# Growth of data

Virgin media BUSINESS

# Growth of data

Our working world is becoming more digital by the day: computer systems and apps are more autonomous; 4G networks are connecting us around every corner; and will soon be superseded by 5G which will accelerate speeds more than 10 times faster than we see today. Virgin Media Business Wholesale will be at the heart of this transformation.
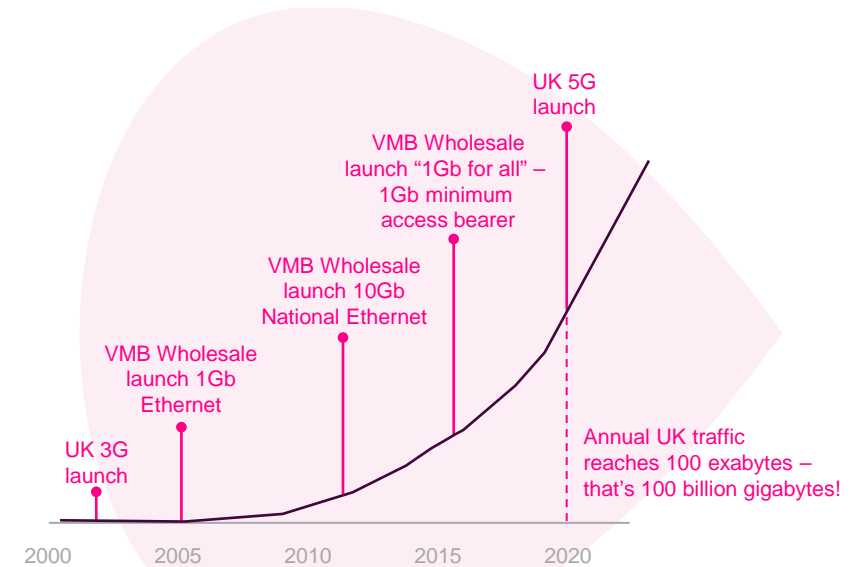
The truth is, data volumes are showing no signs of slowing down. New technologies are connecting millions of devices and decision makers – across all industries, departments and business models – are depending on data connectivity to make critical decisions that help grow their organisation.

This is modern life for almost every business – which means the future of Virgin Media Business Wholesale is bright!

**"The pace of change has never been this fast, yet it will never be this slow again…"**

**Justin Trudeau, World Economic Forum, Davos, January 2018**

# By 2025
75% of the world's population will interact with data every day.[1]

UK 5G launch

VMB Wholesale launch "1Gb for all" – 1Gb minimum access bearer

VMB Wholesale launch 10Gb National Ethernet

VMB Wholesale launch 1Gb Ethernet

UK 3G launch

Annual UK traffic reaches 100 exabytes – that's 100 billion gigabytes!

2000    2005    2010    2015    2020

**Data Traffic Graph 2**

[1] IDC, "The Digitization of the World: From Edge to Core", seagate.com/files/www-content/our-story/trends/files/idc-seagate-dataage-whitepaper.pdf.
[2] From Analysys Mason, written approval from Alex Jenkinson. See - https://www.analysysmason.com/research/content/country-reports/uk-country-report-rddc0/

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# Growth of data continued…

## What are we all about?

At Virgin Media Business Wholesale, we work with partners and network operators to create connections that really matter, powering millions of businesses and homes. Our infrastructure helps build bridges between organisations here in the UK and those overseas – driving economic growth in today's digital age by bringing emerging technologies to our cities and our everyday lives.

**Wholesale** is the sale of telecommunications services or communications infrastructure to intermediaries that are going to resell them (bundled, enhanced or transformed) to their customers or as part of a solution to underpin their services.

