

Full Fibre & 5G The Road Ahead



INCA Conference 2018
5/6 November, Marble Arch, London

Sponsored by

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#TheRoadAhead18

INCA's ground-breaking report '*Building Gigabit Britain*' alongside Ofcom's '*Digital Communications Review*' sparked the policy debate leading to Full Fibre and 5G. This year's conference takes stock of where we are and examines the opportunities (and pitfalls) on The Road Ahead.

The altnet sector is growing fast with new investment and new networks being built. Government has set ambitious targets for full fibre and 5G development. INCA's conference will be a milestone on the route to 15m full fibre connections by 2025 and leadership in 5G services. Senior representatives from industry, Government and Ofcom are all represented, offering a great opportunity to debate how to achieve the UK's ambition for a full fibre and 5G future.

Rob Leenderts, Chair, Malcolm Corbett, CEO and the entire INCA team

About INCA

INCA is the co-operative association of independent operators of high-speed fibre and wireless digital networks in the UK. Our members include many of the most dynamic organisations in the sector alongside household names like Vodafone and Sky. We work to promote a competitive telecoms infrastructure market that will lead to better outcomes for consumers and businesses, plus value for money where public funding is involved. INCA's sector-leading events bring together industry leaders, local and national government officials and community schemes in a collaborative effort to transform the digital infrastructure of the UK.

Join INCA today

We have a range of attractive membership options and we'd love to have you on board.

Contact: Gill.Williams@inca.coop

Contact INCA at:

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[@inca_networks](https://twitter.com/inca_networks)

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Conference speakers

Matt Agar



Matt has been BDUK's commercial lead since its creation in 2010 and is responsible for commercial strategy, design and assurance for each of Government's delivery programmes for broadband connectivity and was responsible for developing and mobilising the Local Full Fibre Networks programme. Matt has been a telecoms/IT/infrastructure commercial professional for 18 years and leads BDUK's team of specialists.

Ben Allwright



Ben is Teleste's VP of Advanced Network Services and Managing Director of Flomatik, Teleste's UK Services subsidiary, which he joined in 2009. Ben has an established track record of architecting, designing and realising next-generation infrastructure projects. A natural entrepreneur, Ben has been instrumental in the start-up and realisation of numerous UK tripleplay networks, and is also a joint proprietor of Countryside Broadband, a rural wireless system in South Oxfordshire.

Michael Armitage



Michael joined BT as a graduate trainee in 1980, before entering the City in 1982 and joining Morgan Stanley in 1987 where he led the European and latterly Global Telecoms research teams, and was the lead analyst in a number of landmark IPOs and privatisations, including Colt, Telecom Italia, Telefonica and Telia. Since 2011 he has been developing the broadband opportunity, and is a board member of INCA.

Dominique Astier



Dominique is co-founder and Deputy CEO of Axione in charge of digital infrastructure design and operation, and international business development. A graduate of the Ecole Nationale des Télécommunications, Dominique began his career with Alcatel-Lucent in China. In 1996, Dominique joined Cegetel to launch the first alternative ISP in France, and in 2003, co-founded Axione, specializing in DSL, Wimax and FTTx in long-term public-private partnerships with local authorities.

Daren Baythorpe



Daren is CEO of ITS Technology Group. Daren has previously held senior management positions and has been an adviser with leading telecommunications and utility sector companies, including BT and Severn Trent Water. Until recently he was Managing Director of BT Openreach's Business and Corporate Delivery division.

Annelise Berendt



As Principal Associate with Point Topic, Annelise focuses on next-gen broadband deployments and services. She has worked as programme developer for a high level event series run by the International Institute of Communications examining European and international regulatory affairs.

Prior to this Annelise spent eight years with Ovum, leading its broadband content research and advisory programme, and directing its research into the wholesale telecoms market, and competitive carriers.

Ian Beverley



Ian is a Fellow of the Chartered Institute of Procurement and Supply (FCIPS), and a former senior RAF officer specialised in supply and logistics. He also spent three years as the Strategic Director of procurement for the States of Guernsey and is a partner Director in both Prism Business Consulting Ltd and J6 Efficiency Ltd. He specialises in procurement and cost reduction, advising both private and public sector clients.

Alex Blowers



Alex is Head of Regulatory Affairs at CityFibre. Alex has had a varied career including spells working within Government, for the regulator and for telecoms companies, focusing on policy and regulation. He was Director of Ofcom's first Telecoms Strategic Review in 2004-5 and Ofcom International Director from 2006-2011.

David Burns



David is the founder and chair of the UK Wireless Internet Service Providers Association (UKWISPA). He is also managing director of Boundless Networks, who provide high speed internet services to around 5,000 wireless subscribers in Yorkshire and Lancashire. The latest addition to David's portfolio is the formation of Wireless Coverage Ltd, which uses state of the art high-performance computing to perform groundbreaking wireless modelling using its WISDM technology.

