

The Mobile Connectivity ROI Index 2025 NHS and healthcare

How the **NHS and healthcare sector** could
benefit from better indoor 4G and 5G coverage



Make sure you're connected, the writing's on the wall

Higher workforce productivity is seen as the biggest opportunity for healthcare organisations when it comes to enhanced 4G/5G connectivity

62%

65%

of healthcare organisations say **remote patient monitoring and management** is driving demand for better indoor mobile connectivity

Healthcare is the **only sector** that would **gain** almost as much value from improved indoor mobile connectivity as it's currently losing from poor connectivity

£3.74
BILLION

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Roles and recommended reading sections

- CEO / Chair
- CTO / CIO / Network Engineers / IT
- ▲ Head of Digital / Chief Digital Officer
- ◇ Chief Clinical Information Officer / Chief Nursing Information Officer
- ★ Estates

Let us help you make the case for better connectivity

By Simon Frumkin, CEO of Freshwave



Did you know that 80 per cent of mobile voice and data traffic occurs indoors?

With the government estate consisting of 159.5 million m² of internal floor area, 30 million m² of which is dedicated to health, that's a huge footprint serving many millions of staff and citizens.

We're all accustomed to using our mobile devices when out and about thanks to the significant investment the mobile network operators (MNOs) have made in their networks. Quite rightly, they've concentrated their investment on where it benefits the most people – usually outdoors.

"We're often left with mobile devices that don't work indoors, leading to frustration and lower productivity"

But the huge technological advances in mobile devices have put the power of the internet in our pockets. And when you combine this constant demand with complex building layouts and construction materials that block signal from entering buildings, we're often left with mobile devices that don't work indoors, leading to frustration and lower productivity.

As a leading neutral host, we're privileged to partner with all the mobile network operators to extend their networks indoors. In fact, we've already deployed or are currently deploying seamless mobile connectivity from all the UK MNOs in 14 NHS hospitals and healthcare settings serving more than 6 million patients, clinicians, staff and visitors a year.

We believe that indoor mobile connectivity is the missing piece in the productivity puzzle. The government's 10 Year Health Plan for England clearly signals that digital tools and systems will be central to how care is delivered – and that depends on the right infrastructure being in place.

From our work with NHS trusts across the UK, we understand that our customers need help articulating what they stand to gain from investing in dedicated multi-operator indoor mobile connectivity – both in year one and in years to come. It could be in how connectivity enables applications they've already purchased to operate more efficiently (which provides aggregated digitalisation value). Or enabling use case stacking that maximises the return on digital infrastructure investments.

To support that need, we surveyed 100 C-suite leaders and IT Directors from NHS and healthcare organisations across the UK as part of our wider ROI Index. This report includes both an NHS and healthcare-specific deep dive, as well as results from the full 900 respondent sample.

Across the entire public sector, respondents believe that better indoor mobile coverage would generate annual productivity gains of £33bn a year; those in the NHS and healthcare organisations believe £3.74bn in productivity gains could be achieved with better indoor mobile connectivity.

I hope you find the insights of your peers useful. Read on to find out more about how to use our data at your trust, building the case for indoor mobile connectivity to enable business continuity.



We surveyed 900 senior executives from medium and large organisations across the UK's private and public sectors. The industries represented include transport and logistics, professional and financial services, healthcare, retail, manufacturing, hospitality, stadiums and leisure, property development, law, and government.

NHS and healthcare digitalisation drivers

Moving from analogue to digital means the right digital infrastructure needs to be in place to support staff and patients alike.

We surveyed 900 C-suite executives and IT decision-makers from a range of sectors to understand what impact poor indoor connectivity has on their operations, as well as what they think they stand to gain from investing in dedicated indoor mobile connectivity.

This included 100 leaders in healthcare organisations, on which the findings of this NHS and healthcare deep dive are based.

The 10 Year Health Plan for England commits to a full digital transformation. It says: "New technology will liberate staff from timewasting admin and make booking appointments and managing your care as easy as online banking or shopping." But that will only happen if the right digital infrastructure is in place to support these digital applications and ambitions.

When thinking about improving in-building connectivity in hospitals or other healthcare settings, most people consider Wi-Fi the only solution. But Wi-Fi uses unlicensed spectrum, meaning it can become overburdened and fail, seriously impacting business continuity. A dedicated multi-operator indoor mobile network extends the MNOs' networks indoors, guaranteeing business continuity and seamless signal for clinicians, other staff, patients and visitors.

