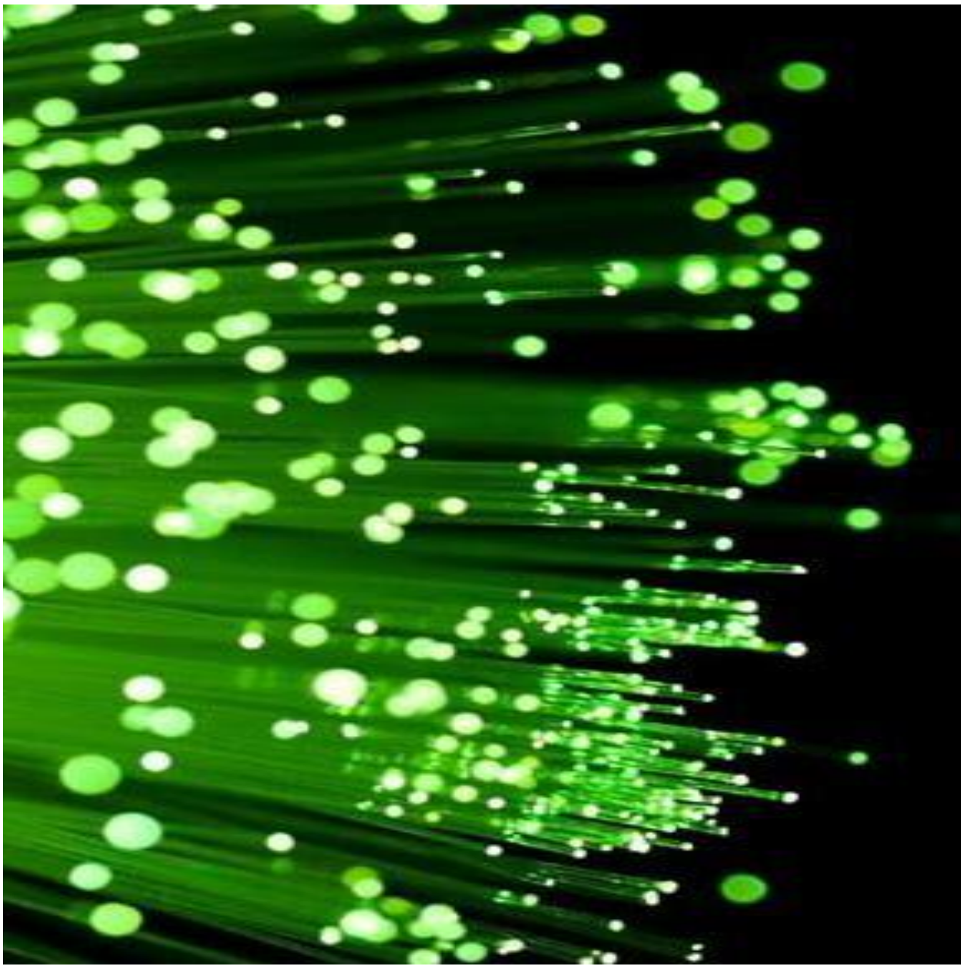


# Northern Ireland Broadband Industry Forum Report

## On the deployment of the £150 million broadband fund for Northern Ireland

Report prepared by the NI BIF Secretariat – July 2018

## Contents

**Executive Summary**

The Northern Ireland Broadband Industry Forum believes that using the £150 million funding to deploy ultrafast broadband in the largely rural areas lacking high speed connectivity would support Northern Ireland's ambition to be the leading UK nation for connectivity.

