

SGIM

Smart Grid Interface Module



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BeEnergy SG GmbH – based in Frankfurt, Germany

Empowering utilities to unlock real-time grid transparency through live measurements.



International push through new sales network and demand



2018

Foundation of BeEnergy



3.500

devices produced and installed



2026

- First large rollout projects in the DACH region
- Enhancement of portfolio through customer demand
- Partner for production and basic R&D in the Czech Republic with 60 FTE
- Ongoing projects in the Middle East and Asia



SGIM installation portfolio

01

SGIM – 01
mounted on busbar / wall



02

SGIM – 60
compact



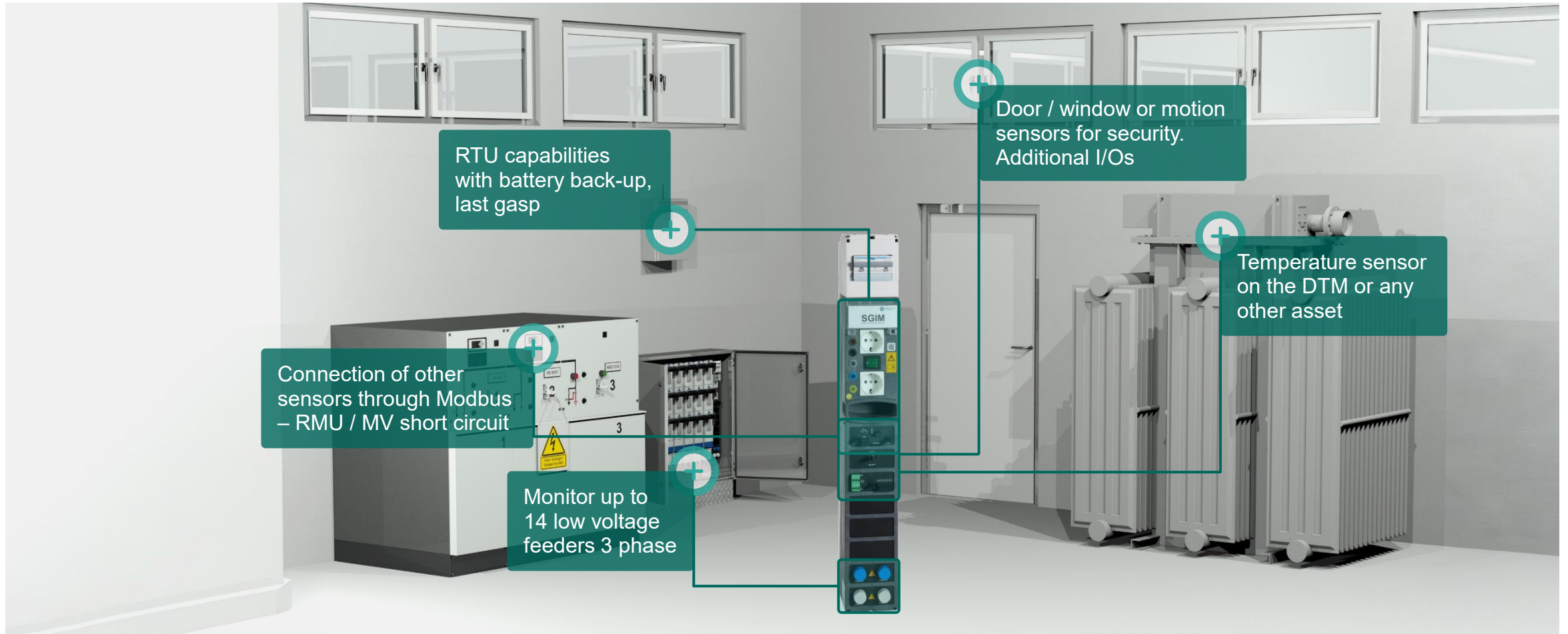
03

SGIM – IP65 case
Various options available





Digital substation with SGIM as data hub

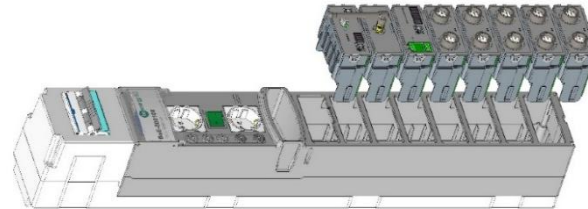




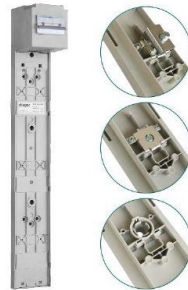
The Smart Grid Interface Module – core

Hardware Features

- eight module slots
- one slot reserved for CPU
- one slot reserved for measurement module
- free configuration of six slot with function modules
- mountable on installation platform for rack mount or mounting plate mount
- Integration RF – Wireless temperature sensors



