

# Monitoring of Convective Storms in Central Europe Using C-band Mobile Solid-State Weather Radar

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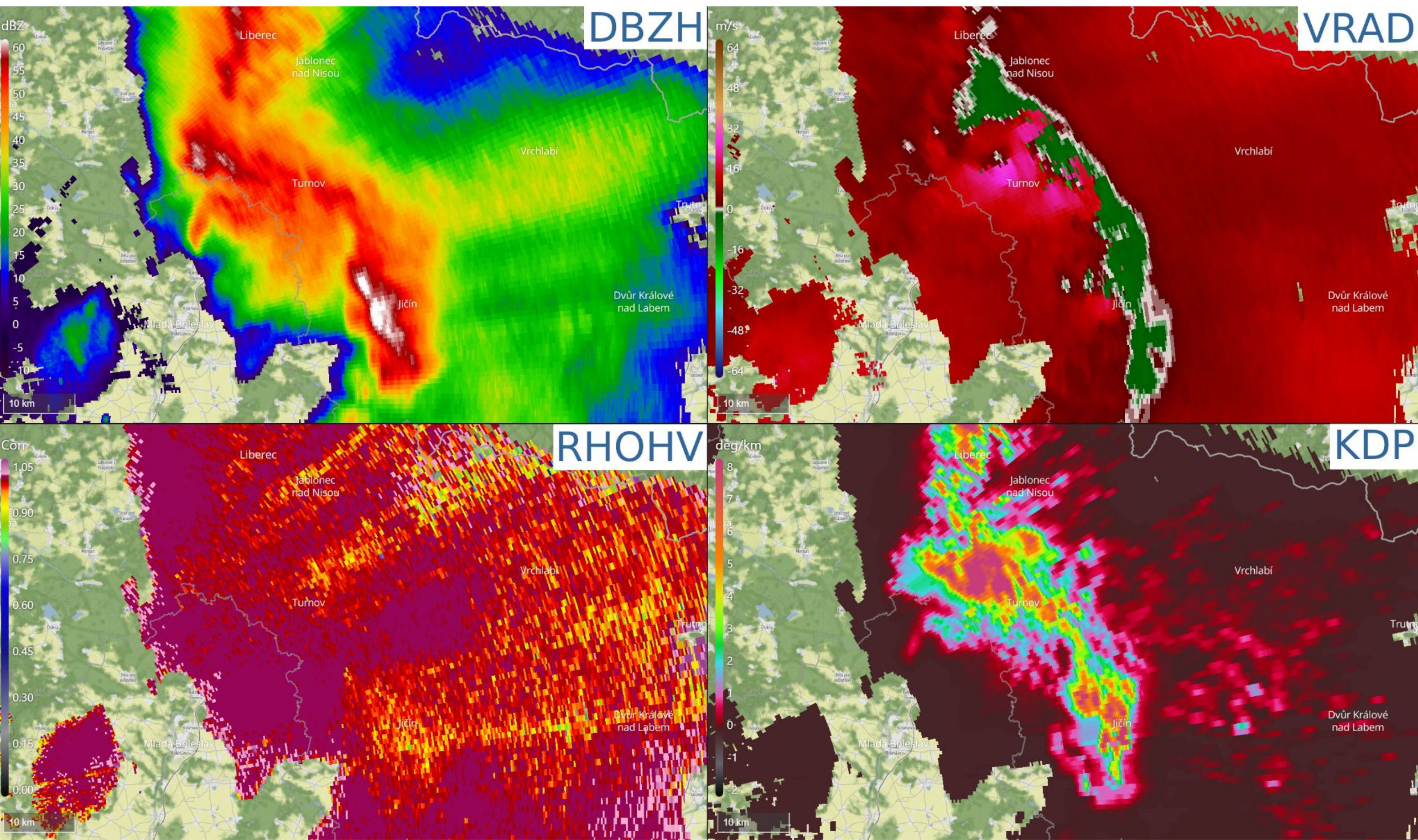


- The Mobile Automatic Self-Erecting Containerised C-band radar - MASEC
- Deployed in:
  - June – July 2023 in SE Czechia,
  - September 2023 near Graz, Austria
  - March - September 2024 in NW Czechia
  - October 2024 - March 2025 in Prague
- Multiple severe weather episodes recorded, including supercells and squall lines
- Use of different scanning strategies