This report recommends that

- 100 Mbps should be deployed in Northern Ireland in areas receiving less than 30 Mbps
- the networks deployed should be future proofed which means that fibre will be a large part of the solution with other hybrid technologies to support uneconomic/hard to reach communities
- private investment should support the funding and this should be transparent and subject to audit in the process
- the industry believes following procurement the deployment of the £150 million will take up to 3 years
- consideration to be given to the as yet unawarded Broadband USO supplier(s) and the successful supplier(s) deploying funding broadband contract(s).
- consideration to be given to other sources of funding to ensure colaboration with local authorities to maximise the £150 million investment in broadband deployment
- a single point of contact to promote good communication and collaboration across NI
- the skills and training shortages in the construction and telecoms industries in Northern Ireland needs to be addressed

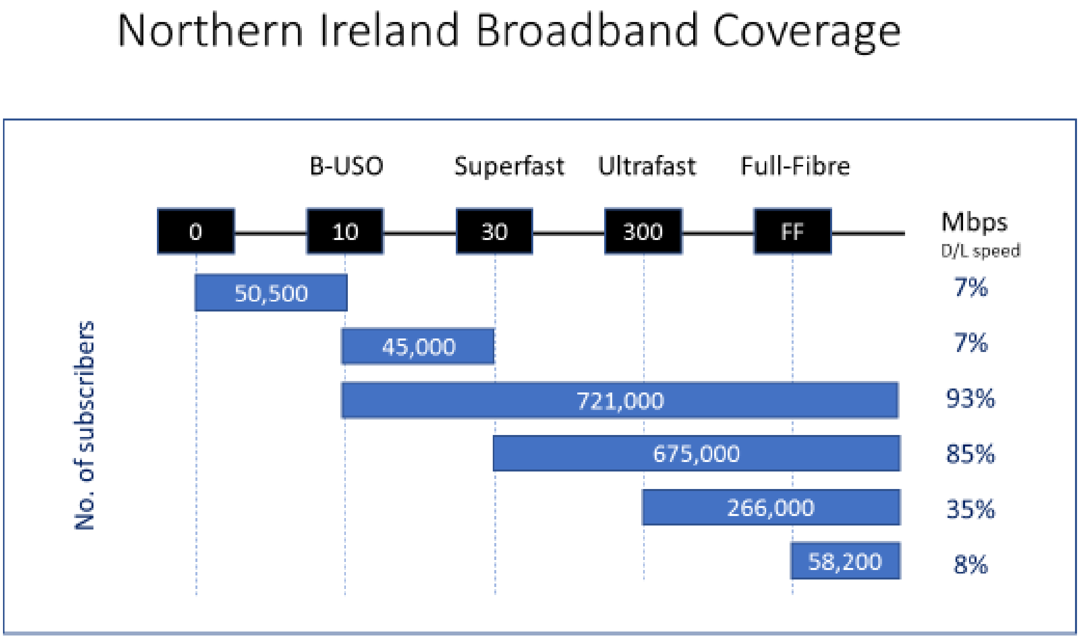
**Background**

This report gives an overview of the telecommunications industry analysis on the state of broadband connectivity in Northern Ireland and their view on ideas on how to deploy the £150 million investment from the Conservative/DUP Confidence & Supply Agreement (26 June 2017) to extend ultrafast broadband connectivity in the province.

Northern Ireland has a population of around 1.86 million with around 20% aged under 16 years old and 20% aged over 65 years. Population density is around 137 people per square kilometre. For comparison the UK average is around 271 people per square kilometre. Northern Ireland also has a different urban / rural population ratio compared to rest of UK: in NI 51% of the population live in rural areas (based on urban areas defined as up to 10,000 popualtion) verses 17% in England[1].

[1] Deployment of FTTP in rural Northern Ireland, DetEcon report 22 May 2017, Section 3.1

Table 1: Connected Nations Spring 2018 source Ofcom




Ofcom's Connected Nations report on Northern Ireland (published 30 April 2018 and which includes data from January 2018) reported that Superfast broadband (>30 Mbps download speed) is now available to 88% of premises in NI versus 93% across all of UK. That means there are approximately 100,000 premises with less than 30 Mbps. Superfast broadband is available to 63% of premises in rural areas. Across Northern Ireland 7% of premises don't have access to services that can deliver a broadband connection which provides download speeds of 10 Mbps or more and an upload speed of 1 Mbps or more. This leaves around 51,000 premises with connections unable to support these speeds. The percentage of premises that cannot get 2 Mbps has fallen slightly to 2% (or just over 18,000 premises).

