BSG Broadband Stakeholder Group

Implications of Brexit on the Digital Communications Sector | April 2017

Introduction

The UK voted to leave the European Union membership on 23 June 2016. The process for exiting the EU formally started when Article 50 of the Lisbon Treaty was invoked by Government on 29 March 2017. The withdrawal process is due to last two years, during which the Government will start to negotiate the UK's new relationship with the EU and the rest of the world.

The purpose of this paper is to provide insights into the challenges, risks and opportunities for the digital communications sector, understood here as comprising the telecommunication sector (provision and delivery of voice, data and video services) and the digital content sector (industries delivering content services such as video, film, music, social media, TV) as technological convergence has blurred the boundaries between digital content and telecommunication sectors.

As recognised in the Government's recent green paper "Building our Industrial Strategy"[1], connectivity is transformative for the future development of the UK economy. It lies at the heart of the digital economy. Not only does the digital sector deliver substantial economic growth on its own, it provides the foundations for our data driven economy.

According to Government, the UK telecoms industry contributes to £30.2 billion to the UK economy. The digital industry, which relies in great part on telecoms services, contributes to £118.4 billion to the economy (16% of the UK economy).

Over the last 20 years, the UK telecommunications sector has seen a radical change influenced by the convergence of technologies, leading to growth in consumer demand for ubiquitous internet access, data consumption, innovative online services and new technologies. Brexit has come at a critical time for the industry which is at the start of investment cycles targeted towards the deployment of ultrafast connections and the move towards 5G connectivity.

For the industry to continue to invest in the UK in the years to come, and maintain the UK's place as a leading digital nation[2], mitigating risks associated with the UK leaving the European Union should a key objective for Government. As underlined by Government in its White Paper on the UK's objectives in negotiating the exit and new partnership with the EU[3], the digital communications industry needs to continue to operate in the UK and abroad under the most favourable conditions.

According to the European Commission, the UK has the largest telecoms services sector in the EU. It accounts for 18.8% of the EUR 31.8billion of value added by the sector across the EU28

The scale of any challenges or opportunities post Brexit will vary depending on the future alternative models of collaboration with the EU and the rest of the world. The UK has integrated over 40 years of regulation, benefited from access to the EU Single Market and developed trading relationships with the rest of the world via the EU. Whilst this paper is not aimed at presenting solutions to the key issues that will arise as negotiations start with EU institutions and affect the telecoms sector, it provides Government with an overview of the sector's preferred approach for the upcoming negotiating period.

The aim of this paper is to answer the following questions:

• How engrained is the EU Regulatory Framework for Communications in the UK system? Both in terms of legislation and at an institutional level?
• What could be the impact for the industry on the possibility to provide services in the UK, EU and internationally from a regulatory perspective?
• Is it preferable to retain and continue alignment with the EU Regulatory framework and other EU telecoms policies?
• What would be the implications of Brexit on the industry with regard to its ability to provide services in the EU market and internationally? What are the opportunities?

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1 HM Government – Building our Industrial Strategy - https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/586626/building-our-industrial-strategy-green-paper.pdf
2 The UK compares positively in the EU with regard to its performance in delivering connectivity to businesses and consumers, in encouraging take-up of internet access services and placing the UK in the first rank for E-commerce in the EU - 2016 Digital Economy & Society Index https://ec.europa.eu/digital-single-market/en/scoreboard/united-kingdom Research published in 2015 from the Boston Consulting Group found that the UK internet economy is the largest of the G-20 countries as percentage of GDP - http://www.consultancy.uk/news/1988/bcg-uk-internet-economy-the-largest-of-the-g20
3 The Government Department for Exiting the European Union published a White Paper on 2 February 2017. https://www.gov.uk/government/publications/the-united-kingdoms-exit-from-and-new-partnership-with-the-european-union-white-paper
Section 8.34 states that "With respect to communications networks, telecoms operators are regulated in the UK by the EU's 'Electronic Communications Framework', which promotes competition and choice. As we exit the EU, we will want to ensure that UK telecoms companies can continue to trade as freely and competitively as possible with the EU and let European companies do the same in the UK."

Executive summary

The digital communications sector has reached another inflection point as we look to upgrade to the next generations of fixed and wireless technologies. Creating and maintaining a favourable environment for sustainable investment in digital infrastructure now and in the years to come will be crucial for the UK economy. It is difficult to anticipate or quantify the implications that Brexit will have on the UK digital communications industry as a whole, but Government can play a key role in supporting the industry by minimising risks to investment and innovation, and creating opportunities for the industry to continue to compete globally.

Changes to the regulatory regime covering the digital communications sector represent an important risk for the industry. The majority of digital communication services are delivered and regulated at national level. The diversity of services delivered across the broadband value chain (e.g. audio-visual media services, mobile roaming charges, etc.) means that a number of services are delivered at cross-border level and regulated at EU level. This is also the case for the free flow of data which underpins the digital economy.

A significant proportion of Ofcom's powers and duties under the Communications Act 2003 derive from the EU Regulatory Framework for Communications, which is currently under review. The timing of the revision of the rules governing the sector, combined with proposals of a Digital Single Market seeking to remove obstacles to the provision of digital services across the Union leads to uncertainty as to how services will be regulated after Brexit. This in turn could impact on consumers at the retail level.

The trade in electronic components and telecoms equipment represent a critical portion of the telecom companies' operations. It is vital for the industry as it supports the development of networks and innovative communication technologies. It is at risk of being affected by the change of relationship between the UK, the EU and the rest of the world. Changes to trading relationships also have the potential to create new opportunities for the industry.

The UK is and will continue to be measured globally with regard to its connectivity levels and adoption by users of new technologies. The UK needs to retain its capacity to attract investors, digital innovators and high growth companies. The end of free movement of people between the EU and the UK is likely to impact on the capacity for the industry to attract talent and resources needed to not only operate effectively but also compete at global level.

Milestones in the process of exiting the EU and EU legislative developments

Risks and opportunities for the industry will emerge and develop as the process of exiting the EU takes place. The grid below illustrates the key milestones of the Brexit process and concurrent legislative developments at EU level which will have a direct impact on the digital communications industry.