# Growth of data continued…

## Who are our partners?

**Network aggregators** combine our services with similar offerings from other providers.

**Resellers and partners** bundle our services to offer complete customer connectivity.

**Mobile operators** hop onto our network to build and roll out new services like 5G.

**Systems integrators** merge our products to create complete solutions.

In addition to the above partners, we also work with broadcasters, colocation and datacentre, and content and media companies. We are adaptable and agile to meet the varying needs of our diverse range of partners.
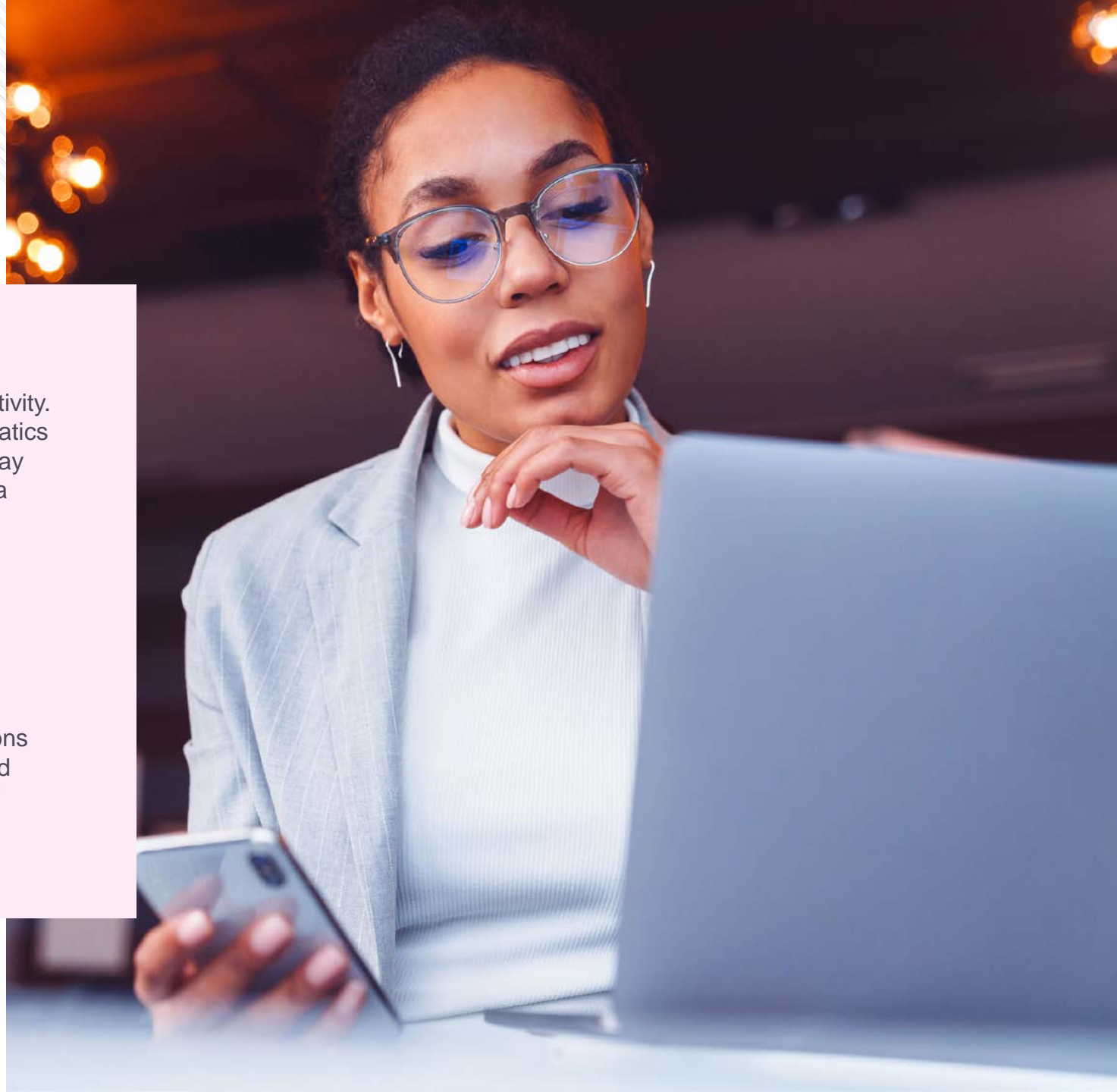
virgin media **BUSINESS**

# Power to the people

It's not just businesses that benefit from our connectivity services; we're satisfying the UK's cravings for faster, more reliable connectivity. Midweek commuters, online gamers, Netflix lovers and sports fanatics have all benefited from the power of our network in their day-to-day lives. You probably have, too. Don't just take our word for it, take a look at what we've done and how it benefits the lives of people up and down the country…

**We carry over 35% of the country's broadband traffic and will provide 20% of mobile backhaul circuits by 2021.**

We play a major role in supporting the millions of mobile connections which in 2019 allowed average mobile users to consume **2.9GB** of data a month (up **25%** from last year).

# Power to the people continued…



**We provide traffic aggregation to major broadband and TV providers.**

The Virgin Media Business Wholesale infrastructure enables **12.1 million** TV (and millions more broadband) customers to access sports, movies, TV dramas, social media, gaming and more **– all in day's work for our network!**



**We support a key part of the transmission network for television and radio broadcast.**

**26.5 million** people in the UK were able to watch the England vs Croatia World Cup semi-final – the **biggest UK TV audience** for sport since the London Olympics.



**We install Wi-Fi in over 260 London Underground stations (more than 97%!)**

We provide Wi-Fi connectivity for nearly **5 million** passenger journeys a day on the London Underground – connecting people from one place to the next.