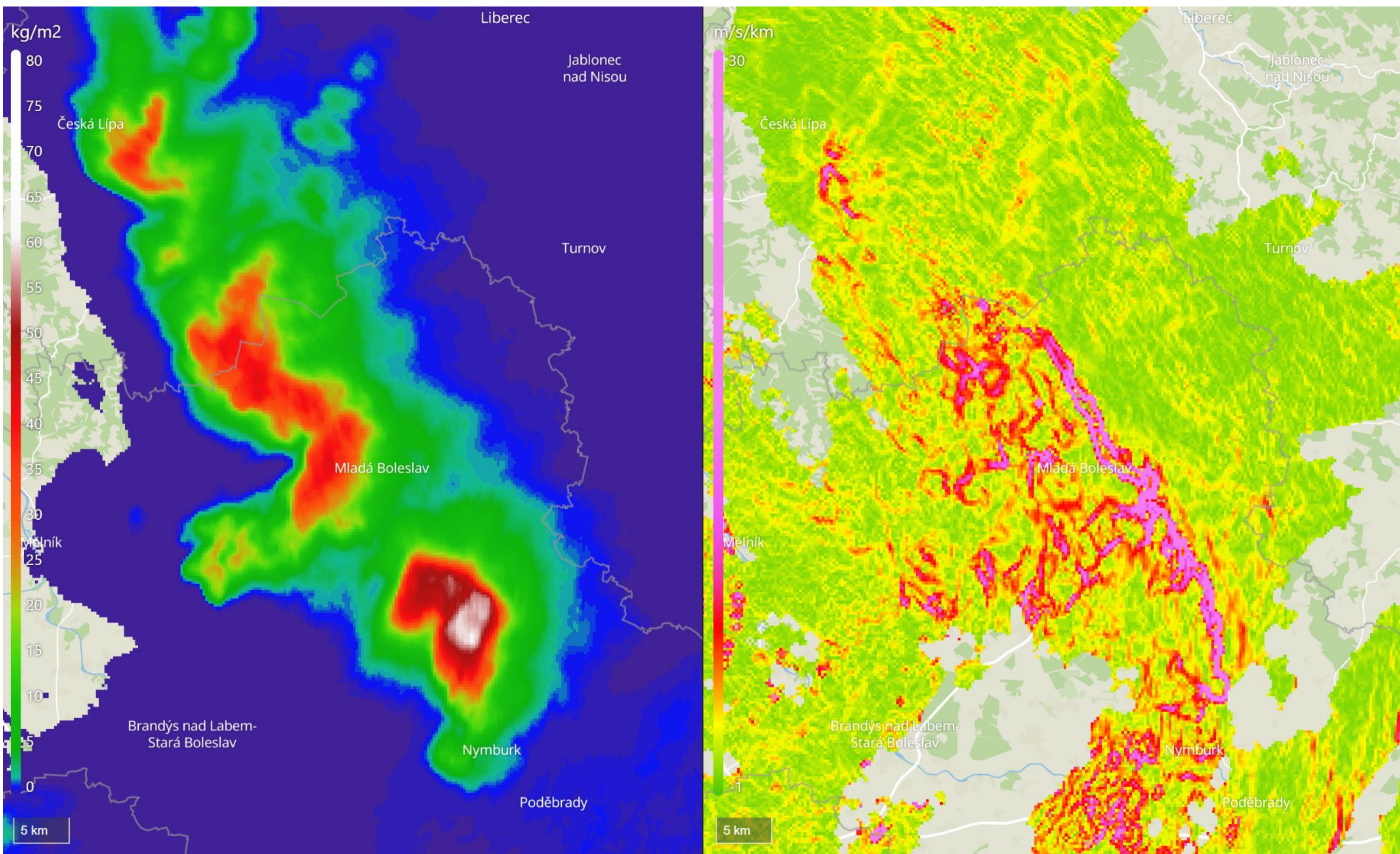


- 2x C-SSPA 2.5 kW (H a V polarization)
- Transmitting frequency 5.610 GHz
- 2.4m antenna, beamwidth 1,7°
- Grid or Battery powered – 20 to 50 hours, optional solar panels
- Internet connection via Starlink and GSM
- Standard shipping container size for transport (5.9 x 2.4 x 2.4 meters)
- Hydraulic system for raising the radome and leveling, antenna height of 7 meters

