



Plenary sitting

A8-0184/2017

5.5.2017

REPORT

on internet connectivity for growth, competitiveness and cohesion: European
gigabit society and 5G
(2016/2305(INI))

Committee on Industry, Research and Energy

Rapporteur: Michał Boni

CONTENTS

	Page
MOTION FOR A EUROPEAN PARLIAMENT RESOLUTION	3
EXPLANATORY STATEMENT	15
OPINION OF THE COMMITTEE ON THE INTERNAL MARKET AND CONSUMER PROTECTION	17
OPINION OF THE COMMITTEE ON TRANSPORT AND TOURISM	24
OPINION OF THE COMMITTEE ON REGIONAL DEVELOPMENT	31
OPINION OF THE COMMITTEE ON CULTURE AND EDUCATION.....	38
INFORMATION ON ADOPTION IN COMMITTEE RESPONSIBLE	42
FINAL VOTE BY ROLL CALL IN COMMITTEE RESPONSIBLE.....	43

MOTION FOR A EUROPEAN PARLIAMENT RESOLUTION

on internet connectivity for growth, competitiveness and cohesion: European gigabit society and 5G (2016/2305(INI))

The European Parliament,

- having regard to the Commission communication of 14 September 2016 entitled ‘Connectivity for a Competitive Digital Single Market – Towards a European Gigabit Society’ (COM(2016)0587) and the accompanying Commission staff working document (SWD(2016)0300),
- having regard to Article 9 of the Treaty on the Functioning of the European Union (TFEU),
- having regard to the Commission communication of 14 September 2016 entitled ‘5G for Europe: An Action Plan’ (COM(2016)0588) and the accompanying Commission staff working document (SWD(2016)0306),
- having regard to the Commission proposal of 14 September 2016 for a Directive of the European Parliament and of the Council establishing the European Electronic Communications Code (COM(2016)0590),
- having regard to the Commission proposal of 14 September 2016 for a Regulation of the European Parliament and of the Council amending Regulations (EU) No 1316/2013 and (EU) No 283/2014 as regards the promotion of Internet connectivity in local communities (COM(2016)0589),
- having regard to the Commission proposal of 14 September 2016 for a Regulation of the European Parliament and of the Council establishing the Body of European Regulators for Electronic Communications (COM(2016)0591),
- having regard to the Commission communication of 6 May 2015 entitled ‘A Digital Single Market Strategy for Europe’ (COM(2015)0192) and the accompanying Commission staff working document (SWD(2015)0100),
- having regard to the Commission communication of 2 July 2014 entitled ‘Towards a thriving data-driven economy’ (COM(2014)0442),
- having regard to the Commission communication of 19 April 2016 entitled ‘Digitising European Industry – Reaping the full benefits of a Digital Single Market’ (COM(2016)0180),
- having regard to Decision No 243/2012/EU of the European Parliament and of the Council of 14 March 2012 establishing a multiannual radio spectrum policy programme¹,
- having regard to the annex to the Commission communication of 2 October 2013

¹ OJ L 81, 21.3.2012, p. 7.

entitled ‘Regulatory Fitness and Performance (REFIT): results and next steps’ (COM(2013)0685),

- having regard to the Commission communication of 19 April 2016 entitled ‘ICT standardisation priorities for the Digital Single Market’ (COM(2016)0176),
 - having regard to its resolution of 19 January 2016 on Towards a Digital Single Market Act¹,
 - having regard to the Commission proposal of 2 February 2016 for a Decision of the European Parliament and of the Council on the use of the 470-790 MHz frequency band in the Union (COM(2016)0043),
 - having regard to the European Council Conclusions of 28 June 2016 (EUCO 26/16),
 - having regard to the Commission communication of 25 September 2013 entitled ‘Opening up Education: Innovative teaching and learning for all through new Technologies and Open Educational Resources’ (COM(2013)0654),
 - having regard to the Commission communication of 26 October 2016 entitled ‘Space Strategy for Europe’ (COM(2016)0705),
 - having regard to Directive 2013/35/EU of the European Parliament and of the Council of 26 June 2013 on the minimum health and safety requirements regarding the exposure of workers to the risks arising from physical agents (electromagnetic fields) (20th individual Directive within the meaning of Article 16(1) of Directive 89/391/EEC) and repealing Directive 2004/40/EC²,
 - having regard to the European Economic and Social Committee’s opinion on the Commission communication entitled ‘Connectivity for a Competitive Digital Single Market – Towards a European Gigabit Society’,
 - having regard to Rule 52 of its Rules of Procedure,
 - having regard to the report of the Committee on Industry, Research and Energy and the opinions of the Committee on the Internal Market and Consumer Protection, the Committee on Transport and Tourism, the Committee on Regional Development and the Committee on Culture and Education (A8-0184/2017),
- A. whereas 5G will be a key building block of the gigabit society, representing the standard for the future in mobile communication technologies, and an engine for innovation, bringing disruptive economic change and creating new use cases, high-quality services and products, revenue streams and business models and opportunities, and whereas it is expected to boost the competitiveness of industries and should provide consumer satisfaction;
- B. whereas European leadership in 5G technology is essential to economic growth and for maintaining global competitiveness, which in turn requires European coordination and

¹ Texts adopted, P8_TA(2016)0009.

² OJ L 179, 29.6.2013, p. 1.

- planning, and whereas lagging behind means risking jobs, innovation and knowledge;
- C. whereas 5G and 5G applications will reinvent business models by providing very high speed connectivity, which will unlock innovation in all sectors, not least transport, energy, finance and health; whereas, in this regard, Europe cannot afford to lag behind, as 5G will be the engine for future growth and innovation;
 - D. whereas the architecture of 5G networks will be substantially different to that of previous generations in order to meet the expected business and performance requirements for Very High Capacity (VHC) networks, especially with regard to latency, coverage and reliability;
 - E. whereas the 5G architecture will lead to an increased convergence between mobile and fixed networks; whereas, therefore, the deployment of VHC fixed networks will contribute to the backhaul needs of a dense 5G wireless network as close as possible to the end user;
 - F. whereas the future of European society and the European economy will strongly rely on 5G infrastructure, the impact of which will go far beyond existing wireless access networks, with the aim of providing high-quality and faster communication services which are affordable for all and available everywhere and at all times;
 - G. whereas digitalisation is accelerating at great speed and at a global level, requiring investments in high-quality communication networks with universal coverage; whereas, in this regard, there is a need for timely availability of the radio spectrum capable of meeting those demands;
 - H. whereas mobile and wireless connectivity for every citizen is becoming increasingly important as innovative services and applications are being used on the go, and whereas a future-oriented digital policy must take this into account;
 - I. whereas the 5G network's rollout will be conducted mainly through private investments and will require the European Electronic Communications Code to create a regulatory environment that promotes certainty, competition and investment; whereas it will require the streamlining of administrative conditions, for example for the deployment of small cells for strict and timely spectrum harmonisation and VHC network development, as currently proposed in the European Electronic Communications Code;
 - J. whereas public initiatives, such as the Commission's 2013 Public-Private Partnership (PPP) initiative, backed by EUR 700 million of public funding to enable 5G in Europe by 2020, need to be complemented by a competitive market with future-proof access regulation and spectrum coordination, which will spur innovation and the necessary private infrastructure investments;
 - K. whereas the deployment of 5G must be carried out in a manner that complements, and not at the expense of, other projects that are geared towards boosting connectivity in the most rural and remote parts of Europe;
 - L. whereas the implementation of 5G and the gigabit society requires an explicit timetable, a demand-driven, future-proof and technology-neutral approach based on assessments

per region and sector, Member State coordination, cooperation with all stakeholders and adequate investments in order to fulfil all conditions within the required time frame and make it a reality for all EU citizens;

I. 5G vision - demands for a generational shift

1. Welcomes the Commission's proposal to draw up a 5G Action Plan aimed at making the EU a world leader in the deployment of standardised 5G networks from 2020 to 2025 as part of a wider developed strategy for a European gigabit society which is technologically more competitive and inclusive; takes the view that in order to achieve this, adequate coordination among the Member States is crucial, so as to prevent the same kinds of delays in the rollout of 5G that were experienced with 4G, which have resulted in the fact that today 4G coverage stands at 86 % and only 36 % in rural areas;
2. Highlights that, according to the Commission, the action plan to deploy 5G across the EU has the 'potential to create two million jobs', and could boost the European economy and combat high unemployment rates, especially among young people;
3. Emphasises that the 5G PPP is currently one of the world's most cutting-edge initiatives involving 5G and the new applications deriving from it; takes the view that although fostering synergies in R&D and industrial development is positive, given the impact that the rollout of 5G will have on society, it would be right for membership of the PPP to be opened up to consumer and civil society representatives as well;
4. Stresses that an ambitious and forward-looking timeline for spectrum allocation within the Union is of utmost importance if Europe is to be in the lead regarding the development of 5G technology; welcomes, in this regard, the actions proposed by the Commission in the communication entitled '5G for Europe: An Action Plan', and considers these actions to be a minimum requirement for the successful launch of 5G in the Union;
5. Stresses that private investments should be supported by an infrastructure-oriented policy and regulatory environment tailored to predictability and certainty and aimed at promoting competition to the benefit of the end users, and should not be delayed by overly ambitious public schemes that may impede 5G rollout;
6. Underlines the importance of cooperation between academia, research institutions, the private sector and the public sector on research and development concerning 5G mobile communications; points to the 5G PPP as a positive example in this regard and encourages the Commission to continue involving all relevant sectors in the process;
7. Believes that Europe will benefit from further transformation towards the digital economy in terms of wider coverage, connectivity and faster speeds, and that the digital economy's contribution to total GDP growth will be 40 % up to 2020, with a growth rate 13 times faster than that of total GDP;
8. Welcomes and endorses the gigabit society medium-term objectives of attaining network speeds of at least 100 Mbps for all European consumers, upgradable to 1 Gbps

and increasing in the long term to 100 Gbps for the main socio-economic drivers, such as public services providers, digitally intensive businesses, major transport hubs, financial institutions, hospitals, education and research; calls for the deployment of fibre backhaul infrastructure, competition for driving investment and high-quality end user experiences to be prioritised; recalls that the Union is lagging behind its 2020 Digital Agenda connectivity targets, with the lagging behind of rural and remote areas being particularly worrisome;