Recommendations below have been developed for the short, medium and long term in reference to the Brexit process.

Short term

Brexit process

29 March 2017
- Article 50 is triggered, marking the start of the process of negotiation for a withdrawal agreement

29 April 2017
- EU agree Article 50 Negotiation Guidelines

EU Regulatory changes

Mid-2017
- EU General Data Protection Rules start to apply in the UK
- EU rules on the abolition of roaming charges are in force in the UK and the rest of the EU
- Negotiations on a European Electronic Communications Code (EECC) continue in EU institutions
- EU Regulation on cross-border portability of content come into force in the UK

Mid to end 2017
- Conclusion of the review of EU Audio-visual media services Directive and start of the transposition process

Start of 2018
- Expected deadline for the adoption of the EECC, and start of the transposition at national level (typically 18 months)

Medium term

By end of March 2019

- Negotiations for a withdrawal agreement end – the UK ceases to be a member of the EU
- Negotiations for the framework setting the new relationship between the UK and the EU continue
- Existing EU law is converted into UK law via the "Great Repeal Bill" – opportunities to amend or repeal elements of the "acquis communautaire"

Long term

Recommendations for Government

Avoiding a cliff-edge Brexit

• It is important for the sector that the process of exiting the EU is as smooth as possible. This means exiting the EU and agreeing the terms of its future trading and collaborative relationship as early as possible. A cliff-edge scenario, whereby the terms of the transition deal or a trade agreement between the UK and the EU are not secured, would further the concerns of the industry over the regulatory, economic and trade environment under which businesses operate.

Alignment with the EU regulatory framework for the medium term

• The UK's national regulatory regime is derived from the EU Telecoms Framework which is currently under review. We support the Government's commitment to taking part in and influencing the ongoing negotiations. In the short and medium term, industry expects that the UK telecoms regulations will remain aligned with overall EU regulatory framework to provide legal and commercial certainty during the transition period. The UK should seek to align the UK rules with the EU regulatory framework in the medium term. Government may see benefits in diverging from the EU on aspects of the framework in the longer term and industry stands ready to engage on any such proposals through Government consultation.

• Difficulties in implementing EU rules post-Brexit could however arise in the context of the regulation of cross-border services where cooperation with other regulatory bodies will be necessary. We expect that co-ordination will need to be maintained in the long term between UK and EU regulatory regimes for cross-border services (e.g. delivery of audio-visual media services, and broadcasting content).

• Divergence from the EU Framework could be possible or desirable in some areas (frequency of market review, avoiding regulatory asymmetry across converged services and bundles, deregulating where possible, tailoring access remedies, etc.) but divergence would need careful consultation with industry and other stakeholders to avoid unintended consequences in the long-term.

Confirming the role of Ofcom as the independent UK Regulator, and as a key contributor to EU policies which will continue to affect UK companies operating in Europe

• It is key that Ofcom and Government continue to have clearly divided responsibilities, and to be legally and functionally independent to support competition and investment in telecoms and deliver good outcomes for UK citizens and consumers. To achieve this, checks and balances need to be retained in the process of regulating the telecoms market, including identifying a third party body, potentially the Competition Market Authority, to play a backstop role in maintaining Ofcom's independence from Government while ensuring its decisions are properly scrutinised. It is also crucial that future policy and regulatory decisions are proportionate and adopted on the basis of robust evidence.

• Given the scale of Ofcom's valuable contributions and current level of involvement within BEREC (Body of European Regulators in Electronic Communications), the UK should seek to retain an active role for Ofcom within this EU institution. EU policies and legislation will continue to affect and in some cases apply directly to UK companies. Ofcom therefore needs to retain its strong collaborative relationship with other EU regulators.

Retaining key EU regulatory principles post-Brexit

• EU State Aid rules for broadband exist to protect competition and private investment for the broadband sector, we believe it necessary that these are retained post-Brexit. Opportunities to tailor the regime to the specificities and needs of the UK market may arise, but this should remain a long-term consideration for regulator Ofcom and the Government. The assessment of the compliance of public funding initiatives against competition rules will not be carried out by the European Commission, and this may reduce the length of the approval process. It is however key that this process is carried out by an independent authority in the UK.

• The extension of EU universal service rules to broadband is being debated. It is unclear if the UK will transpose the Directive (as part of the revised framework – the EECC) particularly if the Government position diverges from that of the EU (e.g. on the relevant funding mechanism). It is important that Government delivers its policy decision prior to completion of the EU review process.

• EU Open Internet rules were adopted and implemented in the UK alongside the BSG Open Internet Code. Self-regulation has in this instance played an important role in the development of the UK's successful and growing digital marketplace. This is one area that sets the UK apart from many other EU Member States, and should be maintained alongside the EU Regulations.

With careful engagement with industry, securing the continued implementation of EU regulations on cross-border services

- The upcoming abolition of additional roaming charges in the EU will benefit UK consumers. It is due to be implemented from 15 June 2017. For UK consumers to continue to benefit from 'roam like at home' in the EU and EEA after Brexit, UK operators must continue to have access to wholesale roaming rates at or below the EU regulated caps. Without access to these wholesale rates, domestic mobile operators will face significantly higher costs, which will lead to higher roaming charges for UK consumers.
- The Country of Origin principle under the Audio-Visual Media Services Directive has been crucial for content and audio-visual businesses. Government should seek to conclude an agreement with the EU to retain the status quo.
- Cross border data flows are key to the telecoms industry. Government should seek to secure "adequacy" of the UK data protection regime during Brexit negotiations, as failure to do so may lead to the "localisation" of data flows on EU citizens outside the UK.
- Due to the ability of wireless transmissions to cause interference across borders and the need for economies of scale, spectrum management and regulation has always had an international dimension. With its role as a crucial ingredient in an increasing array of applications of future economic and societal importance, the EU is becoming increasingly active in the area. The UK will need to retain its international influence in Europe via the CEPT and the EU RSPG group, and at a global level in the ITU by increasing resources dedicated to these fora.

