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DRAFT REPORT

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

Committee on Industry, Research and Energy

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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 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 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 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

¹ OJ L 81, 21.3.2012, p. 7.

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 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 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 (A8-0000/2017),
- A. whereas 5G will be an engine for innovation, bringing disruptive change across industries and creating new use cases, high-quality services and products, revenue streams and business models, boosting the competitiveness of industries and consumer satisfaction;
- B. whereas the architecture of 5G mobile 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 and reliability;
- C. 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 available everywhere and at all times;
- D. whereas the 5G networks rollout will be conducted mainly through commercial investments and will be receptive to an investment-friendly regulatory environment; whereas 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, is of crucial importance;
- E. whereas the implementation of 5G and the gigabit society requires an explicit timetable,

¹ Texts adopted, P8_TA(2016)0009.

² OJ L 179, 29.6.2013, p. 1.

cooperation with all stakeholders and adequate investments in order to fulfil all conditions within the required timeframe;

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;
2. Welcomes the gigabit society targets of attaining network speeds of 100Mbps for all European consumers and, in the long term, of between 1Gbps and 100Gbps for the main socio-economic drivers, such as digitally intensive businesses, major transport hubs, financial institutions and schools;
3. Points out that 5G systems will need to be able to operate over a very wide frequency range: from less than 1GHz up to 100GHz and with a maximum potential of up to 300GHz; notes that frequencies of 3-6GHz and above 10GHz should deliver extreme data rates and extreme capacity in dense areas;
4. Stresses that a coherent spectrum strategy, including national roadmaps, 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, duty cycle, reliability, etc.;
5. Points out that the construction of 5G wireless networks requires flexible and efficient use of all available non-contiguous parts of the spectrum, including 700Mhz band, for widely different network deployment scenarios, with a clear emphasis on harmonising the available spectrum bands on a regional basis;
6. Notes that sector players should benefit from a level playing field and should enjoy the flexibility to design their own networks, choosing their investment model and the most appropriate technology, including fibre-to-the-home (FTTH), Wi-Fi, G.fast, 2G, cable, satellite or any other rapid development technologies that will help connect all Europeans to VHC networks;

II. Enabling gigabit society benefits

7. 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, healthcare, energy, utilities, manufacturing, transportation, the automotive industry, virtual reality (VR), online gaming and so forth) and provide agile, elastic and highly personalised services that will improve every citizen's life;
8. Notes that 5G should be instrumental in tackling the digital divide and in improving internet take-up, especially in rural and remote areas;
9. Welcomes the WiFi4EU initiative to promote free internet in local communities by means of an EU-funded scheme; 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;

10. 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 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 radio access network paradigms such as mesh networks, dynamic network slicing and softwarisation technologies;
11. Believes that 5G will enable new high-quality services, connect new industries and ultimately improve the customer experience for increasingly sophisticated and demanding digital users;
12. Considers that the development and improvement of digital skills should take place through major investment in education with two main objectives: training a highly skilled workforce able to retain and create technological jobs and putting an end to digital illiteracy – a cause of digital divide and exclusion;

III. Policy approach

13. 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;
14. Calls on the Commission to ensure, maintain and develop financing for the 5G Action Plan at the appropriate level within the horizon of the next Multiannual Financial Framework 2020-2027;
15. Believes that the best path towards the gigabit society lies in a technology-inclusive approach supported by a broad range of investment models such as public-private or co-investments; notes that co-investment in very high capacity networks can help to pool resources, enable different flexible frameworks and lower deployment costs;
16. Stresses that commercial investments should be supported by a policy and regulatory environment tailored to predictability and the certainty of return on investments, and should not be delayed by overly ambitious public schemes that may impede 5G rollout;
17. Calls on the Member States to implement the 5G Action Plan fully through coherent and timely action in regions and cities that encourages and incentivises cross-sector innovation and fosters an economic industry-wide cooperative framework;
18. Calls on the Commission to take the lead in promoting inter-sectoral, cross-lingual 5G interoperability and supporting privacy-friendly, reliable, secure services and to consider economic and geographic national circumstances as an integral part of a common strategy;
19. Notes that each sector should work out its own roadmap for standardisation, relying on industry-led processes, with a strong desire to reach common standards that have the

potential to become worldwide standards;

20. 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;
 21. Stresses the need to harmonise the European approach for electromagnetic fields (EMFs), in accordance with the International Commission on Non-Ionising Radiation Protection (ICNIRP) guidelines formally recognised by the WHO;
 22. Highlights that the development of the gigabit society requires fewer and simpler rules, which should be future-oriented, pro-investment, pro-innovation and based on an assessment of market competition; stresses that infrastructure-based competition offers the potential for less regulation and allows for a fair long-term return on investments;
 23. Stresses that National Broadband Plans need to be revised carefully, target all 5G areas, maintain a multi-technology approach, support regulatory flexibility and maximise the scope of innovation and coverage;
 24. Calls on the Commission to assess the National Broadband Plans to identify gaps and to formulate country-specific recommendations for further action;
 25. 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;
 26. Recalls that SMEs would benefit greatly from access to 5G solutions; calls on the Commission to detail its action plans to facilitate SME access to the 5G Participatory Broadband Platform;
 27. Supports the Commission's proposed plan to set up spectrum harmonisation and long-term licence durations of at least 25 years, 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;
 28. 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);
 29. Recommends that the Commission should establish an annual progress review and draw up recommendations on the 5G Action Plan, and inform Parliament of the results;
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30. 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 quality networks: 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.