

Basic Information, Results and Future Outlook of Smart Grids Austria

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National Platform Smart Grids Austria
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SMARTGRIDS
AUSTRIA



oesterreichs
energie.

Milestones

2008: Establishment of the National Technology Platform Smart Grids Austria

2010: FEEI and Oesterreichs Energie became supporter organisations

2010: Roadmap „ Pathway to the future of electrical power grids!“

2011: Award „Smart Grids Pionier 2011“

2013: Platform already counts about 50 members

The TP Smart Grids Austria combines all the major players, Technology providers, power supply companies (grid operator and supply) and R & D institutions, all under one roof and has established itself as competent body for public authorities and interested stakeholders.

Smart Grids Austria – Structure

Federal Ministry of Economy,
Family and Youth

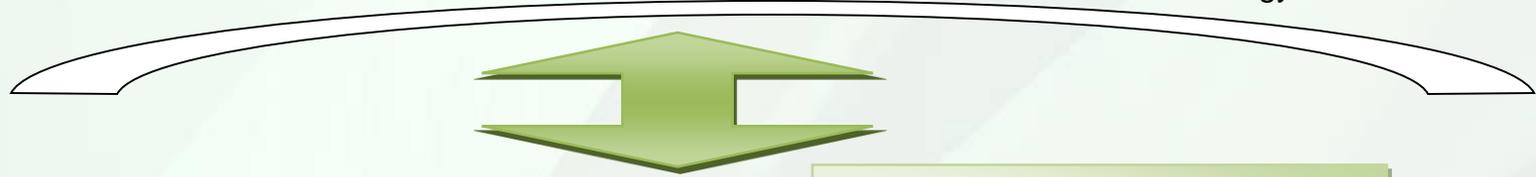
Federal Ministry for Transport,
Innovation and Technology

E-Control
Austria

Austrian Climate
and Energy Fund

ÖVE

...



Smart Grids Austria TP Board:

Andreas Lugmaier, Helfried Brunner
Klaus Bernhardt, Thomas Rieder, Ursula
Tauschek

Task forces

Use Cases
Business models

Implementation / Model regions

Data

Standardisation

Regulatory framework

Industry

Andreas Lugmaier
(Siemens AG)

Klaus Bernhardt
(FEEI)

Electricity

Thomas Rieder
(Salzburg Netz)

Ursula Tauschek
(OE)

Research

Helfried Brunner
(AIT)

Task
Force
Smart
Grid at
ÖVE

More than 50 Members (by June 2013)

Industry (Technology)



Electricity



R&D Institutions



Others



TP Smart Grids Austria

Objectives and Tasks:

- **Networking role:** to bundle the strength and to exploit synergies of various stakeholders
- show international competence through **visible light-house projects**
- indicate how existing **barriers can be overcome**
- improve **R&D** and the **regulatory framework**
- initiate and execute smart grids projects

Platform Activities:

- **Platform meeting** twice a year: with all members
- **Task force meetings**
- **Public Relations:** internal & external communications (Smart Grids monitoring, media, ...), Website (www.smartgrids.at), Twitter account (@SmartGridsAT/ www.twitter.com/SmartGridsAT)



TP Smart Grids Austria

Relevant Topics for success:

- Existing smart grid community
- Cooperation between Stakeholders to get the right and suited Framework
- Willingness to cooperate in innovative projects – Industry, Utilities, Universities, Government
- Existing suitable local R&D framework
 - Not too many difficult requirements for reporting
 - Anually about 5 – 15 Mio Euro Public support for R&D projects
 - Subsidies are related to requirements of stakeholder, e.g. 50 % for industry and 80% for university in industrial research cooperation projects, less in implementation or demonstration projects
 - regulatory framework accepts costs for R&D
- **Government is interested in Smart Grid projects** (Main Driver: Ministry of Innovation and Technology and Ministry of Economy)

