

Agenda – Pwyllgor yr Economi, Seilwaith a Sgiliau

Lleoliad:	I gael rhagor o wybodaeth cysylltwch a:
Fideogynhadledd drwy Zoom	Robert Donovan
Dyddiad: Dydd Mercher, 10 Chwefror 2021	Clerc y Pwyllgor 0300 200 6565
Amser: 09.15	SeneddESS@senedd.cymru

Rhag-gyfarfod preifat (09.15–09.45)

Yn unol â Rheol Sefydlog 34.19, mae'r Cadeirydd wedi penderfynu gwahardd y cyhoedd o gyfarfod y Pwyllgor at ddibenion diogelu iechyd y cyhoedd. Bydd y cyfarfod hwn yn cael ei ddarlledu'n fyw ar www.senedd.tv

1 Cyflwyniad, ymddiheuriadau, dirprwyon a datgan buddiannau
(09.45)

2 Y diweddaraf ynghylch band eang

(09.45–10.45)

(Tudalennau 1 – 49)

Kim Mears OBE, Rheolwr Gyfarwyddwr Datblygu Seilwaith Strategol,
Openreach

Elinor Williams, Pennaeth, Materion Rheoleiddio, Ofcom Cymru

Nick Speed, Cyfarwyddwr, Grŵp BT yng Nghymru

Dogfennau atodol:

EIS(5)–5–21 – Papur Briffio

EIS(5)–5–21 – Tystiolaeth gan BT Group (Saesneg yn unig)

EIS(5)–5–21 – Tystiolaeth bellach gan BT Group (Saesneg yn unig)



3 Cynnig o dan Reol Sefydlog 17.42(ix) i benderfynu gwahardd y cyhoedd o weddill y cyfarfod

(10.45)

Egwyl (10.45–10.55)

4 Sesiwn breifat: Gweithio o Bell – Briff gan Academyddion

(10.55–11.55)

(Tudalennau 50 – 119)

Bu'r Athro Alan Felstead, Athro Ymchwil, Ysgol y Gwyddorau Cymdeithasol, Prifysgol Caerdydd

Dr Darja Reuschke, Athro Cyswllt, Ysgol Daearyddiaeth a Gwyddor yr Amgylchedd, Prifysgol Southampton

Dogfennau atodol:

EIS(5)–5–21 – Tystiolaeth gan: Professor Alan Felstead (Saesneg yn unig)

EIS(5)–5–21 – Tystiolaeth gan: Dr Darja Reuschke (Saesneg yn unig)

5 Preifat

(11.55–12.15)

Ystyried tystiolaeth yn dilyn y cyfarfod

Eitem 2

Mae cyfyngiadau ar y ddogfen hon



Written evidence from BT Group: evidence session on digital infrastructure in Wales

Executive summary

1. The importance of widespread and resilient digital connectivity has been thrown into even sharper relief as the UK responds to COVID-19. BT's networks and the UK's wider digital infrastructure have managed significant increases in demand and a reshaping of internet traffic effectively. The widespread coverage of superfast broadband (available to over 96% of UK premises, and 94% in Wales¹), driven by BT investment and the successful Superfast Cymru programme, has enabled this. In addition, 4G mobile coverage continues to grow, with EE now covering over 83% of Welsh geography, more than any other network.
2. BT is committed to improving the digital infrastructure of Wales. We see four key elements to this:
 - **Continuing to support, through Openreach, the Superfast Cymru scheme to deliver at least superfast coverage as far as possible** – completing Phase 2 and starting Phase 3 (which will largely be via the delivery of gigabit-capable full fibre). As a result of this programme, 768,000 premises will now have access to 'superfast' or 'full fibre' broadband that did not previously. 710,000 already had that access by June 2020. BT has contributed commercial funding to "match" this public sector investment, as well as taking on all the operational expenses of the resultant network.
 - **Future-proofing Wales' digital connectivity through the nationwide roll-out of full fibre as quickly as possible.** The UK Government's commitment for all homes and businesses to have access to 'gigabit capable' broadband by 2025 is of key importance for Wales. Gigabit-capable broadband can fuel the long-term post-Covid economic recovery and maintain the competitive position of Wales, and the UK as a whole, post-Brexit. BT has committed, subject to key regulatory and policy enablers, to reach 20 million homes by the mid-to-late 2020s, investing over £12bn, with at least 3.2 million premises in harder-to-reach locations.

However, significant policy and regulatory action is needed to create an effective investment and deployment environment to enable us, and other fibre builders, to sufficiently accelerate build and bring down costs, extending commercial roll-out and minimising further demands on the public purse.

- **Ensuring the new Broadband USO is as successful as possible in providing a 'safety net' for those without decent connectivity today** – whilst recognising that it will not support the very hardest-to-reach premises, with alternative solutions needed. It is important to highlight that the majority of Welsh premises that do not currently have a fixed line connection capable of 10 Mbps can already get a 4G broadband product which will deliver at least a USO-level service today – so making people aware that other technologies can meet their needs (and supporting their access to them) is critical.

¹ Ofcom, *Connected Nations* (December 2020)



- **Extending 4G mobile coverage to increasingly rural areas and growing our 5G network.**
Over the past three years, EE has invested heavily in Wales. We are currently delivering 78 new mobile sites in areas with no 4G from EE. As part of the process of delivering the new Shared Rural Network (SRN) programme, we will increase 4G geographic coverage of Wales to 83% by 2024, and to 88% by 2026.
3. This submission sets out how BT's view of how these challenges can be met. Specifically:
 - a) How those premises that don't currently have access to 'decent' broadband should be supported, and what support is needed over and above the USO for that to happen
 - b) The role of local, national and devolved governments in ensuring that as many Welsh homes and businesses as possible get access to 'full fibre' to home broadband connectivity by 2025.
 - c) Ensuring that the potential of 4G mobile to deliver connectivity is harnessed through the SRN and the use of Home Office's 'Extended Area Services' mobile sites.

Connecting the hardest-to-reach premises in Wales

4. There are a variety of technology options available for the 3% of Welsh premises that cannot access a decent broadband service today. Ofcom has stated that 4G Fixed Wireless Access (FWA) can and does offer the capability to deliver a 'decent' broadband service. Ofcom estimates that 91% of premises in Wales have access to an FWA service, meaning of the 52,000 premises in Wales that cannot get decent broadband over a fixed line, approximately 35,000 could have access via an FWA network, providing an additional 2.3 percentage points of decent broadband service coverage in Wales.²
5. BT offers a BT 4G Hub product that is available to the vast majority of these premises.³ Packages begin from £45 per month, providing unlimited data usage. Consumers can therefore use BT 4G Hub just as they would a normal fixed line broadband service. We will also provide and install an external aerial (free of charge) if the 4G signal in that area is only available outdoors. This ensures that a good wi-fi service is available inside the property.
6. Our immediate challenge is in helping those who live and work in these 35,000 premises to understand that this option is available to them right now. We would be very pleased to work with the Committee to ensure that people are aware of the alternative technology options available to them.
7. The remaining 18,000 (1.2%) of Welsh premises that cannot access 'decent' broadband, and have no current 4G FWA access either, may be eligible support under the Broadband USO. Since March this year, these 18,000 Welsh households and businesses have had a legal right to request a decent, affordable broadband connection from BT as the designated Universal Service Provider for the UK (apart from in Kingston-Upon-Hull).
8. Ofcom has also determined that a USO-compliant service must cost the customer no more than £46.10 per month. A 'decent' connection will enable a good quality experience when accessing all common internet applications including multiple TV streams, access to digital public services and

² Ofcom, *Connected Nations (2020)*

³ www.bt.com/broadband/4g-hub



on-line shopping. Government has legally defined this service in technical terms as one that supports 10 Mbps download and 1 Mbps upload speed.

