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Archwilydd Cyffredinol Cymru
Auditor General for Wales

Welsh Government investment in next generation broadband infrastructure



WALES AUDIT OFFICE
SWYDDFA ARCHWILIO CYMRU



I have prepared and published this report in accordance
with the Government of Wales Act 2006.

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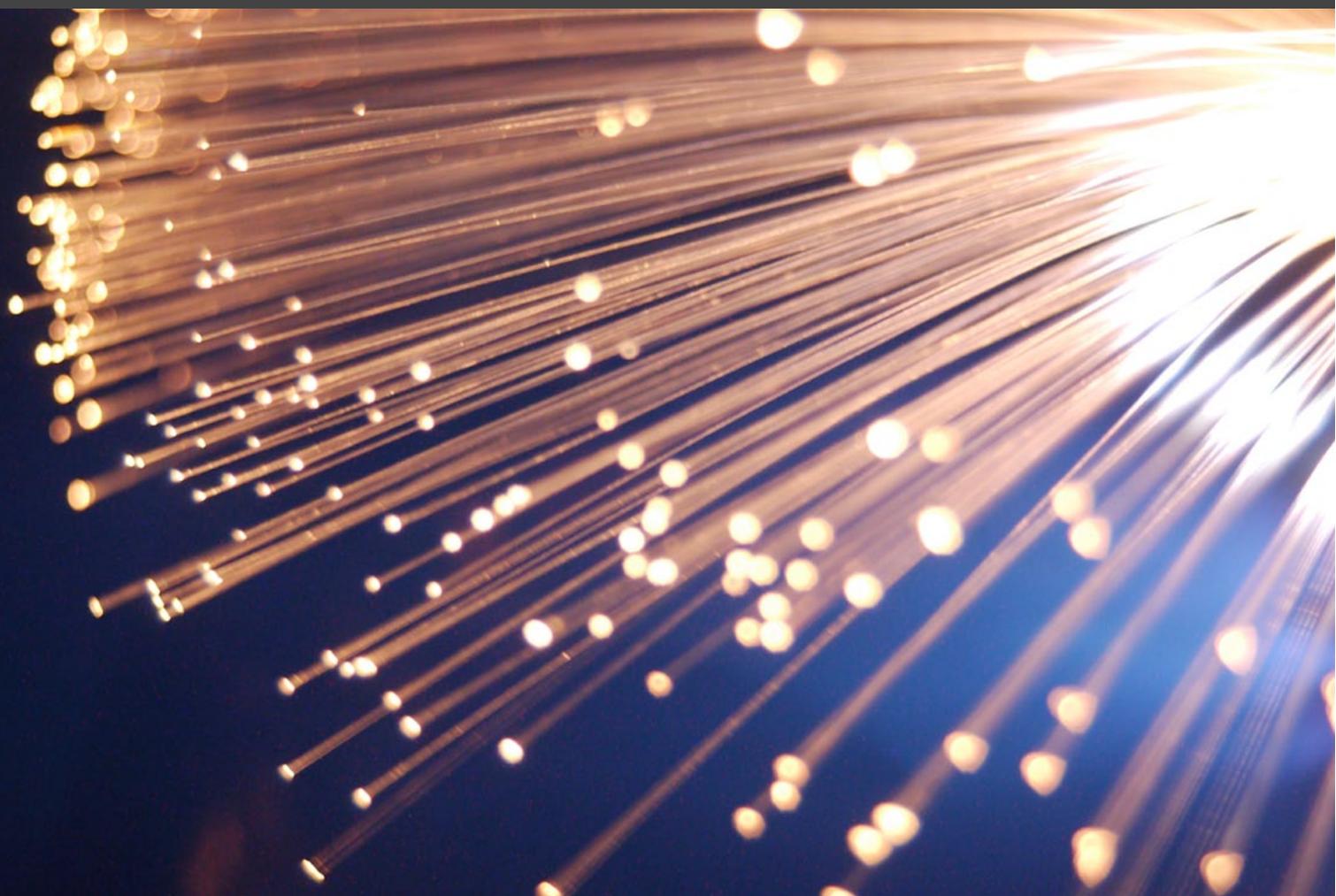
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Summary report



Glossary

Broadband	A permanent connection to the internet with a wide bandwidth transmission capable of transporting simultaneously multiple numbers and types of messages at download speeds typically greater than about 1.5 Megabits per second (Mbps).
Broadband infrastructure	Networks of equipment and technologies that provide internet access and other advanced telecommunications services for commercial premises, public institutions and private residences.
Cabinet	A box close to premises that houses the equipment that connects a telephone line to the local exchange.
Download speed	The speed at which data travels from the internet to the user's device (measured in Mbps).
Exchange	Telephone lines go through a local exchange in order to reach the rest of the telephone network. The exchange separates voice from data communications and forwards them on to the correct part of the network.
Fibre to the Cabinet (FTTC)	Next generation broadband provided through fibre optic cable from the telephone exchange to the cabinet, and then standard copper phone cables from the cabinet to the premises. This enables speeds of up to 80 Mbps.
Fibre to the Premises (FTTP)	Next generation broadband provided fully through fibre optic cable from the telephone exchange to the premises, typically where it is not cost-effective to build a cabinet. Also known as fibre to the home (FTTH), this can enable speeds of over 100 Mbps.
First generation broadband	Generally delivered through the copper wire telephone network. The length and quality of copper wires running from the telephone exchange limit the connection speed. Broadband over this network is available from virtually every telephone exchange in the UK and can provide speeds of up to 24 Mbps.
Megabits per second (Mbps)	The standard measure of how fast data is transferred over the internet.
Next generation broadband	Or 'superfast broadband'. Usually uses fibre optic cables – although it can be provided by wireless, mobile phone or other technologies – to produce faster download speeds compared with first generation broadband, typically greater than 24 Mbps. A new product or an upgrade to existing broadband services is usually required to benefit from the faster speeds.
Premises passed	The number of premises able to connect to next generation broadband through a direct connection to an exchange or cabinet.
Upload speed	The speed at which data travels from the user's device to the internet.

Summary

- 1 A key aim of the Welsh Government's economic policy¹ is to ensure that next generation broadband is available across all parts of Wales². **Figure 1** illustrates how the broadband network operates. Next generation broadband can bring significant advantages over first generation broadband:
 - a to households, by providing faster and more efficient access to public and private services, and promoting social inclusion; and
 - b to businesses, by providing faster uploads and downloads, online data storage, flexible working, better and faster web-based services, better quality video conferencing and internet phone calls.
- 2 In August 2010, the European Union (EU) set out targets for all EU citizens to have access to next generation broadband at speeds of more than 30 Mbps³ and for half of EU citizens to have access to speeds of 100 Mbps or more, by 2020⁴. In December 2010, the Welsh Government identified next generation broadband as a fundamental part of the digital infrastructure required to underpin its **Digital Wales strategy**⁵. The strategy was accompanied by **Delivering a Digital Wales**, the Welsh Government's framework for putting the strategy into action⁶. The June 2011 **Programme for Government** then set out the Welsh Government's aspiration for all premises in Wales to have access to next generation broadband by 2015. In making the case for public investment in next generation broadband infrastructure in Wales, the Welsh Government emphasised that the health, education and equality of the people of Wales would be increasingly reliant on access to affordable high-capacity broadband services. The Welsh Government included investment in next generation broadband as a key investment priority in its May 2012 **Wales Infrastructure Investment Plan**.
- 3 In order to identify the specific geographical areas where state intervention in the market is required ('the intervention area'), the Welsh Government has carried out several market reviews. Based on expert analysis of market data, the Welsh Government determined in March 2011 that around 41 per cent of premises in Wales were forecast to have access to next generation broadband through commercial rollout by 2015. As a result, the Welsh Government established its 'Next Generation Broadband Wales' project with the aim of investing significant capital funding through a number of projects to bring next generation broadband access to premises in Wales where the private sector had decided it was not commercially viable to do so. A further market review in April 2012 estimated that the intervention area was around 727,000 premises.

1 Welsh Government, **Programme for Government**, June 2011.

2 Next generation broadband may also be referred to as 'superfast broadband'. To draw the distinction between superfast broadband and the Superfast Cymru contract, we have used the term next generation broadband throughout this report.

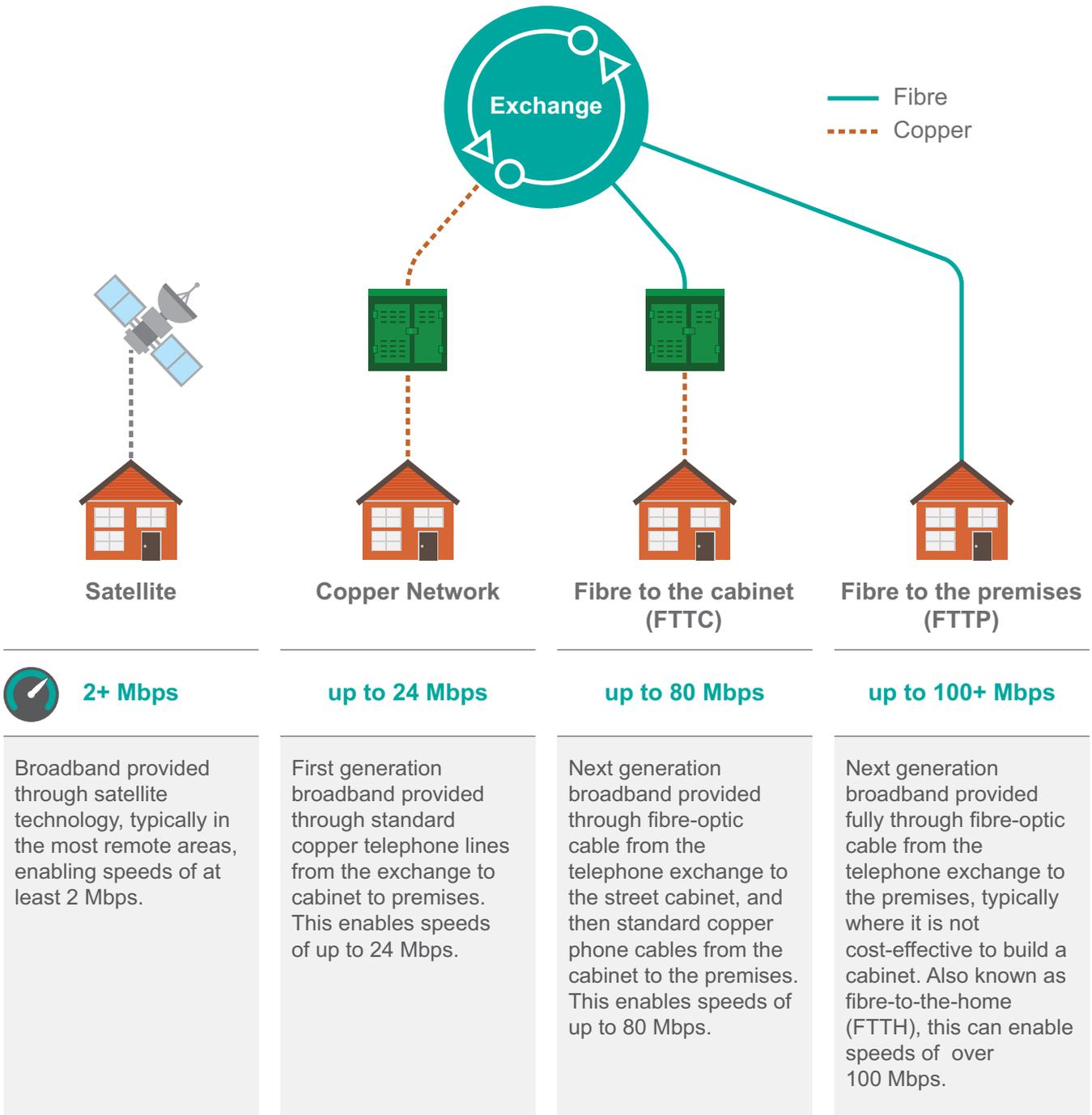
3 All speeds referred to in this report are for download.

4 European Commission, **A Digital Agenda for Europe**, August 2010.

5 Welsh Government, **Digital Wales**, December 2010.

6 Welsh Government, **Delivering a Digital Wales**, December 2010.

Figure 1 – Provision of access to broadband services



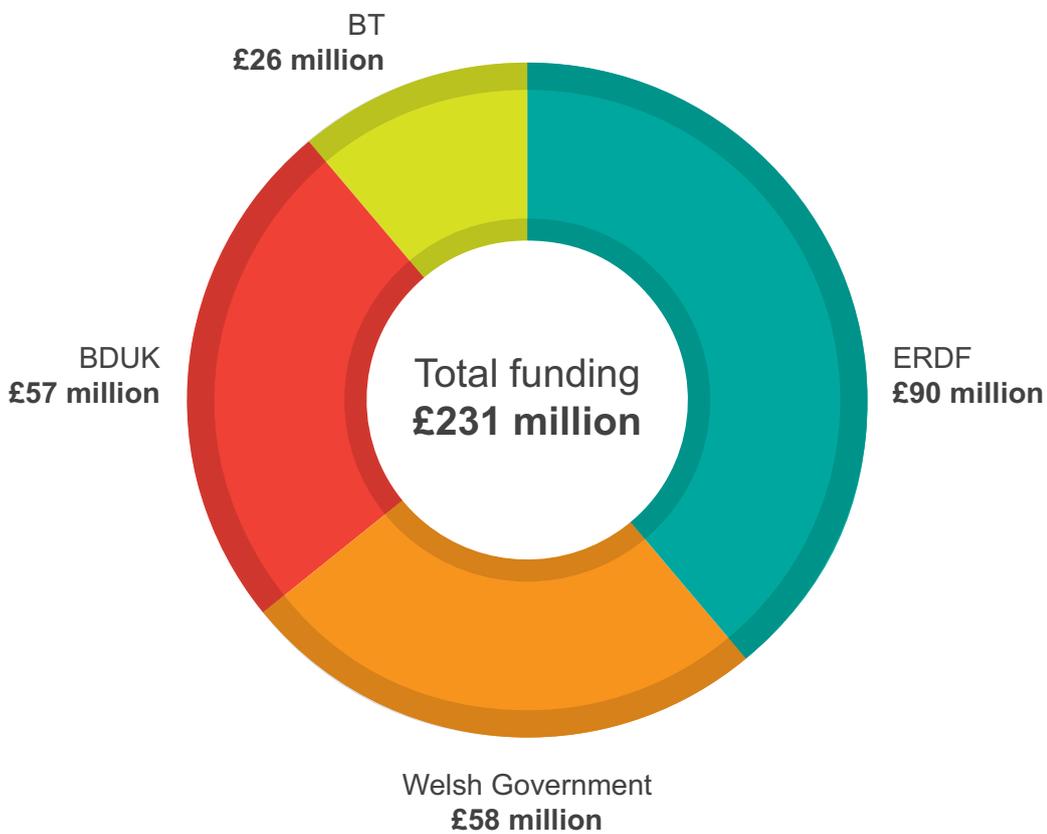
Source: Wales Audit Office

- 4 In July 2012, the Welsh Government signed an agreement with British Telecommunications plc (BT) for the provision of access to next generation broadband infrastructure for 95 per cent (691,000 premises) of the premises in the intervention area. The agreement stated that:
- a a minimum of 90 per cent of all premises in the intervention area should be capable of having access to speeds of at least 30 Mbps;
 - b a minimum of 95 per cent of all premises in the intervention area should be capable of having access to speeds of at least 24 Mbps; and
 - c a minimum of 40 per cent of all premises in the intervention area should be capable of having access to speeds of at least 100 Mbps.
- 5 The Welsh Government announced the agreement on 19 July 2012 and said the project would be one of the largest of its kind in the United Kingdom, with the total investment from the public sector and BT being approximately £425 million including BT's investment in the commercial rollout⁷. The agreement for the intervention area was for a maximum public funding contribution of £205 million from three sources with BT contributing £26 million of capital funding (Figure 2). The Welsh Government and BT named the project Superfast Cymru. Outside the agreement, BT will also invest an estimated £19 million of capital expenditure and £82 million of operational expenditure up to 2023 and will maintain and ultimately own the network⁸. BT expects to generate income from its investment by selling access to its next generation broadband network to internet service providers. Households and businesses will have to purchase a new product to access next generation broadband services.
- 6 The rollout of the Superfast Cymru contract added to the commercial rollout would give overall coverage of 96 per cent of premises in Wales. Following delays in obtaining state aid clearance from the European Union for all UK broadband projects, the Welsh Government aims to achieve this coverage by the end of 2016, rather than 2015. The Welsh Government is working towards providing access to next generation broadband to the remaining four per cent of the most difficult-to-connect premises by the end of 2016, through targeted schemes such as Access Broadband Cymru and 'infill' projects.
- 7 Recognising the substantial public investment involved, and on behalf of the Auditor General for Wales, during 2014, a team from the Wales Audit Office examined whether the Welsh Government's approach to rolling out broadband infrastructure to households and businesses is likely to deliver its intended benefits. The focus of our examination was on the Superfast Cymru project. Appendix 1 provides further detail about the scope of our work and our audit methods.