Roadmap Smart Grids Austria

2010: Roadmap „Pathway to the future of electrical power grids!“

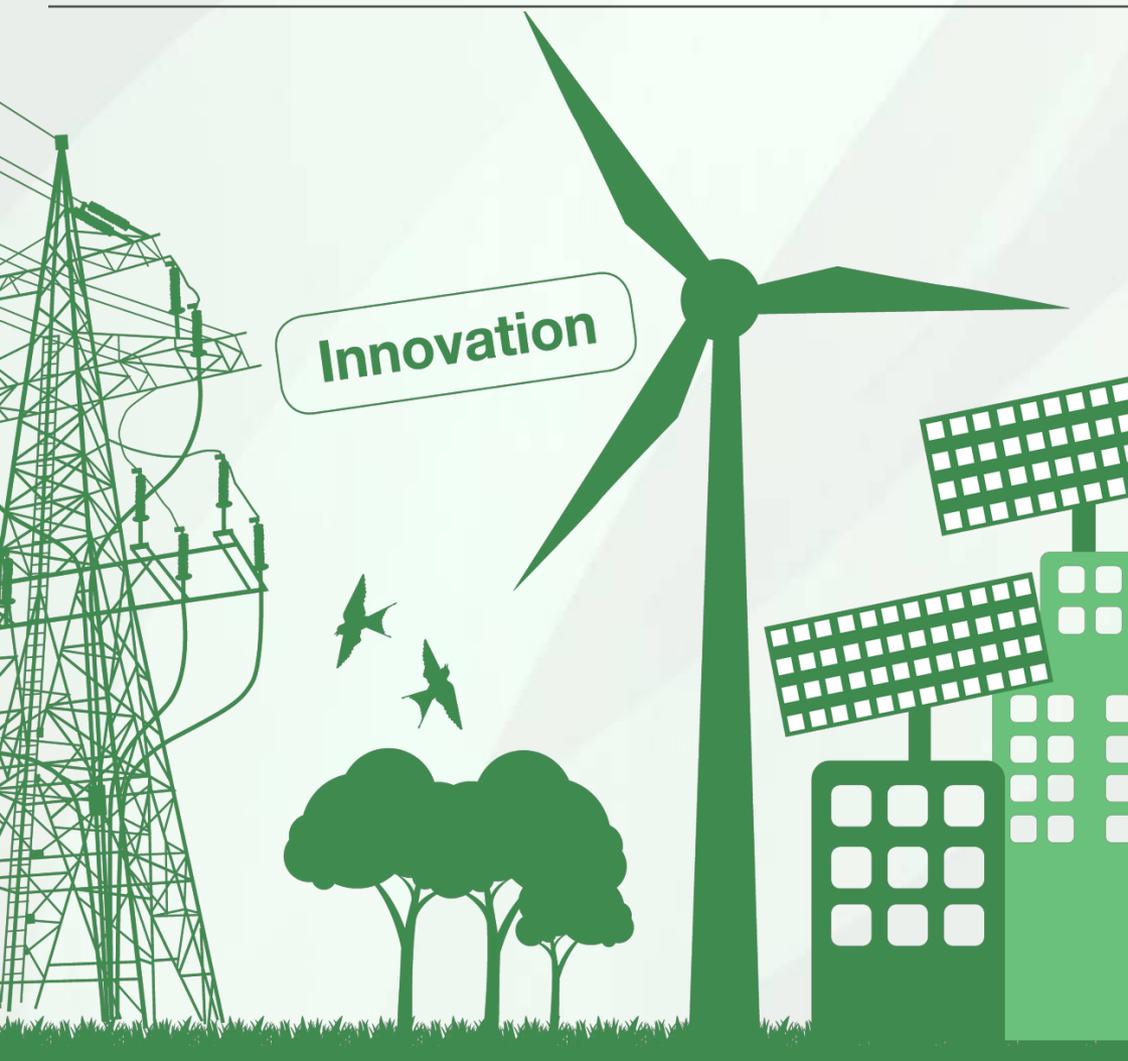
released by the National
Technology Plattform Smart Grids Austria