9. The USO requires BT to upgrade a premise's connectivity to meet a 'decent' standard at no cost to the customer, if the necessary works cost less than £3,400. In most cases, this upgrade work will deliver a gigabit-capable full fibre connection to that premises. Any resultant costs are covered entirely by BT, although in future it may be covered by industry collectively through a universal service fund. Although legislation provides for it, this fund is currently not operational.
10. We are currently in the final stages of writing directly to all eligible premises to inform them of their right to request under the USO. The infrastructure we build to serve a USO-eligible household will often also serve other USO-eligible households nearby, with these 'clusters' generally ranging in size from one to thirty premises. When costs are calculated, we take this into account and apply a further £3,400 industry contribution for 70% of the households in the cluster (a rate set by Ofcom based on expected take-up of the service). This is a process known as 'demand aggregation' and it enables us to reduce the per premise cost as far as possible.
11. If, after 'demand aggregation', the cost per premise remains above the £3,400, the customer has the choice of paying the excess cost above this threshold to trigger the build. The legislation is clear that end users must pay these excess costs. Unfortunately, the excess costs are in many cases significant, often reaching into five or even six figures. This is a result of the major engineering and planning work required to connect these hardest-to-reach premises.
12. BT is obliged to provide a quote for these costs, based on an Openreach survey, if requested by the customer, however large or small. When we provide this information, we are clear about what the work to deliver an upgrade involves and what other options there may be, outside the USO programme, to improve their connectivity.
13. We know there is room for improvement in how and what we communicate back to these customers – and we are implementing a new approach that makes it easier for them. We are also revising all consumer communications to ensure expectations of the USO programme are set more appropriately through our initial engagements, and that other options that may be available beyond the USO – such as Openreach Community Fibre Partnerships – are explained.
14. Alongside improved communications, we are developing a simple solution to enable customers to share excess quotes amongst their neighbours who would also benefit and where there are other nearby households that will share the upgraded infrastructure. Under this, customers will retain the legal right to trigger network build themselves (by paying all excess costs) but will also be given the opportunity to meet the costs together with others. Customers can register their interest in a cost sharing arrangement and when available we will contact them.
15. While we can take a number of steps to improve the USO as it stands, it should be recognised that the USO programme will not fully address the challenges of connecting very remote places, where the costs are prohibitive. This issue needs urgent focus from industry, Government and Ofcom to find alternative, cost-effective solutions beyond the USO where existing approaches are unable to provide adequate support:



16. We estimate that to connect all ‘above-threshold’ premises UK wide would cost in excess of £1 billion. We fully understand that the vast majority of customers have limited desire or ability to foot these bills and that they are frustrated that they have been asked to. Finding a cost-effective way forward may mean considering alternative technologies, such as satellite.
17. Clarity on the timelines for the Government’s £5bn funding programme for rural full fibre and where it will be spent will also be key. This may directly cover some or all the remaining USO-eligible premises – but even for those it may not reach, it may enable us to reduce costs to connect these final premises and provide a viable solution for customers.

Delivering full fibre across Wales as soon as possible

18. Ensuring everyone has access to decent broadband is essential. But it is not the limit of BT’s ambition. Last May, we announced a £12 billion investment in ‘full fibre’ to the home across the UK and took the difficult decision to cancel our dividend. This investment will allow Openreach to pass 20 million UK homes with new ‘full fibre’ connections. It will be a critical element of supporting Government in its ambition for 85% of UK homes to have access to better ‘gigabit capable’ connectivity by 2025. The key issue now is whether both BT and other network builders can deploy new infrastructure quickly enough to meet this target and can attract sufficient investment to fund the build.
19. In order to reach the build rates necessary to achieve the Government’s target, all deployment barriers must be removed as quickly and holistically as possible. New independent analysis shows that without significant and urgent action, the industry is unlikely to be able to cover more than 70% of UK premises by 2025. The target contained in the UK National Infrastructure Strategy would not, under these forecasts, be achieved until 2029. Nationwide coverage may not be achieved until 2033.⁴ The analysis is even more marked for Wales, where the forecasts suggest that as matters stand, only 61% of premises will likely be reached by this date.
20. The research also suggests that currently only about 75% of premises would be commercially viable for the market to serve without public subsidy. The remaining 25% (nearly eight million premises) would therefore require Government funding, well beyond the expected scope of the Government’s £5 billion programme. Again, for Wales this is substantially lower – forecasts suggest that only 64% of premises are currently commercially viable for the market to serve. That means that the public sector, as it has with superfast broadband, is likely to need to subsidise full fibre connectivity to 36% of Welsh homes and businesses as things stand.
21. The November 2020 UK Government Spending Review has outlined that only 25% (£1.2 billion) of a planned £5 billion investment is allocated to be spent before 2025. This decision will come as a disappointment to those living in the harder-to-reach parts of Wales.

⁴ www.bt.com/fibreforall



22. When looked at from a UK-wide perspective, in the average rural parliamentary constituency, only 58% of homes and businesses are likely to be commercially viable for the market to deliver ‘full fibre’ broadband.⁵
23. At the same time, the analysis shows that through a concerted action plan, the UK and Devolved Governments can substantially accelerate full fibre rollout in areas which are commercially viable, and where they choose to support the market in areas that are not. Greater momentum behind current barrier-busting efforts could dramatically reduce the time needed to deliver full fibre for all and substantially increase the number of premises that the market can deliver it to without any public subsidy.
24. Addressing key barriers could support delivery of full fibre to 92% of Welsh homes and businesses by 2025, and to 100% by 2027. They could also see the number of premises that can be connected by the market alone with no public subsidy from 64% to 73% in Wales, or an additional 138,000 premises. Such an increase would enable the scarce public funds to be focused on the areas of the country that really need it, enabling these funds to go further.
25. These reforms include:
 - a) Reforming planning, ‘wayleave’ and streetworks rules to make it easier to lay new fibre all around the UK.
 - b) Implementing plans to require all newly built homes to have open access fibre connectivity and improved access rights for operators into flats and apartment blocks. This is a specific responsibility of the devolved Welsh Government to deliver.
 - c) Giving fibre builders the ability to make use of other infrastructure (electricity, water and other duct assets, including other telcos, where available) in order to deliver a new fibre network at realistic prices and on sensible terms.
 - d) Support for a retraining and onboarding programme to ensure availability of suitably skilled engineers and deployment personnel to support fibre network design and build.
 - e) Ensuring that Welsh Local Authorities allow the use of innovative approaches to laying new fibre in line with recently published UK Government guidance.
26. Furthermore, an exemption from business rates for new fibre build will significantly impact the business cases for commercial fibre investment. It would enhance the wholesale revenue aspect of any investment case and, importantly, significantly reduce the risk profile of that investment given the significant variability seen in business rates applied to digital networks at recent re-valuations. Removing this additional cost for fibre services and the risk that it could substantially change multiple times within the investment period would be a significant signal to investors of the Government’s commitment to a fibre future.
27. Without such a change, BT’s overall business rates liability is set to increase significantly as we transition customers to full fibre. This creates real disincentives – under the current regime the

⁵ Forecasting methodology at www.bt.com/fibreforall Calculation based on the 121 most rural constituencies as defined by the House of Commons Library (<https://commonslibrary.parliament.uk/research-briefings/cbp-8322/>)



faster we make that transition, the faster our rates liability increases. We would therefore encourage the Treasury to prioritise digital infrastructure as it progresses its Business Rates Review, otherwise the pace and shape of our fibre investment may be affected.

28. A supportive regulatory environment will also be key. In particular, greater clarity is also needed on how Ofcom will treat the commercial ‘bets’ we are making on full fibre. Ofcom says it will make sure that these are fairly treated, should regulation be needed in the future – the so called ‘fair bet’. Broadly this means that Ofcom will not regulate in the future in a way that would make investors re-consider if they had known what was coming. But to give investors greater confidence, what is needed is a more comprehensive statement by Ofcom setting out how the fair bet principle will apply in practice. This would be in-line with the Government’s Statement of Strategic Priorities for Ofcom.

