



CAMBRIDGESHIRE
& PETERBOROUGH
COMBINED AUTHORITY

Connecting Cambridgeshire

Digital Connectivity Strategy Launch Event

Monday 9 July, 2018



Welcome to

 **THE
BRADFIELD
CENTRE**

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Agenda - Morning Session

Speakers

- Mayor James Palmer Cambridgeshire & Peterborough Combined Authority
- David Cleevely Cambridgeshire & Peterborough Independent Economic Commission
- Gareth Elliott MobileUK
- Rob Hamlin CityFibre
- Trevor Linney BT Technology, Service & Operations
- Cllr. Steve Count Cambridgeshire County Council



James Palmer

Mayor, Cambridgeshire and Peterborough
Combined Authority

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David Cleavelly CBE

Vice Chair, Cambridgeshire and Peterborough
Independent Economic Commission

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Gareth Elliott

Head of Policy & Communications, MobileUK

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Mobile^{UK}

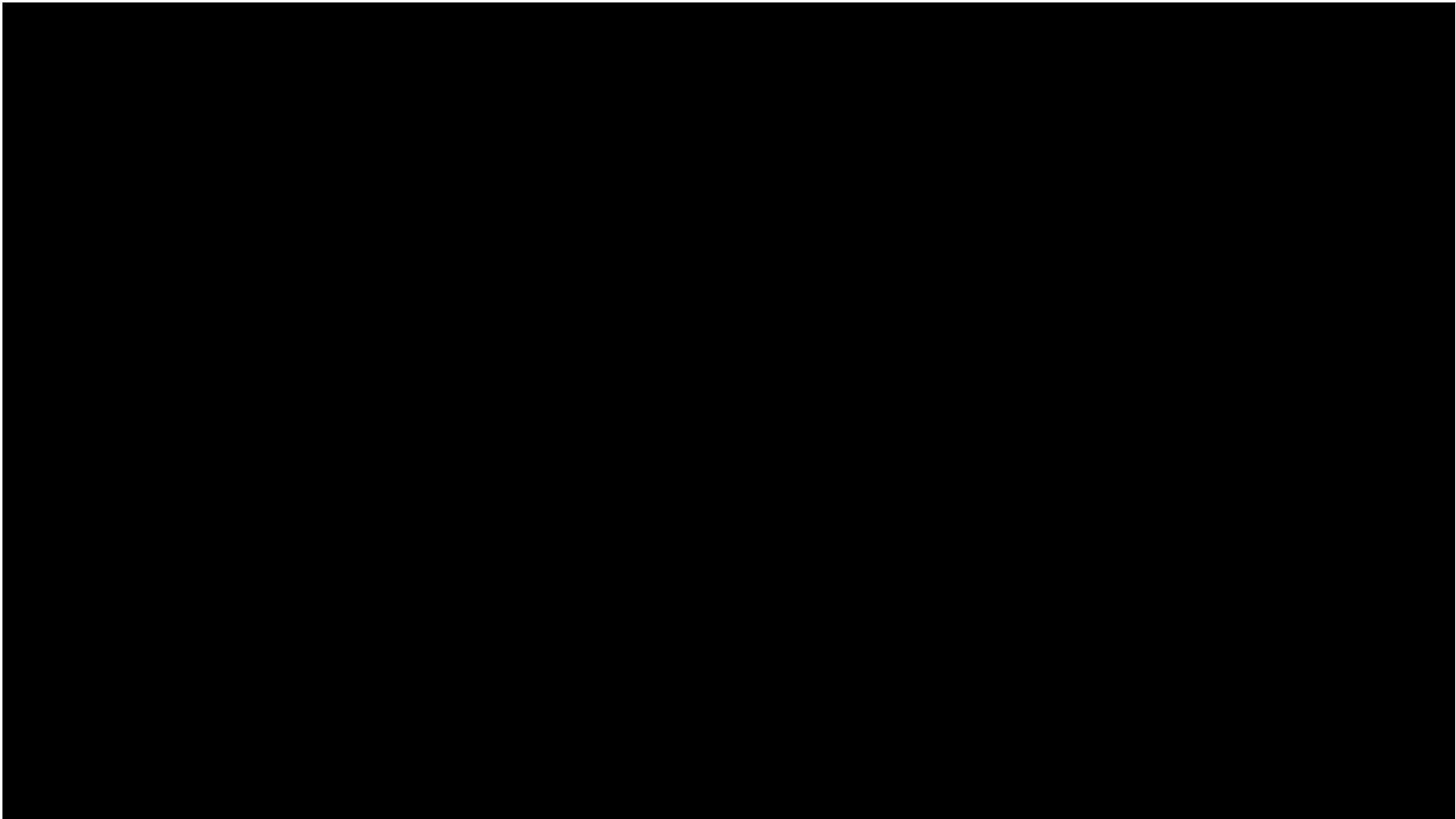


**BUILDING
MOBILE
BRITAIN**

9 July 2018

Connecting Cambridgeshire – New Digital Connectivity Strategy

**@MobileUK_News
#BuildingMobileBritain**



Mobile^{UK}

Benefits of Mobile Connectivity

- 92m mobile subscriptions
- 95% of adults own a mobile
- Instant access to local authority services
- Mobile and flexible working / Estate rationalisation
- Constant communication cuts down on missed appointments
- 5G could free up 1.1m hours for GPs via telehealth conferencing and real-time health monitoring
- Sensor driven traffic systems reduce congestion
- Smart lighting and smart refuse collection could save £2.8bn



