PROJECT

Aircraft Component Structural Testing

CUSTOMER

Automotive Research & Testing Center (ARTC)

COUNTRY

Taiwan

APPLICATION

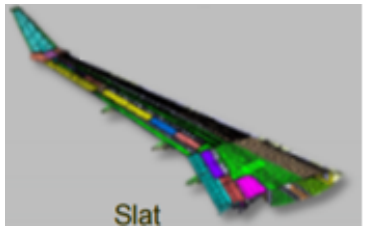
Test Automation

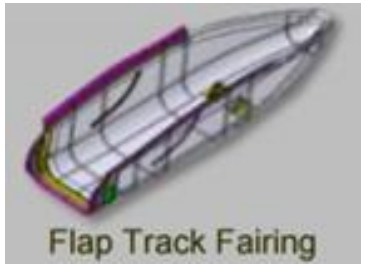
MARKET

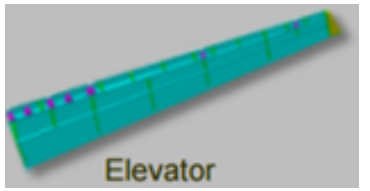
Aerospace

SHORT DESCRIPTION

Q.series strain gauge DAQ system for ARTC in Taiwan to perform Fatigue Evaluation and Damage Tolerance Testing on wing components for the Mitsubishi Regional Jet (MRJ), developed by Aerospace Industrial Development Corporation (AIDC) in Taiwan.







PROJECT

Aircraft Component Structural Testing

CUSTOMER

The Automotive Research & Testing Center(ARTC) is a pioneer of Taiwan's vehicle technical innovation and knowledge services. ARTC conducts research and development on automotive-related technology and assists other high-tech industries in Taiwan (e.g., aerospace).

APPLICATION

Acquisition of strain data during Fatigue Evaluation and Damage Tolerance Testing of aircraft flap, slat, and elevator structures.

- Simulated flight loads are applied to the structures by several servo-hydraulic actuators, which are controlled by a Moog load control system.
- Resulting strain is measured by (primarily) ¼-bridge strain gages.
- Load control data has to be acquired together with strain gauge data for 'load vs. strain' analysis.

SALES PARTNER

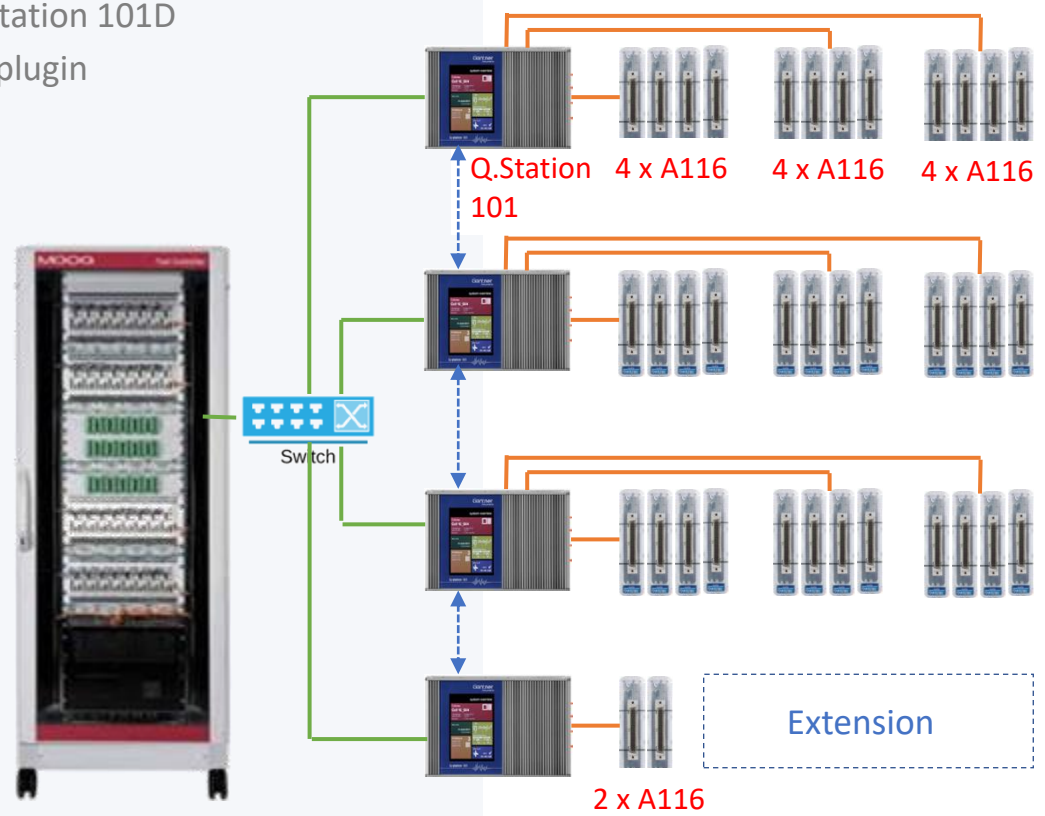
Advanced Simulation Enterprise Co., Ltd.

