

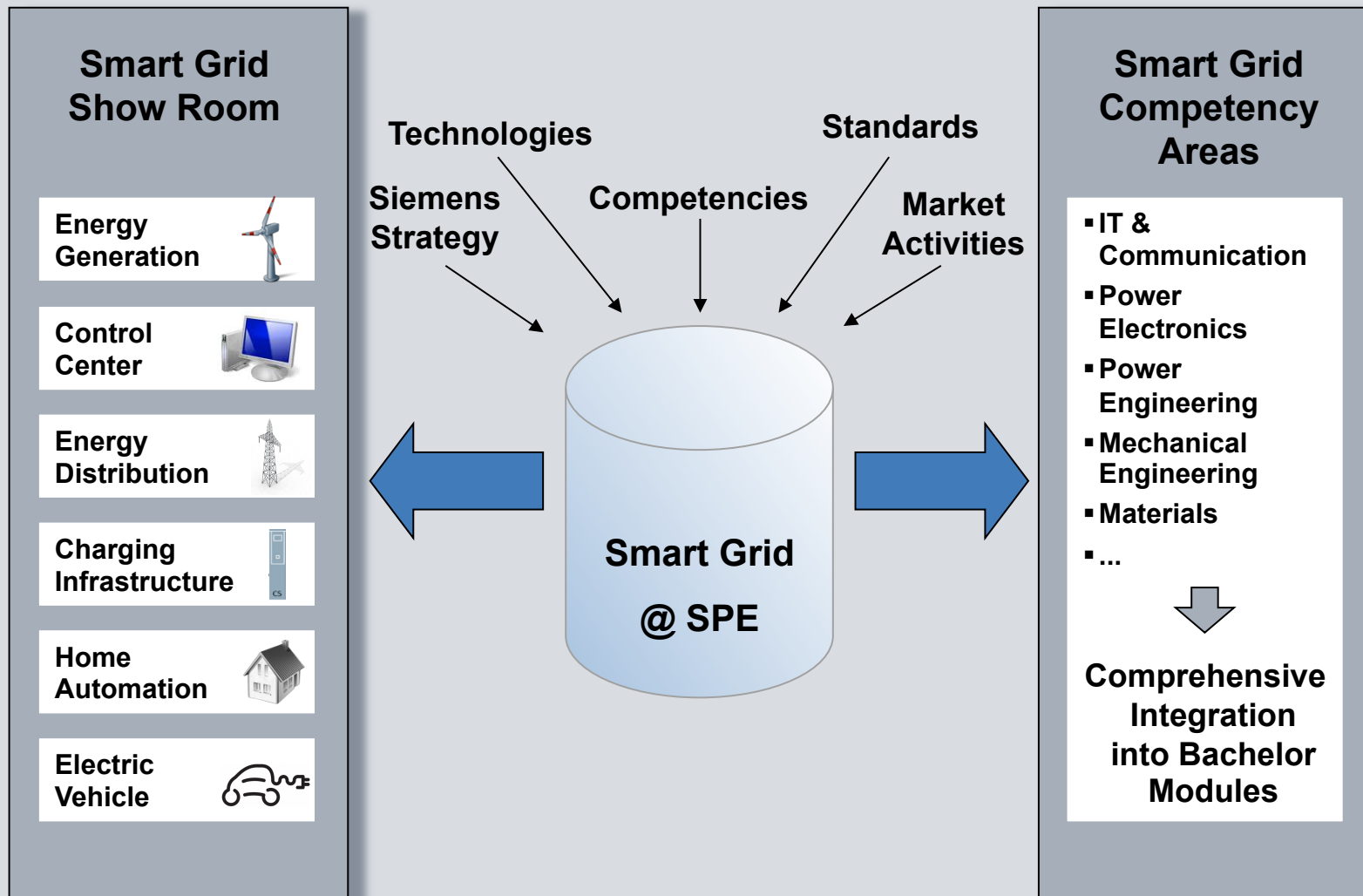
Current State of the Smart Grid @ SPE Project

TA 3 International Conference
San Sebastian

02. May 2011









Smart Grid @ SPE Project to derive & develop Bachelor Modules



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Smart Grid: Technology Clusters / Competency Fields

Smart Grid Technology Clusters

- Energy Generation** 
- Control Center** 
- Energy Distribution** 
- Charging Infrastructure** 
- Building Automation** 
- Electric Vehicle** 

CO₂ Footprint *ICT Safety* *Energy Mix*
Smart Grid Concepts

Wind - Offshore, Photovoltaic, Solar, Thermal, Fossil, Nuclear

Computer Cloud, Switching Logic, Grid Stabilizer, Data Processing

HVDC, Energy Automation, Switches, Remote Access, Integrated, Communication and Data Networks