Mobile Networks

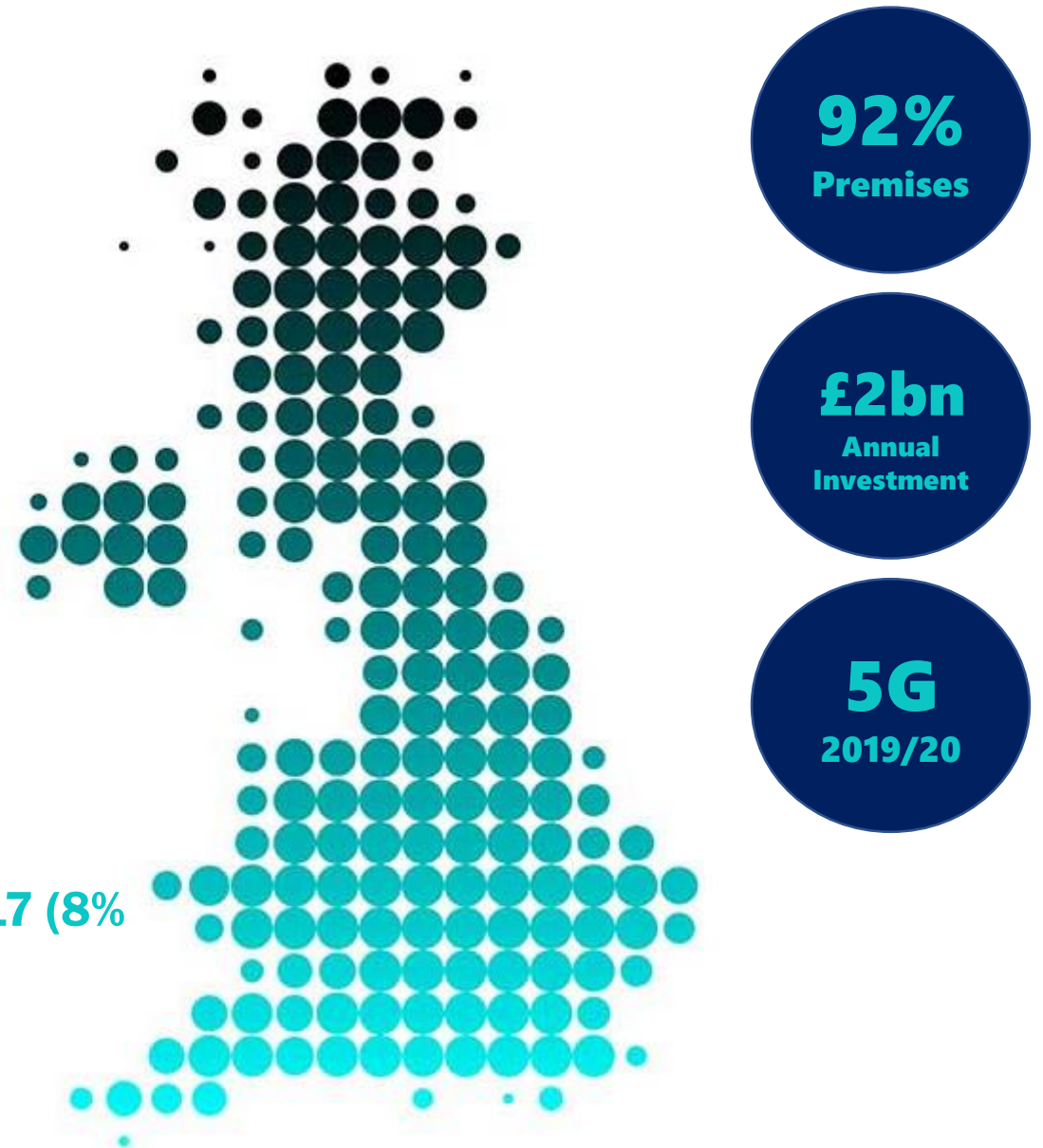
National Coverage

- £2bn annual investment programme
- 92% UK premises (calls) 88% (data)
- 68% UK premises – 4G (up from 58%)

Cambridgeshire and Peterborough

- 80% premises (data)
- 62% premises (4G)
- Geographic 92% data
- 27k hectares new 4G coverage since Dec 2017 (8% region)

Mobile^{UK}



Barriers to Coverage

- Political leadership and willing
- Lack of suitable sites
- Strategic planning – mobile is an afterthought
- Consistency of planning
- Under-resourced planning departments



Creating a better framework

- Access to public assets
- Landlord relationships
- Updated and refreshed Local Plans
- Guidance and best practice
- Digital champions
- Planning reform
- Investment and partnership