⁷ Other commercial providers have also invested in next generation broadband infrastructure in Wales.

⁸ The Superfast Cymru contract runs for a three-year implementation phase and seven-year operational phase ending in 2023, during which period the Welsh Government has contracted BT to build, operate and maintain the network. The figures for BT's contribution were set out by the Minister for Economy, Science and Transport in written and oral evidence to the National Assembly's Enterprise and Business Committee in April/May 2013.

Figure 2 – Funding capital contributions for the Superfast Cymru contract



Notes:

- 1 Broadband Delivery UK (BDUK) is a team within the UK Government's Department for Culture, Media and Sport (DCMS) that gives grant funding to local bodies (a local authority or group of authorities, devolved government, or Local Economic Partnership), which procures the superfast broadband services for their areas.
- 2 The European Regional Development Fund (ERDF) is a fund allocated by the European Union, which aims to strengthen economic and social cohesion in the European Union by correcting imbalances between its regions.
- 3 All figures are rounded to the nearest million and are forecast costs although the public sector maximum contribution is capped at £205 million.

Source: Welsh Government

- 8 Overall, we have concluded that, through the Superfast Cymru contract, the Welsh Government is making reasonable progress towards providing access to next generation broadband for premises across Wales with work to promote exploitation of the benefits now under way. The procurement and management of the Superfast Cymru contract has been generally effective, with appropriate controls in place to manage costs and delivery.
- 9 As at 31 December 2014, 47 per cent of the intervention area covered by the Superfast Cymru contract – just under 346,000 premises – are now able to access next generation broadband. The take-up of next generation broadband at these premises was 13 per cent. However, many of the more difficult-to-connect premises remain. For both the commercial and intervention areas, Ofcom⁹ data showed that, at 55 per cent in June 2014, Wales still had the lowest levels of next generation broadband access of all the UK countries. Welsh Government data indicates that by 31 December 2014, this had increased to 70 per cent of premises, although this is still lower than the UK average of 75 per cent as reported by Ofcom in June 2014.

9 The independent regulator and competition authority for the UK communications industry.

Recommendations

Recommendation

To improve communication about the local rollout of next generation broadband

R1 Some local authorities, businesses and residents have not been satisfied with the communication about the Superfast Cymru rollout. The Superfast Cymru contract includes £1.7 million for marketing and publicity activities, which the Welsh Government reviewed in June 2014 resulting in an increased focus on households and improvements to the Superfast Cymru website ([paragraphs 2.33 to 2.44](#)). **As part of its marketing plan, the Welsh Government should continue to review its marketing activities, assess and monitor awareness of next generation broadband and identify whether businesses and residents are content with the level of information they receive on the status of next generation broadband rollout for their premises.**

To ensure reaching contractual targets

R2 To meet the contractual targets of the Superfast Cymru project, 40 per cent of premises in the intervention area must be capable of receiving speeds of 100 Mbps or more by the end of 2016. However, there were only 325 premises able to access next generation broadband with download speeds of 100 Mbps by the end of December 2014 ([paragraphs 2.16 to 2.18](#)). **The Welsh Government needs to ensure BT has appropriate, detailed and robust plans in place as to how it will achieve the target of 40 per cent of premises capable of receiving speeds of 100 Mbps.**

To monitor and support the take-up of next generation broadband

R3 The provision of infrastructure for next generation broadband is of little value unless businesses and households take up the access and use it. The Welsh Government has not yet set any targets for the actual take-up of next generation broadband for either business or domestic premises ([paragraphs 2.45 to 2.52](#)). **The Welsh Government should:**

- **set an aspirational target(s) for the take-up of next generation broadband to lend focus to efforts to encourage take-up;**
- **collect information to demonstrate how businesses and the general public are using next generation broadband; and**
- **work with relevant stakeholders to ensure appropriate measures are in place to allow benchmarking with other countries.**

To improve effectiveness of the Access Broadband Cymru scheme

R4 Access Broadband Cymru provides grants of up to £1,000 for faster broadband installation in areas where broadband speeds are less than two Mbps. However, up to February 2015, the Welsh Government had given funding for 340 installations ([paragraph 2.19](#)). **The Welsh Government should review the Access Broadband Cymru operation, including its communication of the scheme, to assess whether it is working as planned and if the scheme is still providing benefits.**

Recommendation

To improve the delivery of the full benefits of the public investment

R5 Until August 2014, there had been a lack of clarity about the responsibility for delivery and management of benefits of next generation broadband, but the Welsh Government is now developing benefit exploitation activity. This activity includes a national project for the exploitation by businesses and a plan for public sector exploitation. There are currently no specific benefit exploitation activities planned for households ([paragraphs 2.55 to 2.68](#)). **In addition to the current activity, the Welsh Government should:**

- **develop a benefits management strategy or plan for the wider benefits of the Superfast Cymru project and its other next generation broadband interventions for households, businesses and the public sector;**
- **make provision within the strategy or plan for a review to assess the delivery of the anticipated direct and indirect benefits at the end of the Superfast Cymru implementation phase (such as a Gateway 5 Review); and**
- **repeat the review at regular intervals after the implementation phase is complete.**

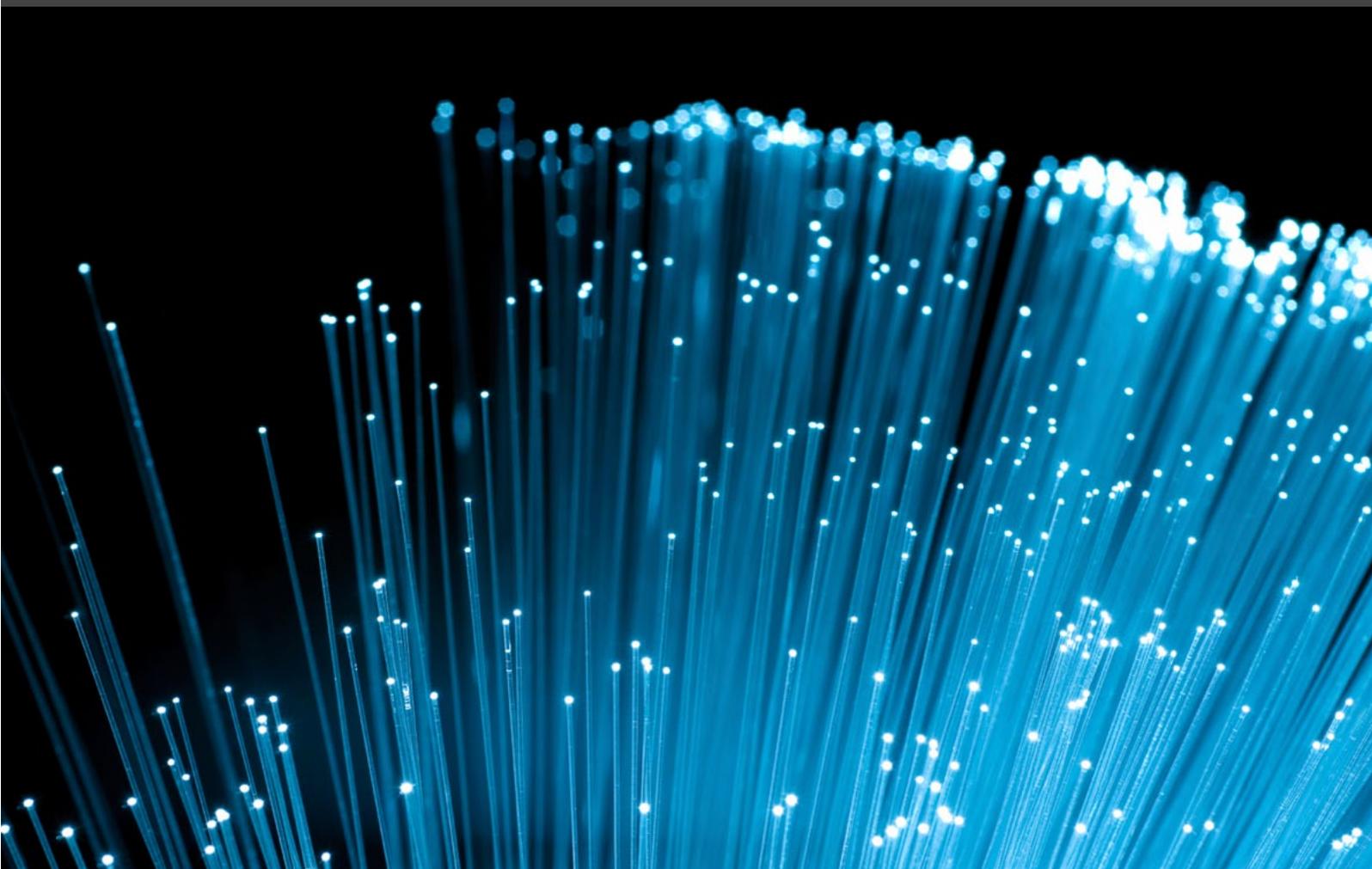
To learn the lessons from the Welsh Government's management of the planning and procurement of the Superfast Cymru contract

R6 From its own internal review processes, the Welsh Government learnt a number of lessons from the planning and procurement phase of the Superfast Cymru project. The key issues the Welsh Government identified related mainly to project management arrangements, including turnover of key project staff. In addition, our own work has identified some weaknesses in benefits management, and in the extent to which the option appraisal process considered affordability. **The Welsh Government should ensure that the lessons learnt from its own internal review and other lessons from this report are reflected in its own guidance on programme and project management.**

R7 We found that compared to other publicly funded next generation broadband projects in the UK, the Welsh Government negotiated a contract with BT that includes a number of additional safeguards for public sector investment ([paragraph 1.28](#)). **The Welsh Government should share the lessons learned from its negotiation of the agreement with BT with Welsh Government departments and with the wider public sector.**

Part 1

The procurement and management of the Superfast Cymru contract has been generally effective, with appropriate controls in place to manage costs and delivery



- 1.1 This part of the report examines the overall strategic context to the Welsh Government's investment in next generation broadband infrastructure and the procurement and management of the Superfast Cymru contract between the Welsh Government and BT. Part two of the report examines the rollout of the Superfast Cymru contract and the benefits of the project.

The Welsh Government has set out a clear approach and objectives for improving access to next generation broadband

Delivering a Digital Wales clearly sets out the Welsh Government's objectives for investing in next generation broadband infrastructure

- 1.2 The Welsh Government's **Digital Wales** strategy set out a vision to make Wales a 'truly digital nation' and for 'everyone in Wales to enjoy the benefits of digital technologies'. The Welsh Government set out its planned activities around five fundamental objectives (**Box 1**). Increased access to next generation broadband is central to the Welsh Government's plans for improving digital infrastructure.

Box 1 – The Welsh Government's five fundamental objectives for making Wales a digital nation

Inclusivity: The Welsh Government wants Wales to be a more inclusive, sustainable and prosperous society. Making sure everyone can enjoy the benefits of technology is a key part of that.

Skills: ICT skills will be part of all children's education, and the Welsh Government will use technology to improve teaching methods and learning. Beyond schools, the Welsh Government will ensure that everyone in Wales can acquire the basic skills and confidence to get online and use digital technologies. It will also help train people in more specialist skills for industry.

Economy: The Welsh Government will support Welsh companies to network with research departments to create and commercialise new digital technologies. It will help more Welsh companies to exploit these developments to innovate, grow and access new markets, especially in the creative industries, ICT and tourism sectors.

Public services: The Welsh Government will make more public and government services digital so they are easier to access and become more efficient and convenient. Through effective use of technology, people will be able to better deliver these services, and maximise use of resources.

Infrastructure: To deliver all the benefits of digital technology, the Welsh Government aims for all businesses in Wales to have access to next generation broadband by the middle of 2016, and all households by 2020.

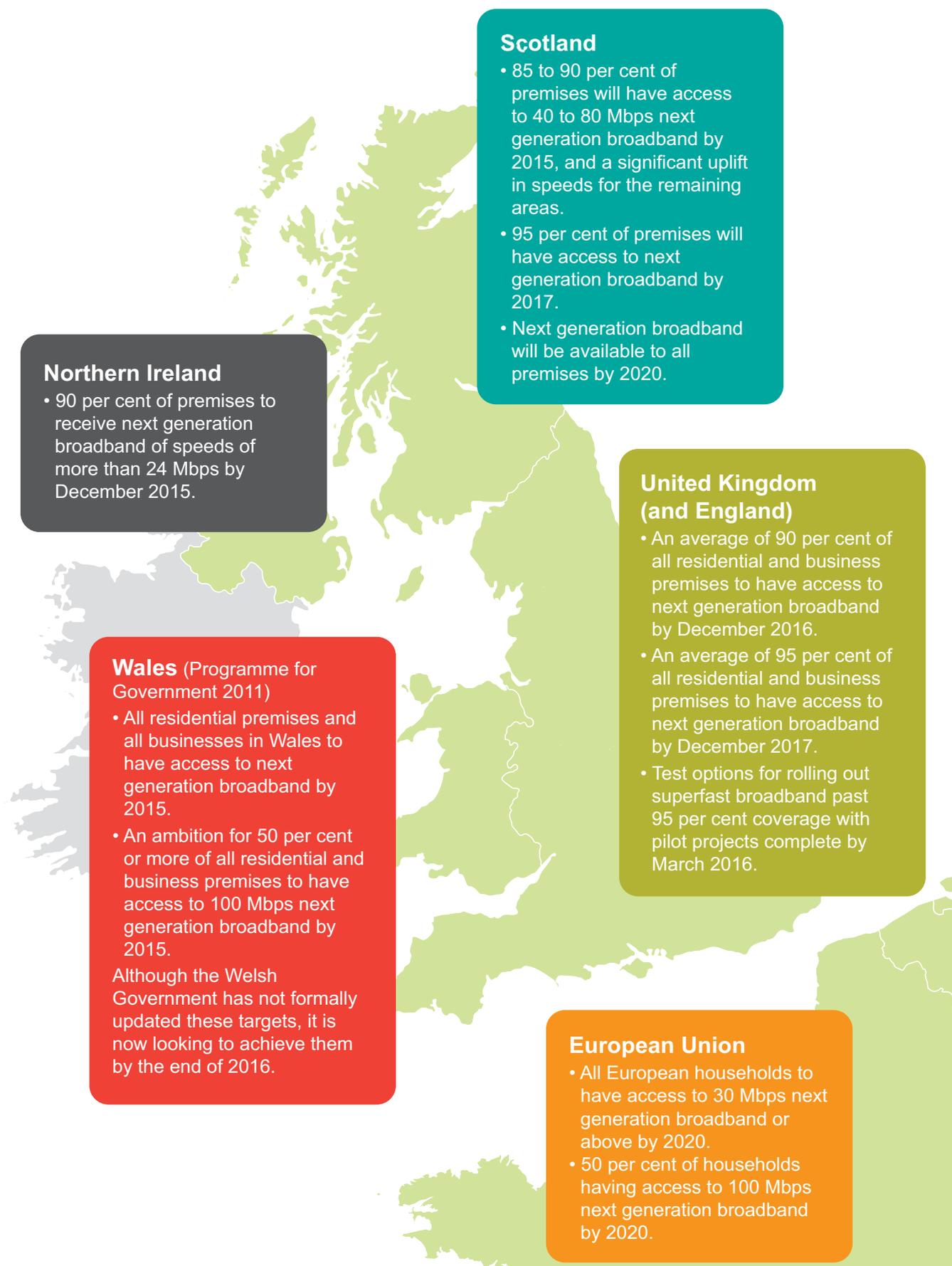
Source: Welsh Government, *Delivering a Digital Wales*, December 2010.