Brandon Butterworth



Brandon co-founded Bogons Ltd who provide FWA and FTTP, and are building a datacentre in a Scottish Cold War bunker. Previously he put the BBC on the Internet, built iPlayer and Youview precursors and more recently has been pushing all of broadcast towards IP from camera to viewer.

As a FTTP cheerleader he has been telling anyone who will listen to just do fibre, from governments to villagers. Though many said it is impossible he wondered just how hard can it be. He decided to find out building balquhiddier.net

Clive Carter



Clive is Ofcom's Director of Strategy, leading Ofcom's Strategy and Policy team, which is responsible for developing Ofcom's overall strategy, ensuring it is prepared for emerging market development and leading on key strategic and emerging policy issues. Clive has been closely involved in policy issues across all of the digital communications sectors.

Hannah Clayton-Pack



Project lead for the broadband project at Ashford Borough Council. Currently implementing a policy into their Local Plan compelling developers and telcos to provide FTTP for all qualifying developments in order to future proof the expansion of the local fibre network.

Mark Collins



Mark Collins has been in the telecoms industry for over 20 years. He was founder of Equador Consulting, specialising in the development of early stage telecoms companies including Esat Telecom, Versatel Telecom, NTL and Completel. Equador was recognised as the UK's fastest growing TMT company in the Sunday Times Fast-track 100 awards. More recently, Mark was founder and CEO of the mobile media firm Muzicall, before becoming a founding partner of CityFibre.

Viv Collins



Viv is an Electrical/Electronics Engineer with experience in infrastructure delivery. Viv was employed with Atkins from 1993, working with the Welsh Office delivering roadside infrastructure projects and Intelligent Transport Systems. In 2004 she joined the Welsh Government, and in 2013 moved to the ICT Infrastructure team where she is currently the Project Director responsible for delivering broadband infrastructure projects across Wales.

Catherine Colloms



Catherine joined Openreach in 2016. She is responsible for Openreach's corporate communications and reputation strategy, including media and digital, public affairs, brand and corporate responsibility.

Malcolm Corbett



Malcolm is the founder and CEO of the Independent Networks Co-operative Association. INCA brings together the UK's Altnets building the next generation fibre and wireless digital infrastructure in the UK, alongside supporters in the public and private sectors. Prior to setting up INCA, Malcolm ran the Community Broadband Network, founded in 2004 to support local broadband initiatives through mentoring, advice and consultancy.

Ian Corden



Ian is a Director at Plum, bringing over 20 years of international experience in industry and consulting within telecoms and technology. He specialises in the intersect of policy and regulation with strategy and transformation, with a particular focus on practical commercial solutions, underpinned by robust, pragmatic and defensible analysis, and proven experience.

David Cullen



David is a highly experienced business developer and strategic thinker in telecoms, media and technology (TMT). He provides strategic industry insight to the ITS Technology Group Board and oversight of all ITS network activities. David has over 27 years of experience in the telecoms sector and has also been involved in public sector transformation and regeneration for over 12 years.

Lloyd Felton



Lloyd is the CEO of County Broadband (CBL), which delivers services to villages in Essex, Suffolk and Cambridgeshire with further counties soon to be announced following a £46m investment package with Aviva Investors that will enable the business to build truly future proof ultra-fast, low latency FTTP Access networks across the East of England. Lloyd is also an INCA board member."

Shaun Fensom



Working with consultants CBN, Shaun advises on digital infrastructure deployment as a tool for economic and social development, covering technical feasibility, business case, business planning and governance issues. Shaun has been closely involved in the conception and development of the Thin Layer and Digital Exchange models working with Tameside, Brighton and other local authorities.

Clairton Fernandes



Clairton has 14 years experience with telecom operators helping them define and fulfil requirements for OSS and BSS software tools. He is a polyglot with a degree in Business Administration and 18 years sales experience with CRM, ERP, BSS and OSS systems in different industries and countries, primarily working with telcos in Europe and Latin America.

Erzsébet Fitori



Erzsébet joined the FTTH Council Europe as Director General in 2016, where she brings more than 10 years of experience in regulatory affairs and public policy, including four years as Director at the European Competitive Telecommunications Association (ECTA). Prior to joining ECTA Erzsébet was Head of Regulatory Affairs at Telenor Hungary.

Barry Forde



Founder of Broadband for the Rural North Ltd (B4RN), a not for profit community benefit society deploying an FTTH network across North Lancashire, South Cumbria and parts of North Yorkshire. Barry is the designer of the network and the CEO. The B4RN area is deeply rural being in the last 3-5% for broadband. B4RN is community owned and the rollout is being funded entirely by the community.