Delivering better mobile coverage in Wales

29. Mobile coverage has historically evolved in a different way to fixed line connectivity due to the more competitive dynamic that has existed at a network level. EE, part of BT Group, has invested heavily in geographic coverage as a key competitive differentiator and has the largest and fastest 4G network. Over the past four years, EE has built hundreds of new sites in rural locations and is upgrading its entire network to 4G. EE 4G now covers over 85% of UK geography and over 99% of premises. This has driven the aggregate industry footprint – where at least one operator is present – to 91%.
30. Whilst we believe that addressing total not spots – where no operator provides coverage – should be the priority, we understand the frustration caused by partial not spots, or areas where at least one but not all mobile operators have coverage. This is currently the case across 22% of the UK landmass. Wales has disproportionately more areas impacted by this issue – with 30% having coverage from at least one operator but not all four (with 60% receiving coverage from all operators and 10% currently a total not spot).
31. Gigabit-capable broadband can fuel the long-term post-Covid economic recovery; maintain the UK’s competitive position post-Brexit; and ensure we are better prepared for any future lockdowns and pandemics. Meeting a 100% by 2025 coverage target could unlock £59 billion in productivity benefits for the UK.⁶ As the operator of the UK’s largest 4G and 5G networks, and the sole investor and shareholder in the largest full fibre one, we are clear ‘Full fibre’ will be the key technology for delivering the economic benefits this could bring.
32. We are clear that mobile will also play a key role in delivering faster broadband for many people. BT, through its EE network, is currently delivering the largest 5G footprint in the UK. We have coverage in 125 towns and cities nationwide. Increasingly, in areas where its available, 5G can be part of a clear path towards delivering faster broadband.

⁶Analysys Mason Quantifying the Impact of Reducing Barriers to Fibre Broadband <https://www.bt.com/bt-plc/assets/documents/about-bt/policy-and-regulation/download-centre/2020/analysys-mason-full-fibre-policy-study-2020.pdf>

The Shared Rural Network

33. As part of the process of delivering the SRN programme, we agreed with Ofcom that our licence to use spectrum should be amended to introduce new, legally binding coverage obligations. Under these, EE aimed to increase its geographic 4G coverage of the Welsh landmass to 83% by 2024, and to 88% by 2026. We have surpassed the first requirement, as EE now already covers 83% of the Welsh landmass with 4G.
34. The fact that we invested ahead of other networks means that we already have infrastructure in place that we can upgrade (through transmitting more and longer-range radio spectrum from each site) to extend and improve the 4G service we provide across Wales. We will therefore be able to meet our SRN commitments and deliver substantial coverage improvements without the need to build many new masts.
35. We want to deliver this improved connectivity to local communities in a way that minimises the impact on the natural environment. Because of that, we have offered to share, on fair commercial terms, our existing infrastructure with other network operators so that they can meet their own SRN commitments without the need for them to build a large number of new masts.

The Emergency Services Network and the Home Office Extended Area Services (EAS) network

36. Wales is a major beneficiary of new Emergency Services Network infrastructure, with 78 new 4G sites being built directly by EE as part of the programme to provide connectivity for the emergency services when the legacy Airwave system is turned off. We are making these sites active for consumer use of 4G as soon as they are ready.
37. Our 4G sites in Wales are complemented by a further 93 planned new sites being delivered by the UK Government under the Home Office's Extended Services (EAS) Programme. The Home Office has stated that: "Given the remote and rural location of some of this new infrastructure, it may be possible to use the [EAS] Programme to bring fast 4G commercial services to locations and communities which have previously had poor or no mobile coverage."⁷
38. EE has made a commitment that we will, wherever possible, deliver commercial 4G services from these sites. Many are in areas of Wales where there is no 4G coverage at all. As matters stand though, we and other providers are dependent on the Home Office to deliver the appropriate infrastructure to allow us to do so. For example, despite the fact that many of the masts have already been built, none of the 93 EAS sites in Wales currently have any 'backhaul' connectivity to the main core network and no process for supporting the ongoing maintenance of the site once operational. So they are not currently usable by commercial 4G networks.

⁷<https://www.gov.uk/government/publications/the-emergency-services-mobile-communications-programme/emergency-services-network#extended-area-service>



39. Ministers have told Parliament they have taken this view because of the operational costs that might be incurred if they progressed the sites as described.⁸ In our view, a more holistic approach is needed across Government to this issue, ensuring that the EAS network can support those with no 4G coverage as soon as possible. Effectively, significant geographic areas of Wales are likely to go unserved by EE's 4G network and most likely that of other mobile operators as well, for up to five years as a result of the Home Office's current position.
40. We note that the Scottish Government has decided to address this issue in some limited circumstances in Scotland. A small proportion of the 123 new EAS sites planned for that part of the UK will in effect be delivered via the Scottish Government 4G Infill Programme. The Home Office will act as an anchor tenant on these sites, but the actual delivery of the infrastructure will be undertaken by subcontractors appointed by the Scottish Government. Some have already been activated for commercial 4G services on this basis.

Planning reform

41. Many of these new sites – whether delivered through the SRN or ESN – would likely require either full planning consent, or 'prior approval' Permitted Development Rights (PDRs) to proceed. DCMS is currently considering reforms to PDRs to make it easier to deploy sites in England. Application of these reforms in Wales would considerably accelerate the build progress through reducing the number of instances where these currently more onerous planning requirements are applied.

The Electronic Communications Code

42. Several other barriers related to policy and legislative issues impact the ability of operators to deploy new mobile infrastructure. These include the manner in which the new Electronic Communication Code (ECC) is used to establish operator rights for access to land and to resolve disagreements between landlords and operators over the terms of that access for the deployment of mobile sites. The Government is now consulting on reforms to the ECC to address these issues – it will be vital that current loopholes in the law, which create delay and additional cost, are closed to support the swifter roll-out of mobile connectivity.

BT in Wales

43. BT has a significant presence right across Wales and is proud to work with Welsh Government. BT is a major investor and employer in Wales – employing 5,060 people, which is 1 in every 170 in the private sector. We contribute almost £1bn in economic impact and spend £340m with suppliers based in Wales each year.
44. BT is at the forefront of driving technology change and securing the UK's digital infrastructure. The telecommunications world is changing rapidly and business, government and the people of Wales need to be aware of new developments and the potential they hold for increasing our prosperity and improving our quality of life. As a trusted service provider and advisor to private and public sector businesses across Wales, BT's specialist teams work in conjunction with external experts to develop and provide advice.

⁸ HC Deb, 10 June 2020, cW



45. Through its partnership with the Welsh Government, BT has been leading the way in taking Wales forward into the digital age to become a truly digital nation. We deliver the unique Public Sector Broadband Aggregation (PSBA) network which provides superfast services to public service organisations such as schools, hospitals, police forces and national parks across Wales.
46. BT is at the forefront of 5G innovation, developing technology to deliver further benefits to customers including the NHS. BT works with customers to explore the possibilities and collaborate on a network that is best for the sector. This technology will unlock countless benefits including high bandwidth and increased responsiveness and offer massive connection power and fast speeds to help transform how healthcare is delivered, as we have demonstrated in our response to Covid-19.



The Economic Impact of BT Group plc in Wales



Tudalen 10 o 24

2020 Edition

HATCH

A report by Hatch
for BT Group plc

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Introduction

1 Introduction

BT plays a critical role in supporting both the economy and society across Wales. We are here to connect for the good of our customers, colleagues and country, and our people and networks underpin nearly every part of our lives across the nation. We have a profound sense of purpose that we are here to deliver not connectivity per se, but the benefit it brings to people.

The coronavirus crisis has brought our national leadership role in telecommunications into the sharpest focus in our company's history. The multiple challenges posed by Covid-19 have highlighted the vital role BT plays in supporting families, businesses and communities across Wales. Throughout the pandemic we have seen how technology can be harnessed to help save lives and deliver even better services for the public. We were proud to get the new NHS field hospitals around the country connected and to support pupils with their home learning by responding to a request to get thousands of devices to every local authority early in the lockdown.

