

# TUKE 5G Smart Communities

5G Private network for industrial use cases





# Slovakia You Know...





# Slovakia You Know...

Mountains and Nature: “The Tatras and Wilderness”





# Slovakia You Know...

Culture and Folklore: “Folklore & Traditions”





# Slovakia You Know...

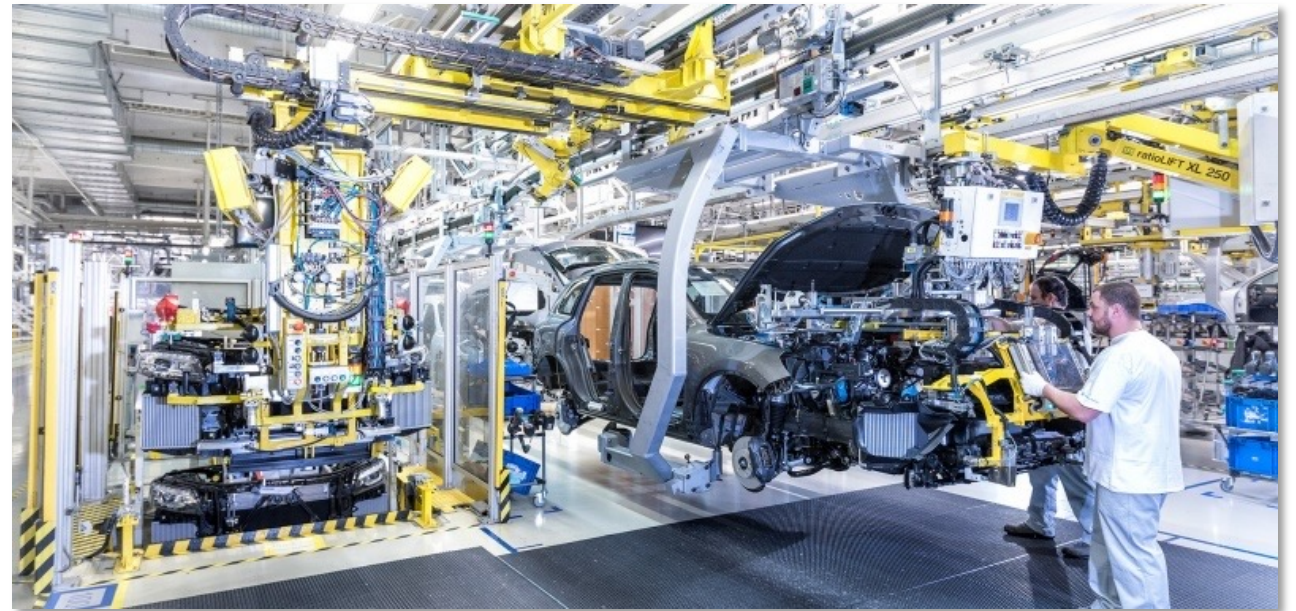
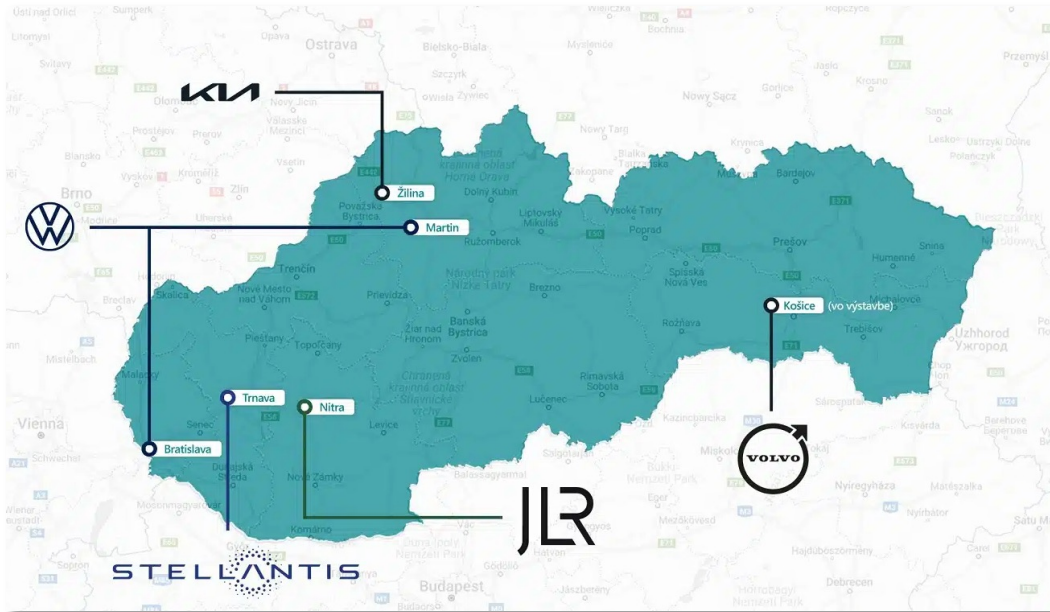
Historic Cities: “Charming Historic Cities”