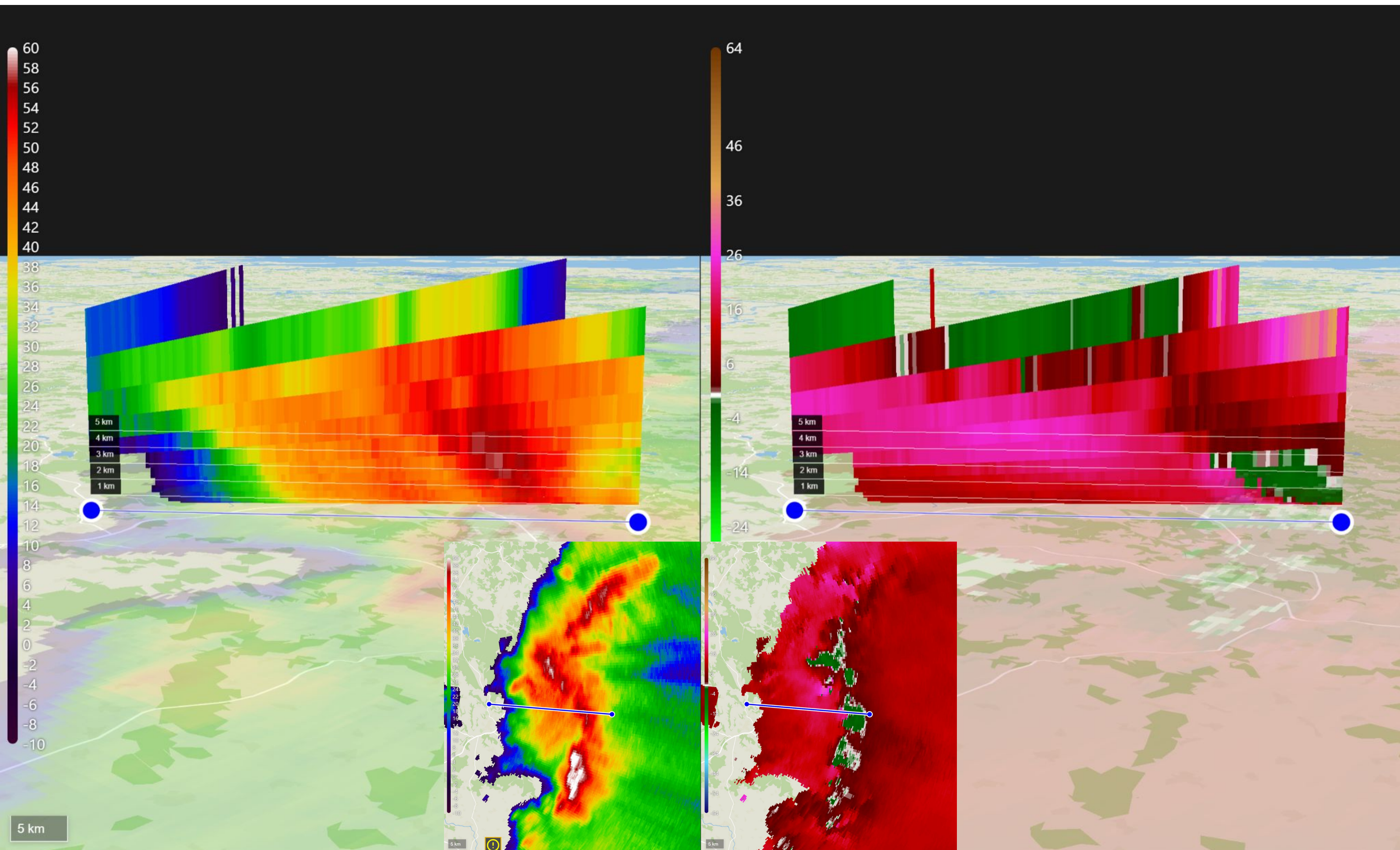
## NW Czechia, March - September 2024



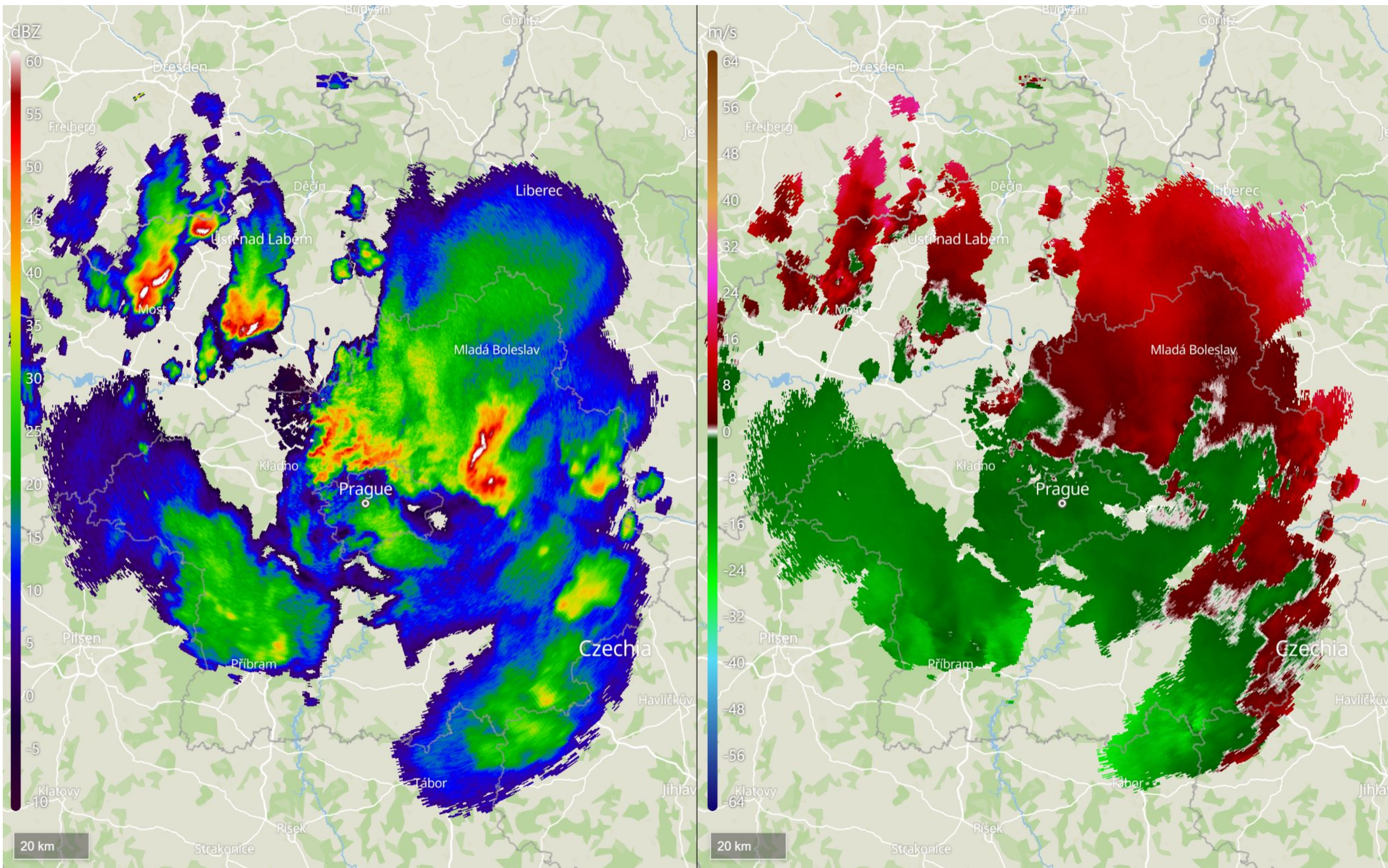
Radar Reflectivity, Doppler Velocity (top), RhoHV and KDP (bottom) on 21st July 2024, 16:05 UTC. Elevation 0,5°.



Vertically Integrated Liquid (left) and Horizontal Shear at 2km CAPPI(right) on 21st July 2024, 15:30 UTC.