8 module slots



Plug base variants



SGIM variants



Mounting adapter



Accessories



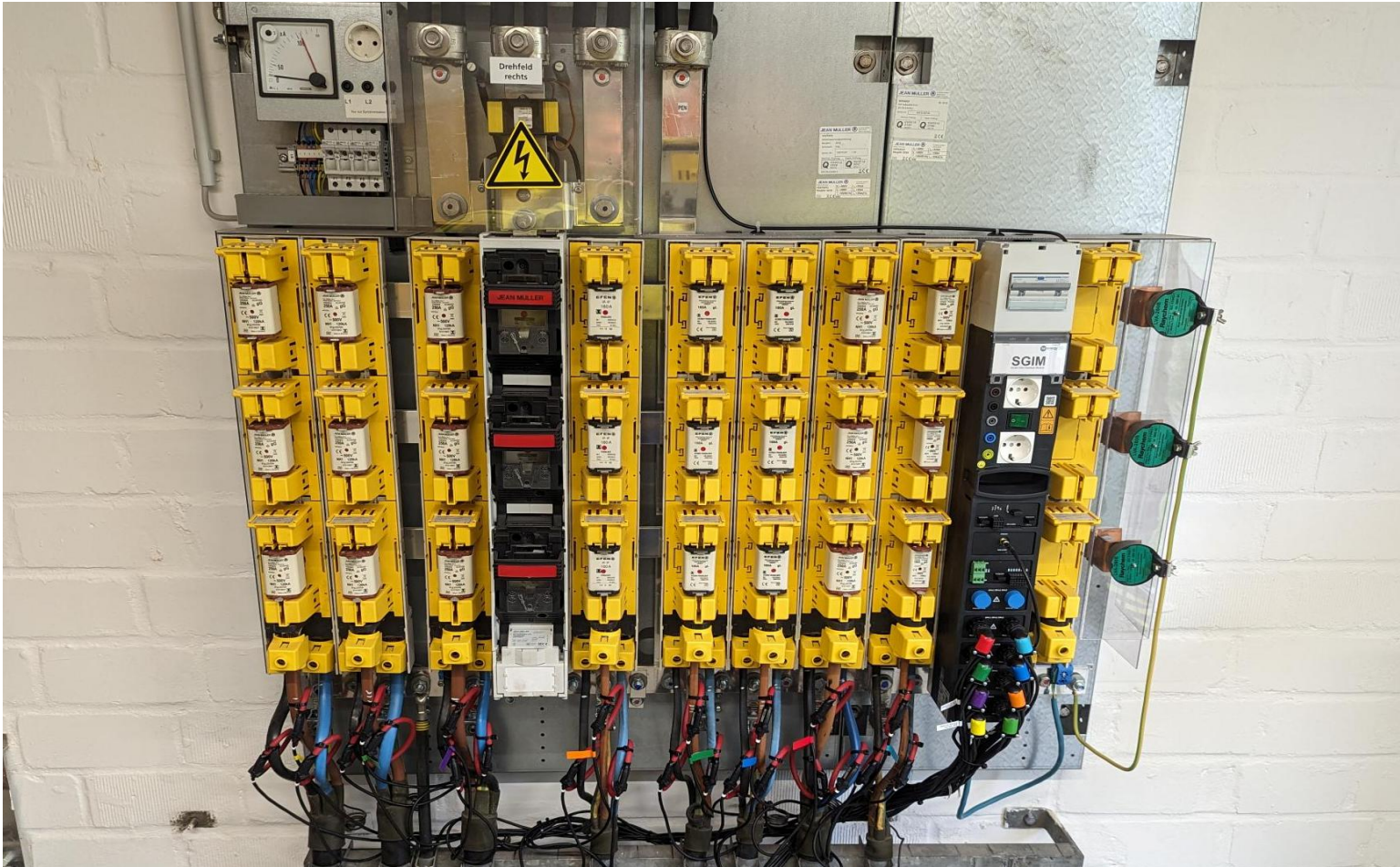
Online configuration

internet accessible configuration
tool to create an individual SGIM





Installation overview



3 phase channels for up to 14 separate feeders – in this case with rogowski coils – Germany



SGIM-60 compact, magnetic mounting



Slim form factor that fits into compact sub-station, same functionality as the rest of the SGIM portfolio, German rollout customer