> **"Unlike many other ISPs I have worked with, Virgin remains engaged with their customers and makes themselves available to assist with any request or situation."**

*CGI IT UK Ltd.*

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&ldquo;

**"My contact at Virgin Media has been a pleasure to work with and is extremely knowledgeable regarding the Virgin Media network."**

&rdquo;

*TalkTalk Technologies*

Don't just take our word for it, in 2020
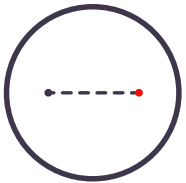(up until September) our Partners gave
us a **+ 43.3** NPS score.

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A network of
all networks

Virgin media BUSINESS
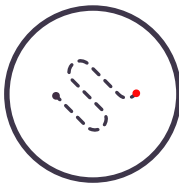
# A network of all networks
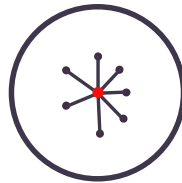
**Since 2015, we've…**

**…dug**
**16,500,000**
metres of trench.

**…re-surfaced**
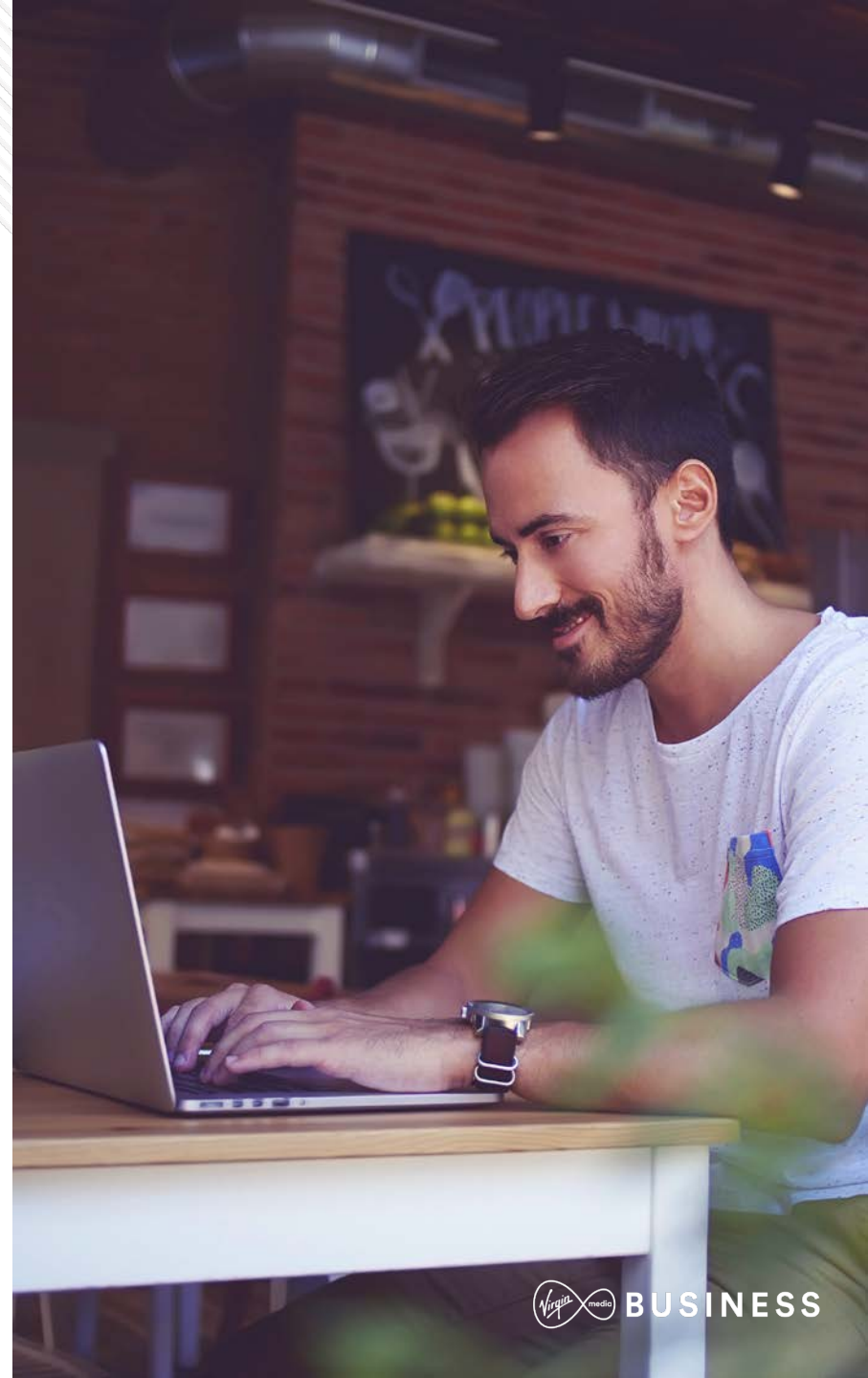**3,300,000**
square metres of
footpaths and roads.

**…built**
**158,000**
km of wholly
owned fibre cable

**Plus, by underpinning 5G networks, Virgin Media Wholesale is
fuelling growth and enabling the roll-out of 5G across the UK.**

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# What we're doing today…

**We're a**

# big

**player in the networking game…**

With **158,000km** of wholly owned fibre cable, comprising nearly **9 million kilometres** of individual strands, we have the second-largest network in the UK.

