



Small Cells Making transport smarter Making cities smarter

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bai communications

BAI — scale, reach & experience



Key figures

- +100 years in communications
- Presence on 4 continents
- Over 900 full-time employees and access to +2,000 partner staff
- Communications networks in 400+ subway stations and tunnels
- Over 750 transmission sites (including towers) in Australia
- 13 MNO partners globally
- Majority-owned by Canada Pension Plan Investment Board (CPP Investments) since 2009

Our footprint and solution portfolio



Small cells,
DAS and towers



Transit
connectivity



Venue
connectivity



Fibre



IOT and
smart cities



Private
networks



Broadcast
services



Emergency
services

HONG KONG



NEW YORK



TORONTO



LONDON



An aerial night view of London, featuring the Shard and other city buildings. A digital network overlay with glowing nodes and connecting lines is superimposed on the cityscape. The text 'Connected London' is in the top left, and a large paragraph is in the center. A blue bar with the number '4' is in the bottom right.

Connected London

TfL has awarded **BAI** a 20 year contract to deliver a whole range of improvements to connectivity across London, in line with the Mayor's Transport Strategy

Connectivity across the capital



Mobile coverage in stations & tunnels

- Neutral Host services throughout 136 stations, platforms and 200km tunnels
- Emergency Services Network rollout for 4G LTE



TfL public Wi-Fi

- Take on existing London Underground Wi-Fi service delivering Wi-Fi access to all stations, platforms and ticket halls



+230km underground fibre

- +230kms of fibre running through the London Underground



80k small cell locations

- 80k premium TfL assets incl. LU stations, lampposts, CCTV poles, traffic signals and bus shelters
- Prime ducting routes



Edge Data Centres

- Base Station Hotels in locations across the city
- Cross connections into major London data centres



24x7x365 NOC

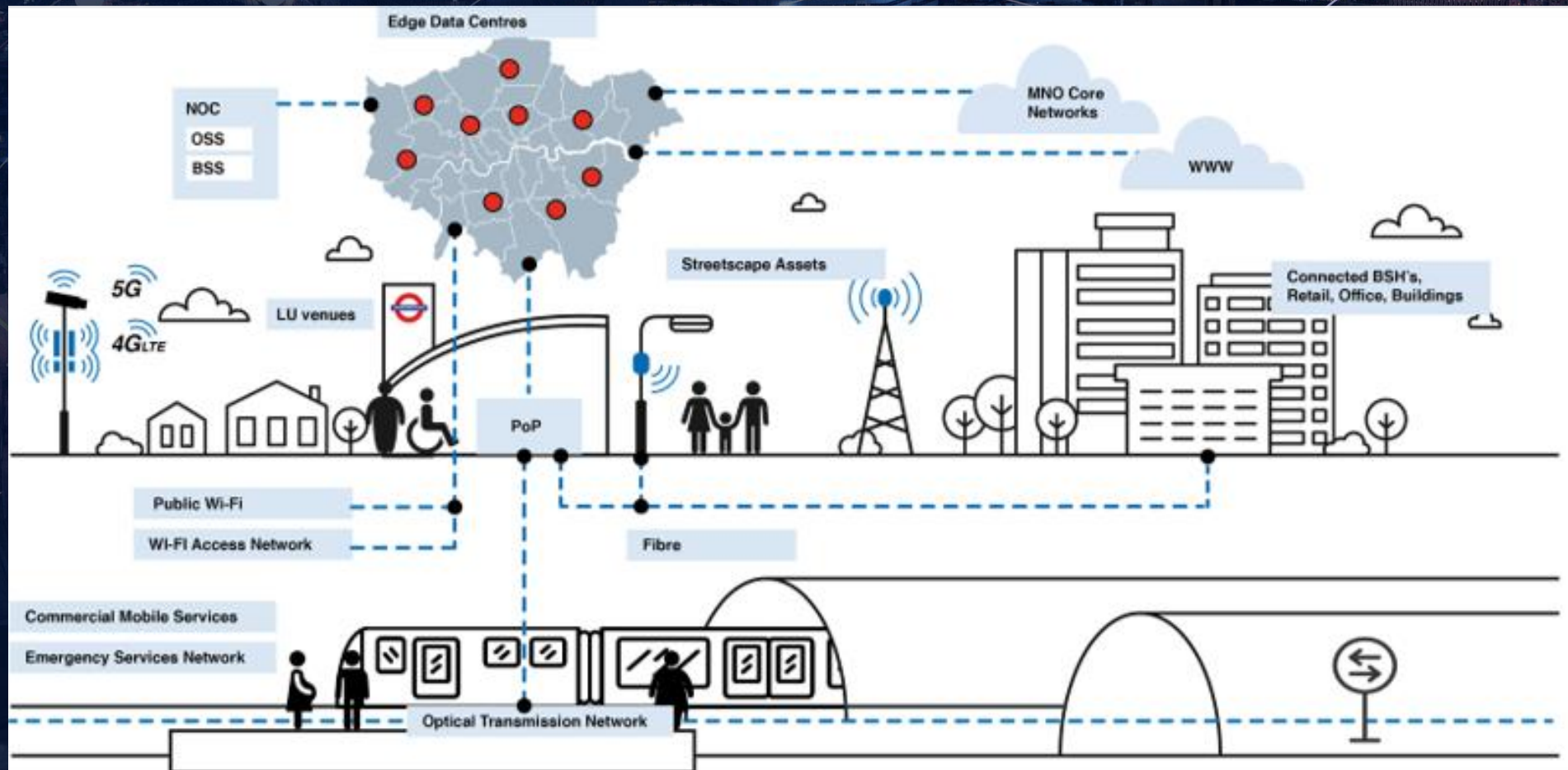
- Fully managed 24x7x365 to support the mission critical nature of the network
- Service management and insights

