

FINAL SUMMARY STUDY

Developing the 5G & VHCN Ecosystem in the Czech Republic

National Recovery Plan (NPO) · Component 1.3 · Prepared for the Ministry of Industry and Trade



AT A GLANCE

This final study consolidates **27 expert studies** produced in 2024–2025 under the National Recovery Plan into a single strategic framework for **very high-capacity networks (VHCN), 5G and future 6G**. It aligns national and EU obligations, removes duplication, and turns them into **31 prioritised framework projects** with a clear implementation roadmap for the Czech Republic.

What the study covers

Secure, high-capacity connectivity is the backbone of a competitive economy and an effective public sector. The study reviews the binding EU and national frameworks, summarises the findings of all sub-studies across four thematic areas, and converts them into a prioritised set of fundable projects with a recommended sequence of implementation.

Why it matters

Member states face overlapping obligations from the Digital Decade, the Gigabit Infrastructure Act and spectrum decisions, often spread across many documents. A single reference structure helps authorities avoid duplication, target public funds where the gap is largest, and act on measures that are ready to launch now.

27

expert studies (2024–25)

4

thematic areas

31

framework projects

TOP 5

high-priority projects

Four thematic areas



Radio Spectrum Management

Frequency management and band-sharing strategy, incl. the 26 GHz and 42+ GHz bands, 5G Broadcast, groundwork for 6G above 100 GHz, and an EU-benchmarked spectrum-fee policy.



VHCN Deployment

Defining the investment gap, coverage mapping and verification, fixed wireless access (FWA), and subsidy models that extend gigabit connectivity to rural and under-served areas.



5G Applications & Digitalisation

IoT, network slicing, digital twins, 5G FWA and enterprise digitalisation, plus PPDR use cases for emergency services and public administration.



Public Protection & Cybersecurity

Risk assessment for public and private 5G networks (incl. Open RAN / Open Core), security requirements, and the impact of quantum computing and communication on resilience.

Strategic anchors

European frameworks

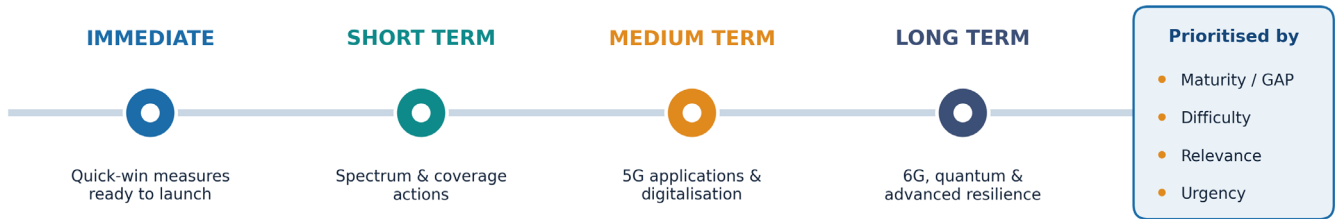
- EU Digital Decade & connectivity targets
- Gigabit Infrastructure Act (GIA)
- WRC-23 outcomes & RSPG spectrum-sharing recommendations
- Emerging Digital Networks Act

National frameworks

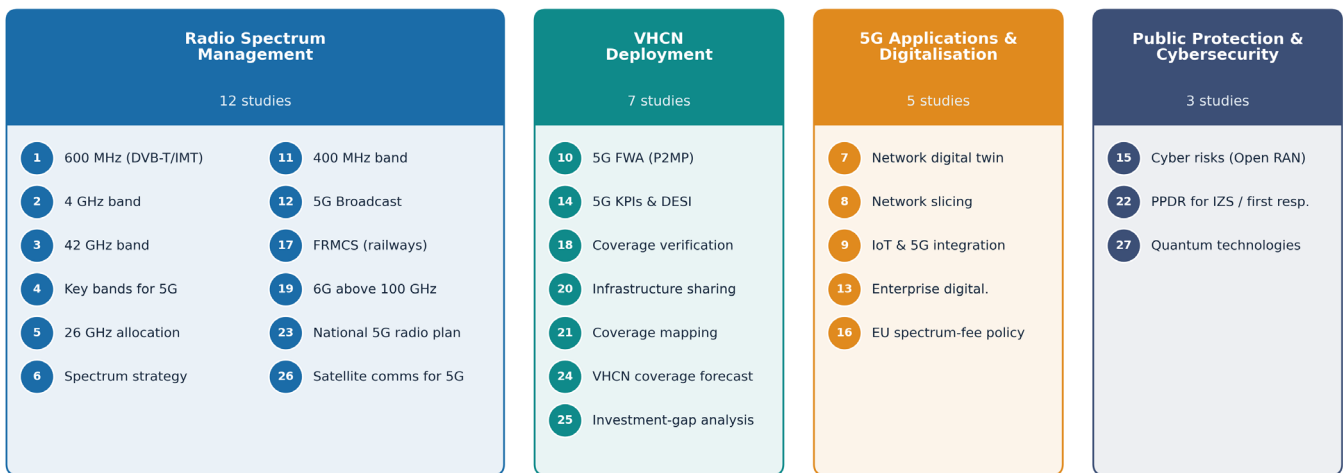
- National VHCN Development Plan
- Czech 5G Strategy & related Action Plans
- National Recovery Plan (NPO), Component 1.3
- “Digital Czechia” programme

From strategy to projects — how the study works

Each measure drawn from the strategic documents and sub-studies was scored on four parameters — **degree of elaboration (GAP), implementation difficulty, relevance and time urgency**. These feed a quantitative model that ranks the resulting projects and produces a recommended implementation timeline.



The 27 studies by thematic area



WHAT YOU GET — FOUR STRUCTURED OUTPUTS

- 1 Overview of studies** - concise summaries of the 27 sub-studies with proposed action steps.
- 2 Synthesis with strategy** - findings mapped to national and EU documents across four thematic blocks.
- 3 Methodology & scoring** - transparent multi-criteria evaluation of each measure.
- 4 Prioritisation & roadmap** - 31 framework projects with a sequenced timeline, plus a reference table, a project table and practical infrastructure-sharing guidelines.

KEY TAKEAWAY A single, actionable framework that turns Europe's connectivity goals into prioritised, fundable projects — helping public authorities coordinate the path to 5G, VHCN and 6G readiness.