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Public administration in a democratic society: Thirty years of democratic transition in Europe

Market Policy Journey in Electronic Communications - From Monopoly to Gigabit Society

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Democratic transition in Europe apart from being apolitical process is also an economic one as former socialist European countries were in parallel abandoning the command economy and replacing it with free market principles enshrined in the founding Treaties of the EU. Most of these countries joined the EU as new Member States in 2004 and 2007, and so did Croatia in 2013. The transition of some markets i.e. network industries is still ongoing. In particular, the electronic communications sector as the pioneer turns 30 years of liberalization since EU Member States relinquished monopoly organizations and embraced challenges of the free market economy.

After several EU telecom regulatory frameworks in place, a new one consisting of the Directive establishing the European Electronic Communications Code and the BEREC Regulation entered into force recently in December 2018. Member States have to transpose the Code in national laws within two years i.e. 21 December 2020. Earlier in 2010, the European Commission adopted the Communication Europe 2020 - A strategy for smart, sustainable and inclusive growth. One of the flagship Initiative - Digital Agenda for Europe aimed at delivering economic and social benefits from the Digital Single Market based on fast Internet access for all by 2020, which will further increase in the future.

The paper addresses the initial idea of opening telecom services to competition in order to achieve greater value for money to consumers, and its subsequent evolution into a politically planned and supported process of fundamentally changing the traditional paradigm of economy and society into a virtual and digitalized one. Electronic communications have rapidly evolved from technological means of communication to a global governance and transaction platform connecting everything and everyone to the world's data-driven society and economy. One of the related and enduring issues is who will bear the cost of a fast fourth industrial revolution and what market policy and regulation would be appropriate.

Keywords: electronic communications, competition, digitalization, Code, Internet

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1. Introduction

Most challenging in network industries regulation is striking the balance in reaching of public goals by regulatory authorities. For instance, overly favourable access regulation with low access prices for competitors may increase public benefits in the short term such as consumer's choice and fair prices, but also diminish the willingness of well-established or dominant undertakings (incumbents) to invest and timely modernise their networks thereby eroding the overall technical substance of the country. The opposite with unfavourable access regulation may lead to competition extinction or a duopoly or oligopoly at best, known for practices such as price-fixing arrangements, market partitioning and across-the-board companies extra profits. When it comes to electronic communications, as European Commission President-elect Ursula von der Leyen recently stated: "Digitalisation has a huge impact on the way we live, work and communicate. We have to make our single market fit for the digital age, we need to make the most of artificial intelligence and big data, we have to improve on cybersecurity and we have to work hard for our technological sovereignty" (EU Commission, IP/19/5542, 2019). Competition has prevailed in electronic communication throughout the European Union (EU) as was anticipated some thirty years ago when market liberalisation started, and should stay intense at national level as long as the single EU telecom market becomes a reality with competitive pan-European licenced operators.

The paper addresses priorities in telecoms which have become more complex with the advent of the European Electronic Communications Code (Code), as well as the overall Internet paradigm that has gone beyond telecom services provision to a global platform for governance of economy and society involving issues such as Internet of things (IoT), cyber security, artificial intelligence (AI), etc. What may have changed over the last thirty years are not the goals in electronic communications i.e. promotion of competition, end-user interests and the development of the Internal EU market, but the technological, business and societal context in which these goals are achieved. Therefore, the Code recognises an important new goal – Internet connectivity¹.

¹Internet connectivity is articulated in terms of outcomes: widespread access to and take-up of very high capacity networks for all citizens of the Union and Union businesses on the basis of reasonable price and choice, effective and fair competition, open innovation, efficient use of radio spectrum, common rules and predictable regulatory approaches in the internal market and the necessary sector specific rules to safeguard the interests of citizens of the Union. For the Member States, the national regulatory and other competent authorities and the stakeholders, that connectivity objective translates, on the one hand,

Improving connectivity necessitate immediate and sustainable investments in electronic communications infrastructure and networks based on fast fixed (fiber to the home, FTTH) and mobile (5G) networks as enablers of digital economy and society. The Gigabit society will enable artificial intelligence (AI) involvement in countless social and economic contexts and enhanced exploitation of big data, i.e. smart cities and smart societies. Cryptocurrencies, worldwide electronic commerce, distance justice, distance medicine, distance learning, distance working, automated and driverless transportation are just some of the highlights of numerous new patterns of digital life in the near future².

AI is to become the principal societal transaction enabler. AI-based systems can be software-based, acting in the virtual world e.g. voice assistants, search engines, speech and face recognition systems, or AI can be embedded in hardware devices e.g. autonomous cars, drones or IoT applications (Commission Communication, Artificial Intelligence for Europe, 2018). To be operational AI needs access to big data channelled through quality networks, wireline as wireless. AI is one of the technologies that will transform the society in the upcoming decades and is the foundation of the fourth industrial revolution encompassing – Intelligent Public Administration, as was recently concluded on an academic level with regard to Administrative Law and Artificial Intelligence³. Accordingly, the regulatory framework of electronic communications needed revision in order to take into account these huge technological developments, so some differences are observable when comparing the initial and the upcoming

into aiming for the highest capacity networks and services economically sustainable in a given area, and, on the other, into pursuing territorial cohesion, in the sense of convergence in capacity available in different areas.

² AI refers to systems that display intelligent behaviour by analysing their environment, are self-learning and are taking actions with a degree of autonomy – to achieve specific goals.

³ Conclusions from the International Seminar on Administrative Law and Artificial Intelligence held at the University of Castilla La Mancha, Faculty of Legal and Social Sciences, 2019. Some of the conclusions were that: Public Administration of the future will not only be electronic but also intelligent (AI) and will require a very different profile of public servants, so it will be necessary to reflect and ensure the training of current and future civil servants, as well as the suitability of the civil service selection systems. This requires research on the impact that AI may have on Public Law and fundamental rights as well as the promotion of new mechanisms to guarantee these principles and rights by default and through design. Public law should be embedded in the technology source code. Law is responsible for the materialization of the Governance and Ethics of AI and its essential principles: the protection of dignity and human rights, justice, freedom, human autonomy versus artificial “autonomy”, justification and transparency. Regulatory compliance, privacy in the design, compliance with the requirements of competition law and other goods and ethical-legal values should be inserted in the code of the design and development of AI, especially in the public sector. For these reasons, it is essential to request the participation of legal experts in the design, implementation and use of AI systems.

