Brian Williamson

Deconstructing the "level playing field" argument – an application to online communications

May 2017

COMMUNICATIONS CHAMBERS

About the Author

Brian Williamson is a Partner at Communication Chambers and has extensive policy and strategy experience in relation to applications, networks and radio spectrum. He has worked on the benefits of, and policy in relation to, mobile apps and the internet.

COMMUNICATIONS
CHAMBERS

Contents

COMMUNICATIONS
CHAMBERS

1. Executive summary

As online services have developed a question over the appropriate governance of new technologies versus traditional services has arisen. Existing rules may mirror and entrench traditional business models, whilst new business models may use technology in ways that mean that existing rules are either not fit-for-purpose, or are irrelevant. A rule-by-rule analysis is called for, rather than a knee-jerk extension of traditional rules to new services.

Rich Interaction apps are considered in this paper, and the arguments advanced by some that that they "free ride" on networks, that the "playing field" favours apps over legacy voice and SMS and the "same service same rules" approach are found to be without merit. They are fallacies, and their continued promotion by those who have failed to adapt and would rather seek protection is disingenuous.

Online services providers and network access providers have a symbiotic relationship. Rich Interaction apps are a source of demand for network access and data use, which network operators can, and do, monetize. Apps and network are complements, and growth of all types of apps is necessary for investment in ubiquitous high-capacity networks to be commercially viable. Apps do not "free ride".

In relation to the level playing argument, legacy voice and SMS are vertically integrated with networks, and enjoy advantages as a result. Vertical integration tilts the playing field in favour of legacy services, an advantage Rich Interaction apps have had to overcome through innovation and differentiation.

Turning to regulation and the "same service same rules" argument, appropriate regulation depends on the market and technology, and these differ between network access, traditional communications services and Rich Interaction apps. For example, the "call termination monopoly" is specific to a number based system with legacy voice and SMS using numbers which introduce a "monopoly" and which consumers need to transfer in order to switch provider. By contrast, consumers can readily download, use, and switch between, multiple Rich Interaction apps.

Further, if the services were the same, and the "same service same rule" principle was meaningful, then exclusive access of legacy integrated services to managed capacity might have to be unwound.

A forward-looking approach would be to recognize that Rich Interaction and other online apps are separating networks and

COMMUNICATIONS
CHAMBERS

applications, and to roll back sector specific telecoms rules and rely more on general horizontal competition, consumer and data protection law.

In summary, a checklist of fallacies (left) versus the technological and market reality (right) is provided below.

Fallacies	Technological & market reality
The "free rider" fallacy	• Apps and networks are complements - benefiting each other • Apps drive demand for access, which operators monetise • Apps providers invest in network innovation & developments
The level "playing field" fallacy	• Legacy services are advantaged by vertical integration • Apps overcome this advantage via innovation & differentiation
The "same service same rules" fallacy	• Telecoms regulation is motivated by scarcity & market power • These concerns do not apply to Rich Interaction apps • Technical & market differences matter

Based on the technological and market reality, a principled way forward is set out below.

A principled way forward

Regulation should be assessed on a rule-by-rule basis	• Altering the definition of telecommunications services would not answer the question of what, if any, regulation of Rich Interaction apps is appropriate • A rule-by-rule assessment, taking account of impacts on consumers and innovation, is required
Horizontal economy wide frameworks may be preferred	• Telecoms specific rules should be narrowly focussed on scarce resource inputs & network access bottlenecks • General horizontal law should apply to all services as appropriate • This would simplify regulation and maximise scope for innovaiton for all applications providers

COMMUNICATIONS
CHAMBERS

2. How should online services be governed?

Rich Interaction apps start at a disadvantage compared to legacy services that are vertically integrated with networks.[1] They differ in ways that imply that telecoms rules should not apply, and are subject to general competition and data protection law.

Established businesses may enjoy advantages because of technological integration, or the granting of privileges. For example, integration of broadcast receivers into televisions and of legacy voice and messaging services with networks confer advantages; whilst regulation may confer advantages too, for example, reservation of the use of bus lanes and airport pick-up points for conventional taxi cabs. As the previous Chairwoman of the Federal Trade Commission noted:[2]

> "One of our main concerns is that existing regulatory schemes tend to mirror, and perhaps even entrench, traditional business models and thereby chill pro-consumer innovation." Edith Ramirez, October 2015.

Further, existing regulatory bodies may be influenced by the very interests they regulate, and incumbents may use the regulatory structure to deter new entry. An example of this was the proposal by Transport for London (the regulatory authority with oversight over taxi services) that taxi service companies not be allowed to show available vehicles via an app. Writing in the Financial Times, the Chief Executive of the Competition and Markets Authority (the regulatory authority with oversight over general competition law) responded, emphasizing that such regulation is short-sighted and could harm consumers:[3]

> "Of course there is a role for regulation, especially where safety is an issue. But technologies, such as satellite navigation, cashless payments systems and user ratings platforms, have the potential to overtake the role of regulation, and safeguard consumers by empowering them with information."

This illustrates why the same regulation should not necessarily apply to a competing service, since differences in technology and markets

---

[1] They are not the beneficiaries of "digital exceptionalism" as the Economist phrased it in a more general discussion of internet-based technologies. The Economist, _Internet regulation – the end of exceptionalism_, 11 February 2017.

[2] Keynote Remarks of FTC Chairwoman Edith Ramirez, _42nd Annual Conference on International Antitrust Law and Policy, New York, NY,_ October 2015.

[3] Financial Times, _Let consumers pick the winner in the battle over London cabs_, December 2015.

COMMUNICATIONS
CHAMBERS

may fundamentally change the need for, and appropriate nature of, regulation. As Cohen and Sundararajan (2015) noted:

> "…platforms should not be viewed as entries to be regulated but rather as actors that are a key part of the regulatory framework…For nonintermediated peer-to-peer exchange in the past, the primary solution to market failure was intervention by a government agency. But today, the existence of third-party platforms that mediate exchange fundamentally alters what the market is capable of providing on its own..."

More generally, the value of permissionless innovation is widely recognized in relation to the internet. As online services grow in importance for consumers and businesses, there is a pressing need to preserve the benefits of permissionless innovation, whilst also recognizing the public interest in terms of consumer protection.

Nick Grossman has analysed the shift from an industrial, permission-based model, to the internet-native accountability based model – referring to this as Regulation 2.0.[4] There is an opportunity to reassess the appropriate role of regulation, rather than simply extending regulation that may not be fit for purpose.

