

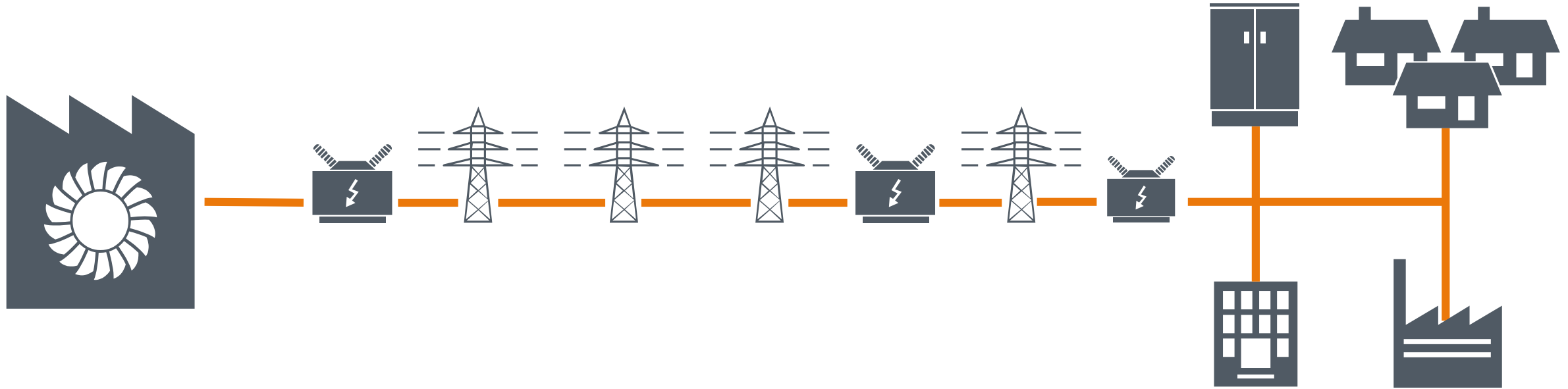
Microgrid and Distributed Energy Resources Optimization

