

# Measurement data acquisition

## Development of a DC measuring component for solar parks

### Customer requirements

Develop a component for the acquisition and transfer of data from a new generation of devices for the operation, control and monitoring of solar power plants. The component should be capable of use in both a central and decentral capacity. Besides the measurement of electricity generated by the solar panels it should also be capable of acquiring customer specific, individual data. The component runtime should take into account the actual structure of the periphery (series resistors) in the conversion of physical variables. The provision of the data is via Modbus TCP.

The field of application demands robustness, availability and low resource consumption. The delay between the measurement and the availability of data should also be minimised.

### Technology used

C, CMake, Roley CrossStudio ARM, Lint, IBM Synergy, IBM Doors, IBM Change

### comlet solution

The data acquisition component is an integrated hardware and software solution.

This includes receiving incoming analogue and digital data as well as an external, Ethernet-based communication link for the transmission of the acquired data.

comlet developed the software for the main processor that controls input data acquisition and takes over the external data provision. As different hardware is present for the centralised and decentralised solution – however, only firmware – this must run-time adaptive, adjust to the underlying hardware and dynamically configure the processor peripherals. Stored persistent data (persistent state information, system information, software-update images) is specifically secured and redundantly held as the power supply may be interrupted at any time without prior notice.