This paper addresses the wider question raised by the growing use of internet applications, in a particular sphere of activity, namely Rich Interaction apps.

General claims of "same service same rules" and a simplistic "level playing field" mantra do not hold up to scrutiny, in particular following examination of Rich Interaction apps. We find that Rich Interaction apps face competitive disadvantages relative to legacy services which are vertically integrated, whilst most if not all existing regulation is irrelevant to Rich Interaction apps.

---

[4] Nick Grossman, *White Paper: Regulation, the Internet Way*, April 2015.

COMMUNICATIONS
CHAMBERS

3. The benefits of Rich Interaction apps – first do no harm

Rich Interaction apps have provided consumers and businesses with enormous benefits through innovation, and have helped stimulate internet adoption, demand for networks and network investment.

The benefits they offer both consumer and enterprise users extend beyond communications, with benefits in relation to everything from health care to accessibility and disaster warning and recovery.

We should, when contemplating the right policy stance towards Rich Interaction apps, start from the position "first do no harm".

Stimulus for network extension and enhancement

Rich Interaction apps stimulate demand for network access, and network operators can and do monetize this demand through access and data charges – predominantly via their user base. Without internet based content and applications, including Rich Interaction apps, there would be no investment in next generation fixed and wireless networks. This point is considered further in Section 4.

Enhanced communications

Skype offered a new way for people to communicate utilizing internet protocol (IP). This brought people and markets closer together. With the development of smartphones, coupled with apps stores from 2008, Rich Interaction apps proliferated by offering innovative new features including:

- The ability to communicate via multiple devices
- Engage in group chat and video conversations
- Share photos and videos
- Send messages longer than 160 characters (or less)
- See who was online or replying
- Use Wi-Fi as well as cellular (improving indoor coverage)

Accessibility

Rich Interaction apps offer various accessibility features including Apple 'Voice Over' (an OS level feature) which describes what is on the screen, Facebook 'automatic alternative text'[5] which uses artificial intelligence to provide a basic description of what is in an

---

[5] Facebook, *Using Artificial Intelligence to Help Blind People 'See' Facebook*, April 2016.

COMMUNICATIONS
CHAMBERS

image, and Google Hangouts Captions, which provides live voice transcription. Video also facilitates the use of sign language.[6]

Enterprise and government productivity

Consumer applications are widely used by business, particularly SMEs, and increasingly by government. A study found that of respondents who use WhatsApp, 25% use it to interact with colleagues, supervisors, and/or other employees, saving time and increasing their productivity.[7] Further, the study found that 41% of WhatsApp users in India use WhatsApp to communicate with organizations including schools and health care providers.

Translation is also a feature of messaging apps including Skype Translator and the cross-app "Tap to translate" feature in Android,[8] helping break down cross border barriers to communications and commerce. Rich Interaction apps are also developing linkages in terms of marketing, payments and commerce – supporting a wide range of enterprises including SMEs, and consumers, in doing business. WeChat is an example of this development.[9]

Finally, Rich Interaction apps have diversified to specifically target enterprise and government productivity, with apps including Skype for business, Amazon Chime and Slack. Commenting on the reasons for the rise of Rich Interaction apps in relation to Slack in the enterprise, The Economist pointed to the ability to work seamlessly across different devices, the benefits of a virtual equivalent of a collaborative work environment and the incorporation of productivity tools including project tracking, other analytics and intelligent assistants into communications. [10]

New and more efficient markets

Messaging apps, by lowering costs and offering new features, also help make markets efficient and create new markets. In this example, WhatsApp was used to help a farmer in Rwanda negotiate a higher price for his crops:[11]

> "Emmanuel Bunani used his winnings to rent a plot of land to grow garlic for export. He now pays two people to work his fields and another three to shell and dry the garlic. He has also come up with a novel way of making sure he gets a good

---

[6] Quartz, _A startup from Israel has accidentally created "WhatsApp for the deaf"_, April 2015.
[7] Analysis Group, _The Global and Country-Level Economic Impacts of WhatsApp_, February 2016.
[8] Google blog, _Translate where you need it: in any app, offline, and wherever you see Chinese_, May 2016.
[9] Jean Paul Simon, _How to catch a unicorn_, 2016.
[10] The Economist, _The Slack generation - How workplace messaging could replace other missives_, May 2016.
[11] The Economist, _African entrepreneurs - Opportunities galore_, June 2016.

price from the traders he sells to: he has invited them all to a group on WhatsApp, a mobile phone chat service, and gets them to bid against one another when his crop is ready."

Healthcare

Rich Interaction apps can be used to share information and images amongst physicians, speeding up diagnosis. For example, doctors at KEM Hospital in India have used WhatsApp to speed up diagnosis of patients with suspected heart complications:[12]

"The moment a patient walks in here complaining of chest pain or any other related problem, a specialist takes out an ECG and sends the image to the doctors on hand," said Dr Prafulla Kerkar, head of KEM's cardiology department. "We, in fact, have a WhatsApp group where the experts in our department are signed in."

In Brazil, 87% of doctors communicate with patients using WhatsApp.[13]

Education

Rich Interaction apps can be utilized by students, parents and teachers to improve interaction and share resources. One study at Taibah University for female students in Saudi Arabia concluded that:[14]

"Through achievement tests and measuring the attitudes of students, the results of this research clearly demonstrate the effectiveness of WhatsApp social networking in comparison with face-to-face learning in the classroom. The mobile learning technology helps students to create a learning community, to easily construct knowledge and to share it with other members of a WhatsApp group through instant messaging."

Disaster warning and recovery

Rich Interaction apps may also be used to communicate disaster warnings and to help with disaster recovery, as the following in relation to emergency response in India shows:[15]

---

[12] Mumbai Mirror, *Docs Use Whatsapp to Save Heart Patients*, 13 December 2013.
[13] Business Insider, *Here's how WhatsApp could disrupt healthcare*, August 2016.
[14] Aicha Blehch Amry, *The Impact of WhatsApp Mobile Social Learning on the Achievement and Attitudes of Female Students Compared with Face to Face Learning in the Classroom*, *European Scientific Journal vol.10 (22)*, August 2014.
[15] World Bank blog, *Emergency response in the WhatsApp era!*, February 2016.

"For the first three days after cyclone Hudhud, there was no electricity and no mobile connectivity. As the connections were restored, the [public works department] PWD closed group became functional and that acted as the main tool of communication for information sharing. For any breach of road, the Engineers shared information through the WhatsApp group with a clear location and a short explanation of the problem. The person responsible for the area responded with a message stating how long it would take to clear the block. Even requests for tools and JCBs [mechanical excavators] were made on the group. This helped identify and access required resources. The action taken was narrated on the group discussion page once the problem was solved. An updated photo showing restored road connectivity was uploaded to the group."