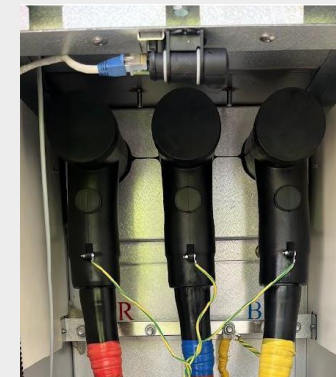
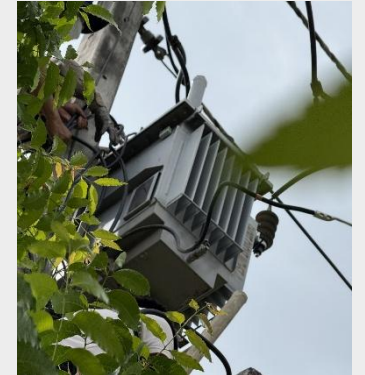
SGIM – additional sensor options

Voltage and current

- Voltage + neutral connection with multiple length and clamps available
- Rogowski from LEM with length of 1-30meters available. IP65 rating optional
- Current Transformer, 1A / 5A and 333mV

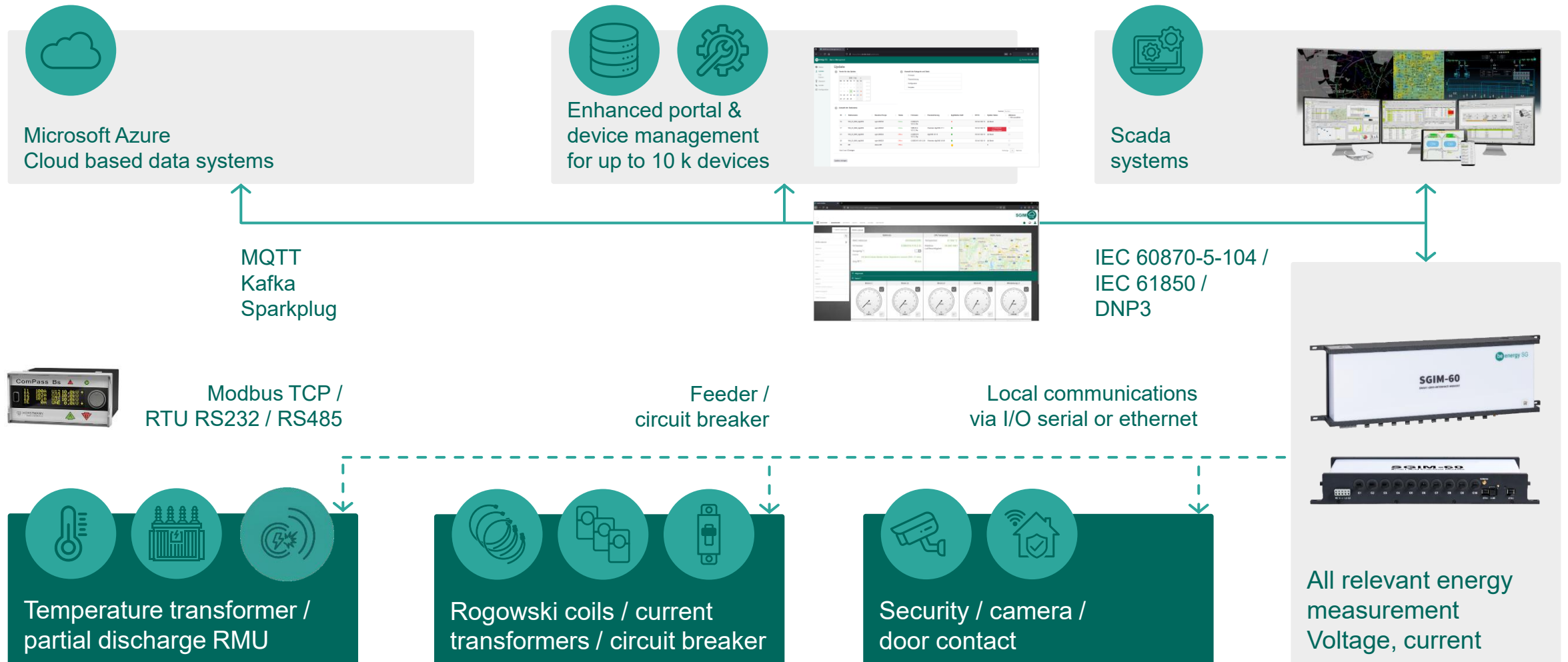
Options

- Wireless temperature with a range of 300m and up to 60 sensors per SGIM
- Wireless door sensor
- Security camera with motion detection
- Partial discharge sensors for the medium voltage RMU





