APEX

MCS Features & Monitoring

2023

APEX

APEX MCS

This advanced system supports and optimizes the integration of various energy sources—including generators, Battery Energy Storage Systems (BESS), and photovoltaic (PV) arrays—while meeting complex control standards, such as DNP3 requirements, for robust and adaptive energy management.

The APEX MCS (energy management system) manages sources and loads to ensure cost-optimised energy delivery from both grid-connected and islanded local distribution networks (microgrids).

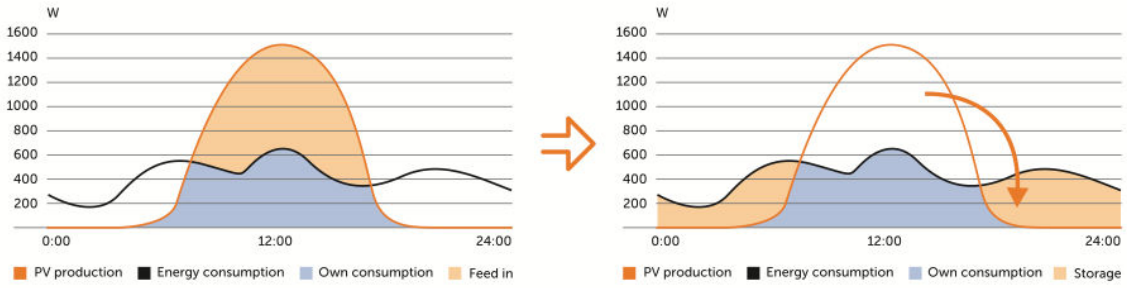
APEX MCS Battery Features

Battery Management & Backup Power

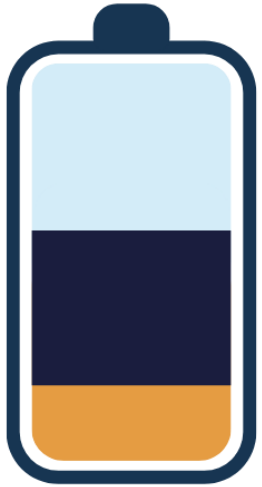
- The APEX MCS manages backup reserve capacity while simultaneously allocating battery capacity for all the other site requirements.

Local PV Self Consumption

- For sites with integrated PV the APEX MCS manages self-consumption of the produced energy, by storing any excess energy during sunlight hours for consumption during the rest of the day.



MCS Battery Management



Battery Zones

Self Consumption (50%)
Capacity available to store excess solar energy

Time of Use (30%)
Capacity reserved for tariff arbitrage

Backup (20%)
Emergency reserve for power outages

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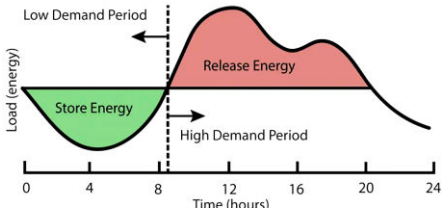
APEX MCS Battery Features

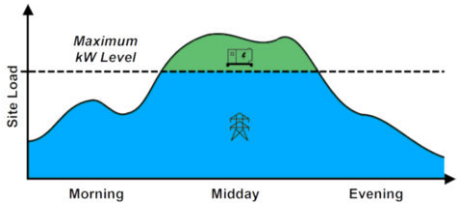
Tariff Arbitrage

- Tariff Arbitrage takes advantage of hourly differences in tariffs and incentives by storing lower-cost energy during off-peak hours for consumption during higher-cost peak hours.



Peak Load Shaving

- Peak load shaving is a strategy used to reduce electricity maximum demand on the grid. The APEX MCS prevents excessive grid consumption by discharging batteries (BESS) or adjusting loads. This reduces peak load penalty costs, improves grid stability, and energy resilience.



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APEX MCS Other Features

Diesel Genset Integration

- The APEX MCS optimises generator integration by coordinating their operation based on load demand and renewable energy availability. It enables automatic start-stop control, minimum maximum load management and coordination with BESS and solar PV, ensuring minimal fuel consumption, reduced emissions, and enhanced system efficiency. Ideal for microgrids and backup power applications.

Export Control

- The export control feature intelligently regulates flow of excess solar PV energy, optimising grid interaction, maximizing cost savings, and enhancing system efficiency. The MCS ensures that excess PV energy is handled efficiently while complying with utility regulations and microgrid constraints.