EU telecom regulatory framework. Generally, the initial legal framework of liberalisation adopted some 30 years ago in the context of historical inefficiency of national monopolies and globalising economy where businesses were in need of affordable and flexible communications was dominantly competition driven, so competitors were expected to bring choice, innovation and overall consumer welfare. Differently, the recent major recast adopted at the end of 2018 i.e. the Code, puts greater emphasis on the connectivity goal, meaning building of networks allowing digitalisation of all aspects of physical environment.

2. Market liberalisation and regulatory cycles

The purpose of introducing competition into Europe's network industries i.e. telecom, energy, transport, etc. was to promote entrepreneurship and rivalry among firms, leading eventually to improved productivity of former public monopolies, better services, wider consumer choice and lower prices. Productivity improvements should have also played a role in stimulating the competitiveness of the European industry as a whole, when competing globally (Bergman, 1998, p. 5). The process of network industries liberalisation was a historical challenge, since it could only have happened if fair market conditions were in place timely allowing new entrants to compete with incumbent operators under government's management. Thus, to guarantee the fairness of the process *sui generis* public institutions were set up, independent sectoral National Regulatory Authorities (NRA) which alike National Competition Authorities (NCA) had to ensure a level playing field to all undertakings venturing into liberalised network industries. Competition in network industries typically requires some degree of cooperation between rival firms to enable the interconnectedness of their networks. New entrants will need to interconnect infrastructure with that of the dominant operator, so there is probability the vertically integrated operator abuse its dominant position either by refusing access and wholesale leasing of its legacy infrastructure, or by offering it on unfavourable or discriminatory terms⁴. The regulatory intervention may

⁴ Vertical integration has been in market economy for a long time an extensively discussed topic. Riordan (2005) summaries: The structure-conduct-performance perspective of the 1950s and 1960s viewed vertical integration suspiciously, worrying about exclusionary practices that foreclose competitors and leverage monopoly from one market to another. The Chicago School of the 1960s and 1970s rebutted these concerns by pointing out the weak microeconomic foundations of leverage theory, and explaining why vertical integration increases economic efficiency. Transaction Cost Economics of the 1970s and 1980s staked a middle ground, identifying new efficiency rationales for vertical integration, while cautioning that firms with market power may have strategic goals poorly aligned with consumer welfare. Recently, new literature on vertical foreclosure applies game-theoretic tools to develop new theories of strategic vertical

generally be light-handed or heavy handed, meaning in the former case that NCA mainly applies antitrust rules and in the latter case that very detailed sectoral rules on interconnection and wholesaling are elaborated by NRAs. Up to the 1990s, the provision of telecom services was ensured by a single operator that was historically owned by the State, with an exception in United Kingdom where the vertically integrated company British Telecom was privatised in 1984 and a duopoly market structure was organised (Newbery, 2001, p. 4).

As part of the first regulatory cycle (1987-2002) the European Commission issued a policy Green paper in 1987 which, among other, notes that convergence of telecommunications, data processing and audio-visual technologies is outdated traditional boundary lines between the networks and the terminals, and between services traditionally provided under monopoly and those provided in a competitive environment (Green Paper, COM/87/290, p. 9). For example, nowadays the IP protocol allows the display of several sources on a single (smart) device. At the time, the Commission proposed several EU policy positions, which allowed Member States to keep the telecom infrastructure and public voice telephony under monopoly, stressing that other services like corporate networks and value added services had to be liberalized. To regulate the relationship between monopoly infrastructure providers and competitive services providers a concept of Open Network Provision (ONP) was set up and further detailed in implementing legal instruments (Directive 90/387/EEC, Directive 95/62/EC). These policy positions were put later into EU law through the Directive 90/388/EEC and other common technical regulations such as Directive 91/263/EEC. Afterwards, followed the adoption of EU legislation in relation to satellite and mobile communications as new areas of liberalised services (Directive 94/46/EC, Directive 96/2/EEC). The Commission went on further with liberalisation, which came about by the adoption of the full competition Directive 96/19/EC, whereby Member States could maintain special and exclusive rights at latest until 1 January 1998 for voice telephony and for the establishment and provision of public telecommunications networks.

As part of the second regulatory cycle (2002-2018), the EU Parliament and Council adopted in March 2002 a package of sectoral regulation designed for converging electronic communications technologies (Directive 2002/19/EC, Directive 2002/20/EC, Directive 2002/21/EC, Directive 2002/22/EC, Directive 2002/58/EC). The principal policy objectives was to ensure consistent

integration and identify circumstances in which vertical integration alters industry conduct to the detriment of competitors and consumers.

regulation across the EU on the basis of competition law principles, theory and practice, to limit regulation to markets where there is a persistent market failure (Commission Competition Policy Report, 2006, p. 87). Regulation was based on the perspective that intervention on the market is necessary and beneficial only when it offers the solution to certain sorts of market power and in particular to market failures, which derive from formerly monopolistic market structures. At the outset of the second cycle, the Commission recommended 18 specific product and services markets both at wholesale and at retail level for ex ante regulation (EC Commission Recommendation, 2003). At the end of 2007, the Commission reduced the number of recommended markets for ex ante regulation to one retail and seven wholesale markets (EC Commission Recommendation, 2007). In 2014, the number of markets recommended by the Commission for ex ante regulation further dropped to four wholesale markets (EC Commission Recommendation, 2014)⁵. When identifying markets other than those set out in the Recommendation, national regulatory authorities should demonstrate, and the Commission will verify, that the following three criteria (test) are cumulatively met:

- a) Presence of high and non-transitory structural, legal or regulatory barriers to entry
- b) Market structure that does not tend towards effective competition within the relevant time horizon
- c) Competition law alone is insufficient to adequately address the identified market failures.

Regarding newly emerging markets, they have a particular place in regulation and should not to be subject to inappropriate ex ante regulatory obligations, even if there was a first-mover advantage and a market leader. Newly emerging markets are considered to comprise products or services where, due to their novelty, it is difficult to predict demand conditions or market entry and supply conditions, and consequently difficult to apply the three-criteria test. The purpose of not subjecting them to inappropriate ex ante regulatory obligations is to promote innovation.