Lindsey Fussell



Lindsey is Group Director, Consumer and External Relations at Ofcom. She leads Ofcom's work to protect consumer and citizen interests. Prior to joining Ofcom, Lindsey held a range of senior leadership roles in the public sector, most recently at the UK Treasury, where she was the Public Services Director, leading on devolution, education and culture, defence and criminal justice.

Hector Gibson Fleming



Hector's approach at Wessex Internet has been to transform the company from WISP to scalable FTTP operator. His background in fast-growing, entrepreneurial businesses in Africa and Europe has brought independent thinking to rural rollouts that turns the industry logic on its head. Wessex expands its network to connect remote properties first, only later infilling the nucleus of parishes from the outside-in.

Andrew Glover



Andrew founded and runs both a consumer ISP (mainly rural and using fixed wireless) and a business ISP (business parks using fibre). In addition he is currently chair of ISPA and a board member of INCA.

James Harraway



James is a Director of Infracapital, the infrastructure investment arm of M&G Investments, the European fund management business of the Prudential Group. James is responsible for making investments across the European infrastructure space, covering utilities, telecoms and transport infrastructure. Prior to joining Infracapital, James was an Investment Director in the infrastructure team at CVC Capital Partners, and before that worked in M&A at Deutsche Bank.

James Heath



James is Director, Digital Infrastructure at DCMS. He is responsible for the development of the Government's strategy for fixed and mobile digital infrastructure, advising the Secretary of State and Minister of State for Digital, and overseeing the Government's 5G Trials Programme.

Prior to joining DCMS, James was Director of Policy & Charter Review at the BBC.

Daniel Heery



Daniel has 17 years' experience delivering innovative digital infrastructure and services, mainly in rural areas. He has practical knowledge of building and managing fibre and wireless networks in some of the most challenging parts of the UK. He has carried out consultancy work for clients ranging from European Commission, UK Government and Local Authorities to Community Development Trusts.

Simon Hughes



Simon is Head of Digital, Communications and Customer Services at Mid Sussex District Council. He has worked across a range of public, private and social enterprises in service redesign and organisational development. He continues to work with socially innovative startups and takes every opportunity as a trustee of StayUpLateUK to plug their work.

John Irvine



John joined WightFibre as CEO in 2012. WightFibre, operating exclusively on the Isle of Wight, was a turnaround under John's leadership. WightFibre recently attracted a £35M investment from Infracapital Partners to deploy full fibre broadband to 65,000 homes and businesses across the island. John has previously held leadership roles in a mix of telecom companies including Truphone, Verizon, Level 3, BT and IBM.

Raj Kalia



Raj is the CEO of BDUK leading the delivery of digital infrastructure programmes for DCMS. The portfolio currently covers three major programmes with a total whole life cost of £3bn. 700Mhz Clearance is making available spectrum for resale for 5G, Superfast Broadband having hit 95% UK coverage is now delivering to as much of the last 5% as possible, and Local Full Fibre Networks (LFFN) is stimulating the market to deliver full fibre across the UK. Prior to BDUK, Raj spent 14 years at TalkTalk in several leadership roles.

Ronan Kelly



Ronan brings over 20 years' experience in the telecoms industry, deploying next-gen optical and copper networks, IPTV platforms and microwave radio networks. Combining technical knowledge with his telecoms business nous Ronan has helped some of the world's largest operators achieve market success. He has served at board level with INEX, The NIA, and is currently the President of FTTH Council Europe. Ronan is dedicated to developing ADTRAN as a global leader in SDN and NFV based Software Defined Access.

Mike Knott



Mike is a market development manager with Corning specialising in FTTH. He has extensive experience in FTTH network deployment, visiting network operators in over 40 countries throughout the world. He is recognised as an industry authority in optical connectivity, and was recently appointed to the Board of the FTTH Council Europe.

Itret Latif



Itret is Deputy Chairman and Interim CEO of the Federation of Communication Services (FCS), a leading industry body representing the views of communication professionals to government and regulators. Previous roles include Head of Telecoms and Gas Business for Scottish and Southern Energy plc (SSE), where he successfully developed and grew the gas and communication businesses.

Rob Leenderts



With more than 25 years' experience in IT and telecoms across a wide variety of roles, including Technical Design, Marketing, Commercial, Product and Business Development, Rob is a subject matter expert in wholesale broadband, open access, backhaul solutions and end to end service provision, having worked for major wholesale carriers in the UK for many years. Rob also has significant experience in the public sector, specifically around the effective re-use of assets, and is the current chair of INCA.

Justin Leese



Justin has been in the telecoms industry for over 30 years. Whilst at NTL his team launched the first UK broadband internet service and whilst at Ericsson he was the programme director for the UK launch of 4G in 16 cities for EE as well as the launch of Voice over IP services across Germany for Deutsche Telekom and T-Mobile. In 2017 he joined the DCMS as programme director for the LFFN programme.

