

# ADEPT

The Association of Directors of Environment, Economy, Planning & Transport

## Corporate Partner Seminar Digital Infrastructure

Friday 31<sup>st</sup> January 2025

# ADEPT

## Agenda

- 10:30 Welcome and introduction
- 10:35 Empowering Local Authorities: Collaborative Strategies for Digital Connectivity
- 10:50 Challenges and opportunities for local authorities
- 11:10 Outdoor Smalls Cells: Improving connectivity and creating inward investment via public and private sector collaboration
- 11:25 Role of the private sector
- 11:40 Panel discussion and Q&A
- 12:20 Hot topics
- 12:45 Networking lunch



# Empowering Local Authorities

Collaborative Strategies for Digital  
Connectivity

Presented by Ceren Clulow

Chair of ADEPT Digital Connectivity Working Group

31st January 2025

# The Digital Connectivity Landscape



- ❖ Access to Infrastructure
- ❖ Use of Smart Technologies
- ❖ Digital Divide

# What is digital infrastructure?

## Broadband Networks

Fibre optics, broadband cables, wireless technologies.



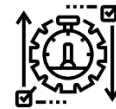
## Mobile Networks

4G, 5G, small cells, and towers.



## Data Centres

Storage and processing of digital data.



## Internet of Things (IoT)

Networked devices that collect and exchange data.



## Cloud Services

Scalable infrastructure for hosting services and applications..



# Key Challenges & Opportunities for Local Authorities

## CHALLENGES

- **Funding:** Limited budgets and lack of investment in digital infrastructure.
- **Regulatory & Policy Barriers:** Complexity of national and local regulations.
- **Skills Gap:** The need for digital expertise in local government.
- **Digital Divide:** Access issues, especially in rural/underserved areas.

## OPPORTUNITIES

- **Public-Private Partnerships:** Collaborating with network operators to extend coverage, especially in rural areas.
- **Barrier Busting:** Identifying and overcoming challenges such as wayleaves, land disputes, and planning issues.
- **Small Cells:** Use of existing street furniture to

