

Superfast Cornwall Evaluation

Update Report

April 2014



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Superfast Cornwall

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SERIO

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Superfast Cornwall Evaluation Update Report

Executive Summary

Introduction

- The roll out of superfast broadband in Cornwall is being funded by the Convergence Programme and its private sector investment partner, BT. A total of up to £132m will be invested in the roll out project, known as Superfast Cornwall, making it the largest single Convergence investment and largest single European investment in superfast broadband.
- The project aims to make fast fibre based broadband available to 95% of premises in Cornwall and the Isles of Scilly by the end of 2014. It is expected to deliver the following outputs and results:
 - 10,000 businesses benefitting from upgraded ICT infrastructure;
 - 6,000 businesses with improved performance (GVA);
 - A gross increase of 4,000 jobs and net additional increase of 2,835;
 - 2,000 jobs safeguarded;
 - £140.0m gross increase in GVA and £99.2m net additional GVA; and
 - £70.0m net additional safeguarded GVA.

- SERIO, based at Plymouth University, and Buckman Associates have been commissioned to provide objective external expertise to the project's evaluation. As part of this work, a midterm evaluation report was published in 2013. The midterm report considered the emerging evidence of Superfast Cornwall's impact; this report updates the key economic findings presented at midterm and in doing so, draws upon surveys of connected and non-connected businesses and consumers.

Business Use of Superfast Broadband

- The business omnibus survey has captured data on internet use from 224 businesses who have been connected to superfast broadband for 12 months or longer. The survey data shows that the most frequently used internet functions were multiple connections (77.2%, 173) and sending and receiving large files (72.3%, 162).
- Although the majority of businesses had used each of the functions explored in the survey before connecting to superfast broadband, they were now used more. This is most notable for video and web conferencing use, with over 80% of businesses reporting use prior to upgrading now using it more.
- The counterfactual business survey captured comparable data from 276 businesses who use the internet but have not upgraded their connection. More businesses connected to superfast broadband were using each of the explored functions than those that had not connected. For example, 57.6% (129) of connected businesses used the internet for remote access compared to 34.8% (96) of non-connected businesses.

- A small proportion of connected businesses were adopting new electronic processes and systems (online marketing, online sales, and logistics and supply chain) since upgrading to superfast broadband. However, 40% or more of businesses reporting using each of these functions before upgrading were now using them more.

The Economic Impact of Superfast Broadband

- Perceptions of the economic benefits brought about by superfast broadband were explored in the business omnibus survey. 87.1% (195) of all businesses reported that they had experienced at least one of the benefits explored in the survey. The most frequently reported benefits were that superfast broadband was saving time and/or money (79.0%, 177) and enabling businesses to work in new and different ways (54.9%, 123).
- All businesses completing the surveys were asked to provide their turnover for the two financial years prior to survey completion. A total of 57 out of 224 connected and 48 out of the 276 non-connected businesses provided an exact turnover figure for both years. Although the average and median turnover for both financial years was higher for non-connected businesses, connected businesses had a higher average change in turnover over the two years (£140,154, compared to -£10,146 for non-connected businesses). However, given the wide range of factors that determine turnover, this difference cannot all be attributed to superfast broadband.
- An understanding of the impact attributable to superfast broadband was captured through a series of questions on the perceived impact of superfast broadband on turnover, profit and costs. 17.4% (39) of businesses reported that their turnover had increased as a result of connecting to superfast broadband and 20.5% (56) increased profits. Over a third (41.5%, 93) attributed reduced costs to their upgraded connection, however, 8.0% (18) reported increased costs.
- Almost two thirds of connected businesses (63.4%, 142) reported that employee numbers were the same at the time of the survey as they were two years ago, with 25.4% (57) reporting an increase and 5.4% (12) a decrease. Although the pattern of results was the same for non-connected businesses (with most reporting no change), a higher proportion stated that their employee numbers had decreased over this period (11.6%, 32).
- The average change in employee numbers was 0.62 jobs per connected business and 0.47 jobs per non-connected business. As with turnover however, the slightly higher average change amongst connected businesses will not all be attributable to superfast broadband. Indeed, a total of 22 connected businesses (9.8%) attributed a proportion of the change in employee numbers to superfast broadband, 19 of whom experienced an increase and three a decrease. A total of 49.7 jobs were reported to have been gained by 16 of the businesses who were able to provide an estimate and 2.5 jobs were lost by three businesses (producing an overall total of 47.2 jobs created).
- The reported changes in employee numbers attributable to superfast broadband were used to inform four GVA estimates: the first of which was based on the estimated impact of those jobs reported to have been created by the survey sample; the sample average was then used to estimate impact for the total number of businesses known to be connected to date; this average was also used to estimate the impact for the total number of businesses connected to superfast broadband for 12 months or longer; and

finally the target number of connections at the end of the project. The estimated impact for each of these calculations is summarised in the table below.

Estimated Impact of Jobs Created

	Survey Sample (205)¹	All Businesses Connected March 2014 (5133)	Businesses Connected for 12 Months + March 2014 (2656)	Forecasted Connected Businesses (10,000)	Project Target
FTE Jobs Created	47.2	1181.8	611.5	2302.4	Gross increase - 4,000 Net additional – 2,835
GVA derived from job creation	£1,894,472	£47,435,748	£24,544,973	£92,413,302	Gross increase - £140m Net additional – £99.2m

- 15.6% (35) of businesses attributed a safeguarded job to superfast broadband. A total of 52 jobs were estimated to have been safeguarded. Four separate safeguarded GVA estimates were also calculated and are summarised in the table below.

Estimated Number of Jobs Safeguarded

	Survey Sample (171)¹	All Connected Businesses March 2014 (5133)	Businesses Connected for 12 Months + March 2014 (2656)	Forecasted Connected Businesses (10,000)	Target²
FTE Jobs Safeguarded	52	1560.9	807.7	3040.9	Gross - 2,000
GVA safeguarded	£2,144,981	£64,387,069	£33,316,200	£125,437,502	Net additional - £70.0m

- In addition, superfast broadband was found to be an influential factor in the decision to start-up a business. Based on a survey of 220 consumers connected to superfast broadband for six months or more and 213 consumers who use the internet but have not upgraded their connection, 13.2% (29) of connected households and 10.3% (22) of non-connected households had used the internet to set up a business. A total of seven connected consumers reported that superfast broadband had influenced their decision to start-up (based on the 18 survey respondents who were asked this question). If it is assumed that there was a similar influence on the businesses set up in all surveyed households (i.e. all 29 businesses start-ups), it is estimated that superfast broadband was a factor in the start-up of 11.3 businesses.
- In addition, three businesses established within the roll out period, and completing more recent omnibus survey waves, stated that the availability of superfast broadband was an influential factor in their decision to start a business. The most recent survey waves have been amended to enable this impact of superfast broadband to be explored in more depth throughout the remainder of the project.

¹ The reported survey sample size is based on the number of businesses providing a valid response and therefore differs from the 224 total number of businesses completing the survey.

² Net FTE Jobs Safeguarded and gross GVA safeguarded are not contracted project outputs.

Conclusions

- The findings presented in this report update those presented at the midterm stage, and as they are based on larger sample sizes, provide a more accurate estimate of the economic impact of superfast broadband.
- Although the finding that businesses are using internet functions more since upgrading their connection is positive, not all connected businesses were using the explored functions. As such, there is still scope to increase both awareness of the opportunities presented by superfast broadband and the support required to realise them. By increasing awareness, and supporting businesses to take advantage of its opportunities, the transformational potential of the digital infrastructure can be maximised. Although Superfast Cornwall is raising awareness of these opportunities via its demand stimulation activities, a wider package of business support is needed to facilitate such transformation.
- Superfast broadband, by helping businesses to save time and money and work differently, is enhancing the efficiency and innovative ability of connected businesses.
- Superfast broadband is creating and safeguarding jobs, with 49.7 jobs reported to have been gained and 52 safeguarded. Conversely though, 2.5 jobs were reported to be lost (meaning that the overall total of jobs created is 47.2). This demonstrates how increased productivity associated with superfast broadband can have differential impacts on employment locally.
- Although the current rate of job creation and GVA derived from this is likely to be less than required to achieve project targets, these targets were set in a very different economic climate and a shift from jobs created to jobs safeguarded would be expected.
- Supporting businesses to take advantage of the transformational opportunities available to them is likely to maximise Superfast Cornwall's performance against its targets.
- Superfast broadband is also benefitting the local economy through influencing the decision to start-up a business. This demonstrates the importance of an enhanced digital infrastructure to the economy, a message that can be incorporated within continued inward investment campaigns.

Superfast Cornwall Evaluation Update Report

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1. Introduction

Superfast Cornwall

The UK's ambition is to have the best superfast broadband network and connected society in Europe by 2015 (BIS and DCMS, 2010). To achieve this, the UK Coalition government is funding the roll out of high-speed broadband through Broadband Delivery UK (BDUK). In Cornwall and the Isles of Scilly however, the roll out is funded not by BDUK but the Convergence Programme and its private sector investment partner BT. A total of up to £132m will be invested in the Next Generation Broadband Infrastructure project, known as Superfast Cornwall (£78m from BT and £53m from the European Regional Development Fund (ERDF)). Superfast Cornwall is therefore the largest single Convergence investment and largest single European investment in superfast broadband. It has been made in response to an identified need for 'catalytic and transformational interventions' in Cornwall to enable it to become a knowledge based economy (Convergence Operational Programme for Cornwall, 2007). Investment in digital infrastructure in particular was identified as an important mechanism through which the negative effect of the peripheral economy on productivity could be addressed.

The Superfast Cornwall project aims to make Cornwall and the Isles of Scilly one of the best connected locations in the world and is now aiming to make fast, fibre based broadband available to 95% of premises by the end of 2014 (against an original target of 80%). More specifically, it is contracted to deliver the following results and impacts:

- 10,000 businesses benefitting from upgraded ICT infrastructure;
- 6,000 businesses with improved performance (GVA);
- A gross increase of 4,000 jobs and net additional increase of 2,835;
- 2,000 jobs safeguarded;
- £140.0m gross increase in GVA and £99.2m net additional GVA; and
- £70.0m net additional safeguarded GVA.