Mike Locke



Mike has been in the connectivity world since email addresses were all numbers. As an ex-physicist with a marketing degree, he was Amstrad's UK marketing man before Lord Sugar was a Sir. Being able to spell geo-synchronous led to stints with major satellite operators SES-ASTRA and Eutelsat before starting Satellite Internet in the UK. Having been involved with INCA for some years, he is now supporting their introduction of a number of exciting Member services such as the INCA Marketplace procurement and project control platform.

Full Fibre & 5G: The Road Ahead

Day 1 – 5th November

10:00 – 12:00	INCA's AGM All conference participants are welcome to attend, although voting is restricted to INCA members.
12:00 – 13:00	Lunch Three parallel workshop events run over the afternoon: Technical Showcase, Investment Workshop, and a Rural Workshop.
13:00 – 16:30	TECHNICAL SHOWCASE > Chaired by Rob Leenderts (<i>INCA Chair</i>) and Matthew Hunter (CEO, <i>HellermannTyton</i>). The Technical Showcase offers a great opportunity to learn about the latest developments from operators building new networks, vendors and other suppliers.
13:00 – 14:00	Network Planning & Deployment > Steve Henry – <i>JohnHenry Group</i> Design & Planning for Efficient Network Deployment > Richard Weiss – <i>Esri/3GIS</i> Mapping & Network Design > Simon Wade – <i>Emtelle</i> Building Networks in the Back of Beyond > Jerry Mills – <i>Mills Ltd</i> 100 Years of Mills Ltd > Ben Allwright – <i>Flomatik</i> Designing Networks with PIA > David Stokes – <i>ECI Telecom</i> Elastic Network Bandwidth > Steve Doddington – <i>Comtec</i> Reducing the Cost of Network Deployment
14:25 – 14:55	Future Networks – 5G & Fibre > Vassilis Seferedis – <i>Zeetta Networks</i> Enabling Smarter Networks > Mike Knott – <i>Corning</i> Fibre & 5G – Inextricably Linked
14:55 – 15:10	Networking Break
15:10 – 15:40	Spectrum Allocation > Dan McCarthy – <i>Cambium Networks</i> Gigabit Capable Wireless Networks > Ian Corden – <i>Plum Consulting</i> Licensed Spectrum Can Help Rural Wireless Deliver
15:40 – 16:05	OSS Switching & Wholesale > Clairton Fernandes – <i>Netadmin</i> Automation of Service Provision > Rob Leenderts – <i>INCA</i> Switching Between Networks – INCA Switching Group Update
16:05 – 16:30	The INCA Marketplace > Mike Locke – <i>INCA</i> & Ian Beverley – <i>J6</i> Improving Efficiency, Reducing Cost
13:00 – 16:00	INVESTMENT WORKSHOP > Chaired by James Enck (former Head of Investor Relations at <i>CityFibre</i>) and Aishani Roy (<i>DCMS</i> , Head of Strategic Projects). The Investment Workshop is intended to bring together organisations that are investing in the sector with operators building new networks. Participants will learn more about what makes a business attractive to investors, where investments are being made, and the experience of operators that have benefitted.
13:00 – 14:30	The Investor Perspective > Maurice Patrick – <i>Barclays Capital</i> > Charlie Scott, Amber – <i>National Digital Infrastructure Fund</i> > Sean MacLachlan – <i>Aviva Investors</i> > James Harraway – <i>Infracap</i>
14:30 – 15:00	Networking Break
15:00 – 16:00	The Operator Perspective > John Irvine – <i>WghtFibre</i> > Lloyd Felton – <i>County Broadband</i> > David Cullen – <i>ITS Technology Group</i>

13:00 – 16:00	RURAL WORKSHOP
	<ul style="list-style-type: none"> > Chaired by James Saunby (<i>INCA Vice Chair</i>) and Annelise Berendt (<i>Point Topic</i>) <p>As government policy moves beyond supporting superfast broadband delivery to Full Fibre and 5G this workshop offers an opportunity to explore the issues that affect rural areas – notably the need to ensure they don't get left behind as new technologies and networks emerge. Participants in this workshop will hear from BDUK and operators, discussing the practical experience of delivering new networks in challenging areas and the role of government intervention.</p>
13:00 – 14:30	Rural Coverage – today and future <ul style="list-style-type: none"> > Annelise Berendt – <i>Point Topic</i> & James Saunby – <i>GreySky</i>
	Rural Fibre > Evan Wienburg – <i>Truespeed</i>
	Rural Wireless > David Burns – <i>UKSWISPA & Boundless</i>
	Openreach Rural infrastructure > David Jordan – <i>Openreach</i>
14:30–15:00	Networking Break
15:00 – 16:00	Government Support Programmes <ul style="list-style-type: none"> > Matt Agar – <i>BDUK</i> > Carolyn Johnson – <i>DCMS</i>
	Universal Service Obligation <ul style="list-style-type: none"> > Michael Armitage – <i>Broadway Partners</i>
INCA AWARDS DINNER	
	<ul style="list-style-type: none"> > The INCA Awards Dinner take place at the Amba Hotel from 7.30pm. Shortlists have been drawn up for the eight INCA Gold awards that will be made with the winners to be announced at the dinner. Tension is building! Participation in the Awards Dinner must pre-booked. <p>Huge thanks to the organisations that have sponsored our awards programme this year:</p>
	