We rely on our phones. Our phones rely on connectivity.

Poor mobile connectivity slows work down and creates frustrations for clinicians, clinical administrators and patients alike. Bringing in a dedicated multi-operator mobile network can unlock significant productivity gains.

In the NHS and other healthcare settings, mobile connectivity allows staff to more easily share information across departments, it facilitates peer-to-peer comms and it supports innovations like remote patient monitoring and electronic patient records.

Mobile connectivity allows the digital journey to proceed uninterrupted. And it makes time in hospital better for patients, allowing them to keep in touch with loved ones without having to rely on busy nurses to bring a phone back and forth, in turn freeing them up for more important patient tasks.

The business case for mobile is clear. Poor mobile connectivity creates significant challenges to trusts and the healthcare sector, as it does to businesses across the UK economy.

"By empowering patients with real time, actionable, health insights and seamless connectivity to their clinical teams, we will enable proactive self-management, earlier intervention, and ultimately, better health outcomes for millions across England."

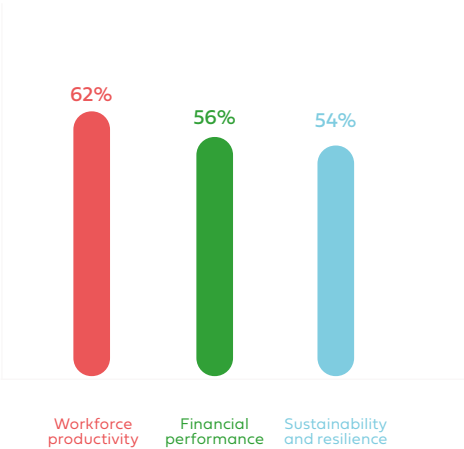
– Fit for the Future: 10 Year Health Plan for England



According to the NHS and healthcare decision-makers we surveyed, issues with current connectivity are costing them £3.8 billion in lost productivity a year.

However they also believe that dedicated indoor mobile connectivity would recoup almost all of those losses, delivering £3.74 billion in productivity gains from making full use of innovations such as electronic patient records.

Top 3 organisational outcomes that would be improved with better indoor mobile connectivity in healthcare ▼



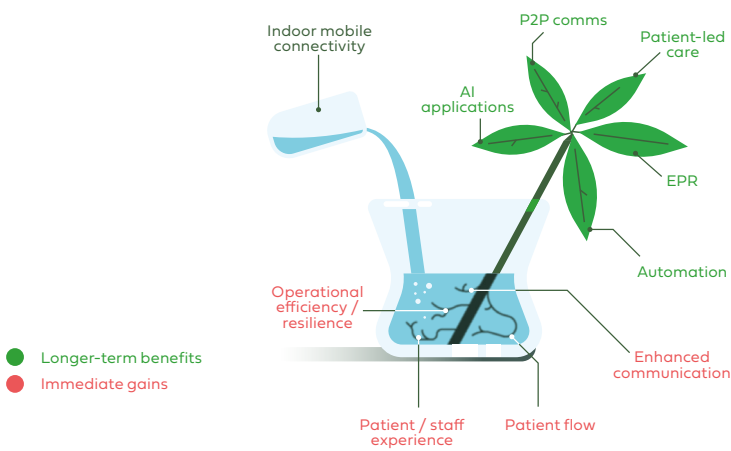
Getting connected unlocks immediate gains and longer-term opportunities

The 10 Year Health Plan for England highlights the need for smarter, more connected NHS services. Reliable indoor mobile coverage underpins this – enabling digital check-ins, wayfinding apps, patient self-management tools, and staff coordination systems. It supports near-term goals like reducing wait times and reducing the administrative burden on staff.

