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DIGITALISATION: RESHAPING THE INDUSTRY LANDSCAPE

CHALLENGES AND OPPORTUNITIES FOR
THE COMMUNICATIONS INDUSTRY



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Introduction

The Fourth Industrial Revolution is upon us. The increasing availability of technologies such as 5G wireless, virtual reality, artificial intelligence, robotics, cloud, big data analytics and the Internet of Things is dramatically transforming the way we work and live.

The communications industry is delivering the fundamental building blocks in the form of infrastructure to enable this digital revolution to take place. And a significant proportion of potential value stemming from digitalisation across industries such as manufacturing, health, energy, automotive and media and entertainment is dependent on the communications industry delivering this infrastructure quickly and efficiently.

Telecom companies are experiencing significant disruption as digitalisation reshapes the industry landscape. So far, the critical role that these companies have played in accelerating digital

businesses has not translated into incremental revenue for the telecom companies themselves.

Their share of the available profit has declined since 2015, and is forecast to drop below 50% in 2018. Decreasing revenue from traditional products and services, together with increasing costs means that telecom companies must develop new business models leveraging emerging technologies to ensure they retain relevance in the digital economy and take their fair share in its value. The challenge is how to make this happen.

Introduction



New services and applications

Telecom companies can create new revenue opportunities by moving into new verticals such as financial services, IT, video, healthcare, utilities, automotive and e-commerce, for example through partnerships with third parties or other strategies such as M&A/corporate venture investing.



Big data analytics

Telecom companies should leverage the huge amount of raw data at their fingertips. Using a variety of analytics technologies and tools, they can collect, structure, analyse and monetise data to reduce customer churn, make better marketing-spend decisions, improve collections, and optimise network design.



Digitising the customer experience

Telecom companies should shift to digital customer service to satisfy consumers' expectations of a digital, largely self-service, acquisition and support experience.



Rethinking networks

Telecom companies should transform their networks with virtualised infrastructure which is self-optimising and secure, enabling them to create real service differentiation at lower cost.



A digital workforce

Telecom companies should develop new strategies for a digital workforce by eg establishing organisational structures that foster innovation; developing proprietary knowledge through partnerships and efficient, targeted M&A to enhance product portfolio and capabilities; and leveraging the global talent pool and investing in expertise so that they can compete with their new competitors.

On 2 March 2018, Herbert Smith Freehills hosted a series of panel discussions with key industry leaders and decision makers to discuss the opportunities presented by the digital revolution, together with some of the challenges for telecom companies in delivering the essential infrastructure and capturing a fair share of the value created by it.

A number of Herbert Smith Freehills partners and senior lawyers also gave presentations on a selection of the most important business and legal issues facing the sector as it is reshaped by digitalisation. This report summarises the key opportunities and challenges discussed on the day including results of polling questions put to the audience.



Watch the conference highlights video:

www.hsf.com/digitalisation

Keynote speech

In his keynote speech, Ronan Dunne shared his thoughts on the transformative role that the next generation of wireless technology will play as we enter what's being referred to as the Fourth Industrial Revolution.

Special



Ronan Dunne
Executive Vice President
and Group President
Verizon Wireless

A few years ago I went to the BBC in London to meet with their head of digital media. The first 10 years of television has, in reality, been radio in front of a camera - effectively a fixed-point camera filming a radio broadcast. The creators, the innovators, and the technologists had not yet wrapped their minds around the full creative potential of the medium, focusing on recording the status quo rather than imagining a fundamentally different future.

I believe that's where we're at when it comes to wireless technology - on the cusp of a defining moment in history.

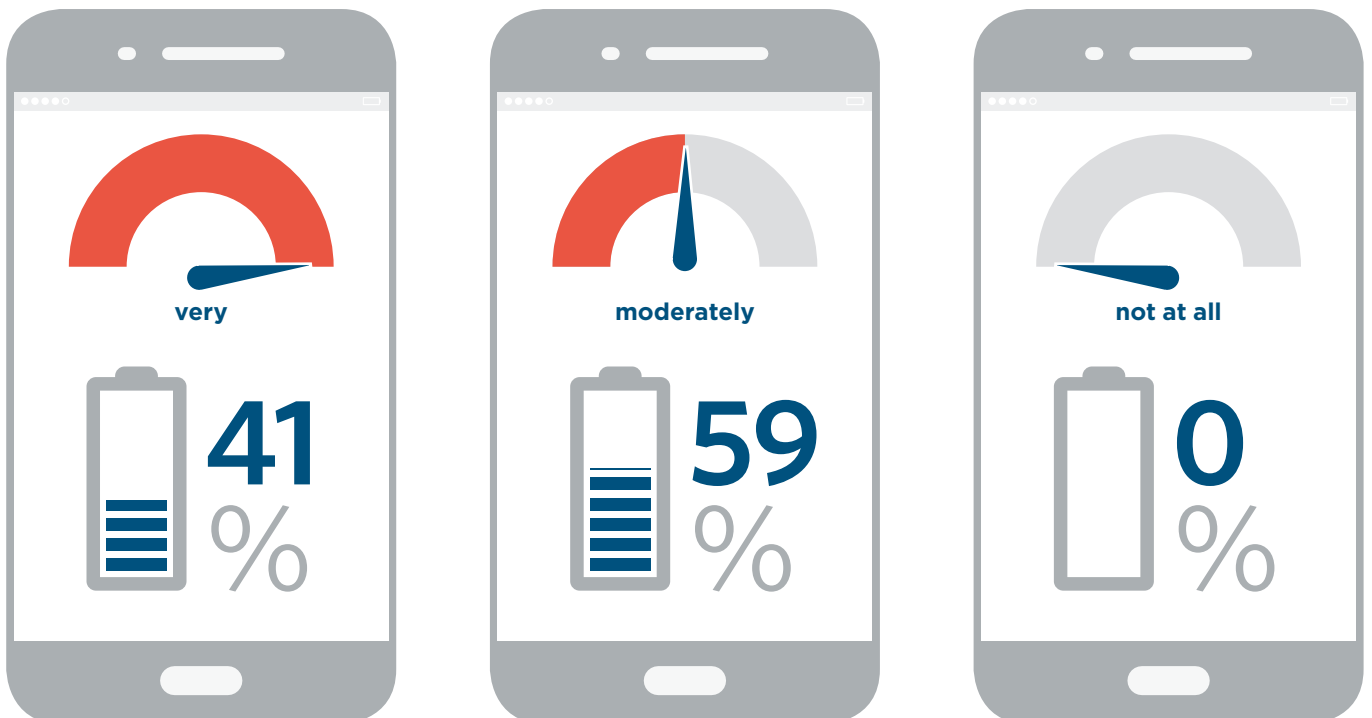
Until now, we've seen wireless as an opportunity to have ubiquitous connectivity and digital as a way of automating and optimising what we've always done. But just as the next generation of the television industry reinvented content based on the unique properties of the medium itself, the potential of the fifth generation of wireless

