CASE STUDY

Real time dispatch optimisation to improve operational efficiency and profitability for global utilities supplier

VOLT

Sector
Cogen / CHP

Type
Multi-utility CHP precincts

Module
Planning & Live

The Customer

Our client is a leading energy, utilities and urban development group, operating across multiple markets worldwide. Polymathian engaged with a mixed-used industrial site in which the client supplies power, steam and other utilities direct to customers, as well as to the national markets.

The Problem

As a utility provider, the client must meet the energy demands of its onsite customers in the most cost-effective way. At the same time, the connection to the domestic power market permits merchant trading to increase revenue. Maximising value in real time requires the coordinated, optimal dispatch of a mix of steam, power and co-generation assets.

The Solution

Polymathian deployed VOLT, an autonomous, real-time, continuous optimisation platform designed for the energy and utilities sector. This resulted in:

- The ability to configure assets to maximise capacity and cost-efficiency
- Increased capability to react to site changes in real-time
- Real-time visibility over surplus capacity and production costs to improve merchant trading capability
- Standardisation of best practice operational procedures across all operators
- 'What-if' modelling capability for use in offline scenario analysis

The Challenges

Complex steam and power networks with multiple generation and fuel sources

Site operations governed by operator experience and standard operating procedures

Detailed revenue and cost calculations per asset

Technical issues integrating relevant data in a readily accessible form

Renewable energy scheme financial considerations

Retrospective reporting and customisation limitations

Strict safety protocols requiring human management

The Value

7%
Increase in operational efficiency achieved

15%
Increase in gross margin

Digital Twin
Continuous optimal planning

Polymathian
Industrial Mathematics

76 Ernest St
South Brisbane,
QLD 4101 Australia

Toll Free
+61 1800 951 252

www.polymathian.com
info@polymathian.com