Medium Volt., Home-, Public- & Inductive Charging, Charging Stations

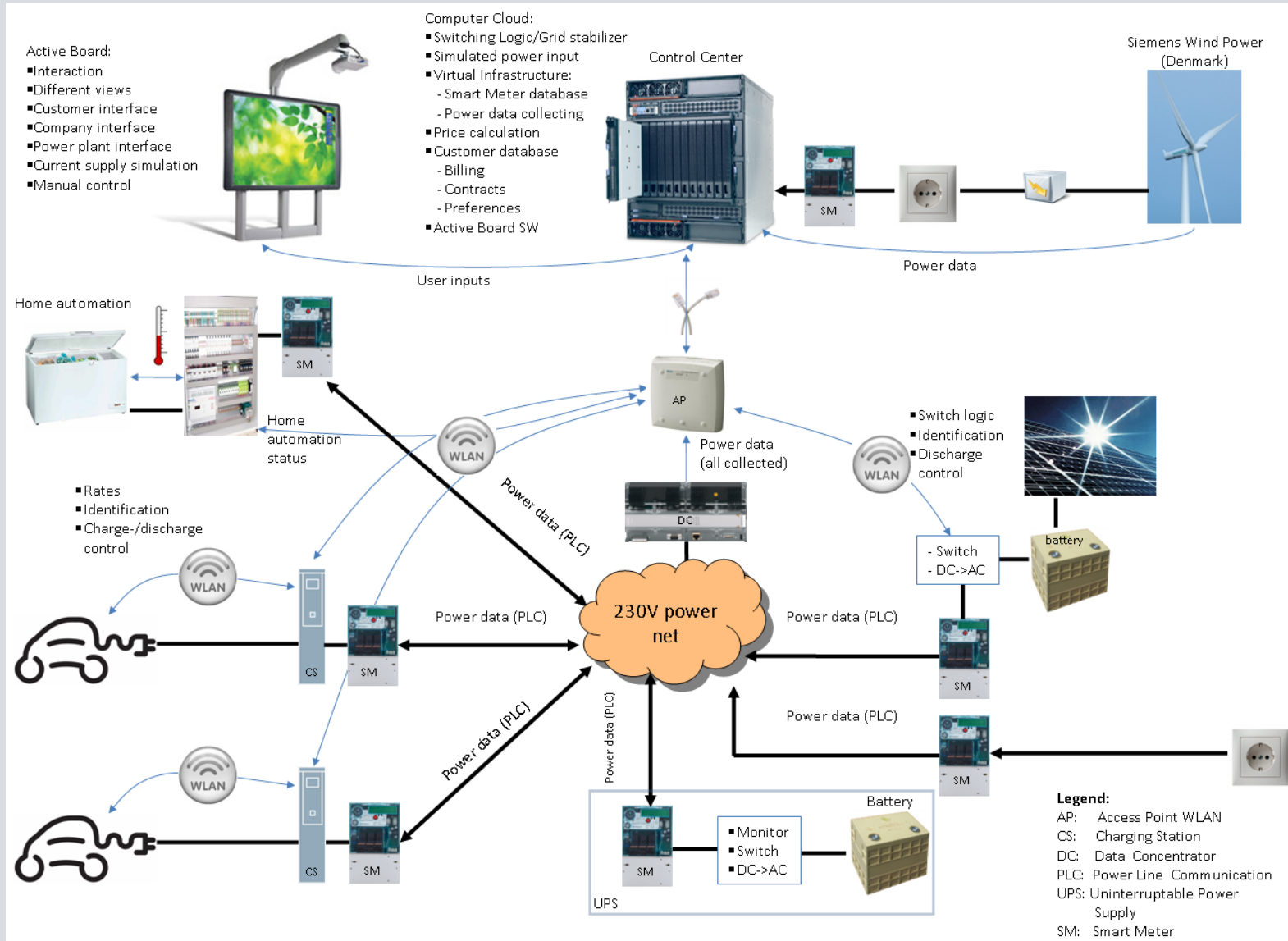
Home-, Building-, Industry Automation, Energy Management, CO₂

Battery-Technology and Management, CAN-Bus Communication, Car Intelligence, Power Electronics, Drive Technology

Smart Grid Competency Fields

- **Awareness**
- **ICT Safety**
- **E-Generation**
- **Control Center**
- **E-Distribution**
- **Charging**
- **Building**
- **E-Car**
- **Lightening**
- **Storage**
- **Energy Automation**

Smart Grid Show Room – Concept Overview



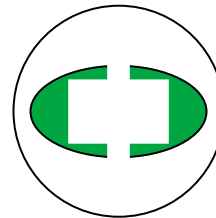
V2G: Vehicle to Grid

Samsung Galaxy platform:

Galaxy S I9000



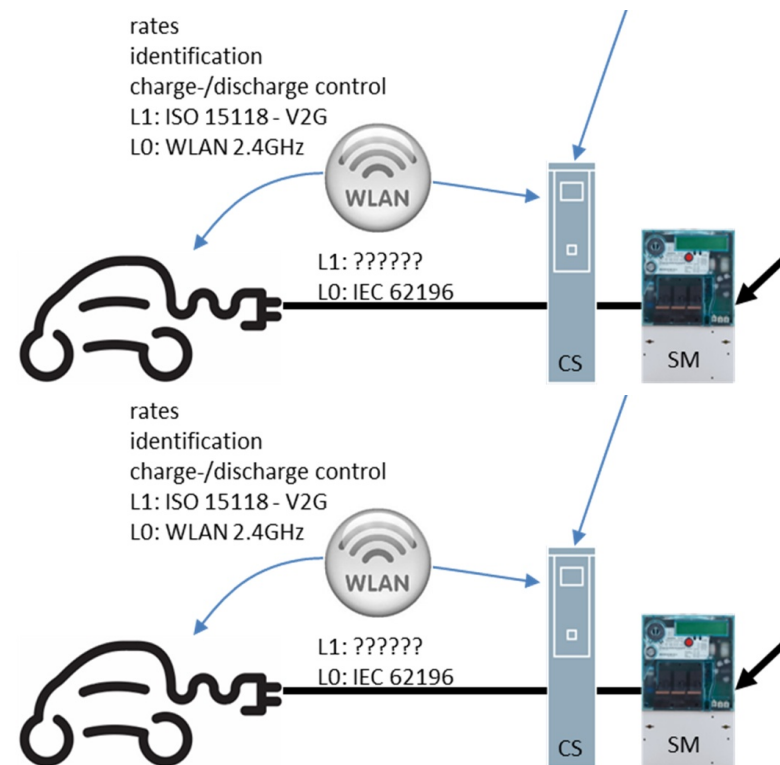
Galaxy Tab



- WLAN, 3G, Bluetooth, GPS, accelerometer, ambient light sensor, camera
- already included: navigation, voice recognition, mobile phone
- Android 2.2 „Froyo“

Smart Grid – Charging Station

Charging station hardware from Siemens



Smart Grid Show Room – Goes Live!



Visit of Dr. Hausmann,
Smart Grid Company Project



Visit of Mr. Dehen,
CEO Sector Energy

Modern E-Vehicle Instrument Panel Portable Concept

SIEMENS



Control Center Computer Cloud



Efficient Energy Automation



Renewables

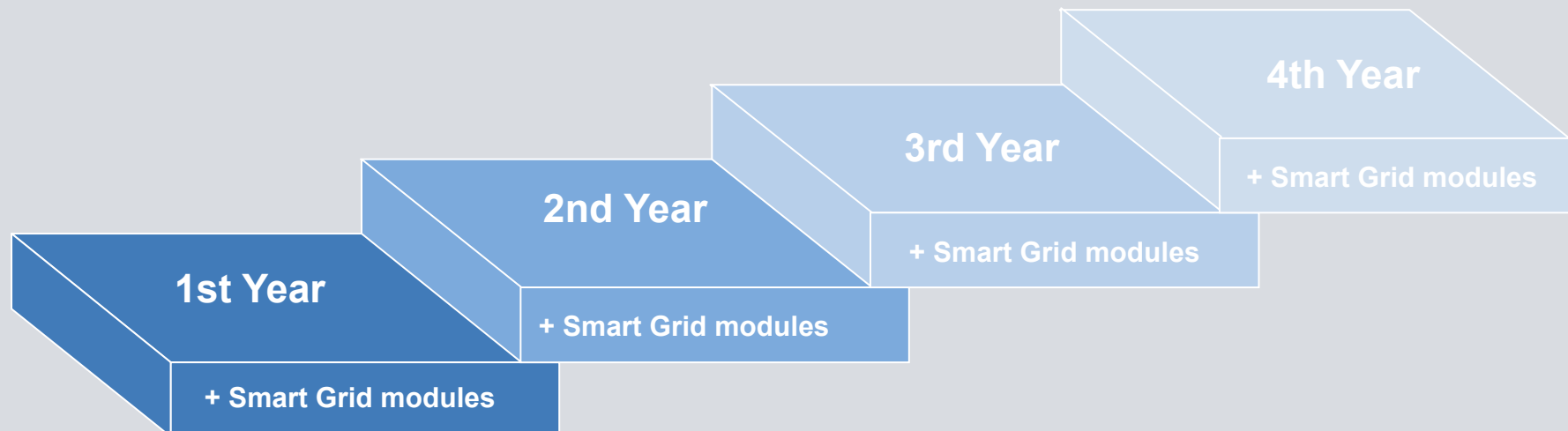
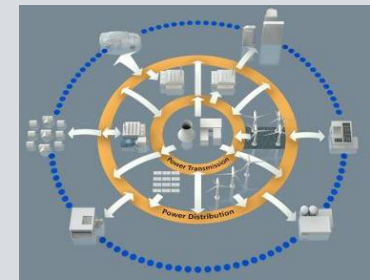