Table 2: Connected Nations Spring 2018 source Ofcom

**Fixed broadband and mobile coverage – Northern Ireland**

| Fixed broadband services | NI premises coverage as of | |
|---|---|---|
| | January 2018 | May 2017 |
| Access to a download speed of 10Mbit/s or higher | 94%<br>721,000 | 93%<br>718,000 |
| Access to a download speed of 30Mbit/s or higher (superfast) | 88%<br>675,000 | 85%<br>658,000 |
| Access to a download speed of 300Mbit/s or higher (ultrafast) | 35%<br>266,000 | 25%<br>196,000 |
| Access to full fibre services | 8%<br>58,200 | 0.7%<br>5,600 |
| Unable to access a download speed of 10Mbit/s and an upload speed of 1Mbit/s (Universal Service Obligation minimum) | 7%<br>50,500 | 7%<br>55,600 |

Historically certain parts of NI have achieved broadband speeds better than the UK average. Virgin Media has extensive coverage in parts of greater Belfast and Derry/Londonderry and some outlying towns. The jointly-funded BT and NI Executive Next Generation Broadband Project in 2010/2011 delivered FTTC (Fibre to the Cabinet) to the cities, towns and most villages in Northern Ireland, supplemented with minor projects such as preparation for the 2013 City of Culture. NI was also the focus of BDUK's superconnected cities connection voucher scheme. As a result, actual or planned fibre coverage in Northern Ireland were already higher than in most of Great Britain at the start of the BDUK Superfast programme. Most of the gaps are small settlements and people living between villages (disproportionately common in Northern Ireland). Many of these premises are attached to previously upgraded cabinets but have copper line lengths that are too far away to get superfast speeds.

Ofcom's Connected Nations report from December 2017 states that inequality in access is greater for SMEs than for households. Although existing superfast broadband coverage for SMEs in urban parts of Northern Ireland is jointly highest in the UK at 92%, coverage for rural Northern Irish SMEs is second lowest at 47%. This has the potential to put rural entrepreneurs at a competitive disadvantage relative to their urban counterparts and may even be an impediment to starting a business altogether.

SME as a sector of the business community is also more significant than in the rest of the UK. SMEs account for over 75% of private sector employment in Northern Ireland, far exceeding the UK's share of 60% and roughly comparable to Wales[2]. Microbusinesses (businesses with less than 10 employees) alone make up 89.2% of businesses by number[3], and account for 39% of employment and nearly 28% of total private turnover; by comparison, UK figures are 32.8% and 22.1% respectively. Only 2% of businesses employ over 50 people.

These very small businesses are the most likely to benefit from the introduction of ultrafast broadband, as they can operate remotely from urban centres where costs are lower and make use of flexibility to work from home. The 2017 Connected Nations Report for Northern Ireland found that only 74% of microbusinesses (excluding sole traders) had superfast broadband available to them, compared to 80% for small businesses (between 10 and 50 employees) and 81% coverage for medium businesses (between 50 and 250 employees).

Although there is insufficient information to establish causal links, providing high-speed broadband to these microbusinesses could allow them to compete more effectively with larger businesses[4] – a key goal of the 2017 Industrial Strategy[5].

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[2] Ulster University SME Centre for Federation of Small Businesses, 'The contribution of Small Businesses to Northern Ireland'

[3] Department for the Economy, "Economy 2030: A consultation for the Industrial Strategy of Northern Ireland", January 2017

[4] Deployment of FTTP in rural Northern Ireland, a DetEcon report for BT NI Networks 22 May 2017, Section 3.6

[5] Department for the Economy, "Economy 2030: A consultation for the Industrial Strategy of Northern Ireland", January 2017

Northern Ireland has particular labour market conditions, with an employment rate of 69% compared with 75.3% for whole of UK, and economic inactivity of 28.2% verses UK average of 21.2%. Northern Ireland's productivity is also much lower than the UK average: GVA per head is £20,000 approximately, compared with £26,000 nationally. The UK's growth rate from 2015-2016 at 1.6% in real terms also exceeded NI's 1.1%[6]. These indicators highlight areas for improvement that enhanced broadband service will help address.

