

<b>Consultation Title</b>	Public Consultation on the Draft RSPG Work Programme for 2022 and beyond
<b>Deadline</b>	06 January 2022
<b>Geographical Scope</b>	European Union
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<b>Co-Signatories</b>	Apple Inc., Broadcom Inc., Cisco Systems Inc., Intel Corp., Hewlett Packard Enterprise (HPE), Facebook
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## Introduction

The undersigned companies, representing an important cross section of the world's leading silicon vendors, system manufacturers, and application providers, welcome the opportunity to submit this filing in response to the Public Consultation on the 'Draft RSPG Work Programme for 2022 and beyond' issued by the Radio Spectrum Policy Group (RSPG).

The undersigned companies commend the RSPG for its intention to adopt a work programme which aligns closely with the European Union's dual priority of the European Green Deal and the European Digital Decade. It is critical to ensure that Europe's spectrum strategy supports these two programmes.

However, the undersigned companies are deeply concerned that the current proposed work programme is focusing almost exclusively on technologies for licensed mobile networks. Wireless local network topologies in particular also offer opportunities for both the European Green Deal and the European Digital Decade.

This exclusive focus of the RSPG on licensed mobile networks is putting at risk the adequacy of Europe's spectrum strategy when it comes to fulfilling Europe's main objectives, i.e., the European Green Deal and the European Digital Decade.

FTTH + WAS/Wi-Fi is a very energy efficient way to deliver wireless communications and can therefore contribute to the European Green Deal objectives.

The European Digital Decade strategy proposes two major connectivity objectives for 2030:

- all European households will be covered by a gigabit network,
- all populated areas will be covered by 5G.

The undersigned companies would like to express their concerns that the proposed work programme is not adequately supporting these objectives. The connectivity objective of ensuring that "all European households will be covered by a gigabit network" obviously involves large scale deployment of fibre optic networks. However, delivering gigabit services up to a fibre network termination point is meaningless if users cannot utilise these services because there is not enough licence-exempt spectrum available to support wireless indoor connectivity, be it within homes, at work, at school, in hospitals, or any other venue. **The RSPG should ensure that Europe's spectrum strategy enables wireless gigabit connectivity to businesses and consumers, and not just to a fibre termination point.** This aspect is particularly relevant in the context of indoor environments where more than 90% of data traffic is consumed or generated.

Having gigabit connectivity available within every home is unlikely to be achieved through a "one technology fits all" model focusing exclusively on 3GPP-based licensed mobile networks. Making

gigabit connectivity available to European citizens and enterprises will require a mix of technologies including RLAN. **The RSPG should develop an EU spectrum strategy that does not rely exclusively on licensed mobile networks but instead combines the benefits of various wireless technologies and licensing models including licence-exempt RLANs.**

In summary, the undersigned companies are deeply concerned that in its current work programme proposal, the RSPG is not adequately considering the important role of RLANs in providing connectivity. RLANs are carrying the bulk of the wireless traffic today. While they have an important role to play for mobile coverage, licensed mobile networks are just one contributor to providing ubiquitous broadband connectivity in Europe. Therefore, the undersigned companies request the RSPG to:

- align the work programme with the objectives of the EU Digital Decade and EU Green Transition,
- acknowledge the important role of RLANs for providing gigabit connectivity in Europe.

Please find in the following sections suggestions for additional work items and modifications to the proposed work items.

## **Proposed modifications to the RSPG Work Programme 2022 and beyond**

### **2.1 Addition of a work item ‘Wireless technologies for extending gigabit connectivity to users, particularly in indoor environments’**

#### Rationale

RLAN technologies are the cornerstone of local wireless broadband connectivity in Europe. The Digital Decade strategy will further reinforce this role through ensuring that every home, SME, school, hospital, and venue is covered by gigabit networks by 2030. RLAN standards are evolving rapidly. Being on the market today, Wi-Fi 6E will benefit from the availability of the 5945-6425 MHz band in Europe. The next generation Wi-Fi technology, Wi-Fi 7, which is under development now, will deliver numerous additional benefits set to turn the vision of Europe’s Digital Decade into reality, provided that a sufficient amount of spectrum will be made available. The Wi-Fi Alliance is planning the Wi-Fi 7 certification process to start in 2023.