technology demands that we fundamentally rethink what can be done on a wireless platform.

5G isn't just another iteration of wireless innovation. It has the potential to join a very exclusive club - the handful of technologies throughout history that transform industries across every sector of the economy - redefining work, elevating living standards, and having a profound and sustained impact on global economic growth.

Think about innovations like the printing press; the steam engine; railroads; electricity; and the Internet. 5G has the potential to be one of these indispensable technologies, with the potential to create growth and spur innovation on a truly global scale. To put it into context, it's projected that by 2035, 5G will enable US\$12.3 trillion of global economic output and support 22 million jobs worldwide.

How optimistic are you that diversification and collaboration will drive future growth for the communications industry?



Source: Data gathered from Digitalisation: Reshaping the Industry Landscape event hosted by Herbert Smith Freehills

Keynote speech

5G will fundamentally transform the way we work and live in three key ways:



Extend mobile broadband reach

5G will extend mobile broadband to more people through fixed wireless technologies and expand the boundaries of the mobile broadband experience beyond the data and video experiences we know today. Think 3D; holograms; virtual reality; augmented reality creating truly immersive and connected experiences.

To give an example, through the use of 5G wireless technology and multiple 360° cameras, every person at a sporting stadium can have the view from every seat in that stadium.



The Internet of Things

5G will enable the Internet of Things to be deployed on a truly massive scale, thanks to its combination of data transfer speeds and processing power. Today, there are some 7.5 billion connected "things" in use. Within six to seven years that will be somewhere in the region of between 25 and 30 billion things.



Mission-critical services

5G will deliver gigabit speeds and super-fast response times – faster response times than on a fixed connection – and this creates tremendous opportunity for innovation. For example, 5G will be an integral component of mission-critical services that will dramatically improve the safety and security of our society: driverless cars; remote surgery; public safety and traffic control and other applications that depend on instantaneous response and data analysis.

To give an example, an Indianapolis 500 driver was recently able to circle a track at over 100 miles per hour relying only on vision from a head-cam streamed from a 5G network.



But there is a need to overcome some significant barriers if we are to unlock the full potential of 5G. There is slow or uneven adoption of digital communications and the internet in certain industries creating an industrial digital divide by concentrating most of the benefits in the industries that are better prepared to benefit from the technology. Unlocking wider value for these industries will need focused action to address the analogue challenges – meeting these customers with affordable, locally relevant solutions that speak their language will be key to unlocking massive productivity gains.

Q: Is the low take-up of digital technology due to the ability of the industry to sell or a generational issue of openness to adopt technology?

Ronan Dunne: One reason for the low take-up is that the technology has so far not offered ubiquitous connectivity, which businesses have often required in order to innovate. Another reason is that ambition has so far really only been focused on specific goals (for example, improving battery life or extending the coverage of a cell site) and not a wider transformation across all aspects.

Q: When will 5G handsets be available for Verizon customers in the US and will a 5G contract be significantly more expensive?

Ronan Dunne: Handsets are set to arrive in early 2019 but there should be fixed wireless access (i.e. residential broadband) in 2018. That said, 2020 is when the full benefits of 5G technologies will be available to customers and in the first instance only B2B solutions will be available.

Q: What has the customer experience been like since your decision to implement unlimited data plans?

Ronan Dunne: Overall performance metrics on the network have actually improved. By attracting a different type of customer and by changing customers' behaviours in how they use the network, there is not a massive increase in peak demand during the busy hour; demand is being more evenly spread over the day. Verizon has also introduced a discount to customers paying for unlimited data if they are happy to sit 'second in line' at times of congestion. This has proved very popular and of the 55% of customers who take unlimited plans, 80% of them have opted for this discount.

“We stand on the brink of a technological revolution”: the fourth industrial revolution of mankind. First was steam, second electricity and third electronics and information technology. The fourth will be the cyber physical era: a shift from analogue to a digitally-enabled connected world.”

KLAUS SCHWAB FOUNDER WEF



Watch the Verizon 'Future of Wireless' video:

<https://spaces.hightail.com/receive/kwsxIM9Tgs>

Communications strategy/M&A panel

Telecom companies play a fundamental role as the infrastructure backbone of the digital economy and do not get enough recognition for this. Telecom companies also face challenges from OTT providers and should consider adopting an open platform approach to collaborate with these providers but at the same time, telecom companies should be wary of handing over too much data to competitors which is a key asset in the digital economy. Going forward, strategy for telecom companies should ultimately be driven by the customer and use cases.

Is a walled garden around a telco brand necessary? Is the industry doing enough to ensure collaboration across sectors? Is there scope for further consolidation through pan-European M&A?