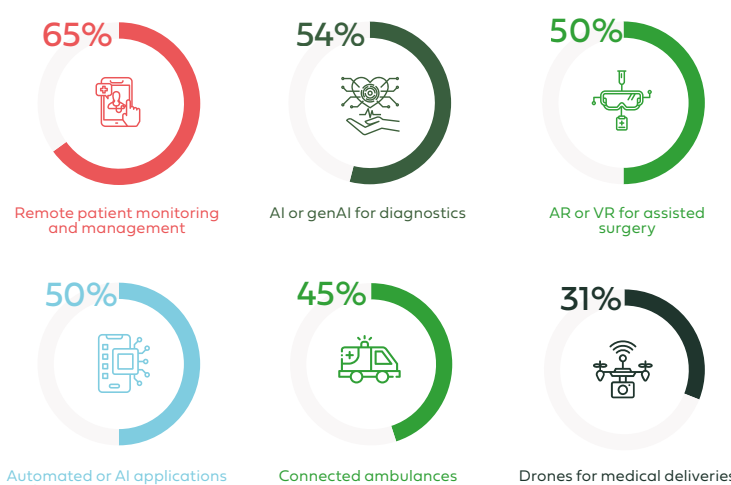
And deploying multi-operator in-building connectivity drives more value from applications the NHS has already invested in; electronic patient records, e-prescribing systems, and staff coordination tools operate smoothly and without disruption, maximising their efficiency and value.

By supporting multiple use cases on the same digital infrastructure, from patient apps to clinical Internet of Things devices, connectivity enables use case stacking that helps the NHS get a greater aggregated return on its digital investments, reducing duplication and supporting long-term service innovation.

These advancements could lead to more personalised, efficient and accessible healthcare, reducing response times and improving outcomes.



The future use cases your peers believe could be unlocked by dedicated indoor mobile connectivity



Looking to the longer-term opportunities, reliable indoor mobile connectivity enables NHS ambitions like expanding virtual wards and integrating AI-powered diagnostics. It provides the digital foundation needed for seamless patient monitoring, data-driven service planning, and nationwide adoption of new technologies as outlined in the 10 Year Health Plan for England.

Improved healthcare connectivity in action

We've already helped a number of NHS trusts experience the benefits of improved indoor mobile connectivity – here are some real-world examples.

Forward-thinking Midland Metropolitan University Hospital commits to seamless mobile connectivity for all

In the dynamic world of healthcare, lack of mobile signal is not merely an inconvenience – it affects patient experience and operational continuity.

We designed and deployed a 5G-capable mobile system with ongoing management and support, providing consistent, reliable connectivity for all.

"This cellular system will unlock endless possibilities for Midland Met. Not only will patients be able to keep in touch with loved ones, but mobile connectivity supports clinical and non-clinical staff to resolve flow barriers essential to daily planning, as well as maintaining business continuity."

*Mark Taylor, Director of IT and Digital,
Sandwell and West Birmingham NHS Trust*



Bringing connectivity from all mobile network operators to The Princess Alexandra Hospital

We designed, deployed and are now providing ongoing support via a managed service of a 4G indoor mobile system.

The system brings assured connectivity to 15 buildings across the site from all the UK mobile network operators, so no matter which network healthcare workers, patients and visitors use, they remain connected.

"We needed the right connectivity pathway that would work for the hospital today and also take us into the future."

*Jeffrey Wood, Deputy Director of ICT,
The Princess Alexandra Hospital NHS Trust*

Mobile connected care in The Grange University Hospital

We created a bespoke mobile system for The Grange University Hospital, connecting all the UK mobile network operators and delivering improved indoor connectivity for everyone.

Now patients, clinicians and visitors to the hospital can connect with their loved ones anytime, anywhere.

"No matter what network people are on, they'll be able to access secure, reliable mobile coverage so they can always get in touch with people when they need to."

*Matthew Mahoney, former Head of ICT,
Aneurin Bevan University Health Board*



Mobile connectivity partner in the NHS and beyond

Crown
Commercial
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Supplier

NHS
Sandwell and West
Birmingham Hospitals
NHS Trust

The ROYAL MARSDEN
NHS Foundation Trust

NHS
The Princess Alexandra
Hospital
NHS Trust

Royal College
of Physicians

NHS
Imperial College Healthcare
NHS Trust

London Institute for
Healthcare Engineering
King's College London

NHS
Birmingham Women's
and Children's
NHS Foundation Trust

KING'S
COLLEGE
LONDON

NHS
Chelsea and Westminster Hospital
NHS Foundation Trust

GIG
NHS
Bristol/Leeds/Portsmouth
Cann Tair
University Health Board

NHS
East Sussex Healthcare
NHS Trust

HMA Government
G-Cloud 14

NHS
Hertfordshire Partnership University
NHS Foundation Trust

5 key indoor mobile connectivity trends

When 900 business leaders shared their views on improving indoor mobile connectivity, five core themes stood out.