RLAN also greatly contribute to the EU Green Deal by reducing the energy footprint of digital technologies.

#### Scope

The RSPG will investigate:

- the current role of RLANs in the EU digital connectivity,
- the expected contribution of RLANs to the EU Digital Decade objectives,
- the 2030 RLAN spectrum requirements, taking into account the advent of Wi-Fi 7,

and

- propose EU priority bands to respond to the RLAN 2030 spectrum demand.

#### Planned Deliverables

RSPG Opinion

High-level workshops

#### Time schedule

Draft Opinion for Public consultation: September 2022

Final Opinion: January 2023

## 2.2 Modifications to currently proposed work items

### 2.2.1 Digital decade 2030

#### Rationale

In 2016, the European Commission (EC) Communication ‘Connectivity for a Competitive Digital Single Market – towards a European Gigabit Society’ set out new connectivity objectives for the Union supported, among others, by 5G policy regulatory initiatives in Europe. This policy initiative has been updated with the publication of the Commission Communication “2030 Digital Compass: the European way for the Digital Decade”. Widespread deployment of very high capacity networks including radio networks Availability of gigabit connectivity to all European households and coverage of all populated areas by 5G, all populated areas covered by 5G are among the main objectives stated by this policy initiative. In mid 2021, the European Commission launched a large consultation on the “2030 Digital Compass” and discussion including various topics such as “governing digital decade”, “digital infrastructure”, “multi country projects”. RSPG contributed to the European Commission’s targeted consultation on the “2030 Digital Compass” issued on June 22, 2021. In relation to spectrum matters, the RSPG Opinion elaborated on potential actions relating to spectrum roadmaps and initiatives, spectrum management and support mechanisms for spectrum awards. These issues were partly addressed in questions 18, 52 and 53 and in a few other questions in this EC consultation. The European Commission proposed on September 15, 2021 a 2030 Policy Program “Path to the Digital Decade” further to the Digital Compass and others policy initiatives. It sets in particular policy objectives on digital infrastructures convergent with European Green Deal goals. It targets in particular, in accordance with the 2030 Digital Compass, that all European households will be covered by a Gigabit network, with all populated areas covered by 5G in 2030. The Digital targets set out by this proposal are intended to be reviewed by 2026. The EC intends to submit annually to the European Parliament and the Council a report on the “State of Digital Decade”. According to this Commission’s proposal, Member States should report to the EC on an annual basis the progress concerning the national Digital Decade strategic roadmaps which could include, for example, policies, measures, actions related to radio spectrum resources that have been or are committed to be allocated or assigned nationally. The EC proposes to recommend policies, measures and actions to be taken. Regarding spectrum, these possible recommendations would be without prejudice to the possibility for the EC to propose a new Radio Spectrum Policy Programme (RSPP). This new EC initiative intends also to trigger multi Country Projects. In addition, the EC maintains International partnerships for the Digital Decade.

RSPG already recommended spectrum harmonisation initiatives in support to 5G and will continue as appropriate in order to help the European Commission to launch harmonisation initiatives or to develop roadmaps: i.e. 6 G (See RSPG Opinion on RSPP and response to Digital Compass questionnaire”) and in the International partnerships when addressing spectrum.

While RSPG so far has focused on the availability of spectrum for 5G licensed mobile networks, it will extend and realign its activity to further support the EU priorities. In particular, the RSPG will:

- develop a spectrum strategy to secure the spectrum availability for RLANs, taking into account the specific focus on gigabit connectivity within homes, SMEs, schools, and hospitals,
- provide recommendations to extend the coverage of 5G licensed mobile networks to all populated areas.

#### Scope of RSPG activity

The RSPG, as recalled in its Opinions on RSPP and Digital Compass is ready to advise the EC, the Council and the European Parliament as required, on matters within its areas of competence, in order to support a 2030 policy program “path to the Digital Decade”. The RSPG intends to

monitor this legislative process and relevant follow up in particular on targets requiring additional initiative from RSPG which are not already covered by the other work items.