Chair: Gavin Davies

Partner, Herbert Smith Freehills

Cyrus Mewawalla

Head of Research, Global Data

Oliver Potter

Head of Digital, Telefónica UK

Nicholas Moore

Partner, Herbert Smith Freehills

Ed Vaizey

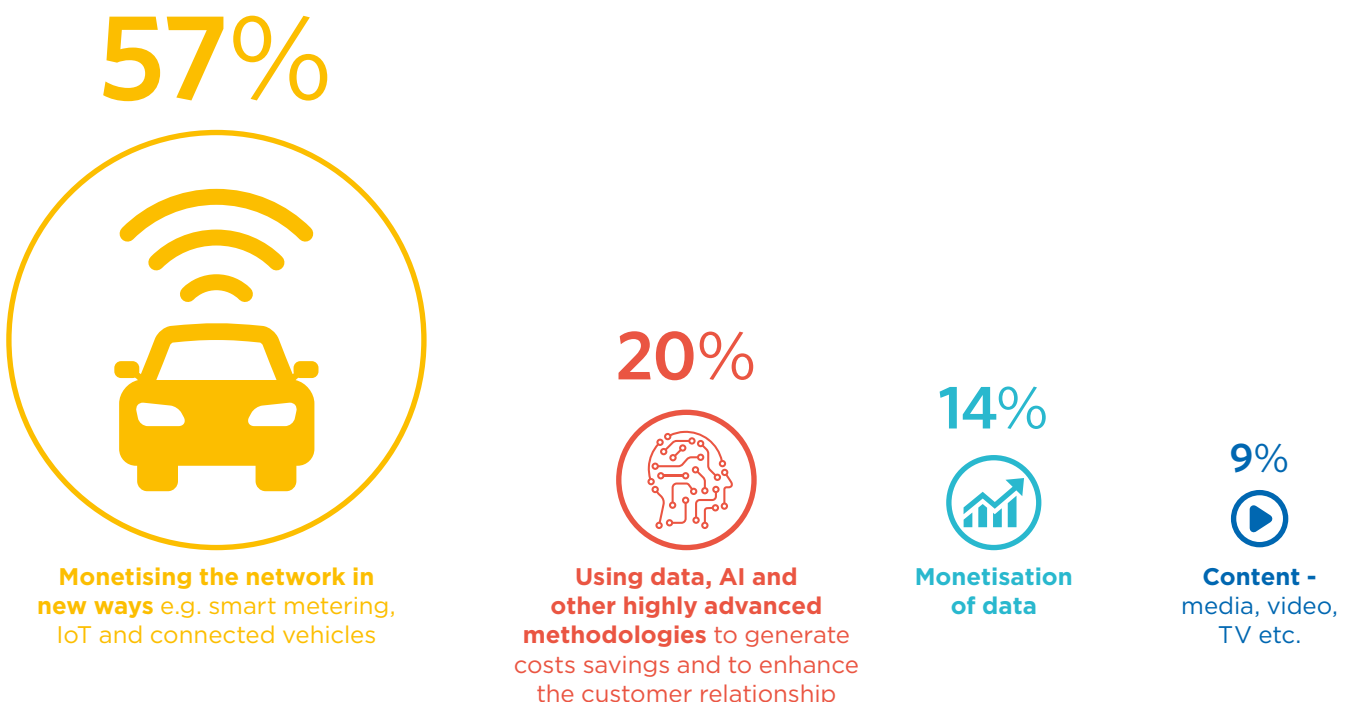
Consultant, LionTree

Cyrus Mewawalla: Many of the most significant changes in the industry are being driven by technological developments and challenges from the OTT providers. Taking internet TV as an example, this offers significant potential for telecom companies, but they should ask themselves whether they need to brand their internet TV offerings as their own? Is the “walled garden” around the brand necessary? The customer wants one place to look at everything and so joint ventures and strategic partnerships should be considered; in line with Microsoft’s “open platform” approach under CEO Satya Nadella. The Internet of Things and artificial intelligence provide some of the richest opportunities for telecom companies. In particular with AI, the industry needs to be clear as to whether it invests in its own R&D and ability to develop the new technologies or whether it acquires capability through M&A. Where telecom companies are relying on services from the OTT players, they should be mindful of handing data over to competitors who may undercut them later.

Oliver Potter: Ultimately telco strategy will be driven by the customer and use cases. Take for example, the automotive industry and insurance policies for young drivers. O2 uses its customer data to provide accurate insurance policy quotes; knowing, for instance, the propensity of a customer to drive through known accident black spots. With the use of data we are discovering interesting and accurate predictors of risk - this has resulted in an 8% average discount for customers on policies. In the case of UK vehicle fleets, there is an obvious use case where devices in cars can be used to create a map of potholes around the UK through recording consecutive rapid decelerations.

The key is to focus on finding practical solutions to customer and wider business problems. The question is whether to partner or invest and Telefónica UK is currently doing both.

Amongst all the disruption there is huge opportunity; what do you think presents the richest opportunity for the telco over the next few years?



Panel 1: Overview

Nicholas Moore :In terms of M&A, it's instructive to look at what is not happening before coming on to discuss what is happening. The "holy grail" for M&A advisers is pan-European M&A, namely the creation of a small number of pan-European telecom companies who are truly integrated (rather than operating in national or regional silos). There are a number of reasons this hasn't happened yet and may be unlikely to in the medium term: commercially it's difficult to see where the synergies would come from and the integration risk would be huge. From a regulatory point of view, lack of true harmonisation across Europe is an impediment and the anti-trust problems are clear under current policies. If there were to be a catalyst (such as a move to 'light touch' regulation), then things might change. The richest source of opportunities in M&A remains therefore convergence deals. Whilst some of the more predictable deals have happened in the UK and Western Europe, there is plenty of scope for further consolidation elsewhere, which would come with less in the way of anti-trust baggage.

Ed Vaizey :The digital economy is only as good as the infrastructure backbone and this is, to a significant extent, primarily provided by telecom companies. It is fair to say that the telecom companies do not always get the support and the recognition they deserve for the services and utility they provide to the nation. Firstly, business rates have been increased significantly on fibre.

What's more, the planning process for putting up masts is very difficult to navigate and is set to get even more difficult for the anticipated massive small cell deployment.

Q: What are the symmetries between: vertically, the telecom companies and the OTT service layer; and, horizontally, the automotive, healthcare and ecommerce sectors? Are we doing enough in the industry to ensure partnerships, consolidation and sharing across sectors?

