

# Enabling intelligent decision making through a robust data platform

For a leading Australian water utility company

## Client description

The client is a leading water utility company providing water supply and sewage treatment services in Australia. The client services 355,724 total customer accounts. This includes approximately 3719 trade waste customers (customers that release non-household waste into the sewerage network). They also serve 15,757 sundry customers of services including metered hydrant standpipes, fixed fill standpipes, laboratory testing, property leases, and other miscellaneous services.



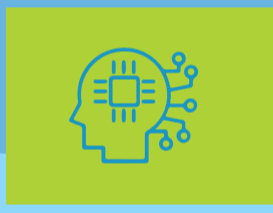
## Business challenges

The constraints of the system operators working in their own silos for every outage/incident or any process that ran across systems were:

- Lack of coherent process for controlling architectural changes to component systems
- Lack of data classification for the huge volume generated by BAU and failure events • Poor data integrity management and data quality due to lack of an overall governance framework
- Connectivity for field devices was unreliable. This posed challenges for aggregating time series data
- The diversity of field devices needed specialized interfaces for data transmission, leading to point-to-point interfaces
- Oversight in technical implementation created single points of failure



## Our solution



### HCL created an intelligent data platform built on the MS Azure Data Lake.

- It continuously evolves to have connected data across various business areas such as network operations, water quality, asset management, employee engagement, and customer satisfaction.
- The key aspect of this architecture was the consolidation of all operational data gathered from many systems, including SCADA systems, asset management, and CIS to name but a few. This data was captured and centralized into a data lake to ensure that the client was now capable of deriving insights. • Example of a solution developed resulting in connected capabilities – leading to multiple solutions
- The anomaly detection functionality identifies the anomalies in the water supply with the help of data coming from the Data logger and SCADA and checks with the business rules for any change in flow, pressure, and reservoir levels over time.
- Anomaly detection capability evolves multiple connected capabilities enabled by data platform to address outage management

### The critical facets of the HCL solution included the following:

- Driving a hybrid delivery approach of waterfall and agile to avoid change fatigue.
- Setting up a collaborative working environment to enable delivery of the IT landscape that is managed by the client's chosen partner.
- Integrating data pipelines from proprietary third party software of SCADA, AMI, GIS, Maximo, and Unify.
- Maintaining the data integrity and data quality and addressing the quality issues with the source data through formal data contracts.
- Adhering to the security architecture and documentation principles as mandated by the regulators.
- Developing business-focused data models that leverages standard water utility processes /models.

## Business impact

### Faster NDA creation and signing

- Detect leaks of varying sizes before they escalate to major pipe bursts and asset failure
- Reduced bursts in water pipes by 40%, and cut leaks by 20%
- Energy savings of 20% due to less water being pumped at a lower average pressure
- Predict future failure points and track network changes, giving a more complete picture of its water network



### Regulatory

- Early warnings about illegal pollution of the sewerage network

### Customer services

- Increased customer satisfaction due to improved/proactive response time to incidents
- Enhanced visualization from different channels such as call center and social media reduced the unplanned outage

### Unified View

- Unified view of data from all the seventeen sewage treatment plants and more than 10,000 monitoring devices
- Insight into sewer corrosion via 360-degree view of the sewerage network



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