# Slovakia You Don't Know

## Automotive Powerhouse



- **#1 in Cars per Capita:**
- **44% of Exports:**
- **Global Brands:**
- **Expanding Supplier Ecosystem:**
- **Electromobility Opportunities:**

182 cars per 1,000 people

Automotive-driven economy

VW, Kia, Stellantis, Jaguar Land Rover

High-tech parts & materials

EV production, battery factories, R&D projects



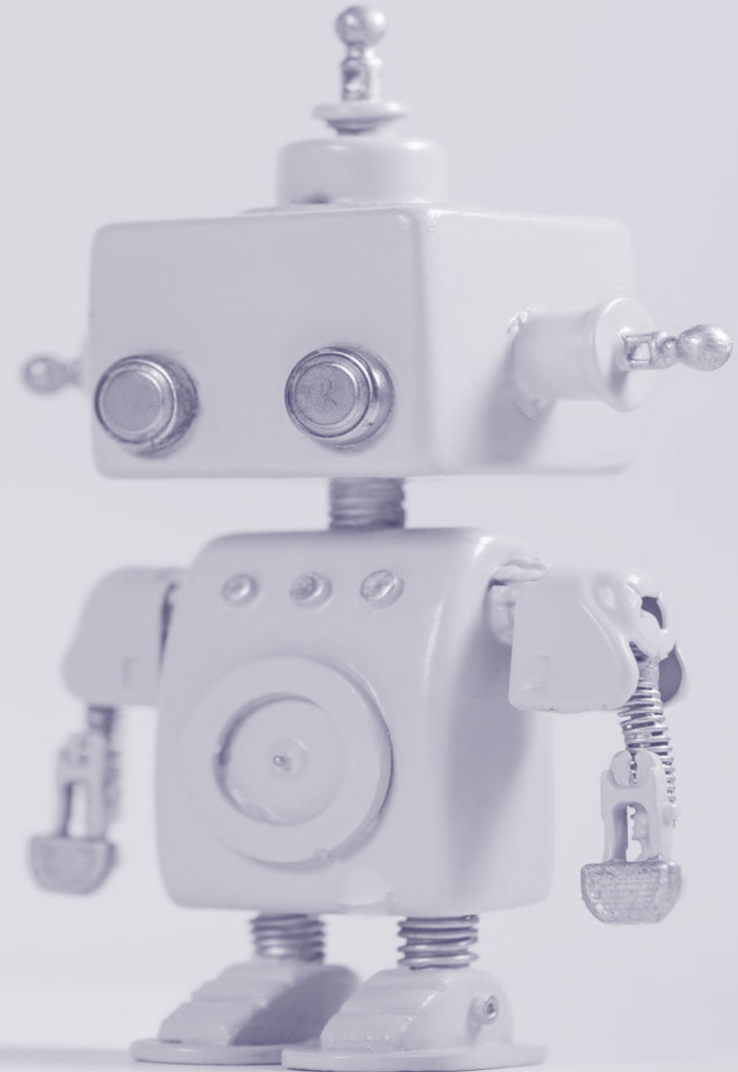
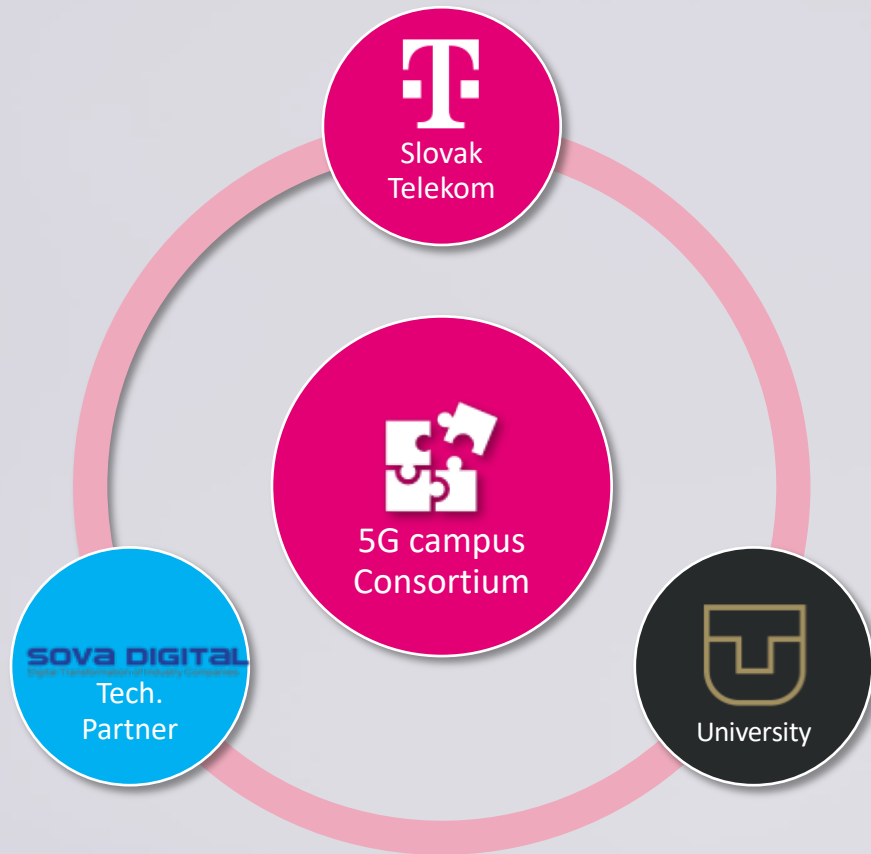
# Slovakia You Don't Know