Mobile^{UK}



Working together in partnership



Mobile^{UK}



Thank You



Rob Hamlin

Commercial Director, Public Sector Team, CityFibre

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CityFibre

Building Gigabit Britain

Rob Hamlin,
Commercial Director

Connecting Cambridgeshire

**New Digital Connectivity
Strategy Launch**

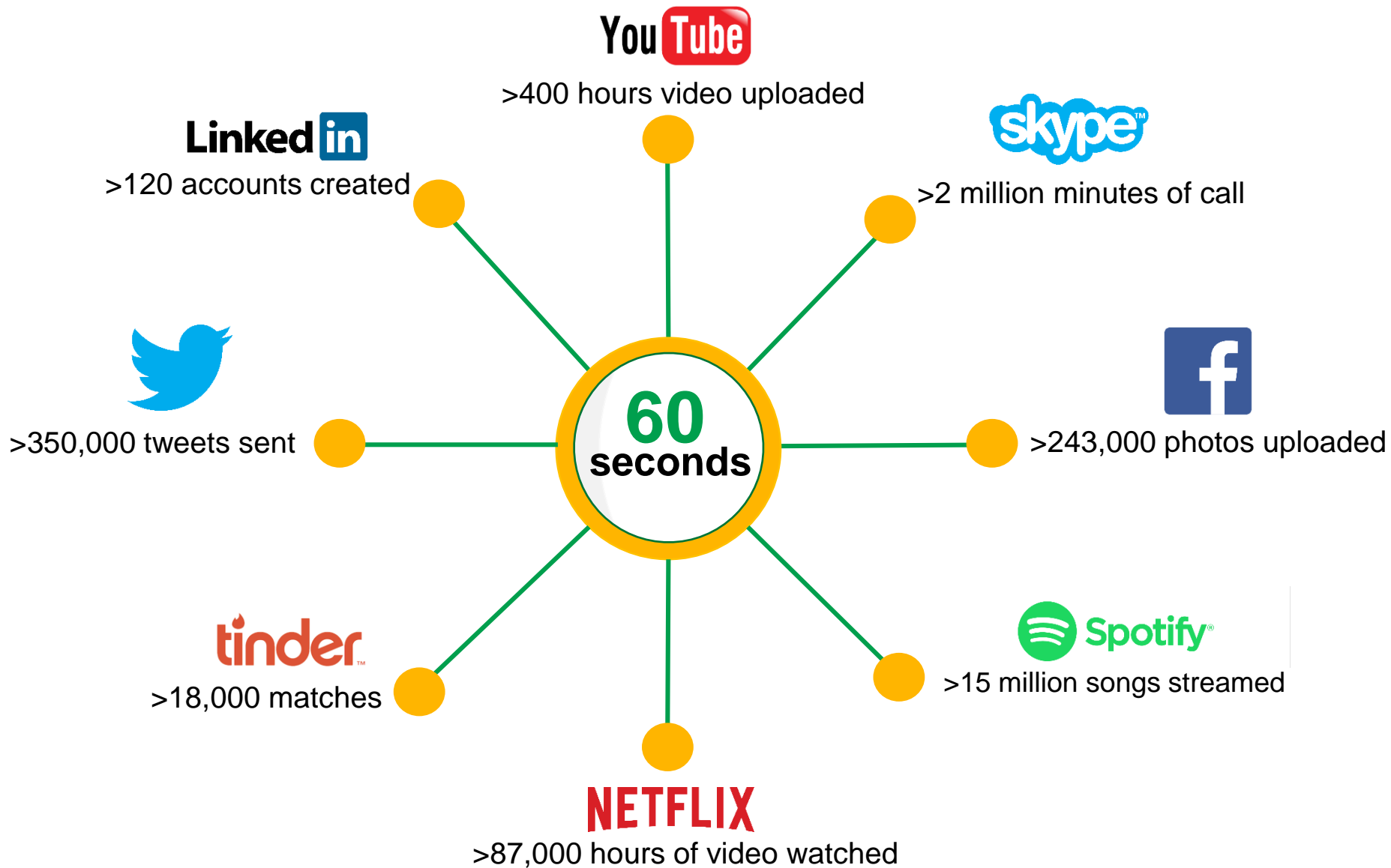
9 July

CityFibre



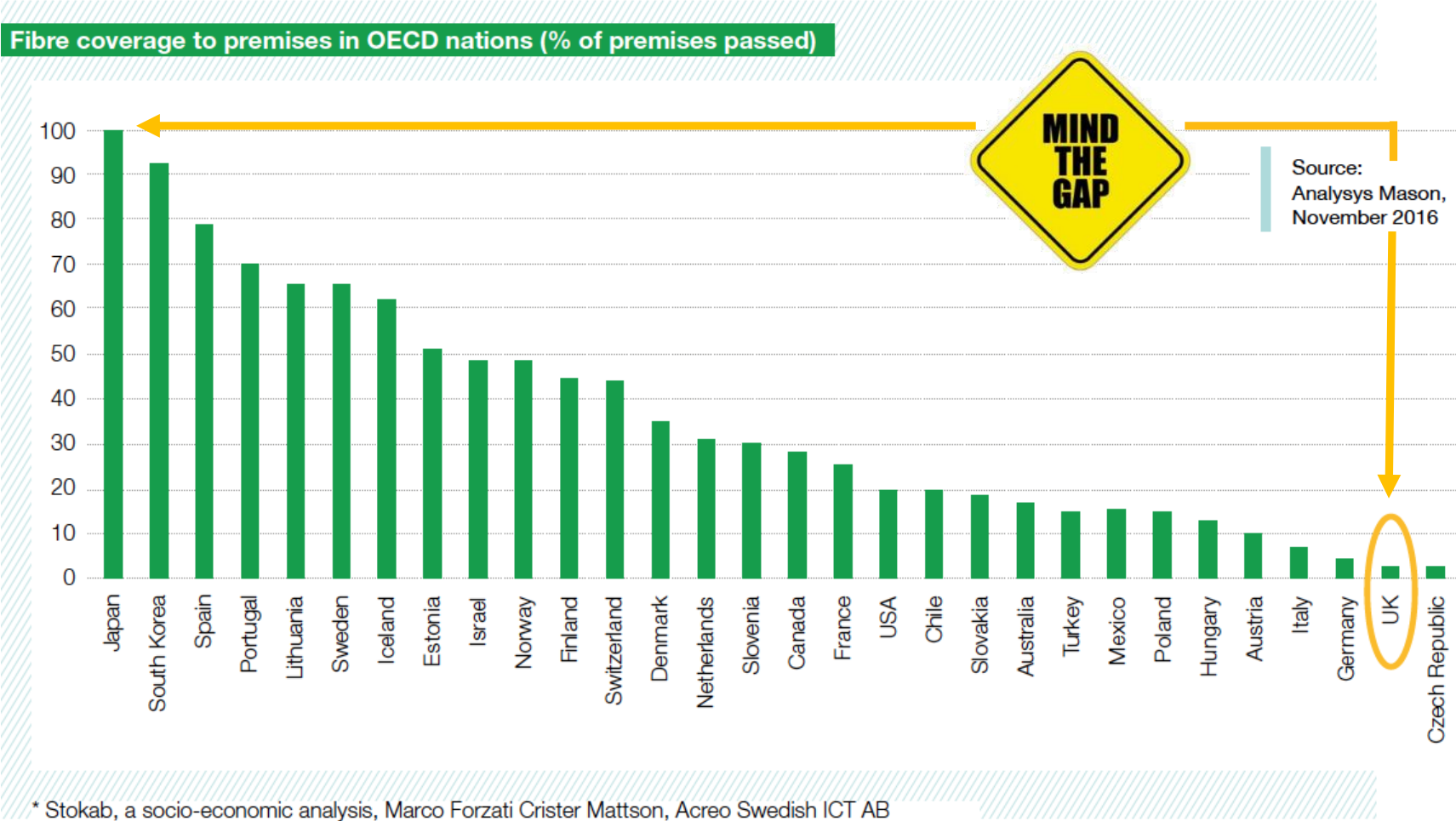
Connectivity demands

2018: what happens in an internet minute



Full fibre investment is critical for the UK

full fibre coverage to premises in OECD nations



Our mission

- Build a new generation of future-proof digital infrastructure for the UK
- Transform the digital capabilities of the nation's citizens and businesses
- Spark innovation and underpin our economy in a digital age

CityFibre










The economic impact of full fibre infrastructure

In 100 towns and cities - benefits over 15 years



£2.1bn

Direct network build benefits

 <p>£7bn Private household benefits</p>	 <p>£1.1bn Healthcare</p>	 <p>£2.3bn Innovation in business</p>
 <p>£2.2bn Business productivity</p>	 <p>£1.9bn Worker flexibility</p>	 <p>£2.3bn Business start ups</p>
 <p>£5bn Smart city infrastructure</p>	 <p>£10bn Industry 4.0 / IoT</p>	 <p>£28bn 5G innovation</p>

