

STUDY 16 · SPECTRUM FEE POLICY

Spectrum fee policy across the EU

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



AT A GLANCE

Study 16 maps how national regulators across the EU set the fees charged for using spectrum, benchmarks thirteen European countries, including the UK, against the Czech regime under Government Decree No. 154/2005 Coll., and identifies where the Czech Telecommunication Office (CTU) could revise its fee model, with 5G, private networks and satellite services as the main drivers.

What the study covers

The starting point is the EU framework: Article 42 of the European Electronic Communications Code (Directive (EU) 2018/1972) lets Member States charge for rights of use of radio spectrum provided the fees are objectively justified, transparent, non-discriminatory and proportionate to their purpose, while Article 16 governs administrative charges. The study then compares the charging models in use — flat fees, spectrum management cost recovery, incentive pricing, opportunity-cost pricing and fees based on users' gross revenue — and contrasts charging by radiocommunication service definition with charging by application definition.

How Europe funds spectrum management

Five models of financing national regulatory authorities and national radio spectrum administration

Incentive pricing	State-funded model	Cost model with cost allocation	Fee model without cost allocation	Hybrid fee model
- Fees should reflect the economic value of spectrum - The aim is efficient use, not cost recovery - Usually topped up by annual "regulatory" fees	- Fees reflect economic, social and political aims, not only "market value" - Fees go straight to the state budget; the NRA is funded from it	- Fees reflect the cost of managing that spectrum - Costs are recalculated and changed annually - Often topped up by "regulatory" fees	- Total fees reflect overall spectrum management cost — not the cost of a band - Some licences over-recover, others under-recover	- Combines spectrum fees (set irrespective of actual cost) with regulatory fees - Funded via the state budget and by direct NRA funding
United Kingdom	Cyprus, Czechia, France, Malta, Poland	Netherlands, Sweden	Hungary, Finland	Croatia, Ireland, Latvia, Portugal

Source: Study 16, ch. 3.1 — basic split of European models of NRA financing and national radio spectrum administration.

Why it matters

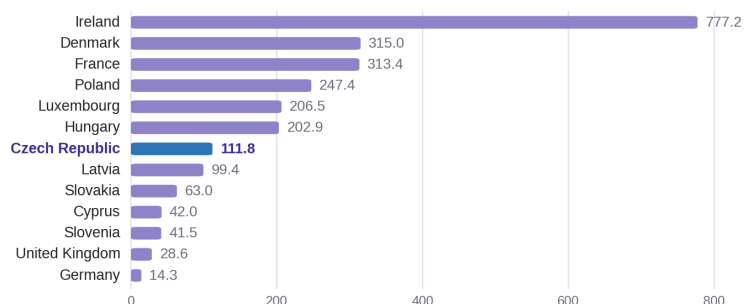
The structure of spectrum fees — more than their level — decides whether spectrum ends up with those who will use it efficiently. Set too high, they slow 5G roll-out and squeeze out smaller firms; set in steps too coarse to match the bandwidth actually needed, they invite hoarding. Revision practice differs: indexation to consumer prices (Ireland, France), a fixed two-year cycle (Finland) or retrospective calculation from actual costs (Germany, taking about three years). Czechia revises less often, as each change has to be served on every licence holder individually.

How much is collected — and from whom

In 2023 the CTU collected CZK 1 176.1 million in spectrum usage fees, 71.2 % of it from the land mobile service and 20.9 % from the fixed service. National figures are not strictly comparable, but on the measure that matters most to operators — spectrum cost as a share of mobile revenue — Czechia sits near the bottom of the European range.

What countries collect

Spectrum fees collected per inhabitant, 2022 (CZK) — countries compared in the study



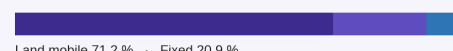
Not strictly comparable: scopes and reference periods differ — Denmark and France include auction proceeds, Hungary is budgeted income, Czechia includes administrative charges. Source: Study 16, Table 80 (ch. 5.3).

THE CZECH BASELINE

CZK 1.18 bn

in spectrum usage fees collected by the CTU in 2023 (CZK 1 176.1 m), plus over CZK 24 m in administrative charges

Share of fees by service, 2023



Broadcasting 7.1 % · other services 0.9 %

Spectrum cost as a share of mobile operators' revenue (2024 benchmark, 22 markets):

Czechia ≈ 5 % vs 7.9 % average
Finland < 2 %, NL 14.8 %

Four areas examined in depth

Experimental and short-term licences

An experimental authorisation costs 1 % of the standard annual fee; a short-term one a flat CZK 3 000 set by statute. Flat rates prevail elsewhere: EUR 60 in Germany (halved for universities), GBP 50 per site in the UK — yearly for research licences, monthly for demonstrations.

Private networks (5G, TETRA, business radio)

The 26 GHz and 42 GHz bands are relevant today and 4 GHz is under consideration. For a comparable local licence in the 3.8–4.2 GHz band (80 MHz, five years, about 7 800 m²) the study puts Germany at roughly CZK 25 000, Norway at CZK 40 000 and the UK at CZK 97 000.

Fixed and land mobile coefficients

The point-to-multipoint table in Decree No. 154/2005 Coll. mirrors technologies of the past and is used for almost no links; the S4 bandwidth steps are too coarse for smaller users; and the K9 power coefficient rises in 10 dBm steps, inviting applicants to declare more power than they need.

Satellite services

Operators pay for the frequencies used by gateway stations, while end-user terminals generally go uncharged and terrestrial networks pay per station and area; no fee is defined for authorising a space station. CGC fees per MHz a year span from about CZK 370 in Hungary to CZK 670 000 for nationwide cover in Poland; Czechia charges CZK 13 500 per MHz per base station.

What the study proposes

Possible adjustments to the current approach, in most cases within Government Decree No. 154/2005 Coll.:

- Split experimental authorisations** into short-term (up to about 15 days) and long-term, each charged as the applicable administrative fee plus a flat rate (e.g. CZK 3 000 and CZK 6 000) instead of the 1 % calculation, with a reduced rate for universities as in Germany.
- Remove the point-to-multipoint table** for the fixed service; charge such links as land mobile where the services converge, and delete provision A 2.1 for regional networks, which matches no existing network.
- Refine the coefficients:** finer S4 bandwidth steps from 0–50 MHz (CZK 750) and K9 power steps of 5 dBm up to 30 dBm — slightly less revenue, but more accurate classification and less hoarding.
- Build a model for private 5G networks** combining bandwidth, area and licence duration (as in Germany), or extend the existing A 2.2 mechanism; the CZK 50 000 one-off from recent tenders may deter small applicants.
- Revisit satellite charging** so that fees follow actual use of Czech spectrum — bandwidth and network type (GSO/NGSO) — not gateway frequencies alone; for TETRA and business radio the study finds A 2.2 adequate.

KEY TAKEAWAY

Czech fees sit near the European middle in absolute terms and near the bottom relative to operator revenue: the study's proposals are about structure, not level. Decree No. 154/2005 Coll. still carries tables written for technologies that have disappeared, while private 5G networks and satellites sit largely outside it. Finer coefficients and a purpose-built private-network model would do more than any change in fee levels.

Source: Analysis of approaches to spectrum usage fee policy across the EU — Grant Thornton for the Ministry of Industry and Trade, November 2024.