Oliver Potter: Telecom companies should consider focussing on mobile edge computing and horizontal opportunities across sectors. For example, 5G should be approached with as broad a perspective as possible and is perhaps first and foremost a business to business opportunity.

Q: Why is Europe lagging behind the US, for example in terms of 5G roll-out? What are the underlying reasons and how can we overcome them - through regulation or M&A for example?

Cyrus Mewawalla: Innovation doesn't necessarily need to be demand-led. In the US, the telecom companies and tech companies don't necessarily wait for the customers to ask for a new product and service - sometimes, they go ahead and build it anyway. They predict that the demand will be there, even if they do not know precisely where from or what the return on investment will be.

Nicholas Moore: There are a number of things underpinning this. As mentioned earlier, there would need to be broader harmonisation across Europe and fewer anti-trust impediments, so that consolidation can happen and telecom companies can achieve the scale (and returns) needed to further invest. There needs to be a culture of innovation. Shareholders need to be less cautious. When all of this comes together, the right M&A opportunities can unlock potential.



The digital revolution – insights from Herbert Smith Freehills

A number of Herbert Smith Freehills partners and senior lawyers shared their insights on some of the key issues facing telecom companies in this wave of digitalisation. Opportunities and challenges highlighted included the use of advanced technologies to monetise big data; the role of telecom companies in driving the successful adoption of on-vehicle technologies and platforms and the use of judicial review by telecom companies.

Market trends and opportunities in data and cyber security

**Miriam Everett**

Consultant
Head of Data Protection
Herbert Smith Freehills

Andrew Moir

Partner
Head of Cyber Security
Herbert Smith Freehills

How is the telecoms sector responding to changing attitudes towards data?

In just ten years, data has become perhaps the most disruptive and pervasive aspect of the world's business landscape. In some sectors, this shifting landscape has been evident through M&A activity. Telecom companies have started looking at the possibility of using powerful data analytics tools and artificial intelligence to transform their vast quantities of data into valuable customer insights. This enables them to vastly improve, and even create completely new, customer experiences, reduce costs and develop new revenue streams, such as selling insights about customers to third parties.

How is the new General Data Protection Regulation going to impact the use of big data analytics?

On 25 May 2018, the EU's General Data Protection Regulation will become law. The new regulation does bring with it the threat of significantly increased fines for non-compliance – a prospect which has elevated data protection compliance to a board level issue for all organisations, including those in the telecoms sector. The GDPR will not however prevent or prohibit the commercial exploitation of data. Instead, a focus on concepts such as privacy by design, and procedures such as data protection impact assessments, will mean that any such exploitation will need to be carefully considered before being implemented.

The current data protection legislation has often been criticised for being out of touch with modern technology. The GDPR seeks to address some of those concerns by being technology neutral

Is the GDPR fit for purpose in the new technology and data heavy world?

The current data protection legislation has often been criticised for being out of touch with modern technology. The GDPR seeks to address some of those concerns by being technology neutral. However, there are already calls for the GDPR to be reviewed and amended in light of perceived difficulties with compliance when trying to apply GDPR principles to new technologies. For example, it introduces a mandatory obligation for data controllers to apply the principle of privacy by design - this means incorporating the various data subject rights, including the right to deletion of data when it is no longer needed.

When applied to certain new technologies such as blockchain, these requirements may appear impossible from a practical perspective. In reality, it seems unlikely that the GDPR will be amended anytime soon, and organisations or industry groups will instead need to seek to educate regulatory authorities about the practical intersection between technology and GDPR.

What kinds of cyber-attacks are telecom companies likely to experience?

Telecoms companies are increasingly the target of cyber criminals - their infrastructure, the data transmitted across it and the large volumes of personal data they hold represent obvious targets for malicious actors. For example, the Signalling System 7 protocol, which enables different mobile networks to interoperate, was exploited recently by hackers in Germany to drain customers' bank accounts through intercepting text messages.

There have also been attacks on core internet protocols that allow traffic to be re-routed to malicious actors. Consumer routers have also been under attack to recruit them to botnets customers in the UK and Germany recently had their routers compromised and used to mount a DDoS attack against Spotify, Netflix and Paypal amongst others.

How will cyber security be affected by upcoming regulation?

The Network and Information Systems Directive (NISD) is due to be implemented by 9 May 2018. It is aimed at telecom companies of "essential services" and certain "digital service providers". Relevantly for telecom companies, "essential services" covers "digital infrastructure providers", specifically internet exchange points, top-level domain telecom companies and domain name server providers. The objective is to ensure a certain minimum level of cyber security, and also mandate reporting of substantial incidents. The National Cyber Security Centre has issued guidance which is expected to form the basis of enforcement for Ofcom. Telecom companies should determine if they are covered by the Directive and if so look at what they need to do before May to comply.

How does the issue of supply chain risk in the context of NISD fit in with GDPR compliance?

Much of the guidance from the NCSC around supply chain involves matters that would need to be dealt with in contract between the parties. Similarly, the GDPR imposes certain requirements in relation to cyber security, but also mandates certain clauses to be included in contracts between data controllers and their suppliers.

Many companies are looking at 'repapering' their contracts to make them GDPR compliant - it would be most efficient for telecom companies to consider the cyber security and the NIS directive at the same time, and implement any changes required.

The role of the communications industry in the successful adoption of on-vehicle technologies and platforms

What is the expected timeline for widespread CAV deployment?

Governments and industry stakeholders are working towards successful Connected and Autonomous Vehicles (CAV) deployment on differing timeframes. The UK Government wants to see fully autonomous vehicles on the roads by 2021, whereas China's National Development and Reform Commission envisages that by 2025 almost 100% of vehicles will be CAVs supported by a new generation of wireless telecommunications networks. The automotive industry is working towards CAV deployment within the next couple of years. Ford predicts "true self driving" by 2021, and Honda estimates that there will be self-driving by 2020.

What is the current global regulatory landscape for CAV technology?

A key barrier to widespread adoption is the current global regulatory landscape. The global rate of development of CAV technology, including testing and deployment, differs significantly across jurisdictions. This is linked largely to the different speed of development of the relevant regulations in the respective jurisdictions.