Source - Regeneris report: 'Economic Impact of full fibre infrastructure in 100 towns and cities 2018'

CityFibre

Strategic FTTP partnership with Vodafone

1m

Homes & businesses deployed by 2021

5m

UK home & business opportunity through Vodafone framework



Building a wholesale open access infrastructure



Vodafone enjoy initial period of exclusive access to consumer-grade services before network becomes open access to consumer ISPs



Business-grade services immediately available via Entanet and carrier channels

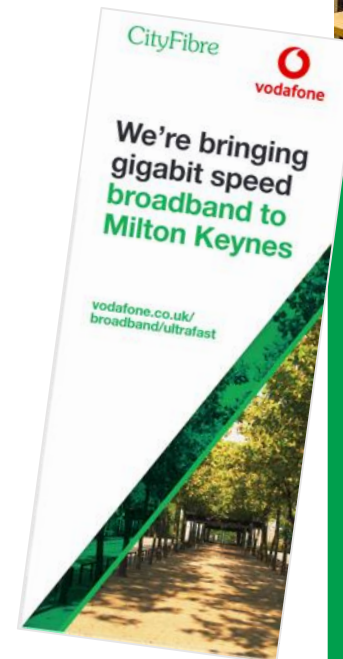


Mobile and Public Sector verticals can access the network from day one

Milton Keynes

Our first city in partnership with Vodafone

- Announced January 2018
- £40m investment from CityFibre
- Leveraging existing 162km network saves 18 months on build time
- Build started 26th March 2018 – will reach nearly every home and business
- First residential customers will be connected this week



“We are delighted that Milton Keynes has been selected as the first city in this full fibre roll-out by Vodafone and CityFibre. We know that the city will get behind this project to ensure that every home and business unlocks their digital potential.”