Engaging with industry throughout the process of concluding trading arrangements with the EU and the rest of the world

- The digital communication industry needs further clarity on the Government's strategy regarding the process of exiting the EU, and in particular its objectives for the conclusion of transitional arrangements with the EU and the World Trade Organisation (WTO), as well as a potential bespoke Free Trade Agreement (FTA) with the EU. Securing a bespoke free trade agreement with the EU could help mitigating risks the industry could face post-Brexit in the cross-border delivery of services and flow of data. Engagement with the industry in the phase of planning would be crucial.
- The UK may need to conclude Mutual Recognition Agreements with the EU to facilitate the accreditation process of electronic products and remove obstacles for market entry of telecoms equipment. The WTO Information Technology Agreement provides for zero-tariffs on many IT goods. Whilst the EU is a signatory to the Agreement, the UK would need become part of it following the process of exiting the EU.
- In partnership with the industry, Government should engage and strengthen ties with international bodies such as the WTO, ICANN, ITU, OECD, G7/20 and associated business groups such as Business Europe, B7/20, BIAC, IGF, ICC, WEF. Given the importance of technical standards to the UK companies competing in the European and global markets, Government's involvement within standardisation bodies (e.g. ETSI, ENISA and CEN/CENELEC) should be increased to minimise the risk of EU standards being used as non-tariff barriers to UK companies.

Retaining the UK's capacity to attract European and international resources and talent in order to continue developing the UK as a leading digital nation

- Industry would welcome continued commitment from Government to initiatives to attract resources from across Europe, including low-skilled workers who have been particularly relied upon for the deployment of fibre broadband networks. The industry relies on researchers and innovators from across the EU in specific sectors such as cyber security. To maintain our hard-earned leadership position post Brexit, the digital communications industry needs to attract talent from abroad and guaranteeing the status of EU nationals in the UK should be seen as a priority objective for Government.
- Post-Brexit, the UK telecoms sector may lose access to key funding schemes supporting the development of emerging technologies (e.g. 5G, IoT) and the deployment of broadband networks. Retaining a seamless level of research and funding cooperation with the EU in the ICT sector is essential. Government also needs to consider whether it will continue to support programmes which have benefited from EU funding.

Section 1: Ramifications of the EU Telecoms Regulatory framework and other EU policies on the UK system

1.1   Implications of EU regulatory system in the UK

The current EU Regulatory Framework[4] consists of five Directives and two Regulations. The EU framework was designed to harmonise national telecommunications regulatory rules across the EU, and to promote the liberalisation and competitiveness of telecoms markets as well as setting rules for the protection of the consumer. It is considered to be the cornerstone of the EU Digital Single Market. The Framework also defines the powers, duties and independence of national regulators (Ofcom in the UK). The EU Framework was transposed in the UK in 2003 via the Communications Act 2003 and updated rules were transposed in 2011.

The UK played a key role in shaping the current and revised EU framework[5].

In general the EU Framework has delivered positive outcomes over the last 10 years in the UK, stimulating competition and bringing significant benefits to consumers in the form of more capable fixed and mobile networks, choice and lower prices. Average prices for communication services have fallen[6] and new innovative services (4G, ultrafast broadband connections) made available to consumers. Coverage of superfast broadband increased from 58% to 89% of premises in just 5 years, thanks to new commercial deployments and public sector intervention (BDUK programme)[7].

The Framework has also been beneficial in helping to provide investors with a level of regulatory certainty. It has also created the possibility for UK-based companies to access incumbent operators' networks in other EU Member States. It is currently being reviewed by EU institutions to respond to evolutions of the market and of technologies. It is likely that the revision process will be concluded before the UK formally leaves the EU as the target date set by the Commission is the end of 2017. The proposals are for a Directive to introduce a European Electronic Communications Code, recasting the existing EU Directives and Regulations forming part of the 2002 EU Framework. The revised Directive (i.e. the new Code), would need to be transposed by EU Member States from 2018 with a potential end of the transposition period mid to end of 2019.

Although the Framework aims at harmonising rules to an extent, it is expected that differences between telecoms markets across the EU and therefore different national regulatory approaches will remain, as the potential for infrastructure-based competition, deployment of NGA and ultrafast technologies and existence of legacy networks vary across the EU.

It is not yet known whether the process to transpose the EU Code into UK Regulations will start or will take place during the process for the UK exit from the EU is completed. Regardless, the continued engagement of Government within the Council of Ministers during the ongoing process of negotiation is welcome and necessary.

Once the process to exit the EU starts, clarity on the timelines for the transposition of EU Directives and implementation of EU Regulations currently under review will be essential.

We believe that to ensure a level of certainty for investors over the Brexit period, the provisions applicable at national level of the revised EU Regulatory Framework (assuming that the review process ends before the UK has formally left the EU) should be included in the Great Repeal Bill, and transposed in the UK regulatory system.

4 EU regulatory Framework for Communications includes the Framework Directive (2002/21/EC), the Access Directive (2002/19/EC), the Authorisation Directive (2002/20/EC), the Universal Service Directive (2002/22/EC), the e-Privacy Directive (2002/58/EC), the Regulation on BEREC (1211/2009) and the Roaming Regulation (717/2007) - https://ec.europa.eu/digital-single-market/sites/digital-agenda/files/Copy%20of%20Regulatory%20Framework%20for%20Electonic%20Communications%202013%20NO%20CROPS.pdf
5 As stated by Ofcom in its written evidence to the Culture, Media and Sport Select Committee (December 2016), "Ofcom has worked closely with other EU Regulators to shape the current frameworks, and we have helped deliver positive change to these" - http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/culture-media-and-sport-committee/impact-of-brexit/written/46321.html
6 Ofcom Consumer Experience 2015
7 Ofcom Communications Infrastructure report 2011 and Ofcom Connected Nations report 2016

1.2 Rules and principles applicable at national level

Wholesale fixed and mobile voice and data services which constitute the large majority of telecoms revenue, are predominantly delivered at national level. The market and interactions between the UK consumer and UK operator are regulated by Ofcom, in compliance with the EU regulatory Framework for Communications.