# The Role of Collaboration



# Local Authorities to close the digital divide



Conduits to  
Communities



Existing Avenues  
of Support



Service Delivery



Cross-Sector  
Convening



Lack of Control  
Externally



Advising and  
Lobbying

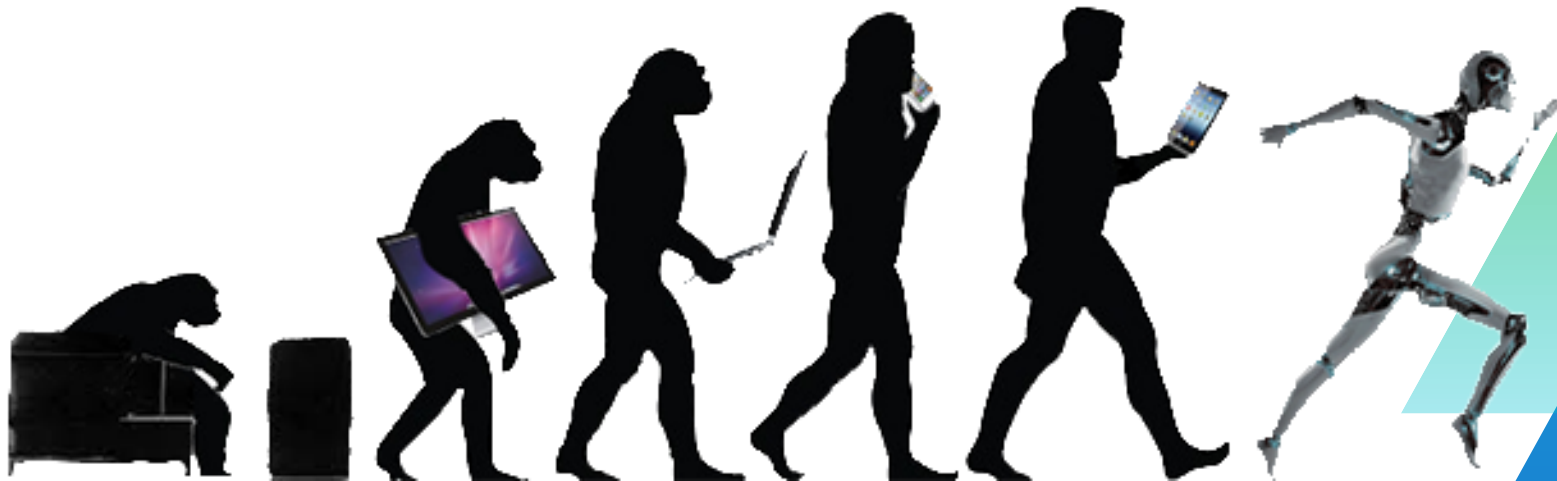


## Practical Strategies for Local Authorities

Actionable recommendations:

- Collaborate with the private sector to bridge funding gaps and access expertise
- Leverage existing public-sector infrastructure (e.g. streetlights, utility poles) to support digital projects
- Build partnerships with tech companies, telecom providers, and academia to drive innovation

# The Future of Digital Connectivity






# *Thanks!*

## Call for Action

Think about how you can initiate or strengthen collaborations in your own regions.





**ADEPT Seminar**  
*Challenges in Rolling out Digital Infrastructure*


Liz Harrison  
Head of Broadband Delivery  
Kent County Council



A long-exposure photograph of a road at night, showing light trails from vehicles. The trails are primarily yellow and white, curving into the distance. A prominent red light trail is visible on the left side of the road. The background is dark, suggesting a night sky.

# OVERVIEW

---

- Our current delivery priorities
  - The challenges involved in connecting the final 20% to full fibre
  - Focus on connecting wayleave dependent properties
  - Challenges, priorities and opportunities moving forward
- 
- A thin, vertical grey line located at the bottom center of the slide.

## Our work to date includes:

- **Connecting over 145,000 Properties** connected via the Building Digital UK superfast programme
- **Piloting** the Building Digital UK broadband top-up voucher concept
- **Supporting 81 community-led broadband voucher projects**, connecting over 6,000 hard to reach properties
- **Establishing a Kent Framework agreement** to enable streetlighting asset reuse.
- **Developing a non-metropolitan wayleave connectivity toolkit** to unlock deployment to social housing
- **Digital champion work** – excellent support from senior leaders across the county and highways.

# Kent's Digital Infrastructure Priorities

Delivering the digital connectivity foundation for Kent's future

Growing Kent's Economy  
Transforming Public Service Delivery  
Unlocking New Opportunities

## 1. MAXIMISE the MARKET-led delivery of GIGABIT-CAPABLE (full fibre) BROADBAND CONNECTIVITY

- Barrier busting to facilitate local delivery
- Facilitating street works discussions
- Focusing on wayleave dependent properties, including social housing and multiple-dwelling units

## 2. SUPPORTING BUILDING DIGITAL UK (BDUK) on the delivery of the national Project Gigabit programme in Kent

- Supporting Building Digital UK and City Fibre on the delivery of their £112 million Project Gigabit.
- Continuing to support the Kent Top Voucher Scheme
- Working with BDUK to scope solutions to upgrade connectivity in areas of market failure.

## 3. IMPROVE WIRELESS CONNECTIVITY to meet current and future needs

- Work with the Government and mobile network operators to support mobile connectivity improvements to support capacity and coverage improvements.
- Raise awareness of the need for new developments to be planned for mobile,
- Asset reuse.

