



Case Study

SA WATER – SMART WASTEWATER NETWORK

This solution enables greater customer service through better management of the wastewater assets through an industry-leading smart wastewater network management solution.



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Problem.

Sewerage blockages, overflows and excessive odour all pose ongoing challenges to managing wastewater.

Current wastewater management processes and systems are heavily reactive, often relying on an overflow, excessive odour or other adverse event to have been reported before maintenance crews are even made aware of the problem. This affects remediation times and fails to minimise the environmental and customer sentiment impact of these events.

In addition, detailed system performance data has not been readily available, or has been too fragmented, for effective deep learning and domain science activities, limiting opportunities for service improvement.

Solved.

As part of a high profile agile team, with key SA Water representation and several external partners, Exposé architected and delivered an industry-leading, secure, highly modular and extensible smart device and analytics platform.

The solution provides:

- Integration with hundreds of smart IoT devices which measure water level, H₂S level (odour) detection, wind direction, wind speed and rainfall.
- Integration with contextual data from corporate systems. (e.g. assets and geography).
- Real-time data ingestion and capacity to leverage big data storage.
- In-flight processing to alert and alarm on water levels and odour.
- Powerful and intuitive real-time visualisations for monitoring and analytics.
- Visual management of the system including alarm thresholds, device management, status management and invoking workflow.
- Deep learning and domain science for intelligent pattern detection, predictive monitoring, and integration back into the live system.

Business Benefits.

Operationally, as part of the minimum viable product, we operationalised at the end of 2018, SA Water can now monitor sewage flooding, choke rates and odour levels in real time, enabling pro-active response to adverse water events before they cause damage to the environment, public health or customer sentiment. The fresh insights into network impacts from time and weather conditions, also provide opportunities for long-term cost savings and service improvement strategies.

Due to the success of the solution, SA Water commissioned Exposé, complemented by the same high profile agile team, to build on the minimum viable product and extend the smart wastewater network management solution to cover thousands of additional sensors, handling larger real-time data volumes and incorporating more interactive visualisations of this data. This will ensure an increased focus on advanced analytics, deep learning and domain science; cementing SA Water's position as one of the world's technically innovative water companies.

Now that's smart water.

Justin Ward
Business Development Manager

Etienne Oosthuysen
National Manager Technology,
Systems & Quality



**Do you have any additional questions, or
want to know more?**

We would love to hear from you.

#exposedata

www.exposedata.com.au



1300 857 348



info@exposedata.com.au



Margaret Graham Building,
Frome Road, Adelaide SA 5000



Level 2, 287 Collins St,
Melbourne VIC 3000