Ofcom recently reviewed the state of the market, including the incentives for investment and competition and consumer outcomes, under the Digital Communications Review[8]. A review exercise is concurrently being undertaken at the EU level with the European Commission's recent publication of its proposals to overhaul the Framework with a focus on boosting investment in connectivity and tackling regulatory fragmentation across the EU. It is unclear how these changes in regulations might affect the UK telecoms sector and its ability to provide services across the EU post Brexit.

Regulation of the telecoms market

The EU Framework established a set of principles, finding a balance between competition law and ex-ante regulation, which have proven to be successful in assessing effective competition for the benefit of consumers.

Independent national regulators analyse markets to ensure there is no market failure. In the case of market failure or where an operator has Single Market Power (or dominance), the regulator can impose remedies and the European Commission checks the proportionality and compliance of the measures with EU law. A third party, such as the Competition & Market Authority (CMA), should be allocated this oversight role in place of the European Commission after Brexit.

In the long-term, and following the exit of the UK from the EU, a question arise as to how the regulatory system will evolve. **It is key that the future UK framework continues to be predictable to allow investors to make long-term decisions. It would be favourable to maintain alignment with the EU Regulatory Framework and implement its new provisions (assuming these are adopted while the UK is still a member of the EU) and maintain this alignment in the medium term.**

Whilst the UK Government may be able to implement a more tailored approach to UK specific issues, there is a risk that UK specific regulation may not be compatible or aligned with that other EU countries where UK companies operate. This may also lead to difficulties in achieving a successful a free trade agreement with the EU. **Divergence from the EU Framework could be possible or desirable in some areas (for instance, frequency of market review, avoiding regulatory asymmetry across converged services and bundles, deregulating where possible, tailoring access remedies, etc.) but this would need careful consultation with industry and all other stakeholders to avoid unintended consequences in the long-term.**

Ofcom plays a key role within BEREC[9] and leads work on a number of key issues for the organisation.

Whilst the European Commission sets strategies and initiate legislation, BEREC provides recommendations to the Commission on the implementation of the Regulatory Framework. National Regulatory Authorities (NRAs) draw on their understanding of national markets and provide relevant checks and balances in the implementation of telecommunications policies at national level. This includes delivering opinions on Article 7 (control by the European Commission of NRAs' decisions to impose remedies to address market failures). This role would need to be somehow replicated in the UK post-Brexit. **The UK should therefore seek to retain a substantive role for Ofcom in BEREC as well as the International Regulators Group (IRG).**

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8 Ofcom Digital Communications Review https://www.ofcom.org.uk/phones-telecoms-and-internet/information-for-industry/policy/digital-comms-review
9 The Body of European Regulators for Electronic Communications (BEREC) was established by Regulation 1211/2009 – www.berec.europa.eu

Post-Brexit, it is likely that the UK will lose the European Commission oversight and BEREC peer review in the process of implementation of regulations affecting the sector. There is therefore a risk that roles and responsibilities of Government and Ofcom may shift and impact the sector in an unpredictable way. **It is key that Ofcom and Government continue to have clearly divided responsibilities, and to be legally and functionally independent.** As noted above, a third party, such as the CMA, should be assigned a greater oversight role to maintain Ofcom's independence from Government while ensuring its decisions are properly scrutinised.

Checks and balances also need to be retained. **It is crucial that future policy and regulatory decisions are proportionate and adopted on the basis of robust evidence.**

State Aid rules for broadband deployment

The European Commission published in 2012 Guidelines for the application of State Aid rules to the deployment of broadband networks[10], designed to clarify competition rules on the allocation of public funding to extend broadband coverage in areas where there are no economic incentives for commercial operators to invest (without public funding). The EU State Aid rules are also in place to ensure that public funding does not replace private investment, and that other service providers can use the publicly funded infrastructure on a non-discriminatory basis (fair chances for all bidders regardless of the technology used to deploy a Next Generation Access network, and fair access to subsidised infrastructure through open access tenders).

State Aid rules for broadband play a positive role in ensuring that governmental bodies are prohibited from favouring or promoting "national champions" and thus distort or damage competitive markets to the detriment of consumers.

In May 2016, the European Commission issued an approval Decision for the UK National Broadband Scheme (BDUK) 2016-2020[11] confirming compliance of the programme with EU State Aid rules.

As the above rules exist to protect competition and private investment for the broadband sector, we believe it necessary that these are retained post-Brexit.

Opportunities to review the state aid for broadband framework to tailor it to the UK market may arise if the future relationship between the UK and the EU allows for further flexibility.

However, there is general agreement within the industry that any divergence from the current regime would need to be considered carefully, with consultation with stakeholders and in the long-term. The assessment of the compliance of the public funding initiative against competition rules will not be carried out by the European Commission, and this may reduce the length of the approval process. It is however key that this process is carried out by an independent authority.

Universal Service Directive

The UK has implemented the 2002 Universal Service Directive setting out users' rights relating to the availability, affordability and accessibility of electronic communications networks and services[12], designed to minimise the risk of social exclusion. As part of the review of the EU Regulatory Framework for Communications, the European Commission is considering extending the scope of the Directive to include a right to access a broadband connection (beyond access to telephony services and "functional internet access"). Under EU proposals published in September 2016[13], broadband is referred to as a functional internet access connection defined on the basis of a minimum list of online services which enable end-users' participation in civil society. Member States would be able to further define this at the national level. The Commission also proposed the broadband universal service to be publicly funded stating that it would be the more equitable and the least distortive way of funding it.

10 The EU Guidelines for the application of state aid rules in relation to the rapid deployment of broadband entered into force on 26 January 2013 http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2013:025:0001:0026:EN:PDF
11 SA. 40720 (2016/N) – National Broadband Scheme for the UK for 2016-2020 http://ec.europa.eu/competition/state_aid/cases/263954/263954_1760328_135_4.pdf
12 EU Universal Service Directive 2002/22/EC - http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02002L0022-20091219&from=EN
13 European Commission proposal for a Directive establishing the European Electronic Communications Code http://eur-lex.europa.eu/resource.html?uri=cellar:c5ee8d55-7a56-11e6-b076-01aa75ed71a1.0001.02/DOC_3&format=PDF

The UK Government announced in November 2015 its intention to introduce a legal right for everyone to request a broadband connection of a minimum speed of 10Mbit/s by the end of this Parliament. It has also set out a preference for an industry funding mechanism[14]. Ofcom produced its technical advice to Government on the design of the broadband USO in December 2016[15]. The report presented options for the specifications for a decent and effective broadband connection, the costs of its delivery and timings for its implementation and review mechanism.