The Welsh Government's targets for access to next generation broadband have changed over time but remain more challenging than those set by the EU and UK Government

- 1.3 To deliver the aspirations of the **Digital Wales** strategy, the Welsh Government set an overall target for all business premises in Wales to have access to next generation broadband by June 2016 and all households to have access by 2020. This reflected targets first set out in the Welsh Government's **Economic Renewal: a new direction** in July 2010.
- 1.4 However, an independent review of the Next Generation Broadband Wales project¹⁰ in October 2010 challenged the Welsh Government's targets. The review concluded that it was impractical to separate business and residential premises, especially in rural locations where some small businesses may be located in residential premises. The review recommended delivering access to all residential and business premises by 2016.
- 1.5 The Welsh Government accepted this recommendation and the 2011 **Programme for Government** set an even more ambitious target for all premises to have access to next generation broadband 'by 2015'. The Welsh Government's targets are more challenging than the targets set for the European Union and the rest of the UK (**Figure 3**). This is despite particular civil engineering challenges due to the rurality of some premises and the challenging topography of some parts of Wales. The most significant element contributing to meeting this target is the Superfast Cymru contract. However, due to a six-month delay in state aid clearance from the European Commission for intervention across the whole of the UK, and a subsequent delay in the start of the Superfast Cymru contract, the Welsh Government is now working towards all premises having access to next generation broadband by the end of 2016.
- 1.6 The Welsh Government has set targets for access to next generation broadband only, rather than for actual take-up. This focus on access targets replicates the approach taken for the European Union targets and across most of the rest of the UK. This approach also reflects the focus of the Superfast Cymru project. However, the Welsh Government intends to set a take-up target for business premises. Welsh Government officials consider that internet service providers also have a significant role to play in driving take-up. The Welsh Government is not currently monitoring how premises are using next generation broadband.

¹⁰ The Next Generation Broadband Project became known as 'Superfast Cymru' shortly after the Welsh Government awarded the contract to BT.

Figure 3 – Extant next generation broadband access targets across the UK and for the European Union



Source: Welsh Government, Programme for Government, 2011; Department for Culture Media and Sport, Broadband Development UK (BDUK) website; Scottish Government, Scotland's Digital Future, 2011 and Scotland's Digital Future – Infrastructure Action Plan, 2012; Northern Ireland Department of Enterprise, Trade and Investment, A Telecommunications Action Plan for Northern Ireland 2011-2015 and European Union, Digital Agenda for Europe, 2010.

The Welsh Government set out clearly the justification for intervening in the market for next generation broadband through the Superfast Cymru contract, although the option appraisal process did not adequately consider affordability

- 1.7 In August 2010, the Welsh Government produced an Outline Business Case, which set out a clear justification for intervening in the market for next generation broadband infrastructure. This said that the future health, education and equality of the people of Wales would require access to affordable high-capacity broadband services. However the Welsh Government found that at that time:
- a access to, and competition for, broadband services was good in the urban southeast with multiple providers offering services;
 - b users without this level of access had been unable to exploit the commercial and social opportunities which accrue from access to next generation broadband services;
 - c other than a few areas in Cardiff and south-east Wales, most of the high-capacity infrastructure did not provide the minimum level requirement provided in other parts of the UK; and
 - d if left to market forces, it was likely that access to next generation broadband in Wales would lag behind the rest of the UK and fail to meet European targets.
- 1.8 The Outline Business Case identified six investment options on the scale of the rollout predominantly based on Fibre to the Premises (FTTP) technology (Appendix 4) and clearly identified two of the options as the preferred solutions. These two options had estimated costs of around £720 million and £910 million respectively. However, contrary to the Welsh Government's guidance on producing business cases, the Outline Business Case did not 'ascertain the affordability and funding requirements of the preferred option... to demonstrate that the recommended deal is affordable'¹¹.
- 1.9 In October 2010, the Welsh Government commissioned a Gateway 0 review to review the outcomes and objectives for the project and confirm that they made the necessary contribution to Ministers' or the departments' overall strategy. The review concluded that the draft Outline Business Case was not fit for purpose and needed complete revision. The review said that the draft Outline Business Case did not justify the substantial additional cost for the preferred option over the other options and that there was no agreement between Welsh Government officials on the estimated costs of the preferred solution.

¹¹ Welsh Government, *Delivering Public Value From Spending Proposals, Green Book Guidance On Public Sector Business Cases, Using The Five Case Model*, October 2012.

- 1.10 Based on the two preferred options, which both used FTTP technology, the Welsh Government developed a Full Business Case identifying six possible technological solutions, with total costs ranging from around £260 million to £700 million (Appendix 4). Although the Welsh Government identified that all six options would meet the investment objectives, the Full Business Case says it chose the cheapest option as the preferred solution, which was to use FTTP technology ‘in urban and suburban areas’ to deliver 100 Mbps to the most populated, yet underserved regions of Wales. Although providing next generation broadband to rural areas is fundamental to the Welsh Government achieving its objectives and targets, we have been unable to ascertain why the Welsh Government originally chose a preferred option that omitted rural areas.
- 1.11 During the procurement phase, it became apparent that providing FTTP to all premises was unaffordable. After the Welsh Government identified BT as the preferred bidder, the Welsh Government chose a different approach based predominantly on FTTC arrangements. However, prior to the Welsh Government identifying BT as the preferred bidder, the use of FTTC did not feature in any of the options in the Outline or Full Business Case.

The Welsh Government’s procurement of the Superfast Cymru contract was effective despite the constraint of having only one final bidder

The Welsh Government carried out further detailed market analysis and chose to develop its own single all-Wales contract in order to attract bidders and strengthen its ability to manage the contract

- 1.12 Following communication with the market about the potential contract, 87 companies attended a ‘Supplier Information Day’ event in January 2011. Following that event, the Welsh Government and its expert advisors undertook early market engagement with 12 companies. This engagement involved discussion on feasibility, timescales and potential project risks, and gave an initial indication of the potential financial contribution those companies could make to the project.
- 1.13 The Welsh Government identified up to five potential bidders that would have the capacity and scale to meet the Welsh Government’s requirements for an all-Wales contract. Understandably, the Welsh Government also saw a number of other advantages to procuring a single national contract, specifically:
- a reducing the risks of suppliers not being interested in the more hard-to-reach rural areas; and
 - b being easier to manage than up to 22 individual local authority level contracts and offering economies of scale.

- 1.14 The Welsh Government's contractual approach is different to the approach adopted by the UK Government for the rollout of next generation broadband infrastructure in England. The UK Government has adopted a local and regional approach, and local authorities, either individually or as a region, have procured 34 (77 per cent) of the contracts through a framework agreement set up by Broadband Development UK (BDUK)¹². The Department for Culture Media and Sport (DCMS) and the suppliers BT and Fujitsu signed the framework contract in June 2012. Local and regional bodies using the framework have awarded all delivery contracts to BT; and Fujitsu withdrew in March 2013. BDUK also offers the local authorities support in negotiating with suppliers to provide the local infrastructure required to fill the gaps in commercial coverage.
- 1.15 In Scotland, the Highland and Islands Enterprise agency has appointed BT to develop next generation broadband infrastructure in a specified 'Highlands and Islands' region. The agency opted to procure the Highlands and Islands contract outside the BDUK framework, but the Scottish Government has used the BDUK framework to appoint BT to cover the rest of Scotland. Fourteen local authorities are topping up the rest of Scotland contract to invest in providing coverage for more premises than originally specified for their areas. Like the Welsh Government, the Northern Ireland Executive has procured a single contract, also with BT but not through the BDUK framework.
- 1.16 The Welsh Government decided against using the BDUK framework in Wales for four reasons:
- a the BDUK framework had not been finalised at the time that the Welsh Government was looking to contract;
 - b the Welsh Government's ambitions were based on the majority of premises having access to speeds of at least 30 Mbps whilst the BDUK framework was based on speeds of at least 24 Mbps;
 - c a contract under the BDUK framework would only have provided a 90 per cent coverage target and would not have met a number of specific priorities in Wales such as prioritising Enterprise Zones¹³; and
 - d the Welsh Government was seeking more contractual protection than the standard BDUK contract can provide.

¹² Some regions and local authorities have not used the BDUK framework, notably Cornwall which procured its contract before the BDUK framework was in place.

¹³ Enterprise Zones are geographical areas that support new and expanding businesses by providing 'a first class business infrastructure and support'. Each zone is a designated area where the Welsh Government offers specific incentives to attract new businesses and industry to the location, including next generation broadband.

The Welsh Government carried out an open, fair and transparent procurement process which initially attracted interest from a good number of suppliers, although resulted in only one final bid

- 1.17 The Welsh Government published its contract notice in February 2011 and adopted a 'competitive dialogue' procurement procedure (Box 2) to identify the most economically advantageous tender. This approach allowed the Welsh Government to work with the market to identify the most suitable and cost-effective technological solution to achieve the Welsh Government's objectives rather than specifying this up front.

Box 2 – Competitive dialogue procurement procedure

This procurement procedure is usually only used in exceptional circumstances for particularly complex supplies, services and works contracts where the buyer needs the expertise of the market to design a feasible fit-for-purpose solution. This is usually where, at the initial stage, the buyer is not objectively able to:

- define the technical means capable of satisfying its needs or objectives; and
- specify either the legal or the financial make-up of a project.

Under this procedure, any supplier may make a request to participate and the buyer will conduct a dialogue with the suppliers admitted to the procedure with the aim of developing one or more suitable solutions. Based on the dialogue, the buyer will select suppliers to invite to tender. After further detailed dialogue, the buyer calls for final bids and the dialogue is closed. The process always involves competitive tendering and the public body cannot award the contract based only on the lowest price.

Source: Scottish Government (topic: procurement) website

- 1.18 The Welsh Government received 45 expressions of interest for the contract, with seven initial bids returned. However, two of the seven organisations did not submit Pre-Qualification Questionnaires and one failed the evaluation. In late May 2011, the Welsh Government invited the four remaining organisations to take part in more detailed competitive dialogue. A series of meetings progressed with the bidders to refine the requirements prior to the issue of the Invitation to Submit Final Tenders in February 2012.
- 1.19 On 29 November 2011, the Welsh Government set a fixed amount of £205 million in public funding for the project. However, some of the bidders had been developing bids that would have required a higher level of public sector investment.

- 1.20 Before the deadline for submitting final bids, three bidders pulled out of the competition for reasons including:
- a concerns over the amount of investment required above the public sector funding cap of £205 million to meet the proposed technical solution;
 - b concerns that the Welsh Government was only interested in seeking the lowest cost bid to deliver 30 Mbps across the network; and
 - c the risk levels within the emerging terms of the agreement were too high because of the size, complexity and timescales involved.
- 1.21 Fixing the funding of the project at £205 million significantly reduced the technological solutions available to the Welsh Government. It became apparent that given the funding restrictions, the only technological solution that would ensure the Welsh Government could meet its own and the European Union next generation broadband targets, was the predominant use of FTTC, rather than the preferred option of FTTP. Because of its existing infrastructure such as copper telephone lines from cabinets to premises, BT was the only supplier likely to deliver this solution. The Welsh Government accepted BT's view that using FTTC would achieve the targets set by the Welsh Government for next generation broadband speeds across Wales.
- 1.22 We are satisfied that the Welsh Government maintained a competitive procurement environment throughout the process. Welsh Government officials and external experts examined BT's final bid in May 2012 and although the bid met the minimum requirement and was technically compliant, officials considered that it lacked information in some areas. The Welsh Government's procurement division also raised particular concerns over the lack of commitment in the bid to use FTTP as part of the requirement to deliver 40 per cent coverage at 100 Mbps; and the levels of risk for the Welsh Government around project management, realising the benefits and cost benchmarking.
- 1.23 The Welsh Government asked BT to clarify certain aspects of its bid by providing further information. On the basis of the information supplied by BT, the Welsh Government accepted the bid subject to receiving a detailed project plan from BT. To avoid a delay in awarding the contract, the Welsh Government and BT subsequently agreed that BT would complete the detailed project plan after the contract was signed.

- 1.24 The Welsh Government submitted a contract award notice to BT on 29 June 2012. The contract to deliver next generation broadband infrastructure in Wales subsequently became known as the Superfast Cymru project. The agreement stated that BT would provide next generation broadband coverage across 95 per cent of the contract intervention area by 31 December 2015 (this date was subsequently amended – see [paragraph 2.4](#)). The project was to be delivered in two phases:
- a The **implementation phase** – when BT is building the network.
 - b The **operational phase** – when internet service providers provide wholesale services and BT continues to maintain the network at its own cost. Under the contract, the operational phase will last for a period of seven years, starting from the end of the implementation phase, following which BT will continue to own and run the network.

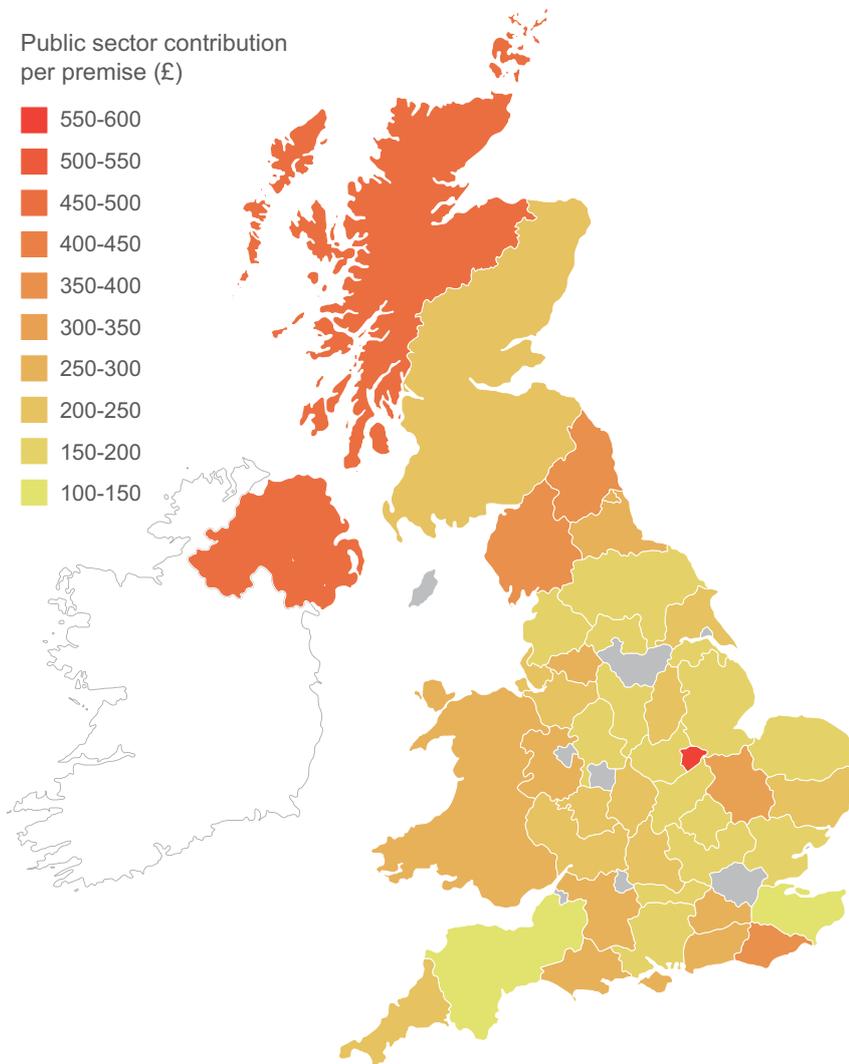
The contractual costs are within the range of other UK public sector next generation broadband contracts with BT, and the Welsh Government negotiated an agreement which protects the public sector investment and transfers significant risk to BT

- 1.25 At the time of BT's final bid submission in May 2012, the most relevant cost benchmark available to the Welsh Government was the **Superfast Cornwall** project. As a result, it was only possible for the Welsh Government to take limited assurance that BT's bid represented value for money. However, the Cornwall project was only targeting 85 per cent coverage and the cost per premises able to connect to next generation broadband - known as 'premises passed' - increases significantly beyond 90 per cent where the premises are the hardest to reach. In early 2013, BDUK developed a bid comparison process to help local bodies assess the reasonableness of costs in the bids it receives¹⁴, but BDUK developed this process some time after the Welsh Government had signed its agreement with BT.
- 1.26 The commencement of other projects through the BDUK framework means that benchmarking is now possible. However, the Welsh Government and BT are of the view that there is limited value in benchmarking the costs of the Superfast Cymru agreement with other UK next generation broadband infrastructure projects because:
- a the costs of deployment vary according to differences in terrain, the state of the existing network and the type of technology deployed; and
 - b speed and coverage commitments and priority areas for deployment vary by region and rurality.