- **Definition** of a coordinated, structured and continuously coordinated way to smart grids in Austria
- **Target:** to develop a reliable and sustainable electricity supply in Austria

www.smartgrids.at



Strategic Focus: TP Smart Grids Austria



May 2012:

The NTP Smart Grids Austria released a position paper with 10 main requests to implement Smart Grids into the Austrian power infrastructure

www.smartgrids.at

Smart Grids model regions in Austria

SG Model region Salzburg

- integration of renewables (hydro) in distribution networks (Medium Voltage)
- integration of electromobility
- integration of smart buildings
- integration of residential customers

SG Model region Upper Austria

- Advance Smart Metering – Use of Meter as Monitoring of voltage levels – Power Snap Shots to analyse specific conditions (load & generation) in LV Grids
- Integration of Distributed Generation mainly based on renewable sources, based on existing metering infrastructure – 104 values (every min.)

SG model region Vorarlberg

- Walsertal - integration of renewables (hydro) in distribution networks (Medium Voltage)

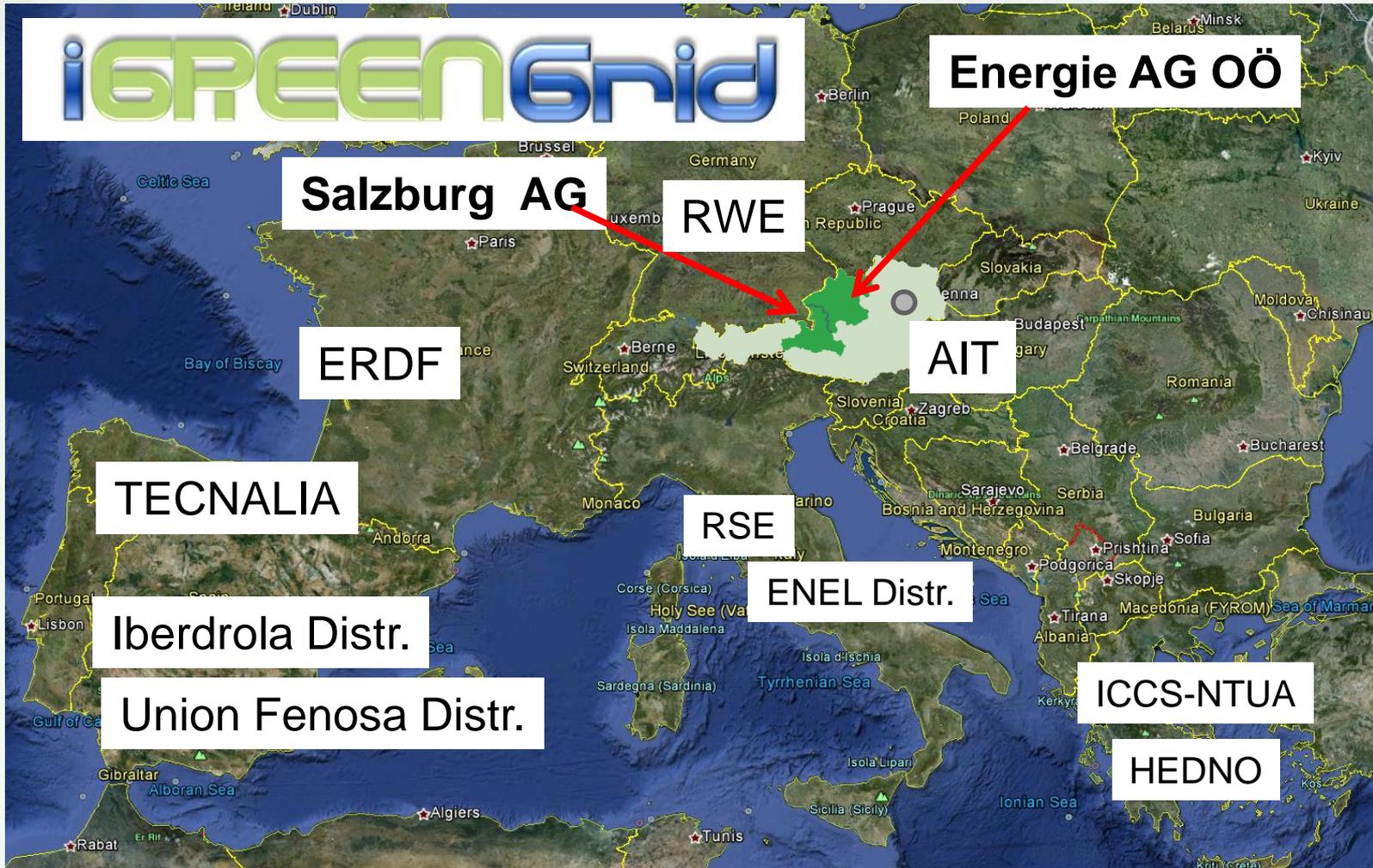
... upcoming new regions (e.g. in Carinthia, Styria, Vienna)