More than 95% of the UK now has access to superfast speeds. We are committed to delivering full fibre across the UK and, with the right fiscal, regulatory and legislative enablers in place are ready to make the biggest communications infrastructure investment in a generation. When combined with our extensive 5G mobile network from EE, this will provide a digital infrastructure that will connect millions and help drive future economic growth. In addition to our mobile and broadband networks, we have the UK's most extensive public wi-fi network and are bringing these three networks into one converged, digital platform.

We have seen the power of innovative technology and the best converged network in trials in health care and education. Working with partners we are using new technology to treat patients remotely and helping develop the smart hospital of the future. We are one of the largest investors in innovation in the UK, investing £662m in 2019/20. Our innovations have been responsible for many of the pioneering innovations which have transformed our digital world.

A report commissioned by BT shows how smart technology can help transform rural communities. Focused on agriculture and tourism in rural Wales, the Smart Rural report shows how technology such as the Internet of Things, could help these areas thrive. For agriculture, solutions such as sensors and devices connected to networks are already being trialled to show how farmers can remotely track and manage their stock, helping reduce costs and increase efficiency. The tourism industry has also seen a revolution in the use of digital technology, with smartphones, mapping services and augmented reality apps transforming visitor engagement. We are working with the Welsh Government to look at ways in which 5G can support our rural communities in both these key sectors.



Nick Speed
BT Group Wales &
South West Director

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We are a key part of communities across the UK and want to help people harness the power of technology to meet their needs or fulfil their potential. In 2019/20 we launched our Skills for Tomorrow programme, designed to empower 10 million people by providing help to improve their digital skills, by 2025. This programme offers free resources for school children, parents and jobseekers. Recognising the importance of small business to the economy we are supporting 1 million businesses with free digital skills support, and we have already supported 1,000 vulnerable people connect with family and friends through the donation of devices.

We are the founding partner of the UK Modern Slavery Helpline and Tech Against Trafficking. In terms of the climate change challenge, our technology and communications networks have a huge role to play in enabling the innovative solutions and exponential change needed to achieve a net zero carbon economy. In the UK 100% of our directly purchased electricity comes from renewable energy suppliers, with 50% of our power supply from nine turbines at Mynydd Bwllfa, Hirwaun, Rhondda Cynon Taf. We are also working with others to drive innovation in electric vehicles to transform our fleet, and have installed electric charging points at our offices in Merthyr Tydfil and Swansea.

BT has a significant presence right across Wales. We were the first private sector organisation to sign up for 'Work Welsh', a learning programme to strengthen Welsh language skills in the workplace, devised by the National Centre for Learning Welsh. BT has also invested heavily in providing Welsh language services, and since 1994 has adopted a voluntary Bilingual Policy further demonstrating our commitment to both the Welsh language and communities of Wales.

In this report we look at the economic contribution of BT Group across Wales, and show we make a very significant impact on the national economy. We support employment across every part of the nation through our direct workforce and indirectly, through our extensive supply chain, with our procurement and expenditure in the local economies. For the period 2019/20 the total Gross Value Added (GVA) to the Welsh economy, combining the direct, indirect and induced impacts of our activities and spending, is estimated to be £970 million.



Nick Speed
December 2020

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Our report

2 Our report

The Economic Impact Report 2020 has been prepared independently by Hatch Urban Solutions, drawing upon data for BT Group.

Estimates in this report relate to BT Group plc activities in the UK during the financial year 2019/20. BT Group plc includes all wholly owned subsidiaries, including Openreach Limited and EE (now part of BT Consumer)

We are proud to be a major contributor of taxes in the UK. The One Hundred Group 2019 Total Tax Contribution Survey ranked us as the sixth highest contributor in the UK. The impact of this tax contribution has not been assessed in this report.

Further information about BT Group's activities can be found in the BT Group plc Annual Report 2020 and Digital Impact and Sustainability Report 2019/20.

Impact calculations are in accordance with Government guidelines and the HM Treasury's Green Book Guidance for appraisal and evaluation, and are consistent with the Office for National Statistics' national accounts. Details of our approach are shown in Appendix 5.

Note that the economic impact figures presented throughout this report are expressed to three significant figures. This means they have been rounded up or down as appropriate and, as a result, may not sum exactly to the totals presented.

Economic impact report 2020

This study shows BT Group's economic contribution to the UK national economy and to regional economies in terms of jobs, output and Gross Value Added (GVA) supported. The report covers several effects of BT Group's activities:

Direct impact: people employed directly by BT Group (including contractor employees) who receive wages and salaries.

Indirect impact: income and employment created with suppliers as a result of BT Group's spending on goods and services.

Induced impact: further income and employment generated as wages created directly and indirectly are spent within the economy.



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The economic impact of BT Group plc in the UK

3 The economic impact of BT Group plc in the UK

The figures below show the number of employees working in each English region, Scotland, Wales and Northern Ireland.

Note: Figures are rounded to 3 significant figures.

	Working	Living	Total income £m	Spend with suppliers £m	Total direct GVA £m
London & the South East	24,300	23,100	992	5,620	3,220
London	14,500	12,200	634	3,140	2,050
South East	9,780	10,900	359	2,480	1,160
Midlands & East of England	19,500	20,500	751	2,270	2,440
East of England	8,950	9,580	377	1,510	1,220
East Midlands	4,490	4,990	151	130	489
West Midlands	6,070	5,940	224	636	725
North of England	25,700	25,500	813	876	2,630
North East	9,290	9,280	262	41	849
North West	9,720	9,690	322	410	1,040
Yorkshire and The Humber	6,660	6,550	229	424	741
South West	8,560	8,350	321	634	1,040
Scotland	7,440	7,480	254	167	825
Wales	4,600	5,060	146	340	472
Northern Ireland	3,340	3,350	115	155	373

Source: Hatch

1

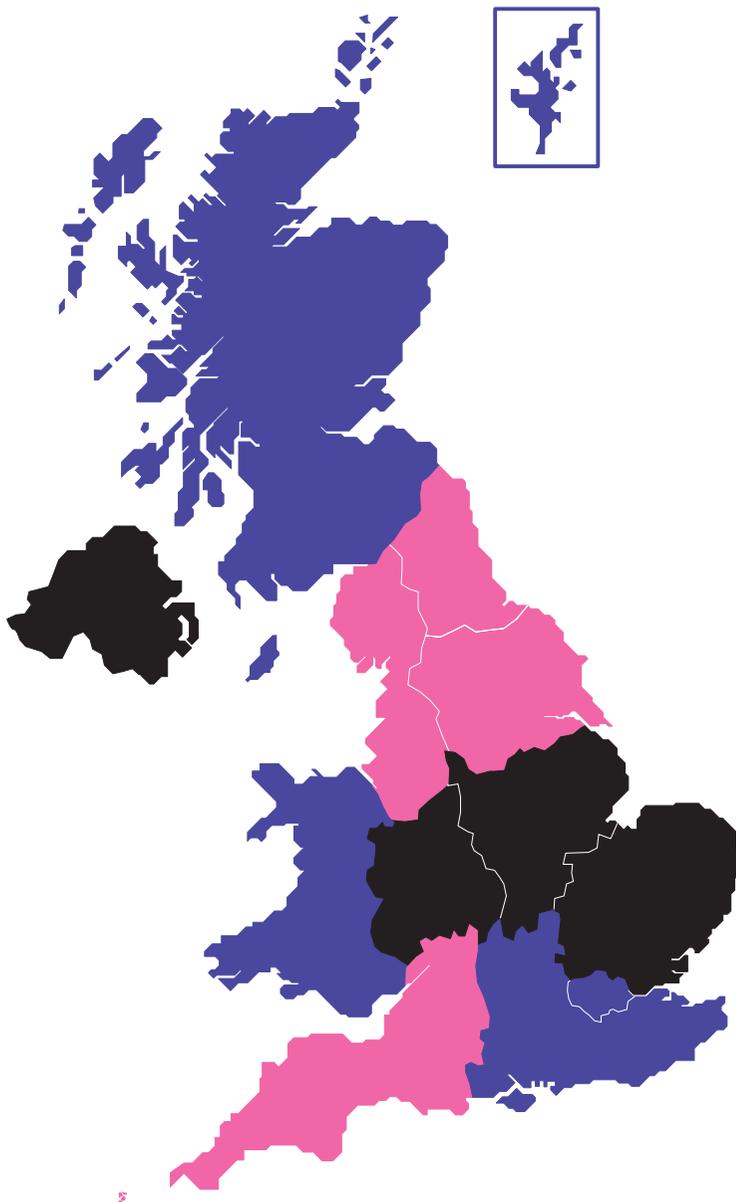
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3 Key points



