



STUDY 06 · RADIO SPECTRUM MANAGEMENT

Analytical groundwork for a spectrum management strategy

Prepared for the Ministry of Industry and Trade of the Czech Republic · November 2024



AT A GLANCE

Study 06 assembles the analytical basis for a national radio spectrum management strategy. It sets out how spectrum planning is structured under ITU guidance, benchmarks the recent national strategies of the United Kingdom and the United States, distils the principles they share and the tensions every administration has to arbitrate — and annexes a complete draft of the new Czech spectrum management strategy prepared by the Czech Telecommunication Office (ČTÚ) for informal public consultation.

How a spectrum strategy is put together

The study builds on ITU-R Recommendation SM.1047 on national spectrum management (2012) and the ITU Handbook on National Spectrum Management (2015). Planning means setting objectives, identifying the technical, legal, social, environmental, political and economic factors that shape future national requirements, establishing what spectrum is actually available, weighing planning options against that availability, implementing the result and iterating — supported by monitoring tools that feed real usage back into the process. Report ITU-R SM.2015-2 breaks long-term planning into five steps, from defining requirements through scenario-based assessment to periodic review. Strategic management is usually divided into three phases, running across two planning horizons.



What other administrations are doing

United Kingdom — Ofcom

“Supporting the UK’s wireless future” rests on three strategic areas: supporting wireless innovation; licensing local and national services (a localised approach for factories or farms alongside wide coverage for public mobile); and enabling spectrum sharing through better data analysis and improved interference resilience. The areas are further broken down into sub-goals, alongside Ofcom’s standing duties in enforcement and international representation.

United States — National Spectrum Strategy 2023

Four pillars, each with three strategic goals: enough spectrum to secure US leadership in advanced and emerging technologies; collaborative long-term planning to meet sustained demand; unprecedented use of technology innovation in spectrum access, including dynamic sharing; and growing the spectrum workforce while raising national awareness. Public-private cooperation is stated as necessary to reach these goals.

Where the two strategies agree: support for innovation in wireless technologies, maximum efficient use of spectrum, long-term planning that secures access for the public and private sector alike, and international cooperation — above all harmonisation of standards and regulatory flexibility. **From this the study derives four**

principles for building a new strategy: dialogue with the market and stakeholders through consultations, workshops and working groups; use of data and analysis; deliberate know-how building; and international cooperation with active participation in the ITU, CEPT and RSPG.

Four tensions the strategy has to arbitrate



Each pair is a genuine conflict of interest rather than a problem with one correct answer — the study treats them as matters for dialogue, evidence and compromise.

Annex: the draft Czech spectrum management strategy

ČTÚ has drafted a new national spectrum management strategy for the government, succeeding the strategy adopted by Government Resolution No. 421 of 3 June 2015 and updated by situational reports in 2018 and 2022. Of the **40 measures** proposed since 2015, **35 have been implemented** — among them the reorganisation and digitalisation of the TV band, the assignment of 700 MHz and the unassigned parts of 2.6 GHz, the progressive release of 3.4–3.8 GHz and licence-exempt 60 GHz, additional Wi-Fi spectrum at 5.2 and 5.8 GHz beyond European harmonisation, and the DAB auction. Measures are defined over short (2 years), medium (2–5 years) and long (10 years or permanent) horizons.

VISION FOR RESPONSIBLE SPECTRUM MANAGEMENT

Securing society-wide benefits from the efficient use of radio spectrum.

Four pillars of sustainable spectrum management

1 · Making frequencies available

Technology creates pressure to open bands for new services while the value of others fades. ČTÚ will keep creating the conditions for availability and efficient use of frequencies for the private and public sector alike, including industrial applications, and keep identifying bands for potential users.

2 · Legislative preconditions

Efficient use requires unambiguous, comprehensible and enforceable rules. The expert public stays involved in drafting measures; fee policy is to be predictable and fair; specific rules and principles are actively explained.

3 · Processes, approaches and tools

Better collection of information on actual spectrum use, modern management tools including automation and sharing, and research and real-world testing to set optimal operating parameters that minimise the risk of harmful interference.

4 · Expertise and awareness

Sustainable management needs enough specialists — not only in public administration. ČTÚ will help create conditions for training them at national and international level and communicate the value of spectrum in a form suited to each audience.

Seven long-term priorities: quality of services and support for competition · availability of frequencies · a greater role for spectrum users · cooperation with experts and the sector · international cooperation · building the expert base · research projects including experimental operation

CROSS-CUTTING COMMITMENTS

Continue the discussion with spectrum users and the sector on optimal conditions for efficient use · keep developing modern approaches — support for competition, advanced sharing, licence-exempt use, tools for spectrum management, regulatory adjustments drawn from practice, innovation and deeper international cooperation · prepare, during 2025, a proposal for the Ministry of Industry and Trade to update Government Regulation No. 154/2005 on fees for the use of radio frequencies and numbers, aimed not at maximising revenue but at reflecting new technology and securing efficient use.

KEY TAKEAWAY

A modern spectrum strategy is not a plan but a process: a long-term vision anchored in ITU practice, tested in short cycles against real demand, and continually renegotiated between harmonisation and national flexibility, market pull and innovation, licensing flexibility and interference. The Czech draft turns that into four pillars, seven priorities and band-by-band measures — with room deliberately left for the studies still to come.