

MEASUREMENT OF DISTRIBUTION TRANSFORMER STATIONS

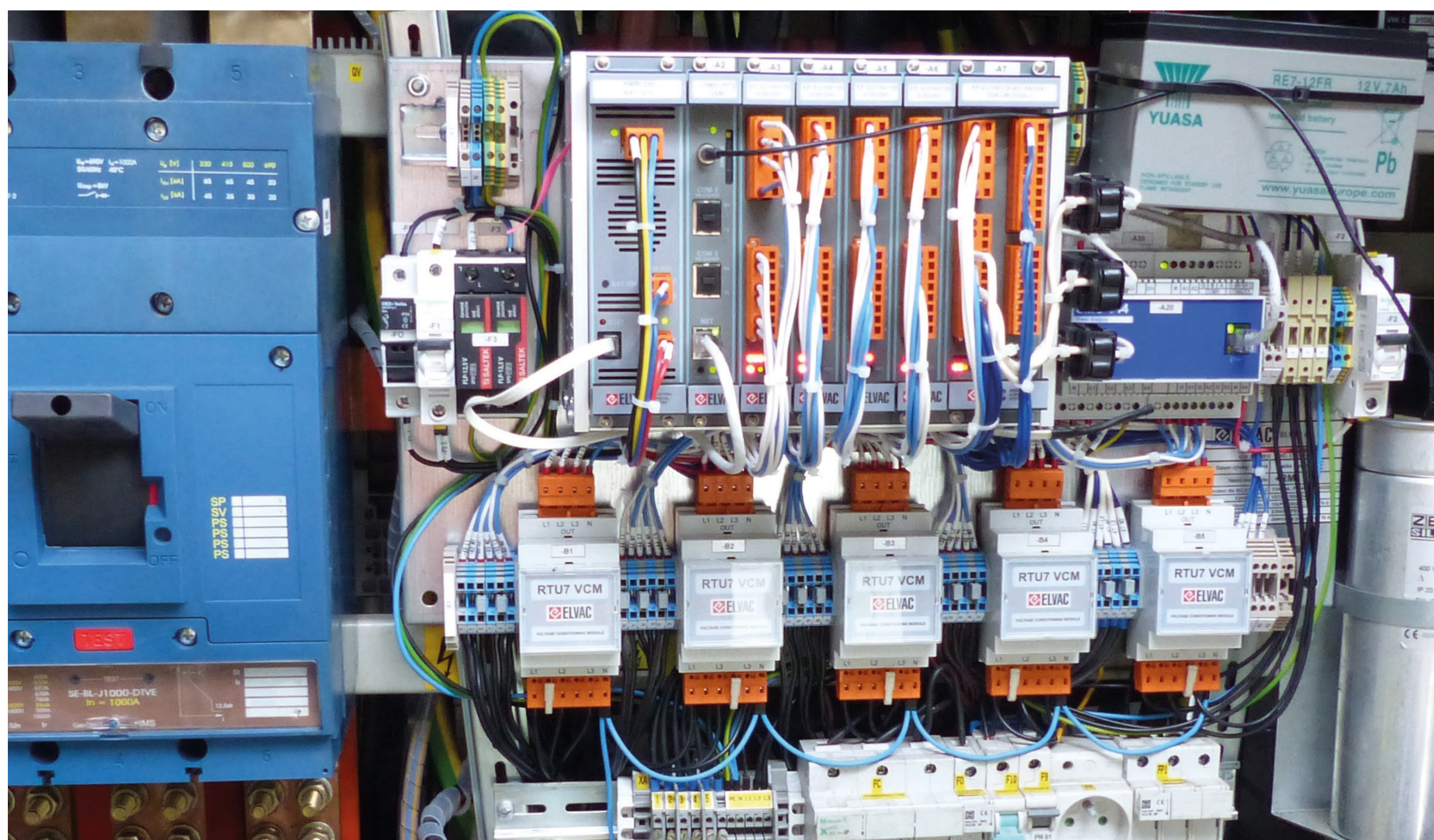
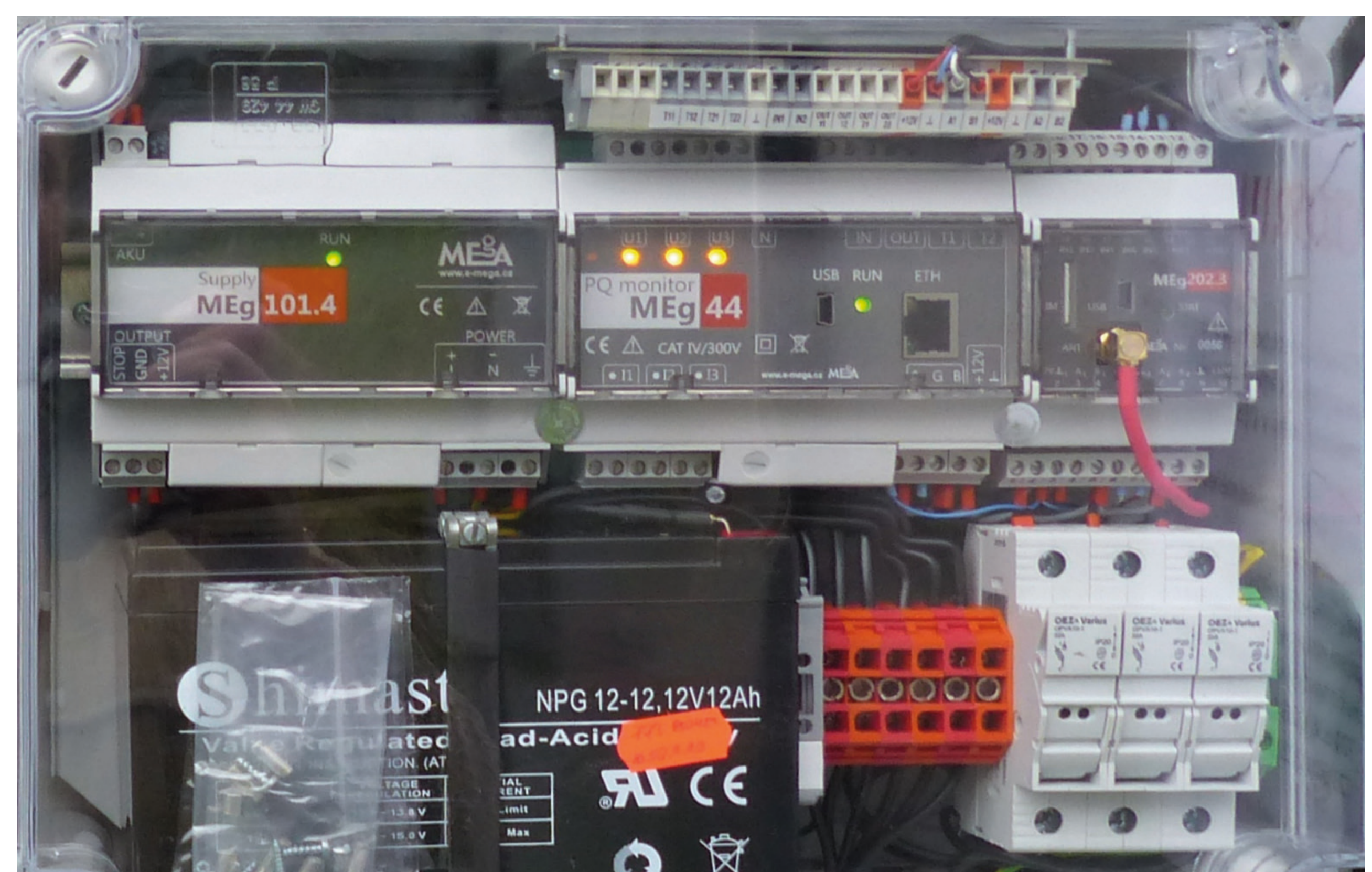
Objective