Planned type of deliverable

RSPG Opinion on securing spectrum availability for gigabit connectivity to all EU households by 2030.

To be defined, as appropriate and if needed, further to the adoption of the 2030 “path to digital decade”

Time schedule

Throughout the period of the work programme

## 2.2.2 The development of 6G and possible implications for spectrum needs and guidance on the rollout of future wireless broadband networks

### Rationale

5G is at present the most important evolution of ~~wireless broadband~~ licensed mobile networks. Over time the RSPG has developed three Opinions as its strategic roadmap towards 5G for Europe, in which it has identified 5G pioneer bands and addressed implementation challenges for 5G mobile networks:

- RSPG Opinion on spectrum related aspects for next-generation wireless systems (5G), 30 November 2016
- RSPG Second Opinion on 5G networks (Strategic Spectrum Road Map Towards 5G for Europe), 30 January 2018
- RSPG Opinion on 5G implementation challenges (RSPG 3rd opinion on 5G), 30 January 2019.

These Opinions supported EU policies on 5G and triggered EU harmonisation and regulatory initiatives. As 5G mobile networks have started to be authorised and deployed, the RSPG also developed a joint declaration with BEREC on spectrum-related EMF issues and an opinion on the additional spectrum and harmonisation needs as well as authorisation regimes for successful deployment of 5G networks, both mobile and local, including for verticals:

- RSPG Opinion on Additional spectrum needs and guidance on the fast rollout of future wireless broadband networks, 16 June 2021

The evolution of the next generation of mobile networks is being discussed, wireless broadband is well underway. Although the commercial launch of 6G is not expected until around after 2030 the start of the standardisation work is expected to have started by 2025. There are many development activities ongoing in Europe as well as in other parts of the world. Especially the 6G part of the European partnership program Smart Networks and Services is expected to develop results that are of importance for RSPG in this area. The technical developments are expected to bring new possibilities broadening the scope of mobile networks, wireless broadband to various areas, possibly including mitigating reducing the negative environmental impact of mobile networks and climate change as well as potentially satisfying new operational needs and new services addressed to consumers and verticals. Some research initiatives are starting to consider spectrum issues and relevant needs in sub-THz spectrum but also in spectrum bands targeted for 5G including low and mid bands. Within this work item, the RSPG will follow and investigate the research and development of 6G and study European 6G test plans and trials. The RSPG will further investigate and identify early indications of additional spectrum and harmonisation needs not just for mobile networks but for all relevant and appropriate deployment models and technologies, and/or potential implications on spectrum regulation in order to be prepared for the development of 6G roadmaps later on (beyond 2023).

### Scope of RSPG activity

The RSPG will conduct an evaluation of 5G in Europe (licensing strategies, auction design, deployment progress, etc.) with the aim to gain knowledge around what has been successful and what still needs to be addressed, thus providing valuable input when designing future 6G strategies. The RSPG will consider different deployment models and different technologies to identify the role played by licensed mobile network and RLAN in the overall EU wireless connectivity landscape.

Regarding the pivotal role of wireless broadband, not limited to mobile networks but considering all network models and technologies, the RSPG will consider early signals of demand for additional spectrum as well as the necessity to make a certain amount of harmonised spectrum available in a timely manner, including in spectrum bands targeted for 5G including low and mid spectrum bands.

This may involve continuing the move further up to higher bands, thus enabling early exploratory work in the sub-THz bands.

RSPG will continue to engage in the sharing of information and experience in support of a successful development and future roll-out of 6G and other wireless technologies in the EU, and will provide targeted guidance on authorisation and implementation issues, if such a need is identified. This work may form the basis for and may lead to future 6G and RLAN spectrum roadmaps of the RSPG later on (beyond 2023). This activity will not address WRC-23 agenda item 10 which remains to be addressed solely under the activity regarding the preparation of EU position for WRC-23.

#### Planned type of deliverable

RSPG Opinion

High-level workshops addressing the entire industry including verticals are also envisaged.

#### Time schedule

Draft Opinion for Public consultation: January 2023

Final Opinion: June 2023

## Signatories

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