VDE|FNN-Project „MessSystem 2020“

Standardisation of future metering systems
Smart-Metering in Germany

national bill „EnWG“
§ 21c-e + § 40
amendment in 2012

Mandatory installation

Actually
- in new buildings or buildings undergoing major renovations
- Customers with a consumption of more than 6000 kWh/a
- Operators of Renewable or CHP* power plants power > 7 kW

right of continuance

- Metering systems, which do not fulfill technical requirements can be installed until 31.12.2014
- Can be operated until end of calibration period

*) CHP Combined Heat and Power
Composition of the Steering Committee

- Distribution System Operator (4)
- Grid service (3)
- Metering-point operator/Metering service provider (3)
- Electrical trade – ZVEH (1)
- Manufacturer – ZVEI (3)
- Test house – a:m+i (1)
- Authority – PTB (1)
- Science/University (1)
- Guests A, CH (3)
Goals of the FNN project „MessSystem2020“

- **Standardisation:**
  Secure and guaranteed interoperability of devices of different manufacturers
  Replaceability of devices independently from the manufacturer (Interchangeability)

- **Modular concept for future metering systems**
  - Realisation of legal requirements: § 21b-i, 40 EnWG
  - Consideration of expected smart grid requirements (Grid subservience)

- **Fast forward for designing standards** – the basis for customer- and manufacturer-focused solutions with minimized costs
FNN specifications „MessSystem 2020“

**Base Meter**
- Electronic domestic supply meter with basic functionalities with plug-in technology

**Meter Device**
- Electronic domestic supply meter with basic functionalities with three-point mounting

FNN specifications „Base Meter – Functional Attributes“
Functional attributes and data interfaces for electric base meters

FNN specifications „Construction – Base Meter and Smart Meter Gateway“
Constructive requirements and specific electrical targets

FNN specifications „Smart Meter Gateway – Functional Attributes“
Functional attributes and data interfaces for SMGw

**Metering System**
Guideline for necessary Business Processes complements technical specifications

- Deinstallation
- Acquisition
- Installation
- Commissioning
- Regular Operation
- Switching processes

Procurement
Financial processes
Personnel
Logistics
Release Management
FNN specifications → Project MS2020 → New Documents

- K-N-A
- MessZV
- EnWG
- MessG
- EDL
- MUC
- SyM²
- OKK
- E. Delivery Note
- BSI TR 03109
- PTB A 50.8
- PTB A 50.7

- Systems and processes
- Base Meter (BZ, functional requirements)
- SMGw (functional requirements)
- BZ & SMGw (constructive requirements)
- Smart Meter Gateway (SMGw) & BZ Test Cases
- Adapters, Modules, …
Project Scope and Duration are extraordinary for a project of a Federation

The project „MS2020“ in figures (as of September 2013):

- Over 100 involved experts (user and manufacturer)
- About 200 meetings since the kick-off in April 2012
- Additionally initiated BSI-Task Forces (BSI, FNN and others)
- Specifications: “Base Meter - functions”, “Base Meter and Gateway - construction” and “Systems and Processes” are available since mid 2013
The VDE|FNN members invested more than 3500 man-days on their own costs.
FNN experts supported BSI whilst they revised the technical guideline TR-03109-1

Focus on data security

Task Force BSI – FNN ET’s: intensive professional exchange

Technische Richtlinie
TR 03109 V 1.0
v. 18.03.2013

Focus on data security + operational processes
The results of the FNN ET’s will shape the realization of Smart Metering in Germany

Design of future-proof and cost-effective meters and gateways which are suitable for the mass-market as well as target-oriented business processes

Specifications/Guidelines
- Functions
- Reports
- Protection against manipulation
- Operating concepts
- Business processes
- Construction
- Other requirements

Related test cases
- Performance of interoperability tests during the development
- Involvement of the VDE Testing and Certification Institute
Procedure to assure conformity (before roll-out)

- CE tag
  EMV, LVD, R&TTE, RoHS, …

- PTB type approval
  valid readings, reliability (data loss)

- BSI Certification according to Protection Profile
  data security

- BSI Certification according to TR 03109
  providing interoperability

- VDE/FNN Certification according to VDE/FNN MeKo
  in line with requirements of FNN specifications
Time Frame – Legal Frameworks and Realization of the Metering Systems (estimation)

- **EnWG**
- **BSI - Protection Profile + TR**
- **KNA**
- **MessZV / MsysV**
- **Regulations under § 21i**
- **PTB-A 50.8**
- **BNetzA: Process and Format Adaption**

**Market Development**
- **Drafting of Specifications**
- **Product Development**
- **System Development**
- **System Integration and Trial Phase**

**Frameworks**

- **2011**
- **2012**
- **2013**
- **2014**
- **2015**
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Stand 20.09.2013
alle Angaben ohne Gewähr
We would be happy to provide you with further Information

Internet
- Information and Downloads
  - www.ms2020.de

FNN Newsletter
- Up-to-date News and Information
- Registration is available at:
  - www.vde.com/fnn-newsletter
Thank you for your Attention!

Questions left?

Joachim Gruber
EnBW AG

for FNN