⁵ The annex to the Commission Recommendation on relevant product and service markets lists:
Market 1: Wholesale call termination on individual public telephone networks provided at a fixed location
Market 2: Wholesale voice call termination on individual mobile networks
Market 3: a) Wholesale local access provided at a fixed location,
b) Wholesale central access provided at a fixed location for mass-market products
Market 4: Wholesale high-quality access provided at a fixed location

However, foreclosure of such markets by the leading undertaking should somehow be prevented.(EC Commission Staff Document, Guidelines on market analysis, 2018).

As EU Commissioner Monti pointed out in 2003, despite the process of liberalisation and the availability of competition law instruments, the EU has not reached market conditions in the electronic communications sector, which would allow *ex ante* regulation to be abandoned. Thus, the second regulatory cycle makes a clear move from an administrative approach to regulation, to a regulatory perspective based on competition analysis, law and practice (Speech/03/604). At that time the regulatory debate was, as nowadays 15 years later, among interest groups who on the one side advocated a facilities-based model of competition and on the other side interest groups who advocated a model of competition based on right of access. As Monti pointed, purist supporters of facilities-based competition, which often enjoyed a satisfactory market position in at least one Member State, should have asked themselves whether they would ever considered entering a new market, for example a market in another Member State. It would have been interesting to know how they would ever enter that market if not by becoming first a service providers, at least for some time, by buying access services from the incumbents of those Member States, until they have gained a large enough customer base. This is way Monti explained that - access, implies a certain degree of investment on the part of the access seeker in order to build own facilities necessary to interconnect with existing facilities of incumbents. Hence, liberalisation of network industries pursued by the Commission in a number of areas and in particular in the electronic communications industry, would in fact have never take place without access obligations. Monti concludes:

I believe that there is not necessarily a contradiction between access-based and facilities-based competition. Competition would never be able to develop, in the short term, if entrants were not able to gain access to the incumbent operator's network to start offering services. However, it must also be true that, in the longer term, the regulatory framework should privilege operators that base their competitive advantage on building their own infrastructure, simply because they are those who are likely to best improve the competitive conditions of the market. In order to reconcile access-based and facilities-based competition, it is necessary to take account of the time dimension. NRAs should provide incentives for competitors to seek access from the

incumbent in the shorter term and to rely increasingly more on building their own infrastructure in the longer term.

Ahead of passing, the Better Regulation Directive (2009/140/EC) and the Citizens' Right Directive (2009/136/EC) amending the second regulatory framework, the Commission reported in 2008 on the achieved second regulatory cycle results:

Reacting to increased competition, mainly from new entrants and cable operators, telecom network operators started to offer their customers convergent services fixed and mobile voice telephony, broadband internet and television, some years ago. To support this strategy, as well as to reduce costs in the medium term, investments by the network operators in the roll-out of optical fibre networks have already taken place or have been announced. The rollout of optical fibre networks itself will support broadband applications and services that increasingly require higher bandwidths. Retail competition has resulted in lower prices for electronic communications services. Consumers with a high usage profile, in particular, can in many cases benefit from flat rate fees for both fixed voice telephony and broadband internet. In general, prices for mobile services have also fallen during the year. The picture is one of increasing volume of communications and falling prices, suggesting that the average European consumer of electronic communications services in 2008 was better off than in the previous year (Commission Staff Working Document, 2008, p. 55).

Several years later in 2016, approaching the end of the second regulatory cycle, the Commission went on by concluding that:

The second regulatory cycle has broadly achieved its general objective of ensuring a competitive sector that provides significant end-user benefits. Nevertheless, while its main objectives - promoting competition, developing the internal market and promoting the interests of end-users - remained relevant, a review was needed to address the growing need for increased connectivity of the digital single market and to streamline provisions taking into account market and technological developments (Commission Staff Working Document, 2016, p. 5). Before presenting and discussing the outcome of the third EU electronic communications regulatory cycle adopted recently at the end of last year (2018 - on), in the next section we will briefly outline the main reasons why the Commission added a regulatory objective - Internet connectivity, as a policy priority.

3. Creating a digitally connected Europe

In the online world the EU's freedoms - the free movement of goods, capital, services and labour are yet to be achieved. For example, the difficulty for customers was to use online subscriptions while traveling, as streaming of pay TV might be unavailable abroad. To ensure cross-border portability of online content services in the internal market an EU legislation was recently adopted (Regulation EU/2017/1128). Consumers could have also faced unjustified geo-blocking from accessing goods and services online in other countries, for example requiring payment with a debit or credit card from a specific country only. Thus, trade in EU was hampered on the expense of consumers based on their nationality, place of residence or establishment. This has been remedied by EU legislation as well (Regulation EU/2018/302). Further, prices charged for delivery of small parcels to another Member State are often much higher than domestic prices, without a clear correlation to the real costs. Most of companies that wish to sell online say that high delivery costs are a problem. Many EU businesses are dependent on online platforms to reach their customers, therefore the EU has explored the way to improve cross border e-commerce in order to make prices more transparent and competitive (Study E-commerce, Wik Consult, 2019). Previously, high roaming prices for using phone abroad in EU were the rule, to recall in 2007, over 0.50 euro per minute for a voice call, 0.28 euro for an SMS and 6.00 euro per GB of data. These prices have been brought to domestic prices in 2017 with roam like at home principle, within the limits of fair use policy of the operator ((Regulation EU/531/2012; Commission Implementing Regulation EU/2016/2286). High prices were noticeable for international calls in the EU as well i.e. number-based interpersonal communications originating in the Member State of the consumer's domestic provider and terminating at any fixed or mobile number in another Member State, so they were recently reduced to ensure that consumers are not charged excessive prices (Regulation EU/2018/1971, art. 50)⁶. Much has changed therefore in the interest of consumers, thanks to EU legislation.

The transforming of economy and society into virtual ones has opened up questions of modern infrastructure and adequate network capacities to serve the increasing need for ultrafast Internet.

⁶ As of 15 May 2019, phone calls via landline and mobile phone or SMS made from one EU country to another are capped at 19 cents per minute (+VAT) and 6 cents per SMS (+VAT).