SGIM – technology for multiple requirements





Software and cloud / web-based application

Firmware features

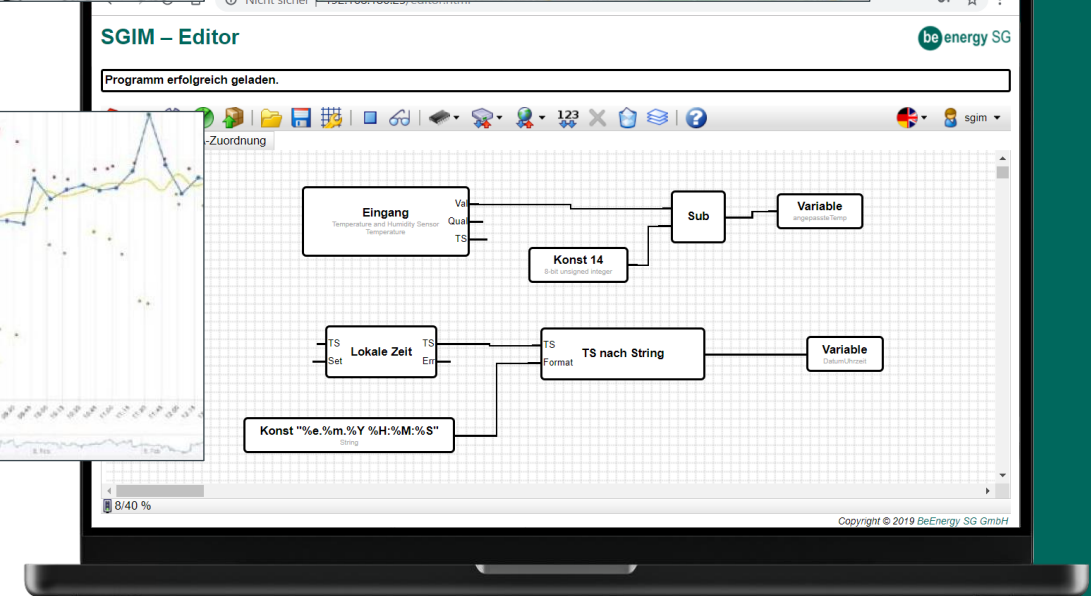
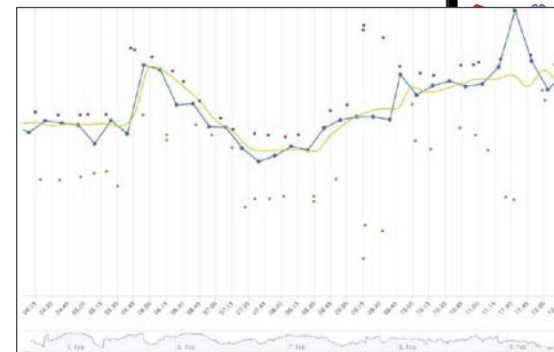
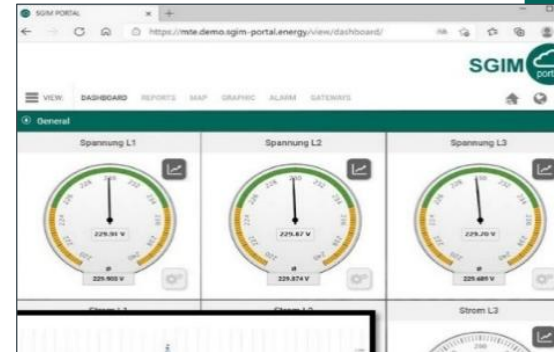
- generation or derivation of user's own values
- Remote updates
- local switching operations with programmable logic
- local alarm function via SMS/E-Mail
- SGIM becomes an RTU, ability to handle up to 8.200 data points

Online Dashboard solution

- User and alarm management, event log
- Report exports through CVS files
- Light version with plug and play functionality
- Mostly free for the first year, after that depending on data usage

Cybersecurity

- Hosted in ISO 27001 datacenter
- Available to be installed on premise
- integrated IPsec protocol suite
- certified by EON