- 1 **Poor current connectivity is costing the UK £billions**
- 2 **Better indoor mobile coverage would bring immediate payback**
- 3 **Investment returns increase over time as organisations progress in their digitalisation journey**
- 4 **CEOs are the biggest advocates**
- 5 **Wales, London and the South East would benefit most**

All sectors summary

The UK is ready to unlock the benefits of better indoor mobile connectivity.

Across all the sectors we surveyed, 66% of organisations expect their overall budget for connectivity to grow in the next two years. And of everyone surveyed, CEOs felt there was greatest potential for productivity gains from better indoor mobile coverage at their sites, estimating it as 2.1% of their annual revenue or budget.

We surveyed 900 leaders from a range of sectors to understand what impact they hope that extra budget will achieve.

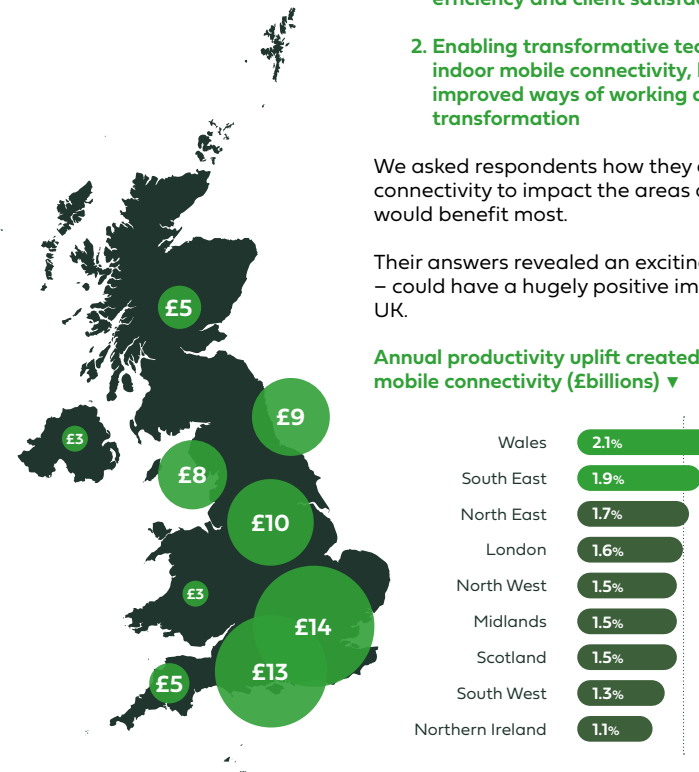
Our research uncovered two key opportunities from improving indoor mobile connectivity:

1. **Optimising the current operational model, using enhanced connectivity to improve everyday processes by boosting workplace productivity, financial performance, operational efficiency and client satisfaction**
2. **Enabling transformative technologies through advanced indoor mobile connectivity, like unlocking new and improved ways of working and accelerating digital transformation**

We asked respondents how they expect improved indoor mobile connectivity to impact the areas above and how their sectors would benefit most.

Their answers revealed an exciting opportunity that – if realised – could have a hugely positive impact across all regions of the UK.

Annual productivity uplift created by better mobile connectivity (£billions) ▼



Three key benefits of better indoor mobile connectivity

1

Reduce the impact of poor connectivity

Large organisations across the UK are losing £100 billion every year due to current connectivity limitations.

This impact could be reduced by 70% with better indoor mobile coverage.

Annual productivity uplift created by improved indoor mobile connectivity

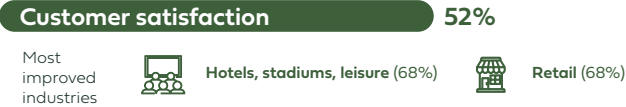
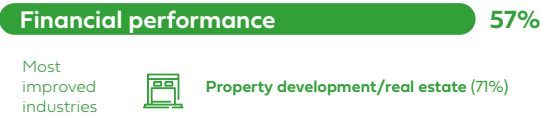
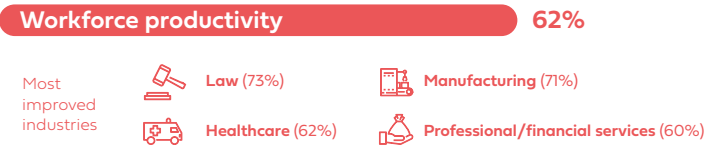
+£70BN

2

Improve a range of critical KPIs

62% of those we surveyed said better indoor mobile connectivity could boost workplace productivity, making it the biggest opportunity for improvement.

