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Comments to the Draft RSPG Work Programme 2018

Dear Ladies and Gentlemen,

we are thankful to have the opportunity to provide our comments to the **Draft RSPG Work Programme 2018 and beyond.**

About Sennheiser

Sennheiser is shaping the future of audio – a vision built on more than 70 years of innovation culture, which is deeply rooted within the family-owned company. Founded in 1945, Sennheiser is one of the world's leading manufacturers of headphones, microphones and wireless transmission systems. With 20 sales subsidiaries and long-established trading partners, the company is active in more than 50 countries and operates its own production facilities in Germany, Ireland and the USA. Sennheiser has about 2,800 employees around the world that share a passion for audio excellence. Since 2013, Sennheiser is managed by Daniel Sennheiser and Dr. Andreas Sennheiser, the third generation of the family to run the company. www.sennheiser.com.

Sennheiser comments

Page 9 European Spectrum Strategy

We very much welcome that RSPG will initiate discussions on a longer term European spectrum strategy with a 10-30 year horizon. The recent past has shown that the lack of a long term coordinated vision for the use of spectrum causes waste of investments and generates insecurity, losing trust, in at least one important and viable industry: The Culture and Creative Industry. Reliable long-term planning with sufficient transition periods allow the expected return on investments and do not



waste money especially of the public sector. This vision has to be formed by the EU and its member states and needs to become the guideline for all kinds of activities especially the WRC preparations and decisions.

We agree that RSPG should be leading European thinking on a longer-term spectrum strategy, but we also notice that RSPG is taking a technology-driven approach rather an application-driven approach in this endeavor.

We recommend, however, to take an application-driven approach in order to catch-up the real needs of the European industries.

In our perspective, wireless communications technology is in most cases an enabler and not the driver of wireless applications of European industry including e.g. Media & Entertainment, Creative and Culture Industry, Wireless Industrial Automation, Industry 4.0, eHealth, Automotive, and Agriculture.

We therefore very much welcome and fully agree that the RSPG should take into account not only technical parameters but also economic, political, social, cultural and other strategic considerations impacting spectrum policy.

In regard to the introduction of 5G mobile services, we are of the opinion that the interest of vertical industries in using new technologies is driven primarily by the wish to maintain their current applications, resulting in an at least equal or better technical and economic performance compared to currently deployed solutions. This will lead in the following also to new and more advanced performance and finally also new applications and further development of that technology.

Therefore, 5G has to prove both; its technical ability to fulfill the needs and requirements of vertical industries and the economic benefit that can be gained by shifting their applications into the 5G ecosystem.

An important obstacle to the successful integration of vertical use cases into the 5G ecosystem is currently the lack of viable and sustainable business models. We agree that new spectrum management principles and a new thinking in spectrum management as well as cross-holding of resources including infrastructure are key to enable the success of 5G and the industries.

It is important to open the path for verticals to access affordable spectrum with Quality of Service guarantees. This is the key-acceptance factor for 5G!

The ability of verticals to deploy and operate their own, local network infrastructure will lower the entry level for the business models' development process and speed up the deployment of 5G technology for vertical use cases, while at the same time 5G public service network operators would avoid additional investments into infrastructure and could provide Spectrum as a Service as additional business.



It is important to stress that verticals with their professional applications would expand the customer basis of 5G significantly. This will only be the case if the necessary adaptations of 5G technologies to meet the requirements of vertical use cases are implemented, and specific interfaces and chipsets are available for the vertical industries.

We would like to point out that ETSI TC RRS is already working on spectrum sharing and authorization solutions cutting across different bands based on the evolution of Licensed Shared Access (LSA) principles for Local High-Quality Wireless Networks.

Please refer to:

- https://portal.etsi.org/webapp/WorkProgram/Report_WorkItem.asp?WKI_ID=50966
- https://portal.etsi.org/webapp/WorkProgram/Report_WorkItem.asp?WKI_ID=54041

Furthermore, the adoption of the therein proposed architectures would enable vertical industries to roll-out private 5G networks when needed and with the capabilities required.

Hence, this approach fosters vertical industries to put themselves as independent actors into the wireless business value chain, perhaps leading to changes in conventional role models.

We fully agree that the development of a European Spectrum Strategy will be an iterative process that has to build on open dialogue and welcome to work with stakeholders on a European success story in this regard.

We like to encourage the EU and the RSPG to further support the preparations for the coming WRCs in a way that the EU member states support the EU/RSPG position on the majority of items to be discussed. Europe needs to speak with one voice! Otherwise it can be overruled by the rest of just the members of ITU-Region 1. We have learned from the past that Europe was hardly able to postpone the Digital Dividend 2.

The recently given guarantee to protect the remaining UHF-TV spectrum until 2030 needs the support of all EU member states. This gives room to adapt to the changes and also to develop and deploy new procedures for a higher density of users in a given spectrum without sacrificing the demanded link quality.

In Resolution 59-1 the ITU plans to coordinate worldwide frequency ranges for the Culture and Creative Industry - PMSE. We ask the EU to convince the member states to support this item as this industry is steadily growing, caters for the majority of and generates new jobs and thereby delivers a significant part of the national GDP of each member state. Harmonizing spectrum and spectrum access for these applications supports the exchange of cultural heritage and developments.



Wedemark, Germany, January 5th, 2018

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