In the US, regulation for the deployment of CAVs is being introduced at a State level. A number of States are implementing regulation that welcomes autonomous vehicle deployment and are as a result attracting significant investment to their States. This has resulted in a patchwork of regulations across the US. The situation in Europe is similar. For example, in Germany, legislation passed in 2017 provides the legal basis for temporary, full transfer of the driver's control to the automated driving system. In contrast, the UK Highway Code still requires that a human driver is present behind the wheel.

How will CAV communication be delivered?

CAVs require a comprehensive communication solution enabling connectivity between vehicles, vehicles and street infrastructure, and vehicles and "everything". The successful adoption of CAVs is dependent on the communications industry for the development of the infrastructure enabling them to communicate, which in turn relies on the establishment of standards which promote equipment interoperability. Stakeholders

have not yet reached a consensus on the technical standards these communications will be based on.

The two main options are local beacon technologies (such as dedicated short-range communications (DSRC) and wireless short range communications (ITS-G5)) or 5G technology. DSRC and ITS-G5 are said to be more reliable and secure than existing cellular communications due to their shorter range. On the other hand 5G, which will support vehicle-to-vehicle communication, is said to allow vehicles to react to problems further up the road ahead of time, due to its longer range. The European Commission is expected to announce its decision on the communication standard it favours in late 2018.

To what extent will 5G technologies shape the roll-out of CAV infrastructure?

The likely timing for CAV adoption overlaps with the expected timetable for the at-scale 5G roll out. This presents opportunities for telecom companies to seek and promote synergies in the funding and logistics of the CAV ecosystem and 5G roll out. CAV projects could lead to wider co-funding opportunities for telecom companies and equipment manufacturers as well as providing anchor customers for services delivered by 5G infrastructure. Furthermore, the cost of investment in new CAV road infrastructure is vast and hard to predict. In most countries it is likely that public funding alone will be insufficient for these projects. As a result we expect to see a wide range of public-private deployment and commercialisation models to overcome the initial investment and deployment challenges, as well as the future financial and urban planning benefits of CAV infrastructure. To the extent that this investment also supports the roll-out of 5G, the business case for such investment, and public attitude to funding such projects, will be dramatically enhanced.



Philip Pfeffer
Partner
Herbert Smith Freehills

David Coulling
Partner
Herbert Smith Freehills

How telecom companies can use judicial review

Are there any features of judicial review which are particular to the telecommunications sector?

At its core, judicial review is a means by which public bodies can be held accountable for their actions or lack thereof. This fundamental principle applies across all industries, but the specific context can have an impact on how claimants should bring a challenge and the manner in which it will be considered by the relevant court.

Forum of challenge

Whilst a judicial review will usually be heard in the Administrative Court, statute requires that applicants should instead bring some telecommunications challenges on judicial review grounds to the Competition Appeal Tribunal (the "CAT").

Time limits

There are different time limits for bringing a judicial review challenge in the Administrative Court or the CAT. Where the challenge is based in domestic law, the former requires that the judicial review must be brought promptly and in any event within three months of the date on which the grounds of challenge first arose. The promptness requirement does not apply where the challenge is based in EU law – the time limit in such cases is simply three months. Time extensions are granted only sparingly. By contrast, relevant time limits in the CAT range from four weeks to two months.

Grounds of review

Conventional judicial review proceedings seek to ensure that public bodies use their powers in an appropriate fashion. These bodies are required to act in a manner which is not considered to be illegal (where a public body acts outside its statutory powers), irrational (where a decision is so unreasonable that no reasonable person could have made that decision) or procedurally improper. However, Article 4 of Directive 2002/21/EC effectively offers a slightly enhanced standard of review to be applied in situations where the public body's decision falls within scope of the EU Telecommunications Common Regulatory Framework.

Whilst a challenge is still brought on judicial review grounds, the relevant court should decide an appeal on the merits, namely by considering whether the decision was "materially wrong" in light of the grounds of review and evidence. This encourages a focus on the more substantive elements of a public body's decision and courts are generally reluctant in judicial review proceedings to interfere with technical, complex policy decisions made by a specialist regulator, which is a relevant consideration for any claimant.

How does judicial review impact upon the relationship between mobile network telecom companies and public bodies?

Dealing with any issues in a collaborative fashion is important for fostering productive working relationships between regulators and telecom companies. In particular on the legal side, both legal and practical obligations dictate that judicial review should be used as a remedy of last resort. Claimants are required by law to first exhaust any available alternative remedies, which might include, for example, a regulator's own internal or statutory appeal mechanism.

What will be the impact of the new standard of review on appeals against Ofcom to the CAT?

The standard of review on appeals against Ofcom to the CAT has recently changed, with the CAT now being required to apply judicial review principles to Ofcom decisions made after 31 July 2017. This replaces the merits-based test that was previously in operation.

In practice, this development is likely to have only a marginal impact. As noted above, the courts have interpreted the current test in a cautious fashion and have not used the merits-based approach as an avenue through which to engage in detailed reviews of Ofcom's policy.



Andrew Lidbetter
Partner
Herbert Smith Freehills

Digital infrastructure panel

Digital transformation is emerging as a key driver of sweeping change in the world around us. The communications industry is at the forefront of this transformation - providing the fundamental building blocks in the form of digital infrastructure. And whilst the UK is an international leader in copper-based super-fast broadband, it is clear that large-scale deployment of full fibre networks which will meet the needs of consumers and businesses, today and in the future, is required.

What's working well today in terms of existing UK telecoms market structure and policy framework? What are the significant barriers to long-term investment in full fibre networks? What market models will deliver investment in the next generation of technologies that will span decades? How should new digital infrastructure be paid for? How would political change in the UK impact on the UK telecoms market?



