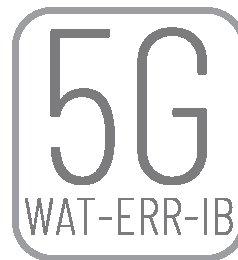


5G-WAT-ERR-IB



5G for WATer supply management and Emergency Response and Recovery for Ilirska Bistrica smart municipality

5GSC Support Platform/5G Emergency, Safety & Security Working
Group

Goran Živec, Vahta d.o.o.

June 18, 2026



Co-funded by
the European Union

Pametnim skupnostim omogočamo
razvoj z infrastrukturo 5G



OBČINA
ILIRSKA
BISTRICA



About the Project

Location and context	Project focus	Partners	Funding & Duration
• Municipality of Ilirska Bistrica, Slovenia • Rural and mountainous area: 480 km², 64 settlements • Remote and non-permanently inhabited zones with limited connectivity	• Modernisation of key public services through 5G and IoT • Two main use cases: smart water management and emergency response & recovery • Strong focus on resilience, public safety and hard-to-reach areas	• Coordinator: Vahta d.o.o. • Beneficiary: Municipality of Ilirska Bistrica	• CEF Digital / 5G for Smart Communities • EU grant: €3.7 million Total budget: €4.9 million • January 2025 – February 2027 26 months



A rural smart-community project using 5G to improve essential services, resilience and emergency response

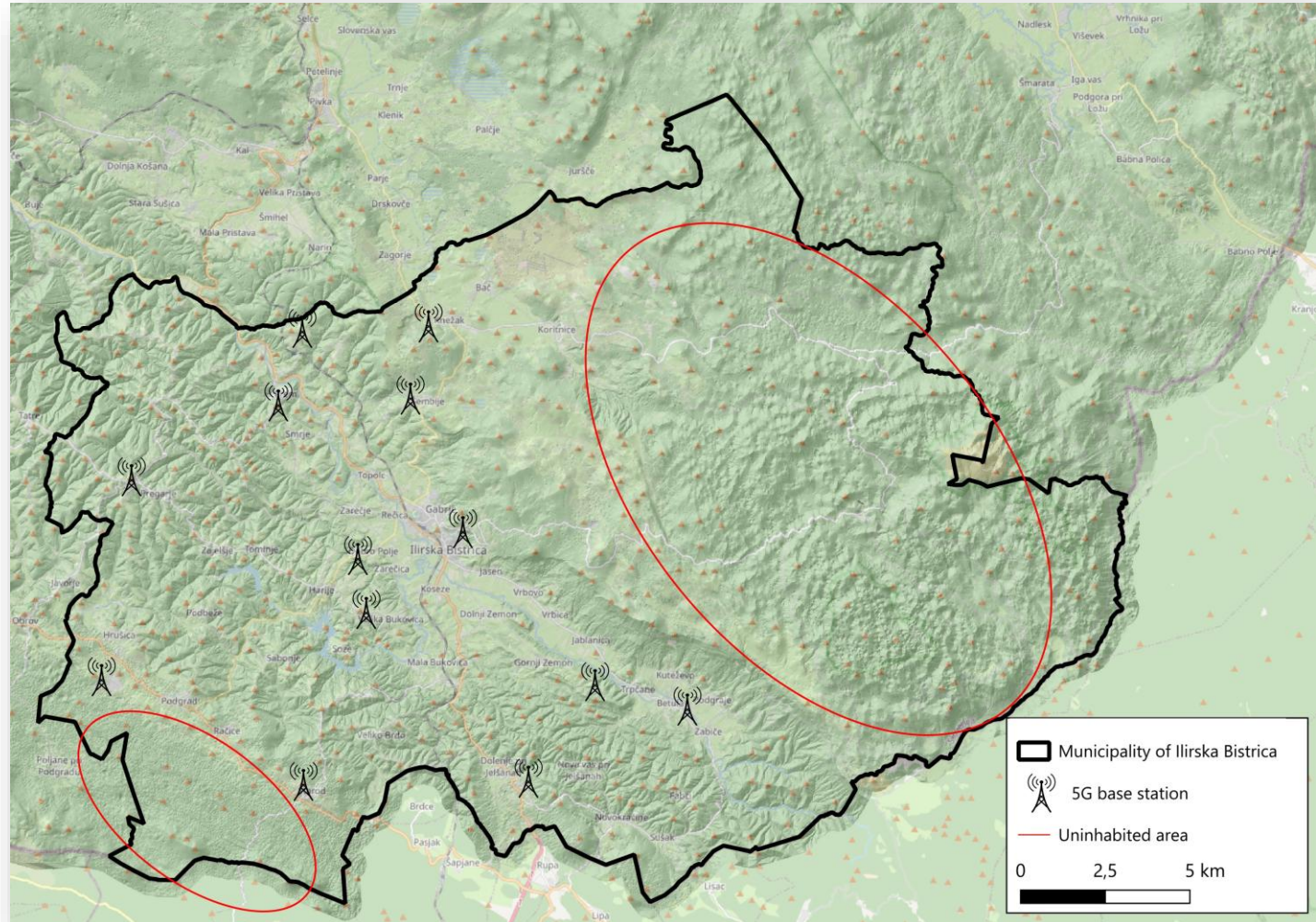
Ilirska Bistrica – a rural municipality with demanding emergency conditions

