

HORIBAMIRA

REE Stargate

Refrigerant and coolant system performance evaluation

Case Study Overview

REE requested to use the new HORIBA MIRA VTEOS suite to support in the development and validation of their Stargate System.

The REE Modular Thermal Management System is being developed to manage the thermal requirements of the REE Corners, Battery Pack, Power Electronics [REE ECU], On-Board Charger (OBC) and DC-DC Inverters) and Cabin Interior as part of the REE platform concepts.

Successes and Benefits

- Combined with the controlled thermal environment introduced by VTEOS, this enabled the customer to gain a deep level of understanding of the physics of the system, correlate against simulation and start to develop energy efficient algorithms for the many heating and cooling operating modes.
- Bespoke control GUI for operation of the numerous flow control valves and pumps.
- Heavily instrumented test platform including refrigerant flows, temperature and pressures, coolant flows, temperatures and pressure distributions along with heat exchanger airflow mapping and component electrical power consumptions.