- E.g. new topics as Smart Cities, Big Data, etc...

Smart Grids model regions in Austria



EU FP7 participation of Austrian demo projects



EU FP7 participation of Austrian demo projects

Austrian Demo in I²GREEN Grid



• Demo 3c LV-grid
Eberstalzell

• Demo 3d LV-grid
Köstendorf

• Demo 3a,3b MV-grid
Lungau

EIN Energy Information Network

• Demo 3e LV-grid
Salzburg Rosa Hoffmann Str.

- On site generation: PV, micro CHP
- Demand response: heat pump, EV, home
- Feedback and integration of residents



Smart Planning, Monitoring & Control



Outlook

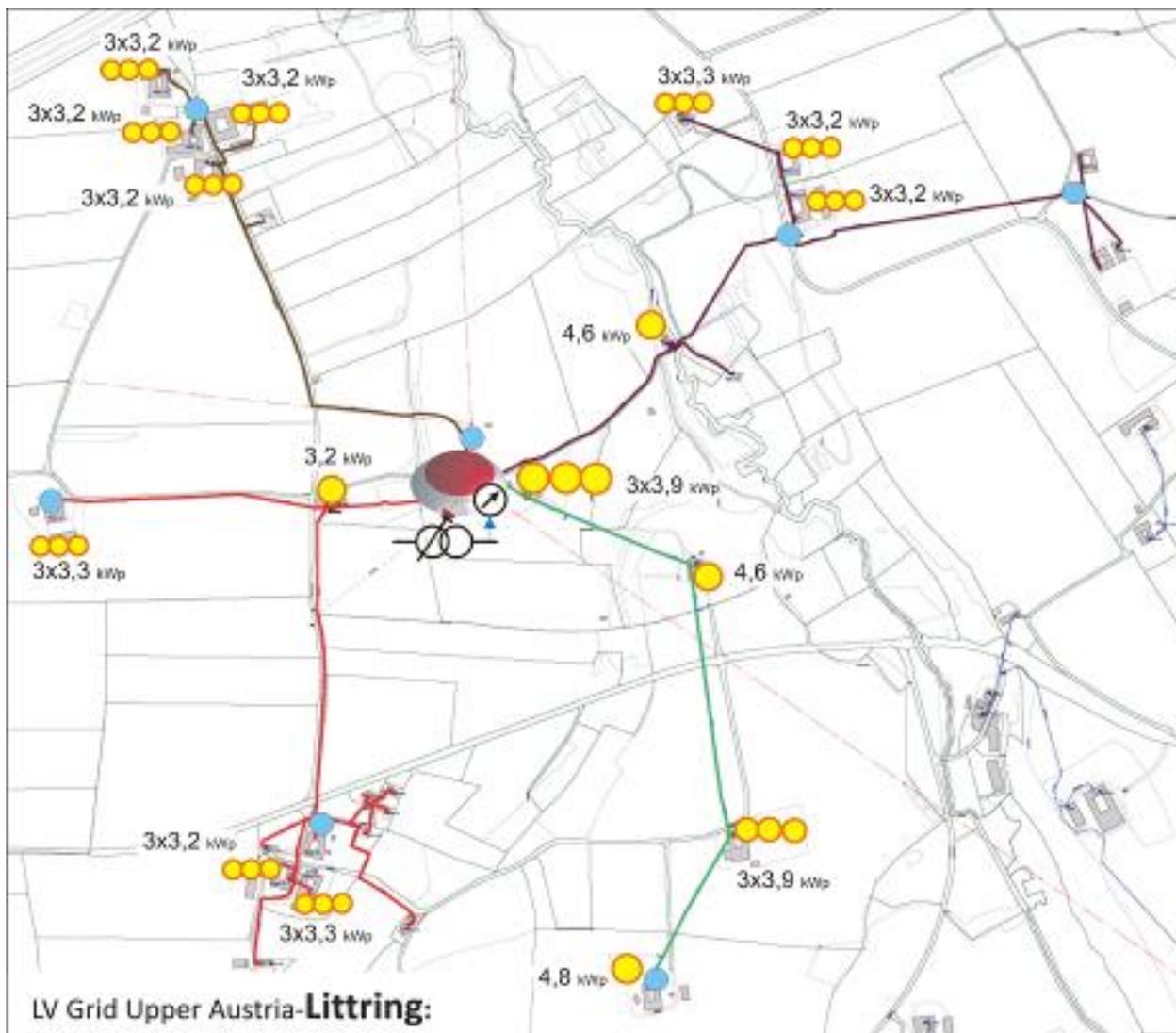
- 2013/14: Roadmap New in planning
time horizon of 2020 and strong implementation focus
- New organizational structure of the platform in planning
- News projects in planning: e.g. „RASSA - Reference Architecture
for Secure Smart Grids in Austria“