Across the UK in 2019/20

82,800 employees directly working for BT Group, and 10,600 contractors (Full Time Equivalent – FTE)

300,000 total FTE jobs supported (including indirect and induced effects)

£3.4 billion total income of BT Group employees (including contractors)

£10.1 billion spend with suppliers based in the UK

£24 billion total GVA impact associated with BT Group activities (including indirect and induced effects)

BT Group directly employed **1 in every 230 employees** in the private sector across the UK, and **1 in every 12** in the IT and Communications sector

BT Group directly created **£1 in every £165** of GVA in the UK

As a result of the full economic impact of BT Group, the firm supported **£1 in every £75** of GVA in the UK economy and **1 in every 90 employees** working in the UK economy

3

Economic impacts

Direct impact

BT Group directly employs a total of 82,800 people in the UK, with a further 10,600 employed as contractors. These employees have an associated £3.4 billion in wages and salary spend.

Procurement impact (indirect)

BT Group spent a total of £10.1 billion with UK based suppliers in 2019/20. This results in significant benefits for the UK economy, including knock-on benefits further down the supply chain, which results in additional employment and output. This is summarised below.

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BT Group supply chain spend in the United Kingdom = £10.1 billion

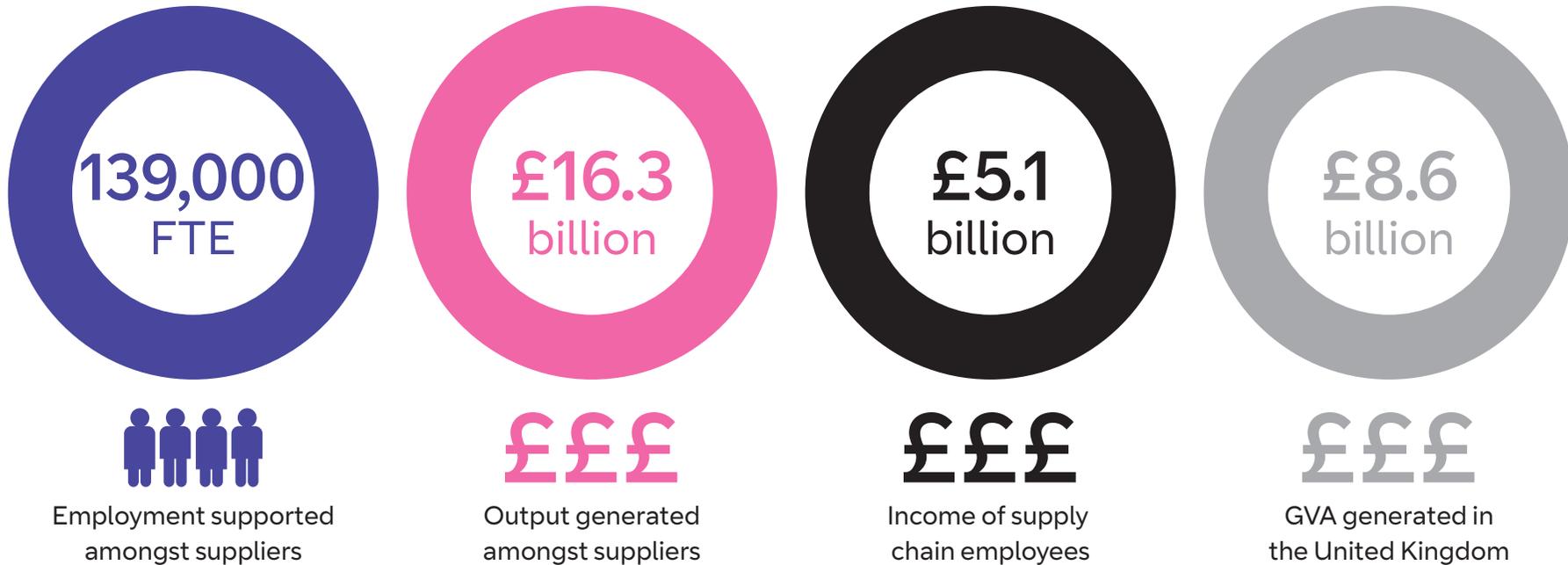


Figure 3-1: Indirect (supply chain impacts) in the UK

Source: Hatch

3

Impact of BT Group and supplier employee expenditure (induced)

BT Group employees and their contractors based in the UK earned around £3.4 billion in 2019/20 before tax. In turn, the expenditure of these employees, contractors and the employees working for firms within BT Group's supply chain supported further employment and output in consumer industries. Through these knock-on effects, BT Group supported further jobs and turnover as shown below.

Salaries of BT Group employees and contractors in the UK = £3.4 billion

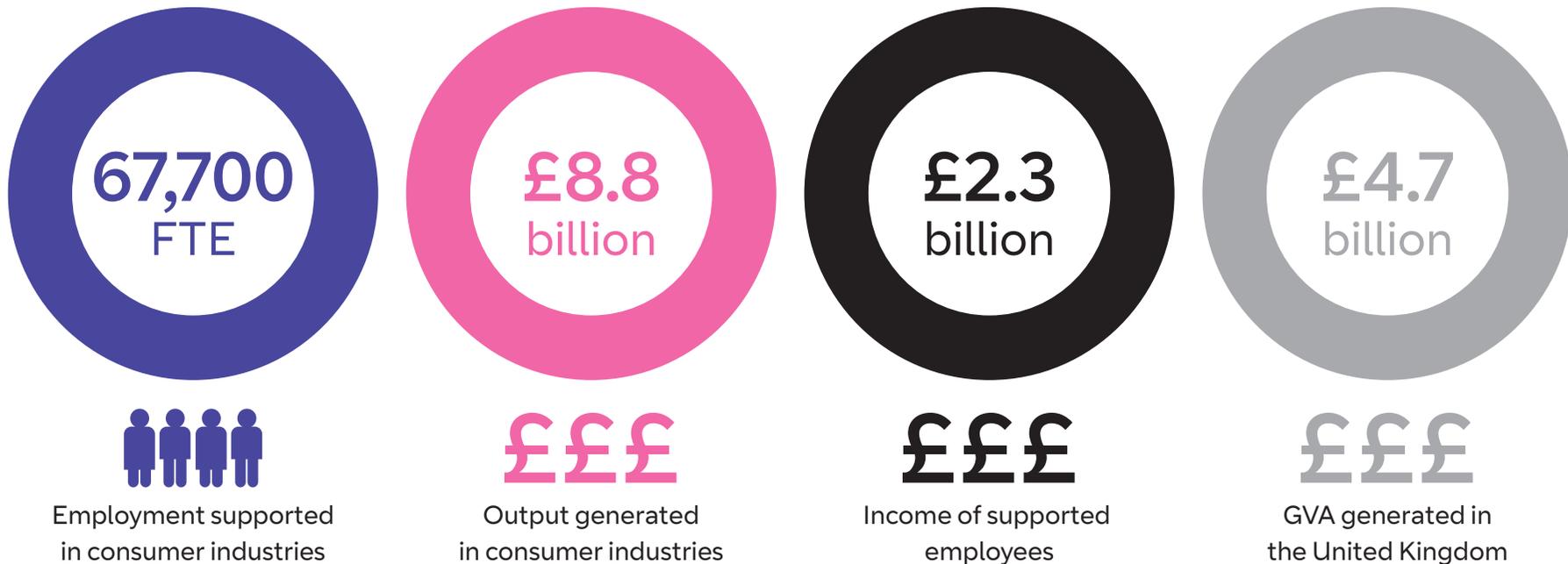


Figure 3-2: Induced (wage expenditure) impacts in the UK

Source: Hatch

3

Total impact in the UK

Combining BT Group's direct impact and employment with the indirect supply chain impact and induced wage expenditure impact gives the total impact of BT Group's operations in the UK in 2019/20. This is summarised in the table below.