¹⁴ For each local body call-off contract, bidders are required to submit a project financial model that includes details of volumes, costs, revenues and profits during the contract period. BDUK produces a bid comparison report to help local bodies assess the reasonableness of costs in the bids. These reports analyse cost indicators such as capital expenditure and supplier funding, and compare the bid to earlier BT bids under the framework; BT's reference cost book; and where possible, BT bids for non-framework contracts funded by a UK Government grant.

1.27 In addition, as BT was the sole bidder for all of the contracts in the UK, it is difficult to draw conclusions about value for money. Nevertheless, we have compared the estimated public sector cost per premises passed of the Superfast Cymru project with other UK projects (Figure 4), based on in-principle contract costs. We found that the average public sector cost per premises in Wales is £297¹⁵ and sits within the range of costs from across the other UK projects, but is higher than the UK average of £240. However, the higher cost in Wales should be seen in the context of more ambitious targets for coverage at higher speeds¹⁶; and the rurality of much of the intervention area.

Figure 4 – Estimated public sector cost per premises for UK next generation broadband projects



Notes:

- 1 Figures are based on in-principle contract costs as not all contracts are complete. For England, Scotland, and Northern Ireland, this relates to contracts under the first phase of BDUK funding. Grey areas relate to regions without a first phase next generation broadband project.
- 2 Costs for different areas may not be directly comparable due to differences in coverage and speed targets.

Source: Wales Audit Office, based on data provided by the Welsh Government and BDUK

¹⁵ Calculated as the public sector funding of £205 million divided by the target number of premises of 691,000 (paragraphs 4 and 5).

¹⁶ The Superfast Cymru project targets coverage of 90 per cent of premises at 30 Mbps or above and a further five per cent of premises at 24 Mbps or above. The majority of the other UK contracts target coverage of 90 per cent of premises at 24 Mbps or above.

1.28 The Welsh Government has negotiated several contractual provisions that should safeguard public sector investment and which transfer significant risk to BT (Figure 5)¹⁷. These provisions, which include an overall cap on the public investment, are more demanding than those provided for under the BDUK framework agreement. BT officers have indicated to us that when BT was left as the only bidder, the Welsh Government adopted a strong negotiating stance to secure these provisions.

Figure 5 – Superfast Cymru public sector investment safeguards

Safeguard	Description
Contract cap	The Welsh Government capped the overall public sector investment of the project under the contract at £205 million.
Retentions	During the deployment, BT claims a set amount per premises. The Welsh Government will retain a percentage of each payment to BT until BT meets the predetermined annual implementation target. The Welsh Government will also retain a further proportion of all payments to BT until the Welsh Government performs the final reconciliation of all eligible costs at the end of the implementation phase. This is unique amongst the UK next generation broadband infrastructure projects.
Reconciliation to actual costs	<p>The agreement sets out the details for the categories of cost items that are eligible expenditure and comprise the direct and verifiable net costs (without any element of profit) actually incurred by BT in carrying out the implementation works.</p> <p>The Welsh Government has contracted a third party to reconcile payments made to BT and BT's actual costs. BT can only claim actual evidenced costs relating to the infrastructure deployment plus an agreed overhead rate (see below) therefore, there is no inclusion of any profit margin or BT contingency.</p> <p>The contract contains various scenarios if the actual spend by BT on building the infrastructure is less than the £205 million cap. Depending on the circumstances, BT will either repay the Welsh Government a lump sum, or put the money into an investment fund for the Welsh Government to use for other projects relating to connecting the remaining premises outside the intervention area.</p>
Reduction in cost of overheads	Overheads are costs that BT incurs to support Superfast Cymru, for example, systems, administration and management costs. It was agreed that the eligible costs would be reviewed after the contract was signed. All claims for overheads are based on actual costs. The Welsh Government analysed BT's actual overheads from March 2013 to the end of December 2013, which resulted in BT agreeing to reduce the allocation for overheads.

¹⁷ A redacted version of the Superfast Cymru contract is available at <http://gov.wales/about/foi/responses/dl2013/aprjun/business1/dlbus363/?lang=en>

Safeguard	Description
Comparing costs against BT's commercial rollout costs	The Welsh Government and BT are capturing all relevant eligible defrayed costs relating to the project. The processes agreed between the Welsh Government and BT specify that BT must provide evidence to demonstrate that the costs and pricing under the agreement are the same as BT's commercial roll out. The Welsh Government will perform 'defrayment audits' to validate expenditure in line with the processes.
Testing and verification	<p>BT submits monthly progress reports to the Welsh Government on the number of premises passed that are able to access next generation broadband. These reports form the basis of BT's claims for payment.</p> <p>Based on a 20 per cent sample of cabinets, Welsh Government engineers perform physical tests on-site. The testing process checks that premises passed will receive the expected speed, are in the correct postcode and are eligible (for example, a phone box is not eligible). The Welsh Government will only pay for premises that pass these checks. This process is unique amongst the UK next generation broadband infrastructure projects.</p>
Value Zones	Included within the contract are 'Value Zones' which cover premises in physically challenging, geographically remote and technically difficult parts of the intervention area that the Welsh Government felt needed to be specifically included in the rollout.
Drop dead date	BT must submit all claims for payment by 30 December 2016. The Welsh Government will not pay any claims submitted after this date.

Note:

There are other notable provisions within the contract to safeguard public sector investment, the details of which are commercially sensitive and redacted from the published version.

Source: Welsh Government

While there were some weaknesses in project and programme management in the pre-contract period, the Welsh Government now has clear and appropriate arrangements in place to manage the Superfast Cymru contract

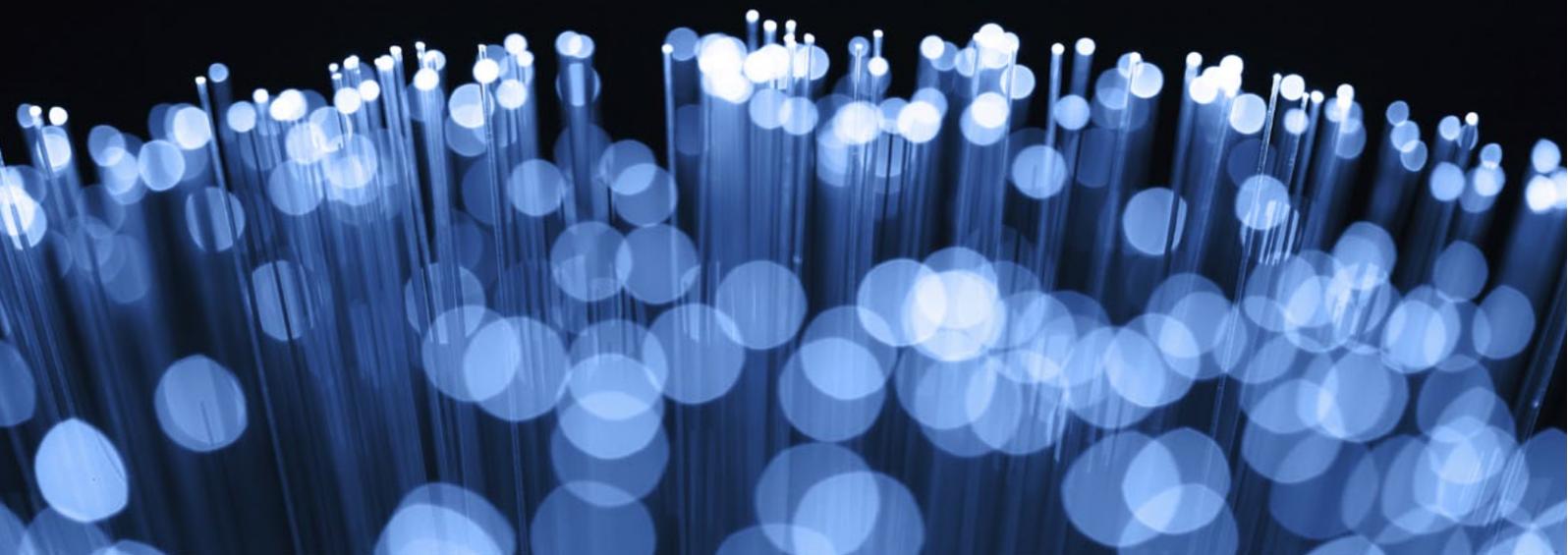
- 1.29 Gateway reviews in October 2010 and June 2012 were satisfied with the governance arrangements for the Next Generation Broadband Wales project. However, the Welsh Government's lessons learned report from the procurement phase in December 2012 raised concerns about the governance of the early stages of the programme. In particular, the report found that:
- a project initiation suffered from lack of clarity over exactly what the Welsh Government required and overall project leadership was weak;
 - b there was a lack of a sufficiently experienced project manager at the outset of the project; and
 - c there were too many changes in the Senior Responsible Owner and a gap when the programme was without a Senior Responsible Owner.
- 1.30 Due to a lack of capability and capacity, the Welsh Government had to make significant use of consultants and interim project managers during the procurement phase of the project. While the external advisers clearly added value, the Welsh Government developed its own project team to manage the contract with BT, and the relationship with other stakeholders. The Welsh Government was correct in recognising the clear distinction between the procurement phase and contract management and delivery phase of the project and that for a project of this size and complexity, the need for specialist skills, experience and commercial capability to manage the relationship with a major private sector organisation.
- 1.31 In response to the lessons learned report, the Welsh Government brought in a new project director in early 2013 and an almost completely new team before the commencement of contract deployment in February 2013, to oversee the management of the project. We found that a strength of the Welsh Government's management of the Superfast Cymru project is the competency of its project team.
- 1.32 The Welsh Government has overall accountability for the project and has established a Programme Board mainly comprising Welsh Government officials representing both the Superfast Cymru project and Digital Wales. However, the Welsh Government invited senior BT representatives to become full members of the Programme Board from November 2012. This is to ensure the objectives of BT and the Welsh Government remain fully aligned. There is also an Operational Board which has a greater focus on the day-to-day operational management of the Superfast Cymru project and which, again, includes representation from BT. We found that both the Programme Board and Operational Board are providing sufficient oversight of the Superfast Cymru project within a clear governance structure.

- 1.33 As BDUK is a major contributor of grant funding to the Superfast Cymru project, it carries out value for money reviews at particular points in the project¹⁸. The latest review during the delivery phase of the contract gave a 'Green' rating to the project. We understand that the main reason for the rating was the development of a very competent project team, which has managed BT very effectively and emerged with a good, open and collaborative working relationship.
- 1.34 The review team concluded that despite the absence of any supplier other than BT in submitting a final bid for the contract and the consequential lack of external benchmarking, the Welsh Government's internal reporting structures provide a greater degree of transparency than has been seen in most other state aid funded next generation broadband infrastructure programmes. In addition, and while still relatively early in the implementation phase, a Welsh Government internal audit review in March 2014 provided substantial assurance on the controls in place for the Superfast Cymru project. In December 2014, the Welsh Government's European Funds Audit Team gave assurance that the overall management and operational arrangements in place for the project are effective.

¹⁸ The value-for-money reviews provide assurance to local bodies by assuring that project, procurement and state aid requirements have been met, or highlight where there are issues, to support the Project Team in confirming completion of key deliverables, and to support the local Accounting Officer in his or her decision to sign the grant agreement. BDUK make specific checks at 'Checkpoints' during the planning and procurement process and delivery phases.

Part 2

The Superfast Cymru contract is now making reasonable progress and is delivering direct employment-related benefits, with work to promote exploitation of next generation broadband now under way



- 2.1 This part of the report examines the rollout of the Superfast Cymru project, including communication arrangements, employment-related benefits and the position regarding access to and take-up of next generation broadband services through both the project and the separate commercial rollout. This part of the report also considers the Welsh Government's arrangements for exploiting the wider benefits of next generation broadband.

The improvement in the number of premises able to connect to next generation broadband since early 2014 provides some confidence that the overall coverage targets will be met, but many of the more difficult-to-connect premises still remain

The start of the Superfast Cymru contract was delayed by six months, because of issues outside the control of the Welsh Government relating to state aid approval from the European Commission, and the delay has resulted in additional risks to funding and delivery

- 2.2 In order to intervene in the market, the Welsh Government had to obtain state aid approval from the European Commission¹⁹. In November 2011, the Welsh Government submitted pre-notification to the European Commission for the Next Generation Wales Broadband project. However, in December 2011 the European Commission asked the Welsh Government to withdraw its application and instead to seek approval for the Wales project under a scheme covering the whole of the UK administered by the UK Government.
- 2.3 Before the UK Government could make the formal application for state aid, it spent several months in protracted negotiations with the European Commission over the technical and legal aspects of the UK scheme and in particular, issues concerning the structure of the UK telecommunications market. The European Commission eventually approved the UK scheme in November 2012. BDUK – which is responsible for certifying that individual broadband projects across the UK have adhered to the approved principles and constraints associated with state aid – approved the Superfast Cymru project on 11 January 2013.
- 2.4 The Welsh Government had originally planned to start the Superfast Cymru project in August/September 2012 and for BT to complete the works by 31 December 2015. However, the delays in obtaining state aid clearance meant that deployment under the contract could not start until February 2013. As a result, the Welsh Government and BT amended the agreement and put the date of completion back to 30 June 2016.

¹⁹ European Union State Aid rules for broadband are set out in the EU Guidelines for the application of State aid rules in relation to the rapid deployment of broadband networks.