The Digital Agenda was one of the seven flagship initiatives proposed by the European Commission in its Europe 2020 Communication which outlines Europe's general economic strategy for the period between 2010 and 2020 (Communication - Digital Agenda Europe, 2010; Communication - Strategy for smart, sustainable and inclusive growth, 2010). It has been elaborated further in a next Commission's Communication aimed at driving European growth - digitally. The general conclusion of the Commission is that:

Europe has so far lagged behind other advanced economies in understanding that the use of ICT is a fundamental policy instrument in driving the creation of value and societal change. The strategic use of ICT has the potential to quickly realise a virtuous cycle that transforms efficiency into growth. ICT technology allows to dramatically reducing the cost of providing the quality of the welfare State that has been the distinctive element of modern European society, bringing more personalised health care, better education and more democratic participation to public life. For companies, the massive introduction of ICT implies reaching their customers more effectively, boosting productivity and improving operational efficiency. It also creates vast opportunities for young entrepreneurship and professionals, while enabling the elderly to remain active and connected (Communication, Digital Agenda for Europe, 2012, p. 13).

As a follow up, the European Commission announced in 2015 its Digital Single Market Strategy for Europe. The strategy includes several actions among which: reform of telecoms regulatory framework; contract rules for cross-border e-commerce; cooperation between consumer protection authorities; cross-border parcel delivery; geo-blocking; copyright reform; online platforms and intermediaries; e-privacy; cyber-security; interoperability and standardisation; big data, cloud, Internet of Things, e-government, etc. These actions were designed to allow access for consumers and businesses to online goods and services across Europe and maximizing the growth potential of the European digital economy. Besides, in the recent years extensive efforts were undertaken by EU institutions recalling that digitalisation is essential for the competitiveness, cohesion and security of Europe⁷. A huge quantity increase of digital data

⁷ Some of the documents and reunions held are illustrative of the most relevant topics in digital policies:
- Commission Communication of 14 September 2016 on Connectivity for a Competitive Digital Single Market - Towards a European Gigabit Society.
- Tallinn Declaration on eGovernment of 6 October 2017.
- Commission's Communication of 25 April 2018 on Artificial Intelligence for Europe.

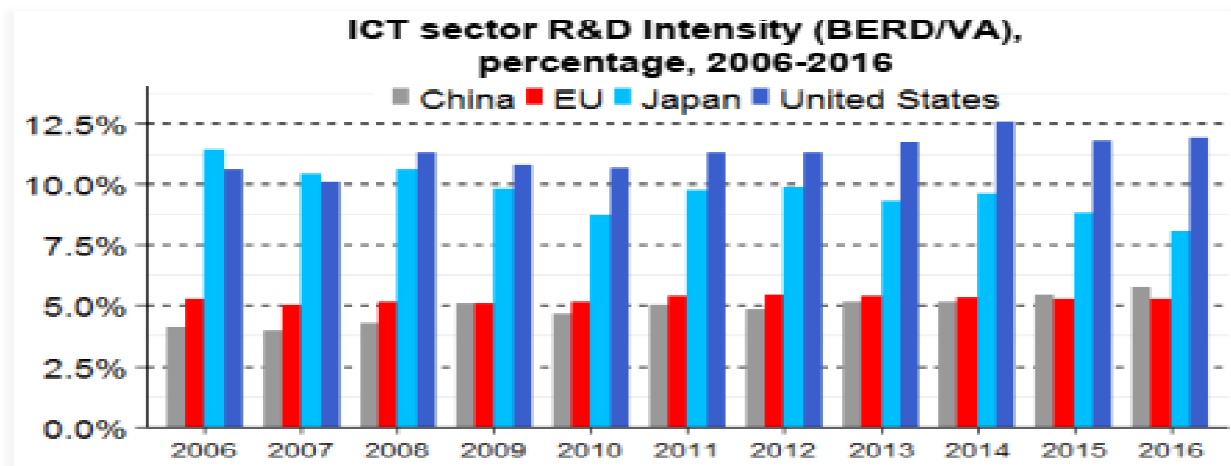
means that fast internet connections are needed not only for European businesses to remain competitive in the global economy, but also for promoting civil social inclusion. At the time, as part of the Europe 2020 strategy, the EU set three targets for broadband, transposed by Member States (Strategija razvoja širokopoljavnog pristupa u RH u razdoblju od 2016. do 2020.). By 2013, to bring basic broadband up to 30 Mbps to all citizens; by 2020, to provide all citizens with fast broadband over 30 Mbps; and by 2020, to ensure take-up by 50 % or more of European households to ultra-fast broadband of over 100 Mbps. To support these ambitious objectives, the EU has implemented a series of policies and regulatory measures and has made 15 billion euro available to Member States in the period 2014-2020, through a variety of funding sources, including 5.6 billion euro in loans from the European Investment Bank (EU Court of Auditors, Broadband Report, 2018, p. 6)⁸.

Likewise, the EU Council calls for a European policy that both supports innovation and the European key digital technologies not only enabling the development and use of artificial intelligence, but also ensuring its integration into the internal processes of companies of all sizes: start-ups, SMEs, and scale-ups, and also ensuring international cooperation so that Europe becomes a world leader in this sector (EU Council Conclusions, Future of highly digitised Europe, 2019). The EU Council underlines the need to make Europe a space for enabling the development of new digital companies in the EU, which have the potential to become the global digital champions of the future. In this regard, Europe must reduce the unjustified financial and administrative barriers to digital entrepreneurship, as well as develop, attract and retain talent to boost the creation and scale up of European start-ups. Artificial intelligence, quantum technologies, ledger technologies and supercomputers need to process large amounts of data and bring benefits to society in many areas. However, today, compared to its competitors from China,

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- Council conclusions of 27 November 2018 on the strengthening of European content in the digital economy.
 - Commission Communication of 8 April 2019 on Building Trust in Human-Centric Artificial Intelligence.
 - Council conclusions of 21 and 22 March 2019 on jobs, growth and competitiveness.
 - Ministerial Meeting of 1 March 2019 on the future of a highly digitised Europe beyond 2020.
 - Council conclusions of 18 February 2019 on the coordinated plan on artificial intelligence.

⁸ The Court found out, among other, that broadband coverage has generally been improving across the EU, but that the Europe 2020 targets will not all be achieved. Rural areas, where there is less incentive for the private sector to invest in broadband provision, remain less well connected than cities, and take-up of ultra-fast broadband is significantly behind target.

Japan or the United States, Europe is underinvesting in high-performance computing, with a funding gap of €500-750 million per year. As a result, European scientists and industry increasingly process their data outside the EU (Digital single market for the benefit of all Europeans, 2019). According to the Digital Economy and society, Index (DESI) the following table shows that EU ICT sector and its R&D performance need to be improved in the international perspective⁹.