Outcomes

- Resilient fixed and mobile coverage solutions, giving customers a great network experience
- A new alternative fibre backbone in London providing connectivity and a smarter city
- Create a safer, smarter London by building and operating critical communications infrastructure that will support emergency services

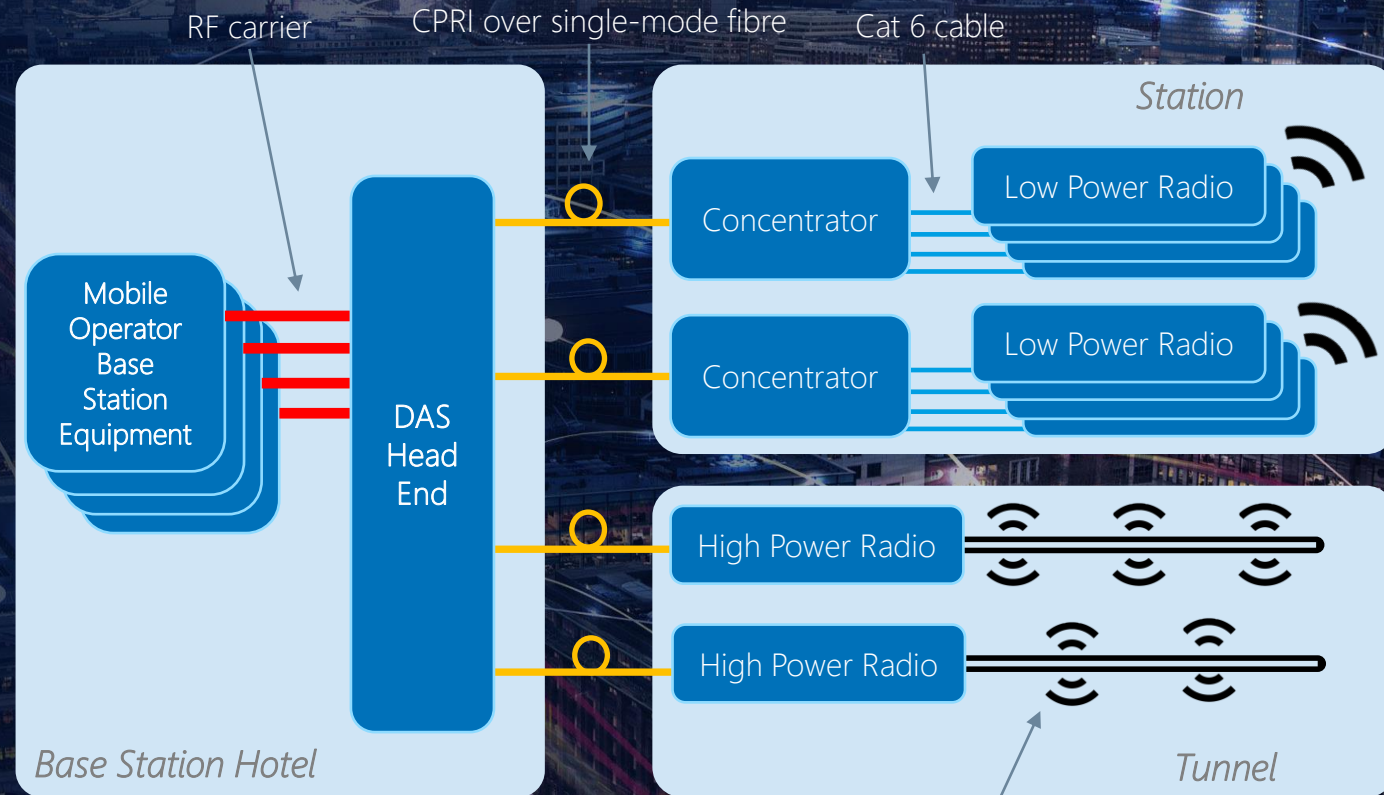
Connected London Solution