Organisational outcomes identified as being improved by indoor mobile connectivity across all sectors ▼



But other key outcomes like improving financial performance, boosting operational efficiency and increasing customer satisfaction also came out strong.

- Workforce productivity** is particularly significant in sectors such as legal, manufacturing, healthcare, and professional/financial services, where faster, more reliable connectivity is crucial to enable flexible working, seamless collaboration, and real-time access to critical information.
- Financial performance** was the main focus for property development and real estate, where reliable on-site mobile connectivity can facilitate better site management, faster deal closures, and improved client relationships.
- Operational efficiency** was particularly important for government/public sector and transport/logistics. In these industries, reliable connectivity can enable smoother coordination, better use of resources, and minimised downtime.
- Customer satisfaction** is particularly vital in consumer-facing industries such as hotels, stadiums, leisure, and retail. In these sectors, mobile connectivity can allow businesses to provide seamless digital experiences to their customers, from improved mobile payment systems to real-time personalisation and immersive entertainment options.

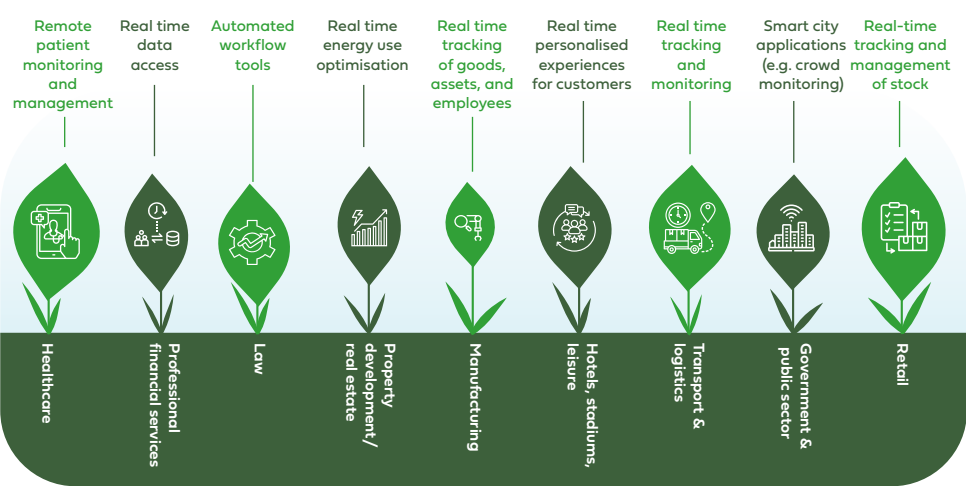
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Accelerate digital transformation

The growing demand for improved indoor mobile connectivity is driven not only by the need to optimise existing processes but also by the push for digital transformation across all sectors in the UK. Organisations are looking to break down traditional operational silos, enhance their responsiveness to dynamic environments and deliver more value to customers and stakeholders.

Organisations are increasingly seeking to enhance real-time data collection, gain actionable insights and improve monitoring and management capabilities through advanced mobile connectivity.

The top digital transformation activity driving demand in each sector ▼



Next steps

The key to unlocking the productivity puzzle in the NHS and healthcare settings is dedicated indoor mobile connectivity.

Healthcare provision in the UK is at an inflection point. Changing demographics, expanding clinical treatment options, and the requirement to maximise the ROI of every penny spent mean driving efficiencies and new ways of working is essential.

Healthcare is the only sector surveyed that would gain equivalent value from improved indoor mobile connectivity as it's currently losing from poor connectivity. This is due to most healthcare services being delivered in complex, signal-challenged indoor environments, its heavy investment in digital tools, and the urgent transformation pressures it's under with limited budgets to work with.

John Wintour-Pittom, NWL APC Deputy Chief Information Officer & Head of Telecoms at Imperial College Healthcare NHS Trust and Chelsea and Westminster NHS Foundation Trust, ran an innovative baselining project for building the business case for mobile connectivity at his trusts. He's happy to share his approach and learnings with NHS colleagues. Please contact him on j.wintour-pittom@nhs.net for further information.

The most improved organisational outcome from enhanced 4G/5G mobile connectivity cited by our NHS and healthcare respondents was workforce productivity on 62%.