## Pioneers in Technology





# our project - TUKE 5G Smart Communities





# Technical university in Košice - You Don't Know...





# Our Project Overview (TUKE 5G Smart Communities )

Empowering Education, Industry, and Sustainability through 5G Technology

## Project Key Points & Goals:

- **Deploy a 5G private network** on a Slovak university campus to advance teaching and research.
- **Use Cases:**
  - Logistics Optimization: Testing efficient processes to enhance productivity.
  - Smart Energy Metering: Real-time energy management for sustainable usage.
- **Impact:**
  - Blueprinting for replication across Europe, boosting innovation and resource efficiency.

## Consortium Partners:

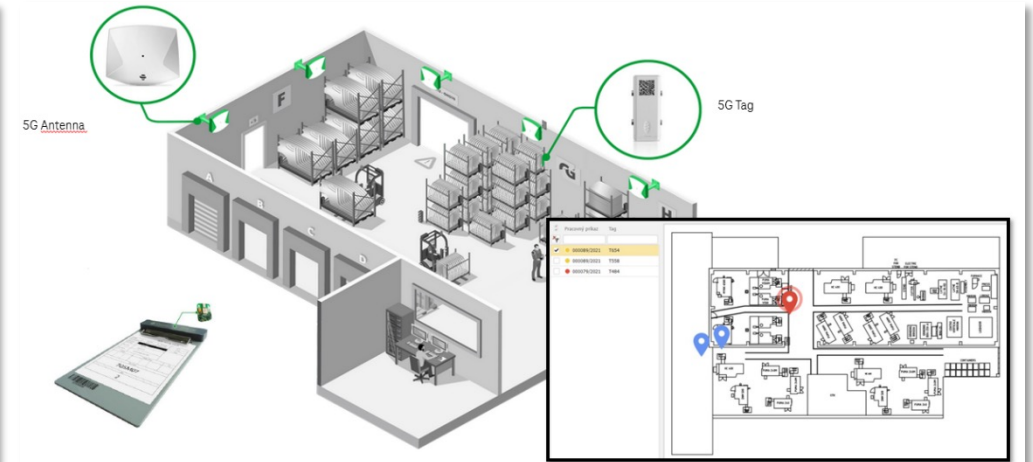
- **Slovak Telekom (Coordinator):** Driving the network deployment and project oversight.
- **TUKE:** Providing campus and research support.
- **SOVA Digital:** Technical partner focusing on digital and industry solutions



Co-funded by the  
European Union



**SOVA DIGITAL**  
Digital Transformation of Industry Companies



Smart metering Architectural design  
and planned Prototype



# TUKE 5G Campus: Unmatched Performance & Reach

Delivering high-speed, reliable 5G connectivity to support thousands of students, faculty, and smart campus innovations.

## Key Metrics:

- Slovakia's **1st CEF 5G University Project**
- 2 Campuses | 9 Buildings | 25 Access Points
- **Ultra-Low Latency:** <10 ms | Reliability: 99.9%
- **High-Speed Connectivity:** Up to 1,000 Mbps
- **Massive Scale:** Supports up to 1 million devices/km<sup>2</sup>

## Who Benefits?

- **11,200 Students** (4,000 international) & 765 Faculty
- **Use Cases with Industry Input:** Smart Logistics & Smart Metering – built for future commercial applications
- **Major Departments Involved:**
  - ✓ Electrical Engineering
  - ✓ Mechanical Engineering
  - ✓ UVP Technicom

**Fun Fact:** Handles user speeds up to 500 km/h!





# Deployment time – May 2024





Thank you for your  
attention!



Co-funded by the  
European Union