Gerald Quaas - Digitalize Indonesia, Jakarta 31st of October 2019

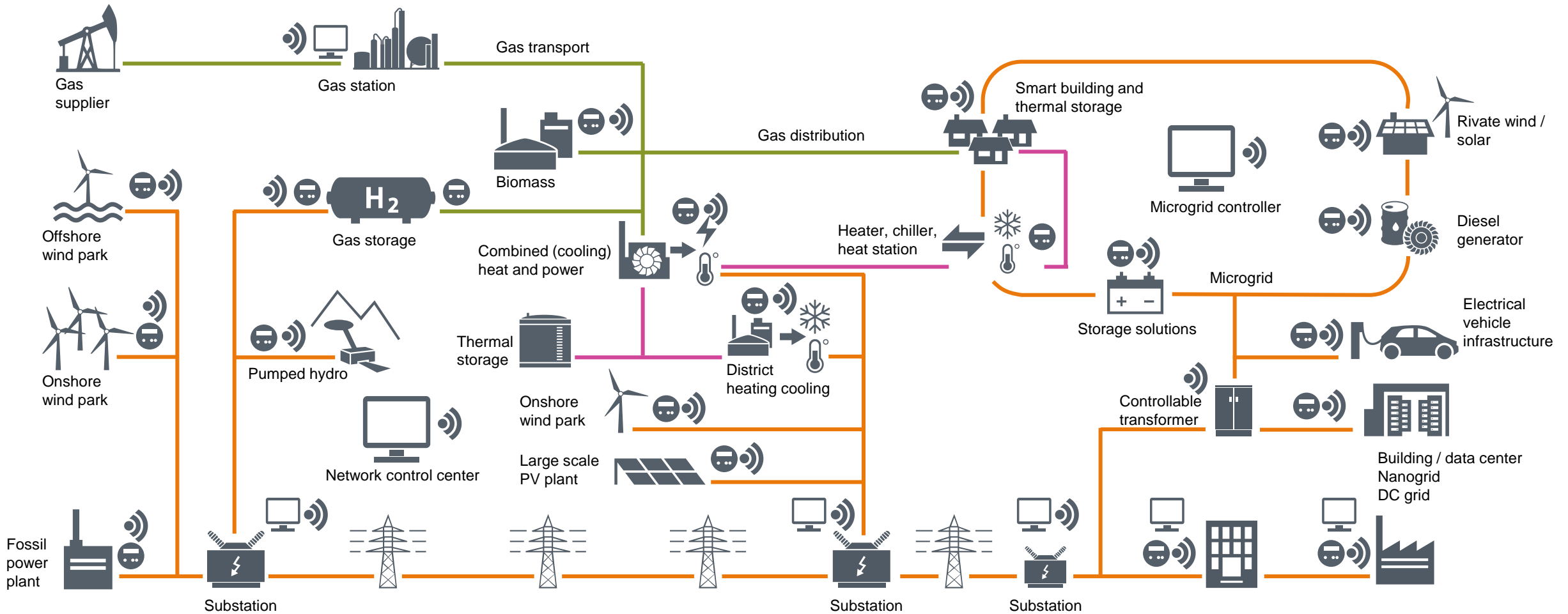
Energy transition landscape

From centralized power generation and unidirectional grid ...

SIEMENS
Ingenuity for life



...to distributed energy systems

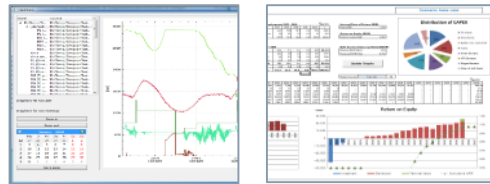


Modular and scalable Control/Automation & digital offering for distributed energy systems



Simulation services

Simulate project, Evaluate DES baseline and DES solution benefit (hardware and software)



Simulation services

Historical or predictive data: Evaluate best solution configuration (incl. the optimum function setting for the control) and operation minimizing operation cost and verifying grid stability

MG controller offering

Simulation data to design optimized control functionalities in a modular way

Microgrid and PV controller portfolio

Reliability, energy efficiency, market interaction and data gathering



Managed services

Customer DES solution, operation recommendations



Consulting

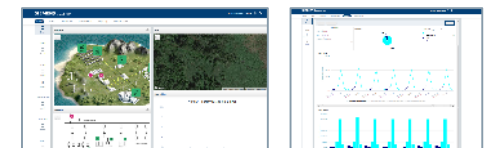
Consulting offering: Energy site improvement recommendation and services based on data