Another example is the use of the communications app FireChat to form a mesh network using smartphones and their Wi-Fi, in case mobile networks are disrupted:[16]

"On June 22, 2016, The Metro Manila Development Authority in the Philippines conducted one of the world's largest earthquake preparedness initiatives: the MMShakeDrill.

During a natural disaster, cell tower infrastructure can be both weakened and overloaded at the same time. To simulate this, we constrained cellular delivery of alerts to this area and measured the peer-to-peer distribution of messages.

During and after the Shake Drill, the Metropolitan Manila Development Authority sent alerts to the population across Metro Manila using the broadcast messaging capabilities of MeshKit in FireChat Alerts.

At a density of over 700 users/km sq., when only 32% of users receive a message from our servers and cell towers, MeshKit delivered messages to 80% more users."

---
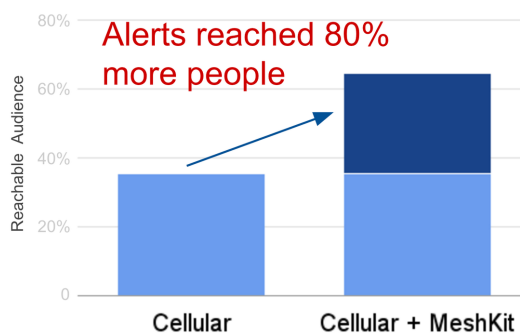
[16] OpenGarden Case study, *Metro Manila Development Authority - Shake Drill, Philippines*, June 2016.

A further example is the Safety Check by Facebook, introduced in 2013, and Community Help, an extension of Safety Check, introduced by Facebook in 2017. Safety Check and Community Help are both used to help people in crisis to maintain contact with friends and loved ones and help them find and provide resources after a crisis.[17] Safety Check was activated, for example, in the aftermath of the flooding in Chennai, India, in December 2015; after flooding in Adelaide, Australia, in 2016; after the 2017 earthquake in Papua New Guinea; and in the aftermath of an attack in Stockholm, Sweden, in April 2017.

---

[17] Facebook news, *Empowering People to Help One Another Within Safety Check*, 8 February 2017.

COMMUNICATIONS CHAMBERS

4. The "free rider" fallacy – actually apps create demand for network access

Fallacy:

The "free rider" fallacy

- **Reality:**
- Apps and networks are complements - benefiting each other
- Apps drive demand for access, which operators monetise
- Apps providers invest in network innovation & developmemt

Rich Interaction apps do not "free ride" on networks. Rather, they stimulate demand for networks. In doing so, they support access and data revenue growth for, and investment by, network operators. The "free rider" argument is a fallacy. Networks and applications are complements.

Networks and applications are complements

The notion that apps free ride on networks, and that telecoms companies are worse off as a result, is misleading and false.

Apps, including Rich Interaction apps, drive network demand and end user willingness to pay for enhanced networks. Networks and applications are complements, stimulating demand for one another in a virtuous circle (Figure 1).

Network operators have invested in expanding network coverage, capability and capacity. For example, 4G mobile networks reached 43% coverage in 2016.[18] This would not have been commercially feasible without growing demand for mobile data driven by applications, including communications applications.

Figure 1: A virtuous circle, not a "free" rider problem

Apps (including Rich Interaction apps) → Users (& their devices) → Networks → Apps (including Rich Interaction apps)

4G investment has not been driven by voice and SMS demand and associated revenues, but by internet access and data demand and associated revenues.

---
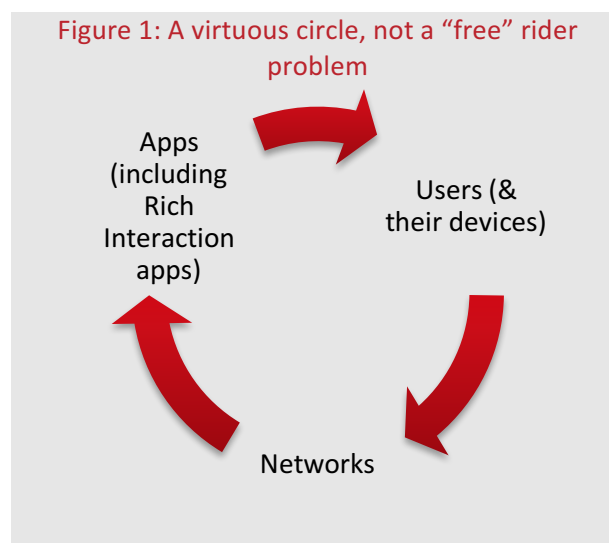
[18] Internet.org, *State of Connectivity 2016: Using Data to Move Towards a More Inclusive Internet*, February 2017.

COMMUNICATIONS
CHAMBERS

Forward looking operators recognize that they benefit from apps

The positive role of applications in stimulating demand, investment and end user expenditure on networks is recognized by forward looking operators:

> "… the growth of mobile-messaging services like WhatsApp wasn't a threat to his business as the sector's growth is driven by data-hungry consumers." Olaf Swantee, CEO of EE, the UK[19]

> "WhatsApp has been good for telcos in Kenya." Steve Chege, Corporate Affairs Director of Safaricom. [20]

> "…fibre demand has accelerated materially since early 2015 – the "Netflix effect." Network operator Chorus, New Zealand.[21]

Evidence that network operators benefit from applications demand is growing

A survey of mobile messenger app users in Germany found that, compared to SMS usage, behaviour was distinct and that app use was associated with adoption of higher yielding mobile contracts:[22]

> "Consumers who use OTT communication services intensively have likely purchased a new mobile plan with more high-speed data allowance within the last two years. These new contracts are more likely to be pay-monthly plans than pay-as-you-go ones. Thus, the trend towards OTT communication services helps telecommunications providers sustain their revenues and plan ahead."

Ericsson analysed the performance of market leading network operators – referred to as frontrunners - and found that between 2010 and 2014 frontrunners enjoyed compound revenue growth of 9.6%.[23] Further, they noted that frontrunners:

> "…do not regard OTT players as threats, but instead generally leverage their offerings."