Verification of new technologies for process measurements and remote data transfer from distribution transformer stations (DTS) including technical and economical evaluation and analysis of the impact on relevant technical standards.

Description

The project includes installation of monitoring devices used for continual measurements with remote data transfer to target systems in existing 19 DTS.

Measuring monitor with communication unit



Measurement technology in DTS distribution box

and voltage events, fuse signaling and indication of fault currents (IPP) at low voltage feeders.

Extended – on top of the basic measurement it also includes quality measurements in line with EN 50160, overvoltage up to 8 kV and measurements of active power, reactive power, and current and voltage at low voltage feeders.

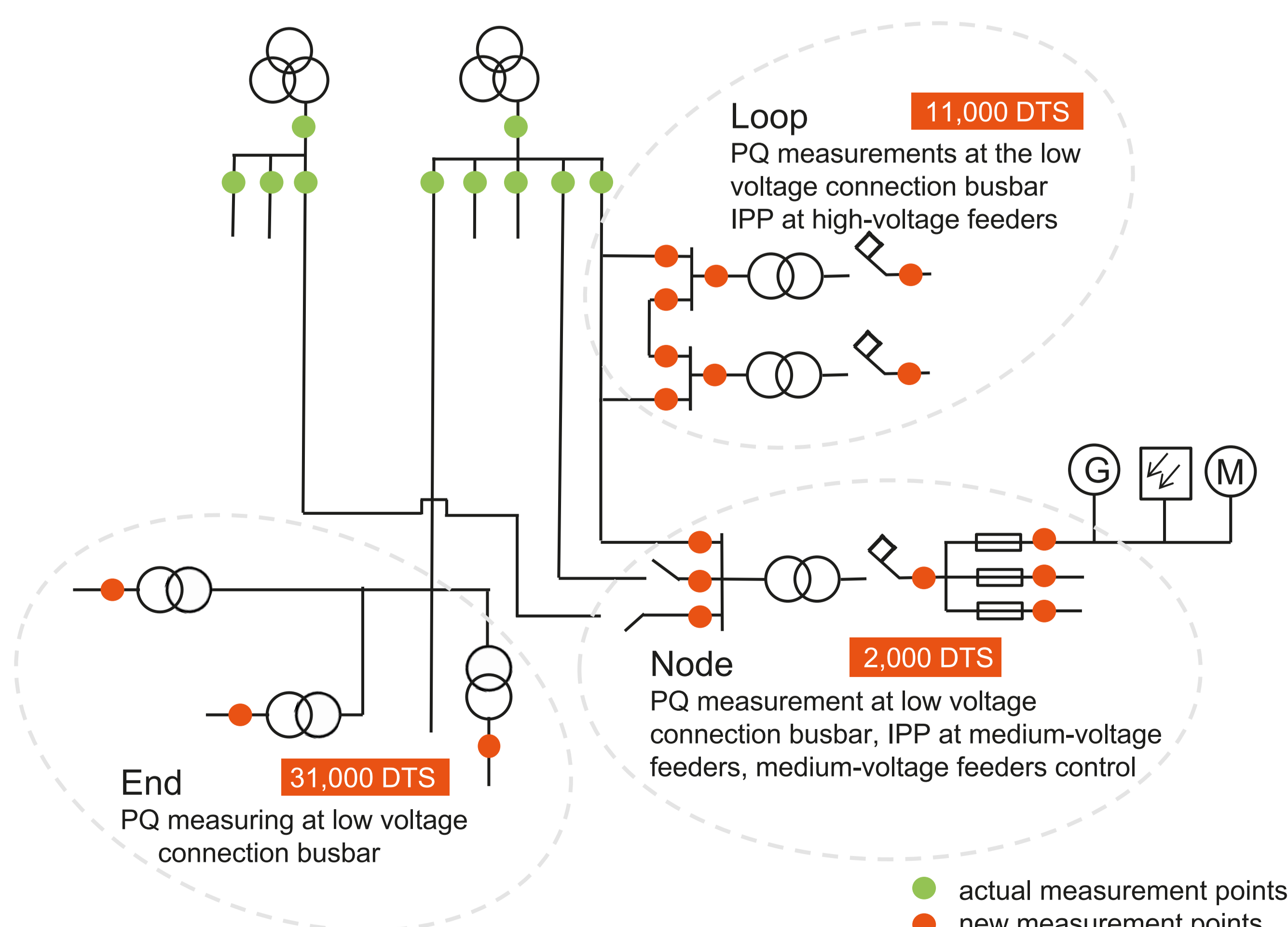
Measuring technology

Two options of the measurement scope were defined:

Basic – measurement on the low-voltage connection busbar (4 quadrants) of active power, reactive power, voltage, electrical energy, ripple control signal measurement,

Evaluation

The project verified the possibility to implement and use measurement and communication technologies in real operation. Remote transfer of data via GPRS communication and digital radio transfer demonstrated sufficient quality and consistency. Results of the pilot project were used as the basis for the preparation of a large-scale implementation of the technology in the distribution grid.



DTS measurement categorisation