The BSG believes in achieving a universal level of high quality broadband although there are a range of views as to whether the UK's approach to the broadband USO is the most effective mechanism for doing so. There are also diverging views on the specifications, objectives and funding mechanisms for the USO as defined by the European Commission proposals.

We welcome the Commission's proposals which retain flexibility at national level, enabling Member States to extend the scope of the universal service if relevant. We also believe it appropriate that if the broadband USO is designed to address social exclusion, public funding be allocated to its delivery. Government intends on delivering its policy decision prior to completion of the process. It is therefore unclear if the UK will align its decision on principles deriving from the revised Directive (as part of the revised framework – the EECC) particularly if the Government position diverges from that of the EU on issues such as the funding mechanism.

Telecoms Single Market Regulation 2015/2120 – Open Internet

The EU adopted in November 2015 a Regulation[16] setting out rules on the Open Internet (also referred to as Net Neutrality) and roaming in the EU. It was implemented into the UK system via the Open Internet Access Regulations 2016[17]. BEREC also issued Guidelines of the implementation of European Open Internet rules for National Regulatory Authorities[18].

The UK's approach to the Open Internet is based on self-regulation and has taken a central role in shaping the EU Regulation. In 2011, Internet Service Providers (ISPs) and Mobile Network Operators (accounting for more than 90% of fixed and mobile connections) signed the Broadband Stakeholder Group Traffic Management Transparency Code[19] committing themselves to ensuring that traffic management policies were transparent and comparable. Building on this, the BSG published the Open Internet Code of Practice in 2012[20], in which signatories committed to not using traffic management practices to degrade the services of a competitor.

Ofcom has supported industry self-regulation in this area, in line with its November 2011 position statement on its approach to net neutrality[21].

Following adoption of the EU Regulation 2015/2120, the BSG published in June 2016 its new Open Internet Code of Practice[22] merging into one the two previous Codes (and replacing them). The new Code updates the ISPs' Commitments in light of new technological developments and brings the Code in line with the EU Regulation. Signatories to the Code include all major ISPs, representing over 90% of UK subscribers on both fixed and mobile contracts.

The UK self-regulatory approach to the Open Internet has been a success,

and the Code and associated guidance of interpretation are tailored to the UK market. Its development and revision was supported by Government, Ofcom, content providers and other interested parties. In order to ensure that the Open Internet is maintained whilst allowing innovation, this co-regulatory approach should be maintained, building on the existing Open Internet Code.

We assume and ask that the provisions of the Regulation will be carried forward under the Great Repeal Bill, and that therefore protections for users will remain, as the EU Regulation was implemented in the UK via the Open Internet Access Regulations, and the BSG Open Internet Code will continue to be in force, as developed independently from the EU rules.

14 Letter to Ofcom CEO Sharon White - https://www.ofcom.org.uk/__data/assets/pdf_file/0027/53676/dcms_letter.pdf
15 Achieving decent broadband connectivity for everyone (Ofcom) - https://www.ofcom.org.uk/__data/assets/pdf_file/0028/95581/final-report.pdf
16 EU Regulation 2015/2120 - http://eur-lex.europa.eu/legal content/EN/TXT/PDF/?uri=CELEX:32015R2120&from=EN
17 The Open Internet Access (EU Regulation) Regulations 2016 - http://www.legislation.gov.uk/uksi/2016/607/contents/made
18 BEREC Guidelines on the Implementation by National Regulators of European Net Neutrality Rules - http://berec.europa.eu/eng/document_register/subject_matter/berec/regulatory_best_practices/guidelines/6160-berec-guidelines-on-the-implementation-by-national-regulators-of-european-net-neutrality-rules
19 BSG Traffic Management Code - http://www.broadbanduk.org/wp-content/uploads/2013/08/Voluntary-industry-code-of-practice-on-traffic-management-transparency-on-broadband-services-updated-version-May-2013.pdf
20 BSG Open Internet Code of Practice (2012) - http://www.broadbanduk.org/wp-content/uploads/2015/07/BSG-Open-Internet-Code-of-Practice-amended-November-2014.pdf
21 http://stakeholders.ofcom.org.uk/binaries/consultations/net-neutrality/statement/statement.pdf Ofcom recognised that traffic management produced positive outcomes whilst highlighting the potential for undesirable outcomes such as the targeting of specific services on the basis of commercial rivalry. Ofcom also recognised the potential for traffic management tools to support new innovative services, whilst noting the importance of preserving best efforts internet access
22 BSG Open Internet Code of Practice 2016 - http://www.broadbanduk.org/policies/the-open-internet/open-internet-code-of-practice-2016/

The Code is also more explicit than the EU Regulation and BEREC guidelines in some areas. For example, the UK Code goes further than the EU Regulation in its commitment to protect children from harm as it includes the possibility for ISPs to deploy parental filters (under conditions set out in the Code).

Self-regulation has in this instance played an important role in the development of the UK's successful and growing digital marketplace. This is one area that sets the UK apart from many other EU Member States, and should be maintained alongside the EU Regulations and BEREC Guidelines.

1.3   Regulatory principles applicable to the delivery of cross-border services

It is unclear how EU Regulations that necessitate national regulatory authorities' (NRAs) cooperation for their implementation and enforcement could be carried forward with the Great Repeal Bill without agreeing a future cooperation mechanism. Cross-border services involve cooperation between EU national regulatory authorities in some areas and collaboration at international level for the development of some policies affecting the sector globally. It is a complex issue which will need to be considered by Government, regulator Ofcom and with careful consultation with stakeholders. A short-term plan to provide industry with certainty is however crucial.