---

[19] Wall Street Journal, *WhatsApp Is Killing SMS, but That's OK, EE's CEO Says*, February 2014.
[20] FT, *WhatsApp, Let's chat*, August 2016.
[21] Chorus, *UFB2 - Taking fibre further*, January 2017.
[22] Dr. René Arnold and Dr. Anna Schneider, *OTT Services and Consumers' Communication Behaviour in Germany*, 2016.
[23] Ericsson, *Growth Codes*, May 2015.

COMMUNICATIONS
CHAMBERS

An update by Ericsson published in 2017 found that the number of frontrunners had grown from 5 in 2012 to 25 in 2015.[24]

A report by the OECD Secretariat highlighted the indirect contribution to network investment:[25]

> "…the primary way digital platforms or OTTs contribute to stimulating infrastructure development is by creating demand for Internet access and use. All ISPs benefit from this increased demand and this is reflected in the success of the Internet's model for traffic exchange and growth. This works best when, in a competitive market, ISPs structure pricing in a way that leverages increasing demand for infrastructure development. In Finland and Switzerland, for example, some mobile providers charge by the tier of speed users elect rather than the amount of data they download. The mobile providers in these countries therefore welcome digital platforms and OTT services because they stimulate demand for faster services with higher charges. At the same time, ISPs increasingly offer their own services that mirror those of OTTs, such as video- on-demand services, growing the entire market."

The Telecoms Regulatory Authority of the Kingdom of Bahrain noted the value applications bring to networks:[26]

> "OTT players have sometimes been referred to as "free riders". However, this approach is not entirely accurate, insofar as it suggests that OTT providers benefit from resources for which they do not pay, or that OTT services are per se detrimental to operators' business. In fact, OTT providers do pay to use commercial Internet transit services to deliver their traffic to end-users, and in many cases OTT services do bring added value to the networks and to network operators, since they attract end-customers and generate traffic without disrupting demand for traditional communications services."

The Body of European Regulators for Electronic Communications (BEREC) have also recognized the stimulus to broadband demand attributable to content and application providers (CAPs):[27]

---

[24] *https://www.ericsson.com/en/networks/insights/growth-codes*
[25] OECD, *Key Issues for Digital Transformation in the G20*, Report prepared for a joint G20 German Presidency/OECD conference, January 2017. Pages 58.
[26] TRA, *Position Paper published by the Telecommunications Regulatory Authority of the Kingdom of Bahrain on Internet and Online Applications*, October 2016.
[27] BEREC, *BEREC's comments on the ETNO proposal for ITU/WCIT or similar initiatives along these lines*, November 2012.

COMMUNICATIONS
CHAMBERS

> "Ultimately, it is the success of the CAPs …which lies at the heart of the recent increases in demand for broadband access (i.e. for the ISPs' very own access services)."

Globally, network <u>connectivity</u> revenues have grown strongly, driven by applications demand. AT Kearney estimates connectivity growth for network operators of 14% per annum between 2008 and 2015, with connectivity revenue growing from EUR 199 billion in 2008 to EUR 508 billion in 2015.[28]

Some operators have, however, been slow to adapt and take advantage of the opportunity presented by growing demand for network access. Applications and content help, rather than hinder this transition, as the OECD noted in relation to Latin America and the Caribbean (LAC):[29]

> "Despite their role in the region, many LAC telecommunications and cable operators have not been leaders in shifting their networks and businesses toward advanced services and bundles. However, this situation is changing, driven by demand and market pressures caused by OTT players competing for customers…" Page 209.

Analysis by ETNO-IDATE shows that overall telecoms operator revenues, allowing both for access and services revenues, grew in every region in the world (except for Europe) in every year between 2011 and 2014, with growth in 2015 (except for small contractions in North America and Asia Pacific) and with a return to growth forecast for all regions in 2016.[30] In Europe, revenues fell between 2011 and 2015 due to economic recession and regulation, coupled with historical dependence on call termination and roaming revenues now subject to strict regulation, with a return to growth forecast for 2016. Globally, the position of network operators appears healthy.

App providers have invested in networks

Rich Interaction apps providers have made targeted investments in infrastructure, including servers and network infrastructure.[31] The aim is not to do what others are doing efficiently, but to lower costs and extend access where the market may not fully meet demand.

---

[28] GSMA, *New GSMA Study Describes the Changing Economics of the Digital Ecosystem*, May 2016.
[29] OECD, *Broadband Policies for Latin America and the Caribbean*, June 2016.
[30] ETNO-IDATE, *Annual Economic Report 2016*, December 2016.
[31] Analysys Mason, *Investment in networks, facilities and equipment by content and application providers*, 2014.

COMMUNICATIONS
CHAMBERS

Direct capex by Amazon, Facebook, Apple, Google and Microsoft has grown substantially, as shown in Figure 2.[32]

Figure 2: Growth in capital expenditure by major internet companies

Annual capex has increased from $1bn to $34bn since 2000
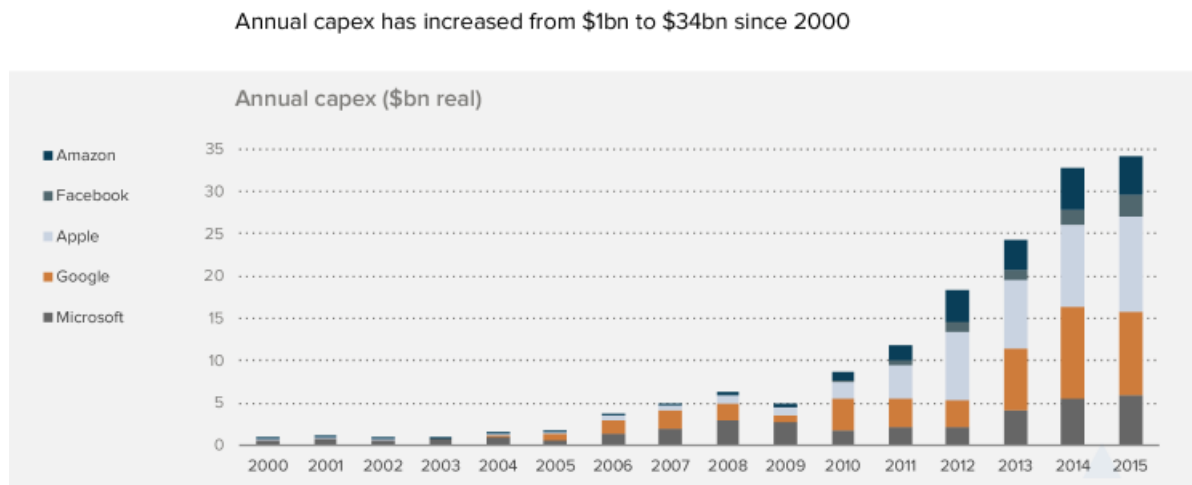
Whilst not all the above capex is network related, internet companies are investing in network related R&D and infrastructure:

- Microsoft & Facebook investing in a transatlantic fibre link,[33] and Microsoft investing in affordable access.[34]
- Google investing in fibre and fixed wireless access,[35] balloon based internet access,[36] and undersea fibre.[37]
- Facebook investing in the telecoms infra project (TIP),[38] solar powered drone based access,[39] and mobile technology.[40]

Figure 3 shows two of the above technologies.