Building Automation

Bachelor of Engineering Smart Grid – Pilot

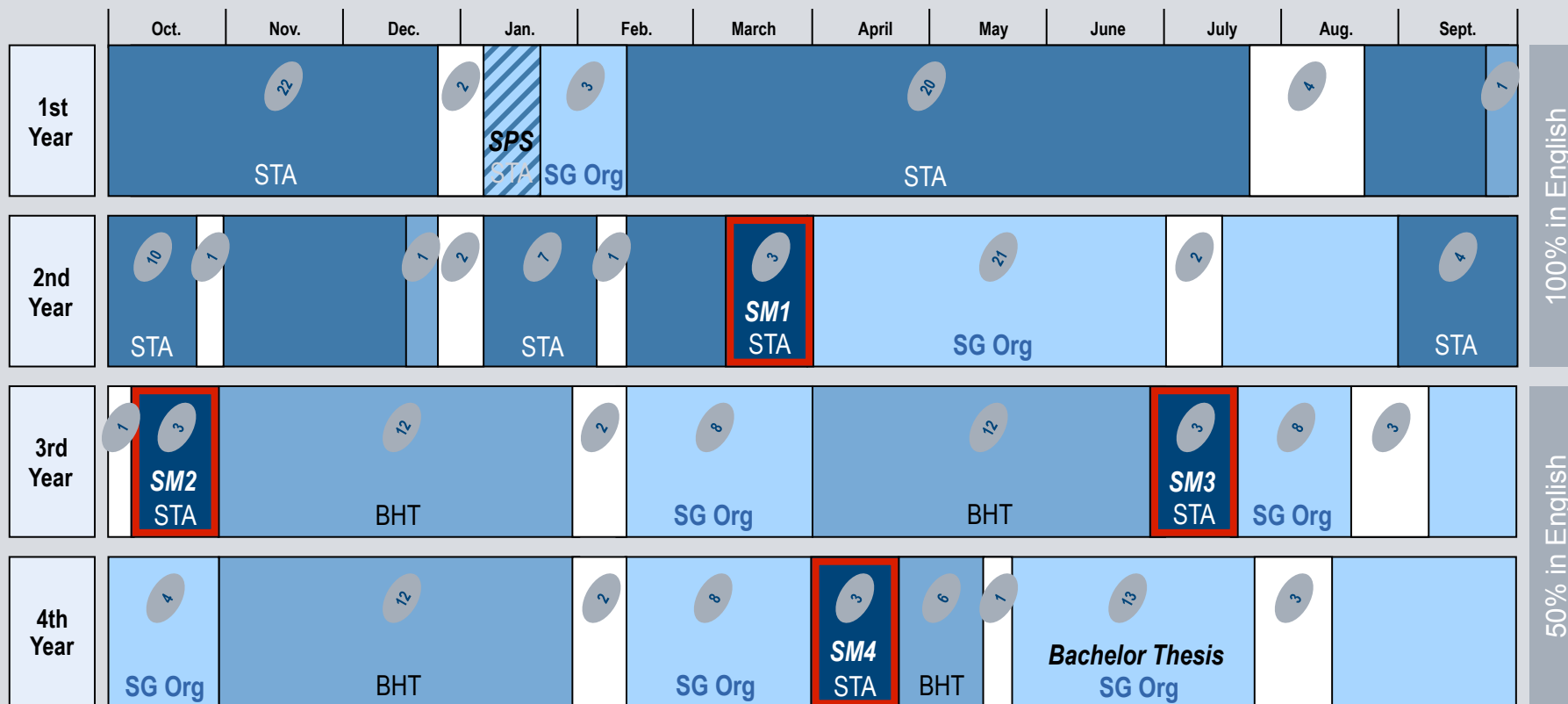
Siemens Technik Akademie Berlin

- ▶ Adjustment of the existing Bachelor of Engineering in Electronic Systems to meet Smart Grid profile
- ▶ Pilot phase with one group per year
Start in October 2011, 2012 and 2013
- ▶ Continues content optimization in close cooperation with Smart Grid sector specialists



Bachelor of Engineering in Electronic Systems

Profile: Smart Grid



- SM **SM: Smart Grid Modules with customized Smart Grid content**
- STA STA – Siemens Technik Akademie Berlin
- BHT BHT – Beuth Hochschule für Technik
- SG Org SG Org – Smart Grid Organization
- No instruction
- x Amount of weeks

Siemens – The Green Company



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