SYSTEM DESCRIPTION

304-channel DAQ system for measuring strain gages

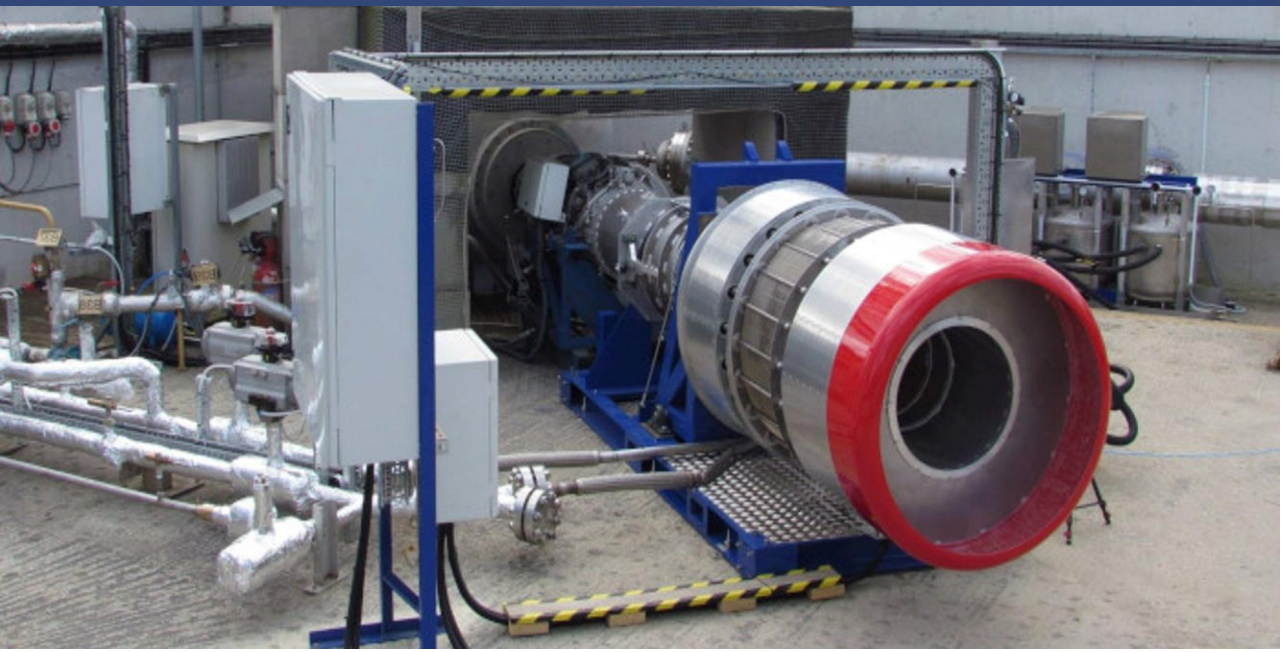
COMPONENTS

- 38 x Q.bloxx A116
- 4 x Q.station 101D
- Moog plugin



PROJECT

DAQ System for High-Speed and High-Temperature Testing of the SABRE Engine



CUSTOMER

Reaction Engines Limited

COUNTRY

United Kingdom

APPLICATION

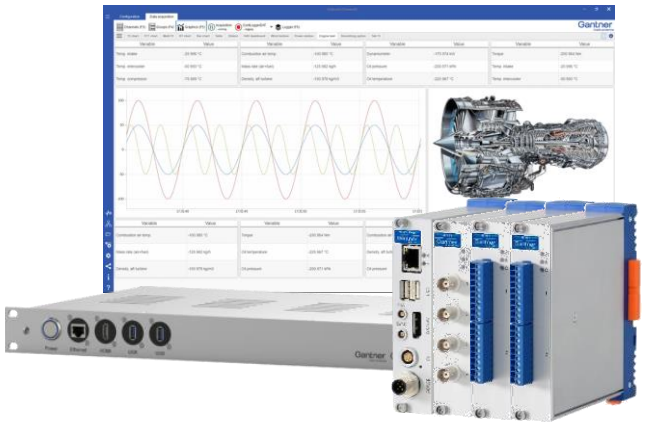
Engine Testing

MARKET

Aerospace

SHORT DESCRIPTION

Mixed-signal multichannel DAQ system for measuring vibration, thrust (force), temperature, voltage, and current with a sampling rate up to 100 kHz, including integration with a supervisory control system via Modbus TCP/IP and data exchange with an OPC UA server. The system utilizes the benefits of the Q.core for stand-alone high-performance data processing and file storage.



Reaction Engines Limited

Rocket Engine Test Bed

Ethernet to operator dashboards level, OPC UA server for all channels

OPC UA

Gantner instruments

Synchronized data logging from all sub systems

Q.core

Ethernet

Ethernet

Control system interface via Modbus TCP/IP (250 channels)

Modbus

Subsystem 1:
8Ch x 100kHz
4CH x 10kHz

Subsystem 2:
6Ch x 100kHz

Subsystem 3:
8Ch x 20kHz
8Ch x 10kHz
8Ch x 1Hz

Subsystem 4:
60Ch x 20kHz
16Ch x 1Hz

Q.sync twisted pair

Q.core 102 is used in this application for:

- Synchronized data logging of data streams from all Q.stations with 100 kHz sample rate
- Buffer merging of all data streams from all Q.stations to generate a single data file
