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SINGAPORE PUBLIC UTILITIES BOARD
SEWER LEVEL MONITORING
SUPPLY OF SEWER LEVEL MONITORING DEVICES

BACKGROUND

Since implementing a remote **Sewer Level Monitoring** solution, **Singapore Public Utilities Board (PUB**) has benefitted from more reliable and effective sewer level data to avoid sewer blockages and uncontrolled spills of raw sewage.

Since 2017; **Metasphere** has supplied more than 600 **Point Blue** remote telemetry units (RTUs) coupled with digital float switches to **PUB** as a remote **Sewer Level Monitoring** solution.

The solution has enabled the collection of vital sewer level data to reduce the number of sewer blockages and uncontrolled spills of raw sewage which cause public health and environmental issues. Singapore's highly urbanised environment makes it especially important to have an effective Sewer Level Monitoring solution in place.

STAKEHOLDERS

PUB is responsible for ensuring sustainable and efficient water supply in Singapore. It regulates and oversees the country's entire water supply system, including water catchment systems, drainage systems, water works, water reclamation plants and sewage systems.

Automatic Controls and Instrumentation (A-Control) is a leading System Integrator and Engineering company based in Singapore, providing turn- key Electrical, Instrumentation, Control and Automation services to its customers. The company has more than 30 years of experience and a proven track record in the industry. **A-Control** provided installation and maintenance services for the 600 sites.

BUSINESS NEEDS

PUB recognised the importance of reliable sewer level monitoring.

PUB's main requirements were level alarms at three discreet levels, all equipment being Intrinsically Safe and only paying for data (not owning the equipment).

Metasphere partnered with **A-Control** to provide a full turnkey solution to **PUB**.

The solution consisted of:
- **Metasphere's Point Blue** RTU (ATEX/IECEx certified -Zone 0, Gas Group IIB)
- 3 x Digital Float Switches
- Development of a project specific ClearSCADA System for provision of data to **PUB** system for provision of data to **PUB**.

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BENEFITS

The key benefit to **PUB** was to proactively monitor the sewer levels in their network to reduce the number of sewer blockages and uncontrolled sewage spills.

The **Metasphere Sewer Level Monitoring** solution was able to deliver on these requirements, as the data and events has proven highly beneficial to **PUB**.

Metasphere's Sewer Level Monitoring solution has allowed early detection of sewer blockages and uncontrolled spills to reduce the risk of public health issues, environmental damage, and the associated costs. The data collected and information provided has also allowed for greater predictive operation, maintenance, and management.

The **Metasphere Sewer Level Monitoring** solution collects sewer level data at various points in the network. Equipment at each monitoring point includes a **Point Blue** RTU coupled with 3 digital float switches to collect sewer level data to monitor for blockages and uncontrolled spills at various locations within the network.

The measured sewer level values are sampled and stored with time stamps at periodic intervals of 15 minutes, with the data being communicated directly to the **PUB** ClearSCADA system via the 3G network and using the DNP3 protocol. The high-water level alarms received by **PUB** from the RTUs allow them to deploy operations teams to unblock potential sewer blockages before they occur.

To date, over 600 sites have been commissioned across Singapore providing **PUB** good visibility of their sewer network performance.

Point Blue is an intrinsically-safe ATEX/IECEx certified (to Zone 0, Gas Group IIB) self-contained unit, with internal or external battery pack, IP68 unit enclosure, either a 4G (NB-IoT/ CaT-M1) or tri-band 3G modem, with quad band GSM/GPRS fallback, auto-switching internal and external antenna options, software configurable AI, CI, DI, Modbus and SDI-12 communication options (inc. Multidrop), integrated submersion sensor, local diagnostic points and intelligent alarm reporting. It communicates with **Metasphere's Master Control System** and web- based Palette data visualisation platform, DNP3/WITS DNP3 Masters or FTP/S servers.

A-Control have also tested **Metasphere's Point Blue IoT** RTU (4G/NB-IoT) - the FIRST Intrinsically Safe, Battery Powered IoT RTU to be deployed in Singapore.

FIND OUT MORE!

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

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