Day 2 – 6th November

November 6 is the main INCA Conference day with a mix of keynotes, panel discussions and parallel workshop sessions.

09:00 – 09:10	WELCOME AND CONFERENCE INTRODUCTION
	<ul style="list-style-type: none"> > Malcolm Corbett – <i>INCA CEO</i> & Lorne Mitchell Conference Chair
09:10 – 09:30	OPENING KEYNOTE
	<ul style="list-style-type: none"> > Ronan Kelly – <i>CTO Adtran</i> & President <i>FTTH Council Europe</i>
09:30 – 10:10	DELIVERING FULL FIBRE TO EVERYONE
	Future Telecoms Infrastructure Review <ul style="list-style-type: none"> > Chair: Erzsebet Fitori – <i>FTTH Council Europe</i> > James Heath – <i>DCMS</i> <p>Panel:</p> <ul style="list-style-type: none"> > Mark Collins – <i>CityFibre</i> > Dana Tobak- <i>Hyperoptic</i> > Adrian Wooster – <i>Gigaclear</i> > Catherine Colloms – <i>Openreach</i> <p>Panel focussing on the government's Future Telecoms Infrastructure Review (FTIR), chaired by Erzsebet Fitori, DG of FTTH Council Europe. James Heath, Telecoms Director at DCMS will give a short overview of the FTIR followed by comment and discussion from our panellists – Mark Collins of CityFibre, Dana Tobak of Hyperoptic, Adrian Wooster of Gigaclear, Catherine Colloms of Openreach. Some of the issues that we expect to be discussed are the ambition and timescale envisaged in the FTIR, competitive market structure for delivering full fibre, the link between full fibre and 5G, potential public funding, plus some of the more knotty issues like switching between old and new networks.</p>

10:10 – 10:50	REGULATING FOR WORLD CLASS DIGITAL INFRASTRUCTURE	
	<p>Ofcom Presentation</p> <ul style="list-style-type: none"> > Chair: Alex Blowers – <i>CityFibre</i> > Clive Carter – <i>Ofcom</i> <p>Panel:</p> <ul style="list-style-type: none"> > Paul Morris – <i>Vodafone</i> > Beth Wainwright – <i>TalkTalk</i> > Itref Latif – <i>FCS</i> > Dominique Astier – <i>Axione</i> 	<p>This session considers the regulatory issues that will support new network deployment. Alex Blowers of CityFibre chairs the session, which will kick off with Clive Carter, Director of Strategy at Ofcom giving an overview of Ofcom's response to the FTIR, followed by comment and discussion with Paul Morris of Vodafone, Beth Wainwright of TalkTalk, Itref Latif of the Federation of Communications Providers and Dominique Astier of Axione.</p>
10:50 – 11:20	Networking Break	
11:20 – 12:20	THREE PARALLEL WORKSHOP SESSIONS FOLLOW THE MORNING BREAK	
Workshop 1	<p>Busting Barriers</p> <p>Chair: Sarah Shepherd – <i>BSG</i> Pete McDougall – <i>DCMS Barrier Busting Team</i> Hannah Clayton-Peck – <i>Ashford Council</i> Philip Virgo Steven Bage – <i>City of London Corporation</i></p>	
Workshop 2	<p>Community Broadband</p> <ul style="list-style-type: none"> > Chair: Daniel Heery – <i>CyberMoor</i> > Barry Forde / Chris Conder – <i>BARN</i> > Brandon Butterworth – <i>Balquhiddier Hyperfast Broadband</i> > Matthew Lloyd – <i>Head of Community Fibre Partnerships, Openreach</i> > Nic McCormick – <i>Lothian Broadband</i> 	
Workshop 3	<p>Digital Infrastructure Developments in Scotland and Wales</p> <ul style="list-style-type: none"> > Chair: Malcolm Corbett – <i>INCA</i> > Duncan Nisbet – <i>Scottish Government</i> > James Saunby – <i>N. Wales plans / LP-WAN</i> > Vivien Collins – <i>Welsh Government</i> > Robert Thorburn – <i>Openreach</i> > Jeremy Sheehan – <i>Axione</i> > Adrian Wooster – <i>Gigaclear</i> 	
12:20 – 13:00	FUTURE NETWORKS: WHAT HAVE WE LEARNED FROM THE LFFN PROJECTS?	
	<p>LFFN Presentation</p> <ul style="list-style-type: none"> > Chair: James Saunby – <i>GreySky & INCA</i> > Justin Leese – <i>DCMS</i> <p>Panel:</p> <ul style="list-style-type: none"> > Shaun Fensom – <i>Tameside Digital Infrastructure Co-op</i> > Simon Hughes – <i>Mid-Sussex District Council</i> > Hector Gibson Fleming – <i>Wessex Internet</i> > Daren Baythorpe – <i>ITS Technology Group</i> 	<p>Chaired by James Saunby of GreySky and INCA vice chair, this session starts with an overview from Justin Leese of DCMS followed by Carolyn Johnson from DCMS to explain the projects and lessons learned from the first round of funding. Shaun Fensom from Tameside Digital Infrastructure Cooperative and Daren Baythorpe of ITS Technology Group will explain how different aspects of the programme are enabling network deployment.</p>
13:00 – 14:00	Lunch	
14:00 – 14:10	<p>Welcome Back</p> <ul style="list-style-type: none"> > Lorne Mitchell 	
14:10 – 14:30	KEYNOTE DEBATE: INCUMBENT VS CHALLENGER	
	<ul style="list-style-type: none"> > Clive Selley – <i>Openreach</i> & Greg Mesch – <i>CityFibre</i> <p>We kick off the afternoon with a Debate: Incumbent vs Challenger – with Clive Selley, CEO Openreach and Greg Mesch, CEO CityFibre discussing the different challenges and perspectives of Openreach, with</p>	