Our delivery values

Working collaboratively with Government, industry and local partners

Being innovative & brokering solutions

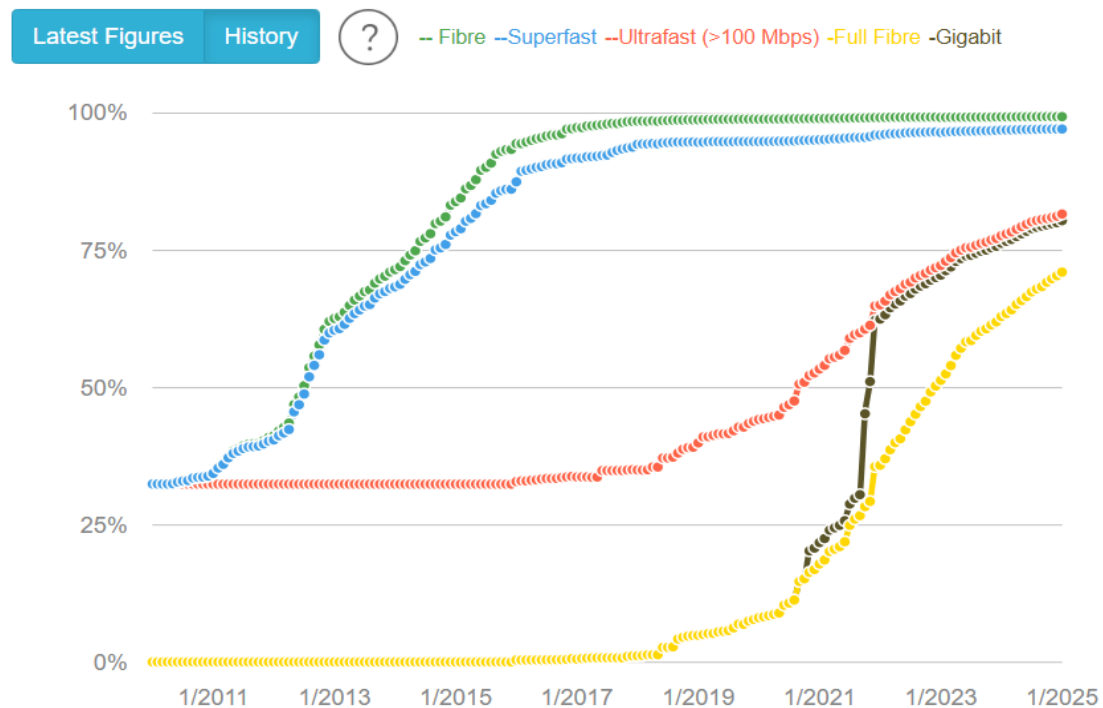
Championing Kent's digital infrastructure needs

Making a difference by focusing on the best outcomes for Kent



# CURRENT KENT COVERAGE – JAN 2025 (FIXED BROADBAND)

## Kent Superfast and Fibre Coverage



- ### Headlines (% premises)
- 97.1% Superfast (>=30Mbps)
  - 80.4% Gigabit capable
  - 71.1% Full Fibre (FTTP)
  - 0.3% less 2Mbps
  - 1.1% less than 10Mbps

Source: Think broadband data – 22/1/25



# CONNECTION CHALLENGES FOR THE FINAL 20%

---

Direct buried  
cable

Completion of  
claimed commercial  
coverage

Harder to reach premises  
(e.g. distance from existing  
network/sparsity of  
premises)

Wayleave Dependent  
Properties

Missed opportunities to  
connect existing sub-superfast  
premises adjacent to new  
housing developments

Asbestos issues  
in flats

Properties omitted  
from supplier led  
voucher scheme  
projects

Reluctance to plan  
build across exchange  
boundaries

**Full-fibre rollouts** can encounter **different & more complex barriers** to deployment compared to the **fibre-to-the-cabinet deployments** used for the **Superfast Broadband Programme**

# WAYLEAVE TOOLKIT

---

- Significant number of **wayleave-dependent properties**
  - Social Housing
  - Flats
  - Properties not adjoining the public highway (access across private land is required for connection)
- Need **parity** between social housing and market housing connectivity – essential for **digital inclusion**.
- **Limited awareness of Electronic Communication Code legislation** outside the telecoms sector
- **Digital Champion role is vital** to deliver connections to wayleave-dependent properties
- **Dedicated toolkit and workstream to facilitate connections to wayleave-dependent properties**



## Kent Wayleave Agreement Toolkit

Supporting better broadband

## CHALLENGES & PRIORITIES

---

- **Delivery to the final 20% will be a detail game** – all types of market failure need an appropriate solution.
- **Access to data and information is key** for enabling and supporting delivery
- **Capacity of mobile networks is an increasing issue** – key priority moving forward
- **Timescales for delivery** – need to deliver this vital infrastructure at pace (acceleration was a key focus for the superfast programme)
- **Demand for road space** – need to engage and plan ahead for street works
- **Continued risks and issues** around misinformation and disinformation.
- **Local Government Review:** significant period of change pending but the focus must be retained on delivery essential digital infrastructure.
- **Digital Champions are vital** – and we need to fully utilise, collaborate and play to our respective strengths.



