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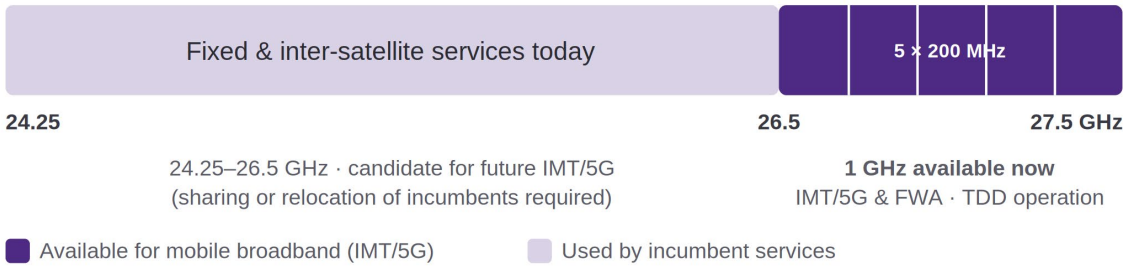
Grant Thornton

Opening the 26 GHz band for 5G

SUMMARY STUDY 05 >> 5G & VHCN ECOSYSTEM ·
Analysis and proposed process for using and assigning frequencies in the 24.25–27.5 GHz band

AT A GLANCE **Study 05** examines how the Czech Republic can open the 26 GHz millimetre-wave band (24.25–27.5 GHz) for 5G and very-high-capacity connectivity. It maps the current legal and technical framework, benchmarks award practice across 12 EU countries plus the UK and the USA, reviews spectrum-sharing options, and weighs the regulatory scenarios the national regulator (ČTÚ) faces when assigning the band.

The 26 GHz band (24.25–27.5 GHz)



Why the 26 GHz band matters

The 24.25–27.5 GHz band is a millimetre-wave (mmWave) band designated — alongside 3.4–3.8, 40.5–43.5 and 66–71 GHz — as a priority band for the EU 5G Action Plan, to deliver coordinated, ultra-high-speed fixed and wireless connectivity.

- **Localised, high capacity.** Largely line-of-sight propagation gives short range, so the band suits dense “capacity islands” rather than wide-area coverage.
- **Easy to deploy, strong indoors.** Smaller antenna arrays simplify installation; high wall/window losses make the band a natural fit for in-building use.
- **Ready in Czechia.** Plan PV-P/2/10.2020-10 designates 26.5–27.5 GHz for IMT as five 200 MHz TDD blocks; use is currently experimental only. ČTÚ aims to release 1 GHz for wireless broadband.

Where mmWave delivers — four use cases

Fixed Wireless Access (FWA)
Gigabit-class broadband to homes and businesses — including areas without fixed high-speed networks.

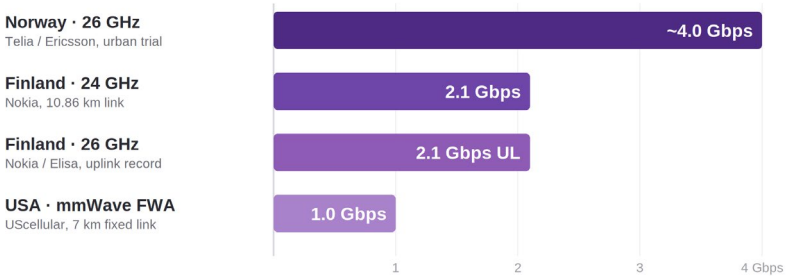
High-density capacity hotspots
“Capacity islands” at transport hubs, stadiums, venues, retail parks and industrial sites.

Private & industrial networks
Local, isolatable networks for verticals and campuses — via individual rights, leasing or general authorisation.

Immersive, real-time media
Multi-gigabit uplinks enabling 8K, AR/VR and live broadcast straight from the edge.

Real-world mmWave 5G performance

Peak / sustained downlink throughput reported in field trials cited by the study



International benchmarking

The study reviews how 12 EU countries, the UK and the USA (28 GHz) have opened the band — covering award method and price, eligible holders, usage and roll-out conditions, and sharing rules. Most assigned by auction; Germany, Sweden and France award on request. Opened bandwidth ranges from 425–850 MHz up to 3 250 MHz (Germany), most often 1 000 MHz, for terms of roughly 10 to 20+ years.

What 14 jurisdictions did with the band

14

jurisdictions benchmarked

12 EU countries + the UK + the USA (28 GHz)

Assignment method

Auction · 11 | App. · 3

Geographic coverage

National · 8 | Local · 5

Bandwidth opened

425–850 MHz at the low end up to **3 250 MHz** (Germany) — most often **1 000 MHz**.

IT Italy — the auction reference

2018 auction of 26.5–27.5 GHz: 1 GHz in five 200 MHz blocks, national, valid to 2037, reserve price ≈ €32.6 m — won by mobile operators.

DE Germany — local access for verticals

Licences awarded on request to physical and legal persons for local, vertical and industrial use rather than via a national auction.

Spectrum-sharing approaches

The European Code encourages shared use to raise spectrum efficiency — through general authorisation, individual rights, or licensed shared access. Enabling technologies include spectrum sensing and cognitive radio, interference mitigation (smart antennas and beamforming, filters), 5G network slicing, and AI- and blockchain-based tools. Transparent usage data and databases support coexistence and self-coordination between users.

The regulatory decision — three questions for ČTÚ

1 · How much of the band to open?

- Release the currently free 26.5–27.5 GHz (1 GHz) now.
- Open all 24.25–27.5 GHz while keeping incumbents in 24.25–26.5 GHz via sharing.
- Open all 24.25–27.5 GHz by clearing incumbents from 24.25–26.5 GHz.

2 · How to assign it?

- Individual rights per station or operating area, individual rights on request, or competitive selection (auction) — trading off competition, enforceability and administrative load.

3 · What territorial scope?

- National coverage, local variant A (standard administrative areas), or local variant B (areas defined by the licensee's network).

KEY TAKEAWAY The 26 GHz band can unlock gigabit, low-latency capacity exactly where demand is highest — but the value it delivers depends on how the regulator sizes, assigns and geographically scopes the spectrum. International practice offers a menu of proven models; ČTÚ's choice will balance speed to market, competition and efficient use.