In summary, the Deployment of FTTP (Fibre to the Premises) in rural Northern Ireland DetEcon report expects:

" the benefits of improving rural broadband to be enhanced in Northern Ireland given the:

- Low labour market participation in distant rural areas;
- Particular problems with low productivity in Northern Ireland;
- Relative importance of economic sectors such as agriculture which could particularly benefit from intervention to improve digital infrastructure in rural areas;
- Particular importance of small businesses (both SMEs and microbusinesses) and self-employment within NI
- Need to develop knowledge-based sectors that underrepresented in the NI economy and create virtual clusters to share skills;
- Government's aim for inclusive growth that is shared with rural areas."

"With total benefits to the NI economy until 2033 estimated to be £1.2 billion for a subsidy cost of around £150 million. This implies that every £1 of subsidy could create £7.90 of economic benefit"[7].

**Make up of the NI Broadband Industry Forum**

The Northern Ireland Broadband Industry Forum was brought together by the CBI to examine how to best utiltse the proposed £150 million investment outlined under the DUP and Conservative Confidence and Supply Arrangement to deliver the broadband aspirations for Northern Ireland. The Forum represents around 14 organisations including telecommunications companies who operate in Northern Ireland including wireless operators and is open to all interested parties.

**Aims of the Forum**

The aim of the Forum is to develop and present proposals to the Department for the Economy (DfE).

[6] Ulster University Economic Policy Centre, September 2016, 'Understanding productivity in Northern Ireland'

[7] From the Deployment of FTTP in Rural Northern Ireland report by DotEcon commissioned by BT NI Networks, May 2018. Full report can be found at http://www.dotecon.com/publications/deployment-of-fttp-in-rural-northern-ireland/

**Guiding Priniciples**

At the first meeting the Forum agreed to adopt these guiding principles

- the £150 million should support competition and open access
- the £150 million should be split between semi-rural/rural : urban with a significantly higher proportion being given to semi-rural/rural deployment
- Funding must be focussed on areas receiving less than 30 Mbps
- FTTP should be the primary future proof solution but with other hybrid technologies to support uneconomic/hard to reach communities
- The solution must be gigabit capable ideally and deliver a minimum of 100 Mbps (this does not exclude offering lower speeds as part of service wrap particularly in areas where hybrid solutions will need to be deployed)
- Private investment should support the £150 million
- Be ambitious!