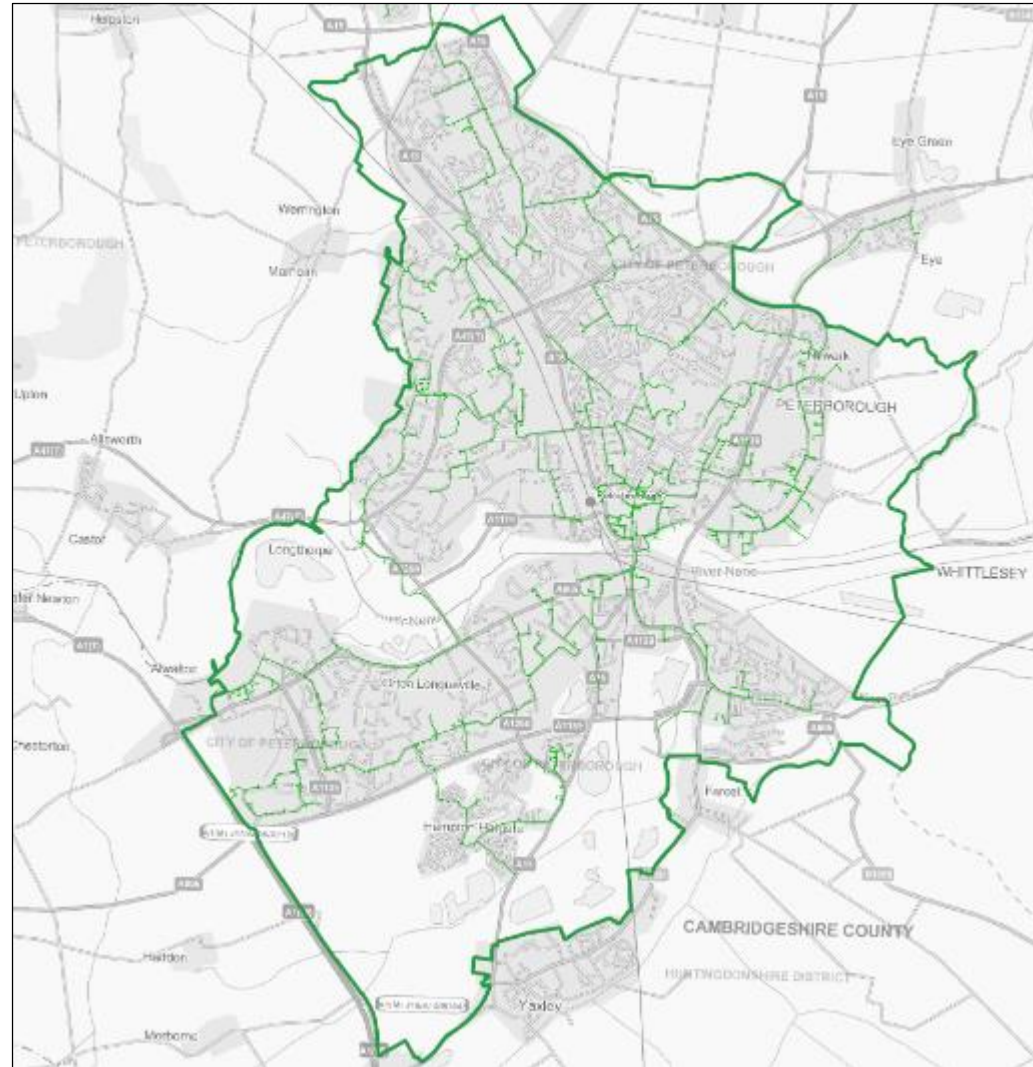
**Cllr Peter Marland,
Leader at Milton Keynes
Council**

Gigabit City Peterborough

Pre-build phase



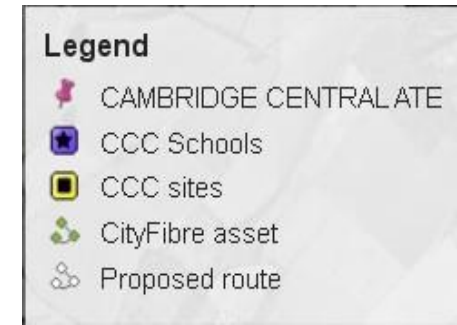
- £30m investment from CityFibre
- Leveraging existing 120km network saves 18 months on build time
- Build due to start July 2018 – will reach nearly every home and business in the city



CityFibre's WPC design for Cambridge

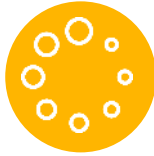
Working in partnership with MLL on the Eastnet bid

Focusing in the Cambridge city boundary, we designed a network comprising of 23km of new build infrastructure for 54 connections to CCC and CCC school sites.



