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<td>Howard Watson, Chief Technology Officer</td>
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<td>Building the strongest foundations</td>
<td>Neil McRae, Chief Architect</td>
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</table>
We are successfully executing our 2030 Network strategy and vision

- Unparalleled fixed and mobile networks
- Continued investment in a simpler converged service
- Industry leading, diverse pool of technology talent
- Standout customer solutions built on leading network capabilities
- Applying research, targeting sustainability and customer outcomes
- Structurally transforming our cost base
BT in Numbers

30m
Consumer customers representing >50% UK households

1.0m+
Enterprise customers enabled by our business services

180+
Countries served by our Global operations

7.2m+
5G ready customers – 120% more year on year

1.1m+
Consumer FTTP customers and rising...

5,000+
Patents in our portfolio
**Best and Most Reliable Mobile Network**

- 99% overall population coverage across 4G
- 87% 4G geographic coverage - highest coverage in the UK
- 50% 5G population coverage
- 90% target 5G geographic coverage by 2028

**Largest and Broadest Reach Fixed Network**

- 7.6m premises passed with FTTP today
- 29m+ premises on superfast
- 28Tbps\(^1\) total traffic peak
- 25m target full fibre premises by 2026

**Mobile Traffic (Tbps in the busiest hour)**

- FY20: 0.5
- FY21: 0.8
- FY22: 1

**Fixed Broadband Traffic (Tbps in the busiest hour)**

- FY20: 18
- FY21: 23
- FY22: 25

\(^1\) Terabits per second

\(^2\) Total traffic peak = Broadband + Ethernet + Mobile
We leverage the scale of BT’s passive infrastructure assets to deliver the best network capabilities.

- **5.6k** Exchanges inc 106 Metro Nodes
- **c100k** Fibre Cabinets
- **>565,000km** Duct
- **4.6m** Telegraph Poles
- **20k** Macro cell sites (Plus >1500 indoor sites)
- **1k** Digital Hubs
- **18k** Wi-Fi Hotspots (+ 5.6M Hub hotspots)
- **20k** Payphones
Serving our customers with the UK’s Best Network

Unmatched depth and reach in network
- UK’s largest core network
- Largest high bandwidth footprint - up to 10 Gbps for business customers
- Largest spectrum portfolio in UK

Core network performance
- Highly resilient architecture
- Better than 99.999% core availability

Best Network
- RootMetrics’ fastest and most reliable network since 2014
- Umlaut connect’s UK Benchmark overall network winner for the 7th consecutive year
- Ofcom largest fixed network awards

20,000 Cellsites
1,900 High bandwidth Ethernet Exchanges
28+ Tbps¹ Core traffic
150,000 Ethernet based circuits

¹ Terabits per second
A network that underpins the UK’s critical national infrastructure

The UK’s Emergency Services Network runs on top of our broadest reach and highly resilient network

999: 6 call centres handle all 999 calls across the UK, passing calls to the relevant emergency service

Met Police premises fully connected to its force across the UK cities, towns and streets

Ministry of Defence partner for unified communications, fixed & wireless networks

110 Live NHS Trust accounts supporting live critical NHS services across the country

<table>
<thead>
<tr>
<th>Metric</th>
<th>Description</th>
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<tbody>
<tr>
<td>99.7%</td>
<td>ESN¹ road coverage from our macro cell sites</td>
</tr>
<tr>
<td>39m</td>
<td>Emergency calls handled this year</td>
</tr>
<tr>
<td>500</td>
<td>Met Police London sites provided with highspeed Wide Area Network + IP² telephony</td>
</tr>
<tr>
<td>100</td>
<td>years as a critical communication and connection provider</td>
</tr>
<tr>
<td>80m</td>
<td>Smart messages delivered per month for NHS (vaccine and flu campaigns)</td>
</tr>
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</table>

¹ Emergency Services Network
² IP Internet Protocol
Our Network strategy is crucial to realising BT’s 2030 Ambition

Purpose
Why we exist
We connect for good

2030 Ambition
Who we must become
To be the world’s most trusted connector of people, devices and machines

Values
What will guide us

Values drive our behaviour:
Personal, Simple, Brilliant
Being trusted: our code
Helps us to do the right thing