---

[32] Benedict Evans (Andreessen Horowitz), *Mobile is eating the world,* December 2016.
[33] Microsoft, *Microsoft and Facebook to build subsea cable across Atlantic*, May 2016.
[34] Microsoft, *Affordable Access Initiative*.
[35] Google fibre, *https://fiber.google.com/about/*
[36] Google X, *Balloon-Powered Internet for Everyone*.
[37] NEC, *FASTER Cable System is Ready for Service, Boosts Trans-Pacific Capacity and Connectivity*, 2016.
[38] Facebook, *Introducing the Telecom Infra Project*, February 2016.
[39] Internet.org, *Connectivity lab*.
[40] Facebook, *Introducing Facebook's new terrestrial connectivity systems — Terragraph and Project ARIES*, April 2016.

COMMUNICATIONS
CHAMBERS

Whilst these technologies are at the trial stage, and it remains to be seen what works commercially, innovative approaches are required to bring internet connectivity to everyone.

Application providers have also invested in software which represents an increasing share of overall investment. In the 1960s-communication equipment accounted for nearly all ICT investment, whereas today it accounts for around 20%; with computers and software accounting for the remaining 20% and 60% respectively.[41]

To some extent software is also substituting for network capex, for example, by utilizing machine learning Google has substantially reduced the number of balloons required to cover a given area.[42] Other examples of software substituting for network capex are the use of VDSL (Very-high-bit-rate digital subscriber line) and software updates for mobile networks.

Partnerships are developing – recognizing the win-win opportunity

> "Either we'll go and compete heads on and destroy value for the next five years, or we'll do partnerships with OTTs and by creating value, go into the new industry connectiveness." Joseph Ged, CERO Ooredoo, Algeria.[43]

Rich Interaction apps have stimulated investment in broadband access, growing the network access layer. Further, application providers have invested in access, whilst network operators have

---

[41] Byrne and Corrado, *ICT Prices and ICT Services: What do they tell us about Productivity and Technology?*, July 2016. Figure 7.
[42] Google X, *How Project Loon's smart software learned to sail the winds*, February 2016.
[43] ITU, *ITU Telecom World 2014 - The Outcomes Future in focus*.

invested in applications. Partnerships are also of growing importance. These developments are illustrated in Figure 4.

Figure 4: Network & application layers, & interactions between them
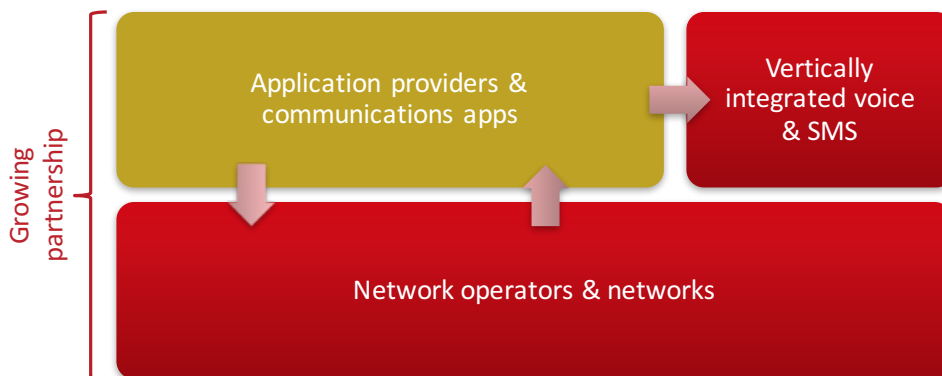
The growing trend towards partnership between the application and network layers is illustrated by the following examples. On 28 February, a joint initiative by Facebook and telcos to lay fibre to mobile base stations in Africa was announced:[44]

> "…collaborations with two different telcos in Uganda to lay about 480 miles of fibre in the northwest region of the African nation. The three companies plan to share this fibre with any other interested telco, distributing the internet to countless wireless towers and then on to an estimated 3 million people in the process."

On 27 February, Google announced a network technology partnership with telcos in Asia:[45]

> "…partnering with leading mobile network operators globally, including Bharti Airtel and SK Telecom, and building a platform for operators to run their network services."

In response, Bharti Airtel and SK Telekom stated that:

> "We look forward to collaborating with Google on this exciting initiative. It's great to see Google bring the benefits of their networking technologies to carriers. This will bring greater efficiencies and capabilities to mobile networks and enable us to rapidly innovate on new user experiences." Shyam Markikar, CTO, Wireless (India and South Asia), Bharti Airtel[46]

---

[44] Wired, *Facebook to Telcos: Forget Hardware Empires—Let's All Share*, 28 February 2017.
[45] Google blog, *Partnering toward the next generation of mobile networks*, 27 February 2017.
[46] Digital Trends, https://www.digitaldrends.com/business/google-bharti-airtel-sk-telecom/ 3 March 2017.

COMMUNICATIONS
CHAMBERS

> "We're excited to see Google bring their expertise in SDN, NFV and cloud to the carrier ecosystem. By working together, we can accelerate the transition to 5G and enable new use cases such as the application of machine learning to optimize network operations." Alex Choi, CTO, SK telecom.[47]

On 16 February Google announced a partnership with Telenor to extend RCS, a successor to SMS with additional features, to users in Europe and Asia:[48]

> "Over the past year, we've worked with the mobile industry on an initiative to upgrade SMS for people everywhere, providing a more enhanced messaging experience through RCS (Rich Communications Services). Today, we're excited to announce that we're partnering with Telenor to enable the launch of RCS messaging to their 214 million subscribers across Europe and Asia, including Norway, Denmark, Sweden, Hungary, Montenegro, Serbia, Bulgaria, Pakistan, Myanmar, Bangladesh, Thailand, Malaysia and India. Subscribers will have access to advanced messaging features as a standard part of their Android device."