9. Stresses the need to ensure that a maximum number of EU citizens can benefit from gigabit society connectivity, including those living in remote areas;
10. Strongly supports efforts towards ensuring access to the 5G network along intermodal journeys on the basis of public transport networks linked to the Connecting Europe Facility (CEF) and the trans-European transport networks (TEN-T) by 2025, and expects that full access throughout the EU will follow, in both urban and rural areas and at major tourist centres and attractions;
11. Notes that further improvement in coverage of the fourth generation of mobile networks/LTE is still needed as the European Union is lagging behind the USA, South Korea and Japan in this regard, and that the 5G Action Plan should be an opportunity to learn from the mistakes of the 4G rollout;
12. Points out that 5G radio access will need to be able to operate over a very wide frequency range from below 1 GHz up to 100 GHz, and including backhaul up to 300 GHz; notes that frequencies of 3-6 GHz and above 6 GHz should deliver extreme data rates and extreme capacity in dense areas; acknowledges that 5G systems in high frequency bands require a very dense network infrastructure based on small-cell access to sites, which will require choices in relation to the spectrum bands to be used or the possibility of sharing spectrum bands;
13. Stresses that download speeds alone will not be sufficient to meet the future connectivity demand of the gigabit society, which will require an infrastructure objective regarding VHC networks, as these networks meet the highest standards in terms of upload as well as download speeds, latency and resilience;
14. Stresses that a coherent European spectrum strategy, including coordinated national roadmaps and timetables, is needed in order to meet the challenges of 5G, addressing human, machine-to-machine (M2M) and Internet of Things (IoT) communications at various levels: connection speed, mobility, latency, ubiquity, duty cycle, reliability, accessibility, etc., and to ensure a smooth transition period towards 5G in all Member States;
15. Points out that the rollout of 5G wireless networks requires VHC backhaul and flexible and efficient use of all available non-contiguous parts of the spectrum, including the 700 Mhz band, for widely different network deployment scenarios, which will require the development of innovative spectrum licensing models and a clear emphasis on harmonising the available spectrum bands on a regional basis;
16. Acknowledges the importance of licensed spectrum bands to ensure long-term network investment and guarantee better quality of services, by enabling steady and reliable

spectrum access, while also underlining the need for better legal protection for unlicensed spectrum bands and various methods of sharing spectrum bands;

17. Points out that a lack of coordination constitutes a substantial risk in terms of 5G deployment, as gaining critical mass is crucial for attracting investments and thus reaping the full benefits of 5G technology;
18. Notes that all sector players should benefit from a predictable level playing field that drives competition and should enjoy the flexibility to design their own networks, choosing their investment models and the combination of technologies which should ensure complete functionality for 5G deployment objectives, such as FTTH, cable, satellite, Wi-Fi, WiGig, G.fast, 2G, Massive MIMO, or any other rapid development technologies, provided that they will help connect all Europeans to VHC networks according to their real needs; notes that 5G deployment will require much more fibre in a denser wireless network;
19. Notes the Commission's communication on 'Connectivity for a Competitive Digital Single Market' and its '5G for Europe Action Plan', which present an exciting opportunity for Member States to enable their cultural and creative innovators, in particular SMEs, to compete further on the global stage and showcase their entrepreneurial and innovative talent;

II. Enabling gigabit society benefits

20. Believes that 5G is more than an evolution of mobile broadband and that it will be a key enabler of the future digital world as the next generation of ubiquitous ultra-high broadband infrastructure that will support the transformation of processes in all economic sectors (public sector, education, converged media content delivery, healthcare, research, energy, utilities, manufacturing, transportation, the automotive industry, audiovisual, virtual reality (VR), online gaming and so forth) and provide affordable, agile, flexible, interactive, reliable and highly personalised services that should improve every citizen's life;
21. Notes that the European fragmentation in the rollout of 4G, still visible in the major differences between Member States as illustrated by the 2015 Digital Economy and Society Index (DESI), has resulted in a lack of digital competitiveness vis-à-vis the USA, China, Japan, South Korea and emerging economies; in this regard, underlines that while Europe is progressing in terms of digital development, the pace is slowing down, which constitutes a long-term risk to necessary investments and to the attractiveness of the European business environment;
22. Recalls that the ultimate beneficiaries of the introduction of 5G should be the end users and that any decision made in the rollout of 5G technologies should always remain oriented towards this ultimate purpose of offering affordable, trustworthy and high-quality services;
23. Notes that public and private sector investment bring a multiplier effect across the economy and that this is likely to create up to 2.3 million jobs directly and indirectly in

the 28 Member States when 5G is fully deployed;

24. Notes that the deployment of 5G technologies in Europe is expected to have benefits that extend far beyond the mobile industry, as well as trickle-down effects amounting to EUR 141.8 billion annually by 2025;
25. Stresses that the success of a rapid EU-wide 5G rollout depends on the development of demand-driven new business models; highlights that there is a myriad of initiatives contributing to the requirements clarification for 5G, which makes it difficult for vertical industries to contribute to the process; stresses, therefore, that vertical industries need to be actively engaged in the requirements process in an efficient manner;
26. Stresses that fair competition and a level playing field for market participants are key necessities for the deployment of the gigabit society by market participants; believes that the principle of 'same services, same risk, same rules' should apply in this respect;
27. Believes that the Commission and the Member States, together with all relevant stakeholders, should consider measures on how to incentivise advanced trials and test beds in order to accelerate innovation in 5G applications;
28. Notes that a gigabit society should tackle the digital divide and improve internet take-up; notes that continued investment is still needed in rolling out existing and future technologies, including satellite technologies, in rural and remote areas; highlights that a smart combination of private and public investments is necessary to tackle the digital divide of rural and remote areas; stresses that lessons learnt in the past should be used to address disparities between Member States, regions and dense and remote populations, supporting a balanced geographical development;
29. Points to the fact that while the digital divide is present between cities and rural areas, it is also highly present between Member States; stresses, in this regard, the importance of a competitive legislative framework and initiatives which encourage investments in infrastructure, increase the diversity of actors and strengthen European coordination;
30. Points out that 5G will be the cornerstone in realising the vision of the Networked Society and will increase the possibilities for living, studying and working in the European Union, which is a prerequisite for people and companies to fully benefit from the digital revolution;
31. Considers that facilitating deployments of 5G small cells consistent with the WiFi4EU Regulation will contribute to reducing the digital and technological divide and increasing 5G service availability to all citizens;
32. Stresses that Europe has to keep pace with technological developments and opportunities, which are provided by more efficient ICT technologies to support socio-economic development in today's underdeveloped regions;
33. Stresses that in order to benefit from the full service potential of the 5G technological mobile standard, a dense fibre network is the indispensable backhaul infrastructure;
34. Welcomes the WiFi4EU initiative to promote free and universal access to the internet in

local communities by means of an EU-funded scheme implemented by the Member States; notes that the WiFi4EU initiative aims to promote digital inclusiveness across regions by allocating funds in a geographically balanced way while also paying attention to the quality of users' service experience; notes that access speeds are increasing, and that as usage across multiple wireless devices grows, WLAN will need to match end-to-end connectivity demands; believes that a policy framework with specific priorities is needed to overcome the obstacles that the market alone cannot cover;

35. Calls on the Commission to pay special attention to indoor coverage in its 5G Action Plan, considering that a large number of 5G applications will be used inside homes and offices; recalls the poor building penetration of higher frequency networks; recommends the assessment of additional technologies to ensure good indoor coverage, such as Massive MIMO, indoor repeaters and WiGig high-speed Wi-Fi applications;
36. Stresses that the development of 5G technologies is a cornerstone for transforming the ICT network infrastructure towards all-encompassing smart connectivity: smart cars, smart grids, smart cities, smart factories, smart governments and beyond; believes that ultrafast broadband and intelligent, efficient network features that achieve near-instantaneous connectivity between people, human-to-machine and connected machines will come to redefine end user connectivity, which will be enabled by network paradigms such as mesh networks, hybrid networks, dynamic network slicing and softwarisation technologies;
37. Underlines that high energy performance targeting reduced network energy consumption is a critical requirement of 5G; emphasises that this element is crucial to reduce operational costs, to facilitate network connectivity in rural and remote areas and to provide network access in a sustainable and resource-efficient way;
38. Stresses that 5G deployment requires the significant upgrade of fixed networks and the densification of mobile networks in line with gigabit society targets, especially in solutions for e-health;
39. Emphasises that the audiovisual sector is one of the key drivers for the success of 5G in Europe, providing jobs and economic growth, and that its progress can make a strong and positive impact on the audiovisual media value chain, including content production, innovation, distribution and the user environment; calls on the Commission and Member States, therefore, to take into account the needs and specificities of this sector, in particular those related to broadcasting;
40. Notes that once networked, vehicles are consistently safer (with fewer accidents), greener (with less emissions) and contribute to more predictable travel patterns; therefore supports the idea of introducing an EU-wide target for all vehicles available on the EU market to become 5G-enabled and to feature on-board ITS equipment; strongly supports the goal of 5G-enabling base-station networked ambulances and other emergency vehicles (police cars, fire engines) for ongoing and uninterrupted coverage during interventions;