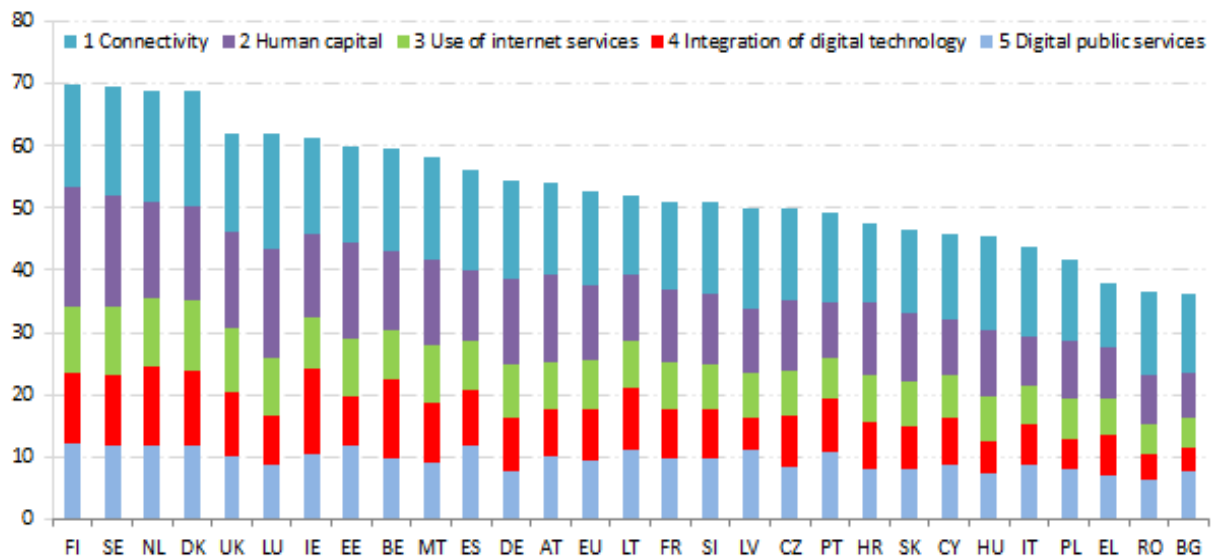


Source: European Commission, DESI report 2019.

Overall, the following table shows the progress of individual Member States according to the criteria of connectivity, human capital, use of Internet services, integration of digital technology and digital public services.

⁹ The Digital Economy and Society Index (DESI) is a composite index that summarises relevant indicators on Europe's digital performance and tracks the evolution of EU member states in digital competitiveness.

Digital Economy and Society Index (DESI) 2019 ranking



Source: European Commission, DESI report 2019.

As part of the next 8 years long-term EU budget - the Multiannual Financial Framework the EU Commission has proposed the Digital Europe Programme focusing on the digital transformation of Europe with a planned overall budget of €9.2 billion. The programme will allow necessary investments in supercomputing, artificial intelligence, cybersecurity, advanced digital skills, and ensuring a wide use of digital technologies across the economy and society (Regulation Digital Europe Programme proposal 2021-2027, 2018). Digital Europe Programme complements other EU programmes, such as the Horizon Europe programme for research and innovation, as well as the Connecting Europe Facility (CEF)¹⁰ for digital infrastructure. The current CEF programming period 2014-2020 for the telecommunications pillar has a budget of €1 billion mostly dedicated to Digital Service Infrastructures and the rest is for broadband (Regulation CEF, EU/1316/2013). For the 2021-2027 period (CEF2), the Commission proposed an increase to 3 billion euros for digitalization of European industry and the modernization of sectors like transport, energy, healthcare and public administration. EU Member States are as well welcome to provide state aid for legitimate broadband objectives as well (Communication from the Commission — EU Guidelines for the application of State aid rules in relation to the rapid deployment of broadband

¹⁰ The CEF is a funding program that supports trans-European networks and infrastructures in the sectors of transport, telecommunications and energy.

networks, 2013). Another initiative at EU level was to establish the European Broadband Competence Offices (BCOs) network with the purpose of supporting Member States to reach the Digital Single Market and Gigabit Society objectives¹¹. As noted across EU policy documents, digital technologies have changed the ways production, distribution and access to creative content is done, opening up new opportunities on the one side but perhaps making it difficult on the other side for creators, traders and other clients to negotiate with online platforms the terms and conditions of use. The issue of dominance in the digital economy is gaining more and more attention from European policy makers, so further research will deal with the concept of platform neutrality. Consumers have an abundance of choices in the digital world where platforms function as intermediaries in filtering options for consumers. Therefore, in UK and the Netherlands relevant public bodies are working on new approaches for dealing with dominant online platforms and possibilities of ex ante regulation. The EU has very recently adopted a Regulation with the purpose of ensuring, among other, that business users of online intermediation services are granted appropriate transparency, fairness and effective redress possibilities (Regulation EU/2019/1150)¹².

4. The Code

¹¹ The European Broadband Competence Offices Network is a European Commission initiative, www.bconetwork.eu.

¹² Small businesses should benefit from:

Ban on certain unfair practices

- Digital platforms cannot suspend or terminate a seller's account without reasons and possibilities to appeal.

- Terms and conditions must be easily available. Changes to the terms and conditions notification at least 15 days prior to allow companies to adapt their business to these changes.

Greater transparency in online platforms

- Transparent ranking. Marketplaces and search engines have to disclose the main parameters they use to rank goods and services, to help sellers understand how to optimize their presence.

- Online platforms not only providing the marketplace, but also selling on the same marketplace must disclose any advantage they may give to their own products over others, such as what data they collect and share with other business partners.

Dispute resolution fora

- Platforms have to set up an internal complaint handling system to assist business users with some exceptions.

- Platforms have to provide businesses with options to resolve a potential problem out of courts through mediators.

- Member States can appoint public authorities with enforcement powers, so businesses could turn to those authorities.

Considering afore mentioned and that main European telecom rules were last updated in 2009, making them fit for the digital era took the Commission to follow a new approach by merging existing second cycle legislation and recasting it into a single piece of legislation (third cycle). The Commission proposed a new Directive establishing the European Electronic Communications Code in September 2016, which was adopted at the very end of 2018. Member States have until 21 December 2020 to transpose the Code into national legislation (Directive EU/2018/1972). Overall, the Code aimed at introducing new measures to stimulate investment in very high capacity (VHC) networks in the EU necessary for connectivity and user take-up, as well as new spectrum rules for mobile connectivity and 5G¹³. The convergence of telecommunications, media and information technology sectors means that all electronic communications networks and services should be covered to the extent possible by a single Directive, with due exceptions as the content of services delivered over electronic communications networks using electronic communications services, such as broadcasting content, financial services and certain information society services (Code, par. 7).

