

Boosting connectivity in urban areas with Small Cells

**Promoting economic development and
digital inclusivity for your community**



Urban connectivity questions

Today's on-the-move smartphone users are spending upwards of two hours every day connected to their devices¹. They're watching movies and streaming music, working remotely, connecting to friends on social platforms and, of course, making calls.

The demand for reliable, high-speed connectivity has never been greater – and it's putting tremendous pressure on today's already congested mobile networks. The challenge is particularly acute in high footfall, dense urban locations such as high streets and shopping destinations, transport hubs, and during peak commuting times.

This isn't just an issue for Mobile Network Operators (MNOs). While the UK's four MNOs have coverage obligations, and a clear business imperative to deliver the very best experiences for customers, there's a bigger issue in play. Local businesses, retailers, building tenants and communities all benefit from great connectivity.

As demand for, and usage of, high-bandwidth mobile applications continues to rise, you can help ensure your communities are the best connected in the world

Capacity challenges in numbers (UK adults)

85% own or have access to a smartphone²

85% watch videos on their phones³

55% stream music on their phones⁴

52% play games on their phones⁵

1. <https://datareportal.com/reports/digital-2020-united-kingdom>
2. <https://www2.deloitte.com/uk/en/pages/technology-media-and-telecommunications/articles/mobile-consumer.html>
3. <https://datareportal.com/reports/digital-2020-united-kingdom>
4. <https://datareportal.com/reports/digital-2020-united-kingdom>
5. <https://www2.deloitte.com/uk/en/pages/technology-media-and-telecommunications/articles/digital-entertainment.html>



Boosting urban capacity and coverage **with Small Cells**



One of the best ways to alleviate network congestion, dropped calls and coverage issues in these urban hotspots is to create new mobile 'cells' by adding more telecoms equipment. But it's not always as straightforward as it seems.

Tall and or metalised glass buildings block or interfere with signals from traditional rooftop macro cell sites, while planning restrictions and long lead times limit the deployment of new macro towers and masts.

The solution is to bring the telecoms equipment down to street level, deploying Small Cells on existing lamp posts, CCTV columns and even bus shelters and advertising hoardings.

These small mobile units not only eliminate the problems of signal blocking and building absorption by providing a line of sight to mobile devices, they are quick and cost effective to deploy – so coverage and capacity can be rapidly delivered to areas of greatest need.

Small Cells can be deployed exactly where they are needed and, because they use existing street assets, there are no additional planning delays – which accelerates deployment. A Small Cell deployment can be operational in a matter of weeks, compared to the many months or years it typically takes to deploy a larger macro cell site.

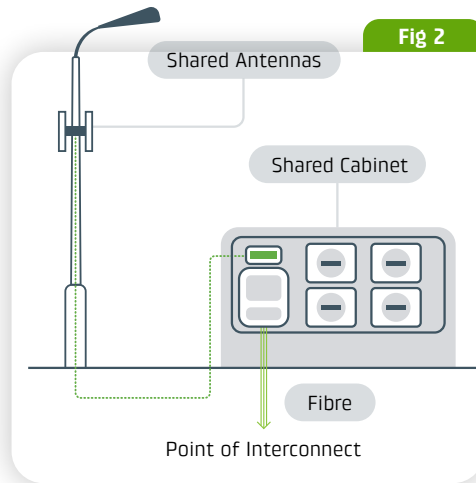
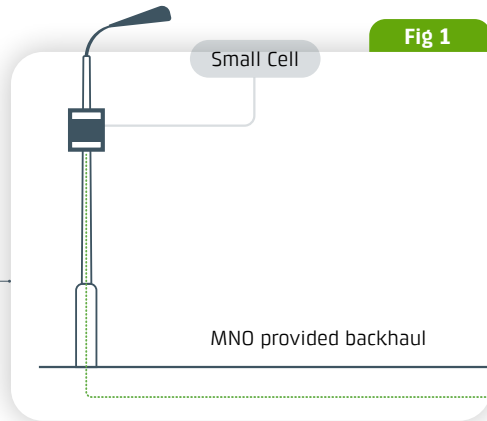


How Small Cells work



The antennas and associated equipment are installed on existing street furniture. The equipment is powered by an unmetered (existing) electricity supply, and linked to the MNO network by a fibre connection or a microwave link.