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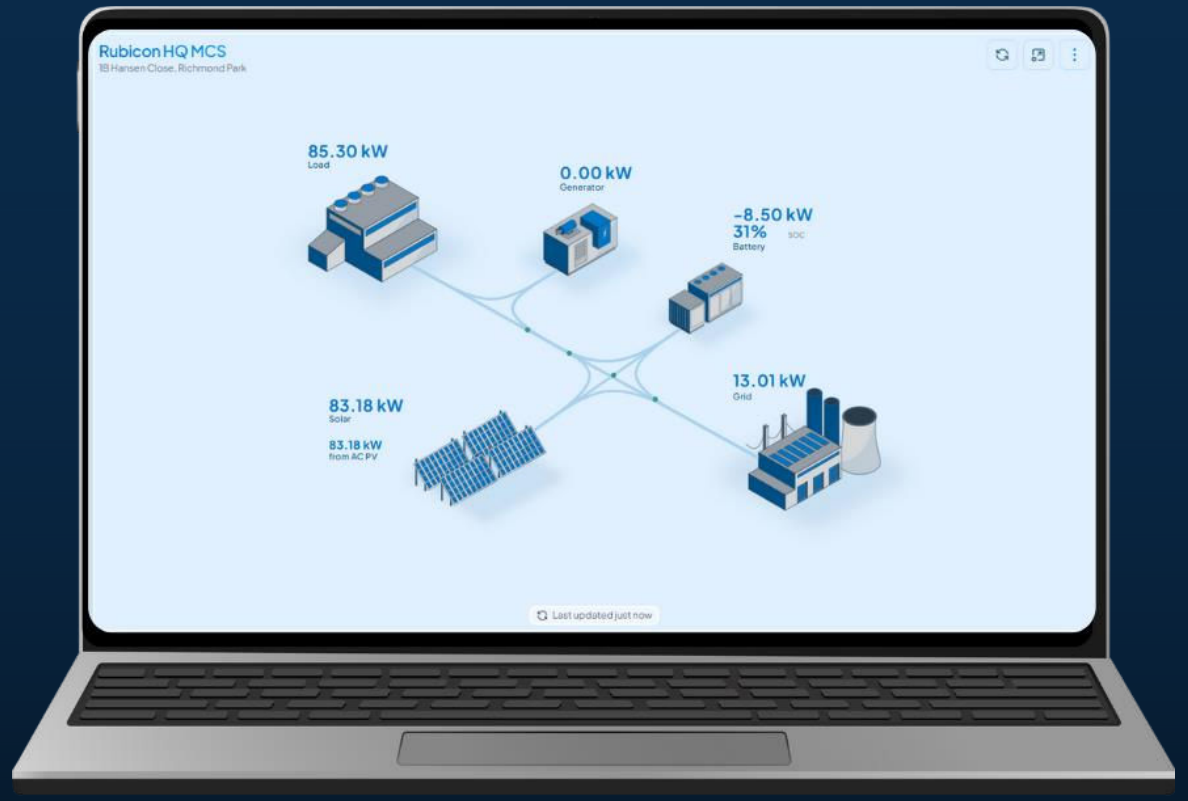
APEX FLEET MONITORING

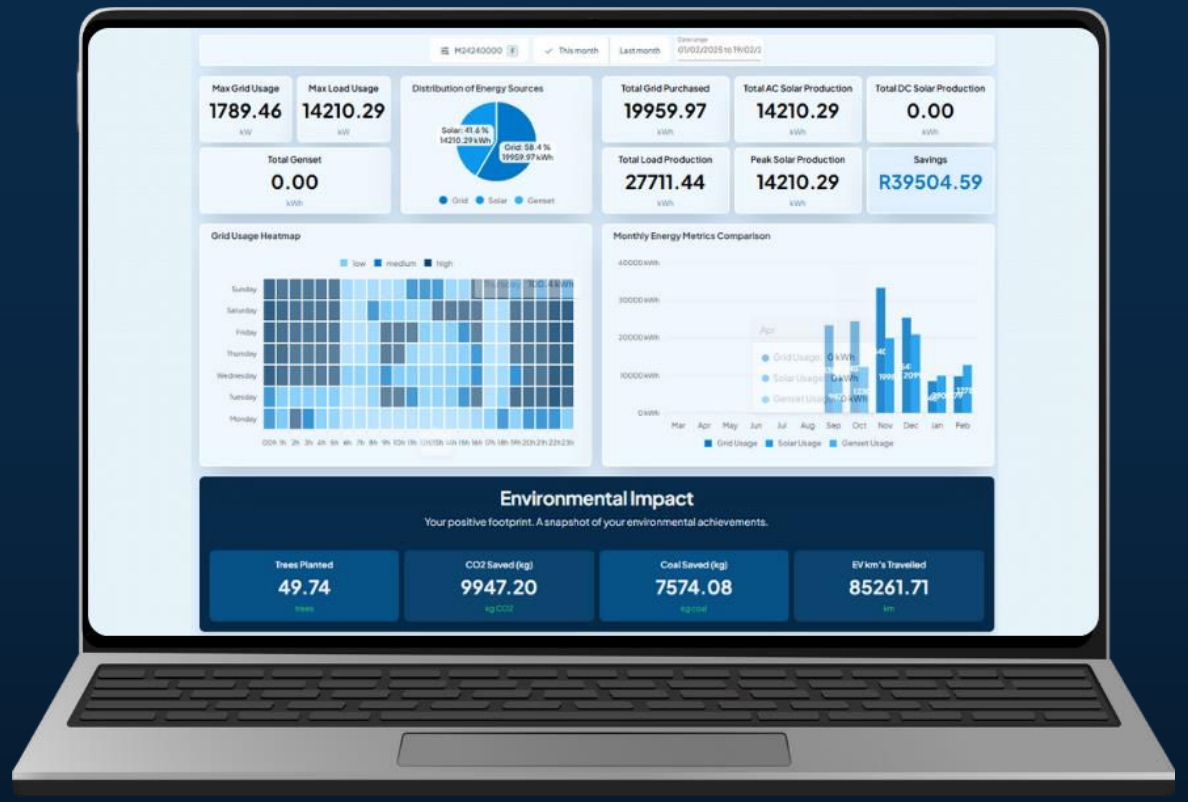
APEX Fleet Monitoring is a cloud-based platform for remote monitoring and management of APEX and third-party devices, providing real-time operational data and control.



