

## Swansea Bay City Deal

# Swansea Bay City Deal Digital Infrastructure Investment FY2022-23

**Final Report** 





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## 1. Introduction

## 1.1 Background

The Swansea Bay City Deal (SBCD) has a number of digital elements within its programme to improve the local economic and social circumstances of the region. As part of the funding of the SBCD, the programme team is required to report on a number of outcomes. This report is concerned specifically with the levels of investment in digital infrastructure, seen as an essential part of improving the social and economic performance of the region.

Within the initial SBCD Digital Infrastructure Programme Business Case, work was done to provide an overview of the projected Digital Infrastructure Programme Investment within the region over the course of the programme (Table 1).

FY	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	Total
SBCD	£532,070	£8,402,392	£8,402,392	£6,402,392	£902,392	£358,364	£25,000,000
Public Sector	£2,350,000	£2,700,000	£2,700,000	£2,700,000	£2,700,000	£350,000	£13,500,000
Private Sector	-	£6,500,000	£4,500,000	£4,500,000	£1,000,000	-	£16,500,000
Total	£2,882,070	£17,602,392	£15,602,392	£13,602,392	£4,602,392	£708,364	£55,000,000

 Table 1: Projected Digital Infrastructure Programme Investment Overview (Source: SBCD Digital Infrastructure

 Programme Business Case, March 2022)

### **1.2 Document Structure**

This report is split into two main sections:

- Approach this section sets out the approach taken to assess the level of public and private sector investment for both fixed and mobile infrastructure. It details any assumptions required as well as the data sources used to establish the indicated improvement in the level of infrastructure. This approach is in line with that undertaken within the previous year as part of the SBCD reporting requirement.
- 2022-23 Analysis this section applies the data and assumptions captured in the approach to the Financial Year 2022-23. To remain consistent with SBCD reporting requirements and the associated business case, investment is split into three distinct high-level sources: SBCD; Public Sector; and Private Sector.



## 2. Approach

This section sets out the approach taken to assess the level of public and private sector investment for both fixed and mobile infrastructure in FY2022-23. It details any assumptions required as well as the data sources used to establish the indicated improvement in the level of infrastructure. It is important to recognise that this approach is in line with that undertaken within the previous year (FY2021-22) as part of the SBCD reporting requirement.

## 2.1 Digital Connectivity Assessment

The initial stage in assessing the investment in digital infrastructure in the region examines the changes in Digital Connectivity from the previous year - both fixed and mobile. Results for 2022-23 are taken from the Summer (May) 2023 Ofcom Connected Nations Report and refer to availability in May 2023. This is done for each of the region's four Local Authorities as well as for Wales and the UK for reference.

#### 2.1.1. Fixed Connectivity

Table 2 sets out the changes in fixed connectivity, including changes in Superfast (above 30Mbps) and Gigabit coverage (1 Gbps) and Full Fibre coverage. For completeness, information is also provided on the number of premises that are unable to get 'decent broadband' as defined by Ofcom as premises with a sub 10Mbps download speed.

	Total number of	Unable to g broadband		Supe	erfast	Full I	ibre	Gig	abit
	premises	Coverage	Premises	Coverage	Premises	Coverage	Premises	Coverage	Premises
Swansea									
2020-21	118,819	0.6%	703	97.5%	115,811	30.6%	36,380	30.6%	36,388
2021-22	118,948	0.5%	577	98.1%	116,738	33.8%	40,207	78.2%	93,009
2022-23	119,131	0.5%	573	98.3%	117,123	45.1%	53,787	81.5%	97,102
Last year change	+183	-0.0%	-4	+0.2%	+385	+11.3%	+13,580	+3.3%	+4,093
Carmarthenshire									
2020-21	93,256	6.5%	6,042	86.6%	80,797	24.2%	22,573	24.2%	22,573
2021-22	93,885	5.2%	4,905	89.0%	83,553	42.5%	39,916	42.5%	39,919
2022-23	94,336	4.4%	4,194	90.6%	85,514	51.0%	48,142	51.0%	48,144
Last year change	+451	-0.8%	-711	+1.6%	+1,961	+8.5%	+ <i>8,226</i>	+8.5%	+8,225
Neath Port Talbot	:								
2020-21	68,958	0.4%	286	97.0%	66,905	4.2%	2,882	29.7%	20,507
2021-22	69,046	0.4%	286	97.4%	67,236	7.8%	5,374	61.9%	42,722
2022-23	69,285	0.4%	245	97.8%	67,746	30.2%	20,939	69.3%	47,989
Last year change	+239	-0.0%	-41	+0.4%	+510	+22.4%	+15,565	+7.4%	+5,267