41. Notes the benefits of reliable and uninterrupted 5G coverage for road safety, enabling connected and digital means of control, such as smart tachographs and e-documents, for heavy goods vehicles;
42. Believes that 5G should enable new affordable and high-quality services, connect new industries and ultimately improve the customer experience for increasingly sophisticated and demanding digital users; highlights that 5G can offer solutions to important societal challenges through its ability to significantly cut the energy use of mobile devices and through its potential to transform sectors such as health and transport;
43. Welcomes the Connecting Europe Broadband Fund, a fund for broadband infrastructure open to participation of National Promotional Banks and Institutions and of private investors, which will be a step further to bring infrastructure investments to underserved less populated and rural and remote areas;
44. Considers that the development and improvement of digital skills is crucial and should take place through major investment in education – including vocational, entrepreneurial and further training, as well as retraining – and through the comprehensive participation of all relevant stakeholders, including social partners, with three main objectives: to retain and create technological jobs by training a highly skilled workforce, to support citizens in taking control of their digital existence by providing the necessary tools and to end digital illiteracy, which is a cause of digital divide and exclusion;
45. Considers that the Union should establish and make available 5G skills development curricula in partnership with EIT Digital, with an emphasis on start-ups and SMEs in order for them to reap the benefits of 5G deployment;
46. Stresses that the development of 5G networks will foster rapid technological changes permitting the full deployment of the digital sector, smart technology, the Internet of Things and advanced manufacturing systems;
47. Emphasises the importance of 5G for enabling European global leadership in providing high-end research infrastructure, which could make Europe the centre for excellent research;

III. Policy approach

48. Welcomes the Commission initiative to reinforce the Investment Plan for Europe within financing instruments (EFSI, CEF) earmarked to finance strategic objectives for gigabit connectivity until 2025;
49. Emphasises that all decisions related to the Digital Single Market, including spectrum allocation, connectivity targets and 5G deployment, must be formulated based on future needs and how the market is expected to develop over the next 10-15 years; stresses, in this regard, that a successful 5G deployment will be key to economic competitiveness, which can only be achieved through far-sighted European legislation and policy

coordination;

50. Stresses that policies on the gigabit society and 5G should be proportionate, frequently revised and in accordance with the ‘Innovation Principle’, so that potential effects on innovation will be part of the impact assessment;
51. Calls on the Commission to ensure, maintain and develop long-term financing for the 5G Action Plan and the network modernisation at the appropriate level within the horizon of the next Multiannual Financial Framework 2020-2027 and particularly the next RTD&I Framework; underlines the importance of cooperation between academia, research institutions, the private sector and the public sector on research and development concerning 5G mobile communications; points to the 5G PPP as a positive example in this regard; points out that, according to the Commission, an investment of EUR 500 billion will be required over the next decade in order to reach the connectivity targets, although it also estimates that there is an investment shortfall of EUR 155 billion; takes the view, therefore, that top priority needs to be given to ensuring that there is sufficient investment triggered by competition for the deployment of digital infrastructure, as that deployment is imperative in order to enable citizens and businesses to reap the benefits of the development of 5G technology;
52. Urges all Member States to implement rapidly the provisions in Directive (EU) 2016/1148 of the European Parliament and of the Council of 6 July 2016 concerning measures for a high common level of security of network and information systems across the Union¹, with the aim of ensuring an adequate level of security in making this plan efficient and sustainable;
53. Believes that the best path towards the gigabit society lies in a future-proof, pro-competitive and technology-neutral approach supported by a broad range of investment models such as public-private or co-investments; notes that co-investment and other forms of collaborative investment and long-term commercial access arrangements for very high capacity networks can help to pool resources, enable different flexible frameworks and lower deployment costs;
54. Calls on the Member States to implement the 5G Action Plan fully through coherent, inclusive and timely action in regions and cities in order to encourage and incentivise cross-sector innovation and foster an economic industry-wide cooperative framework;
55. Calls on the Commission and the Member States to take the lead in promoting intersectoral, cross-lingual 5G and cross-border interoperability and supporting privacy-friendly, reliable, secure services as industry and society at large become increasingly more dependent on digital infrastructure for their business and services, and to consider economic and geographic national circumstances as an integral part of a common strategy;
56. Calls for efforts on standardisation to be stepped up with a view to ensuring that Europe plays a leading role in setting technology standards allowing for the deployment of 5G networks and services; believes that the European standardisation bodies should play a special role in this process; notes that each sector should work out its own roadmap for

¹ OJ L 194, 19.7.2016, p. 1.

standardisation, relying on industry-led processes, with a strong will to reach common standards that have the potential to become worldwide standards; calls on the Commission and the Member States to incentivise investments in research and development and European standardisation;

57. Stresses that 5G has the potential to revolutionise access to, and dissemination of, content and to substantially enhance the user experience, while at the same time allowing the development of new forms of cultural and creative content; highlights, in this context, the need for effective measures to fight piracy and a comprehensive approach to improve the enforcement of intellectual property rights to ensure easy routes to legal content for consumers;
58. Strongly encourages increased experimentation with 5G technologies; supports the development of integrated solutions and tests followed by cross-industry trials of large-scale pilots in response to demand for services in the gigabit society; calls on the Commission and the Member States to ensure sufficient unlicensed frequency bands to stimulate experiments conducted by the industry; asks the Commission to consider setting a concrete and appealing target as a framework for private sector experimentation with 5G technologies and products;
59. Stresses the need to take account of the International Commission on Non-Ionising Radiation Protection (ICNIRP) guidelines, formally recognised by the WHO, in order to avoid inconsistency and fragmentation and to ensure consistent wireless network deployment conditions on the European Digital Single Market;
60. Highlights that the development of the gigabit society requires clear, common EU rules that are future-oriented and pro-competitive in order to drive investment and innovation and preserve affordability and consumer choice; stresses that infrastructure-based competition offers the potential for efficient regulation and allows for a fair long-term return on investments; encourages the Member States to simplify the administrative procedures for accessing physical infrastructure;
61. Underlines the need to establish an innovation-friendly environment for digital services, especially in the area of big data and IoT, broadening consumer choice whilst increasing trust and promoting the take-up of digital services, through efficient and streamlined rules, and focusing on the needs of the users and characteristics of services, irrespective of the kind of provider;
62. Stresses that National Broadband Plans need to be reviewed and, where appropriate, revised carefully, target all 5G areas, maintain a multi-technology, competitive approach, support regulatory certainty and maximise the scope of innovation and coverage, with one of the targets being to bridge the digital divide;
63. Calls on the Commission to assess the National Broadband Plans to identify gaps, and to formulate country-specific recommendations for further action;
64. Welcomes the Commission initiative to establish the Participatory Broadband Platform to ensure the high-level engagement of public and private entities, as well as local and regional authorities;

65. Emphasises that ensuring internet access and guaranteeing high-speed, reliable, low-latency and low-jitter internet connectivity are essential for digitising processes and the value chain in the tourism sector, as well as for the development and deployment of transport technologies such as Cooperative Intelligent Transport Systems (C-ITS), River Information Services (RIS) and European Rail Traffic Management Systems (ERTMS);
66. Recalls that SMEs would benefit greatly from competitive access to 5G solutions; calls on the Commission to detail its action plans to facilitate the participation of SMEs and start-ups in experimentation with 5G technologies and to ensure them access to the 5G Participatory Broadband Platform;
67. Supports EU-level initiatives to ensure greater spectrum coordination between Member States and long-term licence durations, which will increase the stability and certainty of investments; notes that the decisions on these issues should be taken at the same time in all Member States to adopt binding guidance on certain conditions of the assignment process, such as the deadlines for spectrum allocation, spectrum sharing and jointly organised auctions, with the ambition of promoting trans-European networks; points out that the competitive nature of mobile telecoms markets in the European Union is crucial in the generation shift to 5G;
68. Calls on the EU to coordinate efforts within the International Telecommunication Union (ITU) with a view to ensuring coherent EU policy; stresses that European spectrum harmonisation needs for 5G beyond 2020 should be finalised before the 2019 World Radiocommunication Conference (WRC-19), with due protection of the existing services relied upon today and in line with decisions taken at the WRC-15;
69. Stresses that the definition of VHC networks laid down in the European Electronic Communications Code should comply with the principle of technological neutrality provided such technologies meet the needs for quality of network services that industrial and consumer applications will require in the future;
70. Calls on the Commission to establish an annual progress review and draw up recommendations on the 5G Action Plan, and inform Parliament of the results;
 -
 - ◦
71. Instructs its President to forward this resolution to the Council, the Commission and the Member States.

EXPLANATORY STATEMENT

The concept of developing a Gigabit society is rooted in the opportunities presented by the rollout of 5G solutions. 5G opens a new stage in the digital world with the creation of new high performance networks, including High Quality and Very High Capacity Networks. By providing new connectivity opportunities, the infrastructure becomes an enabler.

There are, however, some conditions for 5G infrastructure development. An investment-friendly regulatory environment, should create the legal certainty, transparency, equality and simplification of rules that are key to current and future electronic communication. Infrastructure-based competition should involve all possible partners competing for investments within a framework of flexible, business-efficient, co-investment models. Spectrum allocation should be harmonised in order to ensure consistency of decision-making and solutions. Furthermore, concerted EU-wide efforts should be made to manage the accessibility of 700 MHz and frequencies ranging from 1GHz to 100 GHz in the long term. There should be a willingness to work on standardization and interoperability within the common framework for all EU Member States. Finally, many industries should be willing to devise their own roadmaps in order to adjust to the technical requirements needed for 5G connectivity and communications. The full potential of 5G can only be realised if close partnerships are developed with ‘vertical’ industries. It is imperative that we learn how to work more systematically across industrial processes.

There are certain key drivers for 5G development, such as understanding the nature of the economic advantages and individual benefits that can be reaped from rolling out 5G. Such benefits include IoT development, autonomous cars, a growth in e-health and telemedicine (which will in turn contribute to a real paradigm shift in healthcare), totally new teaching and learning opportunities thanks to the use of virtual reality tools in education, new entertainment models, the potential achievements of smart cities and new digital farming possibilities. 5G rollout will pave the way for new products and services, all of which will be more user-friendly and tailored to people’s needs, boosting consumer satisfaction. Growth is the driver of demand. This demand will make investments in 5G more profitable in the long-term and will guarantee the proper level of the return on investment.

