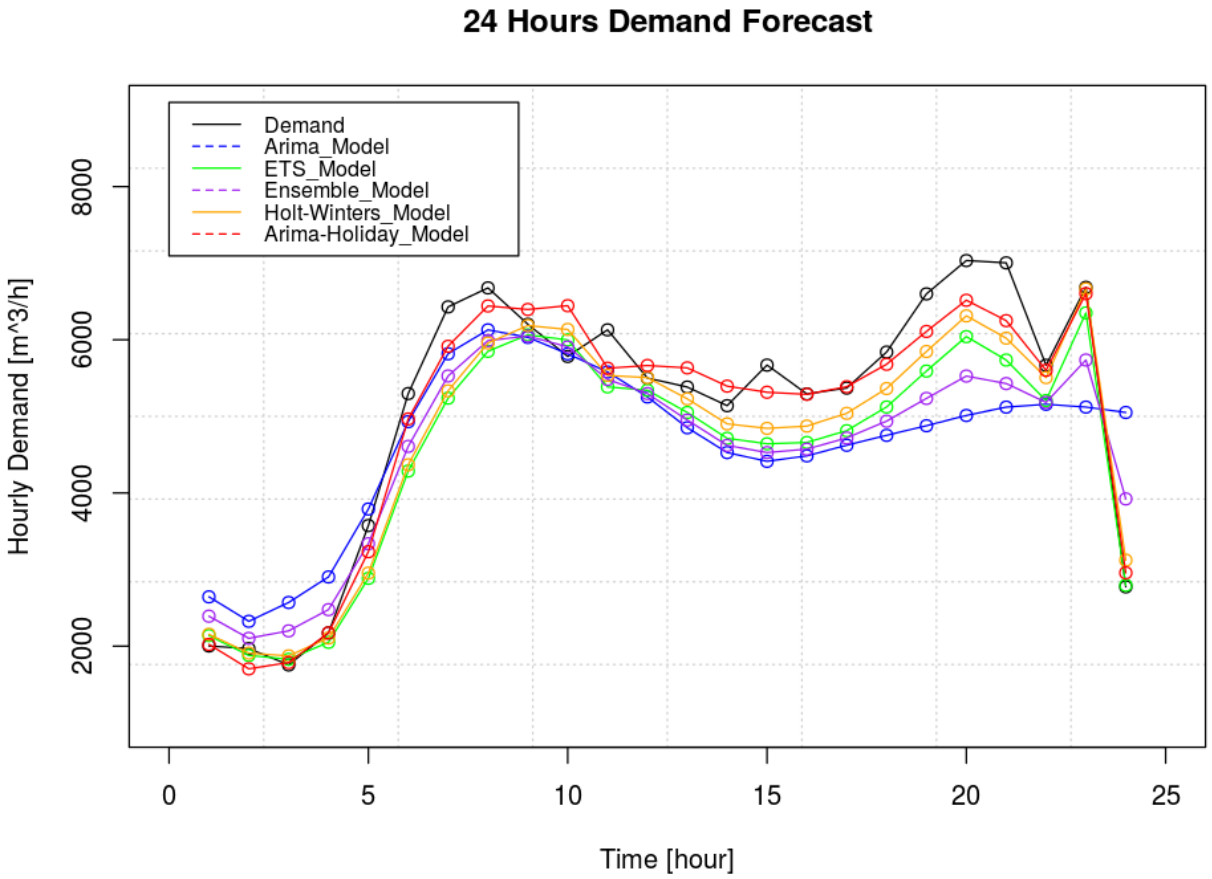
Predicting next 24-hour demand for water utility company

CHALLENGES

The customer, a water utility company, wanted a better forecast of consumer demands to improve operational efficiency. They wanted to leverage historian data (OSIsoft PI) beyond trend analysis. They also wanted better preparedness for the proliferation of smart meters.

SOLUTIONS

Neal Analytics built a machine learning pipeline using seven years of historical consumption data and hourly flow meter readings from two water treatment plants. We generated time-series modeling (5 different models) using two years of demand data. We evaluated the model that forecast errors and performance for the company.



RESULTS

Neal's solution helped the company build a 24-hour demand forecast model. The company was able to discover strong hourly seasonality in demand. Moreover, the company was able to find the decreasing trend in water consumption demand over the last four months, correlated to seasonal weather patterns.