- 2.5 The six-month delay in starting the project meant that the Welsh Government originally had six months less in which to draw down the £90 million of ERDF funding, which can only be spent in the areas of Wales specified by the funding terms and conditions²⁰. There was therefore an increased risk that the Welsh Government would not be able to draw down all of the ERDF funding. However, the Welsh Government has agreed with the Welsh European Funding Office for its final claim submission for £80 million of Convergence funding to be extended by three months to 31 December 2015, which allows ERDF funding to be allocated to additional premises passed before the claims deadline. The deadline for spending the remaining £9.5 million of Competitiveness funding remains at its original date of 30 June 2015.
- 2.6 Because of the delays in waiting for state aid approval, the Welsh Government and BT negotiated a 'Milestone 0' phase for the period between the contract start date in July 2012 and the start of deployment in February 2013. This phase of the project allowed BT to start performing its in-depth planning work and preparatory work, which BT carried out at its own risk. Part of this involved BT producing a more detailed project plan including the number of premises to be passed in each local authority, how and by when. Once state aid clearance had been obtained, the Welsh Government paid BT just under £10 million for work undertaken in the Milestone 0 phase.
- 2.7 The Welsh Government is still in discussion with BT to agree the specific location of the 'Value Zones' (Figure 5) that BT has to cover within the Superfast Cymru contract. These Value Zones cover specific premises classified as more difficult-to-connect or that the Welsh Government felt needed to be specifically included in the rollout for economic development purposes. The Welsh Government had originally wanted the delivery of these areas spread across the three-year deployment to ensure that BT would not leave all the more difficult-to-connect premises until last, and to ensure those premises were not left within the remaining five per cent of premises not given access.
- 2.8 Due to having less time to draw down the ERDF funding, BT and the Welsh Government have agreed that easier-to-connect premises should take priority in the deployment schedule over deployment in the Value Zones. This will enable BT to maximise the number of premises passed prior to this date for which the Welsh Government can claim ERDF funding. However, some premises in more difficult-to-reach rural areas have also been passed.

²⁰ ERDF funding is split into two streams – Convergence and Competitiveness. West Wales and the South Wales Valleys qualify for ERDF Convergence funding because the average Gross Domestic Product per head in these regions was below 75 per cent of the European average. East Wales qualifies for ERDF Competitiveness funding because parts of East Wales are below the UK average for Gross Value Added per head.

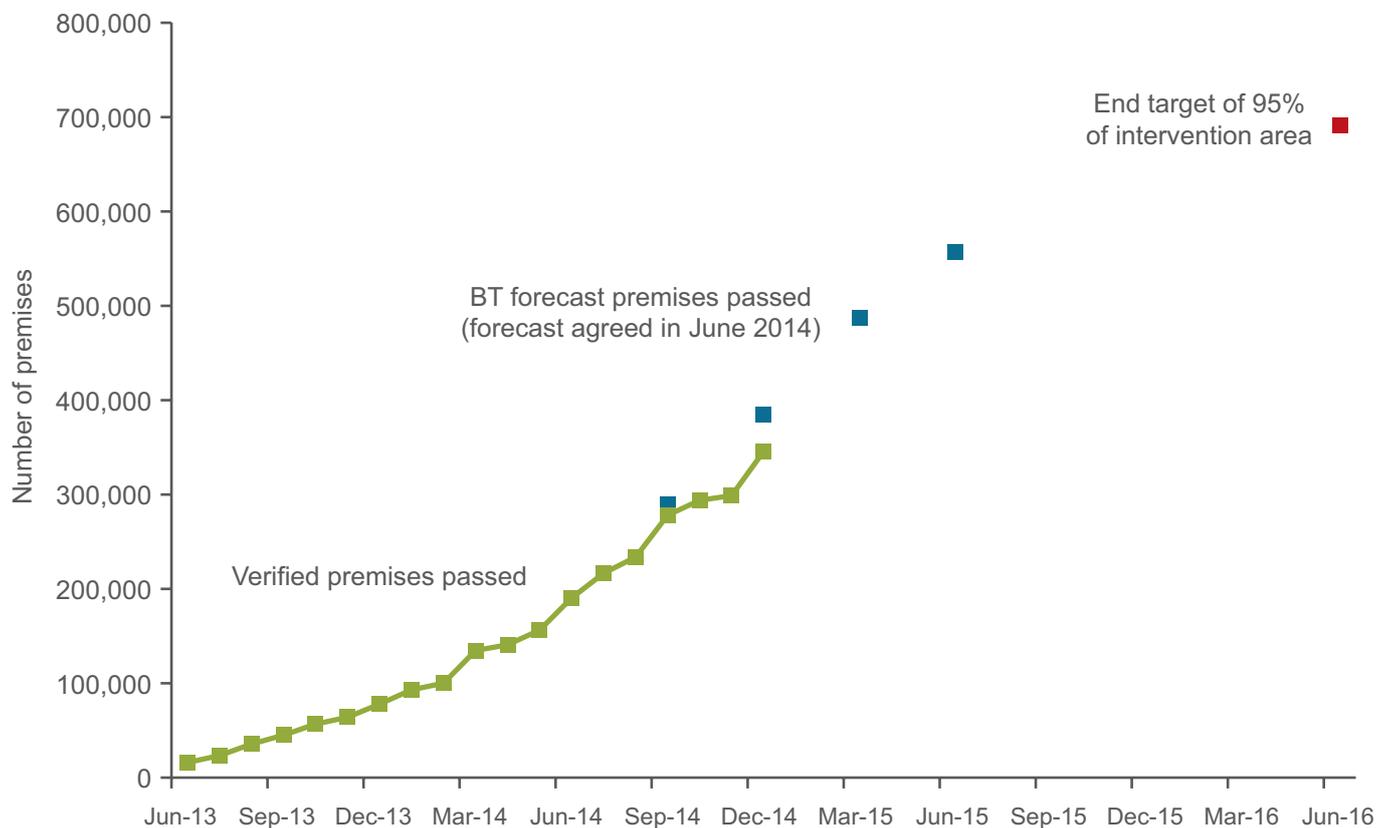
The deployment of Superfast Cymru is making good progress against contractual targets

- 2.9 The Superfast Cymru contract contains deployment targets for each financial year. The Welsh Government amended these targets following the delay in the commencement of rollout while awaiting state aid approval. By the end of March 2014, BT had passed 135,000 premises as able to access next generation broadband, well in excess of the revised contractual target of 45,000. To the end of December 2014 (Figure 6), the Welsh Government had agreed 345,681 premises as passed by BT (47 per cent of premises in the intervention area), exceeding the March 2015 contractual target of 307,500 premises.
- 2.10 To the end of December 2014, BT had claimed £81 million (40 per cent of the total public sector contribution). This includes the payment for the period up to the start of deployment (paragraph 2.6).

The deployment of Superfast Cymru is making reasonable progress against BT's more ambitious budgetary forecasts but many of the more difficult-to-connect premises remain

- 2.11 For planning purposes, BT produces quarterly budgetary forecasts on the number of premises to be passed. These forecasts provide key information to help the Welsh Government manage its budgets and monitor progress. Up to February 2014, the actual average number of premises passed each month was just over 11,000. The Welsh Government voiced concerns with BT that the number of premises passed monthly was not sufficient to reach future forecasts and was below original plans. BT told the Welsh Government it had increased the labour force and addressed supplier issues to increase deployment.
- 2.12 From March to June 2014, the average number of premises passed per month doubled to just over 22,000 and between July and December 2014, this increased to an average of 25,900 premises per month. Nevertheless, the 345,681 premises passed at the end of December 2014 was below the BT delivery forecast agreed in June 2014 of 384,000 (Figure 6). Based on the July to December 2014 rate of deployment, BT is around six weeks behind its forecast from June 2014.

Figure 6 – Premises passed claimed by BT and tested and verified by the Welsh Government through the Superfast Cymru contract, actual to 31 December 2014 and forecast



Notes:

The graph does not necessarily depict the actual number of premises passed per month, but the number claimed by BT, and tested and verified by the Welsh Government. BT has tended to claim a larger number of premises passed in the final month of each quarter.

Source: Welsh Government

2.13 BT is confident of achieving 500,000 premises by 30 June 2015, an average of 25,000 premises passed per month. If BT achieves this target, it should allow for the drawdown of all the ERDF Competitiveness funding. In order to reach the target of 691,000 premises passed by the end of June 2016, BT would have to pass an average of 16,000 premises per month through to the end of the contract period. Although this is significantly less than the average number of premises passed per month in the second half of 2014, these are likely to be the most hard-to-reach premises, including those in the Value Zones. The Welsh Government has stated that the targets are ‘extremely challenging’.

- 2.14 BT passed more than 155,000 premises between July and December 2014 (11 per cent of all premises in Wales), which illustrates the speed of the rollout of Superfast Cymru compared with some of the other larger UK next generation broadband projects. For example, the Superfast Dorset project is aiming to pass around 80,000 premises over a 33-month period between April 2014 and December 2016. The Superfast Surrey project plans to pass 84,000 premises in an 18-month period from summer 2014 to the end of 2015.
- 2.15 The Superfast Cymru contract also includes 14 priority areas, which the Welsh Government partly based around the seven Enterprise Zones in Wales. The contract includes targets for 30 September 2014 for seven areas. BT has continued deployment in these areas and exceeded the September 2014 contractual targets for these areas, including covering 35 per cent of all postcodes in the relevant Enterprise Zones.

BT has not confirmed with the Welsh Government how it will achieve the target of 40 per cent of premises able to access broadband services at speeds of at least 100 Mbps

- 2.16 Although it does not set out any specific financial penalties, the Superfast Cymru contract states that a minimum of 40 per cent of premises passed (around 290,000) must be capable of having access to broadband services of a minimum of 100 Mbps by 31 December 2016. However, by 31 December 2014, only 325 premises passed had access to speeds of 100 Mbps (less than 0.1 per cent of premises). The Welsh Government's procurement division had raised concerns about meeting this target when it analysed BT's final bid ([paragraph 1.22](#)).
- 2.17 This 40 per cent of premises passed will have the choice of purchasing an upgrade to next generation broadband services at speeds of over 30 Mbps or over 100 Mbps. Businesses are more likely than residential premises to require and be able to afford to upgrade to services with speeds of over 100 Mbps. However, BT has no specific plans at present to target the rollout of access to 100 Mbps services to business premises and has not been required to do so. Businesses in Enterprise Zones²¹ and Local Growth Zones²² may also be eligible for a Welsh Government Ultrafast Connectivity grant of up to £10,000 if they demonstrate that they cannot achieve consistent download speeds of 100 Mbps and upload speeds of 30 Mbps.

²¹ With the exception of the Central Cardiff Enterprise Zone.

²² Local Growth Zones support all business sectors in a defined geographical area and may benefit from simplified planning processes and funding towards skills support, with the objective of encouraging and supporting jobs and economic growth.

- 2.18 Part of BT's planned approach to deliver this target has been the use of technologies such as FTTP, generally in less densely populated areas where it is not cost-effective to build a cabinet. A small proportion of premises will receive FTTP as part of the Superfast Cymru rollout. However, its main product for achieving 100 Mbps for other premises, 'Fibre on Demand', is currently suspended although BT plans to reinstate it. BT recognises that some premises already connected using FTTC can currently achieve speeds of up to 80 Mbps; however, new technology may allow BT to upgrade premises to over 100 Mbps to help meet the 40 per cent target. We remain concerned that there is no clear agreement between the Welsh Government and BT as to how BT will meet this target.

The Welsh Government's arrangements for ensuring access for premises which are now not expected to have access as part of the commercial or Superfast Cymru broadband rollout are still developing

- 2.19 In order to achieve the target of 96 per cent of premises in Wales having access to next generation broadband, the Welsh Government will need to fill the gap for premises in Wales that will not have access to next generation broadband following the commercial and Superfast Cymru rollouts. The Welsh Government is already providing funding to fill some of the gaps through the demand-led Access Broadband Cymru scheme ([Appendix 3](#)). However, take-up of Access Broadband Cymru has been low. Up to February 2015, the Welsh Government had provided funding of £309,000 for 340 successful installations.
- 2.20 The Welsh Government and BT will not know the exact locations and number of premises in the remaining gap until the completion of the Superfast Cymru project and the commercial rollout, and these figures are liable to change. However, the Welsh Government performs open market reviews to assess the likely size of the remaining area. These reviews consult broadband infrastructure providers about commercial rollout plans, looking three years ahead.
- 2.21 Based on data collected in July 2014, the Welsh Government estimates that there are around 46,000 premises (three per cent of all premises) that were not within the original Superfast Cymru intervention area and that have no planned provider of next generation broadband. For example, a commercial provider may have originally included these premises in their commercial area, but subsequently removed them; or they are new premises.
- 2.22 The Welsh Government has set up an 'Infill Phase 1 Project' to provide next generation broadband to the majority of these 46,000 premises. This includes a procurement process (currently ongoing) for two contracts, one for North Wales business premises and one for South Wales business premises, covering 2,500 premises in total. The Welsh Government is looking to award the contracts in May 2015 with a view to completing deployment by 31 December 2016. The Welsh Government is discussing with BT possible arrangements for a deployment to another 42,000 of the 46,000 premises.

- 2.23 The Welsh Government has still to finalise the exact funding arrangements of these two aspects of the Infill Phase 1 Project, but intends to use part of an additional £12 million grant from BDUK. The Welsh Government expects a further 1,500 of the 46,000 premises to be covered by a BDUK 'Market Testing Pilot' in Monmouthshire aimed at providing innovative solutions to the hardest-to-reach communities in the UK. BDUK has allocated separate funding for that pilot project.
- 2.24 The Welsh Government estimates that a further 55,000 premises will not have access to next generation broadband at the end of the Superfast Cymru rollout, which equates to the final four per cent of Wales. The Welsh Government is working on possible approaches for an 'Infill Phase 2 Project'. Many of the premises will be in rural, hard-to-reach areas and alternative technologies such as satellite broadband are likely to be required to achieve the desired speeds. The Welsh Government currently plans to use the remaining part of the £12 million grant from BDUK and further European funding to support this project.

Whether through the Superfast Cymru rollout or other means, some businesses are not receiving access to next generation broadband as quickly as local authorities anticipated

- 2.25 Alongside the procurement process for the Superfast Cymru contract, the Welsh Government collected information from local authorities on their rollout priorities. The Welsh Government received four regional responses covering all of Wales and 15 separate local authority responses. Almost all the responses prioritised deployment in economic activity areas even over areas where premises did not have access to first generation broadband. Only one local authority prioritised areas where there is a download speed of less than 2 Mbps and areas with no access to first generation broadband.
- 2.26 The Welsh Government used this feedback to inform its discussions with prospective suppliers as part of the procurement process. However, bidders had some flexibility to set their own deployment schedule. We understand that Welsh Government officials did not want to dictate a very rigid prioritisation plan in order to allow the bidders to develop efficient deployment plans using their technical expertise.
- 2.27 Several local authorities stated that they did not receive any feedback from the Welsh Government following the information collation exercise, and were unaware at the time of whether their response had influenced the deployment plans. While the Welsh Government has prioritised the seven Enterprise Zones in Wales ([paragraph 2.15](#)), it has not specifically prioritised other business parks and industrial estates in Wales that are in the Superfast Cymru intervention area.

- 2.28 We asked 12 local authorities where rollout had started by September 2014 whether they thought this rollout reflected their priorities. We received seven responses of mixed views, with local authorities both agreeing and disagreeing that their priorities had been reflected in the rollout. One of the main reasons for discontentment was the lack of rollout by September 2014 to key industrial areas such as business parks.
- 2.29 Cardiff Council and Newport City Council noted that BT had not enabled many cabinets near business parks through either the commercial or intervention area rollout, although Newport City Council has since indicated to us that rollout has improved in some business areas. We understand that in Cardiff some business parks were originally excluded from the intervention area because of the UK Government's interpretation of state aid restrictions but the Welsh Government has recently secured agreement from the UK Government that many of these business parks should now be included.
- 2.30 Some of the councils referred to feedback they had received from small and medium enterprises that commercial next generation broadband providers are charging large amounts of money for dedicated leased lines²³ and they cannot get a cheaper, standard fibre service, as BT has not upgraded the cabinets. Although leased lines can provide a fast speed, unlimited data transfer and dedicated support suitable for some businesses, other businesses can receive more than the minimum service they require and can spend many hundreds of pounds per month, when the only other alternative is first generation broadband.
- 2.31 In 2011, Cardiff Council, and in 2012, Newport City Council were selected by the UK Government's Department for Culture, Media and Sport to receive substantial funding (between £7 million and £12 million each) from the Urban Broadband Fund as part of a SuperConnected Cities scheme to enable next generation broadband and city-wide high-speed mobile connectivity. Cardiff Council's plan was to connect the remaining 16 per cent of premises in the city centre without next generation fibre broadband at that time from the commercial rollout, and provide a voucher scheme for faster connections to businesses.
- 2.32 However, in June 2013 DCMS reported that it had scaled back the SuperConnected Cities scheme following legal challenges from Virgin Media and BT, who felt the scheme would unfairly benefit their competitors and contravene EU state aid rules. The DCMS has confirmed it will not push ahead with state-funded superfast networks as originally intended. Instead, funding recipients will use the funding to provide vouchers for small and medium enterprises to cover connections to privately funded networks. Plans to provide high-speed wireless networks in the cities are unaffected ([Case Study 1](#)).

