

Use of Radio Spectrum by the public sector

Public sector bodies use radio spectrum in a range of fields to improve public life. EU policies help to coordinate these efforts across borders.



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Public sector bodies are substantial users of spectrum. The most important public sector users of spectrum are defense, the scientific and research community, navigation and Earth observation, public transport (notably concerning safety communications), public safety and emergency services (police, fire brigade, first aid, search and rescue, disaster relief).

These services were among the first to deploy radio technologies, for example, for public safety and defense. They continue to be a high priority for spectrum allocations by governments, in particular of the valuable frequencies below 15 GHz. These public sector bodies deliver services at national, regional and local levels.

Coordinating public sector use of spectrum across borders

The use of spectrum by the public sector is often linked to general interest objectives defined at national level. Therefore, it falls primarily under national competence. However, in many cases public services need to be organised in a coordinated manner across borders. Therefore, the public use of spectrum is in some instances coordinated at global and EU level.

International negotiations

The allocation of spectrum is generally considered and negotiated at global level. Decisions take the form of changes to the Radio Regulations, which require a consensus at the International Telecommunication Union (ITU) World Radiocommunication Conferences (WRC).

For a number of sectors, such as civil aviation, maritime, space and satellites, Earth observation, meteorology and scientific services, use of spectrum depends on the choices made by the United Nations' specialised sector-specific organisations and agencies. These include the International Civil Aviation Organisation (ICAO), the International Maritime Organisation (IMO) and the World Meteorological Organisation (WMO).

Spectrum in the EU

As spectrum use by public services needs to be organised in a coordinated manner across borders, EU sectorial policies are relevant to spectrum in the EU. Examples can be found in the sectors of communication transport (Single European Sky, road safety, satellite navigation), space (European Space Policy), environment (Earth observation, civil protection), health (eInclusion, eHealth), security (border control) and scientific services.

The overall objective of spectrum policy is to maximise the social and economic value that Europe derives from the use of radio spectrum. As the public sector is a significant user of spectrum, such use should be as socio-economically efficient as possible. Therefore, a balanced EU spectrum policy involves considering the public sector's spectrum needs, even if a number of public sector usage types fall outside of the EU's legal and institutional competences. Achieving greater operational performance and enhancing the economic and social value of spectrum could potentially improve public service delivery, and boost the overall competitiveness of the European economy.

The extent that the public use of spectrum is covered by EU legislation has to be decided on a case-by-case basis. Some harmonisation measures adopted at EU level aim at supporting the public use of spectrum, such as for road safety related applications of intelligent transport systems.

Issues for further consideration:

- Increasing transparency around the use of spectrum by the public sector through conducting periodic surveys of spectrum use and evaluating expected future needs of the public sector. Development of long-term strategic plans for public sector spectrum allocations.
- Evaluation of spectrum needs related to the delivery of public services and applications linked to specific EU policies: air transport (Single European Sky initiatives around air traffic management), rail transport (European Rail Traffic Management System - ERTMS), road transport (Intelligent Transport Systems (ITS)), emergency and public safety communications (PPDR), and more.
- Given that spectrum is a limited and scarce resource, it is important to make choices between spectrum allocations for public sector and non-public sector uses (private or commercial) and to set mechanisms to find a realistic balance.
- Reallocation or reassignment of spectrum to uses or users that generate a higher socio-economic value – between public sector users or between public and non-public sector users. Changes in spectrum use should be implemented in a timely and cost effective manner.
- Procurement processes used by public sector bodies to purchase wireless equipment and services have an impact on spectrum needs, both in terms of efficient use of spectrum and interoperability. Procurement of equipment and technology choices should be conducted in line

with good spectrum management practices.

- Harmonisation of spectrum use for public sectors to achieve:
 - cross-border (pan-European) service provision;
 - economies of scale for equipment production;
 - the minimum possible level of interference between national systems.
- Developing long-term strategic plans for the harmonisation of public sector allocations at European and global (WRC) levels.
- Sharing frequency bands between public sector users and between public sector and non-public sector users in order to optimise the use of spectrum. Identifying promising opportunities for spectrum sharing.

Investing in research and technological innovation with the aim to achieve a more efficient use of spectrum, greater sharing of frequency bands, enhanced interoperability and economies of scale at European level. Identifying frequency bands where introducing new, spectrally efficient technologies for use by the public sector, and thus phasing out outdated ones, often leads to further "digital dividends", or spectrum re-allocations in the 700 MHz band, defined as the upper segment of the UHF band (lying between 698-806-MHz) As TV digitalization progresses, channels are migrated and the spectrum is freed up for mobile broadband services.

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The Radio spectrum policy group

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