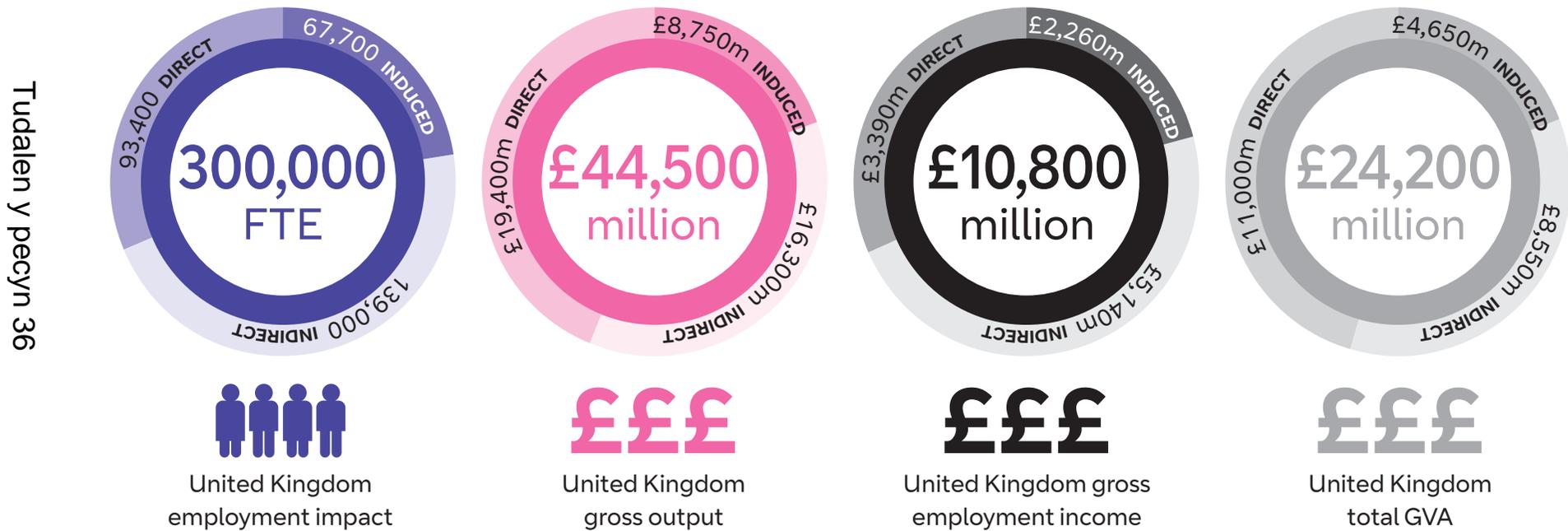


Figure 3-3: Total impact of BT Group in the UK

Source: Hatch

Tudalen y pecyn 37

4

BT Group plc across Wales

4 Wales



Across Wales in 2019/20

5,060 BT Group employees live in the nation (FTE)

4,600 BT Group employees work in the nation (FTE)

£146 million total income of BT Group employees working in the nation

£340 million spend with suppliers based in the nation

£971 million total GVA impact (including indirect and induced effects)

BT Group employed **1 in every 170 employees** working in the private sector, and **1 in every 4 employees** working in the IT and communications sectors

£1 in every £130 of GVA is generated directly by BT Group

BT Group supported **1 in every 70 employees** working in the private sector and **£1 in every £60** of GVA as a result of BT Group's full economic impact

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National impact

Direct impact

BT Group directly employs a total of 4,560 people in Wales, with a further 48 employed as contractors. These employees earned £146 million in wages and salaries.

Procurement impact

BT Group together spent around £340 million with suppliers based in Wales in 2019/20. The largest item was computer programming, consultancy and related activities, as illustrated in the chart below.

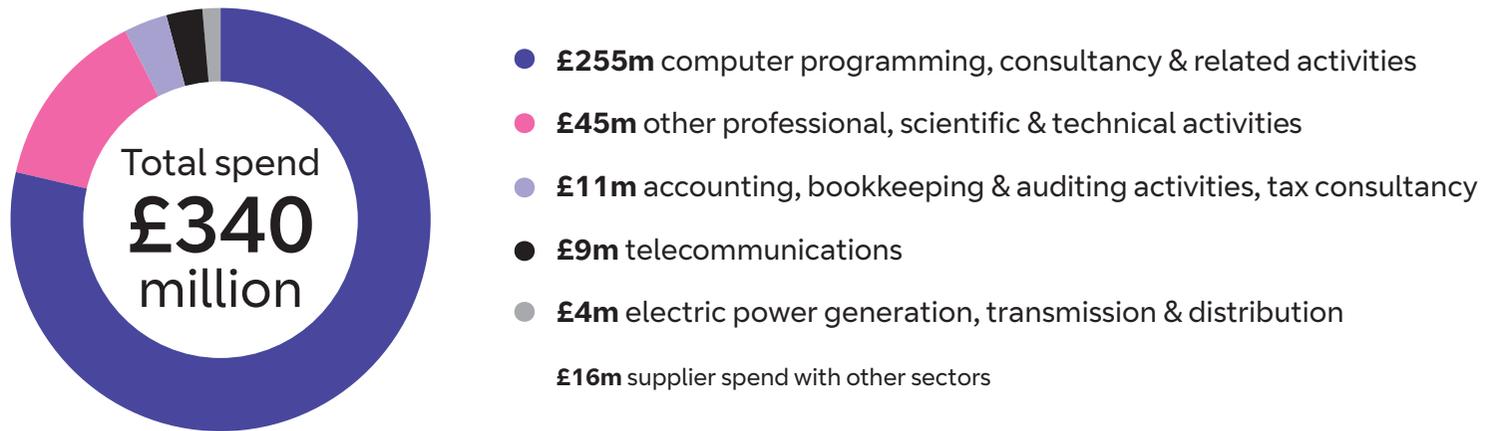


Figure 4-41: Top five supplier sectors in Wales by value of expenditure

Source: BT Group Procurement data

4

BT Group's spend with suppliers results in significant benefits for the Welsh economy (including knock-on or multiplier benefits as a result of supplier spend). This is summarised below.

