

iniGRID – INTEGRATION OF INNOVATIVE DISTRIBUTED SENSORS AND ACTUATORS IN SMART GRIDS

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ABSTRACT

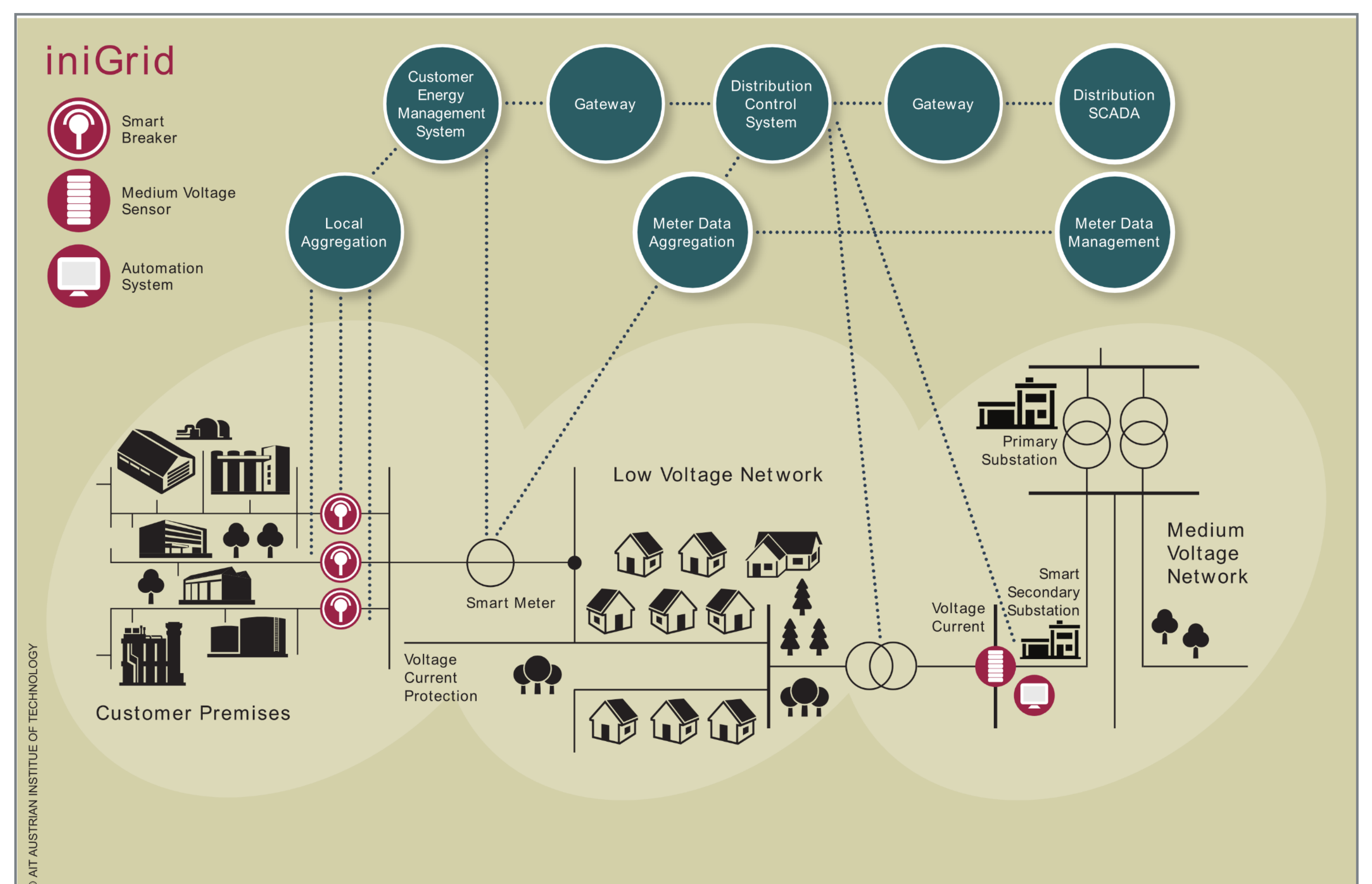
iniGrid innovates the way electric energy is brought to end-use equipment by providing innovative sensor and actuator technology for actively managed and fault-protected distribution grids. Essential future functionalities such as dynamic management of line use as well as fault detection and fast service restoration are only possible with appropriate sensors and actuators in place. These sensors and actuators are missing today on the distribution level of a power grid. Radically new semiconductor-based components that will be developed by iniGrid, alongside the necessary IT and secure networking concepts, will address this shortcoming, and are aimed for commercial and grid applications.