The parallel Delivery Management Team project is being led by Cornwall Development Company (CDC) and funded through the ERDF (£3.3m) and Cornwall Council (£1m). The delivery project aims include driving the uptake of superfast broadband by businesses, contract management of BT, up skilling business and evaluation.

This report has been prepared to update the findings emerging from the midterm evaluation stage in 2013 and considers the project's progress against the above outputs.

The Evaluation Approach

The evaluation of the Superfast Cornwall project is led by CDC's Research & Evaluation Manager and aims to ensure that the project's performance and impact underpin its work. A team led by SERIO and including experts from across Plymouth University, in collaboration with Buckman Associates, were commissioned to provide objective external expertise to ensure that the evaluation is objective and transparent, and reflects best evaluation practice.

As described in detail in the baseline report (SERIO and Buckman Associates, 2011), a Monitoring and Evaluation plan was prepared in the early stages of the project and specified the indicators to be used and the methods for their data collection. A comprehensive description of each of the

data collection methods was provided in the baseline report; an update on the progress against each of these was presented in the evaluation's interim report (SERIO and Buckman Associates, 2013) and is included here (and updated where appropriate) in Appendix A. In updating the key midterm evaluation findings, this report considers data that has been captured through the following methods:

- **Omnibus Business Survey:**

The Delivery Team's Research & Evaluation Manager has commissioned the research agency Marketing Means to conduct a quarterly telephone survey of businesses that have been connected to superfast broadband for 12 months or more. A random sample of businesses in connected areas participate in each quarter and to date, four survey waves have been completed. The survey captures information on how superfast broadband is being used, its perceived benefits and impacts on the business.

A total of 224 connected businesses have now completed the omnibus survey in comparison to 88 at the midterm stage. Based on CDC's estimated number of businesses connected at 28 February 2013³ (2490⁴), this represents 9.0% of the total connected business population (confidence interval⁵ +/- 6.25 at 95%).⁶ The sample composition is summarised in Appendix B.

- **Counterfactual Business Survey:**

Businesses that have not connected to superfast broadband are invited to take part in a telephone survey. The survey is conducted annually by Marketing Means with a random sample of businesses and collects data that is comparable to the omnibus business survey to inform assessment of the additionality of any identified benefits. To date, two counterfactual business survey waves have been completed. A total of 276 businesses have participated in one of the survey waves. The sample composition is summarised in Appendix C.

- **Longitudinal Business Survey:**

The purpose of this survey is to track the impact of superfast broadband on connected businesses over a longer period of time. SERIO has been commissioned by CDC to conduct this survey. A total of 63 businesses have been surveyed via telephone and will be invited to take part in a follow up survey in 2015. The findings from the first wave of data collection have been reported separately in April 2014 (SERIO). However, emerging qualitative data that adds insight into the omnibus survey findings is presented wherever relevant here.

- **Consumer Survey:**

A random sample of consumers connected to superfast broadband for six months or more are invited to participate in a quarterly telephone survey to establish the social and economic impacts on consumers. This survey is also conducted by Marketing Means. To date, four waves of the consumer survey have been completed. A total of 220 connected consumers have now completed the survey.

About this Report

This report aims to update the evidence presented at the midterm stage on the economic impact of Superfast Cornwall. Reflecting this, it does not replicate the contextual background that was

³ And will therefore have been potentially connected for 12 months or longer at the time of the fieldwork.

⁴ This is based on the assumption that 12% of the total premises in Cornwall and the Isles of Scilly are business premises.

⁵ A confidence interval (the margin of error) describes the level of accuracy of the survey findings.

⁶ As stated in the midterm evaluation report, it was originally anticipated that a random sample of businesses in connected areas would be invited to participate in the survey. However, given the relatively low numbers of businesses connected for over 12 months at the midterm stage, Marketing Means were provided with a list of connected businesses to boost the response rate. 15.2% (34) of the sample was therefore collected via targeted recruitment.

presented at the midterm stage and draws only upon the data sources outlined above. Given the smaller omnibus survey sample size available at the time of the midterm evaluation, the extent to which the reported findings represented the wider connected business population was unknown. As a considerably larger number of connected businesses have now been surveyed, this update report serves to strengthen understanding of how connected businesses are responding to the opportunities presented by superfast broadband and its impact on their economic performance.

It is structured as follows:

- Section Two presents updated evidence from the omnibus business survey on the use of superfast broadband and compares this with the internet use reported by businesses completing the counterfactual business survey;
- Section Three discusses the emerging evidence of the economic impact of superfast broadband and considers perceptions of its benefits as well as more absolute metrics such as turnover, jobs created and jobs safeguarded. This section also draws upon consumer survey data to inform understanding of how superfast broadband is supporting business start-ups; and
- Section Four summarises the key findings and presents the conclusions that emerge from them.

2. Business Use of Superfast Broadband

Introduction

To provide an understanding of levels of awareness of the opportunities presented by superfast broadband and their exploitation, the business omnibus survey captures data on internet use. Comparable data is captured by the counterfactual business survey (which is completed by businesses who use the internet but have not upgraded their connection) and therefore informs understanding of what would have happened anyway (the deadweight) without the investment in superfast broadband. Findings from both these surveys are summarised in this section of the report. The analysis is based on the combined data from all survey waves completed to date (224 connected businesses and 276 non-connected businesses).

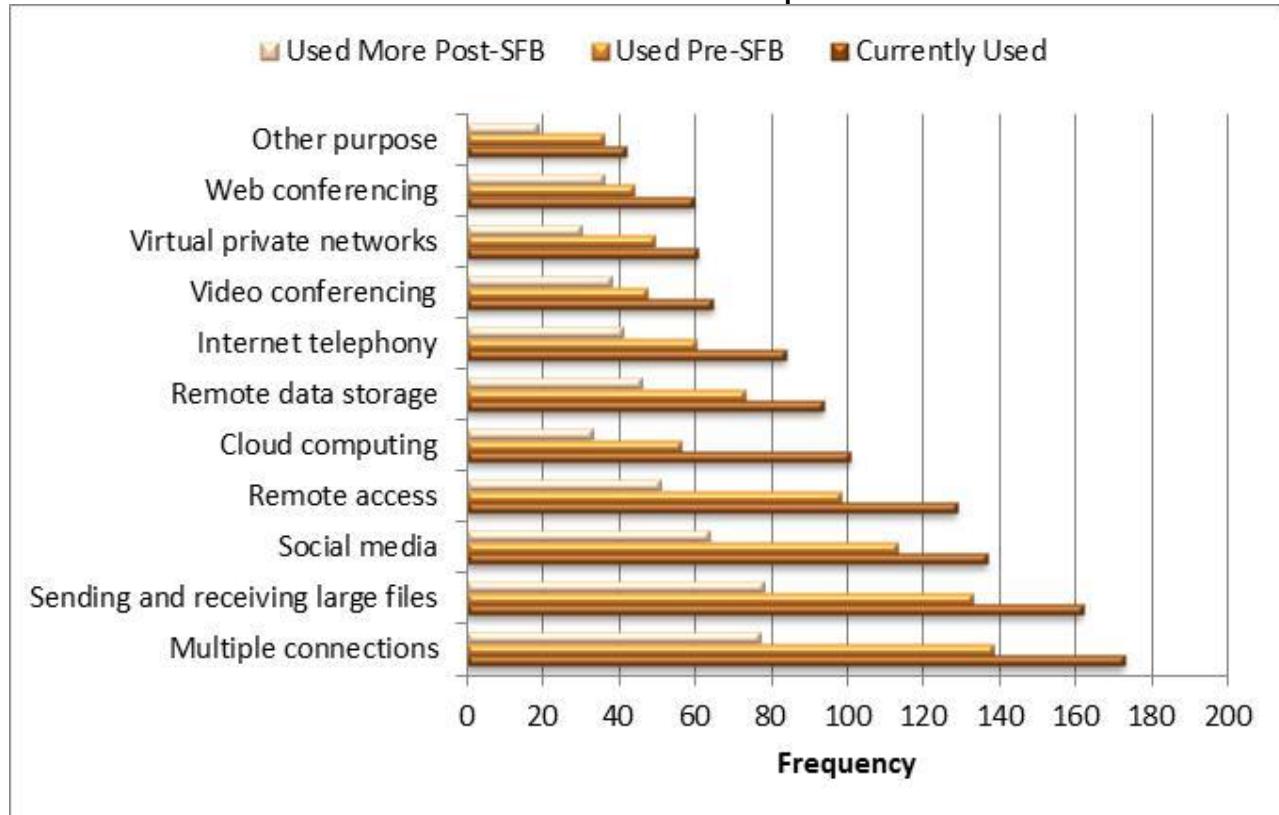
Use of Superfast Broadband

As at the midterm stage, multiple connections (more than one device being connected at the same time) (77.2%, 173) and sending and receiving large files (72.3%, 162) were the two most frequently reported uses of superfast broadband. Email and general research were the most commonly reported 'other' purpose. Although the majority of businesses had used each of the explored functions before upgrading their connection, use was commonly reported to have increased since upgrading. For example, 82.1% (133) of businesses currently using their connection to send and receive large files had also done prior to superfast broadband; however, 58.6% (78) of those reporting previous use were now using the internet more to send and receive large files. Superfast broadband appears to have had the greatest impact on video and web conferencing use, with over 80% of businesses using it prior to upgrading now using it more. Early indications from the longitudinal business survey suggest that, while the most significant changes in usage occur soon after upgrading to superfast, these changes are sustained by the business over the long term. Levels of use for each of the explored functions before and after upgrading to superfast are summarised in Table One and Chart One below.