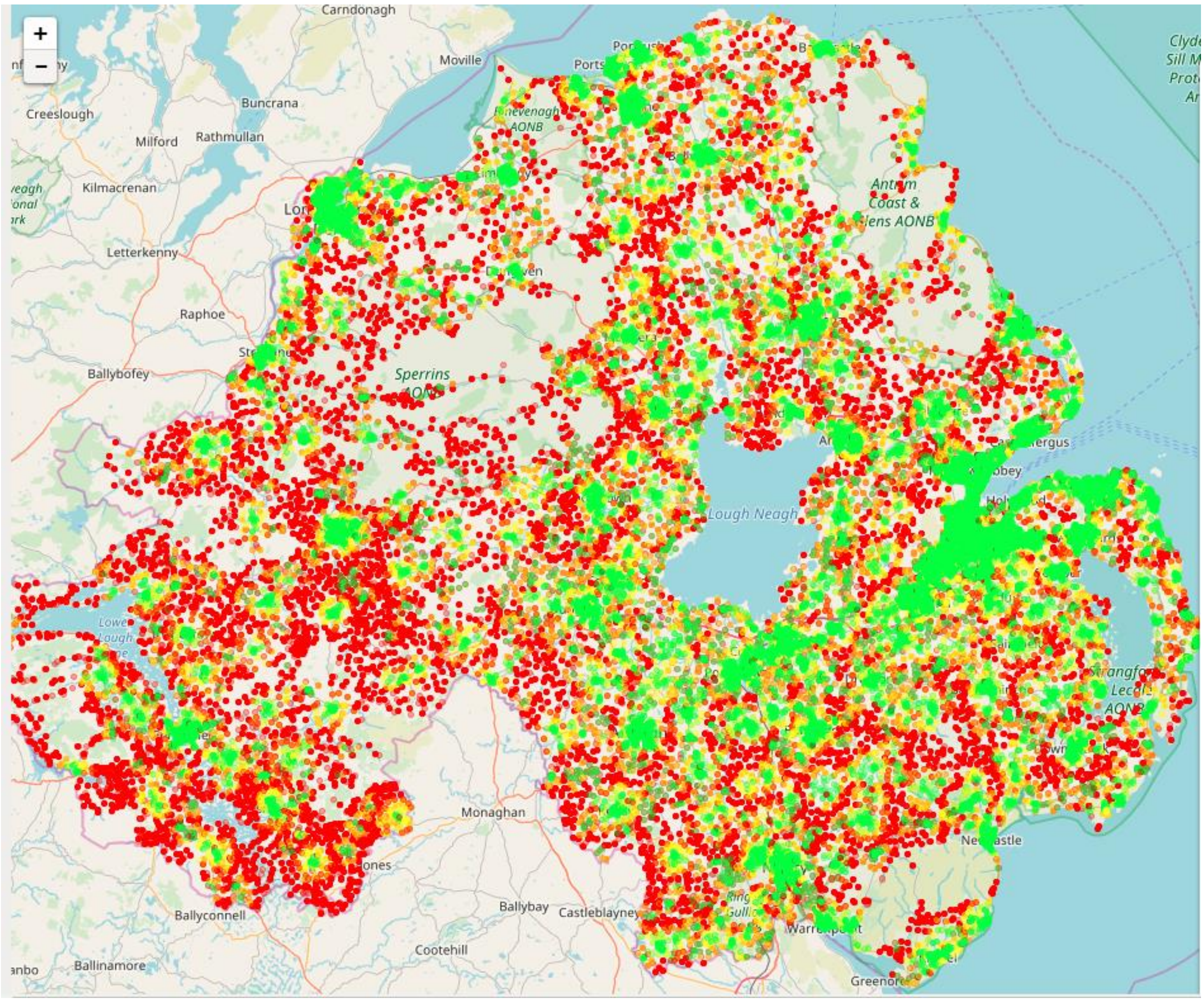
**Length of Procurement and Delivery**

The view of the Forum is in order to deploy the £150 million effectively a one year procurement, which will be managed by the Department for the Economy, would be followed by a 3 year implementation phase.  To mitigate commercial risk for successful bidders assurance is sought that monies will be guaranteed for the full life of the programme (expected to be 3 years following contract award).

**Intervention areas**

Department for the Economy (DfE) NI issued an Open Market Review (OMR) on 19 June which will conclude on 17 July 2018.  It will be on a premise level not postcode level.  The OMR will then define the intervention area for the £150 million for areas receiving less than 30 Mbps.

*Current mapping information on areas in NI which currently achieve less than 30 Mbps download speed referenced below:*




Mapping data from Thinkbroadband.com (June 2018)

https://labs.thinkbroadband.com/local/broadband-map#9/54.5466/- 6.2910/uso/openreach/adsl/

Areas marked in green represent postcodes with greater than 24 Mbps broadband download speed. Areas marked in yellow/orange/red represent postcodes with less than 24 Mbps broadband download speed.

DfE is currently undergoing an Open Market Review (OMR) which seeks to detail broadband speeds currently available per premise. This will give an increased level of resolution regarding broadband speed density. However, it is evident from the map above that the task to bring all non-green areas to greater than 30 Mbps is significant.

The issue of broadband speed is exacerbated in NI despite the rollout of Superfast VDSL2 FTTC technologies. This is due to the length of copper loops to rural premises which are in some cases so long (up to 20 km) that the deployment of FTTC does not add benefit over full-copper broadband service delivered direct from the nearest exchange using older ADSL/ADSL2/ADSL2+ technologies.

