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Environmental Monitoring as Part of the Intelligent Transportation System in Rzeszów

Project Background

Rzeszów, a rapidly growing city in southeastern Poland, faced a number of challenges related to the efficiency of public transportation, increasing congestion in the city center, and a lack of modern tools for traffic management and environmental monitoring. In response, the Rzeszów City Office launched a comprehensive urban mobility program, with the implementation of the **Rzeszów Intelligent Transportation System (ITS)** as its cornerstone.

Project Overview

As part of the ITS system delivered by **Siemens** (main contractor), a key component was the deployment of **14 environmental monitoring stations** across the city. Their purpose was to collect data on air quality, noise levels, and meteorological conditions. The stations were installed on existing lighting infrastructure and newly designed roadside poles.

The environmental monitoring scope included:

- design documentation input and hardware configuration,
- factory (FAT) and site acceptance testing (SAT),
- comparison of sensor readings with reference data from GIOŚ stations (Chief Inspectorate of Environmental Protection),
- data transmission setup between stations and the Area Traffic Control Center,
- integration with the overarching **Sitraffic Scala** (now **Yutraffic Scala**) platform,
- staff training on system operation and maintenance,
- preparation of as-built technical documentation.

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Challenges and Solutions

A major challenge was the synchronization of modern environmental monitoring systems with the city's existing infrastructure while ensuring continuous and reliable data transmission to the Traffic Control Center. **Far Data Sp. z o.o.** successfully integrated the monitoring stations into the ITS ecosystem, enabling dynamic traffic management and real-time environmental analysis.

Environmental Impact Assessment

A comparison of readings from the 14 Far Data stations with two GIOŚ reference stations within the city confirmed consistent trends and similar pollutant levels. This validated the **high accuracy and reliability** of the deployed monitoring equipment.

Key outcomes of the implementation included:

- **Improved public transport quality**, supported by real-time air and noise pollution data,
- **Enhanced road safety**, thanks to precise monitoring of weather conditions,
- **Support for sustainable urban development** and better quality of life for residents.

Completed in **July 2018**, the system remains a vital component of Rzeszów's traffic management strategy, informing both city officials and residents about current environmental conditions.

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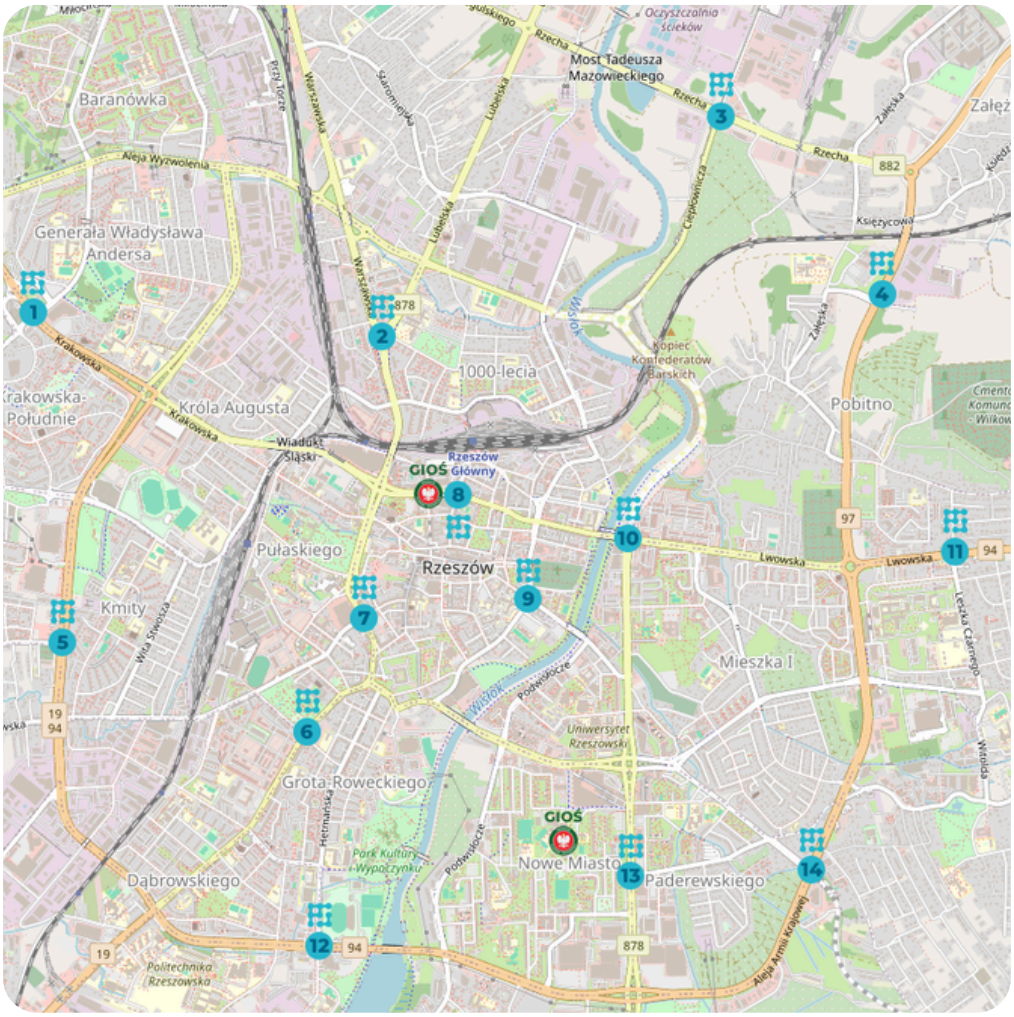
Conclusion

The Rzeszów case demonstrates how advanced technologies can be seamlessly integrated into city infrastructure to deliver tangible benefits. By enabling precise environmental monitoring, the city has become not only smarter but also more livable — offering more efficient and responsive public transport solutions for its residents.



Far Data Sp. z o.o

Chief Inspectorate for Environmental Protection

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