Table One: Use of Internet Before and After Connection to Superfast Broadband

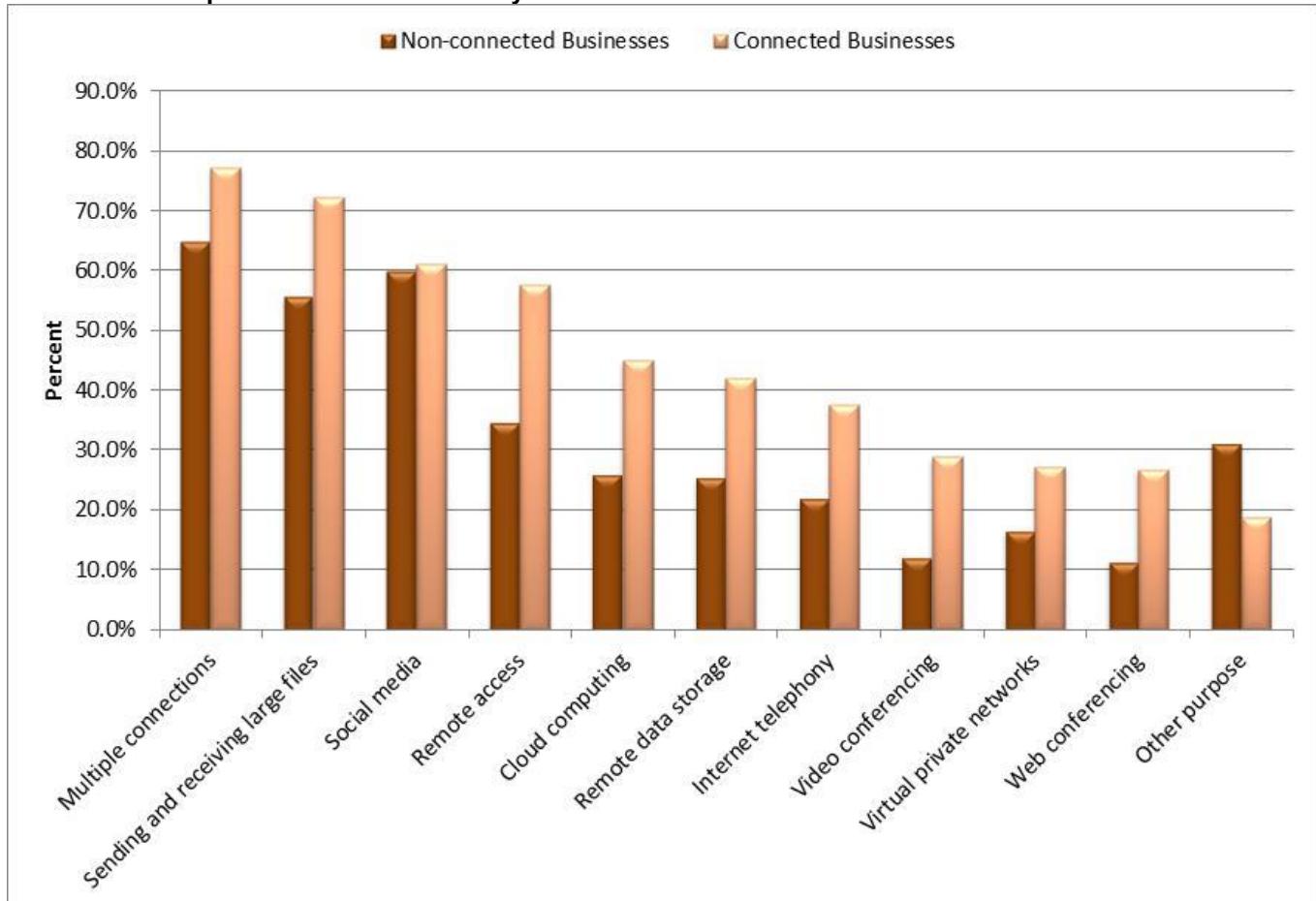
	Currently Used ¹		Used Pre-SFB ² (Based on those currently using each function)		Used More Post-SFB ³ (Based on those using each function pre-SFB)	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Sending and receiving large files	162	72.3%	133	82.1%	78	58.6%
Cloud computing	101	45.1%	56	55.4%	33	58.9%
Remote data storage	94	42.0%	73	77.7%	46	63.0%
Internet telephony	84	37.5%	60	71.4%	41	68.3%
Video conferencing	65	29.0%	47	72.3%	38	80.9%
Web conferencing	60	26.8%	44	73.3%	36	81.8%
Virtual private networks	61	27.2%	49	80.3%	30	61.2%
Social media	137	61.2%	113	82.5%	64	56.6%
Remote access	129	57.6%	98	76.0%	51	52.0%
Multiple connections	173	77.2%	138	79.8%	77	55.8%
Other purpose	42	18.8%	36	85.7%	19	52.8%

Base: ¹All Businesses Connected for 12 months+ (n=224); ²All Businesses Reporting to Use Each Function Currently (n=various); ³All Businesses Reporting to Use Each Function Pre-SFB (n=various)

Chart One: Use of Internet Before and After Connection to Superfast Broadband

Base: Businesses Connected for 12 months+ (n=224)

More businesses connected to superfast broadband were using each of the explored functions than businesses who had not upgraded their connection. Drawing on data from both the omnibus and counterfactual business survey, Chart Two below compares use of each of these functions by connection status and shows that levels of use were higher for those businesses who had upgraded to superfast broadband. Remote access emerged as having the greatest difference in levels of use, with 57.6% (129) of connected businesses using it compared to 34.8% (96) of non-connected businesses. This indicates how superfast broadband can enhance the flexibility of working practices, a finding which is supported by the responses to the longitudinal business survey (SERIO, 2014). These respondents identified the remote access offered by superfast broadband, and the greater flexibility it provided, as a key benefit as it enabled them to respond to customers in a more timely manner.

Chart Two: Comparison of Internet Use by Connection Status

Base: All Businesses Connected for 12 months+ (n=224); All Non-Connected Businesses (n=276)

Adoption of New Processes and Systems

The omnibus survey also shows that a small proportion of connected businesses were adopting new electronic processes and systems since upgrading to superfast broadband. Almost two thirds (64.6%, 133) reported using online marketing, 84.2% (112) of whom had used this prior to upgrading (based on the 133 businesses who reported current use). However, 45.5% (51) of businesses using online marketing prior to superfast broadband were now using it more often (based on the 112 businesses who had used it prior to upgrading). As shown in Table Two, although fewer businesses were using online sales or an electronic logistics or supply chain, upgrading had led more than one in 10 businesses to do so for the first time.

It was suggested in the midterm report that, as not all connected businesses were using each of the listed electronic processes and systems, further work may be needed to raise awareness of the potential applications of superfast broadband and provide support in implementing them. The levels of use presented in Table Two below are broadly comparable to those reported at the midterm stage and therefore levels of awareness and the ability to exploit the applications offered by superfast broadband, do not appear to have increased.

Table Two: Use of Electronic Processes and Systems

Currently Used ¹			Used Pre-SFB ² (Based on those currently using each function)		Used More Post-SFB ³ : (Based on those using each function pre-SFB)	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Online marketing	133	64.6%	112	84.2%	51	45.5%
Online sales	89	43.2%	75	84.3%	34	45.3%
Logistics or supply chain	79	38.3%	69	87.3%	30	43.5%
Something else	26	12.6%	20	76.9%	9	45.0%

Base: ¹ All Wave 2, 3 and 4 Businesses Connected for 12 months+ (n=206); ² All Businesses Reporting to Use Each Function Currently (n=various); ³ All Businesses Reporting to Use Each Function Pre-SFB (n=various)

In considering the use of these functions, it is of interest that the findings from the longitudinal survey suggest that the increased use of more sophisticated internet functions was a key way in which superfast broadband had brought about economic benefits for businesses (SERIO, 2014). The economic benefits are discussed in more detail in Section Three.

Summary

- Based on 224 businesses completing the omnibus survey to date, the available data suggests that use of internet functions has increased for some businesses since upgrading to superfast broadband. Of those businesses reporting use before upgrading, at least half reported doing so more now.
- Multiple connections (77.2%, 173) and sending and receiving large files (72.3%, 162) were the two most frequently used internet functions.
- A small proportion of businesses had adopted new electronic systems or processes since upgrading to superfast broadband.
- Where electronic systems or processes had been used before upgrading, 40% or more of businesses were now using online marketing, online sales or electronic logistics or supply chain systems more often.

Commentary

Although these findings are encouraging, as suggested at the midterm evaluation stage, not all businesses are using each of the explored functions or systems. Therefore, further work may still be required to raise awareness of the opportunities presented by superfast broadband and deliver the support required to exploit them.

3. The Economic Impact of Superfast Broadband

Introduction

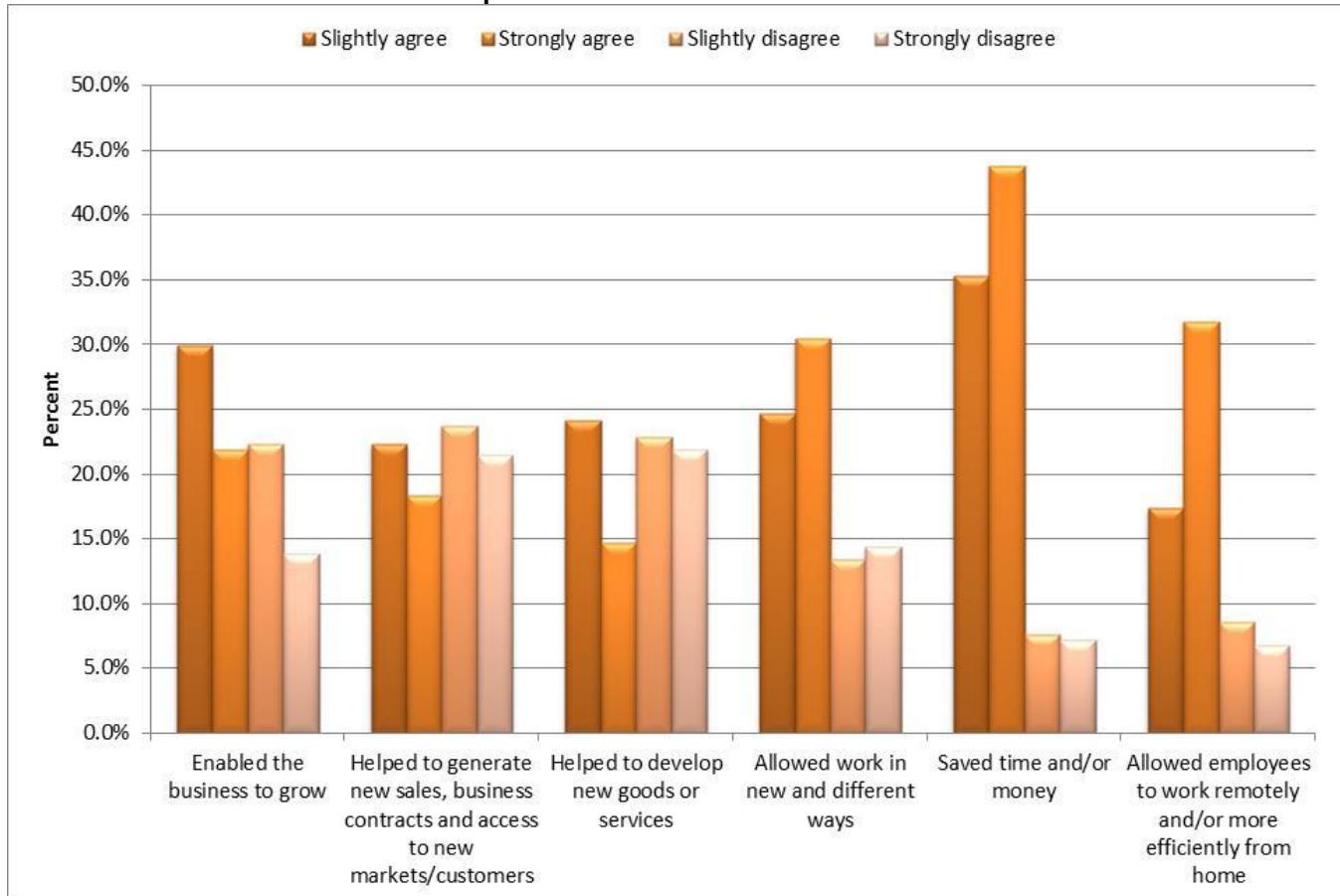
The business omnibus survey explored the economic impact of superfast broadband in two different ways. Firstly, in recognising that businesses are not always able to quantify impact in absolute terms, perceptions of the benefits brought about by superfast broadband were captured. Secondly, businesses were invited to provide economic metrics including turnover and changes in employee numbers. Employee numbers were then used to estimate the project's Gross Value Added (GVA).⁷ Employee numbers rather than turnover data have been used as they enable a more robust estimate to be made (turnover is highly sensitive to individual businesses and turnover based estimates would be based on national rather than Cornwall GVA/turnover ratios). This section of the report draws upon both these different measures to consider Superfast Cornwall's economic impact.

