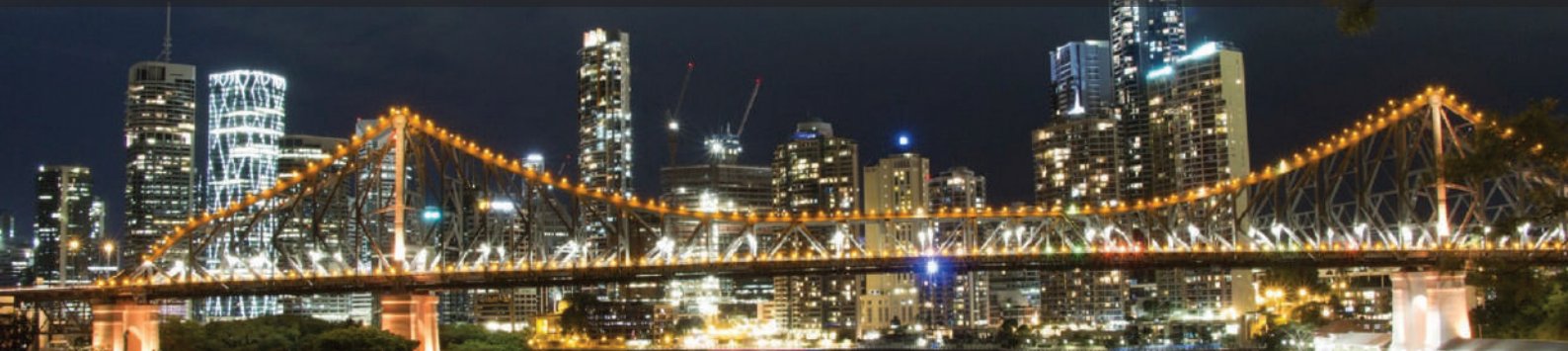




SEWER LEVEL MONITORING & ALARMING | POINT BLUE

SUPPLY, INSTALLATION & COMMISSIONING



BACKGROUND

In 2012, **Urban Utilities (UU)** embarked on a project to install up to 300 sewer level sensors in maintenance holes, to improve the reliability of the sewerage network and reduce the risk of overflows. One of the products chosen to monitor the sewer level in the maintenance was the **Pulsar HART dbi Ultrasonic** level sensor.

A separate project was undertaken to investigate and trial products that enable remote monitoring of sewer levels in maintenance holes utilising cellular networks. The trial was undertaken with three different remote telemetry units (RTUs), with the **Metasphere Point Blue** being selected as the preferred RTU device.



STAKEHOLDER

UU is one of the largest water distributor-retailers in Australia. It supplies drinking water, recycled water, and sewerage services to a population of more than 1.5 million people in South East Queensland.

BUSINESS NEEDS

UU needed a solution that provided monitoring and trending of sewer levels at designated maintenance manholes within their sewer network, as well as the necessary alarm notifications upon detection of high sewer levels and overflow incidents. Level trend data was required on a daily basis, while alarm notifications had to be raised immediately upon detection of a change in sewer level. All this information needed to be sent to the **ClearSCADA** system in the **UU** control room.

The installation of all equipment in a hazardous and confined space area environment was part of the project. Until completion of the classification process, the sewer environment was considered a hazardous area.



THE METASPHERE SOLUTION

UU appointed **Metasphere** as the primary contractor responsible for the overall project management and roll-out of this work. The scope of work included the supply, integration, installation and commission of 300+ manhole sites. **NB IoT Pty Ltd**, a local field installation team, was responsible for managing all field installations, whilst the **ClearSCADA** integration work was delivered by **SAGE Automation**.

The **Point Blue** RTUs are configured to wake up every 15 minutes to monitor the manhole sewer levels, using the **Pulsar dBi HART Ultrasonic** level sensor as a 4-20mA analogue signal. These levels are timestamped and stored in the RTU. The RTU communicates with the **ClearSCADA** system once a day to upload the timestamped data. During each level measurement taken, the RTU also compares the measured manhole level to configured level setpoints. These setpoints are used to determine whether the manhole is in a 'High' or overflow event. If the level is in one of these states, the RTU reports this state to the **ClearSCADA** system. The SCADA system in turn raises an alarm for control room operators to action.

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



BENEFITS

The **Point Blue** RTU, coupled with the **Pulsar dBi HART Ultrasonic** level sensor, provided the ideal solution for this project. This solution has a proven track record, as it is already widely used by various wastewater utilities for sewer manhole monitoring. An added benefit is the DNP3 that is supported on the **Point Colour** RTU range. This enabled the **Point Blue** RTUs to seamlessly integrate to the **UU ClearSCADA** system

The project proved highly successful for all parties. Many sites now have a monitoring solution in place that is providing daily trend data together with detecting high-level and blockage events.

The Metasphere solution has enabled us to improve sewer network performance by helping us to identify bottlenecks in the system, ultimately providing a better service to our customers and the environment.

HOWARD WITTEN | URBAN
UTILITIES, GENERAL MANAGER
NETWORK MANAGEMENT

FIND OUT MORE!

If you would like to monitor manhole sites and get alerts, get in touch to find out how **Point Colour** RTUs can transform your operation.



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