Demonetz Energie AG OÖ



LV Grid Littring





LV Grid Upper Austria-**Littring**:
 rural area

30/0,4 kV – 250 kVA Transformer

5 branches up to 1 km

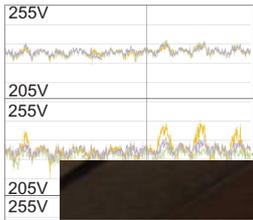
54 Buildings/Customers

15 farmers, 8 Households, 1 small saw mill, 1 fishfarm

0,35 GWh/a 120 kW maximum load

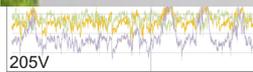
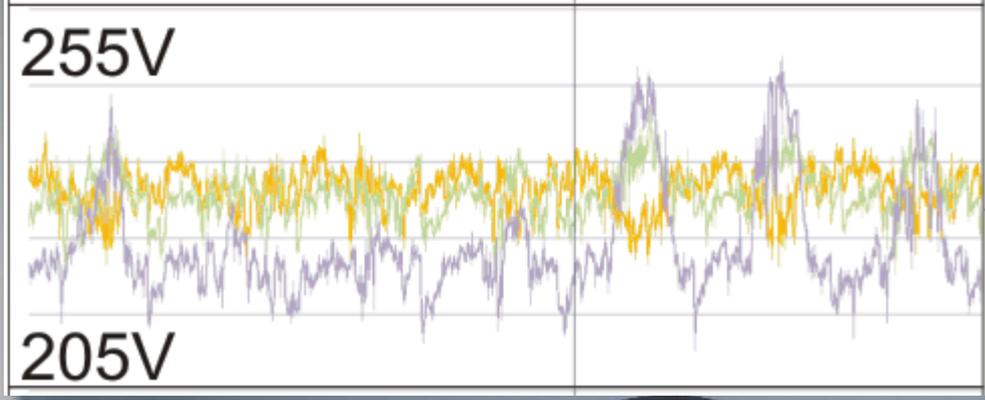
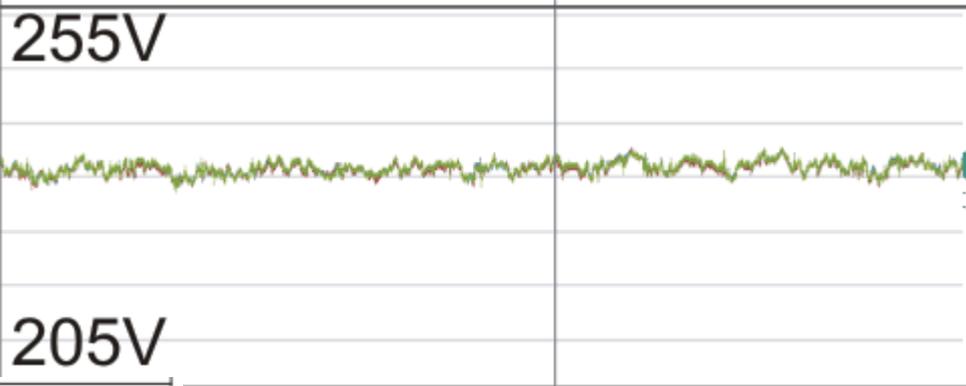
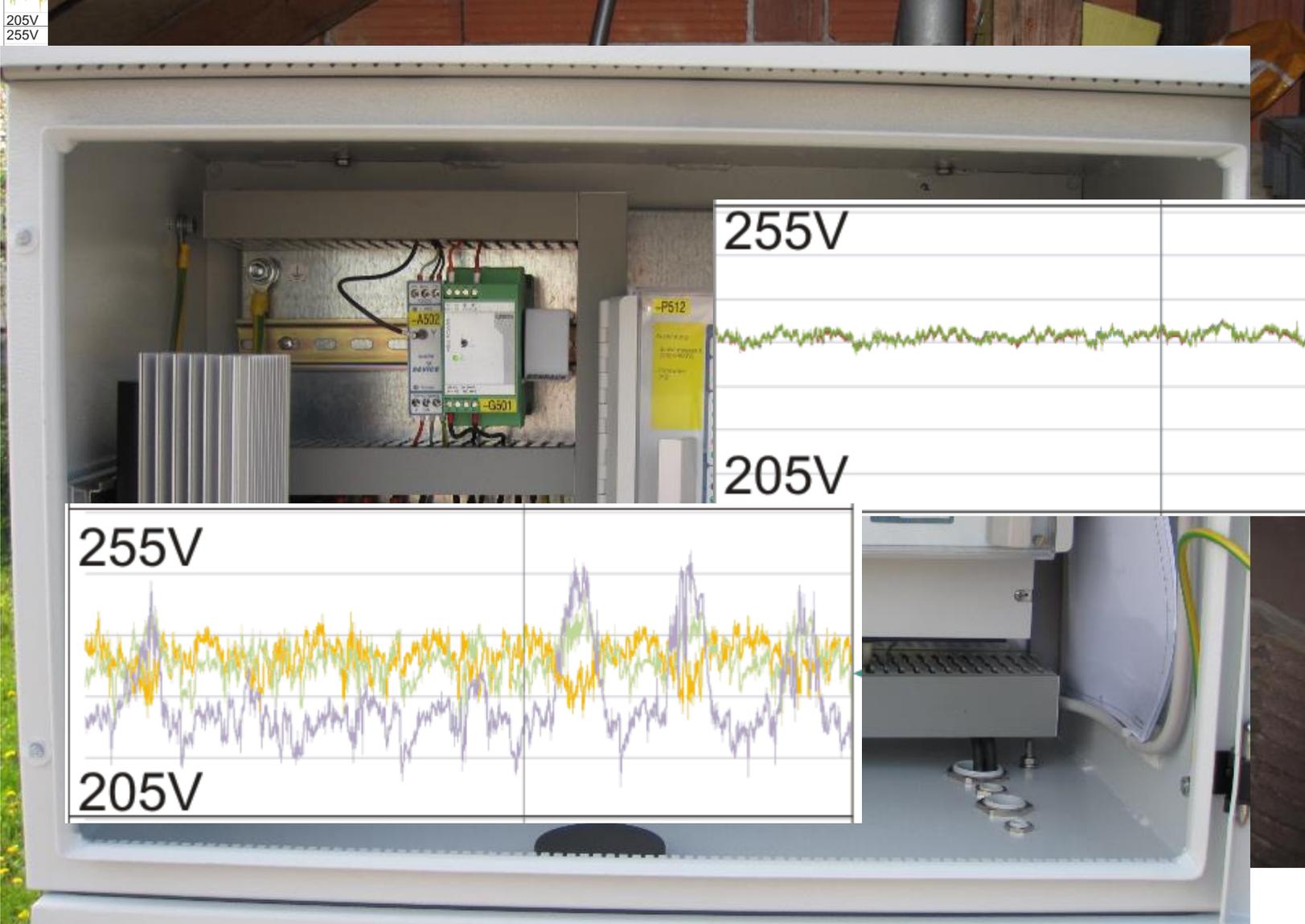
15 PV-Systems roof top 140 kWp

