

CASE STUDY: SYDNEY WATER

UTILITY SCALE ASSET MANAGEMENT

Australia's Largest Water Utility

Sydney Water manages one of the largest urban water supply systems in the world; approximately 5 million people depend on it for a secure supply of safe and affordable water. Sydney Water owns, operates and actively benchmarks the resilience of these assets using AdaptWater and XDI Platform.

The XDI Platform

Sydney Water uploaded its entire water and waste-water asset base of approximately 1,500,000 individual assets into the XDI Platform. This includes all pumping stations, sections of pipe, drains, and ancillary infrastructure.

The XDI Platform analyses each individual asset against weather and climate hazards for every year until 2117. The results are used to assess the vulnerability of individual components, or are aggregated to determine larger scale risks across parts of the network.

State of Asset Resilience (SOAR) and Priority Investment Calculator Modules (PICM)

The XDI platform provides a SOAR report; a complete risk assessment of Sydney Water assets' vulnerability to climate change and extreme weather impacts. Sydney Water has undertaken both a SOAR report and PICM analysis to obtain a thorough understanding of the resilience of their asset base and to identify which assets are most in need of attention.

The results have been used to assess the annual costs to the business from weather and climate related events, and to provide projections for the increases in cost due to climate change in a business-as-usual scenario.

Preparing the Regulator for Adaptation

Sydney Water uses AdaptWater to create robust business cases for adaptation investment, which also assist in obtaining approval by the State regulator, IPART. Multiple adaptation options are analysed so that the best option can be compared to other options and scenarios. Critical to this process is the ability to demonstrate that the proposed adaptation actions are the most effective outcome for the water consumer in terms of both cost and supply security.

Integrating into Blueprints

AdaptWater is being used for strategic planning and 30 Year Facility Blueprints.

The AdaptWater results for risks and adaptation actions related to individual assets are integrated into the asset management GIS systems. Whenever an asset is due for upgrade or maintenance, all of the climate change related projections and plans are available to the decision making engineer. This ensures that the resilience of Sydney Water's infrastructure is increasing even as standard maintenance activities are undertaken.

FOR MORE INFORMATION ABOUT THIS PROJECT CONTACT:

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