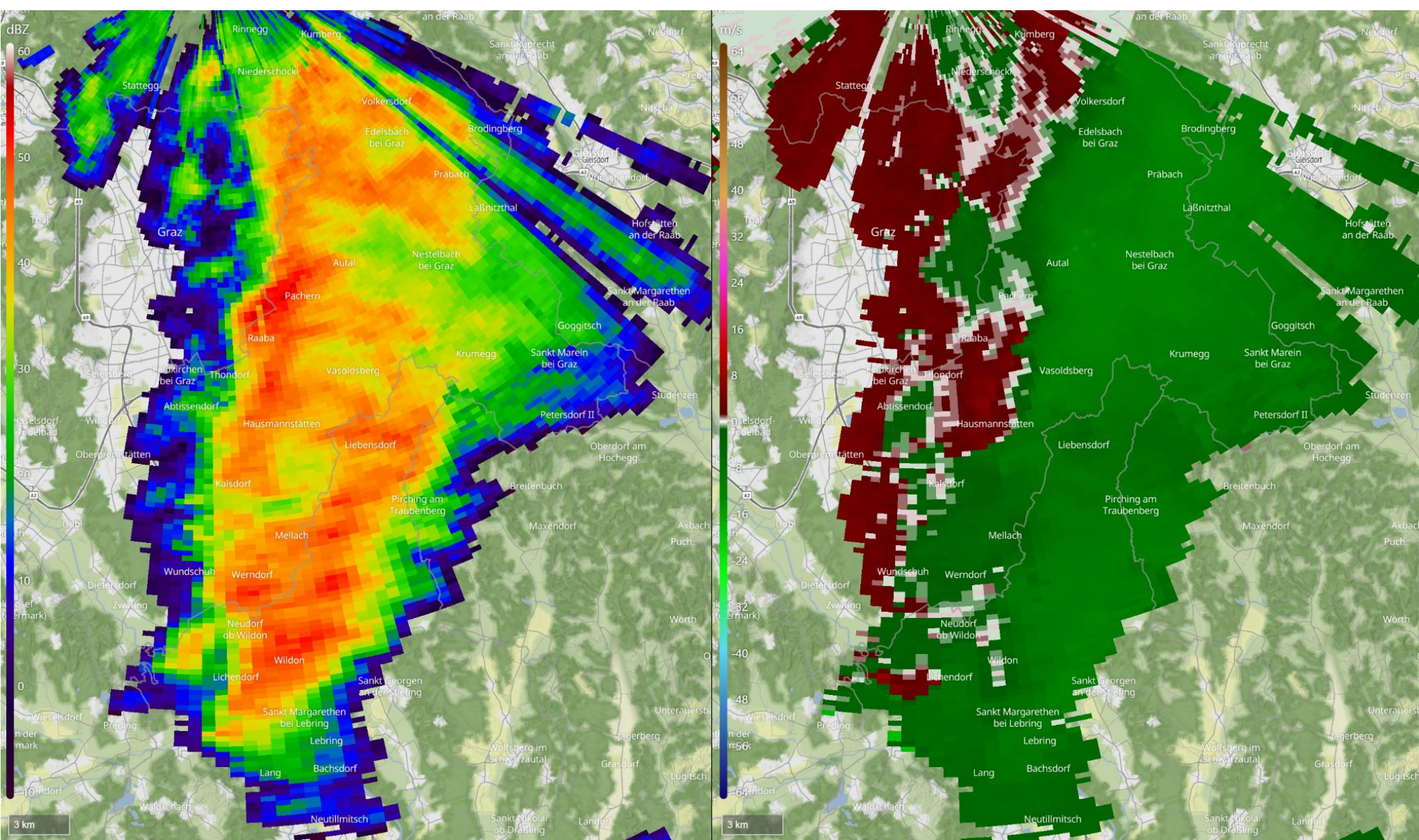
Vertical cross section of Radar Reflectivity and Doppler Velocity on 21st July 2024, 16:05 UTC.



Radar Reflectivity (left) and Doppler Velocity (right) on 12th August 2024, 15:13 UTC. Elevation 6,0°.