The Perceived Benefits of Superfast Broadband

The business omnibus survey captured perceptions of the economic benefits brought about by superfast broadband by asking respondents to indicate the extent to which they agreed or disagreed with a series of statements. As shown in Chart Three below:

- Over three quarters of businesses (79.0%, 177) reported that superfast broadband had saved their business time and/or money (35.3% (79) slightly agreed with this statement and 43.8% (98) strongly agreed). This was the most frequently perceived benefit;
- Over half (54.9%, 123) felt that superfast broadband had enabled their business to work in new and different ways (24.6% (55) slightly and 30.4% (68) strongly agreed);
- Over half of businesses (51.8%, 116) agreed that superfast broadband had enabled their business to grow (29.9% (67) slightly and 21.9% (49) strongly agreed);
- 49.1% (110) perceived that superfast broadband allowed employees to work remotely and/or more efficiently from home (17.4% (39) slightly and 31.7% (71) strongly agreed);
- 40.6% (91) of businesses agreed that superfast broadband had helped to generate new sales, business contracts and access to new markets or customers (22.3%, (50) slightly and 18.3%, (41) strongly agreed). The largest proportion of the reported new sales were to national customers (38.5%, 35), followed by those based in Cornwall (25.3%, 23), internationally (24.2%, 22) and in the South West (11.0%, 10). Although it is encouraging that superfast broadband is helping a small proportion of businesses to export, it is unknown how many of these businesses were exporting prior to upgrading their internet connection; and
- Over a third (38.8%, 87) reported that the development of new goods or services had been helped by superfast broadband, highlighting the potential of the upgraded connection to enhance a business' ability to innovate (24.1% (54) slightly and 14.7% (33) strongly agreed).

⁷ GVA is the most common method of measuring economic impact at a local or regional level. It measures each individual producer, industry or sector's contribution to the economy.

Chart Three: Perceived Benefits of Superfast Broadband

Base: All Businesses Connected for 12 months+ (n=224)⁸

A large majority (87.1%, 195) reported that superfast broadband was benefitting their business in one or more of the listed ways and more generally, 79.9% (179) of businesses stated that it had been beneficial to their business. Although it is not yet known how representative these experiences are of the wider connected business population (this will become clearer as the number of connected businesses completing the survey increases throughout the remainder of the project), these findings are encouraging. They indicate that a small majority of businesses are being enabled to work in new and different ways and a large majority are now working more efficiently. Insight into the impact that this has had on the performance of connected businesses is considered in more detail below.

Business Performance: Turnover, Costs and Profit

Businesses in both the omnibus and counterfactual surveys were asked to report their turnover for the two previous financial years. An absolute value (rather than a range, such as £150,001 - £200,000) for both years has been captured for 57 out of the 224 omnibus survey respondents and 48 out of the 276 counterfactual survey respondents. Table Three below summarises the average and median turnover for each of the financial years data was collected for, and the change between the two reported years, by connection status. Both the average and median turnover was higher for non-connected businesses than connected businesses in the last two financial years, but the change in turnover was higher for connected businesses.

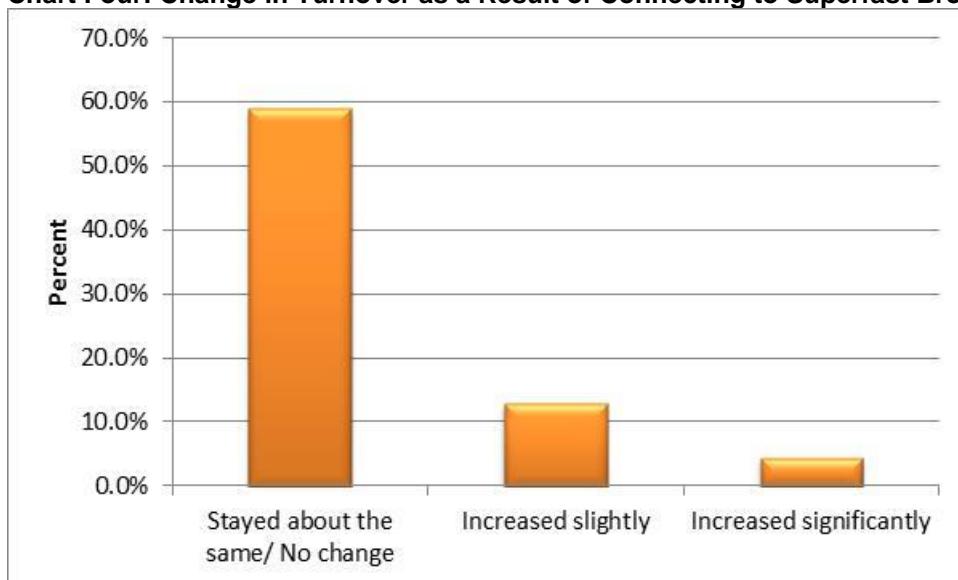
⁸ 'Don't know' and 'doesn't apply' responses are not included in the chart therefore percentages will not total 100.

Table Three: Turnover by Connection Status

	Connected Businesses		Non-Connected Businesses	
	Average	Median	Average	Median
Turnover in Last Financial Year	£604,825	£100,000	£1,157,750	£175,000
Turnover in Last Financial Year Previously	£464,670	£100,000	£1,167,896	£180,500
Turnover Change	£140,154	£0	-£10,146	£0

Base: Valid Responses Only (Connected Businesses n=57; Non-connected Businesses n=48)

In considering the reported changes in turnover, it is important to emphasise that a wide range of factors influence turnover and therefore the change presented in Table Three cannot be directly attributed to superfast broadband. However, to provide understanding of the change that was attributable, connected businesses were asked about the impact of superfast broadband on turnover. Overall, 17.4% (39) of businesses reported that their turnover had increased as a result of connecting to superfast broadband. Chart Four below summarises the reported changes.

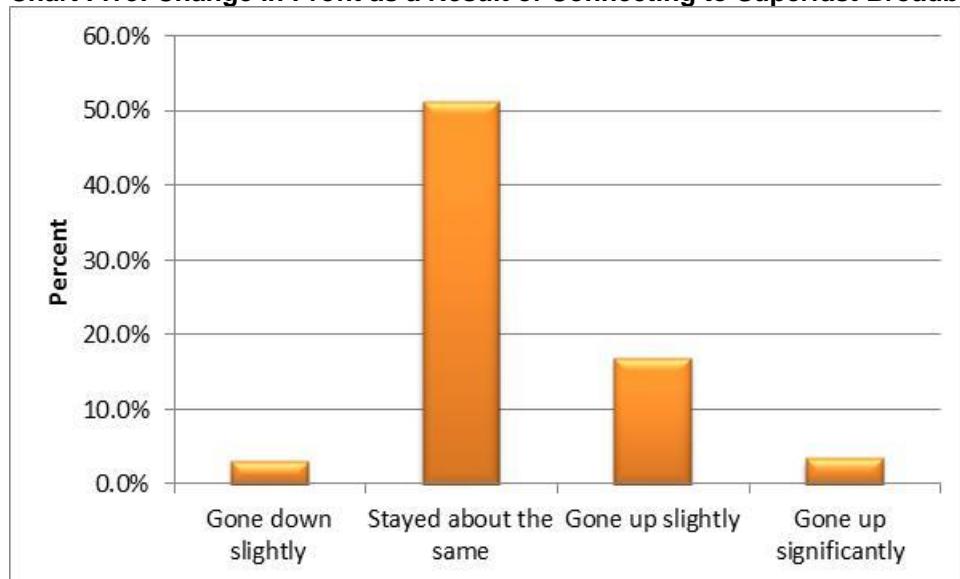
Chart Four: Change in Turnover as a Result of Connecting to Superfast Broadband

Base: All Businesses Connected for 12 months+ (n=224)⁹

Of the 39 businesses attributing an increase in turnover to superfast broadband, 17 provided an estimate of what proportion of their increased turnover was a result of their upgraded connection. Six businesses estimated that superfast broadband accounted for 1-9% of their increased turnover, five between 10 and 19% and three between 30-49%. The other three businesses estimated that it accounted for 20-29%, 50-69% and 70% or more of their increase. Although this is an important question, the high number of missing responses indicates the difficulty businesses experience in quantifying the economic impact of superfast broadband in absolute terms.

