Sewer network control

Wastewater management 4.0 for a climate-resilient city

With its Intelligent Sewer Network Control system, Wien Kanal has developed a cutting-edge solution to digitally monitor and manage Vienna's complex wastewater infrastructure. Using a network of sensors and approximately 100 kilometers of fiber-optic cables, the system continuously collects real-time data on water levels, flow rates, and precipitation. A central control unit then dynamically adjusts flow directions and activates retention basins when necessary. This ensures not only effective flood protection but also safeguards the environment and urban infrastructure through optimized wastewater flow management.

How it works

The system continuously records relevant data from across the entire sewer network and analyzes it in real time. During heavy rainfall, the central control detects rising water volumes early and proactively diverts excess rainwater into underground storage basins. This prevents the sewer system from becoming overloaded and avoids backflow into residential areas.

At the same time, the system optimizes wastewater flows to prevent untreated sewage from being discharged into rivers and streams. Automation significantly reduces the need for manual intervention by Wien Kanal staff, speeds up response times, and lowers operating costs. This interplay of sensor technology, fiber-optic infrastructure, and intelligent control software makes Vienna's sewer system a pioneer of smart, sustainable infrastructure.

The Big Picture

The intelligent control of Vienna's sewer network significantly enhances the city's infrastructure: it minimizes flood risks, protecting people, property, and nature. With early detection and automated control, Wien Kanal can allocate resources more efficiently and cut costs.

For the public, the benefits are greater safety, fewer damages from flooding, and a cleaner environment – as improved wastewater management sustainably enhances water quality in rivers and streams.

This project is a prime example of the digital transformation of public services and positions Vienna as a Smart City that embraces innovative technologies to proactively tackle the challenges of climate change.

Quick Facts

- Solution area: **Organisations, Processes, Technological innovation**
- Administrative level: **Municipality, District, State**
- Solution process: **Digitization and technology, Environment and sustainability, Public service, Smart City**
- Technology: **Automation and robotics, Information technology, Networks, Platform technology, Sensor technology**

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