## Graz, Austria, September 2023

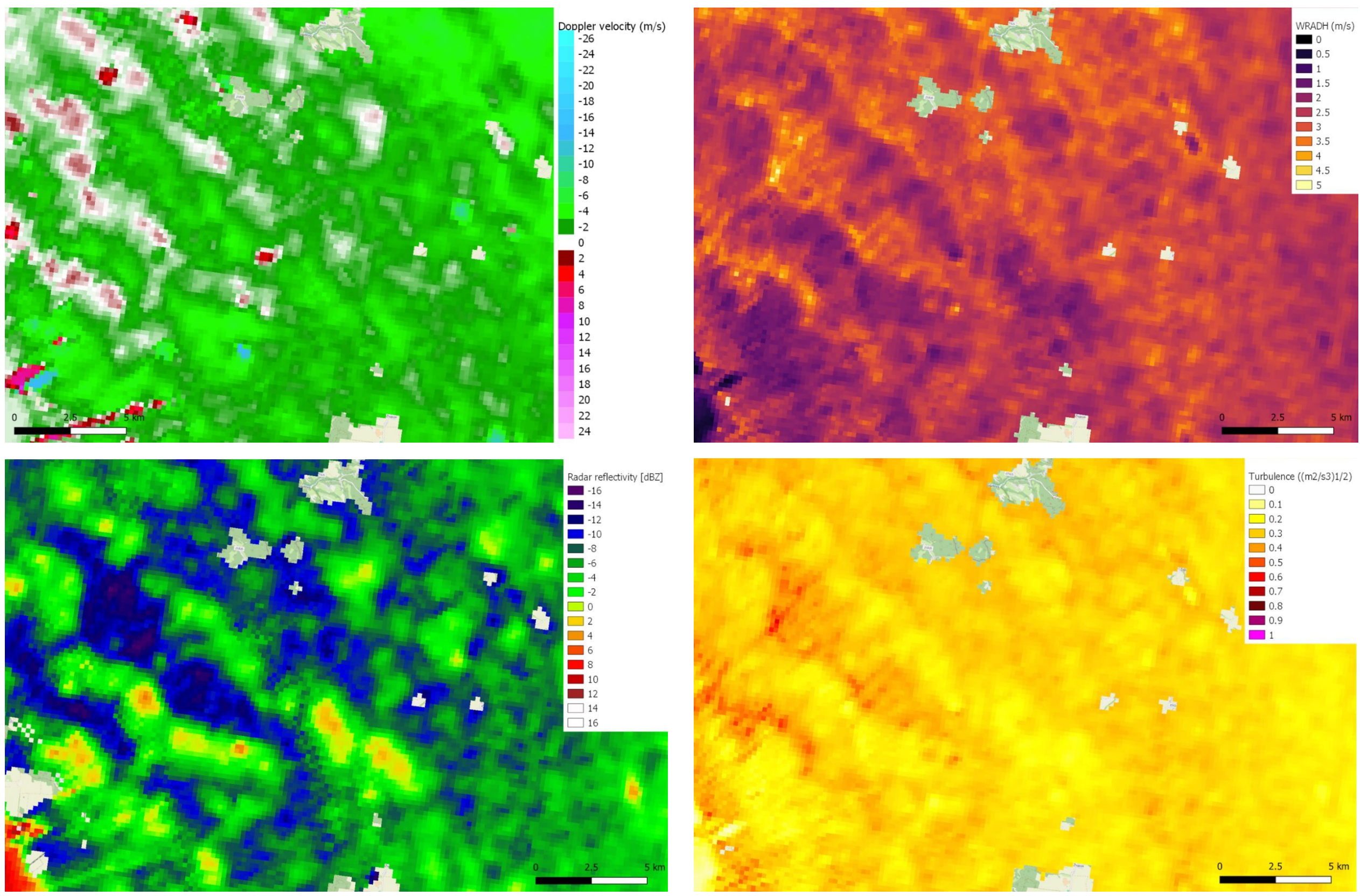
- Clear view towards south, significant blockage at other directions by buildings and trees
- Powered from power outlet



Radar Reflectivity and Doppler Velocity on 23rd September 2024. Elevation 0,5°.

## Clear air turbulence in Prague, Czechia

- Echoes from insects organized by boundary-layer turbulence



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