22,000 premises.

The roll-out of the new full fibre network to reach all 85,000 premises, including the additional 8,500 premises being brought into the scope of project Stratum, will continue across four extended quarters of network build, with Fibrus Networks expected to complete full deployment by March 2025.

Data collection and reporting

We continue to increase the number of operators from whom we collect coverage data to improve the accuracy of the data we publish. We also continue to gather coverage data every four months and usage information once a year.

We are in the process of collecting and analysing planned network build information from communications providers in the UK and we shall be publishing the results of this activity in due course.

2. Dashboards

Fixed broadband

Access to full fibre	May 2021	September 2021	January 2022
UK	24%	28%	33%
England	23%	27%	31%
Northern Ireland	67%	71%	79%
Scotland	23%	27%	32%
Wales	24%	27%	32%

Access to Gigabit-capable services	May 2021	September 2021	January 2022
UK	40%	47%	66%
England	38%	46%	67%
Northern Ireland	73%	76%	82%
Scotland	47%	51%	60%
Wales	30%	36%	46%

Access to superfast services	May 2021	September 2021	January 2022
UK	96%	96%	96%
England	96%	96%	97%
Northern Ireland	90%	91%	92%
Scotland	94%	94%	94%
Wales	94%	94%	95%

Access to at least 10 Mbit/s services	May 2021	September 2021	January 2022
UK	98%	98%	99%
England	99%	99%	99%
Northern Ireland	95%	95%	96%
Scotland	97%	97%	97%
Wales	97%	97%	98%

Fixed Wireless Access

Since our last report we have continued to collect data for Wireless Internet Service Providers (WISPs) providing a Fixed Wireless Access broadband service. The following shows premises where decent broadband is obtainable via FWA.

Fixed Wireless	May 2021	September 2021	January 2022
UK Mobile Network Operators (MNO)	93%	94%	94%
UK Wireless Internet Service Providers (WISP)	6%	7%	7%

USO eligibility

The percentage of homes and businesses unable to access a decent broadband service, that is at least 10 Mbit/s download speed and at least 1 Mbit/s upload speed.

Unable to receive 10 Mbit/s download and 1 Mbit/s upload services (potentially USO eligible	May 2021	September 2021	January 2022
UK	0.4%	0.4%	0.3%
England	0.3%	0.2%	0.2%
Northern Ireland	2%	2%	2%
Scotland	1%	1%	1%
Wales	1%	1%	0.8%

Note 1: We consider a property to have "full fibre coverage" only if: 1. fibre is deployed in close proximity to the premises, so only a dedicated fibre connection to the property is necessary to provide full (end to end) fibre connectivity, and 2.the end user would expect to pay only a published pre-agreed connection charge, if one was to be imposed.

Note 2: This may exclude broadband services available from some smaller providers.

Note 3: Figures for potential USO eligibility are for all (both residential and commercial) properties. Figures for other speeds refer to residential properties only.

5G coverage

Premises (outdoor) covered by at least one operator	January 2022
UK	47-62%
England	49-65%
Northern Ireland	24-34%
Scotland	40-54%
Wales	27-38%

Premises (outdoor) covered by all operators	January 2022
UK	4-12%
England	5-13%
Northern Ireland	2-6%
Scotland	2-8%
Wales	2-5%

Note 4: Thresholds for 5G Service are -110 dBm where we have high confidence in coverage and –100 dBm where we have very high confidence in coverage.

4G coverage

Premises (outdoor) – coverage range across MNOs	May 2021	September 2021	January 2022
UK	99%	99-c.100%	98-c.100%
England	99-c.100%	99-c.100%	99-c.100%
Northern Ireland	96-99%	97-99%	97-99%
Scotland	97-99%	97-99%	97-99%
Wales	96-99%	96-99%	95-99%

Geographic area – coverage range across MNOs	May 2021	September 2021	January 2022
UK	79-85%	79-86%	79-86%
England	92-93%	92-94%	92-94%
Northern Ireland	86-92%	87-92%	87-92%
Scotland	57-72%	57-73%	57-74%
Wales	72-83%	72-84%	72-85%

Geographic area not covered by any operator (not spots)	May 2021	September 2021	January 2022
UK	8%	8%	8%
England	3%	2%	2%
Northern Ireland	3%	3%	3%
Scotland	19%	18%	18%
Wales	10%	10%	10%

Coverage of all roads (in vehicle) – coverage range across MNOs	May 2021	September 2021	January 2022
UK	78-83%	78-83%	78-83%
England	83-88%	83-88%	83-88%
Northern Ireland	62-79%	63-79%	65-79%
Scotland	64-75%	64-77%	64-78%
Wales	70-78%	70-79%	70-79%

All roads (in vehicle) not covered by any operator (not spots)	May 2021	September 2021	January 2022 (Note 6)
UK	4%	4%	4%
England	2%	2%	2%
Northern Ireland	7%	6%	7%
Scotland	8%	7%	7%
Wales	10%	9%	9%

Note 5: Thresholds for 4G services: 4G (-105 dBm). This relates to nearly all connections being capable of delivering a connection speed of at least 2Mbit/s and reliable voice calls.

Note 6: For Northern Ireland the difference between September 2021 and January 2022 is just over 0.1%, but due to rounding is reported higher. These circumstances, with reported coverage varying +/- 1% can arise from time to time as a result of small changes in the underlying information we use to calculate coverage. All reported coverage is based on predictions, which the operators continue to update. The Connected Nations 2021 methodology provides more details on how mobile coverage is calculated.

Voice and text coverage

Premises (outdoor) – coverage range across MNOs	May 2021	September 2021	January 2022
UK	99-c.100%	99-c.100%	99-c.100%
England	c.100%	c.100%	c.100%
Northern Ireland	98-c.100%	98-c.100%	98-c.100%
Scotland	99-c.100%	99-c.100%	99-c.100%
Wales	99%	99%	99%

Geographic area – coverage range across MNOs	May 2021	September 2021	January 2022
UK	85-92%	85-92%	85-92%
England	94-98%	95-98%	95-98%
Northern Ireland	89-98%	89-98%	89-98%
Scotland	68-81%	68-82%	68-82%
Wales	85-91%	86-91%	86-91%

Geographic area not covered by any operator (not-spots)	May 2021	September 2021	January 2022
UK	5%	4%	4%
England	1%	1%	1%
Northern Ireland	1%	1%	1%
Scotland	11%	11%	11%
Wales	5%	5%	5%

Coverage of all roads (in vehicle) – coverage range across MNOs	May 2021	September 2021	January 2022
UK	86-94%	86-94%	86-95%
England	90-98%	90-98%	90-98%
Northern Ireland	70-93%	71-93%	72-93%
Scotland	77-88%	77-88%	77-88%
Wales	82-88%	82-88%	82-88%

All roads (in vehicle) not covered by any operator (not-spots)	May 2021	September 2021	January 2022
UK	2%	2%	2%
England	1%	1%	1%
Northern Ireland	3%	3%	3%
Scotland	4%	4%	3%
Wales	5%	5%	5%

Note 7: Thresholds for voice and text are: 2G (-81 dBm), 3G (-100 dBm), 4G (-105 dBm).