The benefits of full fibre connectivity

a revolution in residential broadband



Connecting the entire community, schools, hospitals, libraries, community centres, retail hubs, businesses, smart city applications etc.



Future-proof connectivity, with almost unlimited bandwidth



Enabling the future smart home, with technologies from Amazon Echo to smart heating, lighting and security



Better home treatment & telemedicine, with convenient online consultations & remote monitoring opportunities



Flexible home working & e-learning becomes a reality with seamless online file sharing and video conferencing



The best online home entertainment, ultra-fast low-latency streaming





Trevor Linney

Head of Openreach Access Technology Research Lab

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A glimpse of the future

Trevor Linney, BT labs

Driving forward the digital infrastructure of the UK



Fibre First



A world first - aerial fibre delivery using drones
New tools and techniques for FTTP



Superfast Broadband



Gfast trials and deployment

openreach



100G FTTP



Massive MIMO



Novel sensing



Robotics for civils



BT / Huawei / UoC collaboration



500G quantum encrypted link

BT Labs



Cllr. Steve Count

Leader, Cambridgeshire County Council

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Connecting Cambridgeshire Digital Infrastructure Programme



Mobile Coverage

- Coverage is currently poor compared to UK average
- Working with mobile operators to improve network coverage
- Targeting better coverage of A & B roads and rail routes by 2022



Full Fibre

- Targeting threefold expansion of full fibre footprint
- Fibre to the Premise (FTTP) services
- Innovation corridor supplying next generation connectivity



5G Plans

- Trialling & early deployment of future facing 5G services
- Working with businesses to maximise positive economic impact



Public Access Wi-Fi

- Widespread free Wifi in public buildings and open spaces
- Expanding Wifi provision in market towns, village halls and community buildings



Superfast broadband (24mbps +)

- Phase 2 - reached 96% homes & businesses
- Phase 3 – reaching 97% by end 2019
- Phase 4 – targeting >99% by end 2020



Enabling Digital Delivery

Agenda - Afternoon Session

Speakers

- Ian Adkins Analysys Mason
- Mark Andrews Enabling Digital Delivery (EDD)
- Vincent Berkhout Cambridge Fibre Networks
- Andrew Glover Bridge Fibre



Ian Adkins

Principal, Analysys Mason

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Presentation to Connecting Cambridgeshire

Roundtable introduction: Barriers to digital infrastructure delivery

9 July 2018 • Ian Adkins

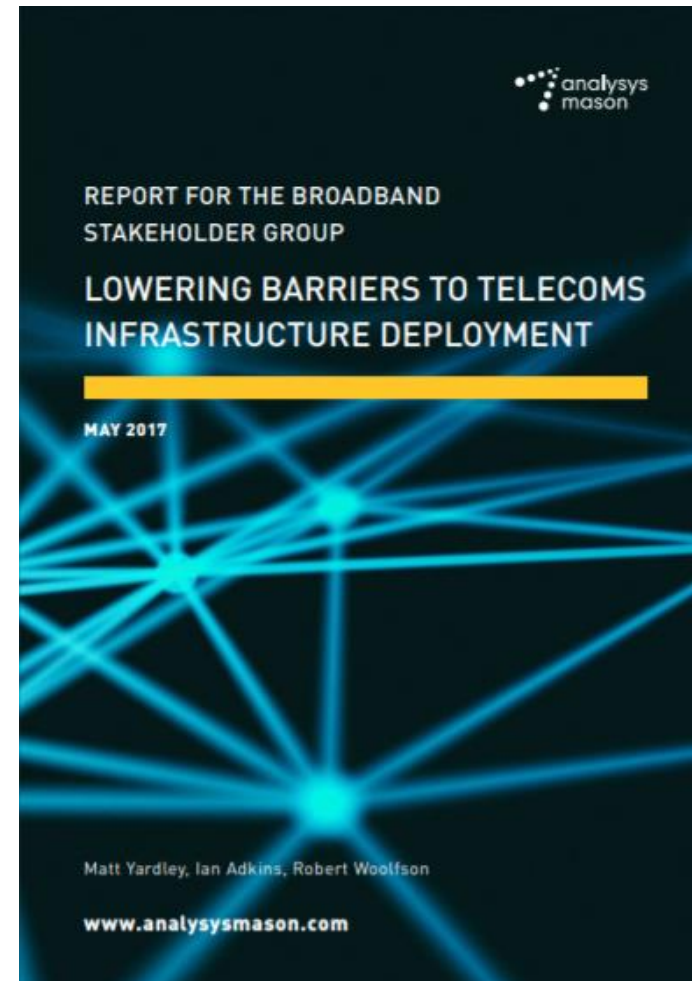
About Analysys Mason

- We are a sector-specialist advising in telecoms, media and technology
- Our clients are mostly operators, investors and policy makers
- Established over 30 years ago, 220 people, 14 offices around the world, London HQ
- 200-300 bespoke consulting projects every year

Published May 2017 – barriers in fixed telecoms

- Focus of this study:
 - Noticing and permit schemes
 - Restriction notices
 - Road traffic management
 - Planning permission

This work led to the creation of the
“Barrier Busting Task Force”



Our new study is about pre-empting 5G barriers

- UK Government ambitions for the UK to be a 5G world-leader
- DCMS-funded trials are underway; and other initiatives include:
 - UK5G, Local Connectivity Group (DCMS/TechUK), Local Full Fibre Networks, Future Telecoms Infrastructure Review
- Mobile operators are preparing for 5G launch

- 23 interviews – 11 with local authorities, and 12 with industry stakeholders including MNOs, equipment vendors and infrastructure providers

Publication is imminent ...

