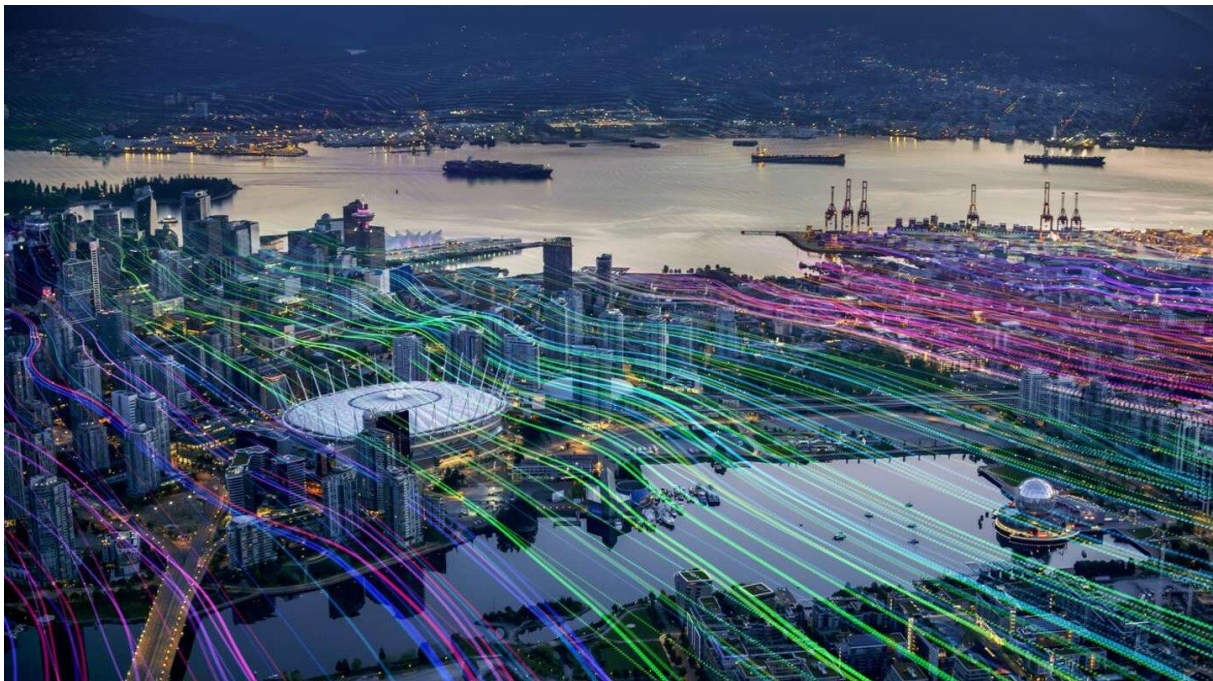


Ofcom Consultation

Ofcom's Spectrum Roadmap



About Ericsson

Ericsson enables communications service providers to capture the full value of connectivity. The company's portfolio spans Networks, Digital Services, Managed Services, and Emerging Business and is designed to help customers go digital, increase efficiency and find new revenue streams. Ericsson's investments in innovation have delivered the benefits of telephony and mobile broadband to billions of people around the world. The Ericsson stock is listed on Nasdaq Stockholm and on Nasdaq New York. www.ericsson.com

Ericsson welcomes the opportunity to respond to Ofcom's document '[Spectrum Roadmap: Delivering Ofcom's Spectrum Management strategy](#) – March 2022'



Ericsson Summary

We live in a rapidly changing world on the cusp of a new era of possibilities. That naturally brings uncertainty, but also a wealth of exciting opportunities. Over the next decade, several forces will shape our world and how we live and work, from the climate crisis through to technological advancements such as AI. Having a robust ambition in mobile connectivity and a pathway to deliver a Digital Strategy will be critical to success in terms of GDP, upskilling/transforming the workforce, attracting inward investments as well as cyber security, and achieving net-zero emission targets.

Leveraging the innovative 5G systems over the coming decade, this wireless infrastructure will be pivotal to delivering the UK's digital connectivity. 5G technology has the potential to ensure that anyone and anything can connect anywhere and at any time, enabled by nationwide coverage, massive data rates, and the low latency needed for all applications.

The ambition to support the deployment of high-quality connectivity and innovation is essential to delivering good outcomes for businesses, industries, consumers, and citizens. Long-term planning and effective management of spectrum are vital to providing network providers with access to this necessary resource and the long-term certainty to support investment in wireless infrastructure.

Ericsson response

Ericsson suggest that Ofcom consider the following points when defining the future spectrum roadmap:

- Having Globally harmonised and common technical and regulatory spectrum regimes will secure a wider range of devices, support for roaming, fewer cross-border interference issues, and economies of scale resulting in lower costs for network providers, consumers, and businesses. Alignment with WRC is critical to help mitigate interference between services using radio spectrum. Technical coordination at the ITU and in standardisation bodies, such as 3GPP, is key to help advance spectral efficiency and minimise guard bands.
- Spectrum strategies and policies that encourage long-term investment in widespread, high-quality networks are critical to ensuring high-quality connectivity. With the high levels of Capex required and sometimes challenging commercial business cases, network providers will have less incentive to invest if there is uncertainty on their spectrum license conditions.
- Critical national mobile wireless infrastructures for health, transport, logistics, and agriculture will require secure national networks with reliable quality of service. Spectrum sharing regimes need to ensure that the integrity and quality of networks are not compromised.
- Improvement of co-existence modelling needs to be carefully assessed if the intention is to include measurements as the basis for future technical conditions. There is a difference between performance measured at a specific point in time and the need for equipment to be able to deal with all potential environmental conditions. These include temperature, humidity, aging, test margins, and differences in test equipment. Co-existence based on measurements may not characterize all equipment in the market and therefore there is a high-risk of interference.



- The 6G research journey has started determining the vision of what the network will be able to deliver in 2030 and beyond, exploring the technology components that will make it possible. When considering spectrum for the 6G era, the lower frequency bands, in particular, 8-15 GHz are important, especially to provide wide-area coverage for 6G services. The millimetre-wave frequency bands in the 24 GHz to 52 GHz range, pioneered by 5G and likely to soon be extended up to 100 GHz, will naturally be used by 6G as well.
- ICT has a unique potential to enable other industrial sectors to move towards a low-carbon economy that will be central to meeting sustainable development goals (SDGs). Technologies such as 5G, AI, and IoT are essential drivers of decarbonization across a range of industries and sectors. Spectrum strategies and policies should consider the potential impact on SDG goals. There is an opportunity to support the carbon reduction in sectors such as energy, manufacturing, and transportation.
- Careful consideration needs to be given to the introduction of database tools that promote the concept of dynamic spectrum access. Wireless network infrastructure requires significant investment and time to build and bring into service. This is the case for national and local networks. Policies and/or tools that introduce uncertainty in the long-term availability of spectrum run the risk of stalling or even stopping investment in network deployments.