	Total Unable to get 'decent' number of broadband (<10Mbps)		Supe	Superfast		Full Fibre		abit	
	premises	Coverage	Premises	Coverage	Premises	Coverage	Premises	Coverage	Premises
Pembrokeshire	Pembrokeshire								
2020-21	65,855	6.4%	4,243	88.0%	57,953	6.8%	4,490	6.8%	4,495
2021-22	66,278	4.5%	2,974	90.6%	60,064	15.8%	10,505	15.8%	10,505
2022-23	66,658	3.6%	2,400	92.9%	61,905	31.7%	21,153	31.7%	21,153
Last year change	+380	-0.9%	-574	+2.3%	+1,841	+15.9%	+10,648	+15.9%	+10,648
SBCD Area Total									
2020-21	346,888	3.3%	11,274	92.7%	321,466	19.1%	66,325	24.2%	83,963
2021-22	348,157	2.5%	8,742	94.1%	327,591	27.6%	96,002	53.5%	186,155
2022-23	349,410	2.1%	7,412	95.1%	332,288	41.2%	144,021	61.4%	214,388
Last year change	1,253	-0.4%	-1,330	+1.0%	+4,697	+13.6%	+48,019	+7.9%	+28,233
Wales									
2020-21	1,535,457	3.4%	51,794	93%	1,434,871	23.1%	354,983	29.4%	450,879
2021-22	1,545,321	2.7%	41,432	95%	1,461,121	34.7%	535,901	47.6%	736,151
2022-23	1,555,294	2.4%	37,062	95.5%	1,485,267	48.9%	760,059	58.8%	914,562
Last year change	+9,973	-0.3%	-4,370	+0.9%	+24,146	+14.2%	+224,158	+11.2%	+178,411
UK									
2020-21	28,253,406	2.2%	611,035	95.1%	26,858,955	22.5%	6,343,011	38.0%	10,722,676
2021-22	28,559,727	1.7%	482,611	95.8%	27,365,327	36.1%	10,316,598	66.8%	19,074,711
2022-23	31,833,510	1.3%	428,031	96.6%	30,735,679	50.6%	16,096,417	73.6%	23,418,949
Last year change	+3,273,783	-0.3%	-54,580	+0.7%	+3,370,352	+14.4%	+5,779,819	6.8%	+4,344,238

Table 2: Fixed Connectivity Assessment (Source: Ofcom Connected Nations)

As can be seen from the results in Table 2, there have been significant changes in fixed connectivity across the region, in line with the national and UK averages. This will be used as a basis for assessing the size of investment in the region.

#### 2.1.2. Mobile Connectivity

For mobile connectivity, the comparison focusses on changes in 4G coverage by at least 1 network, and by all 4 networks. In addition to the information on 4G coverage, in this iteration of the study, additional comparisons are made concerning the infancy of 5G roll out within the region. Table 3 sets out the changes in mobile (4G / 5G) coverage.



