

ECO
ECO WORLD STYRIA
Styria World Innovation Center

SIEMENS

Marktorientierte Technologieführerschaft
halten, verlieren, ausbauen

Hermann Brugger

Customer Orientation

SIEMENS

Understand the customers'

- Business
- Strategy
- Opportunities & Challenges

Match our technological competencies
with the customers' needs

Develop a long-term strategic partnership
with the customers on a global basis

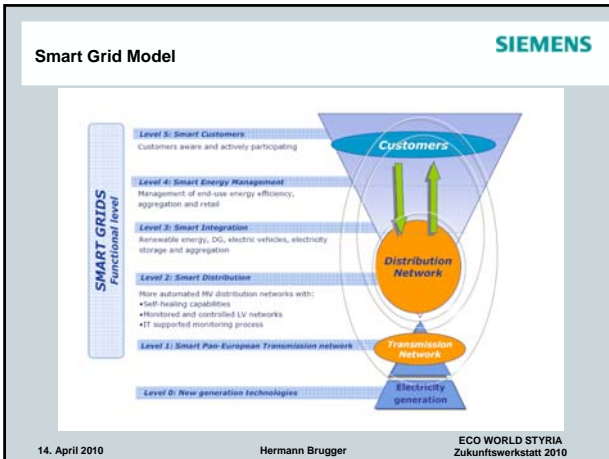
14. April 2010 Hermann Brugger ECO WORLD STYRIA
Zukunftswerkstatt 2010

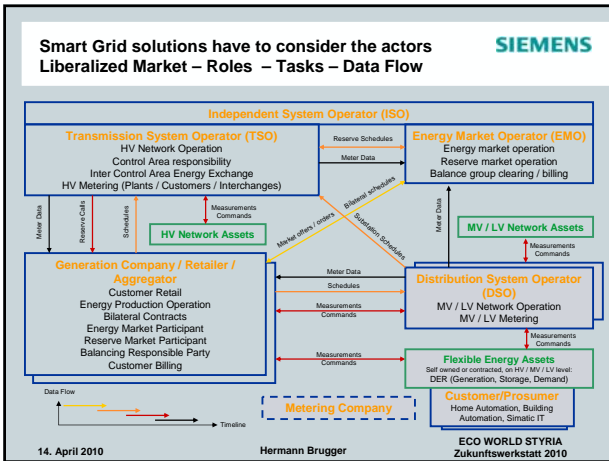
The sources for innovation are manifold

SIEMENS

Managing innovation = managing complexity

14. April 2010 Hermann Brugger ECO WORLD STYRIA
Zukunftswerkstatt 2010





Example Sappi Gratkorn (Austria)

Energy intensive industries access energy markets

- Forecast of gas, steam and electricity demand in dependence of production planning
- Cost / revenue optimized scheduling of energy production equipment according to spot market
- Thus the local electricity production support smoothing of network load
- Online supervision of gas and electricity demand

14. April 2010 Hermann Brugger ECO WORLD STYRIA Zukunftswerkstatt 2010

Example
Viridity Energy Inc (USA)

viridityenergy SIEMENS

Provide aggregated Demand Response

- Connect to Building Management Systems (BMS) of public service buildings
- Aggregate the flexibility of HVAC equipment (by allowing tolerable room temperature discomfort)
- Sell aggregated flexibility on the US Demand Response (DR) market
- US DR market participants relieve contingencies in transmission network operation

DEMS

Building Management Systems

Measurements / Commands

14. April 2010 Hermann Brugger ECO WORLD STYRIA Zukunftswerkstatt 2010

Example
EmporA (Austrian Mobile Power)

climate energy fords austrian mobile power SIEMENS

Balancing renewable generation and e-car demand

- Forecast and online estimation of distributed renewable generation and e-car demand
- Control of generation / e-car charging to keep the power balance
- Data concentration (per balance responsible party) at public / fleet car parks

Wind

Solar

Biomass

Hydro

14. April 2010 Hermann Brugger ECO WORLD STYRIA Zukunftswerkstatt 2010

MV Islanding operation – District MURAU
Planned Project (R&D + Demo)

Energie TESSIG AIG MIT SIEMENS

Area Controller for islanding operation of an energy independent region

Objectives:

- Reducing of balancing costs of four small network operators
- Increase security of supply through an intelligent emergency operation
- Increase security of supply through a temporary full islanding operation
- Integration and control operation of generation, storage and flexible demand in the region
- Reduce CO₂ emissions

Smart innerregional EI Exchange
15 minutes balancing

Intelligent Emergency Operation
Secure critical infrastructure during blackouts of transmission network

Islanding Capability of region MURAU
Full (temporary) electricity supply during blackouts of transmission grid

Pathway to full energy independency and islanding operation of region MURAU

2011 2013 2015

14. April 2010 Hermann Brugger ECO WORLD STYRIA Zukunftswerkstatt 2010