A subsequent announcement noted that Orange, Deutsche Telekom, and Globe were committed to launching RCS messaging with Google, and that Vodafone had already launched RCS across 10 markets. [49]

An earlier initiative in 2014, that highlights the synergy between network and applications, was undertaken by Ericsson, Facebook and Axia working together to improve network performance and app coverage in Indonesia.[50] Commenting on the initiative Hasnul Suhaimi, Chief Executive Officer XL Axiata noted that:

> "We are very pleased to collaborate with Ericsson and Facebook as part of XL's commitment to deliver a consistently better user experience end-to-end, particularly in using data services. Recently the use of data services in Indonesia has increased significantly and is expected to continue. We believe this is the first time that an operator, network technology provider and application provider have cooperated on such a project. XL is proud to be selected by Facebook as operator partner in Indonesia. We believe app coverage is essential and correlating Facebook application

---

[47] Fierce Wireless, http://www.fiercewireless.com/tech/google-lending-sdn-expertise-to-airtel-sk-telecom 2 March 2017

[48] Google blog, _Partnering with Telenor to launch RCS messaging in Europe and Asia_, 16 February 2017.

[49] Google blog, _Delivering RCS messaging to Android users worldwide_, 24 February 2017.

[50] Ericsson, _Facebook, Ericsson and XL Axiata innovate to improve network performance for better app coverage and experience in Indonesia,_ October 2014.

COMMUNICATIONS
CHAMBERS

use cases with network-wide statistics has proven to be an innovative and efficient way to detect and address network optimization opportunities."

The above examples of partnership illustrate how application providers and network operators can work together to achieve a win-win, recognizing that apps stimulate network access demand and improved networks stimulate use of apps.

Given this, one might ask why some complain of a "free rider" problem? The answer is that some have been slower to adapt than others. The response should not be to protect those who are slow to adapt by extending regulation, rather regulation itself needs to adapt by increasing the scope for all market participants to innovate and invest. Less, not more, regulation is most likely to deliver this outcome.

5. The "level playing field" fallacy – actually legacy services benefit from integration

Fallacy:
The level "playing field" fallacy

- **Reality**
- Legacy services are advantaged by vertical integration
- Apps overcome this advantage via innovation & differentiation

The simplistic argument that legacy services are disadvantaged and that the playing field needs to be "levelled" in favour of telcos is wrong. Legacy voice and SMS services benefit substantially from vertical integration with networks. Further, whilst some aspects of telecoms regulation should be removed from legacy services, there is in general no sound basis for extending rules specific to network telecoms services to Rich Interaction apps (the "same service same rules" argument is considered in Section 6).

Advantages legacy services enjoy due to vertical integration

Legacy voice and SMS were developed as network integrated services prior to internet protocol. Tight integration offers a standard level of service and interoperability between networks (though not necessarily across network technologies, for example cellular versus Wi-Fi).

Integration offers the following competitive advantages for legacy voice and SMS versus network independent Rich Interaction apps:

- Legacy services have access to dedicated managed capacity versus Rich Interaction apps which utilize the internet.
- Legacy services can utilize 2G networks, which tends to offer significantly greater coverage than the 3G or 4G data networks required by most Rich Interaction apps.
- Legacy services are included by default by network operators.
- Legacy services have prominence on devices.
- Legacy services are part of a bundled offer, including internet access.

These are substantial commercial advantages, which Rich Interaction apps have had to overcome by innovating and differentiating themselves via new features.

COMMUNICATIONS
CHAMBERS

Rich Interaction apps help overcome problems due to vertical integration

Network operators have exploited the integration of legacy services to leverage market power, for example in relation to call termination. Rich Interaction apps have played a role in reducing scope for abuse of market power due to integration, as noted by the Nordic Regulators Group.[51]

Whilst Rich Interaction apps have eroded the market power of legacy services associated with vertical integration, the competitive playing field remains tilted – to the advantage of legacy services.

---

[51] Nordic Regulators Group, *The EU telecommunications legislation for the Digital Single Market*, July 2016.

COMMUNICATIONS
CHAMBERS

6. The "same service same rules" fallacy – technology & market differences matter

Fallacy: The "same service same rules" fallacy	•**Reality** •Telecoms regulation is motivated by scarcity & market power •These concerns do not apply to Rich Interaction apps •Technical & market differences matter

Legacy network services and Rich Interaction apps differ; indeed, it is through differentiation to overcome the advantages legacy services enjoy because of vertical integration that Rich Interaction apps have come to differ and offer new features consumers value.

A rule-by-rule assessment is appropriate, with the so called "same service same rule" concept offering no meaningful guidance for policy makers. This conclusion is consistent with a NERA-GSMA study which noted that: [52]

> "…differences in technology may require different regulatory treatment to achieve a common objective."

Differences between apps, integrated voice/SMS and networks

Figure 6 illustrates the differences in terms of competition and lock in between apps, integrated voice and SMS and networks.

Figure 6: Differences apps, integrated services and networks

Communications apps (best endeavours internet) – innovation, competition & multi-homing

Vertically integrated voice & SMS – lock-in & access to managed service

Networks – potential access bottlenecks & integration with voice & SMS

---

[52] NERA, *A new regulatory framework for the digital ecosystem*, 2016. Page 33.

A rule-by-rule assessment is appropriate

A rule-by-rule analysis, and exploration of scope to reduce legacy services regulation, as opposed to extending telco regulation to Rich Interaction apps, is appropriate. This approach has been proposed by the Nordic Regulators Group, a number of European governments and a study for the European Parliament.

Nordic Regulators Group

The Nordic Regulators Group have recommended a rule by rule assessment and reliance on horizontal rules where possible: [53]

> "The OTT development has happened at a very fast pace and is expected to continue to do so. In order to support market innovation, and new business models, the Nordic regulators recommend a cautious approach to regulation.
>
> Therefore, the Nordic regulators recommend that possibilities to simplify, modernize and lighten existing regulation should be pursued to achieve a level playing field for all companies and reduce regulatory burdens where possible. We recommend a rule by rule assessment where it is carefully considered if rules are fit for purpose, and – if regulation is deemed necessary – it should be considered whether horizontal regulation is able to handle the issues or an extension of the sector specific telecom regulation to include other players is needed."