Chair: Aaron White
Counsel
Herbert Smith Freehills

Dana Tobak
Chief Executive Officer
Hyperoptic

Dan Butler
Head of Public Affairs and
Policy
Virgin Media

Dr Axel Jaegle
Commercial Specialist
Infrastructure and Projects
Authority

Emily Clark
Chief Economist
BT

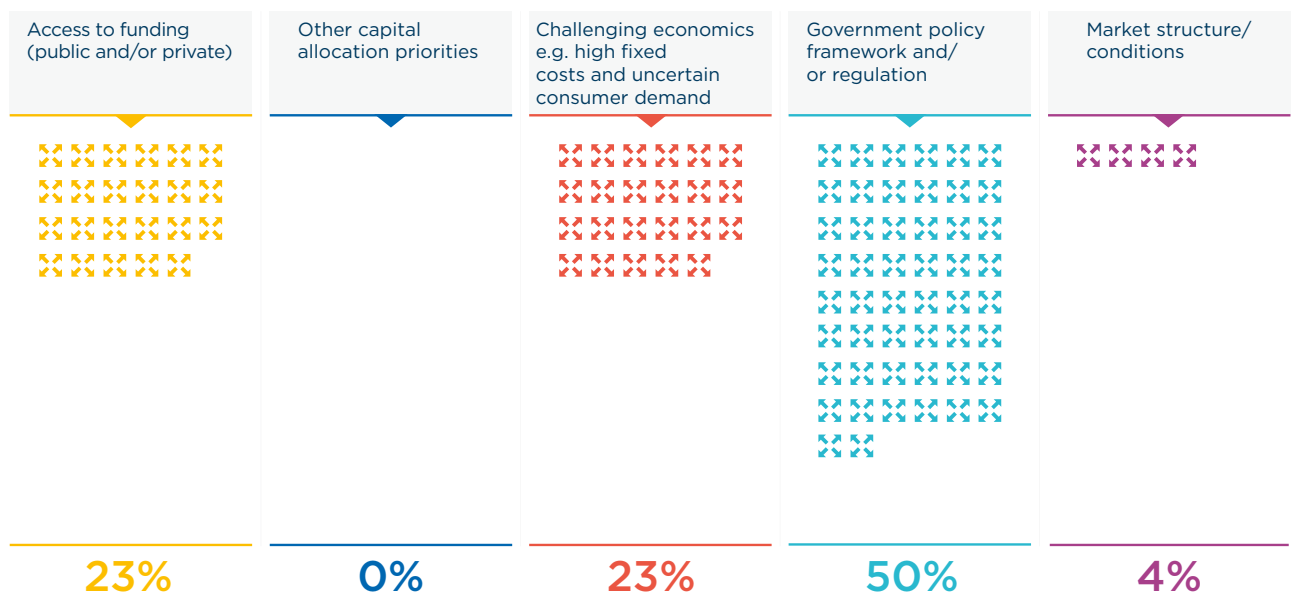
Geoffrey Norris
Senior Advisor
Global Counsel

Dana Tobak: We welcome recent announcements about investment in full fibre. Virgin Media were of course the first and we have City Fibre and Gigaclear delivering their business models, but what we see is that fundamentally full fibre will underpin whether it's 5G or other types of connectivity. It is important that we get fibre coverage out as far as we can and we see investors interested. We have had a great influx of capital, both equity and debt, more recently last year. One of our biggest challenges is actually getting wayleaves in local authority buildings.

Our coverage in urban areas would be significantly greater if councils signed wayleaves, but fundamentally that's something that's gone really slowly and there seems to be a disconnect in appreciating that in order to get full fibre you actually need to put fibre in there.

Dan Butler: There's been somewhat of a mismatch between Government's enthusiastic rhetoric to get as much infrastructure based competition as possible in to the UK market and some of the policy decisions we've seen emerge. For example, recent increases in business rates; wholesale price controls on superfast broadband despite the knock on effects for independent network telecom companies delivering full fibre; and the rejection by Government of BT's offer to voluntarily invest up to £600 million to deliver 10Mbps broadband to 99% of the UK by 2020, instead opting for a regulatory universal service obligation. We hope that the DCMS Future Telecoms Infrastructure Review will be a vehicle for more policy consistency and to solve some of the genuine supply-side barriers to build, which are wayleaves and getting broadband in to new developments. And Government should implement policy which stimulates demand for ultrafast broadband - through voucher models, and encouraging people for whom there might be an economic barrier to move to high speed broadband.

What do you believe is the key barrier to new large scale full fibre infrastructure investment in the UK?



Source: Data gathered from Digitalisation: Reshaping the Industry Landscape event hosted by Herbert Smith Freehills

Panel 2: Overview

Dr Axel Jaegle: In mid-2015 we started on the development of the Digital Infrastructure Investment Fund by sounding out the market on the feasibility of the Government providing a cornerstone investment to a fund that would then be matched by the private sector to focus particularly on ultrafast broadband. The Government was planning to contribute £50 million at the time, but since then the Chancellor's appetite has increased in line with the market appetite, so the final commitment was £400 million from the Government to be matched with another £400 million by the private sector.

We saw a lot of interest in the fund manager role, and we ultimately appointed two fund management groups - the Prudential M&G Group which divides into Infracapital for the equity side and M&G Debt Management for a debt mandate and then Amber Infrastructure for a mixed equity and debt fund. The first investment was in WightFibre at the end of last year, to be followed by an investment in the recently announced TalkTalk/Infracapital partnership to roll out FTTH to three million properties in the UK.

Emily Clark: We are very much at a critical juncture in infrastructure markets. If you are interested in deploying at scale, then there are very significant uncertainties on the supply and on the demand side, so it feels like the time is ripe for a rethink about whether we have the right market model, the right regulatory framework and what we need to do to move towards a better model if one is needed. And that really is what the Government is looking at in this review. Our preference is for a framework where market-led solutions can emerge to address those inherent uncertainties so you know where there is competitive pressure, and there certainly is in mobile markets and increasingly so in fixed markets; then we can leave the market to lead those investments.