**The majority** of all UK businesses can access our network, transferring business data across the country at **2.3Tbps**
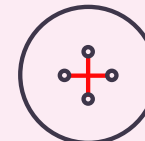
We also have the **second largest** access fibre network in the UK

hosting **84%** of our Ethernet services entirely on our own network.
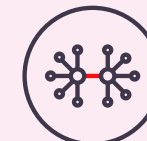
So far, our network reach covers…
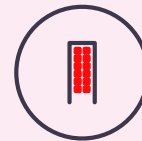
**38,000**
street cabinets

**125**
datacentre connections

**326**
optical network sites

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# A network of all networks continued…

## How we do things differently…

Delivering new connections in London during the day is a real challenge, so we set up a night crew to deliver at speed for our customers.

By working smarter through the night, they're able to access challenging areas of our network more quickly and with less disruption.

## What we're looking forward to in 2021…

Our multi million pound investment in 10Gb services will start to deliver serious benefits, with rapid-touch provisioning of 10Gb services. This will give us:

- **faster delivery times for critical services**
- **faster upgrades to continue to meet your customer demands**
- **at lower costs**

Additionally, we will massively expand our use of Physical Infrastructure Access (PIA) to support our ongoing network expansion. This will simplify, expedite and reduce cost for more complex customer installations.

The Night Install team is now clearing 20% of blockages found, which would otherwise delay installations, and between January and September 2020 it has managed to save costs of

## over £1 million

for us and our customers.

## Project Lightning: we're going places

We're investing £3 billion in the UK's internet infrastructure to expand our footprint, bringing us closer to end customers, wherever they are.

## +10 years

It's the biggest investment in over a decade

Virgin media **BUSINESS**

Looking ahead…

Virgin media BUSINESS

# Looking ahead…

**Everything we do – whether it's creating more affordable bandwidth or easier ways to stay connected on the move – is done with the Virgin customer experience in mind.**

We're completely flexible in the way we create solutions and services for our customers – making sure each and every one is right for their business and exceeds their expectations.

**We've achieved a lot.**
**And there's plenty more still to come.**

# #1 goal

To become the UK's best-in-class supplier of network connectivity.

**BUSINESS**

# Looking ahead continued…

**Between 2020-2025**, we aim to increase revenue and our operating cash flow (OCF) by a 10% compound annual growth rate (CAGR), whilst achieving 80% employee engagement and +45 NPS customer satisfaction.

## How?

### By constantly challenging ourselves to innovate at speed

We are evaluating the use of new technologies such as XGS-PON and CIN to deliver contended Ethernet services, with a variety of alternative commercial models being considered to bring more flexibility to our Partners and your end customers.

### By investing in our systems and infrastructure

In 2020 we brought more products onto our "Engage" customer portal, and we've got big plans for 2021. A multi million pound investment in our systems will bring a step change in automation for our Partners from quote to delivery.

### By streamlining delivery processes

Following a COVID impacted 2020 we are back at full capacity within our delivery engine and looking to continuously drive improvements. We're investing in our partner portal and utilising Physical Infrastructure Access (PIA). This helps us reach more challenging customer locations quickly and helps expand our network footprint.

### By making it a great place to work

We're always investing in areas that make working with us that little bit easier for our people, partners and customers. That's why, as part of our property-investment programme, we've invested in a brand-new head office with state-of-the-art technology and meeting spaces – bringing our people and customers closer together.

# One size doesn't fit all

Virgin media BUSINESS

# One size doesn't fit all

We get it: our partners and their customers are individuals. That's why we work in partnership to understand their business goals, making sure we recommend and deliver the right connectivity solutions for them. Here's how some of our solutions have helped other businesses:

## Ethernet

### What is it?

A national, carrier-class, dedicated and symmetrical layer-two, point-to point connection between end-user sites. Customers can aggregate our Ethernet service into scalable Points Of Interconnect (up to 10Gbps) and add extensions to deliver their service over a dedicated fibre pair of up to 35km (100Mbps, 1Gbps or 10Gbps).

### Who used it?

ASK4 partners with universities, private-sector student-accommodation providers, residential-apartment developers and businesses to provide of high-speed internet solutions and managed data services. They serve over 215,000 customers across hundreds of sites in the UK and Europe.