Joint Letter to the European Commission from Belgium, Czech Republic, Denmark, Estonia, Ireland, Finland, Lithuania, Poland, Sweden, United Kingdom

In a letter to the European Commission the governments of Belgium, Czech Republic, Denmark, Estonia, Ireland, Finland, Lithuania, Poland, Sweden, and United Kingdom advocated caution in relation to the extension of telecoms regulation to Rich Interaction apps: [54]

> "We do not believe that automatically extending all consumer protection regulation provided by the framework to OTT services is the answer. For example, some consumer protection regulation addresses the scarcity of resources, such as numbering, upon which traditional services rely, but many OTT services do not. A proportionate approach is therefore needed to avoid unnecessarily burdensome regulation that will stifle innovative new services. Regulation should only be extended where there is strong evidence that

---

[53] Nordic Regulators Group, *The EU telecommunications legislation for the Digital Single Market*, July 2016.
[54] DCMS, *Joint letter to the Commission: Electronic Communications Framework Review*, January 2016.

COMMUNICATIONS
CHAMBERS

the interest of the consumer should be protected. The Commission should also consider deregulation of traditional telecoms services where this does not harm consumer interests, undermine regulatory enforcement powers or competition in the market, or compromise national security, public security or prevention, detection and prosecution of criminal offences. Such a proportionate approach should help to manage the financial and regulatory burden on the telecoms industry at a time where the Commission and Member States are looking for significant levels of investment in infrastructure and services."

Study for the European Parliament

A study for the European Parliament pointed to the need to consider the detail, and to the think through the relevance of different rules, rather than simply apply the notion of same services same rules:[55]

> "Applying the notion of "imposing similar obligations on OTT services to those imposed on equivalent traditional services is exceedingly challenging in practice. To what degree are the services in fact equivalent? Does the OTT service in fact raise the same issues as those to which regulation of the corresponding traditional service seeks to respond? Given the implementation differences between traditional versus online services, to what degree is it proportionate or realistic to impose equivalent obligations?"

Paper from seven governments regarding the proposed telecoms code

In a joint paper - a so called "non-paper" in Europe - the Czech Republic, Finland, Ireland, Latvia, Luxembourg, Sweden and the UK stated concluded, in relation to proposals in the European Electronic Communications Code, that:[56]

> "No clear evidence has been demonstrated that justifies including number-independent interpersonal communications services in the scope of access, interconnection or emergency services rules. Such inclusion – even only potentially, with safeguards – would risk creating uncertainty, harming investment incentives, raising costs and increasing red tape especially for smaller providers. This would be detrimental to the end user interest."

---

[55] WIK and TNO, *Over-the-Top (OTTs) players: Market dynamics and policy challenges*, December 2015.
[56] *Politico*, 21 February 2017.

COMMUNICATIONS CHAMBERS

Regulation addressing vertical integration is not relevant to apps

Sector specific regulation of telecoms operators relates primarily to scarce resources (spectrum and telephone numbers), market power and the incentives that may arise for discrimination due to vertical integration. These concerns are not relevant to Rich Interaction apps.

A reduction of sector specific regulation for legacy services may, however, be justified – in so far as it relates to potential abuse of market power, which competition from communication apps may have mitigated in relation to call origination, call termination[57] and roaming; but not network access.

Another aspect of regulation is intervention to ensure universal service, typically achieved via obligations or universal service funds (with government or industry funding). Typically, such interventions focus on network provision. Apps in general, including Rich Interaction apps, also help reduce the gap between commercial coverage and socially desired coverage by increasing consumer demand for coverage.

Another reason for regulation relates to the use of scarce public resources, including radio spectrum and taking telephone numbers from numbering pools. These rules are not relevant to Rich Interaction apps or apps providers, unless they are making use of such scarce resources.

Since legacy services take numbers from the numbering pool and control the number assigned to a customer and may be subject to contracts, number portability and contractual provisions, they may be regulated to support customer switching and competition. Constraints on switching do not apply to Rich Interaction apps. Consumers can have multiple apps on their device (multi-homing), and can readily download competing apps.

In Europe, DG Competition considered data portability in relation to the Facebook acquisition of WhatsApp and concluded that this did not represent a constraint on switching:[58]

> "First, all consumer communications apps are offered for free or at a very low price. Second, all consumer communications apps are easily downloadable on smartphones and can coexist on the same handset without taking much capacity. Third, once consumer

---

[57] Nordic Regulators Group, _The Digital Single Market Strategy_, August 2015.
[58] DG Competition, _Case No COMP/M.7217 - FACEBOOK/ WHATSAPP_, October 2014.

COMMUNICATIONS
CHAMBERS

communications apps are installed on a device, users can pass from one to another in no-time. Fourth, consumer communications apps are normally characterized by simple user interfaces so that learning costs of switching to a new app are minimal for consumers. Fifth, information about new apps is easily accessible given the ever increasing number of reviews of consumer communications apps on app stores." Paragraph 109

"…the Commission has not found any evidence suggesting that data portability issues would constitute a significant barrier to consumers' switching in the case of consumer communications apps." Paragraph 113

Other aspects of telecoms regulation are not applicable to apps

The appropriate approach in relation to other issues requires technical and economic appraisal. However, a high-level assessment of a number of other issues - set out below - indicates that application of a "level playing field" or "same service same rules" approach is not informative.

Interoperability

Interoperability between Rich Interaction apps does not appear to be a pressing issue. Consumers can utilize multiple apps (multi-homing) and operating systems offer unified interfaces for multiple underlying apps.

In addition, there may be a trade-off between interoperability and innovation, which may explain in part why legacy services – which have the benefit of being able to connect anyone on the telephone network with anyone else on the telephone network, did not evolve in terms of innovative features. As Viber founder Talmon Marco put it: [59]

> "You can choose to interoperate or innovate; you cannot do both at the same time."

Emergency services

Access to emergency services is predominantly via an emergency number, for example, 112 in Europe and 911 in the Americas, for which there is wide public awareness (complemented by SMS in some jurisdictions).

---

[59] The Verge, *Alone together: will one messaging app rule them all?*, May 2013.

COMMUNICATIONS
CHAMBERS

The integration of legacy voice, which runs over the public switched telephone network, and the ability to use more widely available 2G networks, is an advantage when it comes to contacting the emergency services, often in situations where urgency is a priority and can save lives. This is because emergency communications systems are built to connect directly with emergency first responders through the legacy telephone network. This allows the calling party to be automatically located and to be connected automatically to the appropriate first responder.

Emergency numbers may also work even where normal service would not be available, for example, without a SIM card. Legacy voice and SMS are also more economical than data services in terms of battery consumption.

It is against this backdrop that calls by some for Rich Interaction apps to provide access to emergency services should be appraised. Data service might not be available, even though calls via 2G may be available, and might not prove robust. Valuable time would be lost if users tried a communications app and reverted to legacy voice if the app failed to connect.