“ £1Bn+ of new infrastructure capable of accelerating and optimising the digital footprint in London ”



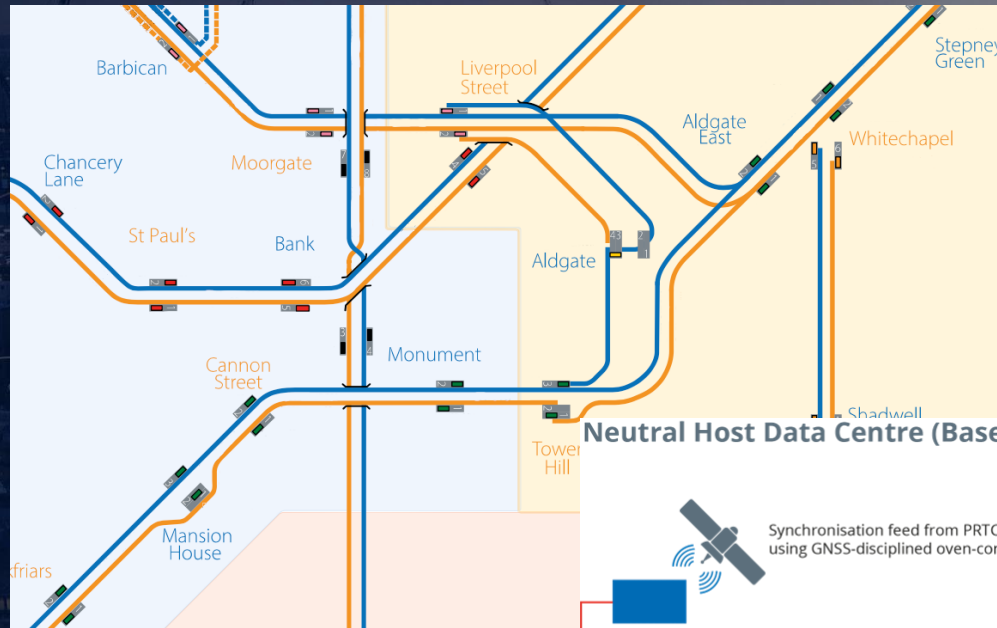
Small Cells Underground

- **Active DAS** system
- All **3GPP Technologies** supported
- Design follows **JOTS** standard
- Mobile operator equipment housed in edge Data Centres / **Base Station Hotels**
- Coverage provided in **Tunnels** via radiating cable solution

