Agile and 360° Digital: Bringing the Customer Centric Utility to Life

Siemens Industry Analyst Conference 2016
Who moved my cheese?
Two Major Trends Driving Each Other

Local Resilience
Storage
Energy Efficiency
e-Mobility
Microgrid
Renewables and Conventional
Peer-2-Peer Energy

Distributed Energy Systems

Digitalization

Analytics
Distribution Platforms
Transactive Energy
Distributed, Closed-Loop Control
Customer Engagement
New Business Models
Cyber Security

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The Energy System tomorrow!?
Vision of the Future: The Energy Cell Concept

Energy cells can be
- Community
- Factory
- Power plant
- Dedicated storage facility

Energy cells contain
- Power generation
- Thermal and gas grids
- Energy storage
- Power-to-X (-value)
- Dynamic load control
- ICT, self-organizing, self-healing intelligence
- Resiliency
Vision of the Future: Market Model and Utility Role

Utilities as platform optimizers and service providers
- integrating renewables and distributed energy systems
- facilitating markets for renewables and distributed energy systems services
- offering renewables and distributed energy systems services

Energy cells contain:
- Power generation
- Thermal and gas grids
- Energy storage
- Power-to-X (-value)
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Market model for new position

Opportunity

Cell 1
Transactive energy on distributed markets

Cell 2

Cell 3

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How to prosper in such an environment?
Agility is a Major Prerequisite to Thrive in the New Energy World

Connecting Grids
Efficient power transmission
Interconnection of national transmission grids and integration of renewables

Totally Integrated Power
Critical power supply for industrial plants, infrastructure and buildings
reliable, safe and efficient

Agility in Energy
Maximize Intelligence and Flexibility of Energy Networks

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Agility requires the right tools
Agile and 360° Digital: Standards-Based End-to-End Architecture and Services From Field Level to Software Applications and Analytics

Enterprise IT

PSS® grid planning and simulation: Digital Twin

Data model

Spectrum Power grid operations / control: central

Data model

Energy IP applications, analytics: distributed, “Internet of Things”

PaaS option powered by Sinalytics

Smart communication + control

Substation: Automation & protection

Field area networks:
Sensors, meters, controls, concentrators

Primary equipment:
High-voltage substations – flexible AC transmission systems (FACTS) – high-voltage direct current transmission systems (HVDC) – grid access solutions – power transmission lines – medium-voltage power supply solutions

Primary equipment:
Distributed energy systems, low-voltage products, building technology, smart home, industrial power supply, …

Electrification  Automation  Digitalization  Information technology
The power to deliver – proven worldwide
Creating agility requires power to deliver
Agility in energy.

Bringing the customer centric utility to life.
Contact

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