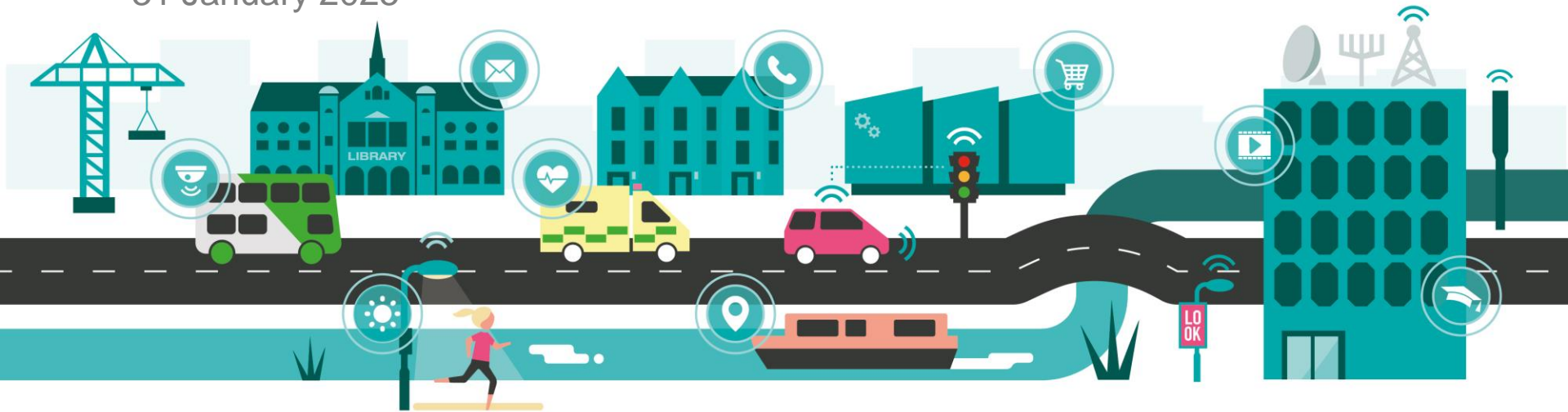
**ADEPT Seminar**  
*Challenges in Rolling out Digital Infrastructure*

[broadband@kent.gov.uk](mailto:broadband@kent.gov.uk)



# ADEPT Challenges and Opportunities in Digital Infrastructure rollout

31 January 2025



CITY OF  
WOLVERHAMPTON  
COUNCIL

# Importance of digital to Wolverhampton

- Futureproofed digital infrastructure and digital transformation is crucial for our residents, businesses and the delivery of services.
- Driven by Digital cuts across our City Priorities in Our City Our Plan reflecting its importance.
- The city identified a Digital Champion and Digital Co-ordinator and Cabinet Member for Digital.
- Driven by strong leadership and a commitment to all things digital that runs through the council's corporate strategy and its structured approach to embedding technological transformation at every level.
- The council is leading by example working with its partners to demonstrate how embracing digital technology can drive efficiency and deliver better outcomes for local people



# Wolverhampton Digital Strategy

## Wolverhampton's Digital Strategy ambitions

- **Wolverhampton is a Gigabit and Smart City** using futureproofed digital infrastructure to transform delivery of services & develop new applications to unlock the city's potential.
- **100% digitally included Wolverhampton** ensuring all residents have the access to devices, connectivity and skills to take advantage of what digital has to offer.
- **Growing the digital economy and talent pipeline** building on the city's futureproofed infrastructure to start and grow businesses, creating jobs for residents and meeting skills needs for the future.