The study scope includes small cells ...



... but macro cell issues are still important



We found barriers across 3 broad areas

Selected examples only – many more in final report

Legislation	Deployment	Communication
Planning regulations (variability by LA/DA, lead times esp. for high volumes)	Commercial models for access to street furniture (e.g. inconsistent use of concessions)	Fragmented approach by local government (e.g. short-term revenue raising vs longer-term infrastructure benefits)
The ECC (adjustment period, role of intermediaries)	Access to power (timing & cost issues)	Inconsistent approach by network providers (e.g. information sharing about rollout plans)

What to expect from the report

- Over 20 recommendations to lower barriers to 5G deployment
- Recommendations targeted to specific stakeholders across central & local government, and industry
- A range of short-term priorities that should be actioned quickly to make a material difference

Thank you

Ian Adkins

Principal

ian.adkins@analysismason.com

07712 775398



Mark Andrews

Enabling Digital Delivery Manager

*Tackling the barriers to delivering a future proof digital connectivity infrastructure
across Cambridgeshire & Peterborough*

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Enabling Digital Delivery (EDD)

The EDD team is:

- Taking action at a local level - across boundaries
- Simplifying processes & encouraging best practice
- Finding ways to reduce delays & costs
- Providing a central contact point for providers & mobile network operators
- Co-ordinating wayleaves, street works licences & planning
- Making public sector assets available



Vincent Berkhout

Co-Founder, Cambridge Fibre Networks

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ROUNDTABLE FIBRE ROLL-OUT

CAMBRIDGE, 9 JULY 2018

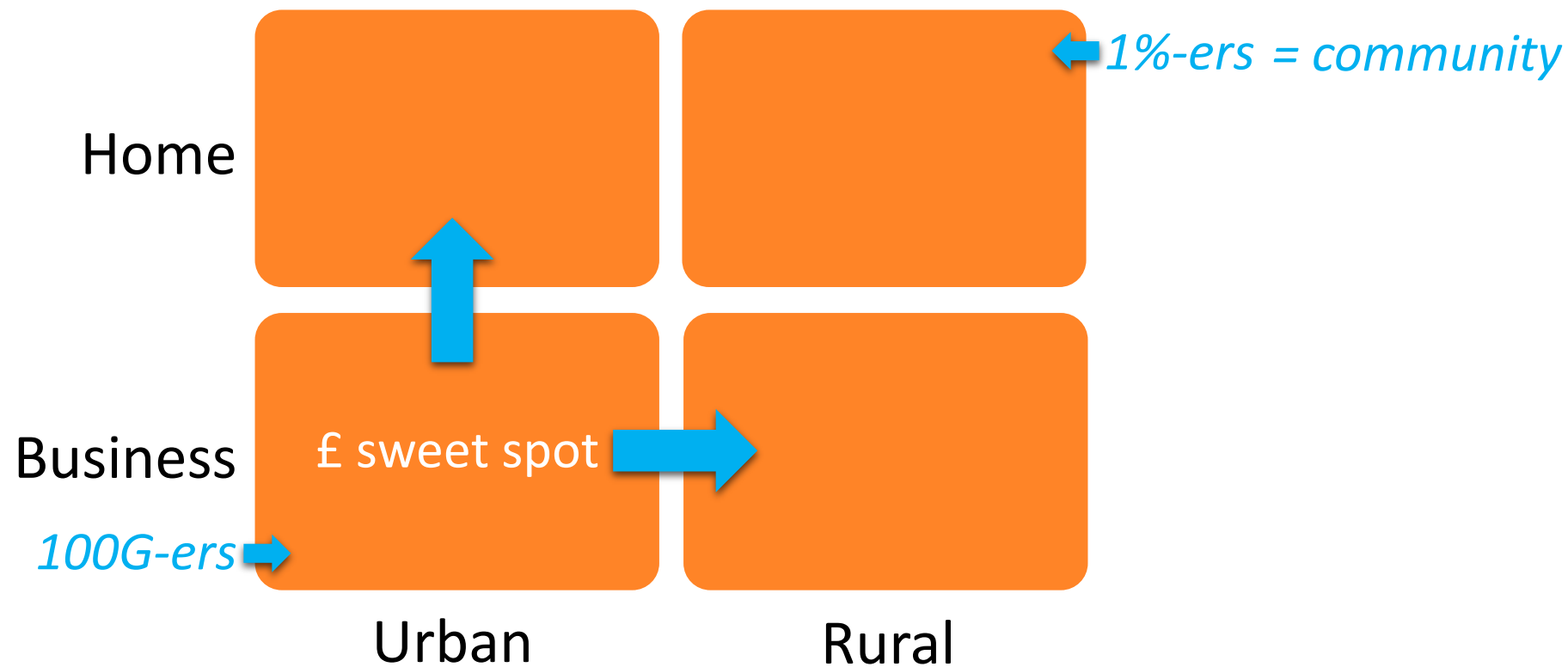
**CAMBRIDGE FIBRE IS A
FACILITY-BASED FULL-FIBRE
HORIZONTALLY INTEGRATED
SERVICE PROVIDER**



