

Reduction of Water Consumption by 20 Cubic Meters per Day with Smart Urban Fountain Management via IoT Automation in Slovakia

Location: Trenčín, Slovakia

Milesight Partner Heliotics	Location Trenčín, Slovakia	Devices Deployed UC300	Applications Smart City, Smart Water
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Background

With the development of technology and cities, an ideal smart city should ensure that public utilities are effectively managed. Although modern infrastructure has begun to adopt smart devices, many cities are still looking for a simple and convenient way to upgrade fountain management and achieve remote monitoring and control due to the cost and complexity of construction.

This is not difficult to understand. Managing and maintaining fountains has historically been a labor-intensive task that requires constant attention to ensure proper function, cleanliness and safety. To solve this, an IoT-based solution was introduced by our partner, Heliotics, leveraging Heliotics CORE for real-time environmental monitoring and automated fountain control. With Easy Onboarding, the system quickly adapts to changing conditions, while Alerting ensures immediate response to weather fluctuations, reducing waste and optimizing efficiency.



Challenges

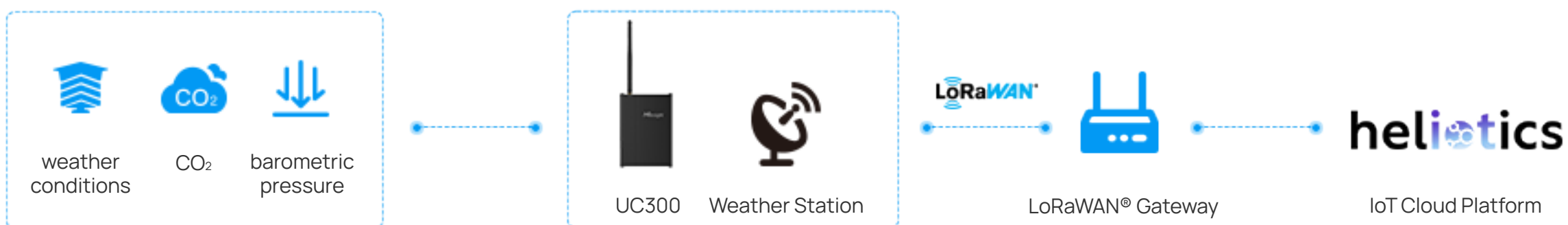
Manual Operations and Unnecessary Waste

Managing city fountains, like the Vodnik fountain in Trenčín, used to require manual adjustments by city staff based on weather conditions, leading to labor-intensive processes and potential human error. This approach was inefficient and time-consuming.

Weather Impact

Ideally, fountains should run only when conditions are suitable - specific temperatures, low wind speeds, and no heavy rain while operating mainly during the day. At the Vodnik fountain, water flows from multiple outlets, but strong winds often cause unnecessary water waste. And the managers cannot adjust promptly.

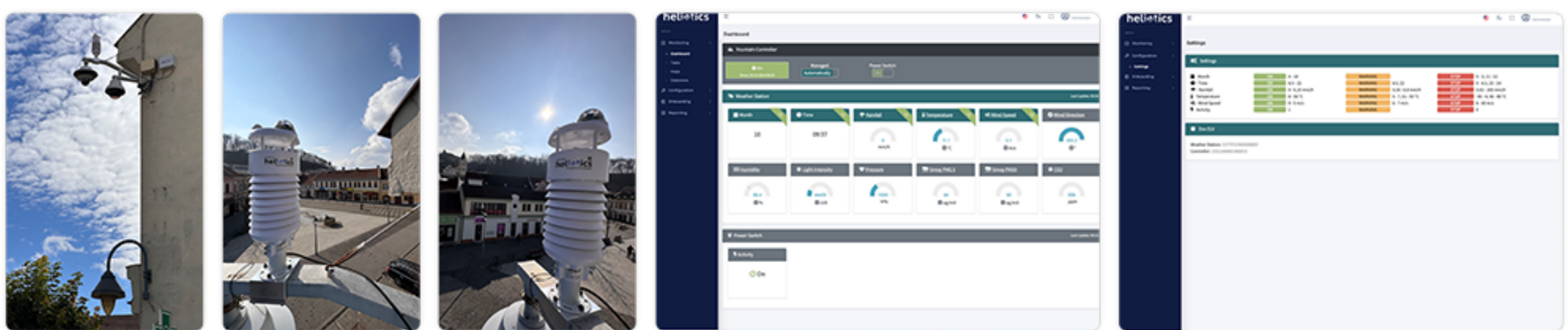
Solution



Towards a smart fountain management effortlessly, automation controls based on real-time data is vital. Milesight UC300 IoT Controller were installed in the main electric controller (Underground the fountain), allowing automated control adjusts fountain operation based on weather data, ensuring it runs only under optimal conditions. The Vodnik fountain system uses a smart weather station to measure temperature, wind speed, and rainfall, which all data is processed by a smart controller linked to the main underground power system.

Milesight UC300 IoT Controller is a perfect fit for remote monitoring and control. With rich interfaces, cloud compatibility, and a built-in IF-THEN Command system, it's your ideal choice for various applications. Users are able to set up 16 commands based on custom trigger conditions and actions to realize intelligent tasks.

With automation management, the managers are able to adjust foundation based on real-time situation and take actions accordingly. Based on this, the Heliotics algorithm continuously evaluates the weather in three levels: green (safe), yellow (warning), and red (critical). If conditions reach the red level, the system automatically turns off the fountain and only restarts it when the weather improves. This automated approach ensures the fountain operates only in good weather, preventing unnecessary water waste and improving efficiency.



Results

Improved Operation Efficiency

This solution significantly improved the management of the Vodnik fountain by automating its operation. Milesight UC300 IoT controller can execute the commands autonomously even when the network is unavailable.

Water Savings and Cost Reductions

Beyond improving operational efficiency, this system also delivers notable cost savings. By preventing unnecessary water usage, this solution conserves 20 cubic meters (20,000 liters) of water per day, providing both economic and environmental benefits.

Why Choose Milesight

"We choose Milesight for the majority of our use cases and installations because of their proven quality and extensive experience in the market. With many years of presence in the industry, Milesight devices deliver reliable performance. The ease of installation, deployment, and setup are essential for us, especially with their user-friendly interface for configuring devices, which simplifies the process, ensuring fast and reliable solutions for our customers."

- Heliotics



About Heliotics

Heliotics provides comprehensive software solutions for production and industry monitoring, utilizing IoT technologies such as LoRaWAN and NB-IoT. The Heliotics CORE NO-CODE platform offers a highly customizable and scalable solution, integrating a range of smart sensors that empower manufacturers to efficiently monitor and manage their production operations.

Heliotics focuses on delivering seamless connectivity and real-time data analytics. Our platform streamlines monitoring, control and data integration while providing features such as predictive maintenance, downtime reduction, real-time alerts and advanced analytics for deeper insights.

With over a decade of experience across a wide range of industries, including automotive, logistics and machinery, we offer scalable, user-friendly solutions that help organizations optimize their processes, improve efficiency and make data-driven decisions.