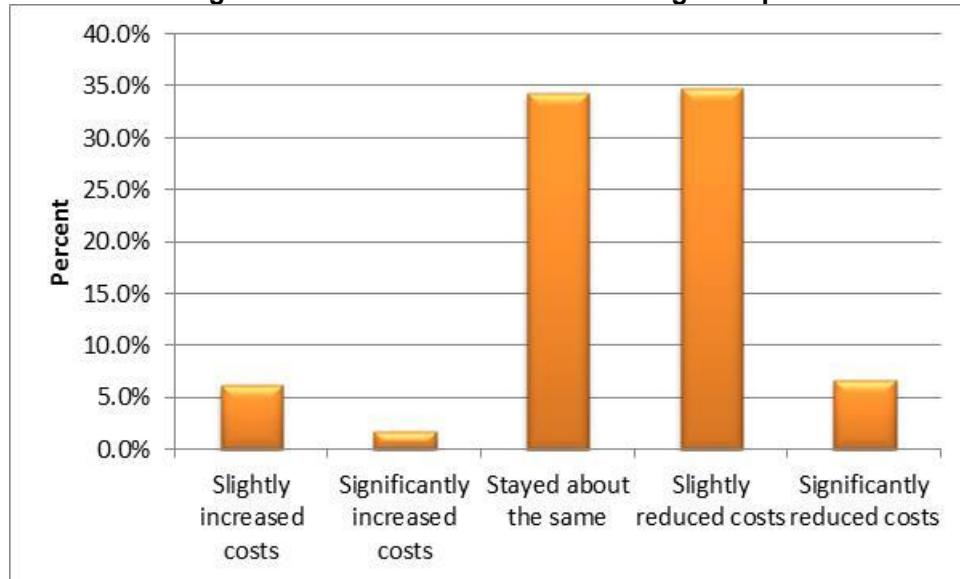
The impact of superfast broadband on profit was also explored in the omnibus survey. As shown in Chart Five below, over half (51.3%, 115) reported no change, 20.5% (46) attributed increased profits and 3.1% (7) a decrease to superfast broadband.

⁹ 53 businesses responded that they did not know what impact superfast broadband had had on their turnover. These responses have not been included in the chart above and therefore the percentages will not total 100.

Chart Five: Change in Profit as a Result of Connecting to Superfast Broadband

Base: All Businesses Connected for 12 months+ (n=224)¹⁰

Over a third (41.5%, 93) of businesses reported either a slight or significant reduction in their costs as a result of connecting to superfast broadband. The largest proportion however, (34.4%, 77) reported no change in costs and 8.0% (18) increased costs. These results are summarised in Chart Six below. Only four of those reporting increased costs knew or disclosed the monthly costs of their superfast broadband service: one reported paying £25 per month, two paid £30 per month and one £60 per month.

Chart Six: Change in Costs as a Result of Connecting to Superfast Broadband

Base: All Businesses Connected for 12 months+ (n=224)¹¹

¹⁰ 56 businesses responded that they did not know what impact superfast broadband had had on their profit. These responses have not been included in the chart above and therefore the percentages will not total 100.

¹¹ 36 businesses responded that they did not know what impact superfast broadband had had on their costs. These responses have not been included in the chart above and therefore the percentages will not total 100.

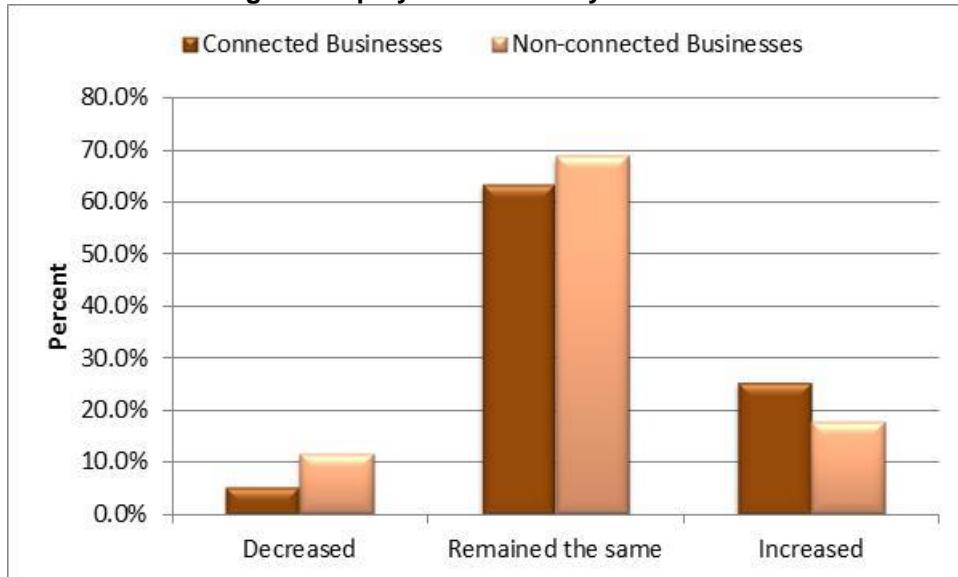
Business Performance: Jobs and GVA

In addition to turnover, the omnibus business survey explored the impact of superfast broadband on employee numbers (both jobs created and safeguarded). This data was used at the midterm stage to produce estimates of the Gross Value Added (GVA) attributable to the project. These estimates have been reproduced here using all four completed survey waves to date. Again, the counterfactual survey data is presented wherever available and appropriate to provide insight into what would have happened without the investment in superfast broadband.

Jobs

Almost two thirds of connected businesses (63.4%, 142) reported that employee numbers were the same at the time of the survey as they were two years ago, with 25.4% (57) reporting an increase and 5.4% (12) a decrease in employees. Chart Seven below shows how this compares with the experiences of those businesses not connected to superfast broadband; although the overall pattern of results is similar, with most reporting no change (68.8%, 190) and more increasing than decreasing employee numbers, a higher proportion of non-connected businesses reported a decrease (11.6%, 32) than connected businesses.

Chart Seven: Change in Employee Numbers by Connection Status



Base: All Businesses Connected for 12 months+ (n=224)¹²; All Non-Connected Businesses (n=276)¹³

The average change in the number of employees was calculated for both those businesses with and without a superfast broadband connection (the bases reflect the number of valid responses, i.e. those providing the number of jobs gained or lost):

	Average Change in Employees
Connected businesses (n=198) ¹⁴	0.62
Non-connected businesses (n=269) ¹⁴	0.47

A total of 22 connected businesses (9.8%) attributed at least a proportion of the change in employee numbers to superfast broadband (compared to 10.2% at the midterm stage). A large majority of businesses (83.0%, 186) reported no change as a result of superfast broadband, 8.5% (19) an increase and 1.3% (3) a decrease.¹⁵ Sixteen of those businesses attributing an increase in

¹² Six businesses did not know if there had been a change in employee numbers and seven chose not to answer this question. These responses have not been included in the chart above and therefore the percentages will not total 100.

¹³ Three businesses did not know if there had been a change in employee numbers and two chose not to answer this question. These responses have not been included in the chart above and therefore the percentages will not total 100.

¹⁴ One outlier was removed from the calculation of both the connected and non-connected business average.

¹⁵ 16 businesses did not know if employee numbers had changed as a result of connecting to superfast broadband.

employee numbers to superfast broadband provided an estimate of number of jobs created; a total of 49.7 jobs were reported to have been gained. The reported reasons for the jobs gained echoed the range of benefits perceived to have been brought about by superfast broadband and included increased efficiency in the workplace, greater market access and the development of new services. For example:

Increase in sales and efficiency.

The way you organise your work, what you can get done but then people want more. You can both be on the computer on the same line doing the same thing (this used to slow the system, you couldn't do it).

Its allowed us to develop new services, for which we've needed new people.

The upgrade has enabled them to access wider markets so therefore need new staff to keep up with the workload.

We can invest in a new shop website nationally so have someone to deliver that when it goes live to cope with the increased business.

We can process more work so therefore need more people.

Conversely, increased productivity was attributed to a total loss of 2.5 jobs by three businesses. As reported at the midterm stage, this finding is consistent with evidence emerging from research conducted elsewhere. For example SQW's (2013) review of broadband and superfast broadband found that an improved digital infrastructure can have a mixed impact on employment.

The midterm evaluation report concluded that superfast attributable job gains may not be limited to the short term, with three businesses reporting having gained a job at the time of survey completion anticipating further gains in the future. A further three businesses completing waves three and four of the omnibus survey expected similar gains. Overall, a total of 12.9% (29) of businesses expected to employ more people in the future as a result of superfast broadband and 0.4% (1) anticipated a decrease in employee numbers. The largest proportion however (79.5%, 178) expected no change in future employee numbers.¹⁶ The average expected change was 0.2 employees (based on 201 businesses providing an estimate).

Impact of Jobs Created

The GVA estimates prepared at the midterm stage have been updated using all four waves of the omnibus survey data completed to date. Although increasing the sample size available for analysis from 88 to 224 inevitably increases the robustness of these estimates, it is important to emphasise that the findings are accurate within +/- 6.25 at a 95% confidence level.

In replicating the midterm estimates, a sectoral GVA/FTE estimate for Cornwall and the Isles of Scilly have been used to calculate the impact of the jobs created.¹⁷ Four separate estimates have been prepared:

- the estimated impact of jobs created that are attributed to superfast broadband by the businesses completing the omnibus survey;
- the estimated impact of jobs created for the total estimated number of businesses connected to superfast broadband to date;

¹⁶ 16 businesses did not know whether they would employ more or fewer people in the future.

¹⁷ The sectoral GVA/FTE was prepared by Plymouth Business School using RED Group/AMORE data.

- the estimated impact of jobs created for the estimated number of businesses connected for 12 months or longer to superfast broadband to date; and
- the forecasted impact of jobs created should 10,000 businesses be connected to superfast broadband at the end of the project.