### How did it help?

ASK4 used our Ethernet services to provide connectivity to student halls of residence. We delivered all circuits as 1Gbps, enabling fast, low cost bandwidth upgrades, keeping up with their customers' bandwidth-usage growth of 25% per year.

## Managed Router Install

### Our new product

Managed Router Install is a value-add service for National Ethernet circuit orders. We connect a customer's existing or new Virgin Media Business-provided router(s) while we're setting up their national Ethernet circuits and network termination units (NTUs).

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# One size doesn't fit all continued…

## HCS

### What is it?

A layer-one optical connection that follows fixed point-to-point paths between customer locations – offering a low-latency, high-bandwidth service (10 to 100Gbps). End users have the choice of dedicated wavelengths across Virgin Media Business's network countrywide (National HCS) or short-distance links on dedicated fibre connectivity (Dedicated HCS).

### Who used it?

Virtual1 started out as a local operation and network aggregator in 2007. Since then, the company has expanded from solely London-based coverage to become a UK-wide carrier. And it's now the fifth-largest telecoms network provider.

### How did it help?

Our HCS supports Virtual1 in building out its aggregation network and extending its footprint to connect more customers. The company started by rolling out 200 1GB services and recently upgraded 42 of those to 10GB – allowing Virtual1's network to meet the exponential growth in data demand from its customers.

## Flexi Filter

### Our new product

Launched last year, Flexi Filter offers the simplicity of a managed service (D-HCS) and the flexibility of direct access to optical filter ports. This means customers can make the most of their own Dense Wavelength Division Multiplexing (DWDM) infrastructure (1 to 100Gbps).

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# One size doesn't fit all continued…

## Dark Fibre

### What is it?

Dedicated, unlit optical fibre connections between two sites – providing virtually unlimited capacity. It means companies can set up their own bespoke network by leasing unused fibre-optic cabling, rather than relying on shared network connectivity.

### Who used it?

Aspire is a managed-services company specialising in hosted services, datacentre solutions, communications and IT support, established in 2006.

### How did it help?

Aspire leverages our fibre network to support the expansion of its network footprint, enabling it to retain full control and flexibility of the connection. This means Aspire can offer its customers a wide range of flexible, fully managed solutions tailored to their end customers' business needs.

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**"Virgin Media Wholesale have taken the time to really understand us as a business and our objectives. They work closely with our people to offer their network and commercial expertise, enabling us to further expand our network and deliver unique, market-leading solutions for our customers.**

**Working with Virgin Media Wholesale has enabled us to realise the benefits of working in partnership with a carrier with scale and reach, but one that actively demonstrates agility and entrepreneurial spirit throughout."**

*Chris Fraser, Managing Director*
*Aspire Technology Solutions*

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# We like to do things differently

**Our people are the true heroes behind our success.**

They're **dedicated experts**

They build and nurture **great partnerships**

They pride themselves on delivering **exceptional customer experiences** – throughout **each and every service transition**

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# Virgin's values

*We all share the same purpose: to build connections that really matter (and our people all believe in) and to adhere to our values:*

### Insatiable curiosity

Adventurous and inventive, we never stop questioning. Always asking, "What if?" and "Why not?" to make sure we aren't missing a trick.

### Delightfully surprising

We look for unexpected ways to delight. We love connecting with people and believe that thoughtful little touches add up to a big difference.

### Heartfelt service

If it matters to you, then it really matters to us. Warm, inclusive and down to earth, we care about our customers and each other.

### Smart disruption

We're not afraid to go our own way, to challenge the rules and swerve round the norms to find new and exciting ways to punch above our weight.

### Red-hot relevance

We're spirited, brave and progressive, standing out in a world of same-same.

### Straight up

Honest, decent and straight-talking, we stick up for what's right, and hold our hands up if we get it wrong.

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# Our people

We asked some of our people for their honest opinions on what life's like at Virgin Media Business Wholesale. Here's what they had to say.

## Emma-Leigh Waters

### Account Director

Working at Virgin Media Business for seven years

### What roles have you done whilst at Virgin Media?

I have had quite the career journey at Virgin Media Business. After starting as a Credit Control Team Manager in the Preston Office, I relocated after nine months to help recruit and train the new Billing and Credit Control teams in Birmingham.

"After two years I applied for the Specialist Sales Manager role in Manchester and was absolutely over the moon to get this job. I was promoted to Head of Specialist Sales within 18 months. In my current role, I am an Account Director in the Wholesale part of the business – looking after large carrier customers."

### Have you ever had any recognition whilst working at Virgin Media?

"I was fortunate enough to win Virgin Star of the Year in 2017, and this led to my wife and [me] being invited to visit the spaceship carrier in the Mojave Desert (LA, USA), and get close up to the Virgin Galactic spaceship!"