- Reading of 250 channels over Modbus TCP/IP
- OPC UA server of all channels
- Visualization of all measurement data via browser-based dashboards

PROJECT

Safran-Preferred Supplier for Engine Testing DAQ Systems

CUSTOMER

Safran Aircraft Engines
(FKA Snecma)

COUNTRY

France

APPLICATION

Engine Test

- Open Rotor demonstrator tests
- LEAP-1A engine test bed
- M88 engine overhaul testing on aircraft carrier Charles de Gaulle

MARKET

Aerospace

SHORT DESCRIPTION

All test benches are equipped with Q.series with IENA transmission protocol to a specific server.

PROJECT

Safran-Preferred Supplier for Engine Testing DAQ Systems

SALES PARTNER

Gantner Instruments France

SYSTEM DESCRIPTION

> 1000 DAQ modules sold

COMPONENTS

60% Q.raxx rackmount DAQ

30% Q.staxx IP65 DAQ

10% Q.brixx portable DAQ

APPLICATION

Gantner Instruments is the preferred supplier for low and medium-frequency data acquisition systems for engine testing performed by Safran Aircraft Engines.

Amongst others, projects include:

- 900-channel mixed-signal DAQ system for Geared Pusher Open Rotor demonstrator test bench in Istres, France
- 700-channel mixed-signal DAQ system for certification testing the LEAP-1A high-bypass turbofan engine produced by CFM International, a 50-50 joint venture company between Safran Aircraft Engines and GE Aviation.
- 3 x Q.brixx portable DAQ systems for engine maintenance, repair, and overhaul (MRO) on board the French aircraft carrier Charles de Gaulle.