# Fixed Digital Infrastructure

- Our starting point was gaps in coverage in our city centre and less full fibre than many rural areas with no commercial plans to upgrade.
- Building strong relationships with fixed network operators and barrier busting is essential to support the rollout of full fibre.
- Wolverhampton procured CityFibre to deliver their Public Sector Anchor Network, supported by £4.9m funding from Local Full Fibre Network, connecting 170 public sector buildings to full fibre.
- This acted as a catalyst to CityFibre's rollout out commercially across the city with nearly 100,000 homes passed.
- Virgin and Openreach have also started their rollout in the city, with best practice to speed up approvals of poles and cabinets being used with other providers.
- We learnt from best practice from elsewhere, e.g. non-exclusive block wayleave agreement to support the rollout on social housing estates, proactive planning and Dig Once policies.

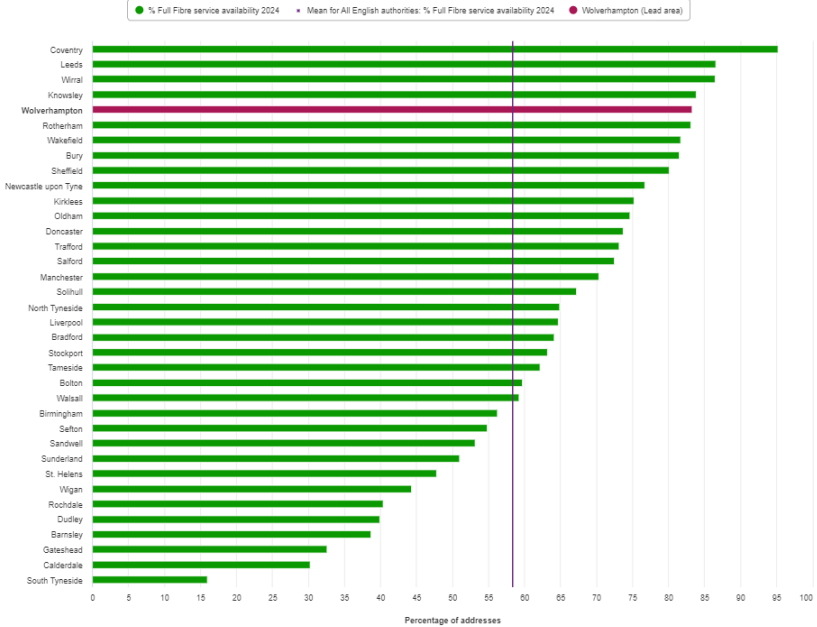




# Fixed Digital Infrastructure

Full Fibre coverage

This proactive approach has had a huge impact: between 2020 and 2024, gigabit connectivity rose from 2% to 96% and full fibre broadband from 1% to 88% (Connected Nations Interactive Report 2024).



# Mobile Infrastructure

- Building relationships with Mobile Network Operators, standardised processes and agreements and commitment to barrier busting has been essential to accelerating the rollout of 5G.
- WM5G infrastructure acceleration team supported the Council to understand requirements of the code, make available our assets, introduce standardised processes and agreements and adopt best practice including pre-engagement discussions with planning to facilitate rollout.
- Learning from best practice from other local authorities and DSIT barrier busting team including standardised telecoms lease agreements to facilitate rooftop and greenfield masts and small cell toolkit and licence agreement to support the rollout of small cells.
- This proactive approach has proved effective with 100% of the city covered by at least one operator and 63% of the city covered by all operators, the highest in WMCA area (Connected Nations Interactive Report 2024).



# Ongoing Challenges

- Pressures on local authority budgets could impact on Digital Champions roles.
- Dealing with 'locked out' areas in urban areas where not commercially viable to rollout as no access to broadband vouchers and objections to use of poles as only option to rollout in these areas.
- Improving mobile connectivity in more challenging areas where no suitable local authority assets exist and reluctance of other landowners to deal with telecoms companies for more suitable sites acceptable to planning.
- Ensuring we fully benefit from futureproofed digital infrastructure to support digital transformation and innovation in improving efficiencies in service delivery and quality of life for our residents.
- Digital exclusion remains an issue, however for urban areas it is more around affordability and skills rather than lack of connectivity.