The Code in addition to the existing three primary objectives i.e. promoting competition, the internal market and end-user interests, pursue an additional - connectivity objective¹⁴. The Code aims to progressively reduce ex ante sector-specific rules as competition in the markets develops and, ultimately, to ensure electronic communications are governed only by competition law. Obligations at wholesale level should be imposed where otherwise one or more retail markets are not likely to become effectively competitive in the absence of those obligations. It is likely that national regulatory authorities are gradually, through the process of market analysis, able to find retail markets to be competitive even in the absence of wholesale regulation, especially taking into account expected improvements in innovation and competition (Code, par. 29).

Due to current uncertainty regarding the rate of materialisation of demand for VHC broadband services as well as general economies of scale and density, co-investment agreements are encouraged as they offer significant benefits in terms of pooling of costs and risks, enabling

¹³ 5G is the fifth generation cellular network technology. Latency is how long it takes the network to respond to a request, for example loading a website. As it has to respond before it even starts loading, over 3G response times are typically around 120 milliseconds and on 4G they are between 15 and 60 milliseconds. In theory on 5G, response times will drop to just one millisecond.

¹⁴ The connectivity objective aims at widespread access to and take-up of VHC networks for all citizens and businesses of EU based on reasonable price and choice, competition, innovation, efficient use of radio spectrum, predictable regulatory approaches in the internal market.

smaller-scale undertakings to invest on economically rational terms, including in areas where infrastructure-based competition might not be efficient¹⁵. Such co-investments can take different forms, including co-ownership of network assets or long-term risk sharing through co-financing or through purchase agreements. Where an undertaking designated as having significant market power (SMP) makes an offer for co-investment in VHC networks that consist of optical fibre elements up to the end-user premises or the base station, providing an opportunity to undertakings of different sizes and financial capacity to become infrastructure co-investors, the NRA should be able to refrain from imposing regulatory obligations on the new VHC network if at least one potential co-investor has entered into a co-investment agreement with that undertaking. The Commission when BEREC shares its serious doubts as to the compatibility of the NRA's draft measure refraining from imposing obligations, may require the NRA to withdraw it in order to enhance the consistent regulatory practice across the EU (Code, par. 198-201)¹⁶.

As expected, while drafting the Code critical tones have been voiced particularly from telecom operator's associations who were hoping for more pro-investment provisions – ETNO¹⁷, or more pro-competition provisions – ECTA¹⁸. Firstly, illustrative is the statement of Phillip Malloch, ETNO Executive Board Chair, that the new Code was a once in a decade opportunity to take the policy decisions required Europe to become a catalyst to investment to keep pace in the shifting global economy. According to him, it was an opportunity that has been missed and it is a huge shame that the major investors in infrastructure will face additional and unnecessary headwind in building a true Gigabit society. According to ETNO, the Code will not ignite the much-needed

¹⁵Commercial access agreements limited to the rental of capacity are not considered as co-investments.

¹⁶In the interest of efficiency, an NRA should be able to submit a single notification to the Commission of a draft measure that relates to a co-investment scheme that meets the relevant conditions.

¹⁷ European Telecommunications Network Operators Association, ETNO since 1992 has become the principal policy group for European electronic communications network operators. Its members are pan-European operators that also hold new entrant positions outside their national markets. ETNO brings together the main investors representing 70% of total sector investment, <https://www.etno.eu>

¹⁸ European Competitive Telecommunications Association is a pan-European pro-competitive trade association that represents more than a 100 of challenger telecoms operators and digital solutions providers across Europe. ECTA believes competition is the best driver of efficient investments and the greatest enabler of innovation and choice, and that a fair regulatory environment allows all electronic communications providers to compete on level terms, <https://www.ectaportal.com>

rush to invest in 5G mobile networks and fibre fixed networks, but it will add complexity to an already burdensome regulatory system¹⁹.

Secondly, ECTA illustratively entitled its open critical letter concerning the Code - The end of competition in EU electronic communications will cripple the Connected Digital Single Market. As Luc Hindryckx ECTA Executive Director explains, the existing regulatory framework the proposed Codewill replace was anchored to three objectives, promoting competition, the internal market and citizen interests. TheCode adds to these objectives the promotion of access to and uptake of VHC connectivity. Generally, the past regulatory framework relied on competition to spur investment, while using safeguards against undertakings with significant market power (SMP). Accordingly, experience has shown this to be the right choice as competition has driven investment and continues to do so. The Codenow creates investment incentives for former monopolists through regulatory relief, while threatening their competitors with extensive - symmetrical obligations without regard to their actual power in the marketplace. According to ECTA, the Code puts the competitive fabric of EU electronic communications at risk, and the result will be a loss of competitive momentum, innovation, service-based competition, jobs and industry trust, increased consumer dissatisfaction as well as decreased competitive pressure on former monopolists. While these effects will appear at different speeds throughout the EU member states, there is only one guaranteed way of avoiding them altogether: preserving the integrity of the SMP regime. Otherwise, VHC connectivity may come at a high price indeed, if it comes at all. ECTA saysthere is little economic rationale to the proposed Code other than improving the balance sheets of the biggest undertakings, and notably of those who already hold SMP and,besides, have always been free to invest²⁰.

Thirdly, BEREC²¹ the EU association ofNRAsnoted during the drafting of theCodethat it contains a series of restrictions on NRAs' ability to promote competition in the name of incentivising

¹⁹ <https://www.etno.eu/news/all-news/420-etno-believes-the-electronic-communications-code-is-a-missed-opportunity>.

²⁰ ECTA Press Releases Open letter to negotiators: The end of competition in EU electronic communications will cripple the Connected Digital Single Market 14 May 2018 <https://www.ectaportal.com/news/ecta-press-releases/809-open-letter-to-negotiators>.