²³ A leased line is a service contract between a provider and a customer, whereby the provider agrees to deliver a dedicated broadband connection, connecting two or more locations in exchange for a monthly rent (hence the term lease). It is sometimes known as a 'private circuit' or 'data line'.

Case Study 1 – SuperConnected Cardiff

DCMS provided Cardiff Council with grant approval in July 2013 for £10.2 million. This included the following budgeted schemes (alongside some other small projects):

- £3.2 million grant scheme for small and medium enterprises next generation broadband installation – up to £3,000 per business to connect to next generation broadband or higher speeds if already connected, if they can demonstrate business need. This should, in theory, result in 100 per cent of businesses in Cardiff having next generation broadband.
- £0.7 million to establish a ‘demonstrator hub’ to provide education and information to businesses, which had over 2,500 visitors to April 2015.
- £6 million to create a new Internet Exchange in Cardiff, launched in October 2014. This includes additional infrastructure for connection to a Cardiff exchange rather than connecting to London, resulting in cheaper costs, greater flexibility, and ultimately greater economic prosperity for Cardiff and South Wales. The actual public sector expenditure was £625,000 with commercial providers meeting the remainder of the cost.

Source: Cardiff Council

Some local authorities, businesses and residents have not been satisfied with the communication about the Superfast Cymru rollout

The Superfast Cymru contract includes up to £1.7 million for marketing and publicity, with improvements made in June 2014 following a Welsh Government-led review

- 2.33 The Superfast Cymru contract allows BT to spend up to £1.7 million to raise awareness and stimulate demand from households and businesses. The aim of the demand stimulation is to raise awareness of the services available over the infrastructure from any internet service provider. BT is responsible for undertaking activities based on a marketing plan agreed with the Welsh Government. BT employs three staff to deliver the marketing plan.
- 2.34 BT undertakes a range of activities including management of the Superfast Cymru website, Twitter site and Facebook site; liaising with local authorities; events for businesses; door-to-door leafleting; advertising in newspapers and on billboards; and press releases. The original marketing plan within BT’s contract bid detailed plans for a telephone helpdesk and eChat website function; based on a marketing allocation of £1.7 million. BT and the Welsh Government subsequently agreed to remove these elements.

2.35 In June 2014, the Welsh Government undertook a review of the communication and engagement activity in relation to the marketing plan, which found that the Welsh Government and BT could strengthen a number of areas. In response to the review's recommendations, the Welsh Government and BT updated the marketing plan, including an increased focus on households, and an improved availability search function on the Superfast Cymru website.

Local authorities are helping communicate about the rollout but some remain dissatisfied with the rollout information provided

2.36 BT has agreed individual marketing plans with local authorities based on their deployment timing. These plans typically involve the local authority adding information to their external and internal websites; promoting through business or resident bulletins; identifying local case studies; and facilitating local advertising via leaflets, billboards, cabinet stickers and local media. Each local authority also has a named contact within the BT marketing team for enquiries and activity liaison. We understand that the relationship with some local authorities is more positive than with others, but has improved over the course of the contract. We also understand that while most local authorities are prepared to waive planning restrictions to allow stickers on cabinets that say that they have been upgraded through Superfast Cymru, three local authorities are still not prepared to do so.

2.37 Local authorities gave us varied views on the level of ongoing communication with BT and the Welsh Government about the roll-out of the contract. Some were content, felt they had a good relationship with BT's marketing team, and were getting regular information. Others felt that BT has not provided them with enough information on which individual cabinets it is connecting. This means the local authority cannot assess whether the Welsh Government and BT have considered their priorities (paragraph 2.25), and it is difficult to pass on accurate information to residents and businesses. Some local government officers also felt that while they had sufficient information, they did not think the Welsh Government and BT reflected this in the publically available information.

In areas where deployment was almost complete in June 2014, we found that around a third of households and businesses we surveyed were aware of Superfast Cymru

2.38 We commissioned a telephone survey of 500 households and 500 businesses across Blaenau Gwent and Gwynedd, specifically in areas where rollout of next generation broadband through Superfast Cymru had taken place. We found that 28 per cent of households and 39 per cent of businesses surveyed in May and June 2014 were aware of the Superfast Cymru rollout. The greater awareness amongst businesses is likely to be a direct result of the Welsh Government's focus of communications and engagement activities on businesses. Having shared these findings with the Welsh Government and BT, both parties have indicated that they are broadly satisfied with these levels of awareness given the point in time at which we conducted our survey.

- 2.39 Awareness of Superfast Cymru was higher among respondents already connected to next generation broadband services, with 36 per cent of connected households aware and 57 per cent of connected businesses²⁴. However, this still suggests that many respondents had connected through information separate to the Superfast Cymru marketing activities. The respondents who were aware of Superfast Cymru identified a range of information sources including TV, newspapers, emails, word of mouth, cabinet and van stickers, social media, billboards and radio.
- 2.40 Both households and businesses stated a lack of awareness as the most frequently cited reason for not connecting to next generation broadband, with 36 per cent of non-connected households and 33 per cent of non-connected businesses giving it as a reason. However, 17 per cent of non-connected households indicated that they did not use the internet at all at home and 24 per cent indicated that they were happy with their current service. Of the non-connected businesses, 12 per cent indicated that they did not use the internet at all and 15 per cent indicated that they did not use it enough to consider upgrading.

Quotes from survey respondents about awareness



²⁴ Of the 500 households surveyed, 58 (12 per cent) were connected to next generation broadband services. Of the 502 businesses surveyed, 72 (14 per cent) were connected.

We also found that communication about Superfast Cymru was regarded as unhelpful and confusing by some businesses and residents although the Superfast Cymru website has since improved following the review of the marketing plan

2.41 Some households and businesses have informed us of difficulties obtaining information about the Superfast Cymru rollout, particularly in relation to whether and when next generation broadband will be available at specific premises. This was largely due to BT basing its communication on the upgrading of exchanges, rather than at street cabinet level. There have also been reported issues of changes to published dates for the connection of exchanges, often when very close to the original date.

Quotes from households and businesses around communication



- 2.42 BT informed us it does not always give cabinet specific information in advance to avoid raising expectations, when plans could change for a number of reasons such as planning issues or weather interruptions. In some cases, BT has not developed precise rollout plans pending initial surveys of an area. However, several survey respondents reported to us that they had taken out new first generation broadband contracts without realising they could have imminent access to next generation broadband. The Welsh Government's view is that with over 3,000 cabinets to upgrade as part of the Superfast Cymru project and the daily changes to the work schedule on the ground, it is impractical to provide cabinet level data within a meaningful timescale.
- 2.43 In the summer of 2014, following the Welsh Government's review of the marketing plan ([paragraph 2.35](#)), BT upgraded the Superfast Cymru website to include a more detailed search function. This may have increased awareness in Superfast Cymru since we carried out our survey in May and June 2014. The website provides an indication of availability and speed based on the attached cabinet to a phone line or postcode. Based on our own testing, we found that the information on the website had improved, although the website provides more detail for some areas than for others. For some addresses, the availability checker on BT's own Openreach website provides slightly different information than on the Superfast Cymru website.
- 2.44 While the Superfast Cymru website provides links to internet service providers other than BT, the provider list are all resellers using BT's network. This means other providers such as Virgin Media do not feature on the website despite offering next generation broadband. We understand that Virgin Media have raised this matter with BDUK.

Take-up of next generation broadband in Wales is rising but there are no take-up targets

No targets have been set for take-up of next generation broadband, although the Welsh Government and BT will share the profits if take-up from the Superfast Cymru contract exceeds 21 per cent

- 2.45 The Welsh Government has not set formal targets for take-up of next generation broadband, within either the Superfast Cymru or commercial rollout areas. However, the Welsh Government intends to set a take-up target for business premises. The Scottish Government has set a take-up target across Scotland for all premises of 20 per cent after 20 months of deployment, and 30 per cent after 30 months of deployment.

2.46 If take-up in the intervention area exceeds 21 per cent within the lifetime of the Superfast Cymru contract to the end of 2023, BT will distribute 50 per cent of its profit margin on its wholesale services²⁵ relating to the intervention area, back to the Welsh Government. BT and the Welsh Government agreed a take-up figure of 21 per cent based on BT’s knowledge of take-up in the commercial area, other UK regional bid experience, and international benchmarking. These arrangements, known as ‘claw-back’ are in place across other UK next generation broadband contracts with BT, typically at a level of 20 per cent take-up.

Take-up of next generation broadband in Wales is rising

2.47 The Superfast Cymru Operational Board monitors take-up of next generation broadband in the Superfast Cymru intervention area on a monthly basis. In February 2015, the Board reported take-up of 13 per cent across all premises passed in the intervention area to December 2014. BT also provides the Board with take-up figures depending on when BT enabled the cabinet. **Figure 7** shows an upward trend in take-up as the time since cabinet enablement increases.

Figure 7 – Take-up of next generation broadband in Wales as at December 2014

Time since cabinet enablement	Average take-up in Superfast Cymru intervention area
Under 50 days	4.5 per cent
50-100 days	7.0 per cent
101-200 days	10.5 per cent
201-350 days	17.3 per cent
Over 350 days	20.6 per cent

Source: Welsh Government based on BT data

2.48 Until the end of 2014, BT reported to the Operational Board the equivalent data from Figure 7 for the whole of the UK. However, BT was unable to provide verified comparator data for UK projects at a similar stage and BT no longer reports this to the Operational Board. Although data for take-up in other UK intervention areas is available from BDUK²⁶ all of the projects are at different stages of deployment, so it is not possible to make an accurate comparison between Wales and other UK projects.

²⁵ Take-up can be through any internet service provider which will pay BT Openreach for access to its wholesale infrastructure.

²⁶ Broadband Delivery UK: Table of local broadband projects, updated December 2014.

Accessed at: <https://docs.google.com/spreadsheets/ccc?key=0Ah3sVRjT82kKdEitX0lJNjNVWWhNbjBnNGwxeHhqMHc#gid=0>

- 2.49 The Welsh Government may have more detailed data on take-up if BT provides a 'Premises Data Extract' as required under the Superfast Cymru contract. This would allow a far more detailed analysis for differences in take-up, inform the basis for the claw-back calculation (paragraph 2.46), and support future exploitation activities. This provision in the contract does not feature in the other BDUK framework contracts. BT currently provides information to the Welsh Government on a less detailed electoral ward basis. BT is not currently providing premises level data due to concerns around data protection.
- 2.50 Our survey of 1,000 premises across the intervention areas of Gwynedd and Blaenau Gwent identified that 13 per cent of premises had taken up next generation broadband services and a further 60 per cent of premises had first generation broadband services. When asked whether they intended to connect to next generation broadband within the next two years, 18 per cent of respondents said they definitely would connect (Figure 8). This would give a combined take-up by mid-2016 of 31 per cent in those areas. A further 22 per cent of respondents said they would possibly take up next generation broadband. Many respondents stated that price would be a deciding factor for connecting.

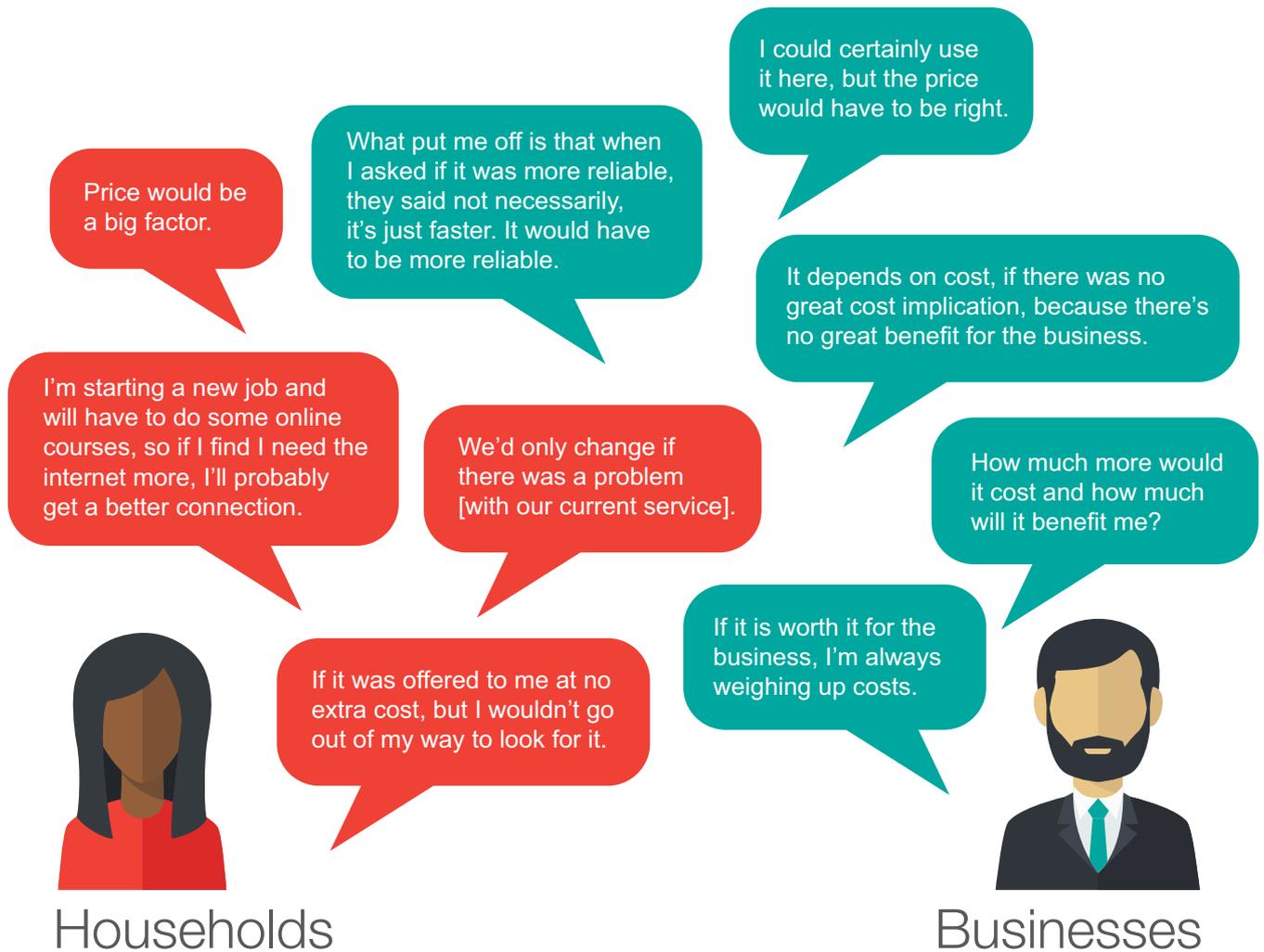
Figure 8 – Intentions of survey respondents to connect to next generation broadband within two years in areas already enabled by BT by survey respondents as at June 2014

Intentions to connect within two years	Households (per cent)	Businesses (per cent)	All respondents (per cent)
Already connected	12	14	13
Definitely intend to connect	17	19	18
Possibly will connect	24	21	22
Don't intend to connect	41	27	34
Don't know	7	19	12

