COMMONWEALTH GAMES

NETWORK MONITORING

SUPPLY OF SMART IOT LEVEL SENSORS AND MACHINE LEARNING DATA ANALYTICS

BACKGROUND

Severn Trent Water (STW) has an ambition to transform their wastewater network with a longer-term view to have an intelligent data platform where advanced analytics can be used to provide data-driven decision- making to ultimately benefit STW and its customers.

STAKEHOLDERS

STW provides essential freshwater and sewage treatment services to households and businesses in the Midlands of England and a small area of Wales. The utility supplies around 8 million people with sewage treatment and water services.

"We knew the Sense Level was a device we could trust, backed up by great analytics. Furthermore, the installation crews found the device quick and easy to install. The Metasphere solution enabled us to target resources directly where needed during the Commonwealth Games, resolving issues before anyone knew. We had full confidence in Metasphere's product and support making this an easy choice for Severn Trent".
- **Severn Trent Water**

BUSINESS NEEDS

In January 2022, **Metasphere** was selected as a Wastewater Network Monitoring partner to STW.

As part of this award, **STW** opted to utilise the services of **Metasphere** as their preferred supplier for the **Commonwealth Games** in July 2022.

STW required a cost-effective, reliable monitoring solution that could provide the necessary intelligence with advanced analytics to inform of network strain points due to increased visitors to the area. Around **4.6 million people** visited the actual Games during the period 28 July 2022 to 8 August 2022.

STW requested **Metasphere** to deploy its **ART Sewer Wastewater Level Monitoring solution** for the Games. **ART Sewer** includes the **ART (Analytical Remote Telemetry)** data analytics platform which was used to monitor the **Severn Trent Water** network in the Birmingham area for the duration of the Games.

BENEFITS

The key benefit to **STW** was to obtain intelligent data with advanced analytics to inform **STW** of strain points on their network due to increased visitors during the Games.

Within days of deploying **ART Sewer**, the platform detected a blockage and **STW** was able to clear this blockage before a pollution spill event could occur. For the duration of the Games, within the **ART Sewer** coverage locations, no blockages went undetected. All detected blockages were cleared before they could become spill events. By deploying **ART**, **STW** was able to meet environmental compliance and prevent reputational damage as they were able to deliver a consistently high-quality service during the Commonwealth Games with no spill incidents recorded throughout the course of the event.

The **ART Sewer Wastewater Level Monitoring** solution for **STW** uses smart IoT level sensors which was deployed as a first phase at strategic monitoring points in the network.

The secondary phase utilises the **ART machine learning and data analytics** platform to provide **STW** with predictive analytics that is data-driven and automated to deliver operational intelligence and insight at every level in **STW's** wastewater network.

ART combines wastewater level and rainfall data to provide intelligent alarms that highlight those high- risk areas within the **STW** network to allow for proactive management to reduce the likelihood of potential spills. Blockages in a network form over time, caused by debris in the network, including fat, wet wipes and fatbergs, leading to wastewater spills.

Another major cause of spills is significant rainfall which, when combined with current wastewater levels in a network, also contribute to wastewater spills.

ART provides insight to detect these blockages as they form, providing **STW** with the necessary time to proactively clear these blockages and prevent spills before they happen.

ART (Analytical Remote Telemetry) is an intelligent, machine-learning and data analytics platform that forms part of a powerful data network management system. The platform helps users to proactively manage their wastewater network as it delivers full network visibility, performance, and forecasting.

The **ART Sewer Wastewater Level Monitoring solution** comprises of four elements to help wastewater utilities prevent wastewater spills, thereby reducing pollution to keep the natural environment clean and protected.

Sense Level IoT devices use contactless sensor technology to monitor sewer levels and send the data into **Canvas**, Metasphere's powerful data collection and device management platform. The data visualisation platform **Palette** presents this data in a concise manner. The data analytics platform, **ART** (Analytical Remote Telemetry) combines the sewer level data with historic, current, and forecasted rainfall data; to provide real insight including detecting partial sewer blockages.

FIND OUT MORE!

Get in touch to find out how our solutions can transform your network.

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