²¹Body of European Regulators of Electronic CommunicationBEREC is the Body of European Regulators for Electronic Communications established by Regulation (EU) 2018/1971 of the European Parliament and of the Council of 11 December 2018, which replaced the previous one – Regulation (EC) No 1211/2009. BEREC commenced its activities in January 2010. BEREC is composed of the Heads or

investment, which creates a risk that connectivity is pursued to the detriment of both competition, and ultimately, investment. BEREC's analysis of these proposals is collected in four papers on access regulation i.e. co-investment, market analysis, vertically separate undertakings and an earlier paper on non-competitive oligopolies. It is estimated that a number of provisions proposed would require the removal of or forbearance from regulation based not on a regular robust economic analysis but on rigid assumptions defined in the draft Code. Despite explicitly recognising the importance of the integrity of the SMP framework in public statements and in its explanatory memorandum to the draft Code, the Commission contradicts this principle by proposing deregulation outside of the market analysis process and wants to create a separate framework for the regulation of - very high-capacity networks, as an exception to the SMP framework. BEREC disagrees with this approach, which undermines the principle of technology neutrality and introduces substantial regulatory uncertainty by anchoring legal provisions to a vague and aspirational definition of "VHC" networks. In brief, for BEREC competition and investment are equally important objectives that can be pursued jointly, and should not be pursued at each other's expense. Regulation is not the enemy of investment - but regulatory uncertainty is. Deregulation is not the panacea that will unleash the significant sums of capital needed to meet the Commission's ambitious political targets for a Gigabit society. In fact, just as over-regulation or disproportionate regulation can undermine investment incentives for both incumbents and new entrants, so can its reduction (BEREC, BoR 17/83).

5. Competition policy for the digital economy

Enabling competition in fast changing digital economy seems to be a challenging task for NRAs and NCAs, requiring cooperation of all public stakeholders in search of remedies for newly emerging dominant positions and the risk of their abuse in the Gigabit society environment. One of the initiatives of a kind took place recently when the competition authorities of the G7 countries (Canada, France, Germany, Italy, Japan, United Kingdom, USA), together with the European Commission, presented a document entitled Competition and Digital Economy (G7 Competition Authorities, Common Understanding, 2019). It represents G7 competition authorities' joint views on how competition plays out in the digital economy, along four main

nominated high-level representatives of the National Regulatory Authorities (NRAs) of the EU Member States, <https://berec.europa.eu>.

ideas. Firstly, competitive markets are key to well-functioning economies and the many benefits of the digital economy can best be realized if digital markets remain competitive. Secondly, competition law is flexible and fit for purpose in the digital era – yet it is necessary for competition authorities to improve continuously the tools and means to deepen their knowledge of new business models and their impact on competition. Thirdly, governments should assess whether existing and envisaged laws or regulations unnecessarily hinder market entry in digital markets and that sharing a competition authority's knowledge throughout government helps promote a competitive digital marketplace. Fourthly, given the borderless nature of the digital economy, it is important to promote greater international cooperation and convergence in the application of competition laws.

Another major initiative was the recent European Commission's conference entitled - Shaping Competition Policy in the Era of Digitalisation, which took place beginning of 2019. It was part of the Commission's ongoing review of - how competition policy can best serve European consumers in a fast-changing world. According to the EC Commissioner for competition Margrethe Vestager, common concerns in the era of digitalisation relates to three main themes. Firstly, access to data, and the issue that a handful of companies control data, which is a vital tool for doing business for other companies. Secondly, market power of big online platforms and the way they treat consumers (platform-to-consumer, P2C) and businesses (platform-to-business, P2B). Thirdly, preserving innovation in digital markets where incumbents tend to acquire innovative start-ups allegedly to fend off future competitive threats, so-called killer acquisitions cases²².

The Commission wanted to review how serious these concerns are, and what the EU competition policy should do to address them. As was noted by Vestager at the conference “we do not know if we should just re-interpret the rules that we have already, or whether we should add new rules, but shaping digitisation is necessary or it will shape us”. This seemsto require choices between different policies, tools and priorities. To identify key policy digital challenges the Commission has decided to set up a panel of advisers among independent academic experts with the objective to seek their input on upcoming digital changes that will affect markets and consumers, and on

²² http://ec.europa.eu/competition/scp19/index_en.html

their implications for competition policy²³. The Final Report pointed, among other, to three characteristics of the digital economy²⁴:

- Extreme returns to scale, meaning the cost of production of digital services is extremely low and can result in significant competitive advantage for incumbents.
- Network externalities, meaning it is not enough for a competitor to offer better quality and lower price compared to the incumbent, but has to convince incumbent's users to migrate to his own services. Existing network effects may be difficult to overcome even for new superior platforms and depends on factors like multi-homing, data portability and data interoperability.
- Role of data, meaning that without access to large amount of stored data it is difficult to develop new, innovative services and is a key ingredient for online production, processes and logistics.

A consequence of these characteristics is the presence of strong – economies of scope, which favour the development of ecosystems and give incumbents an important competitive advantage. It seems that large incumbent digital companies are very difficult to dislodge, and there is a reasonable concern that these dominant firms have strong incentives to engage in anti-competitive behaviour. This requires vigorous competition policy enforcement and justify adjustments to the way competition law is applied.

Consequently, experts highlighted some competition related issues and recommendations, summarily:

- In order to avoid under-enforcement, the standard of proof rule as well as the theory of harm should be revisited. Accordingly, presumptions against dominant undertakings in highly concentrated markets with strong network effects where dominant platforms control sets of users or aggregated data competitors cannot reproduce, should not be disallowed. Dominant undertakings would have to argue that potentially anticompetitive strategies favour consumer welfare, rather than authorities having to prove competitive harm to intervene.

²³Digitization means that markets are going through many changes, not just technology markets, but many markets in the European economy. The European Commission has appointed H. Schweitzer, J. Cremer and Y-A. deMontjoye as Special Advisers focusing on the future challenges of digitization for competition policy.

²⁴ Competition Policy for the digital era, Final Report, European Commission, European Union, 2019.

