

Position Paper

23rd August 2023

Draft RSPG Opinion (RSPG23-026)

The development of 6G and possible implications for spectrum needs and guidance on the roll-out of future wireless broadband networks

Summary

Bitkom welcomes the RSPG opinion and the early fostering of the 6G development. 6G is expected to deliver the wireless mobile networks that will enable the Internet of Everything in the 2030s, connecting people with the digital and physical world. The goals are global coverage and 6G as a "network of networks" using integrated terrestrial and non-terrestrial (satellite) networks, campus networks, and micro-networks (e.g. in robots, vehicles, and so on).

To enable Europe to take a leading position in the development of 6G, clear strategic objectives and concrete implementation steps are needed. Bitkom therefore explicitly supports the RSPG's recommendation that Europe should develop a 6G strategy containing concrete action steps.

In Bitkom's view, it is essential for a 6G strategy to have early clarity on available spectrum resources. Only then will 6G be able to reach its full potential. In addition, international standardisation must be considered as a strategic goal and users must be involved at an early stage in the design of a 6G ecosystem.

Below, we provide recommendations for a 6G strategy. Besides this, Bitkom has developed a [6G Paper](#) giving views on a vision for 6G.

Paving the way for 6G

To foster the development of 6G, the RSPG and EU should develop the proposed 6G strategy. The strategy must not only contain concrete goals, but especially introduce concrete steps and actions making sure the set goals are achieved. From Bitkom's point of view the strategy should especially consider introducing the following measures:

1. Implement further spectrum availability for 6G

To support the roll-out of 6G and the further expansion of 5G, Europe should consider international efforts to make additional spectrum available for mobile communications. The expected demand and connectivity targets cannot be met without new spectrum – even if refarming, shared approaches and densification are considered. In a first step, mid-band spectrum sub 24 GHz will foster a timely roll-out. Bitkom considers sufficient EU harmonisation of spectrum for mobile services as indispensable. Additional spectrum in the mid-band range is required to enable operators to deliver towards the European digitization targets. Harmonized mobile bands already available in other regions should be made available as much as possible also in Europe.

Bitkom welcomes the recognition of the spectrum demand for vertical applications and would like to add that, depending on local needs, different solutions have to be considered and developed.

Bitkom invites the European Commission to consider the results of the WRC-23, with regard to additional IMT spectrum, in particular in the 6 GHz band, as important input for the 6G strategy.

2. Driving standardisation

The establishment of global communication standards that are widely accepted by market players creates the conditions for the development of scalable applications and solutions for vertical users, such as Industry 4.0. The aim must be to better integrate users in the standardisation process and to create global standards.

3. Expanding research and support programmes

Bitkom invites the EU to continue its engagement in 6G research and development programmes and to consider public funding in their strategy.

4. Enabling cooperation

Bitkom supports the RSPG intention to involve all relevant stakeholders from telco and other industries to support the development of a strong ecosystem to enable Europe to be at the forefront of 6G deployment. One goal is to ensure interoperability and economies of scale.

5. Accelerating the roll-out

To accelerate the roll-out of current and future generations of mobile communications, construction and licensing hurdles must be consistently lowered.

Administrative procedures must be fully digitalised and social acceptance of the roll-out must be improved.

6. Developing 6G chipsets

A prerequisite for 6G will also be the further evolution of semiconductor-based system solutions ("system on chip", SoC). These are necessary to enable extreme data rates, highest spectral efficiency and maximum energy efficiency and should therefore be considered within the 6G strategy.

Bitkom represents more than 2,200 companies from the digital economy. They generate an annual turnover of 200 billion euros in Germany and employ more than 2 million people. Among the members are 1,000 small and medium-sized businesses, over 500 start-ups and almost all global players. These companies provide services in software, IT, telecommunications or the internet, produce hardware and consumer electronics, work in digital media, create content, operate platforms or are in other ways affiliated with the digital economy. 82 percent of the members' headquarters are in Germany, 8 percent in the rest of the EU and 7 percent in the US. 3 percent are from other regions of the world. Bitkom promotes and drives the digital transformation of the German economy and advocates for citizens to participate in and benefit from digitalisation. At the heart of Bitkom's concerns are ensuring a strong European digital policy and a fully integrated digital single market, as well as making Germany a key driver of digital change in Europe and the world.

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