Source: Wales Audit Office survey of households and businesses in Blaenau Gwent and Gwynedd

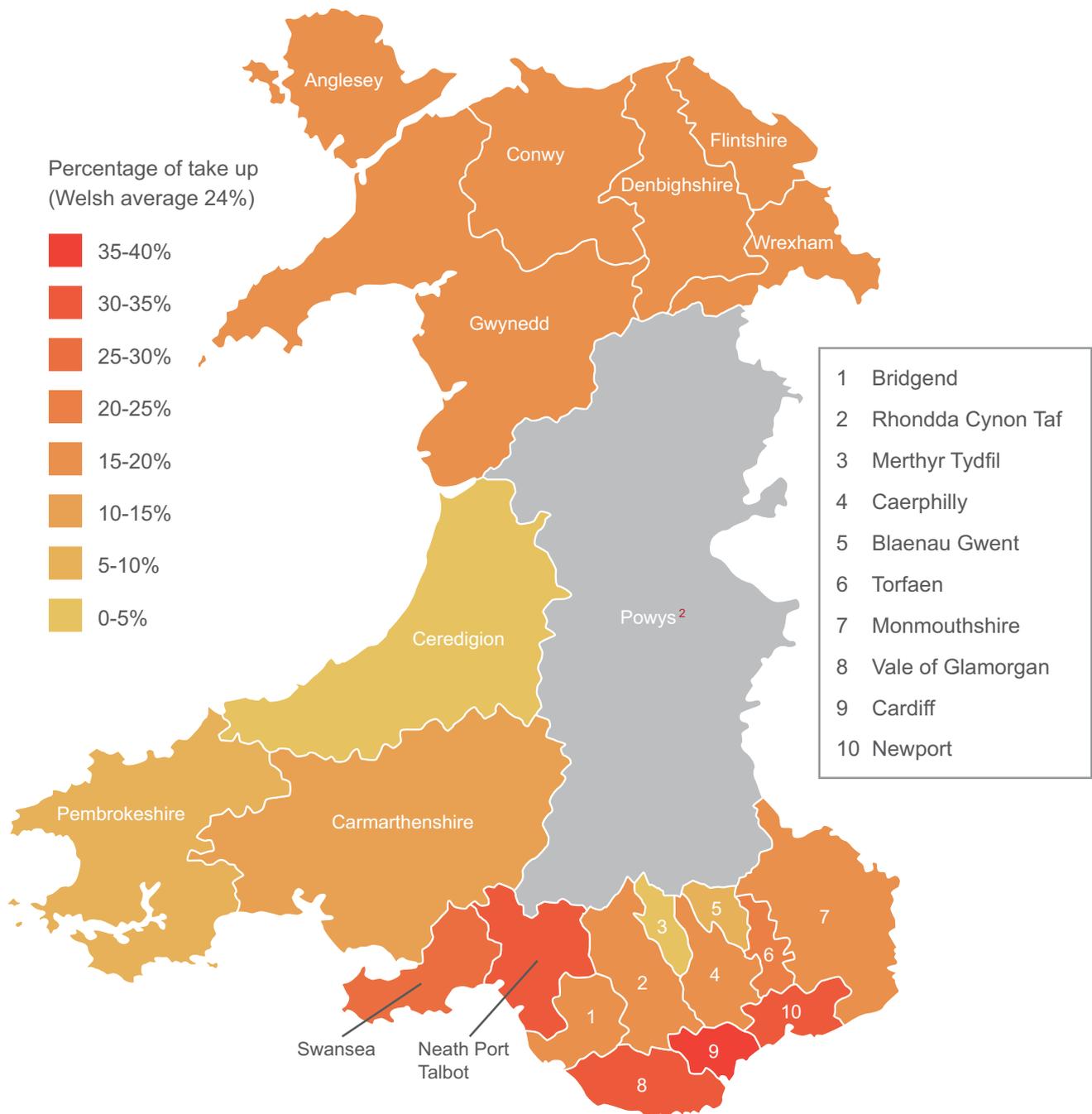
- 2.51 BT stated at the Superfast Cymru Programme Board in January 2014 that it was concerned about the level of take-up in Wales and that 'BT is anticipating claw-back in all areas except Wales'. The Welsh Government did not agree with BT's assertion and both parties are now confident that take-up in Wales in the intervention area will exceed the claw-back threshold as rollout progresses.

Quotes from survey respondents – factors affecting take-up of next generation broadband



2.52 Ofcom published take-up data for next generation broadband for all premises for June 2014 and June 2013. This covers both the commercial and intervention areas. The take-up of next generation broadband in Wales rose from nine per cent in June 2013 to 13 per cent in June 2014. The take-up of next generation broadband in Wales is below the UK average of 21 per cent in June 2014. However, the proportion of premises able to receive next generation broadband was lower in Wales than the UK average, with 55 per cent availability in Wales compared with 75 per cent in the UK in June 2014. On average, 24 per cent of premises in Wales with access to next generation broadband in June 2014 had taken it up. Within Wales, the take-up varies across local authorities (Figure 9). This is partly attributable to differences in the length of time that next generation broadband has been available in each local authority.

Figure 9 – Take-up of next generation broadband as a proportion of all premises with access to next generation broadband, by local authority, June 2014¹



Notes:

- 1 We have used the Ofcom data for 'superfast broadband' coverage, which relates to premises able to receive speeds of 30 Mbps or more. This differs to Ofcom's 'next generation access' coverage data which includes postcodes given access to next generation broadband but which would not be able to achieve the relevant speeds due to the distance from the nearest cabinet.
- 2 At the time of this data, Powys had no access to next generation broadband through either the Superfast Cymru or commercial rollout.

Source: Wales Audit Office analysis of Ofcom fixed broadband dataset accompanying Infrastructure Report, December 2014

The Superfast Cymru contract has already achieved most of the expected direct benefits related to jobs, apprenticeships and work experience opportunities

2.53 The contract with BT sets out four targets for direct employment-related benefits (Figure 10). As at February 2015, BT had exceeded three of the four targets – for job creation, apprenticeships and work experience weeks – with progress against the target for the number of BT jobs safeguarded still being verified. There is no express requirement within the contract for BT to base these employment opportunities in Wales. However, in practice, the majority relate to engineering and installation activities of the Superfast Cymru network on the ground.

Figure 10 – Progress against Superfast Cymru employment-related targets, February 2015

Description	Target	Performance at February 2015
Full-time equivalent jobs created	50	255
Full-time equivalent jobs safeguarded for BT employees	320	109 ¹
Full-time apprenticeships provided	100	123
Weeks of employment as work experience	900	992

Note:

1 Subject to BT verification

Source: Welsh Government based on BT data

2.54 The contract states that the jobs created should exist for a minimum of 12 months, which the Welsh Government checks as part of its monitoring process. BT reported to us that all jobs created in 2012-13 and around two thirds of jobs created in 2013-14 were permanent contracts, and that around 80 per cent of employees given fixed-term contracts are now permanently employed.

The Welsh Government's arrangements to support and measure the wider benefits from the public investment in digital infrastructure have been weak but are developing

Until August 2014, there had been a lack of clarity about the responsibility for delivery and management of benefits but the Welsh Government is now developing benefit exploitation activity

- 2.55 The Welsh Government's Full Business Case for Superfast Cymru identified 10 indirect benefits for individuals, businesses and the wider economy. These included procurement savings, enhanced productivity, and flexible working. Other than a brief description, the Full Business Case provided no further articulation of the benefits, and the Welsh Government has still not produced a benefits management strategy or plan for the wider benefits of Superfast Cymru and its other next generation broadband interventions. The Gateway 0 report following the Outline Business Case, the Gateway 3 report following the Full Business Case and a separate Procurement Phase Lessons Learned report all highlighted weaknesses in benefit documentation and management.
- 2.56 The Welsh Government submitted a Major Project Notification²⁷ for Superfast Cymru to the European Union for ERDF funding, which the Welsh Government attached to the Full Business Case. This included a quantification of the economic value of each indirect benefit. However, the Welsh Government based this on a large number of assumptions and there was limited explanation of the calculations.
- 2.57 The management of benefits by the Digital Wales programme involves management of work across several related portfolio areas and departments, rather than being a single project. We understand that there was confusion about the nature of the Digital Wales programme within the Welsh Government during the procurement phase, including whether it was a programme or a project. There was also a lack of communication of responsibilities for delivery and management of benefits. The Welsh Government published a review of progress against its Digital Wales strategy in November 2014 highlighting the need to 'rapidly exploit' the infrastructure investment²⁸.
- 2.58 Demand stimulation activities aim to increase awareness and promote take-up of next generation broadband. Benefit exploitation activities aim to increase the impact of next generation broadband by demonstrating the full range of uses of the service once an individual connects to next generation broadband. The Welsh Government now has a team managing benefit exploitation; however, the Welsh Government initially managed this activity separately to the infrastructure project as it first felt it needed to prioritise getting the infrastructure in place. The failure to establish robust arrangements for supporting and measuring benefits from digital infrastructure had been a significant weakness with a potential effect on the impact and value for money of the public investment. However, in August 2014 the Welsh Government expanded and integrated the exploitation team into the ICT Infrastructure team to facilitate better communication and joint working.

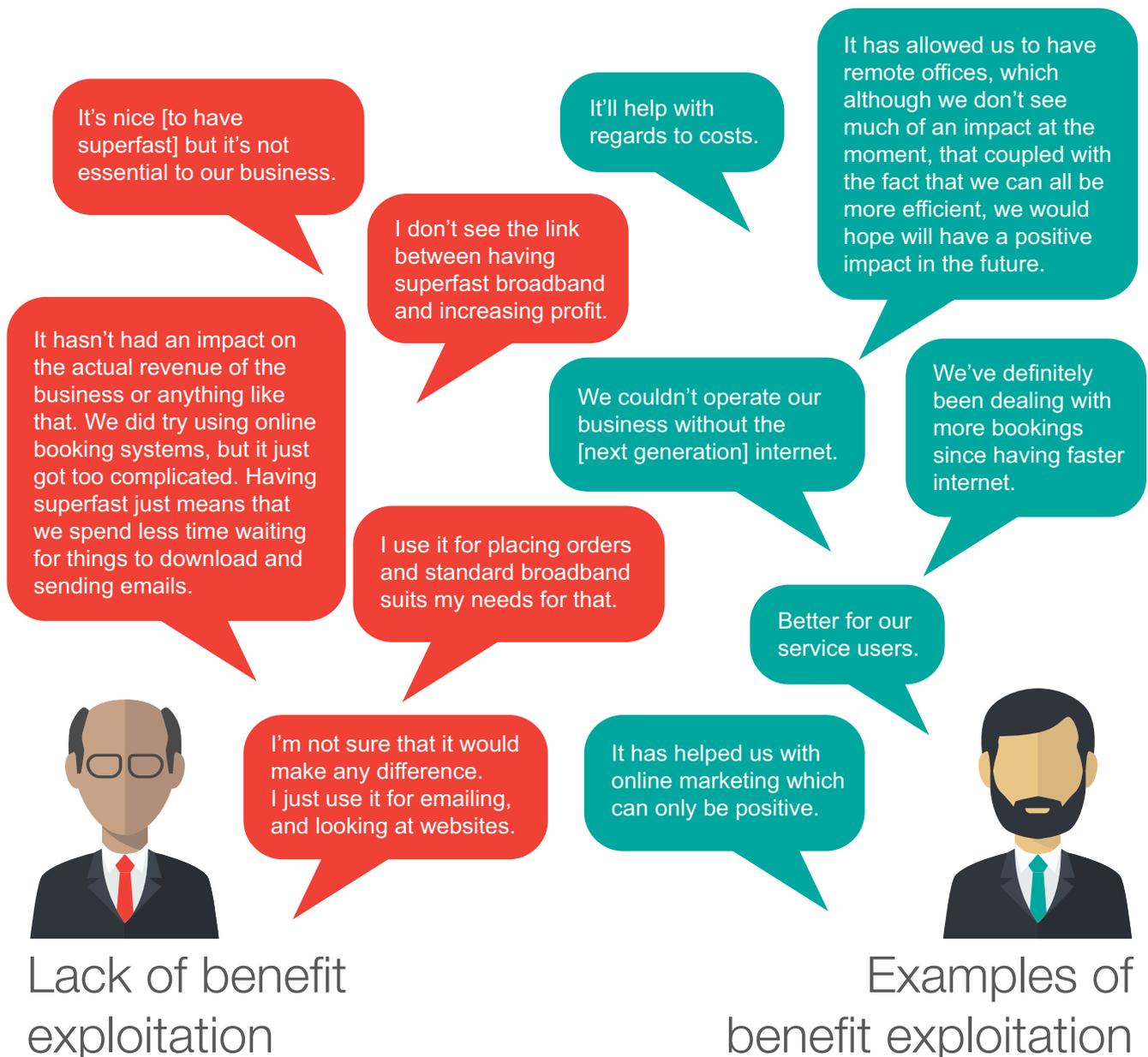
²⁷ A Major Project Notification for the European Commission sets areas such as a description of the project, cost-benefit analysis, environmental impact assessment, financing plan, and project timetable. It is submitted for projects where ERDF funding is over €50 million.

²⁸ Welsh Government, *Digital Wales: A Review of Delivery 2013-2014*, November 2014.

The Welsh Government is developing a national project for the exploitation of next generation broadband by businesses, following a pilot project in Gwynedd

2.59 The Welsh Government is focussing on benefit exploitation for businesses rather than households. Our survey found 65 per cent of businesses who had next generation broadband reported no increase in a range of business activities since taking out the service. Only 21 per cent of businesses reported connecting to next generation broadband because it was felt vital for the business to operate efficiently. This indicates businesses may be unaware of all the potential benefits of next generation broadband, or that there is in fact limited value for certain types of business.

Quotes from survey respondents regarding benefits to businesses



- 2.60 Between December 2013 and April 2014, the Welsh Government ran a pilot project for business exploitation in partnership with Gwynedd Council's 'Digital Gwynedd' initiative, Gwynedd being one of the first local authorities in the Superfast Cymru rollout (Box 3). A Welsh Government review of the pilot project found that the level of understanding among businesses of the benefits of next generation broadband was commonly quite low.

Box 3 – Gwynedd business exploitation pilot project

The Welsh Government ran a pilot project for business exploitation in collaboration with Gwynedd Council's 'Digital Gwynedd' initiative, and delivered it through a partnership with Gwynedd Council, Menter Môn (a local business advisory organisation) and Peninsula Enterprise (a contracted co-ordinator).

The main activities of the pilot were:

- provision of information to 7,000 businesses through business rates bills;
- telephone contact with 1,500 businesses;
- email campaigns;
- nine workshops aimed at small businesses with 120 businesses attending;
- forty one-to-one consultancy sessions; and
- an event for intermediary organisations that support small businesses.

Source: Gwynedd Council and Welsh Government

- 2.61 The Welsh Government was initially slow to develop a pan-Wales approach for benefit exploitation by businesses. However, using lessons learned from the Gwynedd pilot project, it began to make firm plans in August 2014 and extended the pilot phase to Blaenau Gwent, Rhondda Cynon Taf and Swansea.
- 2.62 Based on the pilot projects, the Welsh Government is planning the rollout of a business exploitation project across all local authorities in Wales starting in 2015-16. The Welsh Government has recently submitted a business plan to the Welsh European Funding Office to match fund the project over a five or six year period. Total funding for the national project is likely to be a minimum of £12 million, but the Welsh Government is seeking to attract additional match funding from both the public and private sectors.