APEX

APEX FLEET MONITORING

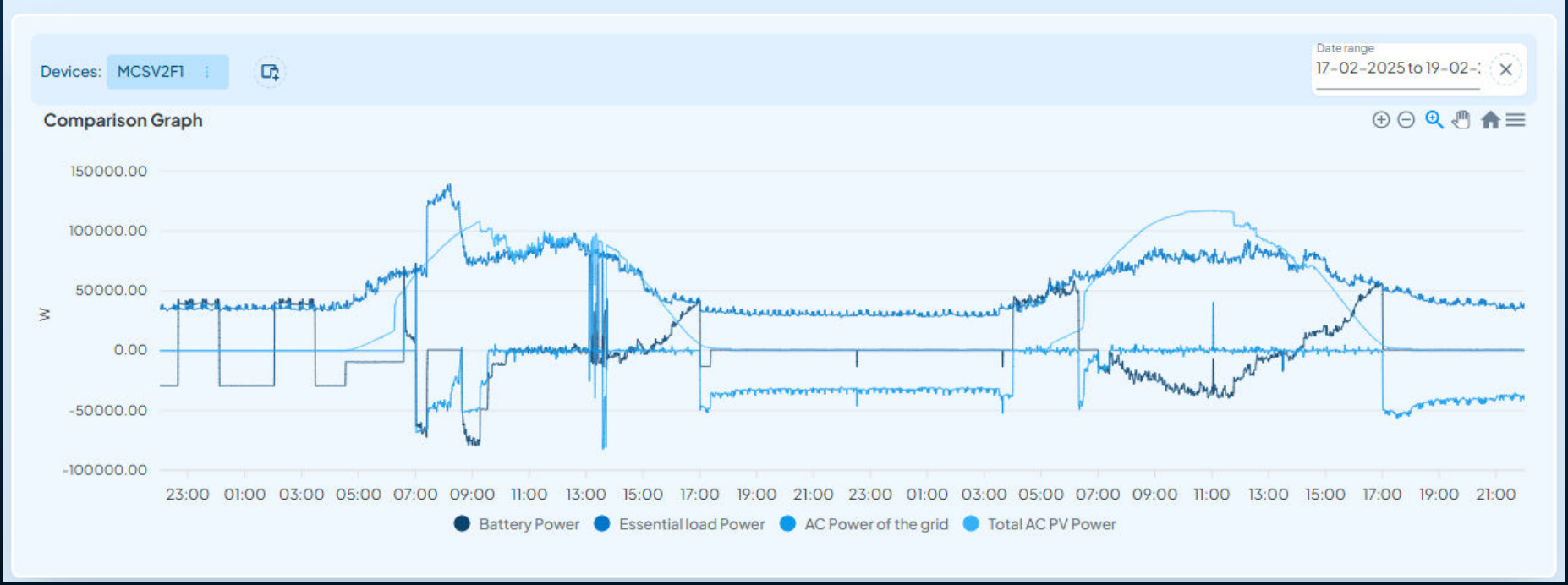
Advanced energy reporting tools help to understand and optimize system performance.



APEX

APEX FLEET MONITORING

The detailed graphing tool helps to visualize power flows on a site over time



THANK YOU