Network         All A He Wolks         Not Spots         (High Confidence)         Very High Confidence)           Swansea         98%         85%         2%         -         .           2020-21         98%         85%         2%         45%         25%           2021-22         98%         85%         2%         45%         25%           2021-23         98%         85%         2%         59%         38%           Last year change         -         -         +14%         +13%           2020-21         93%         62%         7%         -         -           2020-21         93%         62%         7%         -         -           2020-21         93%         62%         7%         -         -           2021-22         95%         65%         5%         6%         4%           2022-23         95%         67%         5%         -         -           2020-21         95%         68%         5%         -         -           2020-21         95%         68%         5%         -         -           2020-21         95%         74%         2%         -         -			4G Coverage	5G (	Coverage	
2020-21         98%         85%         2%         -           2021-22         98%         85%         2%         45%         25%           2022-23         98%         85%         2%         59%         38%           Last year change         -         -         +14%         +13%           Carmathenshire         -         -         +14%         +13%           2020-21         93%         62%         7%         -         -           2020-22         95%         65%         5%         6%         4%           2020-21         95%         65%         5%         24%         18%           2021-22         95%         67%         5%         24%         18%           Last year change         -         +2%         -         +16%         14%           2020-21         95%         68%         5%         -         -           2021-22         96%         70%         4%         33%         14%           2021-23         98%         73%         2%         51%         30%           Last year change         +1%         44%         2%         5%         4% <t< th=""><th></th><th></th><th>All 4 networks</th><th></th><th></th><th>At least 1 Network (Very High Confidence)</th></t<>			All 4 networks			At least 1 Network (Very High Confidence)
2021-22         98%         85%         2%         45%         25%           2022-23         98%         85%         2%         59%         38%           Last year change         -         -         +14%         +13%           Carmarthenshire         95%         65%         5%         6%         4%           2020-21         95%         65%         5%         6%         4%           2021-22         95%         65%         5%         6%         4%           2021-23         95%         67%         5%         24%         18%           Last year change         -         +2%         -         +16%         +14%           2021-23         95%         68%         5%         -         -           2021-21         95%         68%         5%         -         -           2021-22         96%         70%         4%         33%         14%           2021-23         98%         73%         2%         51%         30%           Last year change         +2%         +3%         -2%         +16%         45%           2021-22         98%         74%         2%         -	Swansea					•
2022-23         98%         85%         2%         59%         38%           Last year change         -         -         +14%         +13%           Carmarthenshire         93%         62%         7%         -         -           2020-21         93%         62%         7%         -         -           2021-22         95%         65%         5%         6%         4%           2022-23         95%         67%         5%         24%         18%           Last year change         -         +2%         -         +18%         +14%           Neath Port Talbot         -         2%         -         +18%         +14%           2020-21         95%         68%         5%         -         -           2020-21         95%         68%         5%         -         -           2020-23         98%         73%         2%         51%         30%           Last year change         +2%         +3%         -2%         +18%         +16%           2020-21         98%         74%         2%         5%         4%           2021-22         98%         74%         2%         5%	2020-21	98%	85%	2%	-	-
Last year change         -         -         +14%         +13%           Carmathenshire         93%         62%         7%         -         -           2020-21         93%         62%         7%         -         -           2021-22         95%         65%         5%         6%         4%           2022-23         95%         67%         5%         24%         18%           Last year change         -         +2%         -         +18%         +14%           Neath Port Talbot         -         +2%         -         +18%         14%           2020-21         95%         68%         5%         -         -           2020-22         96%         70%         4%         33%         14%           2020-23         98%         73%         2%         51%         30%           Last year change         +2%         +3%         -2%         +18%         +16%           2020-21         98%         74%         2%         5%         4%           2021-22         98%         74%         2%         5%         4%           2021-23         99%         78%         1%         +26% <td>2021-22</td> <td>98%</td> <td>85%</td> <td>2%</td> <td>45%</td> <td>25%</td>	2021-22	98%	85%	2%	45%	25%
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2022-23         95%         67%         5%         24%         18%           Last year change         -         +2%         -         +18%         +14%           Neath Port Talbot         -         +2%         -         +18%         +14%           2020-21         95%         68%         5%         -         -           2021-22         96%         70%         4%         33%         14%           2022-23         98%         73%         2%         51%         30%           Last year change         +2%         +3%         -2%         +18%         +16%           Pembrokeshire         -         -         -         -         -           2020-21         98%         74%         2%         -         -           2020-22         98%         74%         2%         -         -           2020-21         98%         74%         2%         5%         4%           2021-22         98%         74%         1%         42%         +12%           2022-23         99%         60%         10%         -         -           2021-22         90%         60%         10%         1	2020-21	93%	62%	7%	-	-
Last year change         -         +2%         -         +18%         +14%           Neath Port Talbot         95%         68%         5%         -         -           2020-21         95%         68%         5%         -         -           2021-22         96%         70%         4%         33%         14%           2022-23         98%         73%         2%         51%         30%           Last year change         +2%         +3%         -2%         +18%         +16%           Pembrokeshire         98%         74%         2%         -         -           2021-22         98%         74%         2%         5%         4%           2022-23         99%         78%         1%         31%         25%           Last year change         +1%         +4%         +1%         +26%         +21%           Wales         90%         60%         10%         -         -           2021-22         90%         62%         10%         12%         8%           2022-23         91%         64%         9%         24%         18%           Last year change         +1%         +2%	2021-22	95%	65%	5%	6%	4%