The Industry believes the deployment of full-fibre FTTP technologies, coupled with wireless access in particularly difficult to reach areas, will overcome the current bandwidth verses distance bottleneck. New fibre and wireless technologies are future proof with regards to bandwidth / connection speed as well as delivering the potential to equal or better connectivity speeds in the rural environment compared to urban, hence removing the Digital Divide.

**Broadband USO**

The Broadband USO programme is defined to provide at least 10 Mbps download speed and 1 Mbps upload to all premises in UK who request it. B-USO funding is separate to the £150 million Confidence & Supply money. The B-USO funding mechanism is still to be defined but it will not receive any government funding. Unfair cost burdens on the designated B-USO provider will be met by an industry fund. B-USO is at the early stages of design and is intended to fill the gap left by existing commercial and public roll-out programmes.

B-USO will be 'demand led', that is, at the customers' request. Eligible customers are those who cannot access 10 Mbps and are not likely to benefit from public subsidy (e.g. the £150 million) in the following 12 months. There will be a cost threshold of £3,400, but whenever costs exceed this figure the customer can choose to pay the excess

Ofcom has published a call for expressions of interest in serving as the Univeral Service Provider and will consult on further aspects of the B-USO later in Summer 2018. DfE will have to consider how completion of the proposed NI programme could be aligned with the beginning of the B-USO.

The Industry proposes that special provision be considered regarding B-USO deployment in Northern Ireland. With the unique case of additional £150 million to address premises currently receiving less than 30 Mbps download speed there is an inevitable overlap with candidates for B-USO. Work is required to resolve rollout plans to minimise overlap or to consolidate into one more efficient and unified rollout programme to address the needs of all receiving less than 30 Mbps.

It should be accepted that £150 million for NI will change the nature of B-USO needed in Northern Ireland and will take NI towards the UK Government's full fibre ambition of 2033 rather than being dependent on a B-USO defined around the limitations of copper.

**Lot Strategy**

There was no general consensus around a lot strategy across the industry. In line with the guiding principles if a lot strategy were implemented to promote competition that approach would need to be considered and defined by DfE. It was noted that in Scotland and Wales lots of 3 and 2 were let by their respective governments. Consideration could be given to multiple lots to drive value for money and choice verses a single lot to save on administration costs. Any strategy should provide an environment to maximize the number of premises passed by ultrafast technology neutral broadband and choice of retail service supplier.

**Voucher Scheme**

The recently launched UK wide DCMS Gigabit Voucher Scheme is worth £67 million and is available to suppliers in Northern Ireland. There was a mixed reaction to a suggestion that part of the £150 million be made available for an aggregation model in intervention areas to get an early start in deploying the £150 million. There was concern from larger industry members that this would make the lot(s) when let uneconomic for the successful supplier(s).

However, given the uncertainty around timescales for the delivery, the timeframe in which the money needs to be spent and potential market contribution to the project, it is important that DfE ensure that ALL this money is allocated and spent in Northern Ireland within the designated timeframe. This may require such strategies such as a Voucher Scheme for Northern Ireland to help NI residents receiving less than 30 Mbps but would require DfE to engage with politicians unless an agreement is secured that the money can be spent with or without an Executive at Stormont.

**LFFN Funding**

There was consensus on the idea that a joined-up approach between the existing Department for Digital, Culture, Media & Sports (DCMS) LFFN initiatives and the deployment of £150 million would be desirable. However, it should be borne in mind that the objectives are different. LFFN projects are focused on creating competition whilst the £150 million funding is focused on completing the coverage challenge to transition to full fibre in rural areas.

DCMS has allocated £200 million for LFFN. £95 million has been awarded already. In Wave 2 Belfast City Council were awarded £11.5 million, and Armagh & Banbridge District Council were awarded £2.4 million. Wave 3 call for submission is expected in June 2018, where another £95 million will be made available.

LFFN networks are based on public sector anchor tenant and public asset re-use criteria to deliver fibre connectivity services to the public sector. At the same time LFFN shall be architecturally and operationally “open” networks enabling both enterprise and residential private sector customers to avail of the benefits of full-fibre connectivity.

