



Case Study

SA Water – Water Demand Prediction

Replacing a global propriety system which has dominated the pipeline predictive analytics domain for over a decade with an Azure Machine Learning solution.



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Replacing a global propriety system which has dominated the pipeline predictive analytics domain for over a decade with an Azure Machine Learning solution. Allowing SA Water to have more control over the factors used to train a predictive model to fine tune the accuracy of water usage predictions over several regions within South Australia. The cost of implementing the Azure Machine Learning solution is a fraction of the existing solution used by SA Water.

Problem.

SA Water needs to be able to respond to water usage demand within its regions, and due to the complexity and cost of moving huge amounts of water from location to location, the best way to respond to water usage demand is to predict it. SA Water is using an incumbent system which originated from predicting quantities of oil pumped through pipelines in the Northern Sea (Scotland). It has dominated the pipeline predictive analytics space for over a decade, and although SA Water continues to use aspects of its solution, the predictive analytics component was inflexible to make adjustments for SA Waters unique circumstances.

Solved.

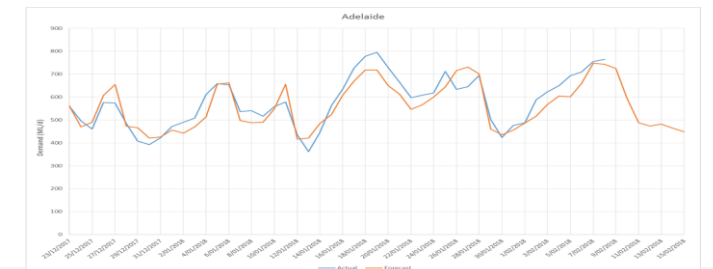
Exposé worked closely with the utility provider to use factors that their business knew to be major contributors towards water demand on a daily basis, but in addition Exposé used its expertise to propose other features that further enhanced the prediction. Exposé coupled up with their subject matter experts, and analysed the incumbent platform to gain a detailed view of the current state. Exposé produced a PoC and subsequent productionised solution using Azure Machine Learning combined with extensive Data Science experience, Azure BLOB Storage, SSIS Integration services, advanced T-SQL code and SQL Server database solution.

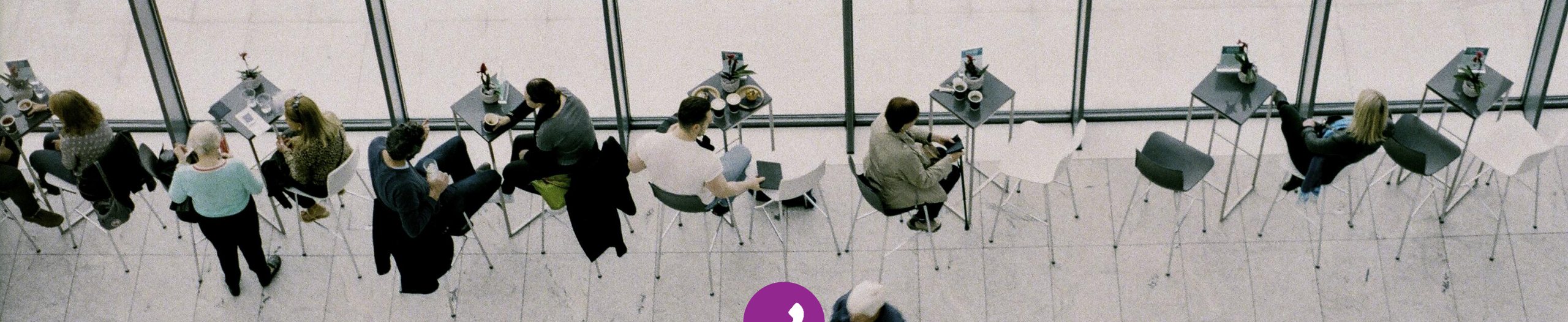
In addition, handovers to the business included instructions and educational sessions to enable the business to retrain the models so they can adapt to the latest trends in the water demand market. The solution plugged into SA Waters already existing reporting tool to track water demand usage and prediction making the transition from a global predictive analytics component, to an Azure Machine Learning component seamless to the end user, albeit with a higher degree of accuracy regarding predictions of water demand.



Business Benefits.

- The Azure infrastructure and Azure Machine Learning solution replaced the incumbent platform with significant licensing savings.
- SA Water now has control of what factors they use to train the predictive models, and the ability to retrain them at their discretion.
- SA Water now has the ability to retrain the models, without requiring IT support.
- The increased accuracy achieved reduces operational costs due to better planning for swing events in water demand. The high degree of accuracy can be seen in the image below between actual demand and predicted:





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

We would love to hear from you.

#exposedata



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