Telecom operators' priorities for Horizon Europe

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Last June, the European Parliament and the European Council endorsed a decision regarding the next Horizon Europe framework programme, which brings an overview of its structure. ETNO, which represents the key European telecom operators that heavily invest in research and innovation, would like to highlight a number of aspects that are vital for future research and development across all sectors, as they digitise and integrate advanced ICT technologies and services.

Support for the increased investment in Research and Innovation
We support the proposed increase in research & innovation budget as ICT technologies are increasingly becoming an essential part of European citizens' daily life. However, we are afraid that the need to keep developing high-level competencies to support European interests requires an even larger investment, particularly in light of the level of research spending in other world regions.

Support for the programme structure and the ICT themes
The proposed new programme structure is encouraging and we welcome strong ICT themes in the Global Challenges and Industrial competiveness pillar / Digital & industry, where we are willing to participate. We also stress that the developments in ICT are critical to the evolution of many vertical sectors such as Health, Industry 4.0, Mobility, Agriculture, Environment, etc. Therefore, we should not neglect the need for the ICT community to be proactive in the digitisation of these sectors.

Support for the Next Generation Internet challenge
We anticipate that the Industrial Competiveness pillar, and Next Generation Internet challenge specifically, will encompass the evolution of ICT technologies, and we would thus commit to investing significant R&I resources to this challenge. We will also be involved in other challenges such as Artificial intelligence (AI) and Robotics, Advanced computing, Big Data, and Key Digital Technologies as they are also significant aspects of future communications.

Support for Smart Networks and the Post 5G topics
The Next Generation Internet challenge is very comprehensive because it covers a number of research areas encompassing network infrastructure, applications, interaction, and software. **We are afraid that the proposed €15 B is the absolute minimum necessary to have sufficient European projects able to influence future solutions**. To assert European leadership, more investments will be necessary, with no ex ante cap to allow the maximum flexibility. We would particularly like to stress the importance of the Post-5G (smart network) objective because after 2021, there will be still a lot of effort required for future infrastructure evolutions to keep European Industry at the forefront of innovation. In this context, a comprehensive public private strategy is needed, considering the very high capital intensity in this research domain.

Support for Media and Content topics
We also foresee huge evolutions in the Media & Content technologies as the sector starts to take advantage of new immersive technologies that, together with high bandwidth connectivity, will have a huge impact on the Media sector as well as on the other vertical sectors that use media to promote and present their activities.

Support for Artificial Intelligence topics
Artificial intelligence will become a core component in many ICT-dependent sectors. We expect network configuration and management to adopt AI technologies for optimising the use of resources. AI will also be used in media & content production and distribution, and specifically in basic functions such as machine learning, deep learning, Natural language processing, Machine perception, Computer vision, and Speech recognition, Affective computing, and others. These applications will need research in order to develop new algorithms able to adapt the safe use of AI to ICT services, ICT provision and resource management and, most importantly, to satisfying European citizens' ICT needs.

Support for other EC programmes affecting ICT evolution
Digital Europe and **Connecting Europe Facilities** are two other programmes that are of huge interest for telecom operators, as they should facilitate the transfer of the research results to business.
We would like to support them especially on the following aspects:

- **Digital Europe,** together with **Digitalising European Industry** initiative, is key to facilitate the adoption of ICT technologies in many industrial sectors. We would like to support the **Digital Innovation Hub networks initiative,** which should be helpful at local level. More specifically, we are supporting two specific domains, i.e. Smart networks including IoT and Media & Content.
- **Connecting European Facility** (CEF) funding initiative will play an important role for the further deployment of trans-European infrastructures in particular 5G corridors. A few corridors are already being equipped thanks to Horizon 2020 projects but the Commission is aiming at allocating additional funding using CEF to expand such projects. ETNO also supports the objective of the Commission to enhance connectivity to areas including socio-economic drivers and individual households where they are not served by the market.

Commitment from the telco community to participate in Horizon Europe
Finally, ETNO supports the ambition of strengthening the EU budget for digitisation through Horizon Europe, Digital Europe and Connecting European Facility funding programmes. However, we believe there is the need for a comprehensive coordination from the definition phase of these programmes up to their final execution. We, as ETNO, are ready to support the process, in order to build a strong and consistent research programme for the next decade.