Strategy
How we’ll grow value for all our stakeholders

1 Looking in
Build the strongest foundations
☐ Best converged network
☐ Word class Technologists

2 Looking out
Create standout customer experiences
☐ Standout network experience
☐ Brilliant Customer solutions

3 Looking to the future
Lead the way
to a bright, sustainable future
☐ Research Active
☐ Sustainable and efficient
We are evolving a great network into a simple, flexible, platform for growth

On track to deliver our Network 2030 vision: A radically simplified, converged network based on 5G and FTTP

Market leader in 5G
Make 5G the primary solution ‘on the go’
90% geographic coverage by 2028

Market leader in Full Fibre
Make FTTP the backbone for all future applications
25m premises by 2026

Broadest reach
Ensure rich customer experience everywhere
Small cells, Fixed Wireless Access, Neutral Host, Shared Rural Network, Wi-fi, Satellite connectivity

Now underpinned by a converged core network enabling simplification of products, platforms and infrastructure

These fundamental principles will enable us to shape our network:

1. Drive innovation by enabling APIs for service and partner ecosystems “NaaS”

2. Create a single flexible network architecture relying on converged programmable network functions

3. Leverage data-driven network optimisation and automation

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1 Network as a Service
2 Application Programming Interface
This strategy will deliver great outcomes for customers and BT

**Best yet simpler network with lower costs**
More price competitive, more sustainable and energy efficient

**Connectivity for everything**
Machines, sensors, indoors, rural, hard-to-reach premises and businesses

**Rich yet simple NaaS**
Easy and efficient access to maximise benefit from our best-in-class network

**Faster time to market**
Enabling products and services to come to market in days

**Majority 5G population coverage in the UK**
Wide Population coverage with ultra-fast
Significantly reduced Legacy footprint
High Network Customer Satisfaction
Reduced cost base

**Innovation in services**
Enabling differentiated network services and incremental revenues

**Automated operations and orchestration**
Built on real-time telemetry from our network infrastructure

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1. Network as a Service
2. Application Programming Interface
Build the strongest foundations

Neil McRae
We are building a radically simplified network architecture based on 5G and FTTP to maintain our network leadership.

**Mobile**
- 5G rollout
- Macro cells; Small cells
- 5G private networks

**FWA¹ and Satellite**
- Hard to reach locations
- Trials underway

**Fixed**
- FTTP for consumer and business
- Dedicated fibre for large business locations and cell sites
- Delivering the core infrastructure for broadband to c10m customers

**Converged IP Core**
- New 5G core live and 94% mobile cell sites using common IP Core
- Combined IP core network for fixed and mobile traffic
- Optimisation and scale of network benefits both traffic types

**Network Cloud**
- Private Cloud platform built to host mobile core and service applications
- Content and edge applications

**High Capacity Network**
- 1,000 locations connected to Openreach access networks
- Content providers hosted within network to optimise delivery
- Network scaled for high evening capacity

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¹ Fixed Wireless Access
Through closing platforms and buildings our network will be simpler and more sustainable

We are moving all customers off legacy products enabling full closure of legacy platforms

82% of all legacy customer units are on our Copper Phone platforms

We can shutdown our legacy networks

We successfully shut Featurenet this year

And ultimately close ~4,500 exchanges / buildings

We will pilot 5 closures by 2024

Releasing 550GWh of annual energy consumption and at least 30% of run cost
Our Network Cloud is enabling flexible, secure and enhanced network capabilities

A flexible infrastructure to evolve our core

Evolving to simplify vendor integration

Current Status

2,000+ compute servers 12 locations Hosting new 5G core

Automation and tooling

Extensive use of software tooling
Automated build – infrastructure as code
Rich Telemetry
Native container platforms driving simplification

Benefits

Flexible private cloud for hosting the core of our network
Rapid scaling up/down of core function
Cloud scale automation

1 Virtual customer premise equipment
2 Application Programming Interface
3 Internet Peering Platform
We are proactively targeting the enablement of Network as a Service (NaaS)

A new platform enabling customers and partners to operate our network with automated journeys from start to finish

Network as a Service
- Digital customer experience via Portal and APIs
- Real time control for customers
- Enables rapid turn up and customisation of network connectivity

Network as a Service Platform
- Fully software controlled network
- Automated fault remediation
- Powerful telemetry, AI and optimisation technology
- Underpinned by high capacity all-IP network
- Co-located with key Cloud providers
Our platform uniquely positions us to leverage new Edge computing capabilities