The Industry anticipates that additional local authorities across NI will submit and gain funding for their further LFFN networks. This cross-province constellation of LFFN networks, if interconnected, could be critical in expanding the backhaul and core fibre capacity required to support the end-to-end rollout of ultrafast services across NI.

**Community / Local Authority Initiatives**

The £150 million can only be used for capital expenditure. However, industry would like to encourage DfE to investigate opportunities for publicly funded market stimulation/awareness programmes. That means that a province-wide awareness campaigns to increase take up of ultrafast broadband following deployment would need to be funded separately.
Local Authorities such as Armagh City, Banbridge and Craigavon Borough Council have indicated they would like to work with successful suppliers to ensure ultrafast broadband deployment prioritises those areas where it would be most beneficial.

**Duct infrastructure funding for new road and public realm developments**

There was agreement that duct should be put into any new road builds and public realm development on an open access basis.

**Business Rates: Exemptions for new fibre build**

The Industry believes all operators should be treated in the same way for the purpose of business rates relief for new fibre build and that the waiving of rates should be extended to Northern Ireland.

**Barrier Busting in Northern Ireland**

DCMS have resource in place to support broadband suppliers in Northern Ireland to help overcome difficulties in deploying networks. A point of contact for DCMS in Northern Ireland would be required. Industry would ask DfE to establish that point of contact.

**Skills Shortages**

The Industry is concerned at the skills shortage both in construction and in electrical engineers required for both building and operating broadband and wireless networks. As the £150 million is capital expenditure it cannot be applied to training schemes. There are no training resources in NI dedicated to the broadband/Wireless industry. The Forum would like to encourage DfE to put training courses in place for apprentices both to provide skilled workers for the construction and operation of FTTP/Wireless networks.
There was a suggestion for a subsidized fund for contractors to train and retain staff in advance of this major rollout.

Appendix 1

## CODE OF CONDUCT

**The following general principles should be adhered to, at all times during all conversations (either formal or informal including meetings, phone calls, social engagements etc), by participants in the Northern Ireland Broadband Industry Forum.**

- There should be no discussions, or exchange of information, with a competitor relating to the following:

    - Future commercial strategy or business plans
    - Prices (current or projected), pricing policies, pricing formulas, profit margins
    - Bids (historic, current or future)
    - Costs of producing specific products
    - Discounts, rebates, allowances, promotions or marketing strategies
    - Credit terms or other conditions of sale
    - Capacity or production levels
    - Specific customers
    - Current or future research and development projects if they are competitively sensitive or involve trade secrets
- There should be no agreement/arrangement**:**
    - To fix prices, price levels or other terms or conditions of sale (including, discounts, rebates, costs);
    - To allocate markets, territories, projects (bid rigging) or products to each other (e.g. do not agree to not enter a particular market or to serve particular customers); and/or
    - To limit capacity or limit the supply of services; or
    - To refuse to deal with a supplier or customer.
- There should be no discussion as to the adoption of standards that would restrict the development or use of technologies or exclude rivals, suppliers or customers.

NB it is acceptable to provide/discuss the following types of information:

- Information which is in the public domain;
- Information which is sufficiently aggregated that it would not be possible to identify a specific individual, specific firm (supplier, customer etc) or specific terms and conditions
- Information which is historic (i.e. information which is older than at least one year although it may need to be older depending on the nature of the information). As a general rule, if a competitor could still use the information for commercial gain – it is not considered to be historic and should not be shared.

If any member of the Northern Ireland industry forum is concerned by the nature or content of any conversation, that member should immediately stop the conversation and raise his/her concerns with the other participants.

All members of the Northern Ireland industry forum are aware that failure to comply with antitrust and competition laws could have extremely serious consequences for individuals and companies.  Individuals could be fined and/or imprisoned, while companies could be exposed to significant fines, penalties and damages.  Each of the Northern Ireland industry forum understand that they are individually responsible for compliance with all laws and regulations that are relevant and applicable it.

Appendix 2

## FORUM MEMBERS

Air Fibre - a specialist Internet provider, using wireless technology to deliver Fibre speed broadband.

Ancore - a construction, civil engineering and industrial services partner to many of the UK's largest mobile communications businesses.