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# Our people continued…

**Brett Rafter**

Principal Engineer

Working at Virgin Media Business for nine years

**What makes you proud to work at Virgin Media?**

"Being the last link in the chain for getting new business customer circuits up, working and tested. To be part of the team that, hopefully, adds to a positive customer NPS and allows Virgin Media to start billing customers is quite a good feeling."

**What's the best thing about working at Virgin Media?**

"Honestly, the team I am in and the people I work with. It may sound cheesy, but our team has always been close, with – until recently – little churn, so we have a great working relationship and atmosphere. We always get things done, but we usually have fun whilst doing it."

**Tom Gowing**

Graduate

Working at Virgin Media Business for 18 months

**What excites you about your roles?**

"There is a huge amount of innovation happening in the form of new product launches, and businesses are adapting to be prevalent in these new spaces. Understanding customer requirements and attempting to provide them with a total solution will be pivotal in securing business for the future."

**Do you see future career opportunities available?**

"Absolutely – it is often mentioned by employees that the graduates are an invaluable resource to every team, given their insight into areas of the business that other employees may not have. I believe this rounded insight across the business – after the two-year scheme – will put us in a good position to enter a team we really feel we can add value to."

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# Building connections that really matter

We believe, as well as enabling our Partners and their end customers; it's important to support our community and environment too.

## Scope charity partnership

We've partnered with Scope – a disability equality charity that gives people information and emotional support – to create a fairer society for everyone.

As part of our commitment to under-represented groups within supply-chain operations, we're working with Scope on its Support to Work initiative, which focuses on getting **one million disabled people into work by the end of 2020.**

**SCOPE**
**=** Equality for disabled people

## £2 million

**strategic partnership**

### Our support involves…

…funding Scope's digital-support service

…improving experiences for disabled employees and customers

…creating a movement and driving social change

## Did you know?

The Wholesale Desk team raised £3513 by climbing Snowdon in aid of Scope in 2019.

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# Building connections
# that really matter continued…

## Belonging Promise

We're building a place where everyone belongs. A place where everyone is empowered to bring – and be – their whole selves at work. We really want to understand our people and customers – to see them as the diverse and unique individuals that they are.

### We promise to:

- Build a diverse workforce where no one's left behind
- Create a safe work environment where voices are heard and valued
- Create belonging and inclusion across our people, products, customers and society

This is our moment – our chance to make a permanent change, at scale, to improve our impact on the world and make sure no one is left behind on our journey to build meaningful connections.

## Volunteering

We encourage all of our people to volunteer one day a year. It's an opportunity for them to support their local community, and for us to promote team cohesion and boost workplace satisfaction.

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# Building connections
# that really matter continued…

## Sustainability

If there are ways in which we can help protect our planet, we want in. No matter how much we grow, we always keep sustainability in mind – reducing our carbon footprint and waste sent to landfill.