Consumers would also likely risk confusion over which applications allowed them to contact the emergency services and which did not, since communications are so widespread that it appears almost inconceivable that they would all be integrated with the emergency services (for example, could the emergency services be contacted from within games, dating and e-commerce apps – all of which may incorporate communications?).

It has proved difficult enough to educate consumers regarding the universal number 112 in Europe, with just over a quarter (26%) able to correctly identify 112 as the number to call anywhere in the EU in December 2015 – five years after its introduction.[60] Educating people regarding which apps they could use would prove more challenging.

It is also not clear that the emergency services themselves would relish the technical task and cost of making their systems compatible with multiple Rich Interaction apps (even attaining universal adoption of text-to-911 in the US has proved challenging[61]).

Indeed, the European Emergency Numbering Association and certain internet application providers jointly noted, during the discussion of the proposal for a European Electronic Communications Code (EECC) that reliability is an important consideration and that, "today, OTTs

---

[60] Eurobarometer, *The European emergency number 112*, February 2016.
[61] FCC, *What You Need to Know About Text-to-911*.

COMMUNICATIONS
CHAMBERS

do not have control over the network and network operators do not have control over the call from an OTT."[62]

Innovative online services have been introduced by some emergency service providers as a complement to, and not a substitute for, the usual means of contacting the emergency services. For example, the police in Jaipur have used WhatsApp as a means for the public to make complaints or share information regarding crimes.[63] This highlights the importance of allowing innovation in relation to Rich Interaction apps and their use to flourish – unimpeded by sector specific regulation.

The extension of emergency calling requirements to Rich Interaction apps and online services – at least those that are not interconnected with the telephone network - would appear fraught with the risk of public harm, given the limitations of data services versus normal calls and the possibility of confusion.

Legacy services are exempt from net neutrality

Net neutrality is open to a wide range of interpretations from a requirement that legal applications are not blocked, to limitations on service discrimination or, in the extreme, any prioritization of traffic.

Where specific provisions and guidelines have been introduced, for example, in Europe[64]; they do not in general apply to discrimination in favor of their own voice and SMS services by network access providers (a feature of vertical integration).

Whilst legacy services do not utilize internet protocol and internet access, they do compete with Rich Interaction apps that do. If the "same service same rule" approach was applied, then net neutrality provisions should also apply to legacy services.

Alternatively, legacy services and Rich Interaction apps may simply be viewed as different, thereby justifying different rules. It is, however, inconsistent to call – as a matter of principle - for the application of the same rules in one context, but not another.

---

[62] EENA, *Joint position paper from Microsoft, Google and the European Emergency Number Association*, March 2017.
[63] The Times of India, *Jaipur police launch WhatsApp helpline for people*, April 2016.
[64] BEREC, *Guidelines on the Implementation by National Regulators of European Net Neutrality Rules*, August 2016.

COMMUNICATIONS
CHAMBERS

7. Way forward – less regulation, more innovation

Regulation should be assessed on a rule-by-rule basis	• Altering the definition of telecommunications services would not answer the question of what, if any, regulation of Rich Interaction apps is appropriate • A case-by-case assessment, taking account of impacts on consumers and innovation, is required
Horizontal economy wide frameworks may be preferred	• Telecoms specific rules should be narrowly focussed on scarce resource inputs & network access bottlenecks • General horizontal law should apply to all services as appropriate • This would simplify regulation and maximise scope for innovaiton for all applications providers

We have concluded that telecoms rules are not in general applicable to Rich Interaction apps, should not be extended to them and that innovation in relation to apps is in part be attributable to the absence of regulation. The Australian Productivity Commission have noted the risk to innovation if regulation were extended:[65]

> "Simply extending regulation without an assessment of its consequences and differences in risk between traditional and new business models could quash innovative new approaches, reducing choice and resulting in consumers paying higher prices than they otherwise would."

We propose, instead, that the scope of legacy rules be narrowed; and that to the extent possible general horizontal competition and data protection law apply. This would increase the scope for innovation for all market participants, thereby benefiting consumer and enterprise users.

The boundary between telecoms & general law should be realigned

A more forward looking approach would be to recognize that Rich Interaction apps and other over-the-top applications are separating networks and applications (the market is delivering on what was considered a policy problem[66]).

---

[65] Australian Productivity Commission, *Telecommunications Universal Service Obligation – draft report*, November 2016.
[66] OECD, *Recommendation concerning Structural Separation in Regulated Industries*, 2001.

COMMUNICATIONS
CHAMBERS

A parallel consideration is whether the institutional approach to regulation of network access and applications should also be separated to reflect underlying differences in terms of competition and market dynamics between networks and applications. A study for the European Parliament expressed the issue as follows:[67]

> "…we note that sectoral regulation may prove increasingly difficult to interpret and implement in an increasingly horizontal digitalized society. Therefore, when applying rules to digital services, a preference should be given to horizontal rather than sectoral rules at EU level, in conjunction within self-and/or co- regulatory measures, potentially implemented at a global level. One implication may be to redefine the boundary of what is covered within the EU Framework for Electronic Communications, and thereby roll-back its provisions to address primarily (broadband) connectivity, leaving services as far as possible to be governed by horizontal rules."

An assessment for the European Parliament of proposals by the European Commission for a new communications code also concluded, in relation to messaging apps, that:[68]

> "Rather than extending special rules to OTTs and service providers, EU institutions should aim at improving and refining general legislation on consumer protection, privacy and security."

Consideration should be given to narrowing the scope of telecoms regulation to internet access services, specifically network access bottlenecks; and to leaving apps, including Rich Interaction apps, subject to general competition and other law including consumer and data protection laws. For example, the technology and telecom industries have called for the European e-Privacy Directive, which is specific to telecoms, to be repealed – with the General Data Protection Regulation (GDPR) alone applying to all services.[69]

Such institutional change requires action by governments, as opposed to action by telecoms regulators. Doing so would provide an assurance of innovation without permission, a principle that has done much to promote innovation, consumer and economic benefit.

---

[67] WIK and TNO, *Over-the-Top (OTTs) players: Market dynamics and policy challenges*, December 2015.

[68] European Parliament, *Reforming e-Communications Services: A Critical Assessment*, January 2017.

[69] CCIA, *Joint Industry Statement Empowering trust and innovation by repealing the e-Privacy Directive*, July 2016.

COMMUNICATIONS CHAMBERS