It is clear that while the new infrastructure possibilities, the inclusiveness of this infrastructure and the demand for 5G infrastructure will change societal attitudes, they will also require new skills. The educational dimension of rolling out 5G should therefore also be taken into consideration.

With 5G, Europe has a great opportunity to reinvent the industrial landscape of telecoms. We are now at the crossroads of exciting developments. I expect that the EU industry as a whole will set the ball rolling for ambitious developments in 5G technology and a deployment roadmap.

The Commission has proposed a well-designed agenda, timetable and concrete measures. The European Electronic Communications Code is set to be approved in the near future. What is crucial, however, is that all stakeholders cooperate within the process. The Member States must be willing to take part in clear, common and harmonised decision-making processes. Without new National Broadband Plans adopted in a timely manner, there is no possibility of launching investment and developing technologies and solutions, in particular the use of fibre solutions

within 5G. If the EU fails to exert an active and consistent pressure at WRC debates it will be difficult to bring about satisfactory decisions on the accessibility of Giga frequencies. Without cooperation between the Commission, the Member States, business representatives and BEREC we will miss out on the chance to harmonise the spectrum allocation process. Without collaboration between EU institutions, governments and local and regional authorities there is no possibility of investing in the inclusive infrastructure with full accessibility to the 5G Very High Capacity Networks for all, including for residents of remote and rural areas. Without the proper participation of the public and national and EU funding of the 5G action plan henceforth and beyond 2020 with the new MFF, it will be difficult to achieve any of the aforementioned goals.

It is essential that all the conditions required for rolling out 5G in full by 2025 are analysed and set out accordingly.

It is likewise important that the efforts of all stakeholders should be coordinated in order to achieve the objectives of 5G. It is clear that, should all the measures and activities of the 5G Action Plan be carried out successfully, the advantages for the European economy and all European citizens will be numerous.

23.3.2017

OPINION OF THE COMMITTEE ON THE INTERNAL MARKET AND CONSUMER PROTECTION

for the Committee on Industry, Research and Energy

on Internet connectivity for growth, competitiveness and cohesion: European gigabit society and 5G
(2016/2305(INI))

Rapporteur: Antonio López-Istúriz White

SUGGESTIONS

The Committee on the Internal Market and Consumer Protection calls on the Committee on Industry, Research and Energy, as the committee responsible, to incorporate the following suggestions into its motion for a resolution:

1. Stresses that this initiative is part of the three strategic objectives of connectivity that the Commission has set to be reached by 2025, and that creating the appropriate ecosystem to develop a strong European gigabit society with the timely deployment of 5G technologies and with Member States delivering the Universal Service Obligation is the most inclusive and effective path towards the realisation of the digital single market, since high-speed broadband can reduce the digital divide and promote universal growth, particularly in rural areas by providing them with the tools to participate at the same pace as urban areas in the age of the Internet of Things (IoT) - which will provide millions of sensors and all types of devices with improved connectivity and energy efficiency;
2. Recalls that the digital divide represented by the connectivity gap between rural and metropolitan areas, between large and small enterprises, between people from different socioeconomic levels and between generations needs to be closed;
3. Highlights in particular that the EU cannot afford to miss opportunities to connect rural areas which are largely behind in the light of the results of the EC's Digital Economy and Society Index (DESI) - broadband is available to 71 % of European homes but only to 28 % in rural areas, and mobile broadband (4G and others) is available to 86 % of European homes but only to 36 % in rural areas;
4. Emphasises that in order for this technology to have its full impact on our economy and not to miss opportunities, a fourth objective is to be added: to close the digital divide and prevent the opening of new divides, and to this end funding opportunities should be

explored by Member States and the Commission in support of the achievement for the main socio-economic drivers (schools, universities, public administrations) of connection offering a download speed of at least 100 Mbps and high upload speed, with low latency and uninterrupted coverage;

5. Welcomes the Commission's intention to work with the Member States and the industry towards the voluntary establishment of a common timetable for the launch of early 5G networks by the end of 2018, followed by the launch of fully commercial 5G services in Europe by the end of 2020;
6. Deplores the situation created by the EU's slow reaction to 4G, compared with other regions in the world which took the lead and are now reaping all the associated benefits;
7. Stresses that it is of the utmost importance to respond effectively in the early stages of 5G in order to boost the competitiveness of European companies, especially SMEs, since the potential benefits for European industry of becoming the world leader in setting the stage for this technology are very high;
8. Believes that for this to happen, a comprehensive European strategy is needed and policies and rules need to be outward-looking and future-oriented, pro-investment and pro-innovation, with a market-based approach that guarantees an appropriate investment environment that fosters competition, coupled with tax policies that support 5G deployment, while acknowledging that competition is the main driver for investments that will in turn induce innovation and new services and will ultimately create a modernised European infrastructure that benefits the consumer, and that longer spectrum licence durations will be critical to secure the investments needed in the new infrastructure required to support 5G networks;
9. Notes that building up connection infrastructure implies potentially high costs, including administration, planning, permissions, and in its case real estate acquisition, in particular for local and SME providers, and recognises the Commission's WiFi4EU proposal which would give interested local authorities a funding possibility to offer free Wi-Fi connections in and around public buildings, health centres, parks and public squares; believes that within Member States there needs to be alignment of 5G and digital policies with planning policies at both national and local level, to ensure rapid and low-cost deployment of small cell networks;
10. Underlines the importance of satellite communications in delivering ubiquitous and universal 5G access, predominantly in remote areas, complemented with an European terrestrial optical fibre network;
11. Welcomes the Connecting Europe Broadband Fund, a fund for broadband infrastructure open to participation of National Promotional Banks and Institutions and of private investors, which will be a step further to bring infrastructure investments to underserved less populated and rural and remote areas;
12. Stresses the need for a consistent European approach across the Member States in the development of 5G technologies and for the adoption of a multi-stakeholder approach, since the creation of a viable internal market for 5G-standard products and services requires extensive coordination;

13. Stresses that a timely adoption of the European Electronic Communications Code (EECC) is crucial to ensure legal certainty and predictability for telecom providers; stresses that the EECC should foster (infrastructure) competition;
14. Calls on the Commission to assess the National Broadband Plans, to identify gaps and to formulate country-specific recommendations for further action;
15. Urges the Commission to come up with an ambitious and coherent 5G financing strategy that uses fully the potential and synergies of existing programmes such as Horizon 2020, EFSI and CEF, that encourages private investment, including specific risk capital and consortia, and that explores other sources such as public-private partnerships in the ICT sector such as PPP 5G, in order to support connectivity projects and technological research that could help bridge the digital divide and to maintain and develop the financing for the 5G Action Plan within the horizon of the next Multiannual Financial Framework 2020-2027;
16. Calls in this regard on operators to invest more in infrastructure in order to improve connectivity, in particular in underdeveloped rural areas, and to extend 5G coverage, bearing in mind that the Commission estimates that an investment of EUR 500 billion is necessary to deploy this technology and achieve the connectivity objectives, for which there is likely to be an investment shortfall of EUR 155 billion;
17. Highlights the need for Member States to apply the EU-agreed rules for the allocation of new spectrum within the 700 MHz band for wireless broadband and the need to have a EU coordinated spectrum policy, awarding sufficiently long-lasting licences so as to give predictability on investment return and at the same time establish a flexible licensing system that encourages shared spectrum use in relevant higher frequencies and the development of future applications;
18. Stresses that an agreement on the harmonisation of the full set of spectrum bands below and above 6 GHz is strategically important for 5G deployment and needs to be reached by the end of 2017, so that provisional spectrum bands for 5G are made available ahead of the 2019 World Radiocommunication Conference (WRC-19);
19. Underlines that while lower frequency bands - such as 700MHz - may cover larger-scale areas per cell tower, helping to achieve wider propagation in rural areas, these bands alone do not allow for high-bandwidth applications, and therefore supports the Commission's coordinated approach for reallocation within the UHF radio bands (300 MHz to 3 GHz) and in bands outside it;
20. Highlights that establishing open and interoperable standards for 5G networks and 5G-enabled IoT devices is critical in order to ensure a rapid IoT adoption, and calls on all relevant stakeholders, both public and private, such as manufacturers, operators, regulators and the scientific community to work in that direction, so that the standards for the future 5G networks are widely accepted and implemented by the industry;
21. Believes that a bottom-up system should be promoted and each sector should work out its own roadmap for standardisation, relying on industry-led processes, with a strong will to reach common standards which could have the capacity to become worldwide standards;

22. Recalls the need to further raise public awareness of the advantages of using the internet for citizens and for businesses, since it enhances economic and social opportunities and is a tool that may foster inclusion and create increased opportunities for less developed areas; also recalls that in many sectors business models will benefit from transformations linked to 5G technology that will increase efficiency as well as enable the creation of new high-quality services, connect new industries, support cooperation and partnership-building between telecom operators and vertical industries and, ultimately, improve the customer experience for increasingly sophisticated and demanding digital users;
23. Underlines the still unimaginable opportunities that cloud technologies, big data and the Internet of Things offer for being a driver of growth and jobs and improving the lives of every citizen – provided that reliable connectivity reaches every place;
24. Is aware that 4G networks are too low-capacity in the wake of the wave of connectivity that will flood millions of devices in the next few years (such as machines, robots, drones, cars, wearables, appliances and sensors), and is also concerned that in the absence of modern digital networks and infrastructure providing fixed and mobile high-quality and speedy connectivity, the EU is in danger of lagging behind other regions in terms of attracting investments and retaining knowledge, resulting in the loss of a competitive advantage, and calls for the development of digital networks and infrastructure, particularly in rural areas, to be stepped up;
25. Considers that the development of digital skills is necessary to help avoid exclusion and put an end to digital illiteracy and to the extension of digital divides, and that this should be done through both formal and non-formal education, i.e. on the one hand curricula that take into account the best practices of Member States should be established in partnership with the EIT Digital, and on the other the initiative should be complemented with support to civil society, stressing the importance of providing access to technology for educational purposes;
26. Underlines the importance of undertakings being connected with a passage to the gigabit society; with a view to incentivising investment towards a more efficient network, supports the focus on infrastructure-based competition, and also underlines the role of National Regulatory Authorities in surveillance during the deployment and commercial launch phase;
27. Insists not only on the urgency of accelerating investment in research and innovation in the field of 5G technology, but also on the development of more efficient ways to bring the results of research and innovation swiftly to the marketplace;
28. Reaffirms its belief in the urgent need for European standardisation to prevent fragmentation in 5G technologies so as not to hamper interoperability, underlining that Europe should maintain its key role in the international system, and that European standards, developed with the active involvement of all stakeholders, should be promoted at international level; also reaffirms the need to ensure the availability of the initial global 5G standards by the end of 2019, thereby enabling a timely commercial launch of 5G;
29. Recalls the need to further raise public awareness of the benefits of the use of the internet for citizens and for businesses, since it enhances economic and social opportunities and is a tool that may foster inclusion and create increased opportunities for less developed areas

of the Union;