its 'Fibre First' approach whilst maintaining the existing network, and the new entrants building brand new networks in different geographies.

14:30 – 15:10 **5G: ASPIRATIONS AND REALITY**

DCMS 5G Trials

- > Chair: Khurram Qayam – *Huawei*
- > Toney Sceales – *DCMS*
- > Vassilis Seferidis – *Zeetta Networks*
- > Daniel Heery – *Cybermoor*
- > Muquid Ali – *AWTG*
- > Mike Knott – *Corning*

Looking at the potential for the UK to become a world leader in 5G. Tony Sceales of DCMS will provide an update on the 5G Trials and Testbeds programme, joined by Vassilis Seferidis of Zeetta Networks, powering the Bristol is Open network, Daniel Heery of Cybermoor, on Rural 5G Infrastructure & Services, and Mike Knott from Corning.

15:10 – 15:30 **KEYNOTE SPEECH**

- > Hannah Webb - *Nominet*

Our final keynote presentation of the day is from Hannah Webb of Nominet, focusing on Modern Spectrum Management, an important element for supporting a diverse ecosystem of 5G wireless services.

15:30 – 15:50 **Networking Break**

15:50 – 16:50 **AFTERNOON PARALLEL WORKSHOPS**

Workshop 4 The INCA Gold Standard

- > Chair: Rob Leenderts, *INCA*
- > Mike Locke – *INCA*
- > John Irvine – *WightFibre*
- > Eylem Yangin – *Hyperoptic*
- > Hal Ponton – *Buzzcom & UKWISPA*

Workshop 5 Gigabit Wireless

- > Chair: Henry Nurser – *BluWireless Technology*
- > Paul Morris – *Vodafone*
- > Ian Corden – *Plum Consulting*
- > Andrew Glover – *Air Broadband*
- > Rachel Swindell – *Cambium Networks*
- > Michael Armitage – *Broadway Partners*

Workshop 6 Altnet Coverage & Future Plans

- > Chair: Simon Wade – *Emtelle*
- > Annelise Berendt – *Point Topic*
- > Mark Collins – *CityFibre*
- > Dana Tobak – *Hyperoptic*
- > Adrian Wooster – *Gigaclear*

16:50 – 17:30 **UNIVERSAL COVERAGE**

The BDUK Superfast Programme

- > Chair: James Fredrickson – *Gigaclear*
- > Raj Kalia – *BDUK*
- > Ofcom USO Lindsey Fussell – *Ofcom Panel:*
- > Lloyd Felton – *County Broadband*
- > David Burns – *UKWISPA*
- > Evan Wienburg – *Truespeed*
- > Richard Weiss – *ESRI & 3GIS*

Our final panel session of the day is on Universal Coverage. James Fredrickson of Gigaclear will chair this session. This panel provides an opportunity to explore the interplay between the current BDUK programmes, the proposed USO and the FTIR 'Outside In' approach to Full Fibre – in terms of policy, funding, regulation and experience on the ground.