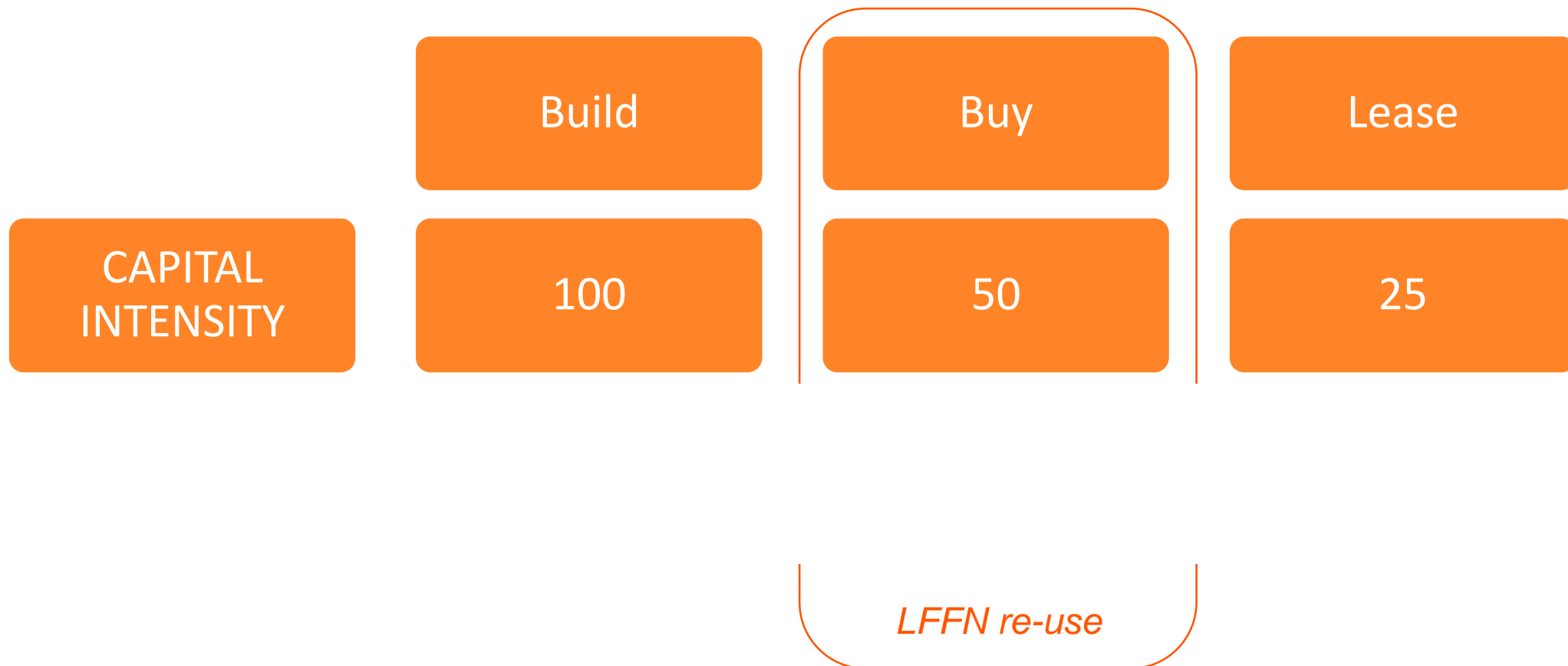
THE FUTURE IS LIGHT

- Deregulation created a 2 to 5 year window for new broadband market entrants
 - Focused regional operators outperform national players
 - Privately owned, passionate about customer service
 - Network nodes in London (4), Cambridge (3), Ely (1) and Bury St Edmunds
1. TrueFibre® broadband for home and business from 500 Mbps
 2. Telecom: Ethernet, Internet access, Dark fibre and the Cambridge Fabric®

TARGET SEGMENTS



INFRASTRUCTURE INVESTMENT OPTIONS (*DUCT*)



CHALLENGES

1. Legislative ambiguity (including rateable values, Openreach status, DFA)
2. 8 digits challenge
3. Continued funding for fake fibre
4. Wayleaves, starring absentee landlords and ransom value
5. SEDs and construction obstruction
6. New property developments with open duct access

JOIN THE GIGABIT REVOLUTION





Andrew Glover

Chief Executive, Bridge Fibre

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How can we work together to deliver a future facing digital infrastructure?

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