The estimated impact for each of these calculations is summarised in Table Four below. A total of 205 businesses quantified the increases and decreases in employment required to estimate the impact of the jobs created.¹⁸ **Across these 205 businesses, 47.2 new FTE** (the total number of jobs gained (49.7) less jobs lost (2.5)) **and £1.9 million new GVA** (taking into account sectoral variations in GVA/FTE) **was attributed to their connection to superfast broadband.**

Based on the assumption that the sectoral take up of superfast broadband in the omnibus survey reflects that of the 2656 businesses estimated to have been connected for 12 months or longer to date, it is estimated that **611.5 new FTE and £24.5 million GVA can be attributed to superfast broadband to date.** The projected estimate reported at the interim stage was based on *all* businesses connected at the time of the research (i.e. including those that had been connected for less than 12 months); this estimate has been reproduced here for comparison purposes. Based on the total number of businesses connected in March 2014, and again assuming that take up is reflective of omnibus survey respondents, it is estimated that 1181.8 new FTE and £47.4 million could be attributable to superfast broadband.

Again assuming that the sectoral composition of the survey respondents is reflective of the total number of businesses that will be connected at the end of the project (10,000 target), **the forecast estimate of the total number of FTE is 2302.4 and £92.4 million GVA.** Although the forecasted number of jobs created is very similar (2308), the estimated GVA is £24.1m lower than that reported at the midterm stage (£116.6m). This reflects the sensitivity of this analysis to the sample size and composition, and this estimate is reproduced here to provide insight into how current performance levels may translate into final project impacts. It is not intended to represent a robust estimate of it. Nevertheless, the consistency in the forecasted number of jobs is positive, particularly given that the targets were set amidst very different economic conditions.

Table Four: Estimated Impact of Jobs Created

	Survey Sample (205)	All Businesses Connected March 2014 (5133)	Businesses Connected for 12 Months + March 2014 (2656)	Forecasted Connected Businesses (10,000)	Project Target
FTE Jobs Created	47.2	1181.8	611.5	2302.4	Gross increase - 4,000 Net additional – 2,835
GVA derived from job creation	£1,894,472	£47,435,748	£24,544,973	£92,413,302	Gross increase - £140m Net additional – £99.2m

Safeguarded Jobs

Based on the analysis of all four survey waves, 15.6% (35) of businesses attributed a safeguarded job to superfast broadband. **A total of 52 jobs were estimated to have been safeguarded because of superfast broadband**, an average 0.3 jobs per connected businesses (based on the 171 businesses providing an estimate of numbers). **An estimated £2.1m safeguarded GVA can therefore be attributed to superfast broadband.**

¹⁸ Where a range was provided, a mid-point of that range was used in the calculation. All qualitative responses (i.e. numbers have increased/decreased) have been excluded. The 205 survey sample therefore reflects only those businesses that provided a valid response.

Based on the assumption that the sectoral take up of superfast broadband in the omnibus survey reflects that of the 2656 businesses estimated to be connected to superfast for 12 months or longer to date, **807.7 safeguarded FTEs and £33.3 million safeguarded GVA can be attributed to superfast broadband to date.** Again, for comparative purposes, an estimate based on all businesses connected to date was also calculated. This estimate suggests that 1560.9 FTE and £64.4 million GVA have been safeguarded.

Again assuming that the sectoral composition of the survey respondents is reflective of the total number of businesses that will be connected at the end of the project (10,000 target), **the forecast estimate of the total number of FTE safeguarded is 3040.9 and £125.4 million safeguarded GVA.** These estimates are summarised in Table Five. The forecasted number of safeguarded jobs and safeguarded GVA are both lower than that estimated at the midterm stage (4180, £166.2m). Again, these differences are likely to be attributed to the sensitivities of the estimates to the sample size and composition.

Table Five: Estimated Number of Jobs Safeguarded

	Survey Sample (171)	All Connected Businesses March 2014 (5133)	Businesses Connected for 12 Months + March 2014 (2656)	Forecasted Connected Businesses (10,000)	Target ¹⁹
FTE Jobs Safeguarded	52	1560.9	807.7	3040.9	Gross - 2,000
GVA safeguarded	£2,144,981	£64,387,069	£33,316,200	£125,437,502	Net additional - £70.0m

Although the estimated number of jobs created and safeguarded are based on the changes attributed to superfast broadband, they do not take into account other net additionality adjustment factors (displacement, substitution, leakage and indirect/induced economic effect multipliers). They therefore represent the attributed rather than net estimate.²⁰ It is anticipated that a fuller additionality assessment will be conducted at the final evaluation stage as the number of connected businesses completing the omnibus business survey increases.

Supporting Business Start-Ups

In addition, to creating and safeguarding jobs, the midterm evaluation found that the availability of superfast broadband was an important factor in the decision of five people completing a consumer survey to start-up a businesses in Cornwall. As this highlights the different ways in which the upgraded digital infrastructure can enhance the county's economic performance, both the business omnibus and consumer surveys have been amended (following the midterm evaluation) to capture additional understanding of the influence of superfast broadband on start-ups.

The internet had been used to set up a business in 13.2% (29) of connected households,²¹ compared to 10.3% (22)²² of households that use the internet but have not upgraded to superfast. Where the individual respondent had themselves set up a businesses (rather than another member of their household), they were asked to indicate the extent to which superfast broadband had

¹⁹ Net FTE Jobs Safeguarded and gross GVA safeguarded are not contracted project outputs.

²⁰ A gross estimate reports the total increase or decrease in employee numbers and does not provide any understating of the project's impact. The attributed estimate considers the total increase or decrease in employee numbers attributed to superfast (minus the deadweight or what would have happened anyway) and provides an insight into the impact of the project. A net estimate is the total increase and decrease in jobs attributable to superfast and adjusted for displacement, substitution and the economic multiplier.

²¹ Based on a sample size of 220 (waves 1, 2 and 3).

²² Based on a sample size of 213 (waves 1, 2 and 3).

influenced their start-up decision. A total of 7²³ connected consumers (out of the 18 respondents who had themselves started a business) reported that superfast broadband was an influencing factor in their decision to start-up a business. Assuming that the influence of superfast broadband was similar for the 11 other household members who used the internet to set up a business (but did not complete the survey), it is estimated that superfast broadband was a factor in the decision to start-up 11.3 businesses.

Additional details on the type of business established is available for two of these respondents (those consumers who completed the latest survey wave): one was an eBay business, which had not been considered before connecting to superfast broadband; and the second was a photography and wedding business that had been planned before connecting. Although the running of the photography and wedding business was now the main occupation of the surveyed consumer, as start-up was planned before superfast broadband, the job created as a result cannot be directly attributed to the project.

In addition, three businesses established within the roll out period, and completing more recent omnibus survey waves, stated that the availability of superfast broadband was an influential factor in their decision to start a business. These businesses operated in the professional, scientific and technical, information and communication, and finance and insurance sectors therefore highlighting the importance of an enhanced digital infrastructure to all sectors.

Although these numbers are small, they are nevertheless important in helping to understand the economic impact of the Superfast Cornwall investment. In demonstrating the appeal of a faster and more reliable internet connection to businesses, this finding also highlights the potential importance of superfast broadband to ongoing inward investment campaigns.

Summary

The Perceived Benefits

- Over three quarters of businesses (79.0%, 177) reported that superfast broadband had saved their business time and/or money and over half (51.8%, 166) felt that it had enabled business growth.
- Overall, 87.1% (195) perceived that superfast broadband had brought about at least one benefit for their business.

Turnover, Costs and Profit

- The average change in turnover in the last two financial years was higher for connected businesses (£140,154) than non-connected businesses (-£10,146).
- 17.4% (39) attributed an increase in turnover and 20.5% (46) increased profits to superfast broadband. Conversely, 3.1% (7) attributed a decrease in profit to superfast broadband.
- 41.5% (93) reported experiencing reduced costs as a result of connecting to superfast broadband, but 8.0% (18) experienced increased costs.
- The turnover data captured by the omnibus business survey has not been used to estimate GVA because of its sensitivity to individual businesses and the need to use national rather Cornwall based GVA/turnover ratios. Instead, employment data was used to prepare a more robust estimate.

²³ An additional consumer reported that superfast broadband was an influencing factor but stated that their business was established over 20 years ago. They have therefore been excluded from the above analysis.

Employment

- As at the midterm stage, a higher proportion of connected businesses had increased their employee numbers than non-connected businesses over the last two years (at the time of survey completion).
- 9.8% (22) of connected businesses attributed a proportion of the change in employee numbers to superfast broadband; 19 of whom experienced an increase in numbers and three a decrease.
- These findings support previous research that the increased productivity enabled by superfast broadband is likely to have differential impacts on employment, with some businesses experiencing job gains and others losses.
- 15.6% (35) of businesses attributed a safeguarded job to superfast broadband.
- Overall, 21.0% (47) of all connected businesses attributed either a safeguarded or created job to superfast broadband.
- The table below updates the midterm findings and shows the number of jobs created and safeguarded, based on survey results, grossed up from the survey sample to the estimated total number of businesses connected in March 2014, the total number connected for 12 months or longer, and then projecting forwards to the number of businesses connected at the end of the project.

	Survey Sample (205¹/171²)	All Connected businesses March 2014 (5133)	Businesses Connected for 12 Months + March 2014 (2656)	Forecasted Connected Businesses (10,000)	Project Target
FTE Jobs Created¹	47.2	1181.8	611.5	2302.4	Gross increase - 4,000 Net additional – 2,835
GVA derived from job creation¹	£1,894,472	£47,435,748	£24,544,973	£92,413,302	Gross increase - £140m Net additional – £99.2m
FTE Jobs Safeguarded²	52	1560.9	807.7	3040.9	Gross - 2,000
GVA Safeguarded²	£2,144,981	£64,387,069	£33,316,200	£125,437,502	Net additional - £70.0m

Summary (Continued)

- The consumer survey has provided additional insight into the different ways in which superfast broadband can impact on the local economy. The availability of the upgraded connection emerged as a factor in the decision of consumers to set up a business.
- Based on the data from 220 completed consumer surveys, superfast broadband has been a factor in the start-up of 11.3 businesses (please note, not all consumer led start-ups were asked this question and this figure is based on the assumption that all were influenced in the same way by the availability of superfast broadband).

Commentary

As the available sample size was small, it was unknown if the findings reported at the midterm stage were reflective of early adopters rather than the wider connected business population. Although there are differences in the estimates of economic impact, particularly the end of project projections, further survey waves will inform understanding of the extent to which they are the result of sample composition rather than sample size.

Nevertheless, the findings presented in this report reiterate those presented at midterm: superfast broadband is enabling businesses to create and safeguard jobs and therefore continues to have a positive effect on Cornwall's economy.