This will unlock the next stage of cloudification, shifting workloads off premises and off devices and taking compute power wherever it is needed

Edge unlocks several benefits

1. Consistent and responsive experience
2. Addresses security and privacy needs
3. Guarantees data residency and sovereignty
4. Compute offload enables lighter devices
5. Optimises bandwidth resources

With several paths to monetisation

- Partner with public cloud and specialist providers by offering space and power in our estate
- Offer a BT Edge platform on our Network Cloud infrastructure
- Offer end to end solutions running on partners’ or BT’s Edge infrastructure

And BT is best placed

Unrivalled estate of potential Edge locations:

- ~100 Hub/metro sites across major UK cities
- ~1,000 Tier 1 exchanges in close proximity to customer and mobile sites

Customer relationships in at least 50% of UK households via:

- Best 4G and 5G network
- Largest FTTP footprint

1 According to Rootmetrics, for the last 8 years
Our network is secure and trusted, maintained through leading class controls

We have a broad set of Cyber defence capabilities

- Global Security Operations Centres
- Threat prioritisation framework
- Visual analytics – Supported with AI and Machine Learning
- 3,000 security experts
- World-class technology e.g. Microsoft, CrowdStrike
- Continuous monitoring
- Automated security responses
- Threat Assessment, SAFE Security

Constantly challenging ourselves to stay ahead of the threats

**War gaming**
BT uses war gaming and simulation to test how we react to issues when they occur

**Red teeming**
Trained to ‘Nation State level’, BT Security probes and tests ourselves the way our adversaries do

**Remaining within risk appetite**
Having the right key controls in place and continually measuring them

Protecting our customers with these capabilities the same way we protect ourselves is a key growth area for BT
We continue to attract, develop and retain the best talent.

7,000 Networks employees ranging from architects, planners, engineering and operational field force.

~400 Graduate and apprentice talent pipeline.

~300 Researchers and innovators delivering state of the art research and testing new technology.

435 Top talent hires from leading global firms.
We are building the best team of World Class Technologists

**Best team**

**Inclusive Culture**
Listening, sharing experience and embracing diversity

**Focused on Diversity**
Targeted improvement in diversity index across gender, ethnicity and disability

**Strong Engagement**
Continuous improvement agenda to strengthen and maintain engagement

**World Class Technologists**

**Digital and Cloud Expertise**
Re-skilling and hiring to ensure right skills for future

**World Class Tech Pathways**
Investing in colleagues’ growth and development

**Great Leaders**
Developing and supporting leaders to maximise outcomes for themselves and their teams

Hiring... Growing... Retaining Great Talent
We are investing in key initiatives to deliver our people priorities

**Returners Programme**
Re-engaging talent that has been out of the workforce

**The Tech Fellowship**
Multi-level engineering community

**The Leader Lab**
Partnering with world class universities

**Network Cloud Learning**
Upskilling our technical experts
Create standout customer experiences

Greg McCall
Our Network leadership enables us to deliver great customer solutions

**Customer Centric**

**Customer Driven**
- Providing the coverage and capacity our customers demand wherever they are

**Flexible and Adaptive**
- Scalable and resilient to meet demands all the time

**Digital Exposure**
- Easy to consume – Network as a Service
- Driven by portal and API interaction with our customers

**Scalable and Automated**

**5G and FTTP**
- Harnessing the best of fixed and mobile

**Single converged core**
- Simplified through common converged infrastructure, utilising cloud technology for flexibility

**Automated and Responsive**
- Able to adapt and self optimize, reduced latency, leveraging software to simplify scaling and operations

This is the new network leadership
Our network credentials put us in a clear leading position to drive value and deliver differentiated experiences for our customers

Mobile
- UK network leader
- Since launch, EE has been first with every ‘G’. We’ve been #1 for reliability for eight years running
- Our spectrum holdings mean we have a clear advantage of wide bandwidths

We have 12% more spectrum than Vodafone and H3G and 24% more than O2

Comparing Downlink Spectrum

Our spectrum holdings have wider bandwidths on average than other operators

Comparing Spectrum per Band

Fixed
- Largest fixed network in the UK with the widest reach
- Highest overall service satisfaction for landline and broadband
- BT customers are more likely to recommend us to friends and family

"One clear winner when it comes to customer service."

