

**DIGITALEUROPE contact point:**

Jochen Mistiaen, DIGITALEUROPE Senior Policy Manager  
+32 496 20 54 11 or [jochen.mistiaen@digitaleurope.org](mailto:jochen.mistiaen@digitaleurope.org)

## DIGITALEUROPE Response to the Public Consultation on Strategic Spectrum Roadmap towards 5G for Europe – RSPG Opinion on 5G implementation challenges

27 November 2018

DIGITALEUROPE and its membership welcome this 3rd Opinion of the RSPG on the Strategic Roadmap towards 5G for Europe. We welcome in particular in this context the opportunity for industry to submit its views and contribute to the development of this Opinion, which aims to examine and address potential 5G implementation challenges.

DIGITALEUROPE would like to share the following views on the draft RSPG 3rd Opinion on the Strategic Roadmap towards 5G for Europe, regarding the 5G implementation challenges:

### I. Concerning the Defragmentation of the 3.4-3.8 GHz frequency band:

*1. The RSPG recommends that Member States (MS) design spectrum award mechanisms that provide the opportunity to obtain sufficiently large contiguous spectrum blocks to facilitate high throughput multi-Gb/s 5G services such as enhanced mobile broadband. The RSPG notes that national awards processes may result in various spectrum blocks sizes due to market players strategies and that trading/leasing of rights of use ("spectrum trading") could also be considered as part of the national defragmentation tools/policy.*

DIGITALEUROPE supports the effort to enable large contiguous spectrum blocks; see for instance ECC Decision(18)146 and ECC Report 287, where 80 -100 MHz is suggested as appropriate. Large contiguous spectrum blocks are crucial for meeting 5G requirements on bitrates, and for providing sufficient network capacity for such high bitrate services. Assignment decisions can be made on the granularity of 10 or 20 MHz blocks that can form such wide contiguous spectrum blocks. DIGITALEUROPE further notes that the effort for defragmentation and large contiguous spectrum blocks should also apply to 26 GHz, where blocks of the size ten times larger should be the target.

*2. The RSPG notes that, taking into account different national legacy situations and competitive landscape, Member States may need different approaches at national level in order to achieve the above defragmentation objectives. In this regard, the RSPG recommends that Member States consider the guidance on defragmenting the band that has been developed by the CEPT (ECC Report 287).*

DIGITALEUROPE agrees that ECC Report 287 on defragmentation report provides suitable guidance for administrations. Whereas DIGITALEUROPE agrees that different approaches may be required in different Member States, it is noted that action is urgently needed to defragment the band to avoid Europe falling behind other regions and countries. In addition, it should be noted that if defragmentation is not achieved,

different additional technical requirements (such as country specific base station filters) may considerably complicate design and possibly delay availability of equipment.

*3. The RSPG recommends that, in order to facilitate 5G use in this primary band and subject to national situation, Member States phase out, as soon as possible, legacy ECS use in the band, which is not compatible with the 5G harmonised technical conditions.*

DIGITALEUROPE strongly supports this recommendation, which could greatly facilitate deployment of 5G networks in Europe. Retention of legacy ECS use may prevent the use of large contiguous spectrum blocks, as discussed above, for 5G deployment in certain areas and, not least, may lead to complicate synchronization of networks due to differences in technologies, and thus in addition reduced flexibility for selection of frame structure.

## II. In order to ensure connectivity for vertical industries:

*4. The RSPG notes that 5G will play a significant role in providing a communications service that meets the specific requirements for verticals alongside others technologies.*

DIGITALEUROPE agrees fully with statement, and notes further that 5G has been designed with flexibility in mind, and with capabilities that encompass those needed by verticals with critical requirements.

*5. The RSPG notes that connectivity for vertical industries could be provided by mobile operator's solutions, third-party providers and directly by verticals themselves in EU harmonised ECS bands or in dedicated spectrum for verticals.*

DIGITALEUROPE agrees that all solutions mentioned above are possible.

DIGITALEUROPE sees a need to support a variety of cooperation models between specifically manufacturing verticals and MNOs. On the one hand, private enterprises can purchase communication services tailored to their needs from MNOs implemented in networks slices in MNO spectrum.

On the other hand, DIGITALEUROPE envisages models where private enterprises want to invest into local 5G communication infrastructure for reasons of control over operations, QoS, reliability, availability, privacy, security, etc. Such models require spectrum access for private enterprises, where DIGITALEUROPE sees options in MNOs sub-licensing spectrum to private enterprises and/or in regulators directly granting spectrum licenses to private enterprises.

Where considered suitable, these private enterprises could grant MNOs to carry their services over that local private 5G infrastructure, e.g. in exchange for sub-licensed (additional) spectrum. In this way, MNOs could benefit from private industry investments to deploy their services into the private premises. The MNOs could then focus their own investment into the public network domain. Private enterprises could benefit from (additional) MNO spectrum and seamless MNO services in their own premises.

Regardless of the ownership of the spectrum usage rights, the design, build and operations of such 5G local infrastructure can be done either by an MNO, by the local enterprise or a trusted third party.

Such cooperative models are well established for voice communications where enterprises have their local private exchanges (PBX) connected to the public networks allowing to share the local access infrastructure for internal and external communications. DIGITALEUROPE would like to point to the opportunity of such models attracting additional investment into 5G. Thus, the overall 5G take-up could accelerate with positive impact on the larger economy.

This would allow vertical industries to have an actual choice among various options (e.g. from own management to cooperation models) to benefit from the full innovation potential of 5G.

It is particularly important for the manufacturing and process industry that the RSPG supports the deployment of these connectivity solutions by respective regulatory conditions to enable the applicability of the above-mentioned options in a flexible manner. Fostering such win-win cooperation models between the manufacturing industry and MNOs works towards best possible efficiency in spectrum use and economies.