The combined GVA contribution arising from the jobs created and safeguarded is estimated to be over £4million. In considering these estimates, it is important to restate that the project's targets were set in a different economic context and therefore it is perhaps to be expected that there would be a shift towards a higher number of safeguarded than created jobs.

Furthermore, they do not consider any GVA changes which may have been derived from the consumer led business start-ups nor that from any business that may have increased their GVA contribution but not their employee numbers. Indeed, the longitudinal business survey, which collected direct GVA estimates from a sample of businesses, found that of the 30 businesses which provided GVA data, six businesses registered an increase in gross GVA since connecting to superfast broadband while their employee numbers remained static or declined (SERIO, 2014). The total gross GVA increase for these businesses was estimated at £63,378.

However, despite the positive findings, it is important that CDC continue to raise awareness of the opportunities presented by superfast broadband and business support organisations more broadly deliver the necessary support to exploit them. This will help to ensure that performance against its targets is optimised.

4. Conclusions

This report updates key findings presented at the midterm evaluation stage, particularly in relation to the economic impact of Superfast Cornwall. In drawing upon a larger sample of connected businesses, this report provides a more robust understanding of how businesses are responding to the opportunities presented by superfast broadband and the impact it is having on them. Overall, the findings confirm that the Superfast Cornwall project is already having a positive impact on the local economy. In this final section, the conclusions that can be drawn from the report, and associated recommendations for the remainder of the project, are presented.

Conclusions

- **Changing and increasing internet use:**

The available evidence indicates that some businesses are using more internet functions since upgrading to superfast broadband. This is most notable for cloud computing, with just under half of all businesses reporting use only after upgrading. As stated in the midterm evaluation report, increased use of cloud computing has been estimated to support the creation of up to 35,000 SMEs in the UK (Etro, 2009, cited in SQW, 2013). In addition to its economic benefits, cloud-based implementations lower carbon emissions (Accenture and WSP, 2010, cited in SQW, 2013) and therefore also generates environmental benefits.

Where internet functions had been used previously, businesses were using them more since connecting to superfast broadband. This is most notable for video and web conferencing (where over 80% reported increased use), which again is likely to generate further environmental benefits by reducing travel.

A minority of businesses were also adopting new electronic processes and systems since upgrading to superfast broadband, and where they had been used previously, using them more often.

Although these findings are positive, it is important to emphasise that not all connected businesses were using all available internet functions. Of course there will be differences in patterns of use to reflect business needs, but the available evidence indicates that **there is still scope to increase awareness of the opportunities presented by superfast broadband and provide the support required to exploit them**. The Superfast Cornwall delivery project includes a budget for demand stimulation activities and this will be used to continue raising awareness throughout the remainder of the project. However, enabling businesses to maximise the transformational potential presented by superfast broadband requires a wider package of business support. The need for such support has been highlighted within the recently published EU Structural and Investment Fund (Cornwall and Isles of Scilly LEP, 2014) and therefore demonstrates the need for a Cornwall-wide response to support needs. In the absence of such demand stimulation and support provision, the transformational potential of the enhanced digital infrastructure will not be maximised.

- **Superfast broadband is benefiting businesses:**

The omnibus business survey explores the economic impact of superfast broadband in a number of different ways, including determining perceptions of the benefits it has brought about. Positively, a large majority felt that superfast broadband was benefitting their business in at least one of the ways explored in the survey. The most commonly reported benefits were that it had saved their business time and/or money and that it was enabling their business to work in new and different ways. Therefore, superfast broadband is increasing the efficiency in a majority of connected businesses and enhancing the ability to innovate. The case studies prepared at the midterm evaluation stage highlighted some of the ways in which connected businesses were now able to offer new or enhanced services. These included for example,

Driftwood Spars, who were now offering dinners with winemakers in South Africa, New Zealand and France via video conferencing. **Continued demand stimulation and associated support activities are likely to increase the proportion of connected businesses experiencing such benefits.**

In addition, almost half of businesses felt that superfast broadband had allowed employees to work remotely and/or more efficiently from home. Not only will this strengthen flexible working practices but it is also likely to yield positive environmental benefits. The Superfast Cornwall team have commissioned a separate piece of research to further explore the environmental impacts of the project; this research will therefore strengthen understanding of such impacts.

- **Superfast broadband is having an impact on business performance:**

The omnibus survey has explored the impact of superfast broadband on business performance and found that a small proportion of businesses were attributing increased turnover, profit and reduced costs to their upgraded connection. Although the reported proportions are lower than that presented in the midterm report, this is likely to reflect the increased sample size upon which the current analysis is based. As such, the findings presented here are likely to be more accurate.

- **Superfast broadband is creating and safeguarding jobs:**

Through increasing the efficiency of working practices, market access and productivity more generally, superfast broadband is creating and safeguarding jobs. A total of 49.7 jobs were reported to have been gained (based on 16 businesses providing an estimate) for these reasons. Conversely, increased productivity led to a loss of 2.5 jobs (based on three businesses providing an estimate and representing an overall gain of 47.2 jobs) for the same reasons, therefore demonstrating how increased productivity can have differential impacts on employment locally.

In addition, a total of 52 jobs were estimated to have been safeguarded because of superfast broadband (based on 171 businesses providing an estimate). Overall, 21.0% (47) of all connected businesses attributed either a created or safeguarded job to superfast broadband. The GVA derived from the jobs created and safeguarded is estimated to be in excess of £4 million. Therefore, it is evident that superfast broadband has already had a positive impact on the Cornish economy.

The average number of jobs created and safeguarded by the survey sample have been used to forecast performance at the end of the project. Such a projection is based on the assumption that the sample characteristics are representative of all connected businesses, an assumption that can only be tested at the final evaluation stage. The current rate of job creation and GVA derived from this is likely to be less than required to achieve project targets. However, as concluded in the midterm report, these targets were set during a very different economic climate and it would be expected that there would be a shift from jobs created to jobs safeguarded. **Again, supporting businesses to take advantage of the transformation opportunities now available to them is likely to maximise Superfast Cornwall's performance against its targets.**

The projected estimate of the number of safeguarded jobs based on the forecasted number of connected businesses at the end of the project is lower than that reported in the interim evaluation (3040.9 compared to 4180). The number of forecasted jobs created is also lower, albeit very slightly (2302.4 compared to 2308 at the interim stage). This may reflect differences in sample composition but also the increased accuracy of the current estimate (which is based on a larger sample).

- **Superfast broadband is an influencing factor in the decision to start-up a business:**

The available evidence suggests that superfast broadband is also benefitting the local economy through influencing the decision of consumers to start-up a business. The consumer survey found that, although individuals may have considered starting a business prior to the availability of superfast broadband, it was an important factor in making the decision to start-up. This illustrates the importance of a fast and reliable internet connection to businesses and therefore the importance of superfast broadband to ongoing inward investment campaigns.

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Appendix A: Evaluation Approach and Progress to Date

Tool	Description	Timing (as specified at baseline)	Update
CRM System	A database containing a large proportion of businesses in Cornwall. Captures information on enabled areas and connected businesses. Project officers record business connections by visiting businesses and encouraging them to connect as well as obtaining information via conversations with connected businesses. It is also further populated with BT connection data (where available) and upgrades from Mint.	Continuous	As at March 2014, the CRM had captured 1950 connected business records.
Omnibus Business Survey	A random sample of businesses that have connected to superfast broadband for 12 months or longer are drawn from those businesses in enabled areas and invited to complete a telephone survey. The survey captures data relevant to a wide range of indicators, including economic impacts, usage and satisfaction. Businesses that have been connected for less than 12 months are asked if they are happy to be contacted again in the future. Those that are not yet connected are asked questions about why they have not connected.	Quarterly	Marketing Means has been commissioned by the CDC project team to conduct the omnibus survey fieldwork. The survey was designed in partnership by CDC and the SERIO/Buckman Associates team. Four survey waves have been completed to date, the first in September 2012, the second between April and May 2013, the third in December 2013 and the fourth in February 2014. A total of 224 businesses connected for 12 months or longer have completed the survey.
Longitudinal Business Survey	Businesses willing to take place in a follow up survey are identified via the omnibus survey to enable tracking in changes of business use and benefits over time.	Annually	SERIO have now been commissioned by CDC to conduct the longitudinal survey. The first wave of data collection was completed in March 2014 and the second is scheduled for February/March 2015. The findings from the first wave, which was completed by 63 businesses, will be summarised in a report due in April 2014.

Tool	Description	Timing (as specified at baseline)	Update
Counterfactual Business Survey	A random sample of businesses that have not connected to superfast broadband in Cornwall, and eventually beyond, are invited to complete a telephone survey. This survey will collect comparable data to that in the omnibus survey to enable an assessment of the additionality of any benefits shown in the omnibus survey.	Annually	Marketing Means have been commissioned by the CDC project team to conduct the omnibus survey fieldwork. The survey was designed in partnership by CDC and the SERIO/Buckman Associates team. Two waves of the survey have been completed, the first in February 2013 and the second in February 2014. A total of 276 businesses that use the internet but are not connected to superfast broadband have now completed the survey.
Broad and Shallow Carbon Footprint	A web based carbon calculator has been developed to determine the carbon footprint of businesses and individuals not connected to superfast broadband. The calculator is designed to capture the carbon footprints of connected and non-connected businesses and individuals. There is a question in the details section to ask when they connected to superfast.	January – March 2012	As at April 2013, 100 people had registered to use the consumer calculators and 108 the business calculators.
Baseline Carbon Diaries	Consumers who have decided to connect to superfast broadband will be invited to complete a 1-week 'carbon diary' to provide detailed insight into their weekly travel prior to their connection.	January – March 2012	The approach to the environmental impact monitoring is under review and this work has not been progressed to date.
Carbon Follow-up	Those businesses participating in the carbon baseline work will be invited to participate in 12 monthly follow-ups after connecting to superfast broadband to reassess their carbon footprints.	Annually	A start date for this work has not yet been scheduled by CDC.
Business Take-up Survey	A random telephone survey of businesses will take place at the end of the roll out period to establish take up.	2015	N/A

Tool	Description	Timing (as specified at baseline)	Update
Consumer Survey	A random sample of consumers will be invited to participate in a quarterly telephone survey to establish the social and economic impacts on consumers.	Quarterly	<p>Marketing Means have been commissioned by the CDC project team to conduct the consumer survey fieldwork. The survey was designed in partnership by CDC and the SERIO/Buckman Associates team.</p> <p>Three survey waves have been completed to date, the first in September 2012, the second in April-June 2013 and a third in January 2014. A total of 220 surveys have been completed with consumers connected to superfast broadband for six months or longer.</p>
Stakeholder Interviews	Stakeholders in Cornwall will be invited to participate in an interview at the baseline, midterm and final evaluation stages. The interviews will explore perceptions of the project and its impact.	Baseline, midterm and final evaluation stages	A total of 13 stakeholder interviews were completed at the baseline stage and a further 30 at the midterm.
Counterfactual Stakeholder Interviews	Stakeholders in the three comparator areas will be invited to participate in an interview at the midterm and final evaluation stages. The interviews will collect information that is comparable to that within the Cornwall stakeholder interviews to inform the assessment of the counterfactual.	Midterm and final evaluation stages	A total of seven counterfactual stakeholder interviews were completed at the midterm stage.
Stakeholder Focus Group	Cornwall stakeholders will be invited to participate within a focus group to further explore perceptions of Superfast Cornwall's impact and how the infrastructure can be built upon in the future.	Midterm evaluation stage	A total of 14 stakeholders participated in a focus group in June 2013.
Business Case Studies	To capture additional and detailed information on the impact of superfast broadband on businesses, telephone case study interviews with connected businesses were conducted.	Midterm evaluation stage	A total of four business case study interviews were completed in May 2013.