- When measuring market power, competition authorities should consider behavioural economics about the strength of the consumers' biases towards default options, the status of an unavoidable trading partner and data possession leading to market dominance.
- Attention should be given to the role of dominant platforms when acting as regulators, i.e. setting up of rules through which users interact, by designing rules in a way that allows it to engage in abusive self-preferencing or tempering with ranking of results displayed to consumers on the platform.
- Dominant undertakings should not be allowed to restrict multihoming, i.e. using several providers of the same or similar service in parallel and data portability that allows users to transfer elsewhere the data that a platform has collected about them and possibly more stringent data portability regime can be imposed on dominant firms in order to overcome pronounced lock-in effects. EU General Data Protection Regulation (GDPR) sets the right to receive a copy of relevant accumulated past data thus facilitating data subject's switching between services, and sector specific regulation might be used to ease data access and open secondary markets for complementary services.
- Data sharing and data pooling arrangement can have procompetitive effects in terms of developing innovative services, but care has to be taken that they do not result in collusive behaviour denying access to competitors and foreclosing the market or making it suitable for exploitative practices. Data access rights should be distinguished according to criteria and in particular, the indispensability of access to compete on the relevant market, or usage of data for business purposes that are unrelated to the market served by the dominant firm. For example, access to data with the purpose of training AI algorithms for unrelated purposes. Competition law could be used in the former case and regulation in the latter case.
- Control of mergers in particular with conglomerate effects, attention should be given to so-called killer acquisitions conducted by dominant incumbents i.e. platforms and ecosystems that benefit from strong network effects and data access acting as significant barriers to entry, of start-ups with relatively low turnover but with fast growing user base and a high future market potential. Such takeovers may entail durable loss of potential competition within a technological ecosystem. Experiences with transaction-value merger control thresholds as applied in some

Member States like Austria or Germany should be monitored before being possibly introduced at EU.

As a possible remedy to challenges above, a speaker at the Conference J. Tirol, Nobel Prize winner, proposed exploring the option of - participative antitrust, as a way to address the drawbacks of classic competition law approaches in the digital economy i.e. too slow, too late, remedies not obvious. This implies that stakeholders interact with the competition authority and propose innovative solutions to the perceived problems. In relation to the broader EU industrial policy, which overwhelmingly becomes digitalised, Tirole pointed out to the innovation and entrepreneurial gap between Europe, USA and China in terms of Internet leadership, the fast growth of Internet based companies and start-ups²⁵.

Public / Private Internet Companies, Ranked by Market Valuation (5/29/18)

Rank 2018	Company	Region	Market Value (\$B)	
			5/29/13	5/29/18
1)	Apple	USA	\$418	\$924
2)	Amazon	USA	121	783
3)	Microsoft	USA	291	753
4)	Google / Alphabet	USA	288	739
5)	Facebook	USA	56	538
6)	Alibaba	China	--	509
7)	Tencent	China	71	483
8)	Netflix	USA	13	152
9)	Ant Financial	China	--	150
10)	eBay + PayPal*	USA	71	133
11)	Booking Holdings	USA	41	100
12)	Salesforce.com	USA	25	94
13)	Baidu	China	34	84
14)	Xiaomi	China	--	75
15)	Uber	USA	--	72
16)	Didi Chuxing	China	--	56
17)	JD.com	China	--	52
18)	Airbnb	USA	--	31
19)	Meituan-Dianping	China	--	30
20)	Toutiao	China	--	30
Total			\$1,429	\$5,788

Source: Kleiner Perkins, 2018.

Aware of the gap, the EU Commission President J.C. Juncker stated back in 2015 at the occasion of adoption of the European Digital Single Market Strategy, "I want to see pan-continental telecoms networks, digital services that cross borders and a wave of innovative European start-ups. I want to see every consumer getting the best deals and every business accessing the widest

²⁵ <https://www.kleinerperkins.com/perspectives/internet-trends-report-2018>

market – wherever they are in Europe” (EC Commission press release, 2015)²⁶. In support of those goals, when working on market policies for the Digital Age the EU institutions and Member States are welcome to devise different neutral state aid measures to ease the deployment of VHC networks. Along this, NRAs applying the Code will have a delicate task to conciliate different regulatory objectives for the Digital Single Market, as well as NCAs facing competition challenges powered by globalised markets and vertically integrated digital platforms.

6. Conclusion

The fourth industrial revolution is happening right now and the EU electronic communications Code seems to have stirred up vivid discussion among stakeholders in the industry over the future developments and possible winners and losers in telecoms. The agony surrounding the legislative process could, even be compared to the one back in the late 1980s and the 1990s when market policy discussion was whether liberalisation of telecoms and other network industries should ever happen, and if affirmative to what extent, considering national interests and overall EU Treaty goals. Global comparison of EU digital markets with primarily USA, China, and other countries leading the building of the Gigabit society relying on the Internet of things, digitalised services and artificial intelligence, has been the dominant reason to put greater emphasis in the Code on the goal of widespread Internet connectivity. The journey that started nearly 30 years ago with liberalisation of EU telecoms in pursuit of efficient national monopolies, affordable prices and competition, has entered into a global race for high-capacity broadband networks, mobile and fixed, needed for connecting countless digitalised information sources fuelling artificial intelligence that in turn should bring economic and political advantage to leading countries. The application of the Code will undoubtedly present a challenge to find the right regulatory balance for the NRAs in their home countries, the BEREC with its EU harmonisation role as well as to the EU Commission in supervising the development in all Member states and the building of the

²⁶A Digital Single Market for Europe: Commission sets out 16 initiatives to make it happen Brussels, European Commission - Press release, 6 May 2015.

future EU single electronic communications market. In sum, both efficient investment and competition will have to be encouraged in tandem, in order to increase economic growth, innovation, consumer choice and the global digital leadership of the EU. In our view, firstly as a short term policy, winning this global political and industrial race will require fundamental and constant public financial support at EU and Member States level i.e. state aid for the coming decades. Generous state aid policy, if available, will ease the expectations on NRAs and NCAs to do magic regulation whereby ever-innovative technologies and ever state-of-the-art networks will co-exist with perfectly competitive relevant markets. Secondly, in the longer term, the EU will have to scale-up the relevant markets to pan-European market with predominantly pan-European operators i.e. EU Single Market, while preserving rivalry among them for the benefit of EU citizens.

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MARKET POLICY JOURNEY IN ELECTRONIC COMMUNICATIONS - FROM MONOPOLY TO GIGABIT SOCIETY

Summary

The article addresses the development of market and competition policy in European electronic communications over the period of thirty years. Notably the transition from monopoly organised national markets to a fully digitalised and globally competitive single European ecosystem. How the initial historical idea of opening electronic communications to competition in order to achieve greater value for money to consumers, has over time evolved into a global race for changing the traditional paradigm of economy and society into a virtual and digitalized one. What is the role of

the new European Electronic Communications Code in reaching the technology based ecosystem essential for the new world data-driven economy and new societal and political lifestyle.

Keywords: electronic communications, competition, digitalization, Code, Internet