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2022-23         98%         73%         2%         51%         30%           Last year change         +2%         +3%         -2%         +18%         +16%           Pembrokeshire         2020-21         98%         74%         2%         -         -           2020-21         98%         74%         2%         -         -         -           2021-22         98%         74%         2%         5%         4%           2022-23         99%         78%         1%         31%         25%           Last year change         +1%         +4%         +1%         +26%         +21%           Wales         -         -         -         -         -           2020-21         90%         60%         10%         -         -           2020-21         90%         62%         10%         12%         8%           2021-22         90%         62%         10%         12%         18%           Last year change         +1%         +2%         -1%         +10%           Last year change         +1%         +2%         -1%         +10%           2020-21         92%         69%         8	2020-21	95%	68%	5%	-	-
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Pembrokeshire         Pembrokeshire           2020-21         98%         74%         2%         -         -           2021-22         98%         74%         2%         5%         4%           2022-23         99%         78%         1%         31%         25%           Last year change         +1%         +4%         +1%         +26%         +21%           Wales         2020-21         90%         60%         10%         -         -           2020-21         90%         60%         10%         -         -         -           2020-21         90%         64%         9%         24%         18%           Last year change         +1%         +2%         -1%         +12%         +10%           UK         UK         2020-21         92%         69%         8%         -         -           2020-21         92%         69%         8%         -         -         -           2020-21         92%         69%         8%         -         -         -           2020-21         92%         69%         8%         17%         11%	2022-23	98%	73%	2%	51%	30%
2020-21         98%         74%         2%         -         -           2021-22         98%         74%         2%         5%         4%           2022-23         99%         78%         1%         31%         25%           Last year change         +1%         +4%         +1%         +26%         +21%           Wales         -         -         -         -         -           2020-21         90%         60%         10%         -         -           2021-22         90%         62%         10%         12%         8%           2022-23         91%         64%         9%         24%         18%           Last year change         +1%         +2%         -1%         +12%         +10%           UK         -         -         -         -         -         -           2020-21         92%         69%         8%         -         -         -           2020-21         92%         69%         8%         -         -         -           2021-22         92%         70%         8%         17%         11%	Last year change	+2%	+3%	-2%	+18%	+16%
2021-22         98%         74%         2%         5%         4%           2022-23         99%         78%         1%         31%         25%           Last year change         +1%         +4%         +1%         +26%         +21%           Wales         2020-21         90%         60%         10%         -         -           2021-22         90%         62%         10%         12%         8%           2022-23         91%         64%         9%         24%         18%           2022-23         91%         64%         9%         24%         18%           Last year change         +1%         +2%         -1%         +12%         +10%           UK         2020-21         92%         69%         8%         -         -         -           2020-21         92%         69%         8%         -         -         -         -           2020-21         92%         69%         8%         -         -         -         -           2021-22         92%         70%         8%         17%         11%         -	Pembrokeshire					
2022-2399%78%1%31%25%Last year change+1%+4%+1%+26%+21%Wales2020-2190%60%10%2021-2290%62%10%12%8%2022-2391%64%9%24%18%Last year change+1%+2%-1%+12%+10%UKU2020-2192%69%8%2021-2292%70%8%17%11%	2020-21	98%	74%	2%	-	-
Last year change+1%+4%+1%+26%+21%Wales2020-2190%60%10%2021-2290%62%10%12%8%2022-2391%64%9%24%18%Last year change+1%+2%-1%+12%+10%UK2020-2192%69%8%2021-2292%70%8%17%11%	2021-22	98%	74%	2%	5%	4%
Wales         90%         60%         10%         -         -           2020-21         90%         60%         10%         -         -           2021-22         90%         62%         10%         12%         8%           2022-23         91%         64%         9%         24%         18%           Last year change         +1%         +2%         -1%         +12%         +10%           UK         020-21         92%         69%         8%         -         -           2021-22         92%         70%         8%         17%         11%	2022-23	99%	78%	1%	31%	25%
2020-21         90%         60%         10%         -         -           2021-22         90%         62%         10%         12%         8%           2022-23         91%         64%         9%         24%         18%           2022-23         91%         64%         9%         24%         18%           Last year change         +1%         +2%         -1%         +12%         +10%           UK         UK         2020-21         92%         69%         8%         -         -           2021-22         92%         70%         8%         17%         11%	Last year change	+1%	+4%	+1%	+26%	+21%
2021-22         90%         62%         10%         12%         8%           2022-23         91%         64%         9%         24%         18%           Last year change         +1%         +2%         -1%         +12%         +10%           UK         2020-21         92%         69%         8%         -         -         -           2021-22         92%         70%         8%         17%         11%	Wales					
2022-23         91%         64%         9%         24%         18%           Last year change         +1%         +2%         -1%         +12%         +10%           UK         2020-21         92%         69%         8%         -         -           2021-22         92%         70%         8%         17%         11%	2020-21	90%	60%	10%	-	-
Last year change         +1%         +2%         -1%         +12%         +10%           UK         -	2021-22	90%	62%	10%	12%	8%
UK         92%         69%         8%         -         -           2020-21         92%         70%         8%         17%         11%	2022-23	91%	64%	9%	24%	18%
2020-21         92%         69%         8%         -         -           2021-22         92%         70%         8%         17%         11%	Last year change	+1%	+2%	-1%	+12%	+10%
2021-22         92%         70%         8%         17%         11%	UK					
	2020-21	92%	69%	8%	-	-
<b>2022-23</b> 93% 71% 7% 34% 26%	2021-22	92%	70%	8%	17%	11%
	2022-23	93%	71%	7%	34%	26%
Last year change         +1%         -1%         +17%         +15%	Last year change	+1%	+1%	-1%	+17%	+15%