Conditions

- Large rural area: 480 km², 64 settlements
- Mountainous, forested and hard-to-reach terrain
- Limited connectivity in remote areas
- Emergency services need reliable communication during:
 - wildfires
 - floods
 - search-and-rescue missions

Key challenge

- When incidents happen outside inhabited areas, responders need temporary, reliable connectivity for coordination, live data and situational awareness.



In emergencies, connectivity becomes critical public-safety infrastructure

Use case rationale: why temporary 5G matters

Recent regional experience: large-scale wildfire on the Karst

- In 2022, the Karst region near Ilirska Bistrica experienced the largest wildfire in Slovenia's recent history.
- The fire affected approximately **3,700 hectares** over **17 days**.
- More than **10,000 firefighters** were involved in the response, together with the Slovenian Armed Forces, Police, Civil Protection and international support.
- The event showed how demanding large-scale emergency operations can become in rural, forested and difficult-to-access terrain.



www.matjazcorel.com



W Wikipedija

Search & rescue in remote areas

- Ilirska Bistrica includes mountainous, forested and sparsely inhabited areas.
- In such areas, missing-person searches are often complicated by difficult terrain and limited or unavailable mobile coverage.
- Without reliable connectivity, rescue teams have limited access to live video, location data and real-time coordination tools.

► Temporary 5G coverage can be deployed directly in the emergency zone, enabling live drone video, responder communication and better coordination with the command centre

The solution

THE PROJECT DEPLOYS A PRIVATE 5G STANDALONE NETWORK, COMBINED WITH MOBILE EMERGENCY-RESPONSE ASSETS, TO PROVIDE RELIABLE CONNECTIVITY IN AREAS WHERE PERMANENT COVERAGE IS LIMITED OR UNAVAILABLE.

Independent 5G SA core, managed by the private partner on the project

INHABITED AREAS:

- 13 base stations

UNINHABITED AREAS:

- 3 trailer-mounted base stations
- 1 drone-mounted 5G repeater, HD and thermal camera



► The project creates temporary 5G coverage in the emergency zone, connecting drone, responders and command centres in real time

Technical details

1. Stand-alone 5G sliced private networks for different rescue agencies
2. Operating on N40 and N78 for local use, issued by NRA (AKOS) to municipality
3. Intervention crew members receive eSIMs for the intervention, service expires after conclusion of the case
4. Coverage of uninhabited areas is granted by upfront radio-planning calculation (fixing the parking lot location of the trailers in the forest. Trailers are brought back to the valley after the intervention.
5. By exploiting the emergency call features built into modern mobile phones, combined with the drone's location awareness and the 5G signal footprint on the ground created by the narrow cone-shaped antenna, mobile devices can be located with good precision, enabling rescue teams to be directed to the right location.

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Thank you

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