1. Background

2. NTP Smart Grids Austria

3. Cooperation Results

4. Summary

Question:
1. Active distribution network and microgrids imply a tight integration among DSO, active and passive customers, energy suppliers, and aggregators. They all have to share the responsibility of a safe and reliable distribution system. Is the regulatory framework favorable and suitable? Are there any National Standards that establish a clear regulation framework for both technical and economical issues?

3. ADNs are useful to postpone investments. The use of novel control strategies will allow exploiting existing assets close to their maximum level but ageing is unavoidable. Can we maintain the current reliability with optimized maintenance strategies or more likely are ADNs only useful in medium/short term?
Background - European Technology Platform (ETP) Smart Grids

1. Towards Smart Power Networks
2. Strategic Research Agenda for Europe’s Electricity Networks of the Future
3. European Technology Platform SmartGrids
   Strategic Deployment Document for Europe’s Electricity Networks of the Future

Prague, 8-11 June 2009
Background - Starting conditions

→ an industry with high technology competence and know how, shown by products and innovations
→ innovative grid operators and electricity suppliers
→ complementary and active R&D institutions
→ a supporting R&D environment

Einsatz von DEIMS im Verbund mit SINAUT Spectrum (Verteilnetzmanagementsystemen) um Möglichkeiten von lokalen virtuellen Kraftwerken (VKW) zu testen.

Erbringung von Netzdienstleistungen für:
- Spannungs- und Blindleistungskontrolle
- Optimierung der Netzverluste
- Leistungssicherheit

Fronius – Weltweit die Nummer 2 bei netzgekoppelten PV-Wechselrichtern
Members: NTP Smart Grid Austria

Industry

Network operators & Energy sup.

R&D Partners

Consumer, user
Objectives NTP Smart Grids Austria

- To bundle the strength of different stakeholders
- To efficiently use synergies of the different Stakeholders
- To show competence through international visible light-house projects
- To indicate, how to overcome existing barriers
Results - aspects and thematic areas

**Technical aspects:**
- intelligent management systems with communication from producer to consumer

**Economical aspects:**
- new market models & reward systems

**Legal aspects:**
- adjusting of framework conditions

Source: National Technology Platform Smart Grids Austria

SMARTGRIDS

CIRED

Prague, 8-11 June 2009
Results - EU Innovation Incentive Overview

→ Germany:
  ■ e-Energy programm - 6 Smart Distribution Grid Demonstration Projects directly supported by the German Ministries

→ Great Britain:
  ■ Regulator supports R&D, Demonstration in the area of Smart Grids by
    ■ Innovation Funding Incentive (exempt amount for R&D Costs)
    ■ Registered Power Zones (rules for approval of Demoproject Costs)

→ Denmark:
  ■ Transmission Network operator has the possibility to support smart grid research.
    ■ ForskEL programm, funded by additional network fee (0,052 €cent /kWh)
    ■ Example: Development and Implementation of demonstration projects, where full automated Smart Distribution Grids shall be operated in parallel and island operation
Results - Objectives of the Roadmap

- addresses relevant Smart Grid related trends
- describes important key aspects for the future modernisation of electricity grids.
- supports national decision makers with the supply of a profound decision basis.
- specifies the chances, challenges and implications resulting from possible R&D in the Smart Grids technology sector.
- Identification of a pathway for Austria which enables a future ready intelligent electricity supply by
  - being prepared for dealing with the rising challenges and
  - able to utilize the existing chances

Draft in German available - Download: www.smartgrids.at

Roadmap
Smart Grids Austria

Der Weg in die Zukunft der elektrischen Stromnetze!
Vorabversion anlässlich der Smart Grids Week Salzburg 2009

smar.grids.at
Results - Austrian R&D Focus

Number of finished and ongoing Austrian & European R&D projects in the area of Smart Electricity Grids

- 25 customer & market
- 15 system operation & management
- 4 communication & information-infrastructure
- 10 intelligent components

Source: National Technology Platform Smart Grids Austria
Results for one Smart Grid solution...

Cost shares and savings of a selected Austrian Smart Grid solution compared to BAU

Source: Projekt DG Demonetz
Summary

➔ NTP Smart Grids Austria is a consortium of significant stake-holders in the area of electricity supply which
  ■ acts as strategic cooperation partner and
  ■ national/ international coordination platform for smart grids in Austria

➔ NTP Smart Grids Austria creates a clear national strategy paper for Smart Grids (Roadmap Smart Grids Austria), based on a broad discussion forum

➔ Best conditions for Austria to reach a European and worldwide leading position within Smart Grids

➔ Global objective is to strengthen competitiveness and system competence of the Austrian energy and communication industry