- 2.63 The 'Superfast Exploitation' project would cover all areas of Wales regardless of whether they fall within the Superfast Cymru area or the commercial rollout. The project aims to provide support to all businesses to help them understand, adopt and exploit next generation broadband, and the business tools it enables. The project will provide online tools and information, workshops, training, individual support and will include the formation of a Superfast Exploitation Advisory Panel to provide support and engagement amongst key stakeholders such as industry, public bodies and local authorities. The Welsh Government will monitor the impact of the project through an outsourced 'Broadband Research & Intelligence' function. The function will be responsible for impact assessment of next generation broadband adoption and exploitation by Welsh businesses.
- 2.64 The Welsh Government has asked each local authority to select an 'exploitation champion' to co-ordinate activities and cascade information. Several local authorities have been concerned at the lack of progress made to date by the Welsh Government in exploiting the benefits, although the review of the pilot project identified that 'attempting to promote the benefits in areas where rollout had not yet concluded was counter-productive'. The Federation of Small Businesses informed us it would like more emphasis on selling the benefits of infrastructure to small and medium enterprises.
- 2.65 The Welsh Government is currently not planning any specific benefit exploitation activities aimed at households. However, the benefits of next generation broadband can include residents having improved access to public services. The Welsh Government's **Delivering a Digital Wales** strategy states that it wants 'everyone in Wales to enjoy the benefits of digital technologies'. To achieve this benefit exploitation activity with households may be necessary.

The Welsh Government is developing a plan for public sector exploitation of next generation broadband

- 2.66 The Welsh Government is developing an approach to co-ordinate benefit exploitation across Welsh Government departments and has established a Digital Public Services working group, which will direct the delivery and strategic co-ordination of digital public services across Welsh Government portfolios. A range of activities is already ongoing to aid in the exploitation of next generation broadband, such as the Learning in Digital Wales programme (Box 4). This plan aims to formally co-ordinate these activities and monitor them against the identified benefits.

Box 4 – Learning in Digital Wales Programme

Some of the features of the Learning in Digital Wales programme, which the Welsh Government established in 2012, include:

- Learning in Digital Wales grants of £39 million to provide all primary schools with broadband access of at least 10 Mbps and all secondary schools with broadband access of at least 100 Mbps, and improve wireless infrastructure within schools.
- Hwb and Hwb+ platforms to provide learners and teachers access to online resources anywhere at any time by logging into the online account. This includes access to Microsoft Office 365 and Encyclopaedia Britannica. It also provides tools to help teachers and learners create and share their own resources.
- A team of Digital Leaders to act as online champions of digital technology and to improve exploitation.

Source: Welsh Government

- 2.67 Reports by the Digital Wales Advisory Network in December 2012 and the Commission on Public Service Governance and Delivery in January 2014 both highlighted the need for a clearer approach to improving online public services²⁹. The Welsh Government, through the Digital Wales team, published a public sector **Digital First** strategy in April 2015³⁰. Part of this strategy is to appoint a Chief Digital Officer in Wales to oversee activities, partly reviving the role of Chief Information Officer which ended in August 2013.
- 2.68 Some public bodies in Wales have already produced their own digital strategies. Rhondda Cynon Taf County Borough Council has developed a ‘Digital RCT Plan’ for 2014 to 2017. The plan identifies the local authority’s objectives, progress to date and next steps in line with the five **Delivering a Digital Wales** themes (Box 1 on page 16).

²⁹ The Auditor General’s September 2014 report on the Glastir agri-environment scheme noted that the Welsh Government is progressively introducing online applications for that grant funding. In proposing the rollout of online applications, the Welsh Government had acknowledged concerns raised by some stakeholders that some potential applicants may be precluded from applying online, due to limitations in broadband access or because they do not have the ability to interact online. The Welsh Government has since noted in correspondence to the Public Accounts Committee in January 2015 that it is raising awareness of the Superfast Cymru and Access Broadband Cymru schemes within the farming community. The Welsh Government also noted that following the launch of applications for two specific elements of the Glastir scheme in autumn 2014, 99.75 per cent of applicants were able to complete their applications without recourse to paper copies. The Welsh Government plans to gather feedback on the online application process from the farming community later in 2015.

³⁰ Welsh Government, **Digital First**, April 2015.

Appendices

Appendix 1 - Methods

Appendix 2 - Timeline for the development and implementation of the Superfast Cymru contract

Appendix 3 - Broadband infrastructure projects in Wales

Appendix 4 - Intervention in the market for next generation broadband – Welsh Government option appraisal



Appendix 1 - Methods

Scope of our work

Our examination focused on the procurement and delivery of the Superfast Cymru contract. We have not examined in detail:

- the rollout of next generation broadband infrastructure in commercial areas;
- issues for the communications regulator Ofcom such as the relationship between commercial next generation broadband suppliers and the consumers of these products and issues relating to the relationships between suppliers;
- the technological solution chosen during the procurement process of using predominantly Fibre to the Cabinet (FTTC); and
- other Welsh Government funded projects to deliver first and next generation broadband infrastructure ([Appendix 2](#)).

Review of literature, data and statistics

We reviewed a wide range of documents and data, including:

- Welsh Government and BT programme, project and policy documents;
- statistics provided by the Welsh Government and BT about Superfast Cymru rollout and take-up, including future forecasts;
- other UK and European guidance, policies and data relating to next generation broadband;
- market reports, broadband speed, and rollout data from Ofcom; and
- other audit reviews, scrutiny reports and research papers, including:
 - House of Commons Welsh Affairs Select Committee, **Broadband Services in Wales**, September 2012.
 - National Audit Office, **The rural broadband programme**, July 2013.
 - National Assembly for Wales research paper, **Broadband internet in Wales**, August 2013.
 - National Audit Office, **The Superfast (Rural) Broadband Programme: update**, January 2015.
 - Audit Scotland, **Superfast broadband for Scotland: a progress report**, February 2016.

Interviews with Welsh Government, BT and others

We interviewed Welsh Government officials and BT staff in relation to Superfast Cymru and other aspects of Digital Wales, including the Head of Digital Wales, both the Welsh Government and BT Superfast Cymru Directors, and the Director of BT for Wales.

We spoke to other key stakeholders including BDUK and Ofcom, and Analysys Mason³¹ whom the Welsh Government used as an expert adviser during the procurement process. We interviewed officers from eight local authorities. We also invited views from the remaining 14 authorities, of which 10 responded, and from 12 other stakeholder organisations, of which four responded (the South Wales Chamber of Commerce, National Farmers' Union Cymru, Federation of Small Businesses and Capital Region Tourism).

Telephone survey of households and businesses

We commissioned Strategic Marketing Ltd to undertake a telephone survey in May and June 2014 of a random sample of 500 households and 500 businesses across Blaenau Gwent and Gwynedd using Welsh Government data of postcodes where rollout of next generation broadband was complete. We asked a range of questions on internet connection; reasons for connection or non-connection to next generation broadband; use of, and satisfaction with, next generation broadband where relevant; knowledge of Superfast Cymru; and intentions to connect to next generation broadband where relevant. The survey report is available as an additional document to accompany this report.

Other work

We asked for views on next generation broadband in Wales from the three largest next generation broadband service providers apart from BT: Sky, Talk Talk and Virgin Media. We received a response from Virgin Media and Sky.

We also invited members of the public to email any experiences of the Superfast Cymru project. We received 40 emails from a combination of residents and businesses.

We attended two Digital Gwynedd events relating to the exploitation of next generation broadband and a 'Fibre for Breakfast' event run by the South Wales Chamber of Commerce.

³¹ Analysys Mason is a consultancy and research organisation with specialist expertise in telecoms, media and technology.

Appendix 2 - Timeline for the development and implementation of the Superfast Cymru contract



2012

January

UK Government submits UK wide notification to the European Commission for a National Broadband Scheme for the UK.

13 January

Fujitsu withdraws from bidding, leaving BT as the sole bidder.

31 January

First version of Final Business Plan.

February

Welsh Government issues Invitation to Submit Final Tenders.

9 May

Welsh Government dialogue with BT closes and BT has one week to make any changes to its final bid.

15 May

BT submits final bid for next generation broadband project.

22 May

Final version of Full Business Case.

June

Gateway 0 review of next generation broadband project.

29 June

Welsh Government submits contract award notice to BT.

19 July

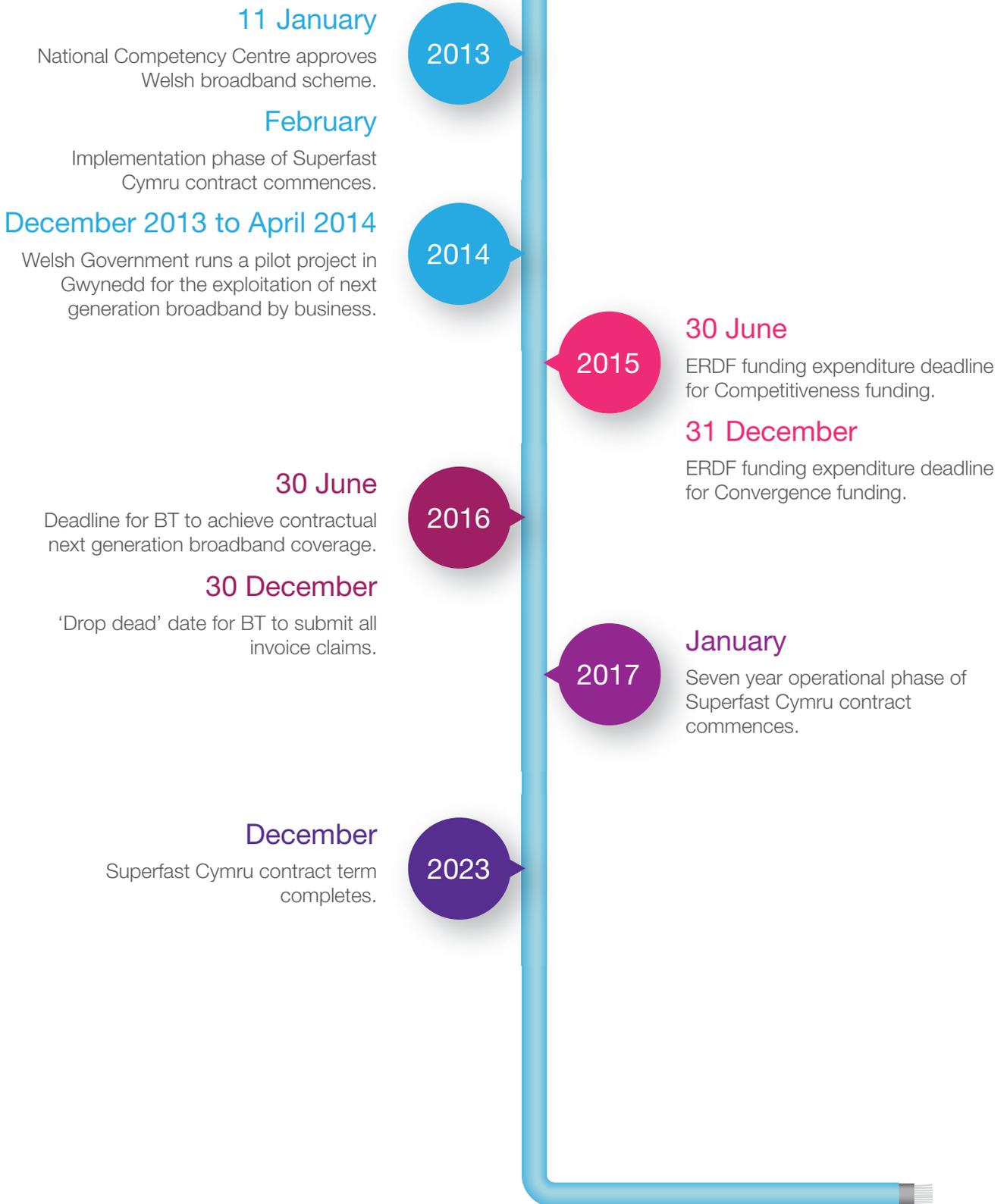
Contract signed between the Welsh Ministers and BT.

November

Senior BT representatives become full members of the Superfast Cymru Programme Board.

20 November

European Commission approves UK state aid.



Appendix 3 - Broadband infrastructure projects in Wales

This report focuses on the Superfast Cymru project. The Welsh Government has delivered four other broadband infrastructure projects to address different aspects of market failure in Wales for first and next generation broadband.

Project name	Timescale	Market focus	Description	Budget (£ million)
Regional Innovative Broadband Scheme	April 2009 to March 2011	Private sector, residential users, third sector	Enabled 35 telephone exchanges for first generation broadband provision deemed unviable by the market, and subsequently targeted specific 'not spot' areas across Wales	2
Broadband Support Scheme	Launched July 2010 Due to end March 2012 Extended and closed September 2013	Private sector, residential users, third sector	Targeted the remaining areas in Wales with no access to first generation broadband through the introduction of an end-user grant scheme that provided funding of up to £1,000 to cover the upfront costs associated with the installation of a first or next generation broadband solution	3
FibreSpeed	Construction commenced in 2007, operational from 2009. Ongoing but Welsh Government funding only until 31 January 2013.	Retail service providers and those connecting businesses on business parks	Fibre optic network that runs across north Wales from Manchester to Caernarfon and Holyhead providing next generation broadband (speeds from a minimum of 10 Mbps scalable to ultra-fast multi gigabits services)	28
Access Broadband Cymru	1 October 2013 to 31 March 2016	Individuals, businesses, third sector organisations and residential premises	The scheme is open to premises with a broadband connection with a consistent download speed of less than 2 Mbps. The scheme offers a Welsh Government funded grant to the value of 90 per cent of the cost of the proposed first or next generation broadband installation, with a maximum grant of £900.	2

Appendix 4 - Intervention in the market for next generation broadband – Welsh Government option appraisal

The Welsh Government and their expert advisors identified several options for intervening in the market for next generation broadband and based all the potential interventions on using FTTP across the intervention area.

The Welsh Government's two favoured options in the Outline Business Case were further refined in the Full Business Case.

Options identified in the Outline Business Case for Superfast Cymru (August 2010)

Option	Total public and private investment (£ millions)	Total public sector investment (£ millions) ¹	Total Welsh Government investment (£ millions)	Option taken forward
Option 1: Do nothing and allow the market to operate without intervention by the Welsh Government	0	0	0	x
Option 2: Work with the market and invest in a broadband network that gets to within 2 km of every community, with businesses and communities funding and organising access to the last 2 km of the network.	230	161	81	x
Option 3: Work with the market and invest in next generation broadband for mid-level geographic targets, for example, market towns and business areas that are not forecast to be serviced by the private sector in the next five years, which would encourage the market to invest in filling some of the adjacent gaps.	320	224	112	x
Option 4: Work with the market and invest in next generation broadband for businesses.	461	323	161	x
Option 5: Work with the market and invest in next generation broadband for all businesses and residential premises using a mixture of fixed and wireless technologies. This will give variable levels of performance in between urban and rural areas.	718	503	251	✓
Option 6: Work with the market and invest in next generation broadband for all businesses and residential premises with consistent 'ultra-high' levels of performance across all areas.	907	635	317	✓

Note:

¹ Total public sector investment includes estimated funding required from other sources such as BDUK and ERDF.

Options identified in the Outline Business Case for Superfast Cymru (August 2010)

Option	Total estimated cost of infrastructure (£ million)	Option favoured ¹
Option 1: Interventions in rural areas using FTTP/PTP technology	694	x
Option 2: Interventions in rural areas using FTTP/GPON ² technology	588	x
Option 3: Interventions are in urban and suburban areas using FTTP/PTP technology	301	x
Option 4: Interventions are in urban and suburban areas using FTTP/GPON technology	264	x
Option 5: Interventions in suburban areas using FTTP/PTP technology	309	x
Option 6: Interventions in suburban areas using FTTP/GPON technology	280	✓

Notes:

- 1 Although Option 6 was favoured, in the end, the Welsh Government chose none of these options, as an alternative solution of primarily using FTTC was used (paragraph 1.11).
- 2 Gigabit Passive Optical Network (GPON) is one single fibre feeding from the network provider's central exchange to serve multiple homes and small businesses.

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