# Outdoor Small Cells:

*Improving connectivity &  
creating inward investment via  
public & private sector  
collaboration*

Pete Hollebon

National Delivery Lead –  
Outdoor Small Cells

31<sup>st</sup> January 2025



# What is an outdoor small cell and why do we need them?

- ❑ An outdoor small cell is a low radio powered discrete solution to typically provide **extra capacity** to a network in a very local/targeted area, such as a “hotspot”
- ❑ An outdoor small cell is **shoe box sized**, weighing around 10kg to 25kg for VMO2 deployments (dependent on vendor type)
- ❑ Typically, we deploy outdoor small cells on existing lighting columns at a height around 5-6m, for the optimum radio footprint
- ❑ Each outdoor small cell requires fibre to each location/asset. This requires us to undertake civils work to that location from their nearest point of network presence
- ❑ Outdoor small cells **compliment not conflict** with our wider macro network, providing offloading capabilities and supporting network hotspots. Macrocells provide coverage with multiple spectrum bands and technologies over a wide area.
- ❑ We aren't going to replace macrocells with outdoor small cells. Operators need both
- ❑ Mobile network operator requirements for outdoor small cells are growing, to keep pace with the **c.30% annual data growth**. Customer data growth drives the need to add more network capacity year on year

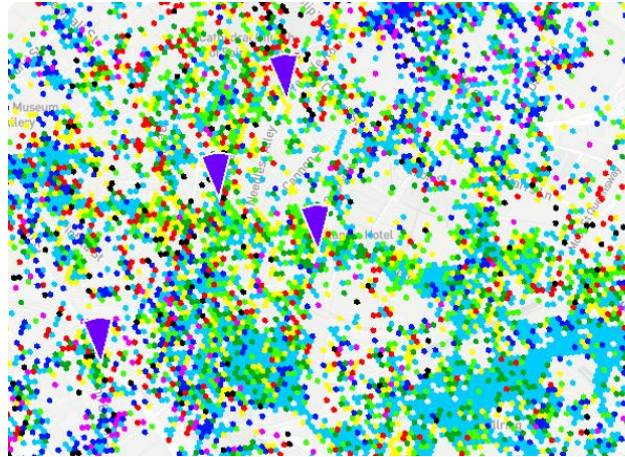
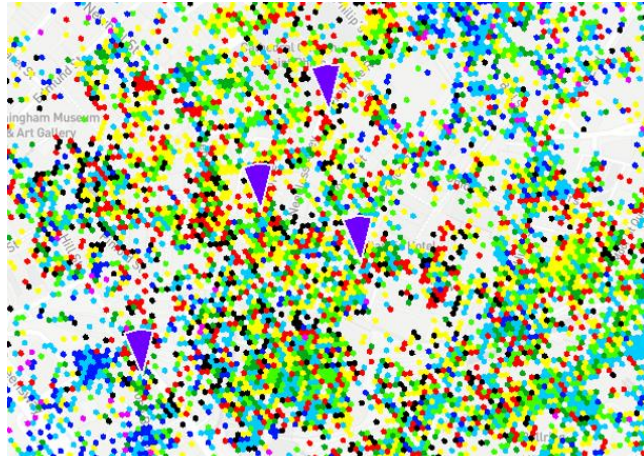


Ericsson 6507 & 4402 (above)  
Vs Nokia FlexiZone (below)

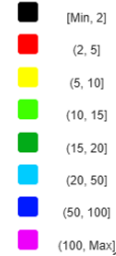




# Customer improvement examples



Birmingham

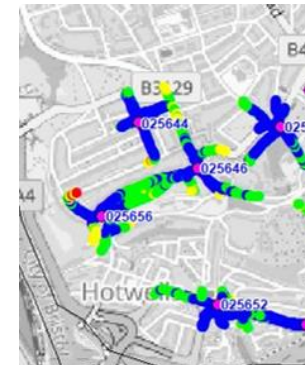
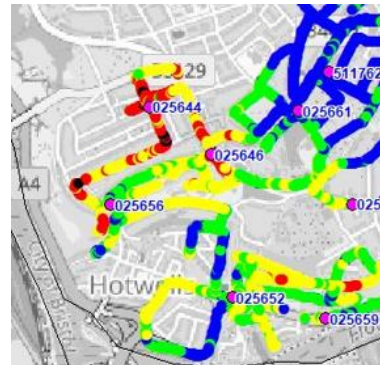


