

RAIN GAUGE MONITORING

SUPPLY OF REMOTE TELEMETRY UNITS



BACKGROUND

Since implementing a remote rain gauge monitoring solution, **Sydney Water Corporation (SWC)** has benefitted from more reliable and effective monitoring of rainfall data.

In 2015 **Metasphere** supplied and installed more than 100 **Point Orange** remote telemetry units (RTUs) coupled with tipping bucket rain gauges to **SWC** as a remote rain gauge monitoring solution. The solution has enabled the collection of vital rainfall data to use for catchment resource modelling and early flood warning systems.

Fast and effective response to flood warnings has reduced the risk of environmental damage and associated costs. The data collected and information provided has allowed for greater predictive operation, maintenance and management.



STAKEHOLDER

Sydney Water Corporation (SWC) provides water, wastewater, recycled water and some stormwater services to more than 5 million people in Greater Metropolitan Sydney, the Illawarra and the Blue Mountains regions, in New South Wales. It supplies over 1.4 billion litres of drinking water to homes and businesses on a daily basis.

BUSINESS NEEDS

SWC recognised the importance of reliable monitoring of rainfall data. Early detection of potential floods due to excessive rainfall is of key importance to reduce the risk of environmental damage and the associated costs.

SWC approached **Metasphere** to power a network of over 100 tipping bucket rain gauges using **Metasphere's Point Orange** RTUs, with data feeding directly into **SWC's** IICATS SCADA system using 3G and the DNP3 protocol.

THE METASPHERE SOLUTION

The **Metasphere** rain gauge monitoring solution monitors rainfall data at various points in the network. Equipment at each monitoring point includes a **Point Orange** RTU coupled with a tipping bucket rain gauge to collect rainfall data to monitor rainfall at various locations within the network.

The measured rainfall values are sampled and stored with time stamps at periodic intervals of 15 minutes, with the data being communicated directly to the SWC IICATS SCADA system using 3G and the DNP3 protocol.

In addition, **Metasphere** developed a specific rain gauging RTU configuration that allowed the field operators to activate a 'Calibration Mode' so that the SCADA system can detect when the rain gauge is off line being calibrated, rather than online and actively gauging rainfall. This ensured false alarms for heavy rainfall were not activated during important routine calibration exercises.

Point Orange is a self-contained remotely telemetry unit (RTU), with internal battery pack, IP68 unit enclosure, either a 4G (NB-IoT/ Cat-M1) or tri-band 3G modem, and quad band GSM/GPRS fallback, auto switching internal and external antenna options, software configurable AI, CI, DI, Modbus and SDI-12 communication options, integrated submersion sensor, local diagnostic points and intelligent alarm reporting. It communicates with **Metasphere's** Master Control System, DNP3/ WITS DNP3 Masters or FTPS servers.



BENEFITS

Proactive monitoring of rainfall has proved highly beneficial for **SWC**. The data and events generated by the rain gauge monitoring solution has:

- allowed early detection of floods
- provided vital data for catchment resource modelling

FIND OUT MORE!

If you would like to monitor rainfall, get in touch to find out how **Point Colour** RTUs transform your operation



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