"According to the latest tests from telecoms regulator Ofcom, it appears that BT is leading the way with the broadband company performing top for overall satisfaction amongst its customers."

"BT scored a significantly better result for its internet service than any of its rivals."

1 According to Rootmetrics
2 According to Ofcom Report: Choosing the best broadband, mobile and landline provider – Published May 2022.
Strong growth in demand and changing habits mean our networks are more essential to customers than ever

- Customers habits have changed for good
- Our networks are critical for home-working and education
- This drives higher and longer daytime usage, with content continuing to drive evening peaks
Wi-Fi will evolve to meet the future needs of Consumers and Enterprises

Secure and optimised customer experience and connectivity will be critical. We are uniquely positioned to deliver this.

Today we digitally enable the home:
- Full Fibre allowing customer speeds over 1Gbps¹
- High quality Wi-Fi with whole home coverage

For Enterprises, our “Hybrid Connect” hub delivers both back-up and speed-boost

In the future, next generation, low latency Wi-Fi will offer a great experience for
- Virtual reality
- Cloud gaming and enhanced video conferencing
- Connecting many more devices, sensors and machines

Hubs will intelligently differentiate between critical services and leisure activities

For business and outside the home, Wi-Fi will scale:
- Up to 46Gbps of wireless throughput (6x increase over current systems)
- Higher performance Enterprise access points bringing reliable connection speeds of 10Gbps

¹ Gigabits per second
Leveraging our converged core, 5G and FTTP capability we are building a network platform to address future network demands.

- **Small cell networks**
  - Outdoor small cells for capacity
  - Indoor small cells
  - Neutral host
  - Wi-Fi

- **Smart city networks**
  - Council networks
  - Infrastructure connectivity
  - Sensors and devices

- **Future transport networks**
  - TFL/BAI¹
  - Future railway mobile comms system
  - Cellular vehicle-to-everything

- **Private networks**
  - Connectivity+
  - 5G Stand Alone Evolution
  - On-premises compute
  - Full Service wrap

- **Broadcast networks**
  - Digital TV
  - Digital Radio
  - Future TV Distribution

¹ TFL Transport for London, BAI Communications
Every part of 5G is enabling new opportunities with customers

Vertical application examples

**Health**
IoT & Digital Twins provide real-time operational Intelligence

**Government**
Real-time workflow and cloud data automation

**Manufacturing & Logistics**
Automated Guided Vehicles (AGVs) in an industrial setting

- More reliable: Simplified network
- More responsive: Lower latency
- More secure: Latest security protocols, standards
- More flexible: Can be optimised and tuned
5G solutions underpin great propositions and solutions for enterprises and consumers to unlock growth

<table>
<thead>
<tr>
<th>The role of 5G</th>
<th>From private networks...</th>
<th>To hybrid and macro networks</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Selectively offering private networks to customers where we can bundle Cloud, Security and other solutions to more scalable hybrid and macro networks, with Mobile Network Operators becoming key market players</td>
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<table>
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<tr>
<th>Customers</th>
<th>From connectivity only...</th>
<th>To platforms+</th>
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<tbody>
<tr>
<td></td>
<td>Moving further up the technology stack from only delivering connectivity to platforms and vertical specific applications will be key to unlocking further value &amp; remaining competitive</td>
<td></td>
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<table>
<thead>
<tr>
<th>What we offer</th>
<th>From standalone network / components...</th>
<th>To end-to-end solutions</th>
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<tr>
<td></td>
<td>Current over-the-top apps lack integration across tech stack. By focusing on specific demand-driven solutions, we will provide end-to-end integrated solutions with best-of-breed partners</td>
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<tr>
<th>Monetisation</th>
<th>From bespoke commercial models...</th>
<th>To as-a-service models</th>
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<tbody>
<tr>
<td></td>
<td>Hyperscalers have proved that modern as-a-service models are the preferred option for many customers. As solutions become more integrated, we will develop new commercial models to better serve our customers</td>
<td></td>
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</table>

Transition towards hybrid and macro networks strengthens our position
Lead the way to a bright, sustainable future

Prof Tim Whitley
We shape the future of network technology through customer and industry collaboration

We collaborate across industry partners
- Working with the world’s best universities
- Providing collaboration labs
- Contributing to global standards
- Partnering on breakthrough world-firsts