People are the most valuable resource in healthcare settings, and their productivity is massively enhanced with dedicated multi-operator mobile connectivity. But this same connectivity also drives aggregated digitalisation value from digital tools trusts have already purchased, leading to the investment in an indoor system adding up to more than the sum of its parts.

This is your chance to be part of an exciting digital transformation, one that will strengthen care, business continuity and the health and productivity of the UK as a whole.

Based on the insights in this report, those that move quickly to invest in assured indoor mobile connectivity could improve everything from productivity, to operational efficiency, to patient satisfaction and more.

But the time for that immediate payback is now.

And the question is: will your organisation be part of health transformation in a mobile-connectivity-based future?

"Advanced digital connectivity is important to support our ambition for delivering intelligent new hospitals which will use digital tools and services to empower patients and staff. 5G can play a vital role in supporting mission-critical functions within hospitals. We will ensure that our new hospitals will be equipped with 5G networks or other advanced wireless telecoms technology to support facilities that are on the cutting edge of modern technology and digital innovation."

– *UK Wireless Infrastructure Strategy, April 2023*



“We struggle because we have several remote sites, and it is difficult to keep all at a high level of connectivity all the time.”

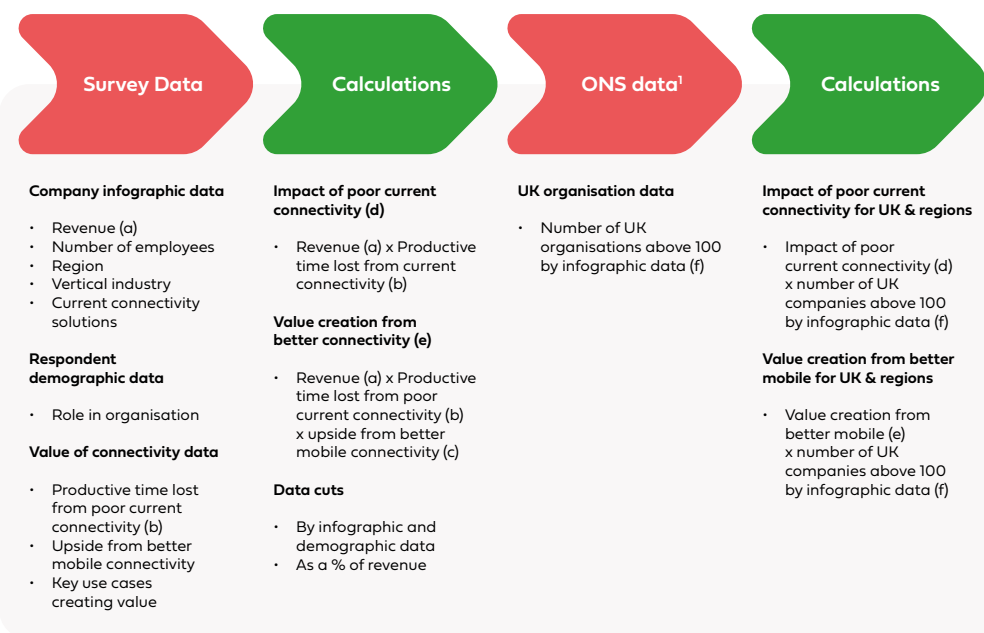
– CIO, North West

APPENDIX

Methodology

The survey we ran posed several questions for organisations across the UK from nine different sectors (100 organisations with greater than 100 employees) including the impact of existing connectivity issues on their business. We also asked them how much of this impact could be mitigated through improved mobile connectivity. This enabled us to calculate the average loss and mitigation value for businesses of different sizes within each sector across different regions of the UK.

We then used these average values and applied them to all relevant businesses across the UK – those with greater than 100 employees, within our target vertical industries, within each region. This enabled us to calculate the impact on specific industries, specific company sizes, and specific regions. The NHS and healthcare figures in the vertical deep dive were drawn from analysing the 100 responses from those in NHS and healthcare-specific organisations.



Definitions

Current connectivity

Network system within an organisation, consisting of predominantly fixed connectivity.

Large organisations

Organisations with more than 100 employees.

¹<https://www.ons.gov.uk/businessindustryandtrade/business/activitysizeandlocation/datasets/ukbusinessactivitysizeandlocation>



Ready to improve mobile connectivity where it matters most?

Let's start the immediate payback and high ROI conversation.

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