## Birmingham

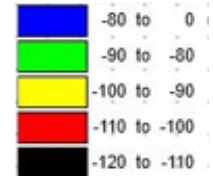
Offloading traffic from the macro has improved the user experience on the macro layer

## Bristol (Clifton)

Customer complaints of poor user experience, addressed through delivery of small cells improving the signal strength and customer experience in localised areas

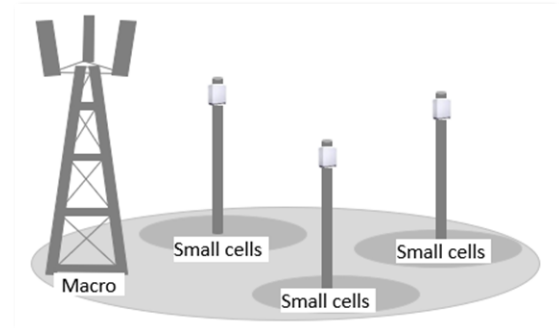


Bristol



# Small cells gallery

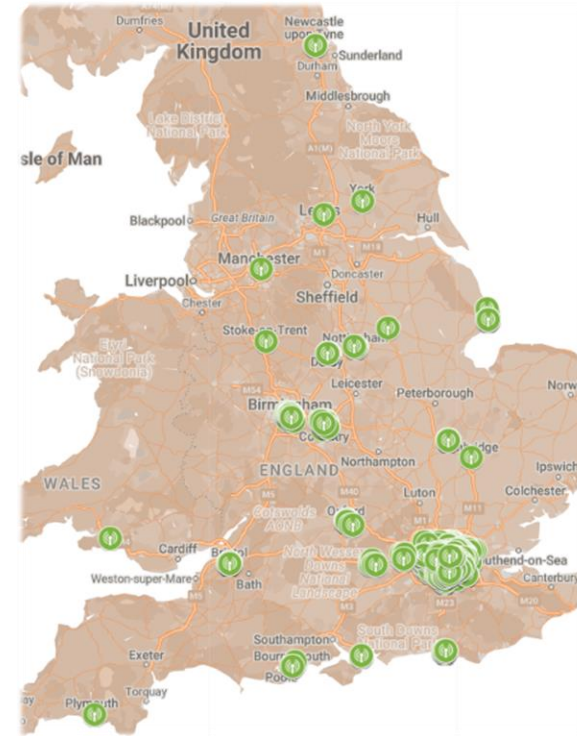
Some examples below of our deployments to date; lighting columns, BT kiosks, Clear Channel kiosks and Clear Channel bus shelters





# Where have we delivered to date?

- ❑ Since 2017 we have integrated over 2000 outdoor small cells in the UK over 50 districts/boroughs/ local authorities – the most of any operator, delivering customer improvements and improving connectivity
- ❑ The majority of our deployments are existing street infrastructure; lighting columns mostly, but we have also deployed in kiosks/payphones and bus shelters
- ❑ Areas with integrated outdoor small cells:
  - ✓ Birmingham
  - ✓ Bristol
  - ✓ Brighton
  - ✓ Bournemouth
  - ✓ Cambridge
  - ✓ Coventry
  - ✓ Derby
  - ✓ Hemingford Grey
  - ✓ London
  - ✓ Manchester
  - ✓ Newcastle
  - ✓ Nottingham
  - ✓ Oxford
  - ✓ Portsmouth
  - ✓ Plymouth
  - ✓ Reading
  - ✓ Skegness
  - ✓ Slough
  - ✓ Stoke
  - ✓ Swansea
  - ✓ York