 Table 3: Mobile Connectivity Assessment (Source: Ofcom Connected Nations)

<sup>&</sup>lt;sup>1</sup> Not Spots are assumed to exist where there is no available 4G signal. This is a result of low-to-no network availability from at least one mobile network provider. The numbers used here are supplied by Ofcom as a result of reporting directly from mobile providers.



## 2.2 Public Sector Funding

To understand the role of public investment in the region, data has been collected by the Digital Infrastructure Programme Team on the various public sector programmes including:

- Swansea Bay City Deal (both capital and revenue investment);
- Connected Places Local Full Fibre Networks Programme (LFFN) and Rural Gigabit Connectivity Programme (RGC) or connected via other Local Authority funding;
- Access Broadband Cymru Voucher Scheme (ABC);
- Gigabit Vouchers;
- Superfast Cymru;
- Mobile Connectivity Programs (e.g. Emergency Services Network (ESN) and Shared Rural Network (SRN));
- Other public sector digital programmes e.g. LoRaWAN projects.

To understand the impact of these public sector programmes on the overall connectivity picture in the SBCD region, the number of premises connected, as well as the total funding spent, will be utilised.

<u>Assumption 1:</u> Vouchers cover the entire cost of their connections: for simplicity, it is assumed that there is no additional private sector investment for the cost of connection for voucher premises and that a single voucher connects a single premise with no incremental connections resulting from the use of a voucher. It may be that subsequent reporting from the Department for Science, Innovation & Technology (DSIT) will change this assessment.<sup>2</sup>

### 2.3 Private Sector Funding

#### 2.3.1. Fixed Connectivity

To calculate the level of fixed connectivity that has occurred in the most recent year, a series of assumptions have been made considering factors such as overbuild, rural/ urban investment, and the network operator. These are set out below:

#### **Overbuild**

Overbuild in the context of fixed digital connectivity refers to the deployment of overlapping network infrastructure, particularly in areas where existing networks already provide sufficient coverage or capacity. It typically involves multiple providers building similar or identical infrastructure in the same geographic area. Overbuild can occur due to competitive pressures, regulatory factors, or market dynamics.

Within the analysis of the Swansea Bay City Deal region investment, the overbuild is in addition to the premises which have newly received a "Full Fibre" connection, as they may have already been able to connect

<sup>&</sup>lt;sup>2</sup> Source: <u>https://www.gov.uk/government/publications/evaluation-of-bduk-gigabit-vouchers-initial-impacts-and-benefits--2</u>



to another operator. Figures from the Ofcom's Planned Network Deployment data set indicate that by 2025, 78% of the premises across the region may have access to 2 or more operators, with 43% likely to have access to 3 or more.<sup>3</sup> Table 4 shows the regional breakdown.

	Proportion of premises expected to I	Proportion of premises expected to have Gigabit coverage by March 2025					
	With access to 2 or more operators	With access to 3 or more operators					
Swansea	91%	51%					
Carmarthenshire	64%	33%					
Neath Port Talbot	91%	58%					
Pembrokeshire	60%	17%					
SBCD Region	78%	43%					
Note: 2025 is the earliest year for which this information is available							

Table 4: Number of operators available to premises in 2025 (Source: Ofcom)

<u>Assumption 2</u>: For the purpose of the annual impact assessments, investment in overbuild has been estimated by taking the total number of new Full Fibre connections for FY2022-23 within each Local Authority area. This total new Full Fibre figure is multiplied by the portion of premises within each local authority with access to 2 or more operators (Table 4).

FY2022-23	Total Premises from Connected Nations with New 'Full Fibre' Connection	Additional Overbuild Connections	Total Connections Invested In
Swansea	13,580	12,567	26,147
Carmarthenshire	8,226	6,189	14,415
Neath Port Talbot	15,565	14,266	29,831
Pembrokeshire	10,648	7,981	18,629
SBCD Region	48,019	41,003	89,022

Table 5: Analysis of new and overbuild full fibre connections. (Source: FarrPoint)

It is worth noting that whilst during these annual impact assessments the amount of overbuild investment has been included and counted as being equal to that of new build Full Fibre connectivity, during the end of programme evaluation, an assessment will be made of the incremental impact of overbuild investment on outcomes such as employment, growth, etc. It is likely at this stage that this incremental benefit will be less than compared to a premise that has received no prior full fibre connectivity.

#### Network Operator

Firstly, the number of premises connected by the public sector are removed from the new connections figures (Table 5) as these are included within the public sector analysis.

Network and mobile operators are committed to providing gigabit enabled connectivity across the Swansea City Bay Region. This report provides figures that represents the number of premises passed <sup>4</sup> during

<sup>&</sup>lt;sup>3</sup> Source: <u>Connected Nations - Planned Network Deployment</u>

<sup>&</sup>lt;sup>4</sup> Note "premises passed" – residents may contact an Internet/Mobile Service Provider (I/MSP) to request a contracted service.



FY2022/23. Committed financial investment and further premises passed has not been included. Operators continue to build and invest in quality network infrastructure to future proof the region.

In 2021, Virgin Media O2 (VMO2) undertook its UK-wide programme to upgrade its network to ensure its entire fixed network of 15.6 million homes can access broadband with average download speeds of 1,130Mbps by the end of December 2021. Subsequently, VMO2 announced its intention to upgrade its fixed network to full fibre to the premises (FTTP) with completion in 2028.<sup>5</sup>

<u>Assumption 3:</u> Given the initial VMO2 upgrade to Gigabit was not classified as Full Fibre connectivity, it is assumed that all "Gigabit Connected" premises that do not have a "Full Fibre connection" are connected via VMO2. As the number of these is reducing in each local authority, this takes into account the roll out of FTTP to VMO2 premises.

For the remaining premises, in addition to the VMO2 premise upgrades, there have been investment and improvements in connectivity from a range of other suppliers across the region. All of these suppliers are contained within the Ofcom Connected Nations Data set, see the *Connected Nations' Methodology Annex.*<sup>6</sup> The Local Authority supplier engagement established that during the FY2022-23, the only networks active in deployment in the region were VMO2, Openreach, Netomnia and Ogi.

<u>Assumption 4:</u> 'Altnet' activity has been calculated through supplier engagement through each of the Local Authorities to ascertain figures on premises passed by each of the networks. The final premises that were neither connected by the two 'Altnet providers active in the region (Netomnia and Ogi), or by VMO2 are assumed to have been connected by Openreach. Note these figures are presented as "commercially delivered connections" as they have factored in multiple connections to the same premise due to overbuild, and do not include those delivered by public intervention.