Telecoms Single Market Regulation 2015/2120 – Roaming

The EU Regulation 2015/2120 sets the principle of the abolition of roaming charges from June 2017, for UK customers using their mobile phones when periodically travelling in the EU and EEA. While the UK is still a member of the EU, these rules will be implemented by UK operators.

For UK consumers to continue to benefit from 'roam like at home' in the EU and EEA after Brexit, UK operators must continue to have access to wholesale roaming rates at or below the EU regulated caps. Should the UK not secure access for UK operators to wholesale roaming rates at or below the regulated caps, UK operators will struggle to offer roaming services without increases to retail roaming charges. Protections must also remain in place to ensure that SIM cards from other markets cannot be used to 'permanently roam' in another member states, as this would deter investment in domestic network infrastructure. Should the UK not secure access for UK operators to wholesale roaming rates at or below the regulated caps, domestic mobile operators are likely to have no choice but to increase retail roaming charges in order to fund roaming services.

Authorisation Directive/Access Directive

The Authorisation Directive[23] is part of the EU Regulatory Framework for Communications and designed to facilitate cross-border market entry and therefore result in further competition in the EU market. It introduced a general authorisation system for all electronic communications networks or services by removing the need for individual licences to be delivered by national regulatory authorities.

The Access Directive[24] grants telecommunications providers rights and obligations to negotiate interconnection of their networks to ensure interoperability of services throughout the EU. The Directive also empowers national regulators to impose access and interconnections obligations, and under certain circumstances, to impose as a last resort remedy the functional separation of a vertically integrated operator. The Access Directive also sets out the conditions or access to digital television and radio service broadcast.

In its recent evaluation, the European Commission found that provisions within these two Directives were ineffective[25] or implemented inconsistently across EU Member States (e.g. because of variations in both products on offer and national regulations, the general authorisation regime has not facilitated the provision of standardised products at EU level). This has hindered the achievement of a true internal market for telecom services.

The proposals to review the EU Regulatory Framework amends the authorisation and access regime which may create fewer opportunities for UK based companies to compete on even terms post Brexit.

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23 Directive 2002/20/EC on the authorisation of electronic communications networks and services - http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32002L0020&from=EN
24 Directive 2002/19/EC on access to, and interconnection of, electronic communication networks and associated facilities http://eur-lex.europa.eu/legal-content/en/ALL/?uri=CELEX:32002L0019

Management of UK spectrum

The essential resource for wireless communications is spectrum. Coordination of spectrum mostly occurs at the international level with the International Telecommunications Union (ITU)[26], a specialised United Nation's agency for information and communication technologies. It plays a key role in developing international spectrum policy via the Radio Regulations. At European level, the Electronic Communications Committee[27] of the European Conference of Postal and Telecommunications Administrations (CEPT)[28] is tasked to develop common policies and regulations in harmonisation of spectrum use. The CEPT is composed of 48 European countries, including EU Member States and candidates, EFTA countries as well as Russia.

The European Commission is responsible for coordinating policy approaches for radio spectrum within the EU as well as harmonised conditions for use. These rules are currently under review as part of the revision of the EU Regulatory Framework for Communications. The Commission is also responsible for the regulatory framework for the placing of radio equipment on the EU market.

The UK Spectrum Policy Forum published in September 2016 its analysis of the implications of Brexit on the UK Spectrum Strategy[29]. It concluded that:

- Exiting the EU will not have an immediate impact on current spectrum use or users as the UK regulatory framework is self-contained. The ability of the UK to influence spectrum policy within the EU will be diminished, although the UK could gain flexibility in determining at national level use of spectrum and re-allocation of spectrum that is not being used effectively
- Spectrum licensing is clearly a national matter. However, the EU will continue to have a significant influence on UK spectrum decisions, for example in major applications such as mobile broadband and broadcasting, and in the development of other European spectrum ecosystems
- The CEPT and ETSI[30] will continue to be the primary European bodies for spectrum allocation decisions and technical standards respectively. The UK has direct membership of both which need not be affected by Brexit

Following Brexit, the UK will retain international influence in spectrum in Europe via the CEPT and at a global level in the ITU. Focussing effort on strengthening this influence by increasing resources should be considered by Government, and efforts to retain membership of the EU RSPG group would be essential.

Regulation of audio visual media services – the Country of Origin Principle

For some communication services, such as Audiovisual Media Services (AVMS), laws which facilitate (but do not mandate) cross-border provision of services are key. For example, the country of origin principle enshrined in the EU Audio Visual Media Services Directive[31] (AVMSD) allows providers to deliver content to consumers in other EU Member States under a single licence and set of standard rules from the home country (UK). This has helped make the UK a global hub for broadcasting, with many international businesses choosing the UK when discussing the location of their broadcasting operations in Europe.

The AVMSD was transposed into UK law by the Broadcasting Acts 1990 and 1996 and the Communications Act 2003 as amended. The Directive is being reviewed as part of the Digital Single Market initiatives.

When the UK exits the EU, and in the case where there isn't a collaboration agreement with the EU, broadcasters may lose the benefit of the country of origin principle. Importantly, UK-licensed broadcasters may no longer be guaranteed freedom of transmission to EU Member States and may be required to comply with additional regulation in the Member States of reception. **This would be highly disruptive for UK licensed broadcasters and Government should seek to conclude an agreement with the EU to retain the current regulatory regime.**

For the content and audio-visual businesses, in future free trade negotiations, it will be important to avoid disrupting the UK's world-beating mixed broadcasting ecology through demands from partners, such as removing targeted regulation which sustains a thriving production sector and internationally-envied public service broadcasting. These sectors not only matter in their own right for their role in attracting foreign direct investment, as exports and contributors to UK 'soft power'. They also have an important role to play in supporting the demand for connectivity through popular online services such as BBC iPlayer, ITV Hub and Sky Go.