I would argue that you can leave more to the market and move away from the very micro management by regulation that you see at the moment, which is not good for BT/Openreach or rivals either - regulation of Openreach affects the prospects of Openreach's rivals by taking out value from the industry. When you look at what happens in other countries they have taken much bolder decisions about regulation. In countries like Spain and Portugal - where there is a lot

more FTTP - they've tended to step back from regulation like VULA in order to really drive incentives for rivals to invest. And in other countries they've actually stepped back from competition and said what we'll do is create a very stable and predictable regulatory framework around the single national provider and that has also worked very well.

In the UK we have neither of those models. Finally I'd say that there is merit in looking at deployment of FTTP full fibre alongside deploying 5G and we - BT/EE - are very interested in that given our portfolio and our ambitions but that's of relevance both on the network side where you can start to think about deployment of fibre for 5G backhaul alongside deployment of FTTP and what kind of benefits and synergies you can get from it.

Geoffrey Norris: Politics is going to loom very large over UK broadband infrastructure in the coming years. Across the UK political class, ambitions and expectations about broadband and 5G are high and rising, and are likely to lead to Governments of whatever political complexion to become more interventionist in the pursuit or realising them. We're already seeing this in some of the moves by Matthew Hancock in terms of him taking powers to set objectives for Ofcom and I also think that Brexit will facilitate a more interventionist UK Government. Secondly, a Jeremy Corbyn-led Labour Government would have none of the reticence about state-led solutions that has characterised UK public policy under Labour, Coalition and Conservative Governments over recent decades.

A Labour Government would have the money to be a big investor in infrastructure in the UK. The £250 billion over 10 years National Transformation Fund with its coffers filled by low cost Government borrowing would be a potentially massive source of investment and broadband and 5G would be one of the targets for it. And it also follows that they believe that the state would be able to make these new investments more cheaply - Government would be looking for projects to invest in and it would be Government that would be setting the terms for the investment.

Now a Labour Government is far from a certainty and if there is one, it's quite possible that it would find it more difficult to implement its plans than it currently believes. But my point

is a very simple one; that a Labour Government with Jeremy Corbyn is a real possibility and it's one you all need to be thinking about because it is potentially very transformative of infrastructure investment prospects in the UK.

Q. We are seeing unprecedented investment in full fibre, and plans to invest in full fibre, with multiple telecom companies building. Is there a risk of overbuild, and if so is that unhealthy? Or is it the case that new entrants are being very focussed and targeting areas where supply is poor or the opportunity to differentiate is strong?

Dana Tobak: Yes, there is a risk of overbuild. However, most of the different players have different investment strategies eg some are investing in large metropolitan areas while others are focusing on medium-sized cities and towns. Sometimes the benefits of economies of scale can only be achieved by competitors doing things simultaneously. I think what will be important is how those fibre infrastructure networks get used to enable other things and I think in that context having choice will be helpful as we work through how will cars be connected, how we will be doing e-health. There isn't just one thing; we're not just making telephone calls anymore.

Emily Clark: I agree with the benefits of competition, but such competition must be enduring and good for customers in the long term. BT is not in favour of intervention to try and pick the winners or interventions to pre-judge the outcomes. I think at BT we understand the sentiment behind opening up access to our ducts to try and reduce some of the upfront costs for rivals, but we're much more troubled about other kinds of intervention which might tilt the playing fields unreasonably in favour of rivals. For example constraints on how we can price geographically our legacy products - so yes, let's have competition play out, let's not have regulation and Government intervention pre-judging that.

Geoffrey Norris: There are issues around the speed of deployment of digital infrastructure. A future Government may wish to dramatically increase the rate of full fibre deployment to the entire UK population, and a Jeremy Corbyn led Government may indeed favour the renationalisation of Openreach as a wholesale, open-access provider. Aided by its ability to access cheap Government debt, Government would be able to invest more cheaply than the private sector.

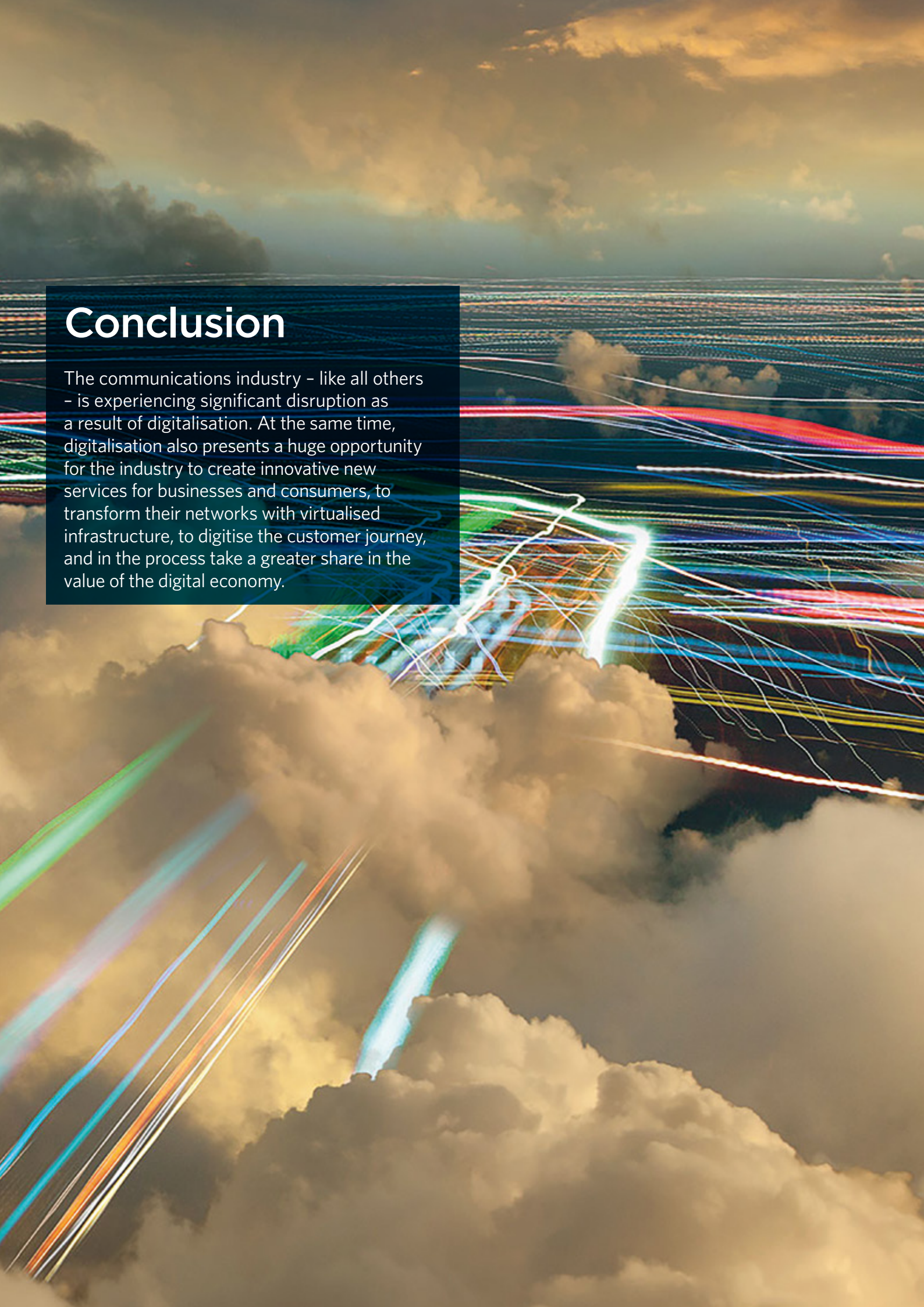
Axel Jaegle: From an investor's perspective, digital infrastructure is increasingly a very attractive investment as it provides what is being seen as an essential service. So infrastructure investors love water companies and electricity distribution network telecom companies - obviously with telecoms there is always a risk of overbuild but I agree with Dana's comments earlier and I think that the limited partner community has become much more comfortable with that situation than was previously the case.