FY2022-23	VMO2	Openreach	Netomnia	Ogi	Total Connections
Swansea	9,487	14,521	2,100	-	26,108
Carmarthenshire	1	13,279	-	-	13,280
Neath Port Talbot	10,298	10,720	8,545	-	29,563
Pembrokeshire	-	1,892	-	14,803	16,695
SBCD Region	19,786	40,412	10,645	14,803	85,646

 Table 6: Breakdown of Commercially delivered Local Authority (Source: Supplier engagement)

#### Rural/ Urban Investment

Subsequently, to understand the level of investment required to connect the premises (by any commercial supplier) that have not been connected by a Public Sector Programme, these premises have been split by urban and rural based on Census results<sup>7</sup>, shown in Table 7. Whilst it is recognised that this may not be the case, as a larger number of newly connected premises are likely to be classified as "rural", as some are on the

<sup>&</sup>lt;sup>5</sup> Source: <u>https://news.virginmediao2.co.uk/virgin-media-o2-investment-gives-welsh-customers-and-businesses-a-mobile-and-broadband-boost/</u>

<sup>&</sup>lt;sup>6</sup> Source: <u>https://www.ofcom.org.uk/\_\_\_data/assets/pdf\_file/0027/273717/connected-nations-2023-annex.pdf</u>

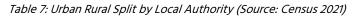
<sup>&</sup>lt;sup>7</sup> Source: ONS D1 – F2 <u>https://census.gov.uk/census-2021-results</u>



periphery of urban areas and others are will be further out, this approach will lead to a more reasonable average figure for the cost to be obtained.

<u>Assumption 5:</u> Given the company's historic delivery approach, it is assumed that all the Virgin Media O2 premises that are receiving an upgrade to FTTP are within an urban setting. For Openreach of premises being connected directly via FTTP, the analysis takes into account the difference in costs of connecting urban and rural premises, the Census' Urban: Rural split has been applied to the remaining commercially delivered premises.

	Urban: Rural	Population Density (people per Km2)
Swansea	88: 12	632
Carmarthenshire	60: 40	79
Neath Port Talbot	74: 26	322
Pembrokeshire	20: 80	76
Wales	64: 36	150
UK	84: 16	281



<u>Assumption 6:</u> The cost of an urban fixed connection utilised within the previous annual assessment<sup>8</sup> is multiplied by FY2022-23 annual CCPI Inflation to give an average cost of £215. Whereas, in line with the previous annual assessment, the cost of a rural fixed connection is in line with the average cost of a Superfast Cymru Programme Gigabit connection of £1,183 in FY2022-23.

As part of the engagement with Netomnia, they provided figures for investment in the region within each Local Authority area. These included the total investment being made in each Local Authority and the number of premises being passed within the programme. In addition to this, through engagement with Ogi, figures have been provided for total investment and premises passed within Pembrokeshire.

<u>Assumption 7:</u> The cost of a premises passed by Netomnia based upon their programme of investment within the region is such that in Swansea the connection cost is £208, in Carmarthenshire it is £195, and in Pembrokeshire it was £220. The total investment from Ogi in Pembrokeshire in FY2022-23 was c.£8.8 million.

#### 2.3.2. Mobile Connectivity

The information on private investment on the <u>mobile connectivity</u> side focusses around the planning applications and responses received by each of the four Local Authorities as shown in Table 8.

<u>Assumption 7:</u> FarrPoint's analysis indicates that the average cost of a typical micro infill (4G or 5G) site is c.£50k including materials for a 15m GDPO (General Permitted Development Order), planning, groundworks etc. For the larger macro cellular sites (to provide 4G or 5G), the average cost is assumed to be c.£250k.

<sup>&</sup>lt;sup>8</sup> This is based on an average cost of VMO2 connection, which is almost entirely an urban provider - 23m premises connected for £4.5 bn (source: <u>https://news.virginmediao2.co.uk/new-4-5bn-investment-to-extend-virgin-media-o2s-fibre-footprint-to-80-of-the-uk/</u>)



	Micro In-fill Sites (4G and 5G)	Macro Ce	llular Sites
		Private	SRN
Swansea	9	-	-
Carmarthenshire	5	2	2
Neath Port Talbot	2	-	-
Pembrokeshire	1	-	-
SBCD Area Total	17	2	2

Table 8: Mobile Connectivity Infrastructure Planning Activity (Source: Local Authorities)

<u>Assumption 8:</u> To understand the private investment in masts built under the Shared Rural Network (SRN) programme the build costs have been split by the same ratio as the overall ratio of government to private sector funding – based on the current funding, which includes £501 million of government funding, and £532 million of private sector funding – £1.033 billion in total.<sup>9</sup>

<sup>&</sup>lt;sup>9</sup> Source: <u>https://www.nao.org.uk/press-releases/mobile-connectivity-programme-behind-schedule/</u>



## 3. FY2022-23 Analysis

## 3.1 Swansea Bay City Deal Investment

Based on the assumptions and approach set out in Section 2, Table 9 details the investment from the Swansea Bay City Deal, split by the Local Authority within which it was spent in the FY2022-23.