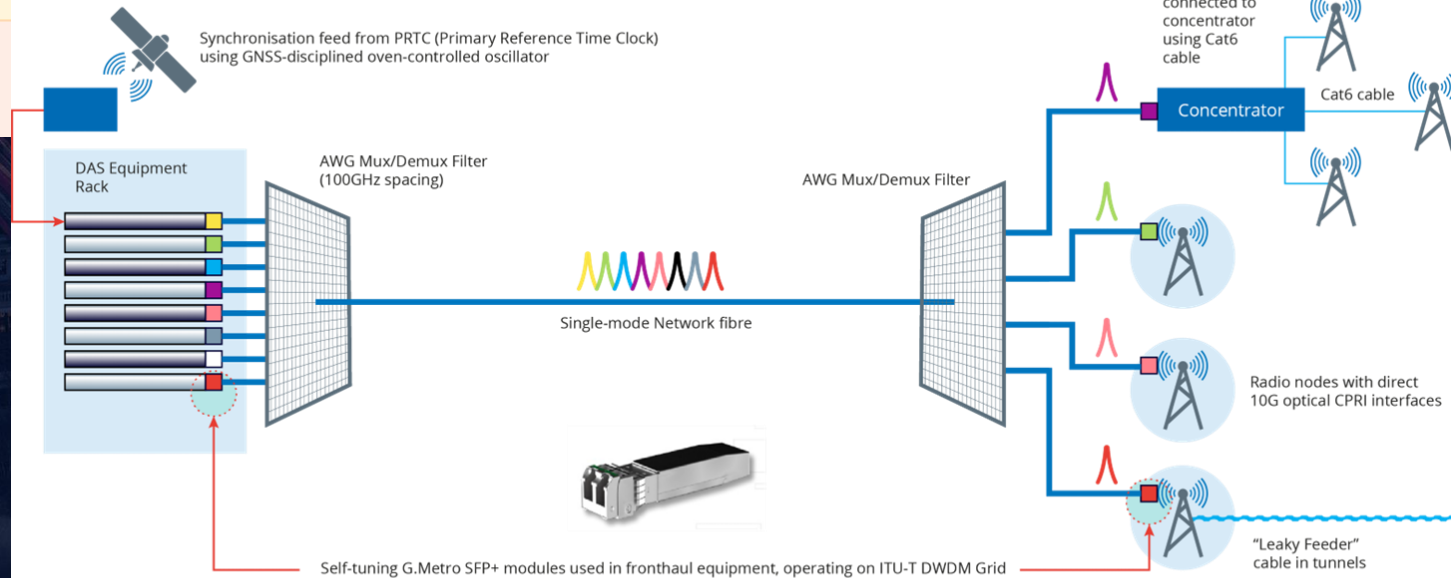


Even wireless networks need wires

- **+230km** 864 strand fibre installed in tunnels
- **+140km** 288 strand fibre installed in stations and presented at a point of presence (POP) located at street level
- Installation activity, including cables, performed during **TfL Engineering Hours**