25 Evaluation of the regulatory framework for electronic communications https://ec.europa.eu/digital-single-market/en/news/proposed-directive-establishing-european-electronic-communications-code
26 International Telecommunications Agency - www.itu.int
27 Electronic Communications Committee – www.cept.org/ecc
28 European Conference of Postal and Telecommunication Administrations – www.cept.org
29 Brexit: the impact of the UK leaving the EU on UK Spectrum Policy, Simon Pike - http://www.techuk.org/insights/reports/item/9287-brexit-the-impact-of-the-uk-leaving-the-eu-on-uk-spectrum-policy
30 The European Telecommunications Standards Institute sets technical standards for frequency use - http://www.etsi.org/
31 Audiovisual Media Services (AVMSD) – Directive 2010/13/EU

Cross-border portability of online content services in the EU

As part of the Digital Single Market strategy, the European Commission proposed in December 2015 to introduce a Regulation aiming at ensuring the cross-border portability of online content services in the Internal Market (COM(2015)627). The objective of the Regulation is to enable citizens of an EU Member State to access subscription digital content services while temporarily travelling in the EU. (Free to access services may opt-in).

On 7 February 2017, EU Institutions reached an agreement on the Regulation. It is expected that the rules will enter into force in all EU Member States shortly, with subscription services required to offer portability by the end of a nine month period. **The UK would need to reach a reciprocal agreement with the EU for UK consumers to continue to benefit after Brexit, similar to mobile roaming.**

Cross-border data flow

Data flows (for information, communications, audio, video, transactions, inter-intra company traffic, machine to machine links, etc.) are an essential driver to the UK economy.

As noted in a recently published techUK report[32], the UK is a leader in cross-border connectivity accounting for 11.5% of global cross-border data flows in 2015, and this figure is set to increase 5 times by 2021. 75% of UK cross-border data flows are with EU partner countries. At EU level, the General Data Protection Regulation (GDPR) provides a framework for the protection of personal data of individual citizens within the EU and restricts the flow of data outside the EU. It is set to enter into force in May 2018, prior to the UK formally leaving the EU.

Post-Brexit, and after implementation of the new rules by the UK risks will remain with regard to the secure legal basis on which companies can transfer data in and outside of the EU. The UK post-Brexit will be considered as a third country and as such, would need to demonstrate to the European Commission the "adequacy" of its level of data protection (i.e. the Commission would need to check compliance of the UK data protection regime against EU law).

It is key that Government secures "adequacy" of the UK data protection regime during Brexit negotiations, as failure to do so may lead to the "localisation" of data flows on EU citizens outside the UK.

This would impact data infrastructure and data centres in the UK, which are among the world's most active. Data localisation may also impact the UK economy as barriers to trade in data services could increase costs, reduce investment, competition and innovation. Mechanisms other than "adequacy" exist but these involve significant administrative, legal and financial burden which could have an impact on businesses, and in particular SMEs.

At international level, the UK will no longer be part of the EU-US Privacy Shield. The UK will therefore need to establish a mechanism to allow data to be transferred to the US and allow data flows to remain uninterrupted.

32 The UK Digital sectors after Brexit, Frontier Economic – techUK - https://www.techuk.org/insights/news/item/10086-uk-tech-sector-is-a-model-for-global-britain

Section 2: International trade

The telecoms industry contribution in the UK economy

The telecoms industry contributes to £30.2 billion to the UK economy. The digital industry, which relies in great part on telecoms services, contributes to £118.4 billion to the economy. Not only are these industries growing, they export and compete at an international level[33].

According to EU statistical data[34], the UK has the largest telecoms services sector in the EU with 18.8% of the EU 28 value added of EUR 31.8billion. According to Ofcom[35], the total UK Communications revenues generated by telecoms, TV, radio and postal services equates to £56.5bn in 2015, an increase of nearly 1% since 2014. This splits into revenues from retail and wholesale fixed and mobile voice and data services of £37.5bn in 2015 and those of the UK broadcast industry being £13.6bn.

UK telecoms exports are predominantly delivered to Europe (£3.8bn in 2014). Other main export markets were Asia (£1.bn), America (£1.03bn) and Africa (£678m). The European market is key for the digital sector with £18bn worth of UK services exported to the continent compared to £8.5bn to America and £3bn to Asia.

In terms of imports, the UK telecoms sector imported a combined £5.1bn worth of services in 2014 from Europe (£3.8bn) and the rest of the world (£1.3bn). The digital sector imported £17bn worth of services from Europe (£10.4bn) and the rest of the world (£6.6bn).

1.1 International agreements affecting the telecoms sector

Trade barriers such as tariffs goods could affect UK operators, as the digital, IT and telecoms sector are interlinked. Changes to trading arrangements coupled with a devaluation of the pound sterling could also have a wider impact on investment decisions and consumer demand.

With regard to the trade of electronic goods supporting telecommunications networks and services, operators currently benefit from the UK being part of the EU Customs Union which facilitates the free movement of goods within the EU market. A number of other EU instruments are of key importance to the telecoms and wider technology sector and it would be essential to maintain cooperation and mutual recognition with the EU; these include for example common export licencing rules (for dual use items), the Community Customs Code and the Authorised Economic Operator concept, Binding Tariff Information, product standards and IP rules.

The current regime for placing radio equipment on the EU market is governed by the Radio Equipment Directive. It requires manufacturers to comply with conformity assessment procedures (article 3.2 of the Directive), typically demonstrated via Harmonised Standards developed by the European Telecommunications Standards Institute (ETSI). Accredited bodies within EU Member States undertake the assessment. Products which meet the essential requirements of the Directive bear the CE mark.

Post Brexit, the UK may need to conclude a Mutual Recognition Agreements with the EU (such as those concluded with third countries) to facilitate the accreditation process and remove obstacles for market entry of telecoms equipment. A recent report[36] also suggested the UK continues to accept the CE mark for European products placed on the UK market. Alternatively the UK could develop a specific regime for placing products on the UK market in the long-term.

The WTO Information Technology Agreement provides for zero-tariffs on many IT goods. Whilst the EU is a signatory to the Agreement, the UK would need become part of it following the process of exiting the EU.

However, other concerns exist and these relate to the potential for additional customs checks and non-tariff barriers. It is key to ensure that if the UK is to revert to WTO membership alone, additional barriers to services and data being offered on an international basis are not put in place.