	Public Sector Partner Contribution	Capital Expenditure	Revenue Expenditure	Total
Swansea	£175,000.00	-	£158,113.40	£333,113.40
Carmarthenshire	£175,000.00	-	£197,024.87	£372,024.87
Neath Port Talbot	£175,000.00	-	£174,258.38	£349,258.38
Pembrokeshire	£175,000.00	-	£205,742.83	£380,742.83
SBCD Area Total	£700,000.00	-	£735,139.48	£1,435,139.48

Table 9: Swansea Bay City Deal Investment FY2022-23 (Source: SBCD)

## 3.2 Fixed Connectivity

#### 3.2.1. Public Investment

Based upon the assumptions and approach set out in Section 2, Table 10 details the number of premises and summarises the level of public investment from the wider Public Sector in the region in FY2022-23.

	LFFN	RGC	Local Authority	Gigabit Vouchers	ABC Vouchers	Superfast Cymru	Total			
Number of Premises	Number of Premises Connected									
Swansea	-	-	-	-	23	16	39			
Carmarthenshire	-	-	-	39	275	821	1,135			
Neath Port Talbot	-	-	-	2	9	257	268			
Pembrokeshire	-	-	-	206	95	1,633	1,934			
SBCD Area Total	-	-	-	247	402	2,727	3,376			
Total public sector in	nvestmen	t to conn	ect these prem	ises						
Swansea	-	-	-	-	£18,399.00	£15,142.40	£33,541.40			
Carmarthenshire	-	-	-	£71,908.00	£216,356.00	£776,994.40	£1,065,258.40			
Neath Port Talbot	-	-	-	£7,000.00	£7,200.00	£243,224.80	£257,424.80			
Pembrokeshire	-	-	-	£380,439.93	£74,425.00	£1,545,471.20	£2,000,336.13			
SBCD Area Total	-	-	-	£459,347.93	£316,380.00	£2,580,832.80	£3,356,560.73			

Table 10: Public Sector Investment in Fixed Connectivity FY2022-23 (Source: SBCD)



#### 3.2.2. Private Investment

FY2022-23	VMO2	Openreach	Netomnia	Ogi	Total Investment
Swansea	£2,043,623.54	£4,566,684.29	£436,873.14	-	£7,047,180.97
Carmarthenshire	£215.41	£5,486,455.56	-	-	£5,486,670.98
Neath Port Talbot	£2,218,323.52	£4,148,799.22	£1,878,820.70	-	£8,245,943.44
Pembrokeshire	-	£439,630.06	-	£8,834,444.00	£9,274,074.06
SBCD Area Total	£4,262,162.48	£14,641,569.12	£2,315,693.84	£8,834,444.00	£30,053,869.44

Table 11 provides information on the Private Sector investment made in mobile connectivity improvements in each of the four Local Authorities, as well as a total overall within the SBCD area within FY2022-23.

Table 11: Summary of Private Sector Investment in Fixed Connectivity in FY2022-23 (Source: FarrPoint)

### 3.3 Mobile Connectivity

Table 12 provides information on the public and private investment made in mobile connectivity improvements in each of the four Local Authorities, as well as in the SBCD area within FY2022-23.

	SBCD	Public Sector	Private Sector	Total
Swansea	-	-	£450,000.00	£450,000.00
Carmarthenshire	-	£242,497.58	£1,007,502.42	£1,250,000.00
Neath Port Talbot	-	-	£100,000.00	£100,000.00
Pembrokeshire	-	-	£50,000.00	£50,000.00
SBCD Area Total	-	£242,497.58	£1,607,502.42	£1,850,000.00

Table 12: Summary of Public and Private Sector Investment in Mobile Infrastructure in FY2022-23 (Source: FarrPoint)

### 3.4 Summary of Investment

In summary, Table 13 gives an overview of the overall SBCD, Public Sector and Private Sector investment in each of the four Local Authorities in digital connectivity, as well as in the SBCD area within FY2022-23.

	SBCD	Public Sector	Private Sector	Total	
Swansea	£333,113.40	£33,541.40	£7,497,180.97	£7,863,835.77	
Carmarthenshire	£372,024.87 £1,307,755.98 £6,494,173		£6,494,173.40	£8,173,954.25	
Neath Port Talbot	£349,258.38	£257,424.80	£8,345,943.44	£8,952,626.62	
Pembrokeshire	hire £380,742.83 £2,000,336.13 £9,32		£9,324,074.06	£11,705,153.02	
SBCD Area Total	£1,435,139.48	£3,599,058.31	£31,661,371.86	£36,695,569.65	

Table 13: Summary of Total Investment in Digital Infrastructure in FY2022-23 (Source: FarrPoint)



Table 14 gives a timeline of total investment in digital connectivity in each of the Local Authorities.