BT Group supply chain spend in Wales = £340 million

Tudalen y pecyn 40

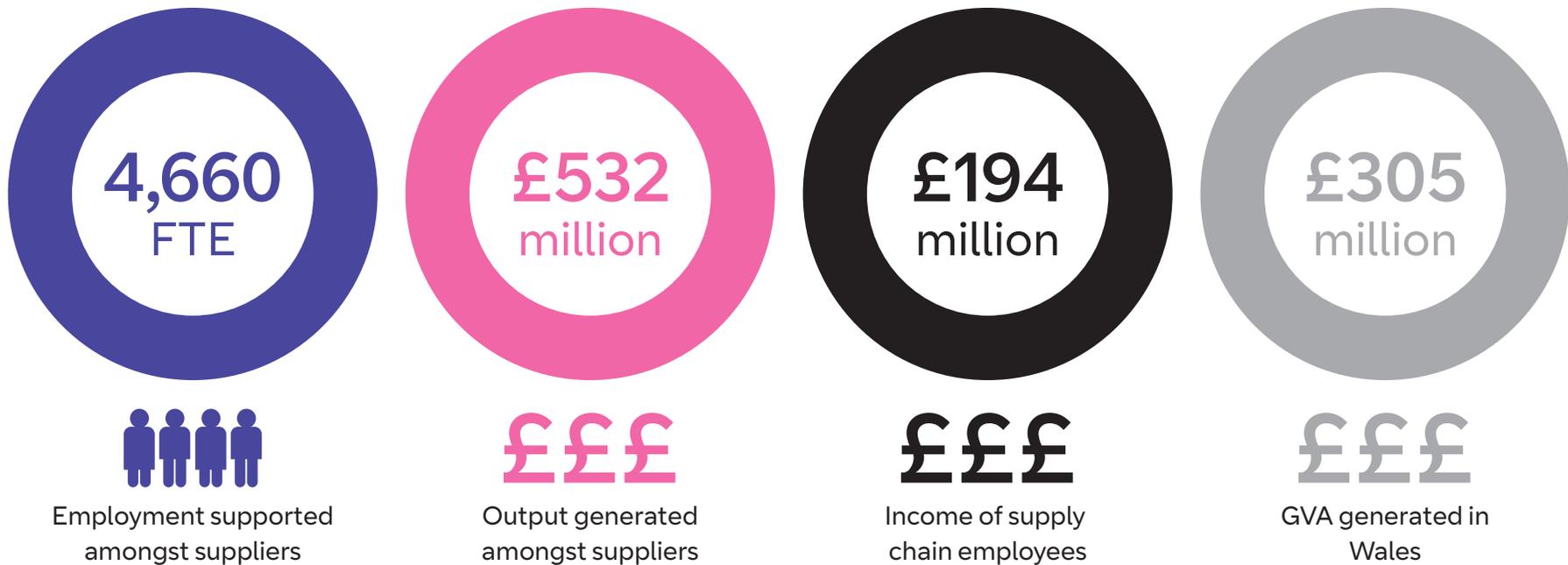


Figure 4-42: Indirect supply chain impact in Wales

Source: Hatch

4

Impact of employee expenditure

BT Group employees and contractors living in Wales earned £164 million in 2019/20. In turn, their expenditure supports further employment and output in consumer industries in the nation. **Figure 4-43** below illustrates the wider induced employment and output supported through this employee expenditure.

Salaries of BT Group employees and contractors in Wales = £164 million

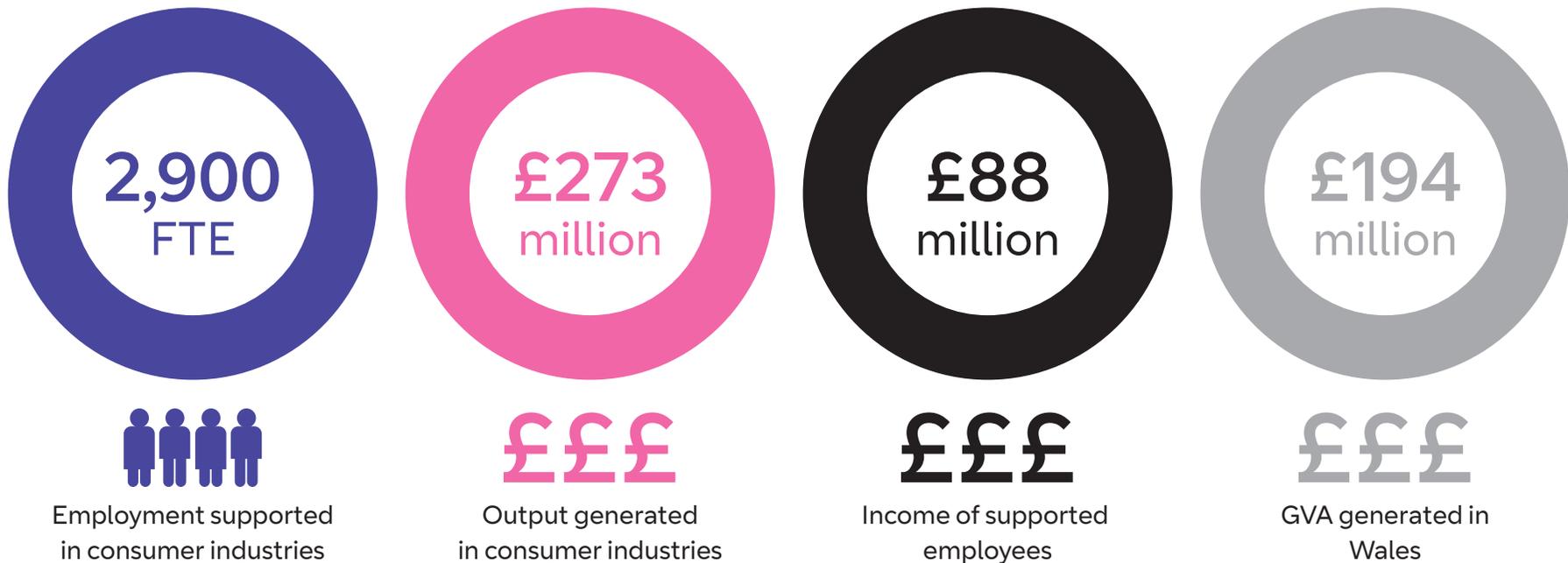


Figure 4-43: Induced (wage expenditure) impacts in Wales

Source: Hatch

4

Total impact in Wales

Combining BT Group's direct impact and employment with the indirect supply chain impact and induced wage expenditure impact gives the total impact of the firm's operations in Wales. This is summarised in **Figure 4-44** below.

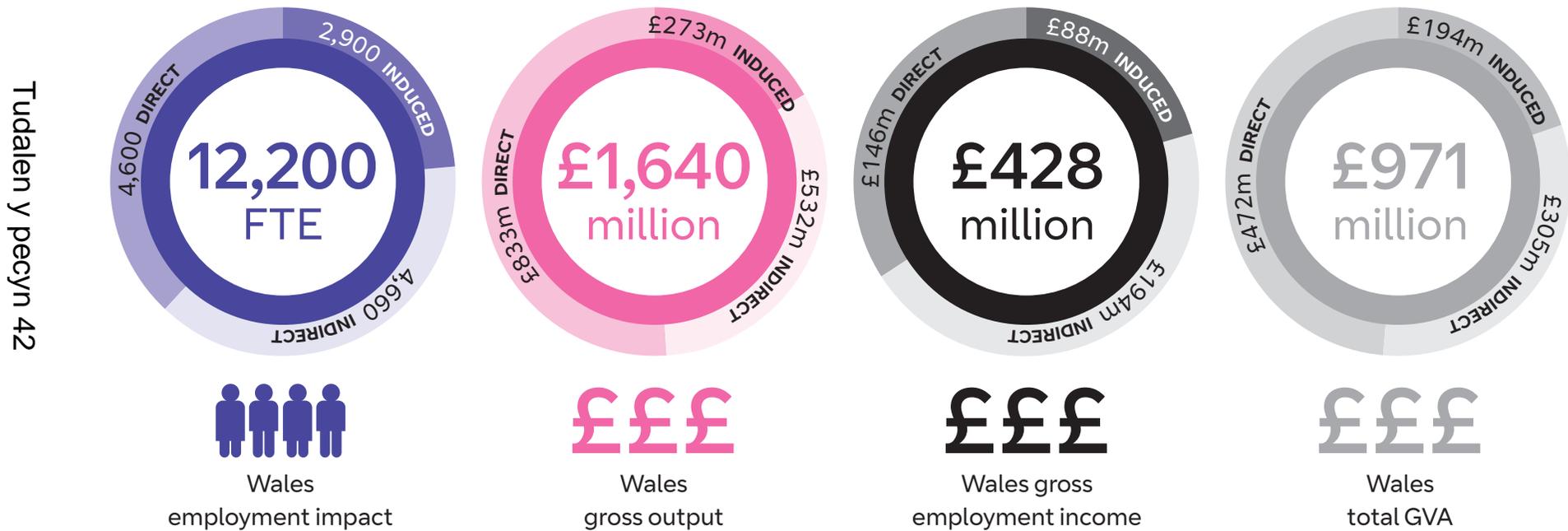


Figure 4-44: Total impact of BT Group in Wales

Source: Hatch

4

Sub-national impact

Table 4-20 below shows the economic impact of BT Group for four key regions within Wales.