What comes after first installations and beyond our portal

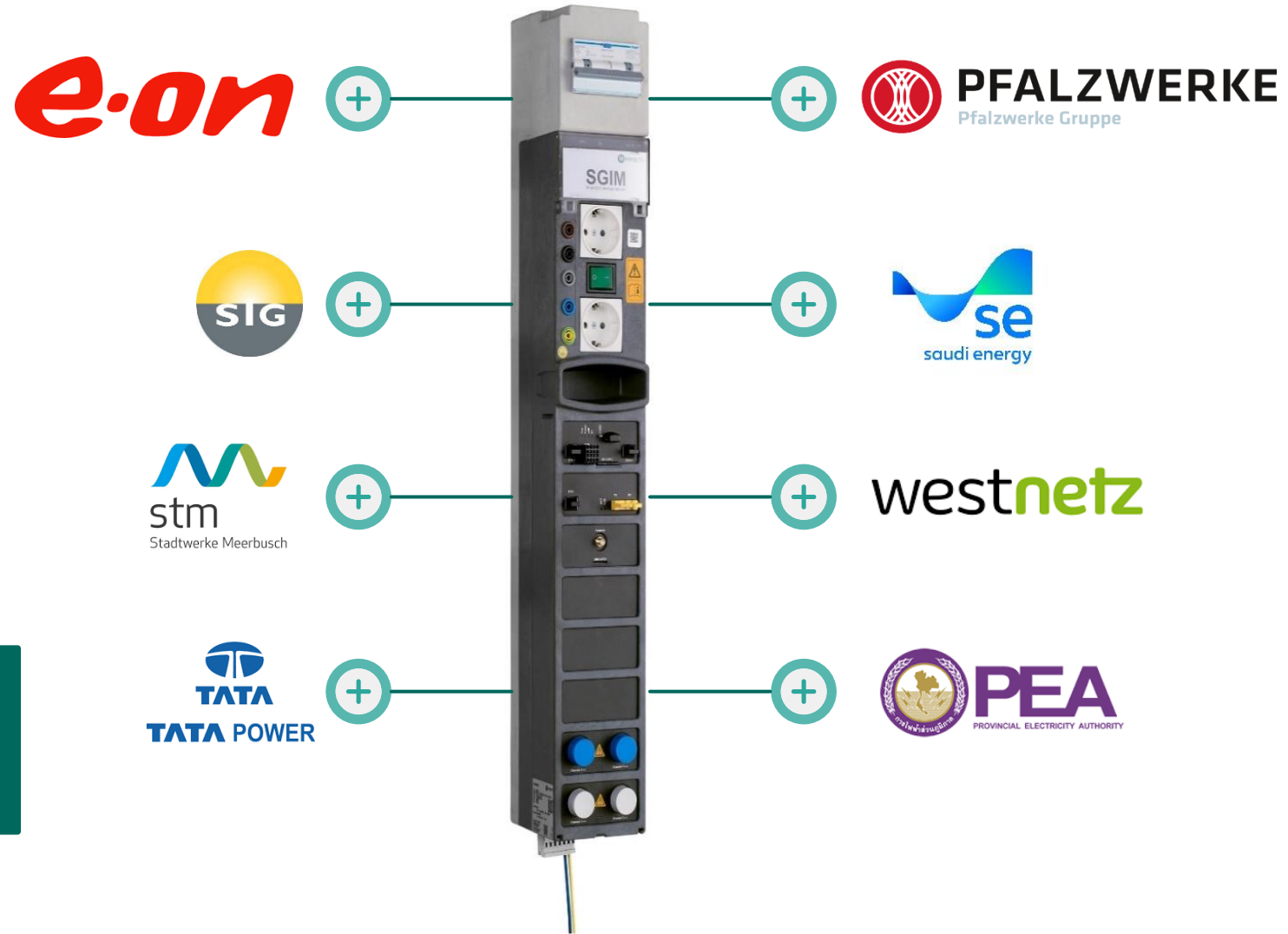
Software players that perform services for the LV side of the utility

- Grid planning
- State estimation
- Maintenance optimization
- Mostly large software companies, SCADA players or start-ups with AI. Companies like **VIVAVIS**, building up their portfolio for displaying the LV side with a rising need for live data





Overview of customers




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Advantages of the Smart Grid Interface



-  **Metering of voltage, current and performance values**
-  **Data logs acc. To IEC 60870-5-104, MQTT, IEC 61850**
-  **Integrated current transformer connection**
-  **Configuration and data evaluation via web tool**
-  **Integrated mobile communications gateway for uncomplicated data transfer**
-  **Customer-specific alerts via SMS or email**

The system base of the electronics is the CPU with its basic functions:

- Two Ethernet interfaces for north and southbound communication
- A serial interface for Modbus communication (RTU)
- Temperature and humidity sensor
- Bluetooth configuration interface
- Further functionalities are configurable:
 - Up to seven input and output modules with digital inputs and relay outputs, for example, for additional monitoring functions
 - Modem module for the mobile communication
 - Fibre optic cable communication module

SGIM

Smart Grid Interface Module

Thank you for your attention!



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