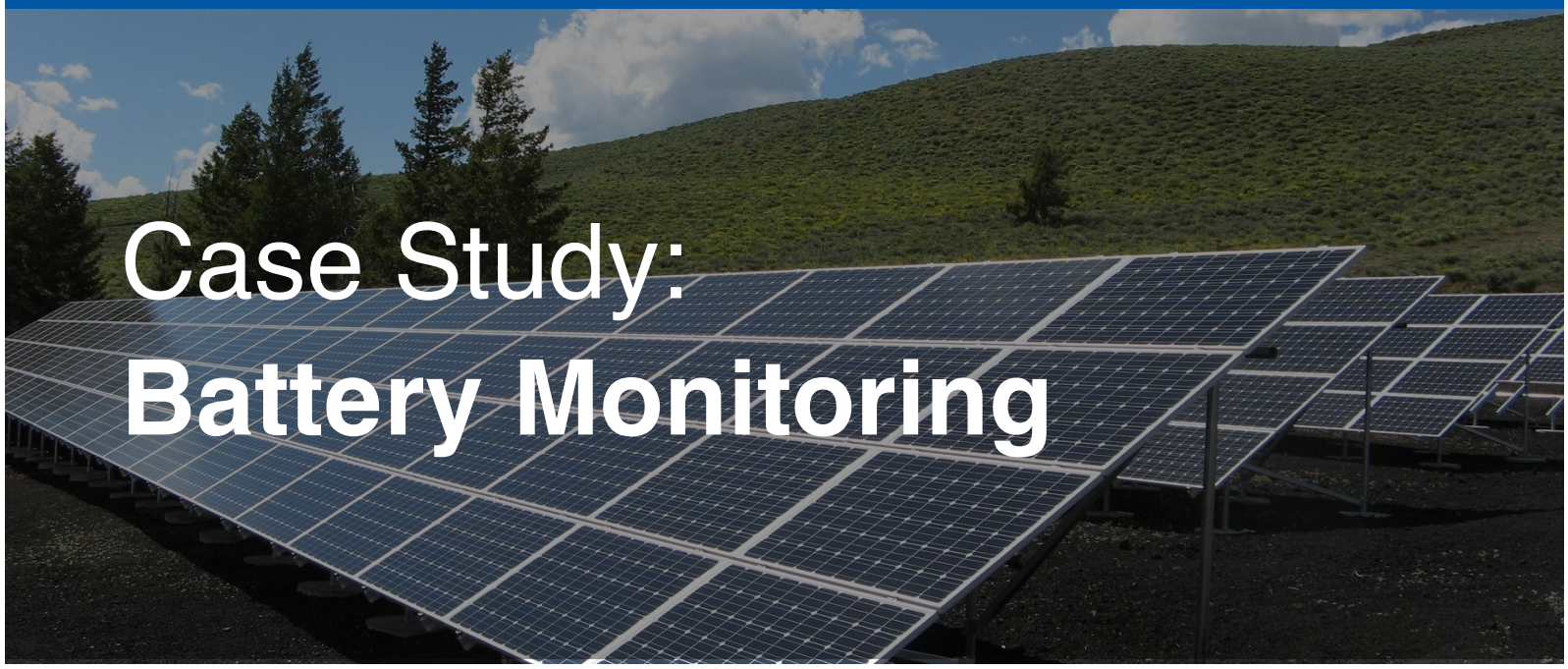
SWIM



Case Study:
Battery Monitoring

Objectives

- Continuously monitor ABMS system for failure modes
- Reduce network and storage costs
- Predict failure modes in real-time by observing live production data
- Make insights available via real-time APIs

Summary

A leading provider of Active Battery Management Systems (ABMS) wanted the ability analyze distributed power systems in real-time and automate the analysis of performance and reliability. The solution needed to analyze a historical data sample and build a learning model which could predict system failure modes from live production data. The solution must be able to simultaneously monitor 271 ABMS systems, using live production data to predict the occurrence of 3 common failure modes.

Solution

SWIM EDX was deployed onto ABMS systems in order to predict failure modes. The customer provided a 700MB SQL file from their database with information on the batteries, the battery history, and the ABMS history. Using the data, Swim EDX trained neural networks for predicting the system failure modes. SWIM EDX deployed the neural networks onto ABMS hardware, in order to make local predictions about the behavior of all sensors in the system. These predictions were generated for all sensor values in future time, observed as they occur, and continuously corrected for the error between predictions and reality. The more events observed, the smaller the error became. Using SWIM EDX, the customer was able to predict the future state with a high degree of accuracy, even with the use of a limited training data set. General failures were predicted one or two data sets before the actual failure, approximately 12-24 hours prior in advance.

Learn More

Learn how SWIM uses edge intelligence to deliver real-time insights from the dark data generated by connected infrastructure by visiting www.swim.ai