30. Highlights that, according to the Commission, the action plan to deploy 5G across the EU has the ‘potential to create two million jobs’, and could boost the European economy and combat high unemployment rates, especially among young people;
31. Advocates going beyond the use of mere economic indicators in order to measure the impact of technology and to complete the picture with socio-economic indicators;
32. Notes the need to strongly engage with all stakeholders, from the EU institutions to the Member States and European regions, from the private sector and industry to civil society, acknowledging in particular the specific requisites of civil society actors as regards their financial situation and staffing, in order to develop a common and shared vision underpinned by the idea that digital technologies and communication have the potential to create a better life for all;
33. Recommends that the Commission establishes an annual progress review and recommendations reporting on the 5G Action Plan, and informs Parliament of the results;
34. Reaffirms its belief that a stronger, dynamic internal market may only be achieved through solid and sustainable growth and increased employment, and that the completion of a thriving digital single market is the fastest way to achieve growth and create new quality jobs.

INFORMATION ON ADOPTION IN COMMITTEE ASKED FOR OPINION

Date adopted	21.3.2017
Result of final vote	+: 32 -: 3 0: 2
Members present for the final vote	Dita Charanzová, Carlos Coelho, Sergio Gaetano Cofferati, Lara Comi, Anna Maria Corazza Bildt, Nicola Danti, Vicky Ford, Ildikó Gáll-Pelcz, Evelyne Gebhardt, Maria Grapini, Sergio Gutiérrez Prieto, Robert Jarosław Iwaszkiewicz, Liisa Jaakonsaari, Antonio López-Istúriz White, Morten Løkkegaard, Marlene Mizzi, Jiří Pospíšil, Marcus Pretzell, Christel Schaldemose, Andreas Schwab, Olga Sehnalová, Jasenko Selimovic, Ivan Štefanec, Catherine Stihler, Róza Gräfin von Thun und Hohenstein, Mylène Troszczynski, Mihai Țurcanu, Anneleen Van Bossuyt, Marco Zullo
Substitutes present for the final vote	Jan Philipp Albrecht, Pascal Arimont, David Coburn, Edward Czesak, Arndt Kohn, Julia Reda, Ulrike Trebesius, Sabine Verheyen

FINAL VOTE BY ROLL CALL IN COMMITTEE ASKED FOR OPINION

32	+
ALDE	Dita Charanzová, Morten Løkkegaard, Jasenko Selimovic
ECR	Edward Czesak, Vicky Ford, Ulrike Trebesius, Anneleen Van Bossuyt
EFDD	Marco Zullo
ENF	Marcus Pretzell
PPE	Pascal Arimont, Carlos Coelho, Lara Comi, Anna Maria Corazza Bildt, Ildikó Gáll-Pelcz, Antonio López-Istúriz White, Jiří Pospíšil, Andreas Schwab, Róza Gräfin von Thun und Hohenstein, Sabine Verheyen, Ivan Štefanec, Mihai Țurcanu
S&D	Sergio Gaetano Cofferati, Nicola Danti, Evelyne Gebhardt, Maria Grapini, Sergio Gutiérrez Prieto, Liisa Jaakonsaari, Arndt Kohn, Marlene Mizzi, Christel Schaldemose, Olga Sehnalová, Catherine Stihler

3	-
EFDD	David Coburn, Robert Jarosław Iwaszkiewicz
ENF	Mylène Troszczynski

2	0
VERTS/ALE	Jan Philipp Albrecht, Julia Reda

Key to symbols:

+ : in favour

- : against

0 : abstention

12.4.2017

OPINION OF THE COMMITTEE ON TRANSPORT AND TOURISM

for the Committee on Industry, Research and Energy

on internet connectivity for growth, competitiveness and cohesion: European Gigabit Society and 5G
(2016/2305(INI))

Rapporteur: Kosma Złotowski

SUGGESTIONS

The Committee on Transport and Tourism calls on the Committee on Industry, Research and Energy, as the committee responsible, to incorporate the following suggestions into its motion for a resolution:

1. Welcomes the Commission communication ‘5G for Europe: An Action Plan’, which aims at boosting Europe’s digital economy and competitiveness in view of the Digital Single Market;
2. Insists that within the current international technological race, achieving a dynamic European Gigabit Society is indispensable in order to maintain the competitiveness and prosperity of the EU, as well as to unleash the potential for innovation and transformation in the transport sector;
3. Points out that in order to remain competitive, the European transport sector will have to quickly adapt to new challenges presented by globalisation, changing mobility patterns, digitalisation and increasing consumer expectations; agrees that deployment of 5G networks is a necessary condition for developing existing, new and innovative business models and creating economic and social opportunities, while fostering inclusion and creating opportunities for less developed areas of the EU in the transport and tourism sectors; in this regard, recalls the need to raise further public awareness of the benefits of internet use for passengers;
4. Underlines that effective use of the potential of very high-capacity and seamless internet networks, including cross-border networks, is key to the process of digitisation of transport and tourism services, the deployment of integrated ticketing and the wide use of innovative means of transport for people and goods, such as increasingly connected and autonomous vehicles or drones; notes that 5G networks could also contribute to

developing new entertainment models and thus diversifying the EU tourism offer and making it more attractive; notes that 5G will enable new high-quality services and will improve passenger experience for digital users, such as those using online platforms in relation to transport and tourism services;

5. Expresses concern that the EU is lagging behind North America and parts of the Asia-Pacific region when it comes to 5G take-up; further voices its concern at the fact that, as evidenced by the data currently available, none of the 28 Member States has achieved the Digital Agenda target of 100 % high- and ultra-high-speed coverage; points out that average next-generation-access coverage currently stands at below 25 % in some Member States;
6. Regrets that the current generation of 4G is still lagging behind expected deployment, especially in rural areas; notes that the Commission's action plan for the deployment of 5G infrastructure should provide the tools to avoid past mistakes;
7. Takes the view that information and communication technologies (ICT), and the pace at which they are developing, have had an overwhelming impact not just on the economy but on society as a whole; believes that ICT and digital technologies offer great potential, since they can improve people's access to public services such as transport; considers it important, however, not to disregard the huge and unavoidable challenges that progress in these areas poses for society as a whole, particularly in terms of the organisation of work, labour rights and people's security;
8. Calls on the Member States to consider the 5G Action Plan as a guide towards establishing the Electronic Communications Code (ECC), particularly concerning cooperation in spectrum management and further investment in network infrastructure; stresses that any significant progress towards building a European Gigabit Society can only be made with appropriate high levels of investment in network infrastructure in all the Member States so as to ensure a robust, safe and reliable digital infrastructure for all transport modes regardless of size or location; doubts whether financing models based only or primarily on investment funds will be sufficient to upgrade infrastructure where necessary or help fill existing gaps in the level of development of network infrastructure and even out differences in the availability of high-capacity internet connections in border, outlying and outermost regions and in non-urban areas;
9. Calls for more funding for the deployment of an ambitious and coherent 5G financing strategy and for full utilisation of the potential and synergies of existing funds to encourage new investments; welcomes the Connecting Europe Broadband Fund, and calls on the Commission to ensure, maintain and develop further the financing for the 5G Action Plan within the horizon of the next MFF 2020-2027;
10. Considers that the best way of developing the network infrastructure is by means of a fair and effective competitive environment; observes that all frequency bands available must be put to effective use; stresses the importance of the 5G-PPP (public-private partnership) initiative and the urgent need to find new sources of private investment to support both the EU's competitiveness on the global market and new opportunities for innovation in the fields of transport and tourism;
11. Calls for greater use to be made of cohesion policy funds to aim at greater uniformity in

connections between EU regions; emphasises the need to find incentives not just for the supply side, but also for the demand side in order to increase citizens' interest in transport and tourism services over 5G and fostering take-up; agrees with the key objectives of promoting internet connectivity for growth, competitiveness and cohesion; notes the value of pursuing a technology-neutral approach which can serve to maximise the scope for innovation, infrastructure competition and cost reduction in emerging transport technologies and infrastructure;