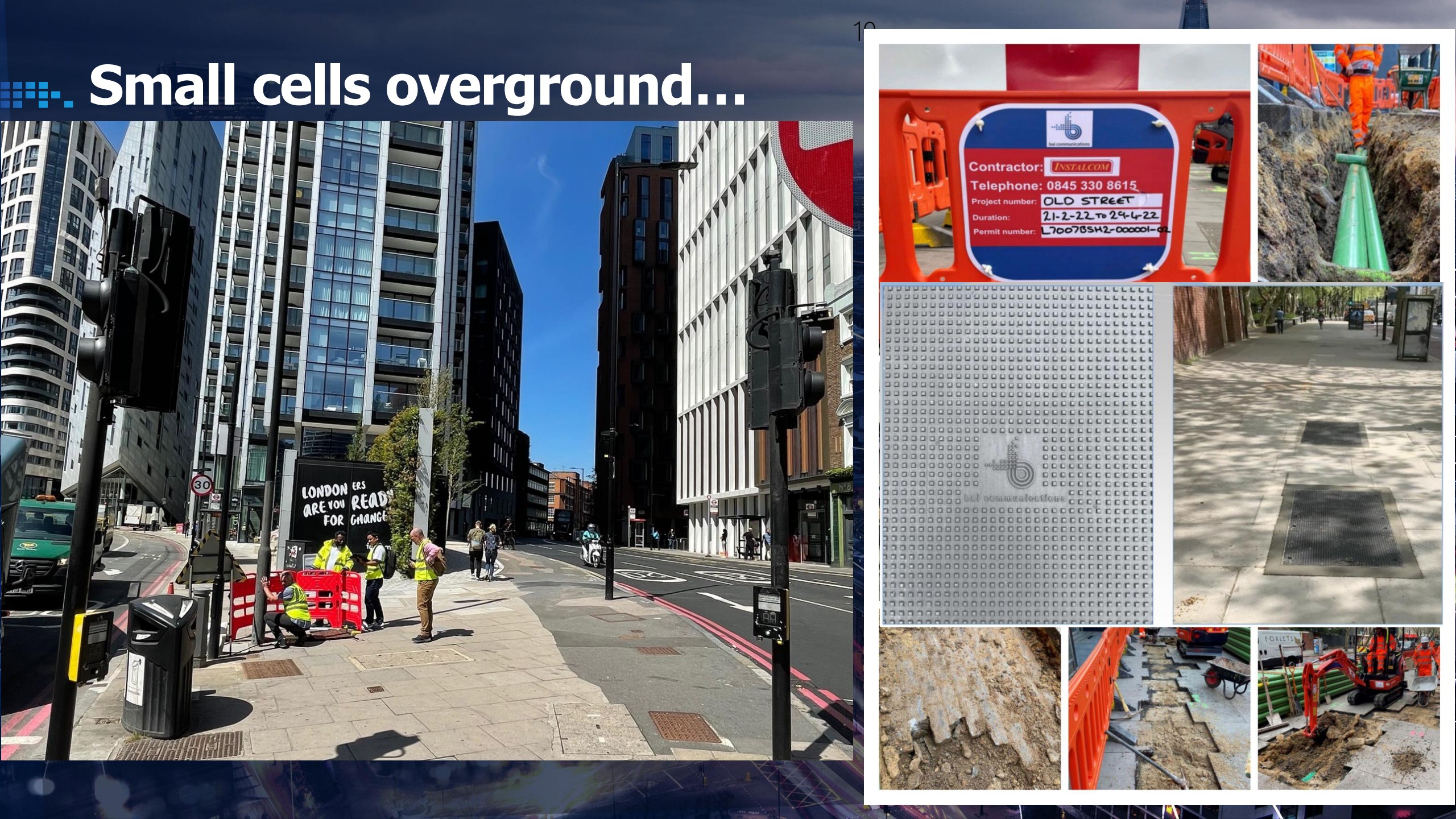


Neutral Host Data Centre (Base Station Hotel)

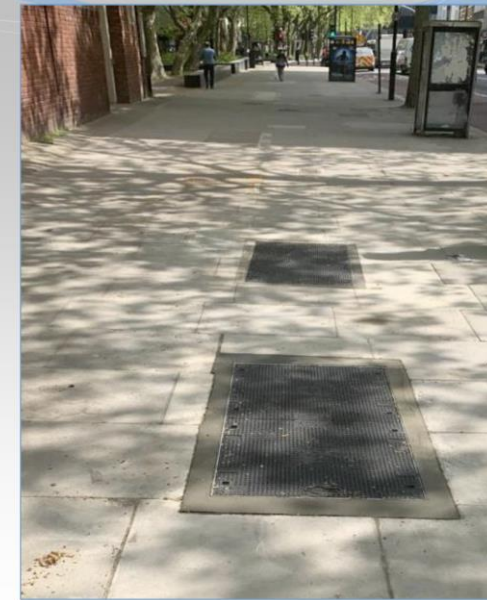
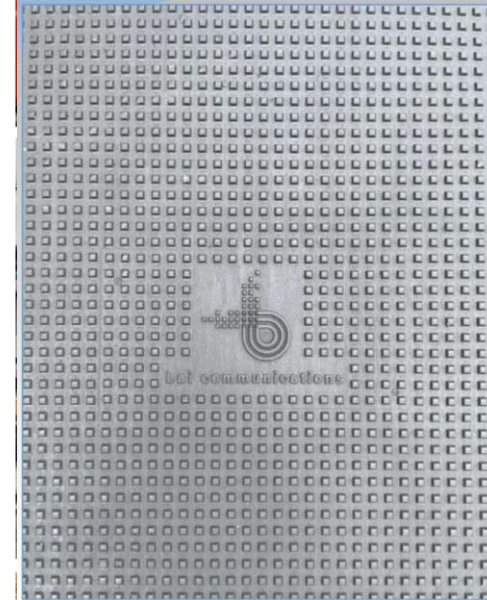


Whilst we are sleeping...