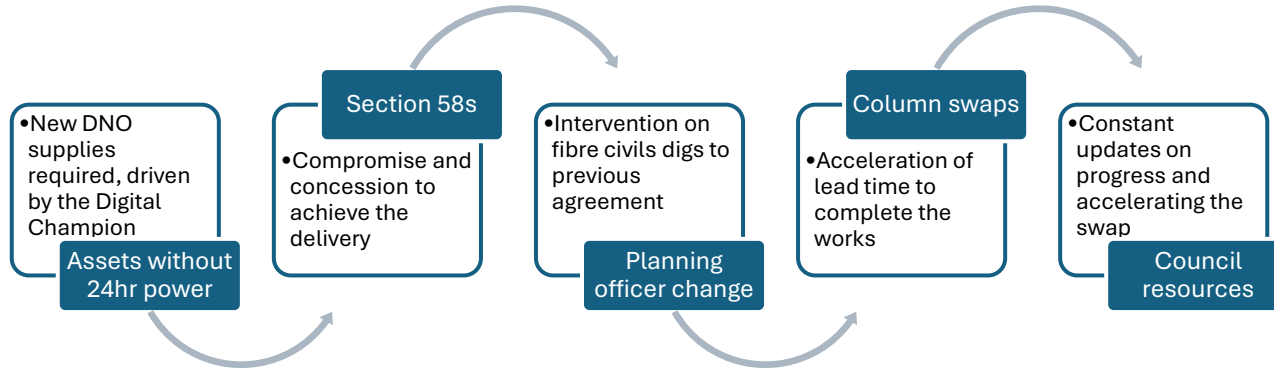




# What are the challenges?



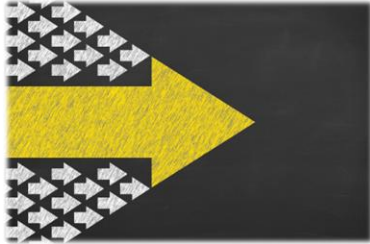
# An Example



The Digital Champion

Collaboration

# What are the key ingredients for success?



## Digital Champion

- Empowered decision maker
- Influential
- Stakeholder management
- Passion for connectivity

## Collaboration

- All stakeholders with a common goal
- A willing landlord
- Can do attitude
- Compromise

## Connectivity strategy

- Top-down vision within the local authority
- Digital thinking at the heart of every decision

## Open access agreements

- Open for business
- Reduced time to market
- Start the engagement early

# Where next?

- ❑ We continue to drive investment in connectivity through outdoor small cells rollout at pace
- ❑ We are aiming to sign open access agreements with additional local authorities, in advance of the 2026 rollout
- ❑ New areas planned for integrations in 2025:
  - Bath
  - Chester (*signed OAA*)
  - Deeside (*signed OAA*)
  - Exeter
  - Glasgow (*signed OAA*)
  - Great Yarmouth
  - Guildford (*signed OAA*)
  - Newquay
  - Leeds
  - Liverpool (*signed OAA*)
  - Perth (*signed OAA*)
  - Sheffield
  - St Ives
  - Weymouth

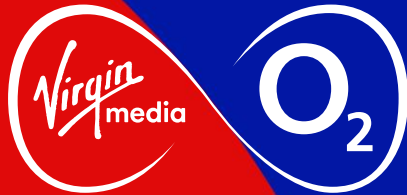


# What can local authorities do next?

- ❑ Reach out to operators or neutral host providers
- ❑ Check and review PFI contracts and any limitations/restrictions
- ❑ Speak to other local authorities (“willing landlords”) who have gone through the process already
- ❑ Progress and sign open access agreement(s), be ready



Thank you for  
your time



pete.hollebon@virginmediao2.co.uk

# ADEPT Corporate Seminar

Gareth Elliott – Director of Policy and Communications,  
Mobile UK



Mobile<sup>UK</sup>

Mof







# Why Mobile Connectivity Matters



2G / 3G Switch Off





# Challenges to Deployment







Partnering for  
Success

The background of the slide is a blue-tinted aerial photograph of a city. Overlaid on this image is a network of white lines connecting several bright blue circular nodes, suggesting a digital or interconnected theme. The text is centered on a white rectangular background.

# **Panel Discussion and Q&A**



# Hot Topics

An aerial view of a city, likely London, with a network overlay of glowing blue nodes and connecting lines. The city features a river, bridges, and various buildings. The network overlay consists of several bright blue nodes connected by thin white lines, creating a web-like structure across the cityscape.

# ADEPT

For more information visit [www.adeptnet.org.uk](http://www.adeptnet.org.uk)