**Some of the environmental initiatives we've put in place have helped us:**
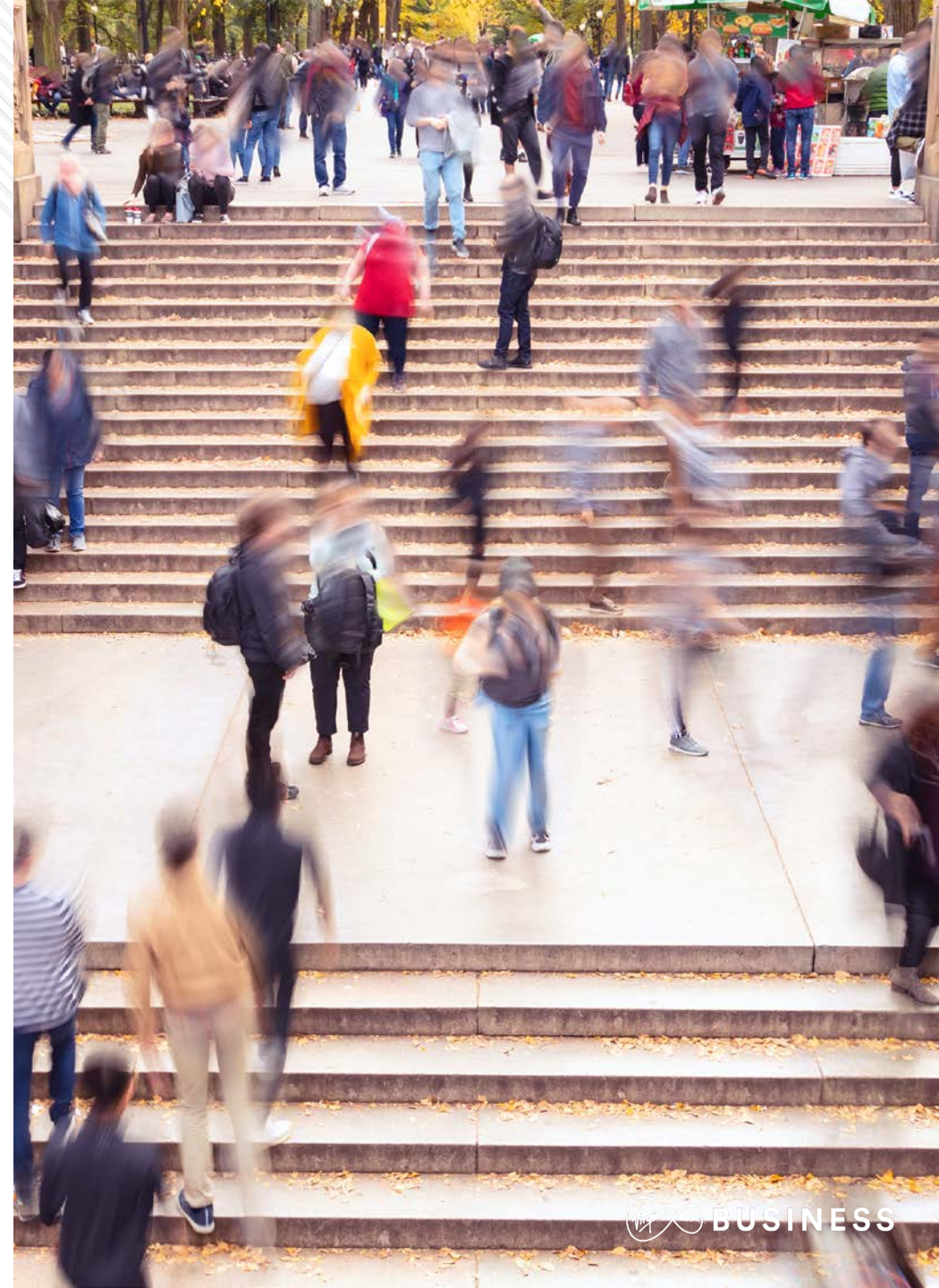
- Reduce our carbon footprint by 42% against our 2014 baseline
- Source 100% renewable energy and become a part of the RE100 initiative
- Cut emissions per terabyte of data used on our network by 85% since 2014
- And eliminate waste to landfill from our supply chain  (100%) and office sites (97%)

## Disability

**2018 finalist**

**Most Influential Business of the Year Business Disability Forum's SMART awards**

Through our disability action plan, we aim to transform experiences for disabled employees and customers.

BUSINESS

# Appendix

# Substantiation

| Page | Claim | Substantiation |
|------|-------|----------------|
| 4 | We carry over 35% of the country's broadband traffic and will provide 20% of mobile backhaul circuits by 2021. | Based on our Video graphic, see – https://www.youtube.com/watch?v=Stf_KO5Xsno&t=48s |
| 4 | Allowing average mobile users to consume 2.9GB of data a month (up 25% from last year) | Based on Finder.com article , see – https://www.finder.com/uk/mobile-internet-statistics |
| 4 | 26.5 million people in the UK were able to watch the England vs Croatia World Cup semi-final | Based on BBC article, see – https://www.bbc.co.uk/news/entertainment-arts-44804428 |
| 4 | We install Wi-Fi in over 260 (more than 97%) London Underground stations | Based on TfL article, see – Total weekday entry https://tfl.gov.uk/campaign/station-wifi |
| 4 | We provide Wi-Fi connectivity for nearly 5 million passenger journeys a day on the London Underground | Based on TfL - Total weekday entry "nearly 5m" https://data.london.gov.uk/dataset/london-underground-performance-reports |
| 4 | The Virgin Media Wholesale network infrastructure enables 12.1 million TV (and millions more broadband) customers | From our internal research data – Sky – 6.2m customers and Virgin – 5.9m |
| 7 | Dug 16,500,000 metres of trench | From our Network expansion Team – The daily published Lightning data was used to generate the Project-to-Date numbers – Rounded Lightning Meterage Project-to-date = m 16,500,000 |
| 7 | Re-surfaced 3,300,000 square metres of footpaths and roads | From our Network expansion Team – The daily published Lightning data was used to generate the Project-to-Date numbers – Reinstated Surface Area m2 = 3,300,000 |