PROJECT DESCRIPTION

Funding scheme: e!MISSION.at – 4th call for proposals

Project partners: AIT Austrian Institute of Technology GmbH – Energy Department
Eaton Industries (Austria) GmbH
Infineon Technologies Austria AG
Zelisko GmbH
Sprecher Automation GmbH
Technische Universität Wien – Institut für Computertechnik
Fachhochschule Oberösterreich – F&E GesmbH
Linz Strom Netz GmbH
MOOSMOAR Energies OG

Project period: 09/2014 – 08/2017 (36 months)

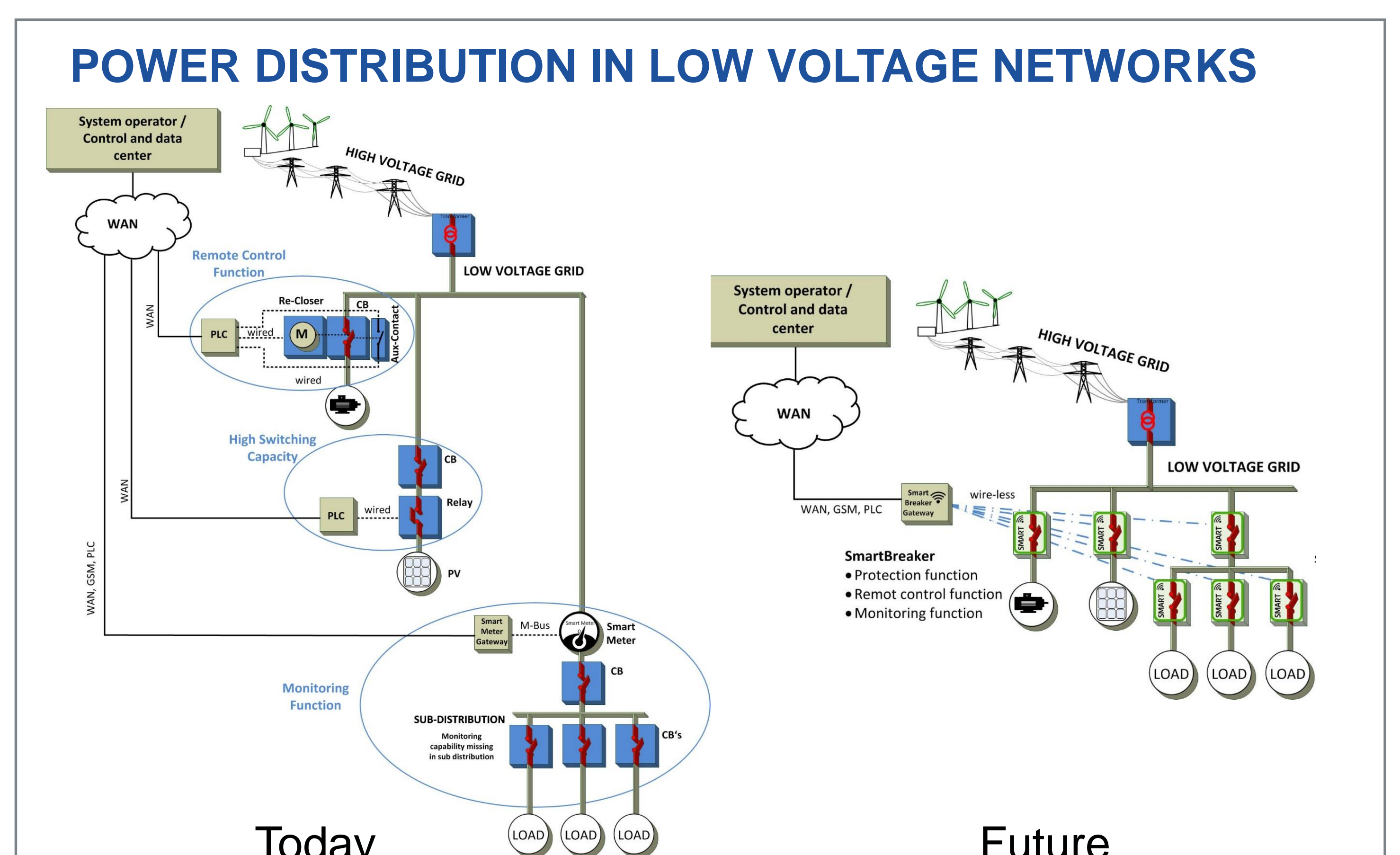


PROJECT GOALS

1. Develop innovative sensor and actuator technologies for smart distribution grids (Smart Breaker, Medium Voltage Sensor).
2. Integration of new components into a future-proof system architecture.
3. Cost-benefit analysis for state-of-the-art technologies and for integrated IniGrid components.
4. Lab and field validation to show that the new components are feasible for their integration into smart distribution grids.

SUMMARY AND OUTLOOK

Within the research project iniGrid new sensor and actuator technologies as well as monitoring and control systems are developed or at least refined. The components have been developed and tested in the lab and will be integrated into test-systems to validate their behavior under realistic conditions. Cost-benefit analysis have shown a positive effect on the integration costs as well as on operational costs so far.



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