12. Encourages the Commission to pay more attention, in the development of the European Gigabit Society, to the issues of data privacy, cybersecurity and cybercrime and their specificities in the transport sector; notes that no progress can be made in this area without giving adequate priority to the security of users of digitised transport systems and at the same time drawing up rules to manage those technologies, so as to prevent disputes over competitiveness on the market;
13. Encourages the Commission to consider adjusting the provisions of Commission Regulation (EU) No 651/2014 of 17 June 2014 declaring certain categories of aid compatible with the internal market in application of Articles 107 and 108 TFEU, and on the basis of state-aid rules, in order to facilitate the construction of high-speed internet networks and to pay particular attention to the outermost regions as enshrined in Article 349 TFEU, in view of their remoteness and the costs associated with 5G-compliant network infrastructures;
14. Calls on the Commission to ensure that each Member State maps its network so as to be able to identify the digital exclusion zones, with a view to ensuring blanket 5G coverage;
15. Recommends that the Commission should do all in its power to secure a European Gigabit Society that is in keeping with the principle of economic, social and territorial cohesion;
16. Acknowledges the dense network infrastructure required to guarantee high capacity and low latency needs for a 5G network; notes the benefits of combining projects and plans to build new network infrastructure in the 5G standard with the already planned construction and modernisation of road and rail routes within the Member States in addition to urban infrastructure projects, given, for example, the possibilities for connected and autonomous vehicles in terms of improving mobility in the urban environment; agrees that such rational combining of construction works will help to save resources, make those works more viable, and speed up the construction and provision of the necessary high-speed infrastructure;
17. Underlines the fact that denser networks using a larger number of radiation-emitting devices need to undergo proper testing and approval, as no risks to public health may be admitted;
18. Notes the potential of the development of the following services in EU cities: smart traffic management based on real-time information, parking and toll systems; calls on operators to invest more in infrastructure in order to improve connectivity and extend 5G coverage in all EU areas, urban, peripheral and rural;
19. Stresses that, in parallel with the development of 5G, the general introduction of the internet of things will have a major impact, inter alia, on goods transport and logistics,

including postal activity and more generally material exchanges (letters and parcels);

20. Notes that once networked, vehicles are consistently safer (with fewer accidents), greener (with less emissions) and contribute to more predictable travel patterns; therefore supports the idea of introducing an EU-wide target for all vehicles available on the EU market to become 5G-enabled and to feature on-board ITS equipment; strongly supports the goal of 5G-enabling base-station networked ambulances and other emergency vehicles (police cars, fire engines) for ongoing and uninterrupted coverage during interventions;
21. Strongly supports efforts towards ensuring access to the 5G network along intermodal journeys on the basis of public transport networks linked to the Connecting Europe Facility (CEF) and the trans-European transport networks (TEN-T) by 2025, and expects that full access throughout the EU will follow, in both urban and rural areas and at major tourist centres and attractions;
22. Notes the important role of internet technology and the internet of things for the development of multimodal, user-friendly and safe infrastructure and transport services, but also for the development of on-board e-call technology; highlights the need to take into account all the interacting elements from a variety of sectors, such as electronics, telecommunications, transport and tourism;
23. Welcomes the Commission's initiative 'WIFI4EU'; notes that publicly available and free Wi-Fi connections in strategic public areas such as transport hubs can allow all European citizens to access and benefit from digitalised tools on an equal basis;
24. Calls on the Commission and the Member States to come up with initiatives similar to the WiFi4EU programme to incentivise all passengers to use the new technologies, irrespective of socio-economic background or age, in an effort to eliminate any digital divide between people and/or generations; underlines the added value these developments will bring to the tourism sector, boosting the attractiveness of Europe for businesses and visitors;
25. Emphasises that ensuring internet access and guaranteeing high-speed, reliable, low-latency and low-jitter internet connectivity are essential for digitising processes and the value chain in the tourism sector, as well as for the development and deployment of transport technologies such as Cooperative Intelligent Transport Systems (C-ITS), River Information Services (RIS) and European Rail Traffic Management Systems (ERTMS);
26. Points out that the development of systems such as the above will help foster the process of digitisation and automation of both mobility and transport, which in turn will improve safety, optimise resources, allow for better use of existing capacities, enhance efficiency, accessibility and energy-saving, improve environmental performance and boost the competitiveness of SMEs in the tourism sector; recognises that, in line with the wider process of digitisation across European industry, many companies will have to underpin their transformation strategies with mobility, affording significant opportunities for SMEs and start-ups in the transport sector, a development which should be supported;
27. Notes the benefits of reliable and uninterrupted 5G coverage for road safety, enabling connected and digital means of control, such as smart tachographs and e-documents, for heavy goods vehicles.

INFORMATION ON ADOPTION IN COMMITTEE ASKED FOR OPINION

Date adopted	11.4.2017						
Result of final vote	<table style="width: 100%; border: none;"> <tr> <td style="width: 100px;">+:</td> <td style="text-align: right;">40</td> </tr> <tr> <td>-:</td> <td style="text-align: right;">2</td> </tr> <tr> <td>0:</td> <td style="text-align: right;">3</td> </tr> </table>	+:	40	-:	2	0:	3
+:	40						
-:	2						
0:	3						
Members present for the final vote	<p>Daniela Aiuto, Lucy Anderson, Inés Ayala Sender, Georges Bach, Izaskun Bilbao Barandica, Deirdre Clune, Michael Cramer, Luis de Grandes Pascual, Andor Deli, Isabella De Monte, Ismail Ertug, Jacqueline Foster, Dieter-Lebrecht Koch, Merja Kyllönen, Miltiadis Kyrkos, Bogusław Liberadzki, Peter Lundgren, Marian-Jean Marinescu, Cláudia Monteiro de Aguiar, Jens Nilsson, Markus Pieper, Salvatore Domenico Pogliese, Tomasz Piotr Poręba, Gabriele Preuß, Christine Revault D'Allonnes Bonnefoy, Dominique Riquet, Massimiliano Salini, David-Maria Sassoli, Claudia Schmidt, Claudia Țapardel, Keith Taylor, Pavel Telička, István Ujhelyi, Peter van Dalen, Wim van de Camp, Elissavet Vozemberg-Vrionidi, Janusz Zemke, Roberts Zīle, Kosma Złotowski, Elżbieta Katarzyna Łukacijewska</p>						
Substitutes present for the final vote	Jakop Dalunde, Kateřina Konečná, Matthijs van Miltenburg						
Substitutes under Rule 200(2) present for the final vote	John Stuart Agnew, Jiří Maštálka						

FINAL VOTE BY ROLL CALL IN COMMITTEE ASKED FOR OPINION

40	+
ALDE	Izaskun Bilbao Barandica, Dominique Riquet, Pavel Telička, Matthijs van Miltenburg
ECR	Jacqueline Foster, Tomasz Piotr Poręba, Roberts Zile, Kosma Złotowski, Peter van Dalen
EFDD	Daniela Aiuto
PPE	Georges Bach, Deirdre Clune, Andor Deli, Dieter-Lebrecht Koch, Marian-Jean Marinescu, Cláudia Monteiro de Aguiar, Markus Pieper, Salvatore Domenico Pogliese, Massimiliano Salini, Claudia Schmidt, Elissavet Vozemberg-Vrionidi, Luis de Grandes Pascual, Wim van de Camp, Elżbieta Katarzyna Lukacijewska
S&D	Lucy Anderson, Inés Ayala Sender, Isabella De Monte, Ismail Ertug, Miltiadis Kyrkos, Bogusław Liberadzki, Jens Nilsson, Gabriele Preuß, Christine Revault D'Allonnes Bonnefoy, David-Maria Sassoli, István Ujhelyi, Janusz Zemke, Claudia Țapardel
Verts/ALE	Michael Cramer, Jakop Dalunde, Keith Taylor

2	-
EFDD	John Stuart Agnew, Peter Lundgren

3	0
GUE/NGL	Kateřina Konečná, Merja Kyllönen, Jiří Maštálka

Key to symbols:

+ : in favour

- : against

0 : abstention

23.3.2017

OPINION OF THE COMMITTEE ON REGIONAL DEVELOPMENT

for the Committee on Industry, Research and Energy

on internet connectivity for growth, competitiveness and cohesion: European gigabit society and 5G
(2016/2305(INI))

Rapporteur: Andrew Lewer

SUGGESTIONS

The Committee on Regional Development calls on the Committee on Industry, Research and Energy, as the committee responsible, to incorporate the following suggestions into its motion for a resolution:

1. Expresses concern that the EU is lagging behind North America and parts of the Asia-Pacific region when it comes to 4G access and projections for 5G uptake; believes that Europe has much catching up to do, as in 2015 more than 75 % of the US population had access to 4G, versus only 28 % of the EU population; is further concerned that industry predictions show that by 2022 there will be over 110 million 5G subscriptions in North America, versus only 20 million in Western Europe; voices its concern at the fact that none of the 28 Member States have achieved the Digital Agenda target of 100 % high- and ultra-high-speed coverage; points out that average next-generation access coverage currently stands at below 25 % in some Member States;
2. Believes that 5G is more than an evolution of broadband technology, as the next generation of ubiquitous ultra-high broadband infrastructure will go beyond existing wireless access networks; notes that these changes could support the transformation of processes in a wide range of economic sectors and make it possible to reside, obtain training and work anywhere in Europe; believes that better internet connectivity may contribute to economic growth, job creation, (territorial and social) cohesion and competitiveness in Europe, while promoting equal opportunities and gender equality and improving people's living standards;
3. Highlights the considerable amount of investment needed to secure a gigabit society and the challenges this poses for investors, operators, service providers and the creation of synergies with other industries; points out that in the next decade an additional EUR 155 billion is required to deliver gigabit connectivity for the Digital Single Market;

acknowledges the critical importance of further investment to lower unit prices for consumers and to increase the quality and coverage area of services; notes that industry research shows that upwards of 90 % of unit price per megabyte decline is delivered by investment as opposed to static effects such as competition; notes that by using a price per megabyte measure the US is a considerably cheaper market for consumers than Europe; believes that an average revenue per user (ARPU) measure can be misleading given that this does not convey the faster speeds, larger data packages, or unlimited offers used by US consumers;