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# Substantiation continued…

| Page | Claim | Substantiation |
|------|-------|----------------|
| 7 | 158,000km of wholly owned fibre cable, comprising nearly 9 million kilometres of individual strands, we have the second-largest network in the UK | From Internal Data – <br> GCOMMS Data (sourced via Kenneth McKay \| GIS Technology & Innovation Consultant) |
| 7 | We're also the second largest access fibre network in the UK | From the desk of VMB Ethernet Product Manager – <br> Access network providers- <br> 1. BT Open reach- National <br> 2. Virgin Media- National with franchises <br> 3. Vodafone- National |
| 7 | Hosting 84% of our Ethernet services entirely on our own network | From the desk of VMB Ethernet Product Manager – <br> From the complete list of product installations completed in 2018, filtered that by Ethernet products and new installations then split them by B end network provider. For Ethernet almost all have Interconnects as the A end which are all on-net. Hence only the B ends considered. <br><br> **Row Labels Count of Case ID Number** <br> BT Open reach 7.67% + BT Wholesale 3.55% + TalkTalk Business 2.01% + Virgin Media 84.35% + Vodafone 2.42% = Grand Total 100.00% |
| 8 | The Night Install team is now clearing 20% of blockages found, which would otherwise delay installations, and between January and September 2020 it has managed to save costs of over £1 million for us and our customers. | From the VMB Night Install Team – <br> **Jan 2019 to Dec 2019 our team had a cost aversion of:** <br> Total costs Averted (Month) = £1,437,776.24 <br><br> **Jan 2020 to date our team had a cost aversion of:** <br> Total costs Averted (Month) (WIP) = £1,043,604.86 |

# Substantiation continued…

| Page | Claim | Substantiation |
|------|-------|----------------|
| 11 | Customers can aggregate our Ethernet service into scalable Points Of Interconnect (up to 5Gbps) and add extensions to deliver their service over a dedicated fibre pair of up to 35km (100Mbps, 1Gbps or 10Gbps) | From Sales documentation and Internal Product description |
| 11 | ASK4 partners with universities, private-sector student-accommodation providers, residential-apartment developers and businesses to provide of high-speed internet solutions and managed data services. They serve over 215,000 customers across hundreds of sites in the UK and Europe. | Based on ASK4 Website, see - https://www.ask4.com/about-us |
| 12 | A layer-one optical connection that follows fixed point-to-point paths between customer locations – offering a low-latency, high-bandwidth service (10 to 100Gbps). End users have the choice of dedicated wavelengths across Virgin Media Business's network countrywide (National HCS) or short-distance links on dedicated fibre connectivity (Dedicated HCS) | From Sales documentation and Internal Product description |
| 12 | Virtual1 started out as a local operation and network aggregator in 2007. Since then, the company has expanded from solely London-based coverage to become a UK-wide carrier. And it's now the fifth largest telecoms network provider | Based on Virtual one website, see – https://www.virtual1.com/news/2018/virtual1-featured-in-parliamentary-review |
| 12 | Launched last year, Flexi Filter offers the simplicity of a managed service (D-HCS) and the flexibility of direct access to optical filter ports. This means customers can make the most of their own Dense Wavelength Division | From Sales and Marketing Documentation |
| 20 | Scope £2 million strategic partnership | Based on Virgin.com, see - https://www.virgin.com/virgingroup/virgin-media-pioneering-virtual-mobile-operator-worlds-first-quad-play-company |
| 20 | The Wholesale Desk team raised £3,513 by climbing Snowdon in aid of Scope in 2019. | From our VMB Sustainability – The VMB Enterprise Desk team |

BUSINESS

# Substantiation continued…

| Page | Claim | Substantiation |
|------|-------|----------------|
| 22 | Disability 2018 finalist Most Influential Business of the Year Business Disability Forum's SMART awards | Based on Business Disability Forum, see – https://businessdisabilityforum.org.uk/media-centre/news/disability-smart-awards-2018-finalists-announced/ |
| 22 | Reduce our carbon footprint by 42% against our 2014 baseline | From our VMB Sustainability and Virginedia.com, see – https://www.virginmedia.com/content/dam/virginmedia/dotcom/documents/corporate/2019_Sustainability_Report_FINAL_110820.pdf |
| 22 | Source 100% renewable energy | From our VMB Sustainability and Virginedia.com, see – https://www.virginmedia.com/content/dam/virginmedia/dotcom/documents/corporate/2019_Sustainability_Report_FINAL_110820.pdf |
| 22 | Cut emissions per terabyte of data used on our network by 85% since 2014 | From our VMB Sustainability and Virginedia.com, see – https://www.virginmedia.com/content/dam/virginmedia/dotcom/documents/corporate/2019_Sustainability_Report_FINAL_110820.pdf |
| 22 | And eliminate waste to landfill from our supply chain (100%) and office sites (97%) | From our VMB Sustainability and Virginedia.com, see – https://www.virginmedia.com/content/dam/virginmedia/dotcom/documents/corporate/2019_Sustainability_Report_FINAL_110820.pdf |

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# Thank you.

virginmediabusiness.co.uk/partners

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