- DG PV roof top system single phase connected (size related to power)
- 2 phases ●●● 3 phases
- Power Quality Monitoring instrument permanently recording according to EN 50160/61000-4-30



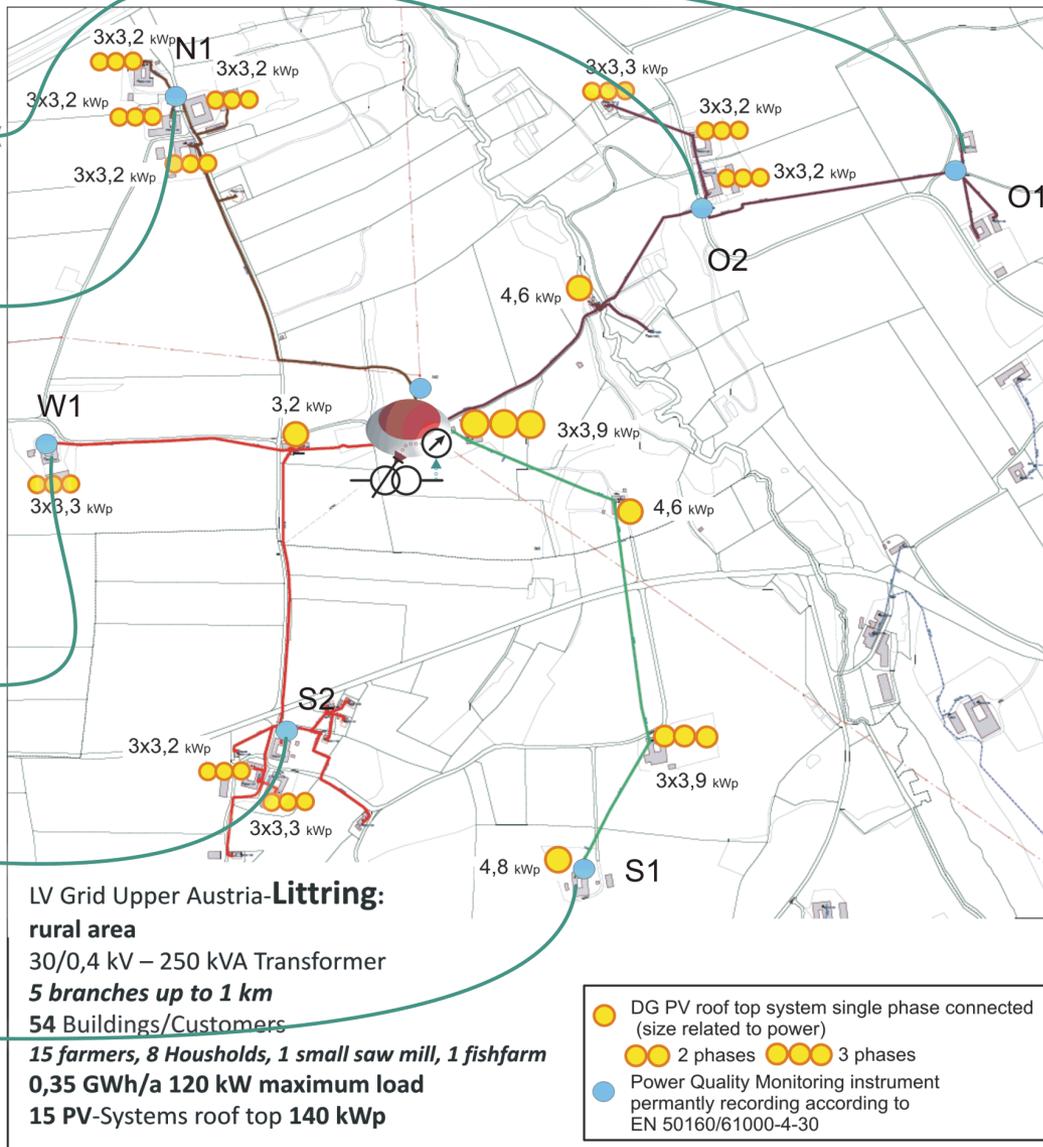
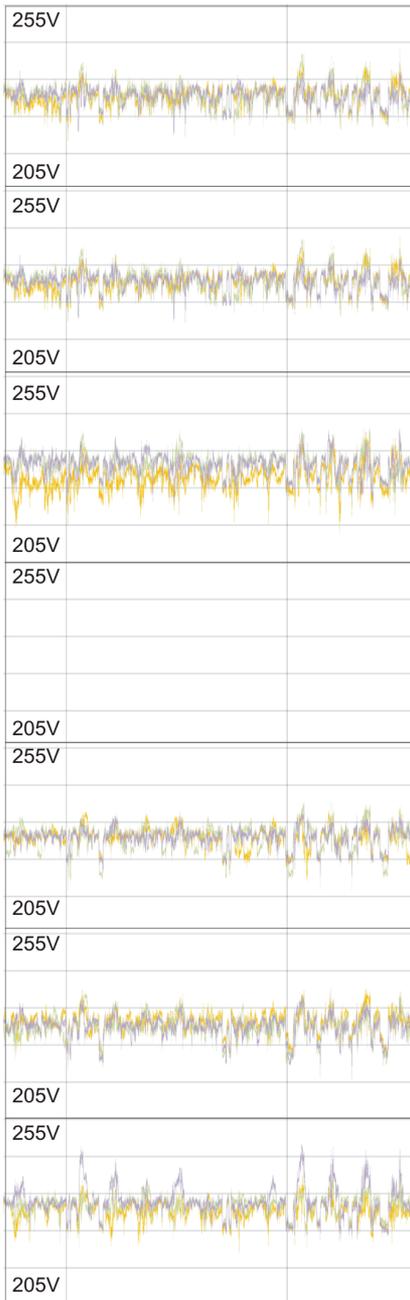
Power Quality Monitoring in the field test area

Eb



car-service, bank, communal services, nursing home
1,3 GWh/a 450 kW maximum load
60 PV-Systems roof top 330kWp

Power Quality Monitoring in the field test area Eberstalzel - according to EN 50160 and EN 61000-4-30





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energie.

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Technology Plattform Smart Grids Austria