	BT Group employees & contractors		Employment	Total impact	
	Work in area	Resident in area		Output £ million	GVA £ million
South East Wales	2,830	2,980	9,160	1,180	704
South West Wales	992	1,060	1,110	185	106
North Wales	573	746	1,690	228	136
Mid Wales	213	267	217	45	26

Table 4-20: Sub-national impacts within Wales

Source: Hatch

Technical appendices

5

Tudalen y pecyn 44

5 Technical appendices

Here we set out the methodology used to estimate the economic impact of BT Group and the data sources that have been drawn upon.

Definitions

There are three sources of economic impact that a company like BT Group generates.

Direct impacts

These are the impacts arising as a direct consequence of the company's activities, in the form of output and wealth creation, employment within the firm and associated employment income.

Indirect impacts

Also known as the supply chain impact, this contribution arises from BT Group's purchasing of goods and services from suppliers in the UK, who in turn make further purchases from their suppliers, and so on.

This chain of procurement spending resulting from BT Group's initial expenditure injection creates further wealth, and supports jobs and income.

Induced impacts

Further economic activity and employment is created as BT Group employees and those whose jobs are supported through supply chain effects spend their wages and salaries on goods and services.

The economic effects from this consumer spending are known as the induced effect.

Throughout the report these impacts are measured using four key indicators:

Output

This refers to the turnover/sales revenue that is generated directly within BT Group or within other firms in the economy through indirect and induced effects.

Gross value added (GVA)

This is the key measure of wealth creation within an economy and is used by the government to monitor economic performance. It refers to the residual value created by firms once non-labour costs have been paid, which is then distributed to owners/shareholders in the form of profits and to employees via wages and salaries. It is measured in two ways:

- **GVA** = turnover minus bought in goods and services (known as the production approach)
- **GVA** = operating profit + depreciation and amortisation + taxes less subsidies on production + compensation of employees (i.e. wages plus social security contributions) (known as the income approach)

Employment

This is the quantity of jobs supported by BT Group's activities. Since these jobs are a mix of full time and part time positions, throughout the report we refer to Full Time Equivalent (FTE) posts, in order to express all jobs in a common currency.

Employment income

These are the gross wages and salaries paid to employees whose jobs are supported by BT Group, including NI and pension contributions, and PAYE taxes.

5

Methodology and data sources

The methodology used to estimate BT Group's economic impacts for 2019/20 has been designed to be consistent with previous reports. Further information is provided below.

Direct impacts

The two data sources used to estimate this are BT Group's financial accounts for 2019/20 and BT Group's HR database.

Output has been taken directly from the accounts, as revenue from external customers in the UK. This removes both internal revenue resulting from internal transfers between BT Group companies and sales made outside the UK.

GVA has been calculated using the income approach, as the sum of gross operating profits before tax, interest, depreciation and amortisation, and compensation of employees. We have estimated UK gross operating profit using global EBITDA* from the accounts, and estimated the UK portion by factoring down by the UK share of total revenues. Compensation of employees has been estimated using data on gross wages and salaries (sourced from BT Group), plus social security costs (sourced from BT Group).

* Earnings before interest, tax, depreciation and amortisation

Employment numbers have been sourced from a snapshot of information provided by BT Group, with data on the number of people employed directly by BT Group and the number of contractors employed through agencies, along with their contracted hours. These have then been converted to FTEs based on one full time job being equivalent to a 37.5 hour per week contract. The data indicates both the place of residence and place of work of each employee. For direct employment we have used workplace based figures. The employment numbers are consistent with those in the 2019/20 annual accounts.

The BT Group data provided the home and workplace postcode for each employee. These were used to allocate employees to regions and local authorities for the residence and workplace based analysis. Home postcodes were not available for agency staff and contractors. The assumption was made that these members of staff were resident in the same Local Authority and Region as their workplace.

Information on contractor staff was supplied by BT Group.

Employment income has been estimated using data from BT Group, using gross wages and salaries of employees and contractors by place of work, again adjusted to be consistent with the averages wages and salaries bill quoted in the accounts in the same way as for employment numbers.

5

Indirect impacts

The data source used to estimate indirect impacts has been provided by BT Group by location and by sector. Each supplier to BT Group was allocated to a region and local authority based on the invoicing address. Suppliers were then allocated to sectors using the following process:

- All suppliers were matched to the Companies House Database. This provides the sector for each supplier at the 2 digit Standard Industrial Classification (SIC) code.

As expenditure on contract and agency staff is encompassed by the employment element of the direct impact assessment, all identifiable procurement expenditure with employment agencies has been removed from the supplier spend analysis, in order to avoid double counting.

Impacts have been estimated using Hatch Urban Solutions' input-output tables for the UK and the regions.

Induced impacts

Data on wages and salaries of BT Group employees and contractors by place of residence has been used to calculate induced impacts, along with the employment income of indirect employees estimated above.

The regional and local dimension

Estimating regional and local impacts

The results are presented for the former Government Office Regions as well as Local Enterprise Partnership (LEPs). Wherever possible this has been informed by actual data for these areas, but where this data is not available, we have apportioned results to local areas using suitable apportionment factors, drawn from other BT Group data. This should therefore be borne in mind when interpreting results at these geographical levels.

The HQ effect

National procurement contracts are often allocated to a location according to the supplier's HQ address. However, it may be that these services are actually provided from a series of locations around the country. This process of allocating the procurement expenditure to the HQ location, rather than the location of the depot where activity is taking place, may skew impacts to the HQ region and consequently under-estimate impacts elsewhere. We have adopted this approach as in previous year's assessment. It does mean that the results pertaining to indirect impacts in particular may be subject to significant margins of error, particularly at the local level.

5

Benchmarking the results

The report sets the key results in their wider socio-economic context, in order to illustrate the relative scale of BT Group's contribution to the local, regional and national economy. To do this we have drawn down nationally published statistics. The data sources used are as follows:

1. Total employees in employment: The total number of people employed by all businesses with operations in the area. This excludes working proprietors and is presented as Full Time Equivalent employees (it excludes the self-employed). (Source: ONS, BRES, 2018).

2. Total IT and communications sector employees in employment: The total number of people employed by ICT businesses with operations in the area. This excludes working proprietors and is presented as Full Time Equivalent employees (it excludes the self-employed). (Source: ONS, BRES, 2018).

3. Total private sector employees in employment: The total number of people employed by private sector businesses with operations in the area. This excludes working proprietors and is presented as Full Time Equivalent employees (it excludes the self-employed). (Source: ONS, BRES, 2018).

4. Total gross earnings from all residents in employment: This has been derived using the total number of residents in employment (source: Annual Population Survey, 2019) multiplied by the average gross annual pay for all employees in that geographical area (source: Annual Survey of Hours and Earnings, 2019).

5. Total gross earnings from all employees in employment: This has been derived using the total number of people employed by businesses in the area (source: BRES, 2018) multiplied by the average gross annual pay for all employees in that geographical area (source: Annual Survey of Hours and Earnings, 2019).

6. Total GVA - Total gross value added generated by businesses based in the area: GVA data has been provided for regions and selected LEP areas (source: ONS, Headline Workplace Based GVA at Current Basic Prices, 2018 and ONS, GVA for Local Enterprise Partnerships, 1998-2018).

Offices Worldwide

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Eitem 4

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