*6. The RSPG recommends that Member States consider other spectrum solutions including dedicated or shared spectrum for the business/sectoral needs (“verticals needs”) that may not be met by mobile operators. Such solutions could take advantage from economies of scale and ecosystem availability in spectrum bands with EU harmonised technical conditions.*

DIGITALEUROPE agrees regarding the importance of providing verticals with other spectrum access opportunities including dedicated or shared spectrum for needs that may not be met by mobile operators. DIGITALEUROPE notes that MNOs will be driving the 5G eco-system, particularly during the initial phase of 5G development. The target must be to provide a sufficiently large amount of 5G spectrum to meet the needs of verticals as well as MNOs and not to limit deployment for any of the key use cases.

In addition to the frequency bands already identified by the RSPG for 5G deployment in Europe (i.e. below 1 GHz, 3.6 GHz and 26 GHz), DIGITALEUROPE notes that the spectrum in the 2.3 GHz band and 3.8-4.2 GHz could also be suitable for verticals, as well as MNOs, for local area deployments. 5G sharing with satellite systems in 3.8-4.2 GHz in Europe should be possible with geographic exclusion zones in order to protect the satellite systems. Eco-systems for these additional frequency bands, such as 2.3 GHz and 3.8 – 4.2 GHz, are or will be available due to deployments in other regions.

*7. The RSPG notes that, in addition to the above, in order to respond to some targeted EU public policy objectives requiring, for example pan European services for specific verticals, there may be need for technology neutral dedicated EU harmonised spectrum. RSPG recommends assessing these needs on a case by case basis and is ready to give its view when/where appropriate.*

/

*8. The RSPG recognizes that, in order to support implementation of EECC, the European Commission might consider additional recommendations on spectrum use for verticals and in this case, it should seek advice from the RSPG.*

/

In addition to the comments above DIGITALEUROPE would like to stress the following items for inclusion into the RSPG opinion:

As mentioned above, availability of the 24.25 – 27.5 GHz frequency band is of crucial importance for 5G deployment in Europe, noting also that auctions and consultations have started. As for the C-band, it is of great importance to provide large contiguous bandwidths, in the order of 800 MHz per network.

DIGITALEUROPE would encourage RSPG to provide guidance on the frequency band 40.5 – 43.5 GHz. It is our understanding that this will should considered immediately after WRC-19, and thus a statement that promotes this band and clarifies the way forward would be valuable.

--

For more information, please contact:

Jochen Mistiaen, DIGITALEUROPE Senior Policy Manager  
+32 496 20 54 11 or [jochen.mistiaen@digitaleurope.org](mailto:jochen.mistiaen@digitaleurope.org)

## ABOUT DIGITALEUROPE

DIGITALEUROPE represents the digital technology industry in Europe. Our members include some of the world's largest IT, telecoms and consumer electronics companies and national associations from every part of Europe. DIGITALEUROPE wants European businesses and citizens to benefit fully from digital technologies and for Europe to grow, attract and sustain the world's best digital technology companies. DIGITALEUROPE ensures industry participation in the development and implementation of EU policies.

DIGITALEUROPE's members include in total over 35,000 ICT Companies in Europe represented by 66 Corporate Members and 39 National Trade Associations from across Europe. Our website provides further information on our recent news and activities: <http://www.digitaleurope.org>

## DIGITALEUROPE MEMBERSHIP

### Corporate Members

Adobe, Airbus, Amazon, AMD, Apple, Arçelik, Bosch, Bose, Brother, Canon, Cisco, Dell, Dropbox, Epson, Ericsson, Fujitsu, Google, Hewlett Packard Enterprise, Hitachi, HP Inc., Huawei, IBM, Intel, JVC Kenwood Group, Konica Minolta, Kyocera, Lenovo, Lexmark, LG Electronics, Loewe, MasterCard, METRO, Microsoft, Mitsubishi Electric Europe, Motorola Solutions, MSD Europe Inc., NEC, Nokia, Nvidia Ltd., Océ, Oki, Oracle, Palo Alto Networks, Panasonic Europe, Philips, Pioneer, Qualcomm, Ricoh Europe PLC, Rockwell Automation, Samsung, SAP, SAS, Schneider Electric, Sharp Electronics, Siemens, Sony, Swatch Group, Tata Consultancy Services, Technicolor, Texas Instruments, Toshiba, TP Vision, VMware, Western Digital, Xerox, Zebra Technologies.

### National Trade Associations

**Austria:** IOÖ

**Belarus:** INFOPARK

**Belgium:** AGORIA

**Bulgaria:** BAIT

**Croatia:** Croatian Chamber of Economy

**Cyprus:** CITEA

**Denmark:** DI Digital, IT-BRANCHEN

**Estonia:** ITL

**Finland:** TIF

**France:** AFNUM, Syntec Numérique, Tech in France

**Germany:** BITKOM, ZVEI

**Greece:** SEPE

**Hungary:** IVSZ

**Ireland:** TECHNOLOGY IRELAND

**Italy:** Anitec-Assinform

**Lithuania:** INFOBALT

**Luxembourg:** APSI

**Netherlands:** Nederland ICT, FIAR

**Poland:** KIGEIT, PIIT, ZIPSEE

**Portugal:** AGEFE

**Romania:** ANIS, APDETIC

**Slovakia:** ITAS

**Slovenia:** GZS

**Spain:** AMETIC

**Sweden:** Foreningen Teknikföretagen i Sverige, IT&Telekomföretagen

**Switzerland:** SWICO

**Turkey:** Digital Turkey Platform, ECID

**Ukraine:** IT UKRAINE

**United Kingdom:** techUK