Small cells overground...





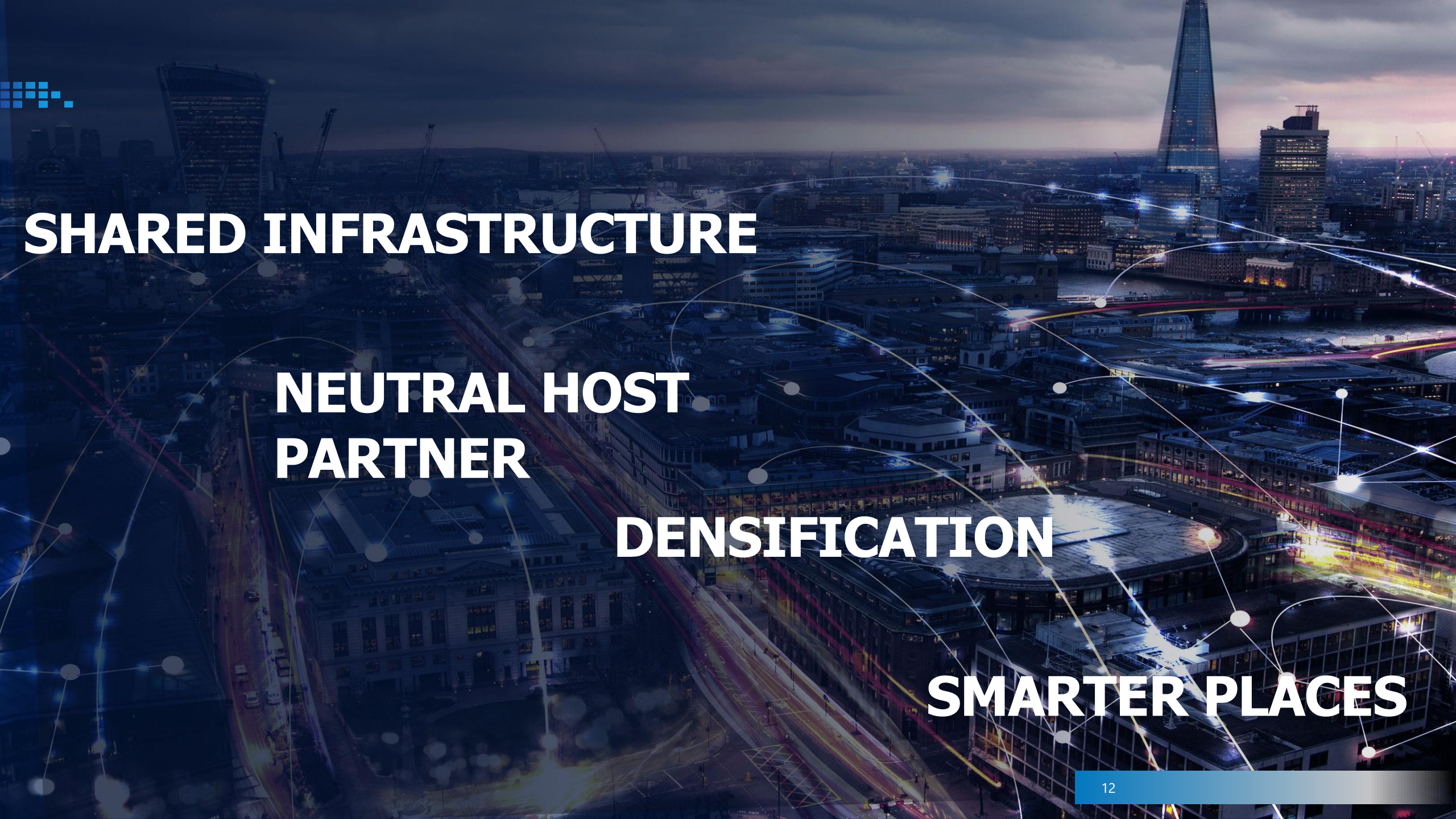
HOW IS THIS ACHIEVED?

NEUTRAL HOST

STRATEGIC PARTNERSHIP



bai communications



SHARED INFRASTRUCTURE

**NEUTRAL HOST
PARTNER**

DENSIFICATION

SMARTER PLACES



Thank You



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