TRANSFORMING ENERGY RETAIL WITH MACHINE LEARNING

INAWISDOM ➤

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"Inawisdom's hard and inspirational work over the last month signals the value you will continue to add."

Bjoern Reinke
Retail Smart Director
Drax Power

Our Customer

drax

Drax Power Station is the biggest single site renewable generator in the UK and the largest decarbonisation project in Europe. It supplies 6% of the country's electricity needs, including 11% of its renewable power, and a host of system support services.

Drax Retail includes Haven Power and Opus Energy, with a strategy that includes innovating to enhance the customer proposition and differentiating within the market by inspiring change in energy use.

Their Challenge

Across a portfolio of thousands of customers and millions of half-hourly data points, manually detecting consumption pattern changes and anomalous activity is difficult and time consuming. For example; the time taken to identify events that indicate faulty meters, safety issues, energy theft and changes of tenancy results in inefficiencies and debt recovery challenges.

As these events develop, they cause significant operational impact the longer they go undetected, often with weeks or months passing before they are spotted, resulting in significant additional cost to the business.

Drax engaged AI (Artificial Intelligence) and ML (Machine Learning) specialists, Inawisdom, to quickly and efficiently find a way to automatically detect these errors; identifying patterns and indicators in Drax data in order for immediate mitigating action to be taken.

↑ Revenue   ↑ Customer Retention   ↑ Profitability

Our Solution

Inawisdom deployed our proven four-week Discovery-as-a-Service (DaaS) accelerator approach, consisting of one week to outline the opportunity for a machine learning solution, to agree success measures and to assess data availability and quality. The remaining three weeks were then committed to implementing machine learning models against the data and presenting the results.

During the first week of data familiarisation and profiling, many of the usage patterns for the customer base were grouped by business type, enabling accurate predictive and anomaly detection models to be built against this data.
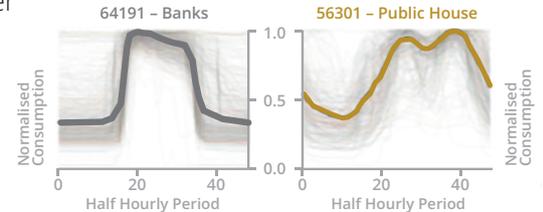
In parallel Inawisdom's AWS Cloud consultants worked collaboratively with the Drax IT team to rapidly create a data science platform within Drax's existing AWS environment. The platform centred around Amazon SageMaker; security, remote access and data access were all architected and built to AWS best-practice standards within the first week. With the platform and data in place, focus switched to engaging our Data Science team to build the machine learning models and apply these to the data.

Example Base Load Change
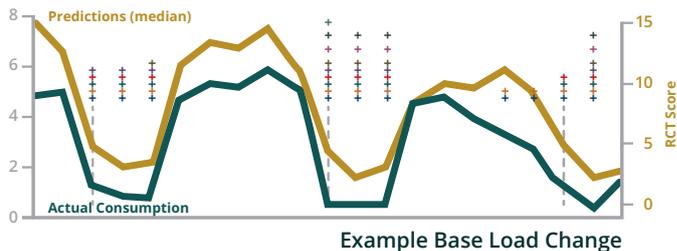
The Result

Inawisdom implemented Machine Learning to investigate normal energy consumption patterns across groups of Drax customers and then identify changes using anomaly detection to accurately pinpoint unusual activity for a particular business type or peer group. Inawisdom proved that it was possible to automatically detect and classify anomalous events as soon as they occurred.

The result of the engagement determined the business case for reducing the hundreds of hours spent by the operations teams investigating cases, with a significantly higher opportunity of debt recovery, improved customer service, retention and sales.

The project was delivered in four weeks; demonstrating significant ROI and business case for the next phase of the project.

Discover First, Invest Later.

About Inawisdom

Inawisdom is an AI specialist and AWS Machine Learning Competency Partner. We enable customers to rapidly discover business differentiation from their data assets.