Multiple configurations are possible. These include a single Small Cell fixed to the column itself (figure 1), typically placed at a height of between 5-8 meters, and an option where one or more Small Cells are contained in an adjacent cabinet to provide coverage for one or more MNOs (figure 2)



A model partnership

In the UK, the delivery of Small Cells is based on a partnership model:

- The asset owner, such as a local authority or private company, enters into an agreement with an...
- Infrastructure provider, such as Cellnex, who markets and manages the site on the asset owner's behalf. They undertake the Small Cell equipment installation, and licence it to a...
- Mobile Network Operator, who integrates the Small Cell into its network to deliver the required local capacity and coverage.

Cellnex takes care of everything. The asset owner benefits from a source of incremental revenue, while your whole community enjoys faster and more reliable mobile connectivity.

The Cellnex approach

As the UK market leader in Small Cell infrastructure, with three out of four MNOs deployed on our assets, Cellnex's unrivalled experience and transparent approach to partnership ensures a smooth and seamless process.

Having entered into an agreement with you as the owner or controller of the street furniture assets, we take care of everything. We market your assets, install the equipment using a specialist streetworks contractor, manage the installation in-life, and own the relationship with the MNOs.



This single point of contact is critical as it removes the need for you to work directly with multiple MNOs – which is a time intensive business that requires specialist expertise. Being able to offload the entire management burden onto Cellnex not only eliminates the administration headaches, it considerably reduces disruption during the equipment deployment stage.

Cellnex operates as a 'neutral host' to allow all MNOs (and/or other telecoms providers) to access your assets on equitable terms. Where we hold multiple agreements to access street furniture, MNOs also benefit from working with a single party – ensuring the consistent application of standard processes across a number of street asset portfolios.

While you're not restricted to working with Cellnex, doing so has its benefits. It further reduces your resource burden – particularly as we have deployed more Small Cells than anyone else in the UK, and have an established reputation with MNOs for speedy, hassle-free deployment.

As the asset owner, you retain control, possession and management of the physical street furniture, and continue to use your lamp posts, kiosks, CCTV columns, etc., exactly as before. All we ask is that no items are installed that would interfere with our ability to operate and manage the installation. Cellnex and our MNO customers retain control, possession and management of the telecoms equipment.

Perfect conditions for Small Cell deployments

Having already achieved considerable success installing hundreds of Small Cells in London alone, we have identified the following important considerations to ensure all partners can maximise this exciting opportunity.

You have a portfolio of assets in areas of high demand

We ensure simple deployment processes with minimal hand-offs to ensure speedy delivery

You have a vested interest in boosting connectivity to communities/customers

We define roles and responsibilities and ensure a simplified supply chain

Critical considerations

One

Success depends on the certainty of delivery for the MNO. As such, we will not enter into an agreement where the asset owner is able to veto any installation, and will expect all requests for relocation of signage, banners etc, to be actioned within specified timelines. We will not need the asset owner's approval to deploy on the assets once the enabling agreement is in place.

Two

The agreement gives Cellnex the right to install telecommunications equipment to the assets, make changes to the installation and use existing conduits and/or lay new ones. We will take a supply from the existing electricity supply, unless current capacity prevents us doing so.



Three

Cellnex requires access to all assets in the portfolio to improve marketability, maximise take-up and revenue potential for the asset owner. Exceptions to this may include assets with operational telecoms equipment already installed.

Four

Cellnex manages the installation through a preventative maintenance regime and an incident management capability, backed by a 24/7 service desk. We will respond to incidents – such as damage to telecoms equipment as a result of a road traffic accident – and coordinate removal of equipment at end of life.

Five

Cellnex typically pays a fee to the asset owner relating to each asset licenced to the MNO, as well as a sum to cover the costs of power for the equipment installed at the site.

Key roles and responsibilities

Cellnex

- Markets assets
- Solution & site design
- Obtains consents and structural approval
- Site installation
- Power connection
- Cabinet deployment (if required)
- Fibre deployment / management (dependent on technical solution)
- In life maintenance and incident management
- Access management
- Financial management of electricity consumption and business rates

Asset owner

- Owns and provides assets
- Asset management for street lighting, road signage, festive lights
- Supports with accurate asset information and timely responses

MNO

- Radio planning and demand
- Provides radio equipment
- Backhaul transmission design
- Provides mobile service





Get in touch

As the UK's largest independent telecoms infrastructure provider, Cellnex has access to 200,000+ street furniture assets for Small Cells across 14 London Boroughs, offers hundreds of kiosks nationwide and is continuing to extend provision across the UK. Working in partnership, we can help you leverage your existing assets to drive connectivity across your communities, while delivering back a source of incremental revenue.

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Further reading

See how Cellnex is evolving its Small Cells partnership models with MNOs and asset owners to deliver an innovative solution in the London Borough of Hammersmith and Fulham.

Read the case study on our website.

