Ordnance Survey

How telcos can connect the whole UK with confidence

Delivering nationwide gigabit coverage with OS Data

Get started →

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Comprehensive connectivity needs smart data

Achieving nationwide gigabit connectivity is one of the UK's most urgent priorities. The UK government has committed to achieving 99% gigabit-capable coverage by 2032,[1] with dedicated initiatives such as Project Gigabit already demonstrating a clear commitment to accelerating progress.

But realising these goals will require more than ambition alone. It will take a concerted, nationwide effort by telcos and their partners, to plan, build, and maintain these new networks and infrastructure effectively, both in population centres and in historically underserved and remote rural areas. It will also require a lot of data. Telcos require as comprehensive a view as possible of planned and existing sites, to keep infrastructure projects running on schedule, avoid runovers and cost escalations, and meet the lofty ambitions of policy makers.

This is where OS Data can be the difference. With accurate, trusted visibility of the built and natural environment, OS Data can enable telco businesses to evaluate, plan, and deploy infrastructure with confidence. That could mean faster rollouts, fewer delays, and safer, more efficient and compliant operations.

This eBook shares how OS Data supports telcos in connecting every corner of the UK, to meet government targets, stay compliant, and unlock opportunities for growth.

02

The connectivity mission is clear

A host of national initiatives, including Project Gigabit as well the Rural Connectivity Accelerator and the Shared Rural Network, are raising and reshaping expectations for high-speed connectivity everywhere across the UK's digital landscape. There is a clear goal, of no community left behind, be it in a city centre, coastal village, or remote valley.

Meeting these targets is not necessarily straightforward. Achieving full coverage will require telcos to be able to accurately plan, build, and maintain infrastructure at scale, in rural, remote, and hard-to-reach locations. They have to do this all while pressured by tight deadlines, funding limitations, and complex regulatory oversight.

Going deeper: the challenges of rural rollout

While government investment and policy provide a strong impetus for national connectivity goals, projects still face some practical barriers. Short of accurate and trusted data, telcos may find it more difficult to maintain efficiency in site selection, avoid project delays, and ensure the health and safety of their crews.

Here, OS Data can provide the authoritative, detailed geospatial intelligence that will allow telcos to more easily:

→ Identify the best locations for telecoms assets.

→ Accelerate fixed and wireless deployment in underserved areas.

→ Detect and resolve coverage ‘not-spots’.

→ Plan for safe, cost-effective fieldwork in challenging terrains.

Accurate location data is the necessary foundation to overcome the barriers to UK-wide connectivity, helping deliver on the promise for local communities and realise the success of Project Gigabit and the Shared Rural Network initiative.

Where location data can help:

Network planning in rural areas

Building height, terrain and land use mapping data can be used to ensure optimal small cell and mast placement, improving coverage while reducing the likelihood of wasted time and investment.

Resolving coverage gaps

Combining population density data with address-level intelligence will highlight underserved communities, helping telcos and partners to prioritise rollout where it will have the greatest impact.

Safety-first deployments

Access routes and site hazard data can help crews to plan work safely ahead of deployment, cutting the risk of aborted jobs and improving project efficiency.

Small cell expansion

Intelligence on street furniture and existing infrastructure can be used to identify appropriate assets to act as hosts for new connectivity equipment, reducing both time to deployment and costs.

03

How telcos can use data to unlock a better-connected UK

From site selection to compliance, telcos need intelligence that turns complexity into clarity in order to plan, build and manage sites. OS Data provides that foundation, helping to overcome the biggest barriers to rollout and help telcos proceed with confidence.

Here's how:

1. Efficient site and asset location planning

Poor terrain mapping and incomplete building data can result in misaligned infrastructure, patchy coverage, or wasted investment in unfinished assets or locations.

OS Data addresses this by combining data on building heights, roof shapes, and detailed terrain models to give a full picture of the site environment. With this insight, telcos can pinpoint the right position for every mast or small cell, optimise coverage and reduce the need for costly relocation or retrofitting.

2. A full picture of underserved areas

Postcode-level estimates can mask coverage gaps, leaving rural households or small communities overlooked and under-served. This in turn can undermine both customer trust and funding applications for government-backed schemes.

OS Data links address datasets to Unique Property Reference Numbers (UPRNs), then overlays population density data, to enable telcos to model demand down to individual premises. This helps to make sure that investment reaches those who need it most, while also strengthening the case for funding.

3. Fewer safety and access risks in rural deployments

Deployments in remote areas often involve hidden risks, whether it's hazardous terrain or limited access routes. When visibility of these risks is limited, it can delay projects and even put crews in danger.

OS Data provides clarity on environmental and structural risks to teams before they leave the depot, by mapping entry points, access routes, roof gradients, and asset-to-road distances. Armed with this intelligence, crews arrive on site better prepared, which means fewer aborted jobs, lower incident rates and rural rollouts that stay on schedule.

4. Meeting regulatory and compliance requirements

Telecoms projects are subject to rigorous oversight, across the Wireless Code of Practice, NUAR standards and wayleave agreements. Without the ability to share accurate, verifiable location data, it can be slow to get approval, with disputes causing unnecessary delays and costs while increasing the risk of corrections down the line.

OS Data provides the foundation of nationally consistent datasets that help telcos to take ownership of compliance conversations and smooth the path to regulatory approval. Thanks to our location intelligence, telcos can move forward with projects more confidently and avoid penalties.

5. Faster projects with integrated data

When datasets are disconnected, it can lead to a lot of time being wasted in stitching together information from multiple sources. There's also a heightened risk of errors, further slowing delivery.

OS Data removes this complexity with software-agnostic, API-ready datasets that bring together buildings, addresses, transport, land use, and environmental data into a single operational view. Our integrated approach allows teams to take decisions holistically, shortening planning cycles and improving collaboration across teams to keep rollout programmes moving at pace.