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33 The Government estimated in a report published in August 2016 that the Gross Value Added contribution of the telecoms sector in 2015 was £30.2billion (an increase of £1.1billion compared to 2014) and that of the Digital Sector £118.4billion (an increase of £6.8billion). In 2014, the telecoms sector exported £6.8bn worth of services (an increase of £2.2billion since 2010) and the digital sector £31.8bn (representing the greatest contribution to UK service and DCMS sector service exports with 14.5% of total service exports in 2014).
34 Telecommunications services statistics – NACE, Eurostat , October 2015 http://ec.europa.eu/eurostat/statistics-explained/index.php/Telecommunications_services_statistics_-_NACE_Rev._2#Main_tables
35 Ofcom, the Communications Market Report, 4 August 2016
36 See note 24

1.2 Future opportunities for the sector in the EU and the rest of the world

EU membership has been beneficial in establishing reciprocal terms for service delivery and operation across the world for the majority of telecoms operators. For example, BT offers communication services to large organisations in around 200 countries, and over 60% of Vodafone's revenues are made in Europe.

The future of some European commercial agreements may be in doubt if access to the EU Single Market is lost. **Therefore a bespoke free trade agreement with the EU would help mitigate those risks. Engagement with the industry in the phase of planning is crucial.**

In the event of the UK trading with EU Members States and the rest of the world under WTO rules only[37], securing terms of access to markets may prove a challenge as the UK would cease to benefit from preferential access to third countries' markets via EU FTAs, and the UK would need to establish its own independent schedules of concessions.

The telecoms industry needs further clarity on the Government's strategy regarding the process of exiting the EU, and in particular its objectives for the conclusion of transitional arrangements with the EU and the WTO, as well as a potential bespoke FTA with the EU.

Conclusion of Free Trade Agreements

After Brexit, the UK would be in a position to conclude free trade agreements with the EU and with individual third countries. There is an opportunity for the UK to retain its ability for UK companies to continue to trade in goods under the most favourable conditions and to maintain their rights to provide services freely with the Internal Market.

In the process of exiting the EU, it is crucial that the Government engages closely and transparently with the industry. The future model of relationship with the EU will determine for the sector the range of opportunities for trade and services in the EU Single Market but also outside the EU. It will also determine the scale of opportunities for the UK to compete globally.

Goods and services developed for the EEA will provide the critical mass for UK companies to compete in the wider, global markets. Therefore it is essential that Government seeks a long-term and positive trading relationship with the EU. **Both the UK and the EU share common economic and regulatory systems and governance, and these need to be recognised as starting point for the upcoming negotiations.**

Removal of non-tariff and customs barriers are key for the free movement of electronic goods supporting the UK digital market and infrastructure, and it is important for the sector that trade barriers are minimised if not removed. Similarly, ensuring that services and data can continue to be offered in the EU is important for the sector.

Working in partnership with UK industry, **Government should engage and strengthen ties with international bodies such as the WTO, ICANN, ITU, OECD, G7/20 and associated business groups such as Business Europe, B7/20, BIAC, IGF, ICC, WEF. This should be a priority for Government in order to make the case for free trade and anti-protectionism in telecoms.** Given the importance of technical standards to the UK companies competing in the European and global markets, **the UK Government should ramp up its involvement in standardisation bodies, not least those – such as ETSI, ENISA and CEN/CENELEC - which influence EU policies and thus minimise the risk of EU standards being used as non-tariff barriers to UK companies.**

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37 International trade in telecoms services are covered by the Agreement on Basic Telecommunication Services; the Annex to the Fourth Protocol of the General Agreement on Trade in Services (GATS) seeks to improve market access for service suppliers, and reasonable and non-discriminatory access to public basic telecommunications networks and services.

Section 3 – Cross-sectoral issues

Movement of labour force

The end to the free movement of EU nationals in the UK will likely be a significant challenge for the telecoms industry. The construction industry, which provides the civil infrastructure necessary to deploy NGA and fibre networks, relies heavily on labour forces from across Europe.

A number of UK fibre infrastructure providers have deployed their networks thanks to the expertise of a workforce and contractors predominantly from central Europe. **Government is encouraging the roll-out of fibre networks across the country and needs to support industry by attracting resources from across Europe, including skilled labour.**

The industry relies on researchers and innovators from across the EU in sector such as cyber security. **To maintain our hard-earned leadership position post Brexit, UK businesses need to attract talent from abroad and guaranteeing the status of EU nationals in the UK should be seen as a key objective for Government.**

Access to EU research funding opportunities

As a result of Brexit, there is the potential that the telecoms sector will lose access to EU Research and Innovation funding opportunities through the Horizon 2020 programme, covering research of direct relevance to the sector such as emerging new technologies (e.g. 5G and Internet of Things). Participation gives the UK access to expertise from other European countries, which plays an important role in developing UK R&D ideas with international appeal. **Non-EU Member States may join the programme and the UK Government should seek to indicate its intentions to provide certainty to the sector by continuing to engage at EU level.**

EU Funding for broadband-related programs

The UK telecoms sector may also lose access to key funding schemes such as the Investment Plan for Europe which is intended to boost investment in digital infrastructure, and in particular broadband. Access to funding from the European Regional Development Fund (ERDF), which provided funding for the Superfast Cornwall project, to support various rural broadband roll-out schemes will also be lost. **Retaining a seamless level of research and funding cooperation with the EU in the ICT sector is essential. Government also needs to consider whether it will continue to support programmes which have benefited from EU funding.**

£132 million investment was needed to fund the Superfast Cornwall project: £53.5 from the European Regional Development Fund, and £78.5 million from BT.

The Broadband Stakeholder Group (BSG) is a Government Industry Forum, acting as a critical friend of Ofcom and Government. It provides a neutral forum for organisations across the converging broadband value-chain to discuss and resolve key policy, regulatory and commercial issues, with the ultimate aim of helping to create a strong and competitive UK knowledge economy.

The BSG is composed of organisations from across the sector, including fixed-internet access, voice telephony service providers, mobile operators, infrastructure providers, vendors, content providers and broadcasters. Many operate at international level.