Appendix B: Business Omnibus Survey Sample Composition

As stated in Section One of the report, a total of 224 businesses that have been connected to superfast broadband for 12 months or longer have now completed the omnibus survey as follows:

- 18 in wave one;
- 70 in wave two;
- 81 in wave three; and
- 55 in wave four.

The characteristics of the business respondents are summarised in this appendix.

Table B1: Age of Business by Survey Wave

	Survey wave				Total
	1	2	3	4	
Don't know	0	0	1	1	2
	0.0%	0.0%	1.2%	1.8%	0.9%
Within the last year	0	1	0	0	1
	0.0%	1.4%	0.0%	0.0%	0.4%
Over 1 year, up to 2 years ago	0	3	2	1	6
	0.0%	4.3%	2.5%	1.8%	2.7%
Over 2 years, up to 3 years ago	0	3	3	2	8
	0.0%	4.3%	3.7%	3.6%	3.6%
Over 3 years, up to 4 years ago	1	3	2	0	6
	5.6%	4.3%	2.5%	0.0%	2.7%
Over 4 years, up to 5 years ago	0	3	1	1	5
	0.0%	4.3%	1.2%	1.8%	2.2%
Over 5 years, up to 10 years ago	7	13	18	4	42
	38.9%	18.6%	22.2%	7.3%	18.8%
Over 10 years, up to 20 years ago	2	21	21	23	67
	11.1%	30.0%	25.9%	41.8%	29.9%
Over 20 years ago	7	20	30	22	79
	38.9%	28.6%	37.0%	40.0%	35.3%
Refused	1	3	3	1	8
	5.6%	4.3%	3.7%	1.8%	3.6%
Total	18	70	81	55	224
	100.0%	100.0%	100.0%	100.0%	100.0%

Base: All Respondents (n=224)

Table B2: Industry of Operation by Survey Wave

	Survey wave				Total
	1	2	3	4	
Accommodation and food services	5	6	14	10	35
	27.8%	8.6%	17.3%	18.2%	15.6%
Administration and support services	2	6	1	0	9
	11.1%	8.6%	1.2%	0.0%	4.0%
Agriculture, forestry and fishing	1	0	6	2	9
	5.6%	0.0%	7.4%	3.6%	4.0%
Arts, entertainment and recreation	3	10	3	1	17
	16.7%	14.3%	3.7%	1.8%	7.6%
Construction	2	5	3	1	11
	11.1%	7.1%	3.7%	1.8%	4.9%
Education	0	0	2	0	2
	0.0%	0.0%	2.5%	0.0%	.9%
Electricity, gas and air-conditioning supply	0	2	0	0	2
	0.0%	2.9%	0.0%	0.0%	.9%
Finance and insurance	1	0	3	2	6
	5.6%	0.0%	3.7%	3.6%	2.7%
Health and social work	0	4	3	2	9
	0.0%	5.7%	3.7%	3.6%	4.0%
Information and communication	1	8	9	7	25
	5.6%	11.4%	11.1%	12.7%	11.2%
Manufacturing	0	7	5	4	16
	0.0%	10.0%	6.2%	7.3%	7.1%
Mining and quarrying	1	0	0	0	1
	5.6%	0.0%	0.0%	0.0%	.4%
Other	1	5	4	1	11
	5.6%	7.1%	4.9%	1.8%	4.9%
Other support services	0	0	0	6	6
	0.0%	0.0%	0.0%	10.9%	2.7%
Professional, scientific and technical	1	5	10	6	22
	5.6%	7.1%	12.3%	10.9%	9.8%
Real estate	0	2	3	3	8
	0.0%	2.9%	3.7%	5.5%	3.6%
Refused	0	3	4	1	8
	0.0%	4.3%	4.9%	1.8%	3.6%
Transport and storage	0	1	2	3	6
	0.0%	1.4%	2.5%	5.5%	2.7%
Wholesale and retail	0	6	9	6	21
	0.0%	8.6%	11.1%	10.9%	9.4%
Total	18	70	81	55	224
	100.0%	100.0%	100.0%	100.0%	100.0%

Base: All Respondents (n=224)

Table B3: Growth Aspirations by Survey Wave

	Survey wave				Total
	1	2	3	4	
Plan to contract (reduce in size)	1	2	8	4	15
	5.6%	2.9%	9.9%	7.3%	6.7%
Plan to remain about the same	4	18	20	14	56
	22.2%	25.7%	24.7%	25.5%	25.0%
Would like to expand but have no clear or definite plans	2	8	13	2	25
	11.1%	11.4%	16.0%	3.6%	11.2%
A planned steady rate of growth	11	30	27	27	95
	61.1%	42.9%	33.3%	49.1%	42.4%
A planned high rate of growth	0	5	4	5	14
	0.0%	7.1%	4.9%	9.1%	6.3%
Other/ Something else	0	1	2	0	3
	0.0%	1.4%	2.5%	0.0%	1.3%
Don't know	0	6	7	3	16
	0.0%	8.6%	8.6%	5.5%	7.1%
Total	18	70	81	55	224
	100.0%	100.0%	100.0%	100.0%	100.0%

Base: All Respondents (n=224)

Appendix C: Counterfactual Business Survey Sample Composition

As stated in Section One of the report, a total of 276 businesses that use the internet but had not upgraded to superfast broadband have now completed the counterfactual business survey as follows:

- 140 in wave one; and
- 136 in wave two.

The characteristics of the business respondents are summarised in this appendix.

Table C1: Age of Business by Survey Wave

	Survey wave		Total
	June 2013	Feb 2014	
Within the last year	1	1	2
	.7%	.7%	.7%
Over 1 year, up to 2 years ago	4	2	6
	2.9%	1.5%	2.2%
Over 2 years, up to 3 years ago	4	2	6
	2.9%	1.5%	2.2%
Over 3 years, up to 4 years ago	4	5	9
	2.9%	3.7%	3.3%
Over 4 years, up to 5 years ago	2	1	3
	1.4%	.7%	1.1%
Over 5 years, up to 10 years ago	26	26	52
	18.6%	19.1%	18.8%
Over 10 years, up to 20 years ago	36	30	66
	25.7%	22.1%	23.9%
Over 20 years ago	56	68	124
	40.0%	50.0%	44.9%
Don't know	3	1	4
	2.1%	.7%	1.4%
Refused	4	0	4
	2.9%	0.0%	1.4%
Total	140	136	276
	100.0%	100.0%	100.0%

Base: All Respondents (n=276)

Table C2: Industry of Operation by Survey Wave

	Survey wave		Total
	June 2013	Feb 2014	
Accommodation and food services	15	30	45
	10.7%	22.1%	16.3%
Administration and support services	4	2	6
	2.9%	1.5%	2.2%
Agriculture, forestry and fishing	11	25	36
	7.9%	18.4%	13.0%
Arts, entertainment and recreation	16	4	20
	11.4%	2.9%	7.2%
Construction	5	5	10
	3.6%	3.7%	3.6%
Education	1	1	2
	.7%	.7%	.7%
Electricity, gas and air-conditioning supply	0	1	1
	0.0%	.7%	.4%
Finance and insurance	5	2	7
	3.6%	1.5%	2.5%
Health and social work	5	3	8
	3.6%	2.2%	2.9%
Information and communication	2	1	3
	1.4%	.7%	1.1%
Manufacturing	4	7	11
	2.9%	5.1%	4.0%
Other	32	0	32
	22.9%	0.0%	11.6%
Other service activities	2	11	13
	1.4%	8.1%	4.7%
Professional, scientific and technical	8	0	8
	5.7%	0.0%	2.9%
Professional, scientific and technical activities	0	5	5
	0.0%	3.7%	1.8%
Real estate	4	6	10
	2.9%	4.4%	3.6%
Refused	4	0	4
	2.9%	0.0%	1.4%
Transport and storage	4	4	8
	2.9%	2.9%	2.9%
Water supply and sewerage	1	0	1
	.7%	0.0%	.4%
Wholesale and retail	17	29	46
	12.1%	21.3%	16.7%

	Survey wave		Total 276
	June 2013	Feb 2014	
	140	136	
Total	100.0%	100.0%	100.0%

Base: All Respondents (n=276)

Table C3: Growth Aspirations by Survey Wave

	Survey wave		Total
	June 2013	Feb 2014	
Plan to contract (reduce in size)	5 3.6%	4 2.9%	9 3.3%
Plan to remain about the same	47 33.6%	42 30.9%	89 32.2%
Would like to expand but have no clear or definite plans	8 5.7%	20 14.7%	28 10.1%
A planned steady rate of growth	61 43.6%	54 39.7%	115 41.7%
A planned high rate of growth	2 1.4%	7 5.1%	9 3.3%
Don't know [DO NOT READ OUT]	13 9.3%	7 5.1%	20 7.2%
Other/ Something else	4 2.9%	2 1.5%	6 2.2%
Total	140 100.0%	136 100.0%	276 100.0%

Base: All Respondents (n=276)



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