17:30 – 17:40 **Final Wrap-up**

Malcolm Corbett & Lorne Mitchell

17:40 – 18:25 **Drinks Reception**

Conference speakers

Nic McCormick



Nic has taken Lothian Broadband from inception in 2015 to 1000 customers and 15 local staff, by uniting technical and commercial elements with community values. The customer is central to everything at Lothian Broadband, differentiating from traditional suppliers in both the provision of a superior product and a superior service.

Sean McLachlan



Sean is part of the management team running the Aviva Investors infrastructure equity fund management business. Prior to joining Aviva Investors, Sean was an Investment Director at Balfour Beatty Investments leading the development and investments in energy, utility and transportation assets.

Jerry Mills



Jerry is the MD of Mills Ltd, a leading manufacturer and distributor of fibre optic installation hand tools and equipment. In 2018 Mills Ltd celebrated 100 years in business and throughout all that time it has remained a family business with four generations of Mills masterminding the company's development. Jerry has been active in transforming the firm, anticipating the technology changes driving the market and offering innovative solutions.

Lorne Mitchell



Lorne is MD of Objective Designers and a seasoned operational strategy and marketing consultant to the Telecoms, Media and Technology industries. He has deep practical experience of shaping and running change programmes with many clients across many cultures, and previously held senior operational and consulting roles in BT, MCI, AT&T, KPN, PwC and IBM.

Paul Morris



Paul is Head of Government Affairs and Corporate Social Responsibility for Vodafone UK. Before joining Vodafone in 2011 Paul worked for Microsoft in a similar role for 8 years, having run Parliamentary and Political Affairs for the CBI.

Duncan Nisbet



A civil engineer with a career exclusively in the public sector, Duncan has a wealth of experience in senior management in transport, social work, education, IT and telecoms. Since leading on telecoms infrastructure in the South of Scotland, Duncan has been an integral part of the Scottish Government's Digital Directorate working on procurement and delivery of the £400M+ Digital Scotland Superfast Broadband Programme and is currently Stakeholder Director for the flagship R100 Programme with over £600M public subsidy.

Henry Nurser



Henry has over 28 years experience in business, R&D (silicon, software and process) and operational management roles – bringing to market innovative high volume consumer products on aggressive technology nodes.

Hal Ponton

Hal Ponton is the Senior Network Engineer for Buzcom and FibreWiFi, the leading Wireless ISP for the East of England. He's also an Advisory Board member for UKWISPA.

Aishani Roy



Aishani heads the Future Telecoms Infrastructure Review team at DCMS. Prior to this, she worked as a consultant advising on number of areas including public policy, regulation and investment strategy.

James Saunby



Consulting Director of GreySky Consulting, and INCA board member. James launched GreySky in 2005 following a research and corporate career in the UK IT sector. Since splicing his first fibre in 1987, James has gone on to develop and promote the availability of broadband, superfast broadband and ultrafast broadband throughout the UK.

Tony Scales



Tony Scales (pronounced Scales) is the Sector Coordination Lead on the DCMS 5G Testbeds and Trials Programme, where his role is to drive engagement with key players across industry to encourage successful 5G investment and adoption in the UK.

Charlie Scott



Charlie is an Investment Director within the Digital Investments team at Amber Infrastructure. In 2016, he led Amber's successful bid for HM Treasury's Digital Infrastructure Investment Fund initiative, which led to the establishment of Amber's digital investment fund, NDIF.

Vassilis Seferidis



Vassilis is CEO and co-Founder of Zeetta Networks, an innovative spin-out from the University of Bristol offering open networking solutions that break vendor lock-in and reduce overall networking costs. Prior to Zeetta, Vassilis was Director of Business Development for Samsung Electronics, responsible for driving revenue growth and strategic development of Samsung's Consumer Electronics business in Europe.

Clive Selley



Clive is responsible for the Openreach local access network, rolling out fibre broadband across the country, and for serving Britain's 600+ communications providers and their 30 million customers. He's helping bring Full Fibre to 3 million homes and business premises by 2020. Clive is one of Britain's leading telecoms and digital infrastructure experts, with 30 years experience in the industry.

Jeremy Sheehan



A senior executive with a wealth of international experience gained across a variety of sectors including both private and public sector. With a background in large complex telecom and IT projects, Jeremy has recently led the commercial negotiations for design and build of a European FTTP network. Jeremy is a board member of INCA.

Sarah Shepherd



Sarah joined the Broadband Stakeholder Group as Policy Manager in November 2017. Sarah's background lies in international policy and regulation, with several years' experience working on communication policy (predominantly telecoms and broadcasting) in both the public (European Parliament) and private sector.