4. Stresses that 5G network deployment will partly depend on EU-wide contributions from grants and financial instruments; asks the Member States to pay particular attention to projects aimed at broadening internet access under the European Structural and Investment (ESI) Funds in the 2014-2020 programming period; notes that in total the ESI Funds will contribute EUR 21.4 billion towards securing the digital single market in the current programming period, including EUR 6 billion for the roll-out of high-speed broadband networks; acknowledges the importance of these public funds in achieving the Commission's goals but believes that significantly more capital will need to be leveraged from the private sector if the continent is to secure an additional EUR 155 billion of investment over the next decade; believes that ESI funds can be particularly useful in sparsely populated areas where market-oriented solutions are not successful in order to achieve full territorial coverage;
5. Calls on the Commission to ensure that Member States, local and regional authorities and other stakeholders are able to engage with the complex range of grants, low-risk financial instruments and public-private partnerships that are available for connectivity projects; takes the view that better cooperation at local and regional level is needed to extend fixed networks and guarantee gigabit connectivity in order to offer beneficiaries competitive offers and attractive prices while driving new investments; sees the value in the establishment of an online resource which enables infrastructure investors to review the full range of funding options which are available; acknowledges the establishment of the Broadband Fund but urges the EIB and the Commission to focus efforts on improving existing programmes that support the IT sector, such as Horizon 2020, rather than creating new ones; calls on the Commission to promote possible synergies between ESI Funds and EFSI, as well as other sources of EU funding;
6. Acknowledges that revenues across the telecoms industry are dwindling and that this poses a significant problem for further investment to achieve a gigabit society; points out that financing for deals is strongly linked to share prices and in this respect loans and other financial instruments can be secured when an investment has a guaranteed return over a long-term period; further calls on the Commission to look at how local authorities and other service providers can enter the market to provide specialised services under alternative business models; considers it important to secure a return on existing investment programmes and, where appropriate, set up other incentive schemes so as to enable investors to back the 5G sector;
7. Calls on the Commission to ensure and maintain financing of the 5G Action Plan at the proper level for the next multiannual financial framework; notes that there is no binding requirement for the objectives contained in the 5G Action Plan to be met by the Member States; calls on the Commission to assess the National Broadband Plans in order to

identify gaps and formulate country-specific recommendations for further action where necessary; calls on the Member States to develop national 5G deployment roadmaps as part of the National Broadband Plan;

8. Calls on the Commission to take into account the specific geographical, social and economic circumstances of all regions during the creation of a new regulatory framework and its implementation in order to achieve comprehensive 5G deployment and maximise its economic impact across all Member States; stresses that investments should be supported by a policy and regulatory environment and not be delayed by overly ambitious public schemes that may impede 5G implementation; notes that companies need more certainty on technology that would be included and reassurance that the process of co-investment is conducted in a fair and open manner;
9. Calls on the Commission to undertake further analysis of the demand for 5G technology given that this area has been insufficiently examined and is subject to considerable difference of opinion; notes that the Commission's primary study into this issue was undertaken by a technology research consultancy; asks in particular for more consultation with academia and infrastructure investors in order to obtain a reliable picture of future 5G demand; believes that the Commission should undertake and publish a literature review which aggregates all available studies of European 5G demand into a single research paper; recommends that the Commission establish an annual progress review with recommendations for the 5G Action Plan and that it should inform Parliament of the results of this;
10. Recommends that the Commission adopts a policy of technology neutrality when it comes to pursuing a gigabit society; believes that technology choices should primarily be left to the market participants in order to ensure that the realities of demand are met; further supports symmetric regulation that does not inhibit the ability of new or smaller companies to enter the market; draws the Commission's attention to the importance of transparent competition processes at every level of development and implementation of 5G technology;
11. Believes that the ambitious goals published by the Commission in September 2016 will not be achieved without empowering Member States, national regulatory authorities and regional and local governments and without collaboration between all these actors; points out that the opinion of the Body of European Regulators for Electronic Communications (BEREC) on the new electronic communications framework highlights the possibility of increased EU-level interference, additional bureaucracy and an undermining of its independence, and asks therefore for efficient implementation; believes that in order to achieve coordinated 5G deployment across all EU Member States there is a need to consider country-specific economic and geographical circumstances; takes note of the proposed structural reforms to BEREC which, according to that organisation's own High-Level Opinion, could turn the body into a decentralised EU agency with permanent staff chairing expert working groups; also takes note of BEREC's view of possible new veto powers over national regulatory authorities' (NRAs) regulatory remedies, as well as the Commission's proposals to introduce implementing acts into the new Code which will allow top-down measures to resolve cross border disputes; believes that it is NRAs who are best placed to design, implement and review telecoms decisions; believes that up until now BEREC has played a proportionate role in ensuring harmonisation across Europe and

that these reforms risk upsetting this balance;

12. Reiterates the importance of additional simplification at EU level for delivering the new electronic communications framework; welcomes the consolidation of four existing directives into a Single Communications Code; believes that simplification and clarification can only help businesses to invest; also welcomes new rules on transparency which will see consumers provided with the most important contract information in a 'short form' document; urges Member States and local and regional authorities to take the lead in setting up 5G networks in a responsible, inclusive way which safeguards consumers' rights;
13. Emphasises that financial assistance should seek to attain a geographically balanced distribution, taking into account the principle of economic, social and territorial cohesion and the different levels of development of ICT infrastructure;
14. Stresses that access to public e-services is important and that a modern communications infrastructure assists the creation of services and applications used by public-sector institutions, businesses and the public; points to the cooperation between university centres and research institutions, which have the potential to become partners in the development and implementation of 5G network projects, while maximising synergies with Horizon 2020; further notes that, because new skills and necessary educational changes will be required, the educational dimension of the implementation of 5G development should be provided by using opportunities within the European Social Fund; reiterates the need to foster digital inclusion and internet access, including for older people, which are also important elements in terms of active citizenship and social inclusion;
15. Welcomes the certainty that 25-year licences for radio spectrum will bring to investors, including the recently reached political agreement on the use of the 700 MHz band for mobile broadband; calls on the Commission to review its approach to harmonisation given that one third of the spectrum that can be used for wireless mobile broadband remains unassigned; encourages the Commission to seek international cooperation with the aim of achieving harmonised standards for 5G; calls on the Commission to tailor spectrum management arrangements to a highly technological environment; believes in the central importance of the availability of spectrum in the roll-out of 5G networks across Europe; acknowledges that there is still a great deal of uncertainty within the industry about the spectrum bands that will ultimately be used for 5G technology; notes that there is likely to be considerable demand for 5G spectrum, as there currently is for 4G spectrum, which means costs for investors will likely rise;
16. Draws the Commission's attention to network coverage matters; notes that the digital divide between certain regions, particularly between rural and urban areas, is still considerable; observes that, due to their remote location, rural areas are unlikely to feel the same benefits from the gigabit society that are felt in cities, because provision is patchy and not properly tailored to needs; asserts the belief that resolute ambition is needed when it comes to the gigabit society and a primary focus should be placed on ensuring blanket 4G coverage; further calls for the development of 5G technology for rural areas; expresses concern that 5G technology is currently untenable except in densely populated areas and that this could further increase the digital divide; believes that the

universal availability of high-performance internet services at gigabit level is essential in order to prevent a growing digital divide between urban and rural areas and to promote social, economic and territorial cohesion in its digital dimension; recognises that rural areas risk getting left behind, because investing in rural areas requires a significantly higher proportion of investment per head; notes that the digital divide means that while 58 % of the EU's population live in rural, remote and mountainous areas, only 25 % are covered by speeds above 30 mbps; recognises therefore that the Commission's target of at least 100 Mbps download speeds by 2025 for all households, both rural and urban, is very ambitious;

17. Recalls that the significant contrast in broadband speeds in rural and urban areas in many Member States is a severe disadvantage for rural areas where there are large numbers of small and micro enterprises and businesses dependent on effective connectivity, putting at risk the social, cultural and economic life of the communities there; welcomes the European Commission Initiative to establish the Participatory Broadband Platform to ensure high-level engagement of public and private entities, as well as local and regional authorities;
18. Notes that the outermost, peripheral and island regions have benefitted only marginally from the current regulations; draws attention to the need for particular attention to be paid to remote, isolated, outlying, rural and mountain areas and to all parts of the EU in which public support is necessary in order to offset a lack of financial returns for private investors; stresses that all EU regions should benefit from the advantages of the gigabit society, which would make a significant contribution to regional competitiveness, access to high-tech investment, the facilitation of public services and business opportunities; urges the Commission to make the outermost regions (as defined by Article 349 of the TFEU) a major area in which to set up pilot projects.

INFORMATION ON ADOPTION IN COMMITTEE ASKED FOR OPINION

Date adopted	21.3.2017
Result of final vote	+: 29 -: 1 0: 2
Members present for the final vote	Pascal Arimont, Franc Bogovič, Andrea Cozzolino, Rosa D'Amato, Krzysztof Hetman, Marc Joulaud, Constanze Krehl, Andrew Lewer, Louis-Joseph Manscour, Martina Michels, Iskra Mihaylova, Jens Nilsson, Andrey Novakov, Mirosław Piotrowski, Stanislav Polčák, Liliana Rodrigues, Fernando Ruas, Monika Smolková, Ruža Tomašić, Ramón Luis Valcárcel Siso, Matthijs van Miltenburg, Lambert van Nistelrooij, Derek Vaughan, Kerstin Westphal
Substitutes present for the final vote	Andor Deli, Josu Juaristi Abaunz, Ivana Maletić, Julia Reid, Davor Škrlec, Damiano Zoffoli, Milan Zver
Substitutes under Rule 200(2) present for the final vote	Luigi Morgano

FINAL VOTE BY ROLL CALL IN COMMITTEE ASKED FOR OPINION

29	+
ALDE	Iskra Mihaylova, Matthijs van Miltenburg
ECR	Andrew Lewer, Mirosław Piotrowski, Ruža Tomašić
EFDD	Rosa D'Amato
PPE	Pascal Arimont, Franc Bogovič, Andor Deli, Krzysztof Hetman, Marc Joulaud, Ivana Maletić, Andrey Novakov, Stanislav Polčák, Fernando Ruas, Ramón Luis Valcárcel Siso, Milan Zver, Lambert van Nistelrooij
S&D	Andrea Cozzolino, Constanze Krehl, Louis-Joseph Manscour, Luigi Morgano, Jens Nilsson, Liliana Rodrigues, Monika Smolková, Derek Vaughan, Kerstin Westphal, Damiano Zoffoli
Verts/ALE	Davor Škrlec

1	-
EFDD	Julia Reid

2	0
GUE/NGL	Josu Juaristi Abaunz, Martina Michels

Key to symbols:

+ : in favour

- : against

0 : abstention

1.3.2017

OPINION OF THE COMMITTEE ON CULTURE AND EDUCATION

for the Committee on Industry, Research and Energy

on internet connectivity for growth, competitiveness and cohesion: European gigabit society and 5G
(2016/2305(INI))

Rapporteur: Silvia Costa

SUGGESTIONS

The Committee on Culture and Education calls on the Committee on Industry, Research and Energy, as the committee responsible, to incorporate the following suggestions into its motion for a resolution:

1. Notes the Commission's communication on 'Connectivity for a Competitive Digital Single Market' and its '5G for Europe Action Plan', which present an exciting opportunity for Member States to enable their cultural and creative innovators, in particular SMEs, to compete further on the global stage and showcase their entrepreneurial and innovative talent;
2. Welcomes the gigabit society targets to attain network speeds of 100 Mbps for all European consumers and from 1 Gbps to 100 Gbps in the future for the main socio-economic drivers, such as schools, major transport hubs, financial institutions and digitally-intensive businesses;
3. Welcomes the ambitious plan to provide ultra-fast internet in primary and secondary schools, universities and libraries by 2025, in line with the principles of subsidiarity and proportionality; stresses that faster and better connectivity provides huge opportunities to enhance teaching methods, to foster research and to develop high-quality educational services online as well as to create better opportunities for distance learning; highlights the fact that such opportunities will enhance teachers', children's and students' digital skills and media literacy, while further enabling Member States to share best practices; stresses that the adaptation of education and training systems is vital to meeting the increasing demand for digitally skilled professionals in the EU; points out, in this context, the importance of investing in lifelong development for teachers; emphasises that further efforts are needed to improve media literacy among citizens at all levels of education and, in particular, for children and minors;

4. Considers that Europe should ensure the continuous education of skilled people with regard to new systems and new application domains by establishing and making available 5G skills development curricula in partnership with the European Institute of Innovation and Technology (EIT) Digital;
5. Stresses the opportunities offered by the European Fund for Strategic Investments in general and, through its interaction with other funds, for the development of public service infrastructure in particular; believes that efforts should be focused on the development of new digital skills in system and solution design through major investments in education, including the digitalisation of schools, that together can eliminate the digital divide and prevent digital exclusion;
6. Believes that 5G is more than a simple evolution of mobile broadband and that it will be a key enabler of the future digital world, the next generation of ubiquitous ultra-high-speed broadband infrastructure that will support the transformation of processes in all economic sectors (healthcare, energy, utilities, manufacturing, transportation, automotive, Virtual Reality and so forth), and of the growing consumer market demand in every citizen's life;
7. Recognises that 5G can drive the development of exciting and game-changing applications and concepts, such as the Internet of Things (IoT), which can provide a wealth of opportunities for cultural and creative industries by opening up new ways to disseminate content and products widely;
8. Stresses that 5G has the potential to revolutionise access to, and dissemination of, content and to substantially enhance the user experience, while at the same time allowing the development of new forms of cultural and creative content; highlights, in this context, the need for effective measures to fight piracy and a comprehensive approach to improve the enforcement of intellectual property rights to ensure easy routes to legal content for consumers;
9. Believes that 5G will enable new, high-quality services to be provided, connect new industries and ultimately improve the customer experience for increasingly sophisticated and demanding digital users;
10. Emphasises that the audiovisual sector is one of the key drivers for the success of 5G in Europe, providing jobs and economic growth, and that its progress can make a strong and positive impact on the audiovisual media value chain, including content production, innovation, distribution and the user environment; calls on the Commission and Member States, therefore, to take into account the needs and specificities of this sector, in particular those related to broadcasting;
11. Notes the Commission's intention to make provisional spectrum bands available for 5G; recalls, in this context, the importance of giving due consideration to the needs and specificities of the broadcasting sector, linked to the socially and culturally valuable European audiovisual model;
12. Highlights the considerable disparities across Member States as regards access to high-speed internet connections, as well as the current lack of access to 3G and 4G in rural communities, geographically remote areas and isolated regions; stresses the importance of providing digital enablement and ensuring that the development of 5G significantly

reduces the digital divide among citizens, especially between urban and rural areas; calls on the Commission to promote the deployment of networks and to support 5G-based innovation, also in remote areas where public investment or co-investment models are needed to guarantee the quality of connections and diversity of content; encourages the development of tailored offers to improve access to affordable basic services for vulnerable social groups; underlines that the further deployment of digital infrastructure, especially in less densely populated areas, promotes social and cultural integration, modern educational and information processes and a regional cultural economy, enabling advances to take place in many areas, including in education and media;

13. Welcomes the promotion of a consistent approach to better tailored coverage obligations in spectrum licences in order to stimulate rural connectivity; emphasises that private investment in internet connectivity should be encouraged not only in relation to competitive, high-capacity markets in urban areas, but also in respect of under-served and less profitable rural deployment areas;
14. Urges all Member States to implement rapidly the provisions in Directive (EU) 2016/1148 of the European Parliament and of the Council of 6 July 2016 concerning measures for a high common level of security of network and information systems across the Union¹, with the aim of ensuring an adequate level of security in making this plan efficient and sustainable;
15. Recommends that the Commission establish an annual progress review, including reporting on recommendations, on the 5G Action Plan and that it inform Parliament of the results.

¹ OJ L 194, 19.7.2016, p. 1.

RESULT OF FINAL VOTE IN COMMITTEE ASKED FOR OPINION

Date adopted	28.2.2017
Result of final vote	+: 29 -: 0 0: 0
Members present for the final vote	Dominique Bilde, Andrea Bocskor, Nikolaos Chountis, Silvia Costa, Mircea Diaconu, Jill Evans, María Teresa Giménez Barbat, Giorgos Grammatikakis, Petra Kammerevert, Andrew Lewer, Svetoslav Hristov Malinov, Curzio Maltese, Stefano Maullu, Luigi Morgano, Momchil Nekov, John Procter, Michaela Šojdrová, Helga Trüpel, Sabine Verheyen, Bogdan Andrzej Zdrojewski, Milan Zver, Krystyna Łybacka
Substitutes present for the final vote	Mary Honeyball, Marc Joulaud, Morten Løkkegaard, Emma McClarkin, Algirdas Saudargas, Remo Sernagiotto
Substitutes under Rule 200(2) present for the final vote	Clare Moody

INFORMATION ON ADOPTION IN COMMITTEE RESPONSIBLE

Date adopted	25.4.2017
Result of final vote	+: 53 -: 2 0: 4
Members present for the final vote	Bendt Bendtsen, Xabier Benito Ziluaga, José Blanco López, David Borrelli, Cristian-Silviu Buşoi, Reinhard Bütikofer, Jerzy Buzek, Edward Czesak, Jakop Dalunde, Pilar del Castillo Vera, Christian Ehler, Ashley Fox, Adam Gierek, Rebecca Harms, Roger Helmer, Hans-Olaf Henkel, Eva Kaili, Krišjānis Kariņš, Seán Kelly, Jeppe Kofod, Jaromír Kohlíček, Miapetra Kumpula-Natri, Janusz Lewandowski, Paloma López Bermejo, Edouard Martin, Angelika Mlinar, Dan Nica, Angelika Niebler, Morten Helveg Petersen, Miroslav Poche, Carolina Punset, Michel Reimon, Herbert Reul, Paul Rübig, Massimiliano Salini, Algirdas Saudargas, Jean-Luc Schaffhauser, Neoklis Sylikiotis, Dario Tamburrano, Patrizia Toia, Evžen Tošenovský, Claude Turmes, Vladimír Urutchev, Kathleen Van Brempt, Martina Werner, Lieve Wierinck, Hermann Winkler, Anna Záborská, Carlos Zorrinho
Substitutes present for the final vote	Pilar Ayuso, Amjad Bashir, Soledad Cabezón Ruiz, Isabella De Monte, Francesc Gambús, Constanze Krehl, Werner Langen, Olle Ludvigsson, Gesine Meissner, Clare Moody, Michèle Rivasi, Anne Sander, Theodor Dumitru Stolojan, Pavel Telička
Substitutes under Rule 200(2) present for the final vote	Georgi Pirinski

FINAL VOTE BY ROLL CALL IN COMMITTEE RESPONSIBLE

53	+
ALDE	Gesine Meissner, Angelika Mlinar, Carolina Punset, Pavel Telička, Lieve Wierinck
ECR	Amjad Bashir, Edward Czesak, Ashley Fox, Hans-Olaf Henkel, Evžen Tošenovský
EFDD	David Borrelli, Dario Tamburrano
EPP	Bendt Bendtsen, Jerzy Buzek, Cristian-Silviu Buşoi, Christian Ehler, Francesc Gambús, Krišjānis Kariņš, Seán Kelly, Werner Langen, Janusz Lewandowski, Angelika Niebler, Herbert Reul, Paul Rübig, Massimiliano Salini, Anne Sander, Algirdas Saudargas, Theodor Dumitru Stolojan, Vladimir Urutchev, Hermann Winkler, Pilar del Castillo Vera
S&D	Soledad Cabezón Ruiz, Isabella De Monte, Adam Gierek, Eva Kaili, Jeppe Kofod, Constanze Krehl, Miapetra Kumpula-Natri, Olle Ludvigsson, Edouard Martin, Clare Moody, Dan Nica, Georgi Pirinski, Miroslav Poche, Patrizia Toia, Kathleen Van Brempt, Martina Werner, Carlos Zorrinho
Greens/ALE	Reinhard Bütikofer, Jakop Dalunde, Rebecca Harms, Michel Reimon, Claude Turmes

2	-
EFDD	Roger Helmer
ENF	Jean-Luc Schaffhauser

4	0
GUE	Xabier Benito Ziluaga, Jaromír Kohlíček, Paloma López Bermejo, Neoklis Sylikiotis

Key to symbols:

+ : in favour

- : against

0 : abstention