DER Performance Monitoring and Analytics

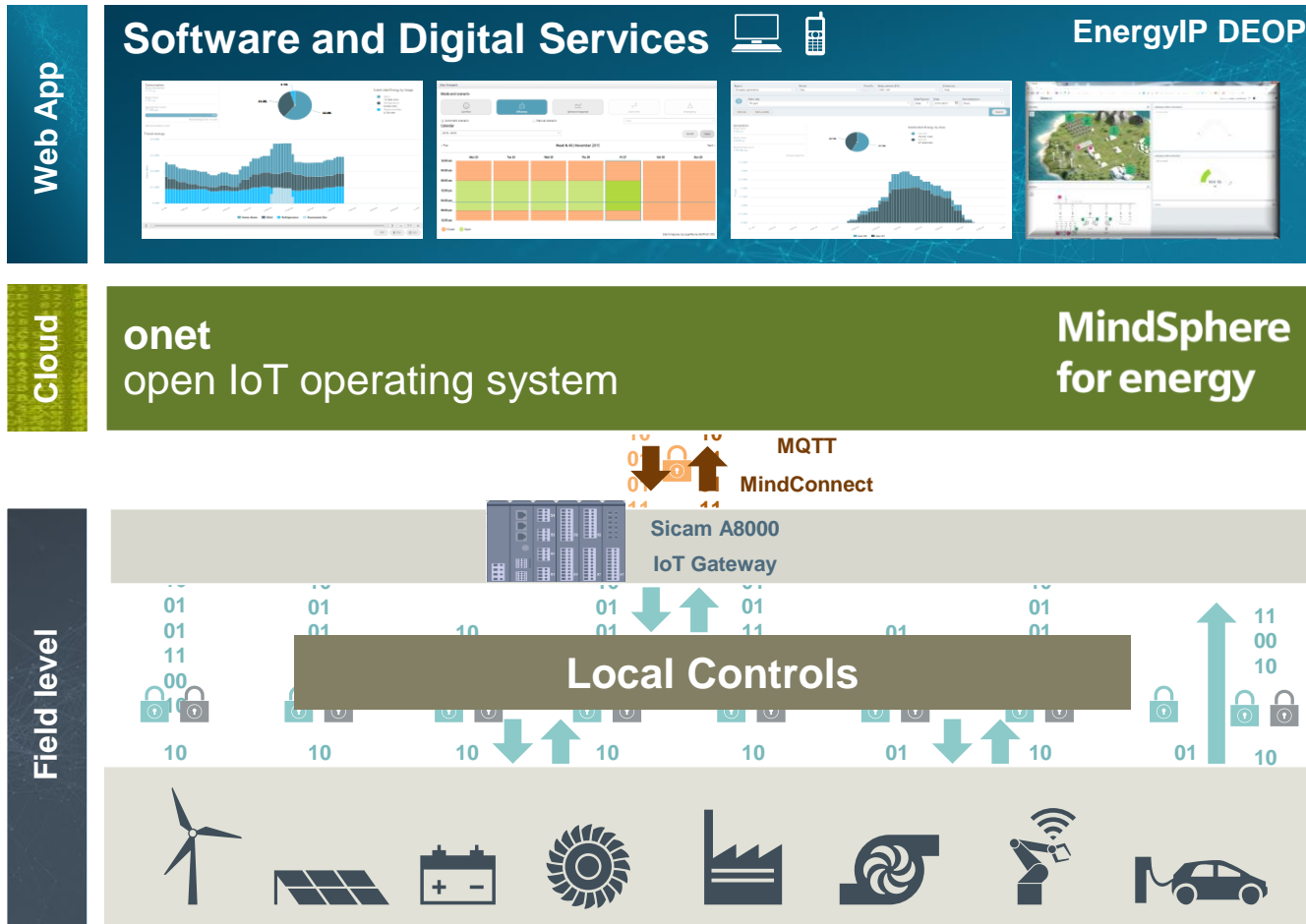
Campus/C&I/IPP Performance monitoring plus data analytics

Decentralized Energy Monitoring Optimization

DES Data gathering, reporting, benchmarking data analytics (Actual vs. Historical, Simulation baseline, anomalies detected)



EnergyIP DEOP for real time efficiency benchmark with cloud based Software as a Service



Operational

- Cloud Based – worldwide available**
- Real time monitoring via web portal**
- Customized reports for benchmarking**
- Preventive vs. corrective maintenance**
- Generation and Loads optimization**

Benefits

- Software as a Service – No CAPEX**
- Real-time transparency, alarms anywhere, anytime**
- Decision support for Energy Efficiency**
- Cost planning**
- Energy Savings, CO2 reduction**

Project: Pebbles

Microgrids, Renewables KPIs and public dashboarding



Customer

- Federal Ministry for Economic Affairs
- Wildpoldsried
- 2018



Site information

- 8 CHPs
- 1 Battery storages
- 2 Wind Turbines
- 3 Gen Set
- 2 PCCs
- 10 PVs



Functionalities:

- Energy Transparency
- KPI benchmarking
- Public dashboarding

<https://pebbles.monet-cloud.com/public/>



Bundesministerium
für Wirtschaft
und Energie