Atlas Communications - provides businesses communications solutions - specialising in both small office telephony and large-scale enterprises.

B4B Telecoms - delivers business and corporate telecoms, network and data connectivity solutions throughout the UK and Ireland.

Bluebox Broadband - an independent Broadband Network operating throughout Northern Ireland and Donegal.

BT NI Networks - is the equivalent of Openreach in Northern Ireland and are responsible for providing and maintaining the open access network in NI. They provide the local network between the exchange and the phone socket in the end users premises - otherwise known as the 'last mile'

BT Business - provider of business broadband and business phone services in the United Kingdom.

Department for Culture, Media and Sport - DCMS is a ministerial department, supported by 43 agencies and public bodies.

eircom UK Ltd - a virtual network operator, offering voice and data services to enterprises operating in the UK and Ireland.

FSB NI - a business organisation representing self-employed and small businesses.

Husky Networks - a local broadband service provided by Labtech Systems to the east Antrim area.

Ofcom - the regulatory and competition authority for the broadcasting, telecommunications and postal industries of the United Kingdom.

Rainbow Communications - an independent telecommunications company, providing B2B telephony solutions across the UK and Ireland.

Sorrento Networks - a global provider of metro optical access solutions for customers wanting to maximise their bandwidth availability.

Tibus - a digital infrastructure company offering all aspects of hosting, cloud and business connectivity solutions.

Virgin Media Limited - provides tv, broadband, fixed line and mobile services in the United Kingdom.

Vodafone (NI) Ltd - provides mobile telecommunications services in the United Kingdom.

Appendix C

## GLOSSARY

| | |
|---|---|
| ADSL/ADSL2/ADSL2+ | - Asymmetric Digital Subscriber Line (ADSL) is the ITU term for full-copper line technologies that deliver standard broadband between the exchange and customer premise |
| BDUK | - Broadband Delivery UK (BDUK), part of the Department for Digital, Culture, Media and Sport, is delivering superfast broadband and local full fibre networks to the UK |
| Broadband USO | - a Universal Service Obligation Broadband service that delivers at least 10Mbps download speed |
| DCMS | - Department for Digital, Culture, Media and Sport |
| DfE NI | - Department for the Economy – Northern Ireland |
| FTTC | - Fibre to the Cabinet Fibre to the Cabinet is the generic description of part fibre optic, part copper line technologies that deliver superfast broadband between the exchange and customer premise. Fibre optic is used in the section exchange to street cabinet, and the existing copper line is used from the street cabinet to customer premise. |
| FTTP | - Fibre to the Premise is the generic name for full-fibre line technologies that deliver superfast and ultrafast broadband directly between the exchange and customer premise. FTTP may be delivered by technologies such as GPON or PtP Ethernet. |
| Full-Fibre Broadband | - synonymous with FTTP |
| GPON | - Gigabit Passive Optical Networks is the ITU term for full-fibre technologies delivering asymmetrical superfast or ultrafast broadband over a shared fibre |
| ITU | - International Telecoms Union - the standards body for telecommunications technologies |
| LFFN | - Local Full Fibre Networks |
| Mbps | - Megabits per second are the units used to describe primarily the download speed of data transmitted between the exchange and customer premise. The upload speed will be significantly less where asymmetrical technologies are used. |
| NI | - Northern Ireland |
| OMR | - Open Market Review |
| PtP Ethernet | - Point-to-point Ethernet is the ITU term for full-fibre technologies delivering symmetrical ultrafast broadband over a dedicated fibre. The upload speed is same as download speed. |
| Superfast | - generic name for a broadband service delivering minimum download speeds 30 Mbps (EU definition) or 24 Mbps (DCMS definition) |
| Ultrafast | - generic name for a broadband service delivering minimum download speed of 300 Mbps |
| USO | - Universal Service Obligation |
| VDSL/VDSL2 | - Very-high-bit-rate Digital Subscriber Line is the ITU term for copper-line FTTC technologies located in street cabinets. VDSL technologies provide faster data transmission than ADSL. |