04

The OS Data advantage

OS Data is a nationwide, trusted foundation for every planning, build, and operational decision that telcos need to make, to ensure remote areas are served.

Our data is a reliable basis to help telcos:

Position infrastructure accurately

Building heights, roof shapes and terrain data enable precise line-of-sight modelling, to help avoid costly rework, reduce interference and optimise coverage.

Confidently meet compliance

Trusted, nationally consistent datasets ensure asset locations meet regulatory and legal requirements, while compliance checks are simpler, faster and less risky.

Reduce risk and improve safety

Access routes, entry points and hazard mapping give crews a clear picture before deployment to avoid on-site issues and risks.

Model demand to every building

OS Data links 36 data points for over 40 million buildings to individual UPRNs, giving telcos a clear view of demand down to premises level, making investments more targeted and strengthening business cases.

Detect and resolve low-coverage areas

By combining address-level data with population density insights, OS Data reveals not-spots that postcode estimates can miss, enabling telcos to act quickly, focus on underserved communities, and meet targets.

05

Building a connected future for the UK

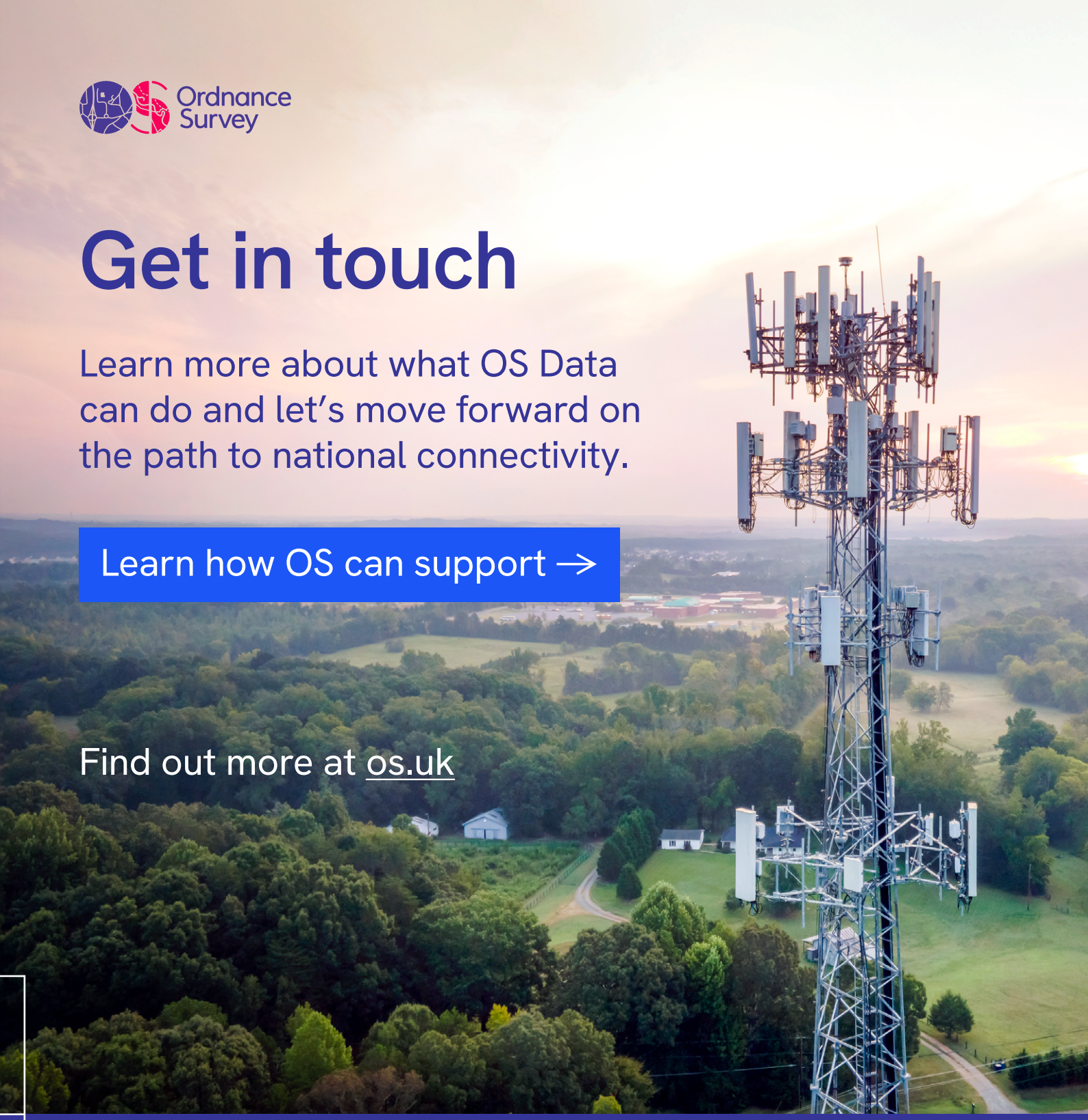
When telcos have the confidence to make the right decisions, target the right locations and deliver infrastructure with speed and efficiency, we can make it possible to realise the goal of a fully connected UK.

OS Data provides the trusted location intelligence and comprehensive insights to help telcos to reduce risks of rollout, accelerate projects and meet national targets, creating lasting value for telcos, their customers and our communities.

Get in touch

Learn more about what OS Data can do and let's move forward on the path to national connectivity.

Learn how OS can support →



Find out more at os.uk

Additional resources

Learn more about how OS Data supports telecoms providers →

Explore our location data products and services →

Try OS sample data for yourself →

1 https://www.gov.uk/guidance/project-gigabit-uk-gigabit-programme