We co-create with our customers
- Understanding our customer challenges
- Driving insight into our research programme
- Co-working with customers to trial new solutions
- Market-sector specific innovation hubs

Innovation Hub

Showcase
- Solution provider competitions
- Academic insights
- Showcase tours
- Training facilities
- Industry forum collaborations

University
- Technology trials
- Industry specific feedback groups
- Hackathons
- Visiting experts
- Industry conferences

5G testbed

Co-creation labs

Blue light services

Drones & robotics

Conference facilities

Gym

Homes of the future

Best Network
Sustainability
Future Growth
Our research shapes next generation networks and unlocks growth opportunities

Networks research
Smart capacity planning
Ultra MIMO
Hollow Core Fibre for low latency applications
Highly sensitive radio
Smart surface antennas

Ultra-secure converged networks
Quantum-secured network services
QKD London Metro Network Trial

Future Cyber defence
Capabilities enabling future infrastructure and services
Adapt defences in response to real-time threat detection
Integrating prevention/detection and response capabilities
Eagle-i proposition

Future AI applications
Automating management processes across the entire network
Home Wi-Fi optimisation
Field force optimisation

Immersive & Interactive Applications
Volumetric Video leveraging high bandwidth, low latency networks
Remote expert, remote education

We proactively respond to new demands on our network and harness disruptive technology to meet future customer needs

1 Multiple in Multiple Out
2 Quantum Key Distribution
Financial Delivery and Outlook

Emily Clark
UK Operating costs down 2% last year, mainly driven by:

- Increase in mobile coverage and capacity driving higher operating costs due to new annual licence fees
- Offset by lower labour cost and lower energy cost due to price upside and lower consumption

We continue to prioritise fixed and mobile investments to maintain No.1 Network position

We are responsible for 22% of BT Group's investment

<table>
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<tr>
<th>Networks</th>
<th>FY21</th>
<th>FY22</th>
<th>Change</th>
</tr>
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<tbody>
<tr>
<td>Operating costs</td>
<td>1,489</td>
<td>1,455</td>
<td>↓</td>
</tr>
<tr>
<td>Capital expenditure</td>
<td>994</td>
<td>1,052</td>
<td>↑</td>
</tr>
<tr>
<td>Total managed costs</td>
<td>2,483</td>
<td>2,507</td>
<td>↑</td>
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</table>

Capital expenditure increased by 6% last year, which continued to enable:

- Maintaining our No.1 Network position
- Continued coverage investment in 5G rollout
- Mobile core investment and Huawei swap out programme
- Openreach FTTP rollout through fixed core network investment
- Closure of legacy platforms
- Underpinning BT’s physical and cyber security through continuous investment

1 % of BT Group capex excluding spectrum
Operating costs reduce over the next 5 years despite volume growth and inflationary pressures

Operating costs in the medium term are largely driven by
- Running our fixed and mobile networks
- PSTN\(^1\) closure

Energy cost increase in FY23 due to market prices

Ofcom fees increasing due to new annual licence and CPI adjustments

Energy reduction programme in place with large savings from PSTN closure

Transformation savings from legacy closures, automation and procurement initiatives

\(^1\) Public Switched Telephone Network
We have a multi-year programme of investment to deliver our converged network vision enabling growth while reducing unit cost.

Exponential Traffic Growth (Tbps)\(^1\)

Core Network Unit Cost (£/Mbps)\(^2\)

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\(^1\) Terabits per second

\(^2\) £/Megabit per second
We have a focused programme of Cost Transformation, to enable continued investment in growth and offset inflationary pressure

£350m +
of gross operating cost transformation over next 5 years

3rd Parties
- Installing BT (Enterprise) dedicated fast fibre at RAN sites. Key to #1 Network
- Lease, rental and accommodation optimisation
- Sourcing, partnership and contract optimisation working with BT Sourced

Energy
- Closure of legacy networks
- New energy efficient equipment
- The Better Work Place Programme & exchange closures
- Enhanced monitoring tools for decision making

Operational Efficiency
- Automation and operational excellence
- Organisational design optimisation
- Lower cost strategic architecture
- Legacy network decommissioning
- Legacy transmission link removal
We are successfully executing our 2030 Network strategy and vision

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- Continued investment in a simpler converged service
- Industry leading, diverse pool of technology talent
- Standout customer solutions built on leading network capabilities
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Q&A

Howard Watson