	FY2021-22	FY2022-23	FY2023-24	FY2024-25	FY2025-26	FY2026-27	Total
Swansea	£6,898,768.27	£7,863,835.77	tbc	tbc	tbc	tbc	£14,762,604.04
Carmarthenshire	£11,129,710.86	£8,173,954.25	tbc	tbc	tbc	tbc	£19,303,665.11
Neath Port Talbot	£3,804,832.68	£8,952,626.62	tbc	tbc	tbc	tbc	£12,757,459.30
Pembrokeshire	£7,574,974.34	£11,705,153.02	tbc	tbc	tbc	tbc	£19,280,127.36
SBCD Area Total	£29,408,286.14	£36,695,569.65	tbc	tbc	tbc	tbc	£66,103,855.79

Table 14: Time series of Total Investment in Digital infrastructure in current prices (Source: FarrPoint)

### 3.5 Comparison with Programme Business Case

Table 15 provides a comparison of the projected digital investment figures from the Swansea Bay City Deal Digital Infrastructure Programme Business Case (March 2022), and then the outturn data from the first two impact studies from FY2021-22 and FY2022-23.

FY2021-22 Prices	FY2021-22	FY2022-23	FY2023-24	FY2024-25	FY2025-26	FY2026-27	Total		
Actual Digital Infrastructure Programme Investment from FarrPoint Analysis									
SBCD	£846,790.80	£1,435,139.48	tbc	tbc	tbc	tbc	£2,281,930.28		
Public Sector	£6,754,322.94	£3,599,058.31	tbc	tbc	tbc	tbc	£10,353,381.25		
Private Sector	£21,807,172.40	£31,661,371.86	tbc	tbc	tbc	tbc	£53,468,544.26		
Total	£29,408,286.14	£36,695,569.65	tbc	tbc	tbc	tbc	£66,103,855.79		
Projected Digital Infra	astructure Progr	amme Investme	nt from SBCI	Digital Infra	astructure Pro	ogramme Bus	siness Case		
SBCD	£532,070	£8,402,392	£8,402,392	£6,402,392	£902,392	£358,364	£25,000,000		
Public Sector	£2,350,000	£2,700,000	£2,700,000	£2,700,000	£2,700,000	£350,000	£13,500,000		
Private Sector	-	£6,500,000	£4,500,000	£4,500,000	£1,000,000	-	£16,500,000		
Total	£2,882,070	£17,602,392	£15,602,392	£13,602,392	£4,602,392	£708,364	£55,000,000		

 Table 15: Comparison with Actual and Projected Digital Infrastructure Programme Investment Overview in current

 prices (Source: FarrPoint and SBCD Digital Infrastructure Programme Business Case, March 2022)



## 4. Key Findings

The key findings from the FY2022-23 analysis are:

- In FY2022-23, there was £36.7 million of investment in digital connectivity in the SBCD region, up from the previous year (£29.4 million). This increase in investment was focussed on Neath Port Talbot and Pembrokeshire and was largely driven by increases in fixed 'Altnet' activity and mobile connectivity investment.
- There have been significant improvements in both fixed and mobile digital connectivity across the SBCD region. On the fixed side, the Gigabit connectivity has increased to 61.1% in 2022-23 (up from 53.5%), with Superfast connectivity up to 95.1% from 94.1% previously. On the mobile connectivity side there were improvements across the region in terms of both 4G and 5G.
- Investment by the Swansea Bay City Deal team increased this year to £1.4 million. This means that just under £2.3 million out of the total £25.0 million has been utilised by the programme to date. This investment is largely driven by revenue expenditure on Digital leads in each of the Local Authorities to engage with the market and support both public and private investment across the region.
- Wider public sector investment, through vouchers and other government digital programmes, has decreased slightly this year to £3.6 million in FY2022-23. This is due to the ending of the LFFN and RGC programmes, as well as the reduction in Local Authority specific fixed connection roll outs. In addition to this, whilst the number of Gigabit Voucher connections are up this year, connections via the ABC Vouchers and Superfast Cymru programmes are down in FY2022-23. It is worth noting that on the Mobile connectivity side there were 2 SRN investments in Carmarthenshire in FY2022-23.
- Finally, Private Sector investment was £31.6 million in FY2022-23, a slight increase on the previous year. Whilst the investment in the region by Openreach and VMO2 was down slightly compared to the previous year, this was more than offset by 'Altnet' investment, in particular, by Netomnia in Swansea and Neath Port Talbot, and Ogi in Pembrokeshire. In addition to this, the improvement in mobile connectivity has been driven by increased private investment (£1.6 million) improvements and installations of 21 sites.



## Version Control

Owner	Matthew Izatt-Lowry		
Classification	<b>Client Confidential</b>		

Revision	Description	Author	Checked	Reviewed	Authorised	Date
1.0	Issued	MIL	SS	AM	AM	08/05/24
1.1	Updated	MIL	SS	AM	AM	08/07/24
1.2	Amended	MIL	SS	AM	AM	23/07/24



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