David Stokes



David is an experienced telecoms professional with extensive knowledge across all infrastructure technologies. He has held roles ranging from Systems Engineering, Product Strategy and Product Management through to Solutions Marketing, Customer Marketing and Product Marketing. David brings this proven combination of marketing, technology and product strategy expertise to his current role at ECI Telecom.

Rachel Swindell



Rachel is a chartered engineer with 25 years' experience planning, deploying and analysing the performance of microwave networks from 0.5 GHz to 60 GHz. She developed the first RF planning capability for FWA deployments, whilst at Nortel Networks. Currently, Rachel heads up the development of LINKPlanner, a widely-used planning tool for designing microwave links using any of Cambium's PTP and FWA products.

Robert Thorburn



Robert is Openreach's partnership director covering Scotland and the North of England, where he works directly with public sector partners including the Scottish and UK Governments. He also drives Openreach's Community Fibre Partnership programme, working to deliver co-funded digital networks to communities, and additionally works with local government and cities on their full fibre network ambitions.

Dana Tobak



Dana is co-founder and CEO of Hyperoptic, one of the UK's leading fibre-to-the-premises broadband providers. Founded by Tobak and business partner Boris Ivanovic in 2011, Hyperoptic was the first ISP to deliver gigabit symmetrical internet speeds in the UK, and its service remains over 135 times faster than traditional ADSL. Prior to Hyperoptic, Tobak co-founded the ISP Be Unlimited, which provided a record-breaking service of 24Meg in 2005.

Philip Virgo



Philip has been involved with technology (including telecoms) assessment, forecasting and associated skills strategies from a customer/investor/political perspective since the late 1970s when he left ICL to join the Wellcome Foundation. He later became a principal consultant at the National Computing Centre and co-founded both PITCOM (now PICTFOR) and EURIM, now the Digital Policy Alliance. He currently has advisory roles with current and would be investors, local authorities and property interests.

Simon Wade



Simon is a veteran of the cable industry, having spent the last 27 years in senior positions within international businesses. He has a wealth of experience in the utilities industry, and has negotiated agreements around the world, with his forte in Telecommunications. Simon joined the Emtelle team in 2011 focussing on developing FTTX markets in UK & Ireland. He has an ethos of integrity, ingenuity and teamworking in all his activities. Simon holds a Bachelors degree in Mathematics, and is married with 2 children. He lives in Cardiff, South Wales.

Beth Wainwright



Beth Wainwright is Head of Regulatory Policy at TalkTalk, the UK's value-for-money telecoms company. Prior to joining TalkTalk in 2015, she worked at Ofcom for eight years in different roles including Spectrum Policy and a secondment to the Department for Culture, Media and Sport.

Hannah Webb



After completing her economics degree at university, Hannah started a career in the telecommunications industry. Her first role was working for a network provider, specialising in layer 2 and layer 3 connectivity. She then moved to a global manufacturer of fibre optic communication systems, focusing on datacentre and in-building network solutions. Hannah now works for Nominet, who are responsible for a vital part of today's internet infrastructure. At Nominet, Hannah works on the Emerging Technology team, leading the commercialisation of leading edge technologies, including Nominet's spectrum management platform.

Richard Weiss



Richard Weiss is the EMEA Regional Manager for 3-GIS. Richard attained a B.S. in Cartography from Penn State University in 1991 and has worked in GIS ever since. After spending the first few years as a GIS consultant, his focus transitioned into the specific application of GIS for utilities and telecommunications networks. From 1997 to 2012, he worked for Esri Inc. and Esri UK, before moving to Switzerland to work for an Esri partner that specialises in applications for utilities. In 2016, Richard joined 3-GIS and continues to play an integral part in the growth of their international presence.

Evan Wienburg



Passionate about delivering life changing telecommunications, Evan and his team are building regional full fibre active ethernet networks in both rural and urban environs. As CEO of a rapidly growing company Evan enjoys the challenge of scaling and working with a talented and motivated team. Team is the cornerstone of everything Truespeed does, and is key to the delivery of happy customers.

Adrian Wooster



Adrian heads up the strategy function for the wholesale and infrastructure half of Gigaclear plc. In the long distant past he had a background in network architecture but now focusses on how strategy supported by technology can be used to help scale and position operators in a rapidly reforming sector heading towards a full-fibre future.

Eylem Yangin



Eylem Yangin is the Director of Marketing at Hyperoptic, the UK's largest full fibre gigabit broadband provider. Responsible of growing Hyperoptic customer base and top line, Eylem oversees marketing activities across all channels and leads digital marketing, CRM and telesales teams. Prior to Hyperoptic, Eylem headed customer marketing in retail banking at Credit Agricole Group and worked as strategy consultant at Bain & Company. Eylem started her career in financial services at PriceWaterhouseCoopers, lived in multiple countries including France and the Netherlands. She holds an MBA degree from INSEAD in France.

Notes

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