Dan Butler: Overlapping networks and independent infrastructure in the same geographical area forces the incumbent network provider to continuously improve its network, and from that comes a bunch of good consumer outcomes.

We are very much at a critical juncture in infrastructure markets. If you are interested in deploying at scale, then there are very significant uncertainties on the supply and on the demand side, so it feels like the time is ripe for a rethink...

Conclusion

The communications industry - like all others - is experiencing significant disruption as a result of digitalisation. At the same time, digitalisation also presents a huge opportunity for the industry to create innovative new services for businesses and consumers, to transform their networks with virtualised infrastructure, to digitise the customer journey, and in the process take a greater share in the value of the digital economy.



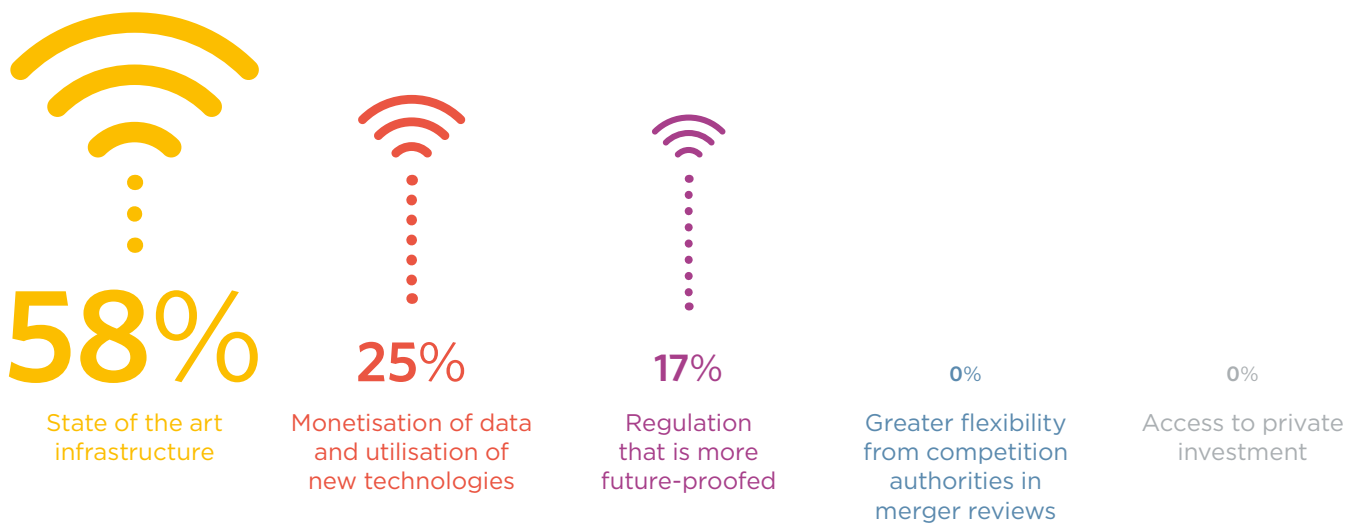
Greater flexibility from competition authorities – both in terms of collaborative partnerships and also merger reviews – will be required if the industry is achieve this.

At the same time, if new technologies such as 5G, VR, AI, robotics, and the IoT are to truly transform industries and change the way we live and work, a digital infrastructure which will meet the needs of UK consumers and businesses, today and in the future, is fundamental. The industry is playing a critical role in the form of deploying this infrastructure, but the UK

Government must set the right market model and regulatory framework and break down the significant barriers which stand in the way of deploying next generation fixed and wireless networks quickly at scale. Regulation must be sufficiently certain and stable for telecom companies to plan, attract investment in and build these networks and they, along with our policy leaders, have a critical role to play in that.

The time to act is now.

What's the most critical area of focus for digital/wireless to successfully drive the industrial revolution?



Source: Data gathered from Digitalisation: Reshaping the Industry Landscape event hosted by Herbert Smith Freehills

How we can help

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Herbert Smith Freehills is one of the world's leading professional services businesses, bringing together the best people to meet clients' legal services needs globally. Accessing our deep global sectoral expertise, as well as our local market understanding, we help organisations realise opportunities while managing risk to help them achieve their commercial objectives.

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