

# European Technology Platform for the Electricity Networks of the Future ETP SmartGrids

**16<sup>th</sup> of May 2013, Brussels**  
**STARGRID Workshop**

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## SmartGrids ETP

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### **□ European Technology Platform for Electricity Networks of the Future :**

- key European forum for
  - Crystallisation of policy and technology research and development pathways for the smart grids sector,
  - Linking glue between EU-level related initiatives.

### **□ New Stee. Co (May 2013) gathering**

- Utilities, Academics, Industry
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# 2010/2011: European SmartGrids Activities

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## □ 2010: EEGI (European Electricity Grid Initiative)

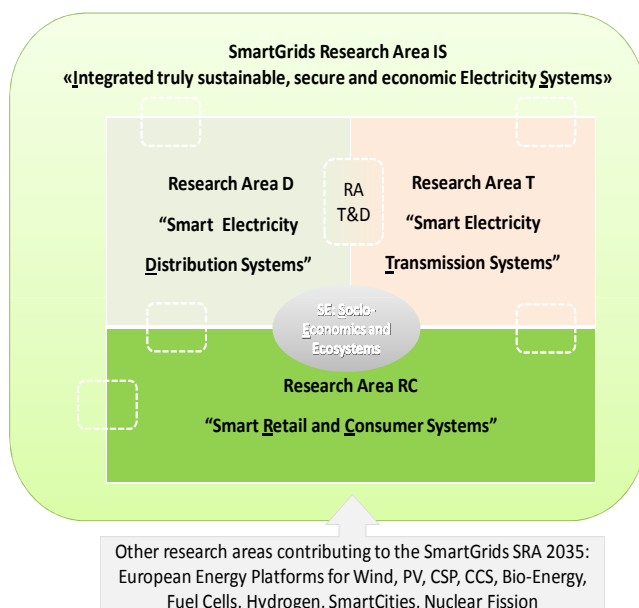
- Roadmap for SmartGrids Demonstration for 2020
- ETP SG - Stakeholder based review process

## □ 2010: CEN, CENELEC and ETSI

- Smart Meters Coordination Group
- Joint Working Group on standards for the smart grid

## □ 2011&2012 Update of SmartGrids SRA 2035

- SmartGrids Technology Push and SmartGrids Market Pull as starting point





## How does SRA 2035 look at Standards?

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### ☐ SRA 2035:

- focuses on research
- looks at standards from pre-standardization research point of view

### ☐ Research topics related with standards identified for IS, D and RC research areas



## Standards on SRA 2035: Integrated Systems (IS) Research Area

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### □ Research task:

- SG CG use cases base for researchers to identify new research needs
- Researchers inform standards community (SG CG) on any new use cases

### □ Research Topics IS

#### **Information and communication needs for SmartGrids:**

Protocols and standards: Joint task force on IT system

#### **Pre-Standardization Models and functions:**

Standardized object models and functions towards open source use of standards



# Standards on SRA 2035: Distribution Systems (D) and Retail & Consumer Systems (RC) Research Areas

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## □ Research topics D

### **ICT System security for Distribution Operation:**

New standards for IT systems based on their potential impact on power system security

### **DC: an option for the LV grid in the future:**

New DC standards

## □ Research topics RC

### **ICT for Smart Consumers:**

Consumer Service Architecture: Service Oriented Architectures to integration and standardization

**EV for Smart Consumers:** Standardization for EV integration and harmonization of ICT interfaces to EV (connected to distribution grids) within national boundaries as well as across Europe

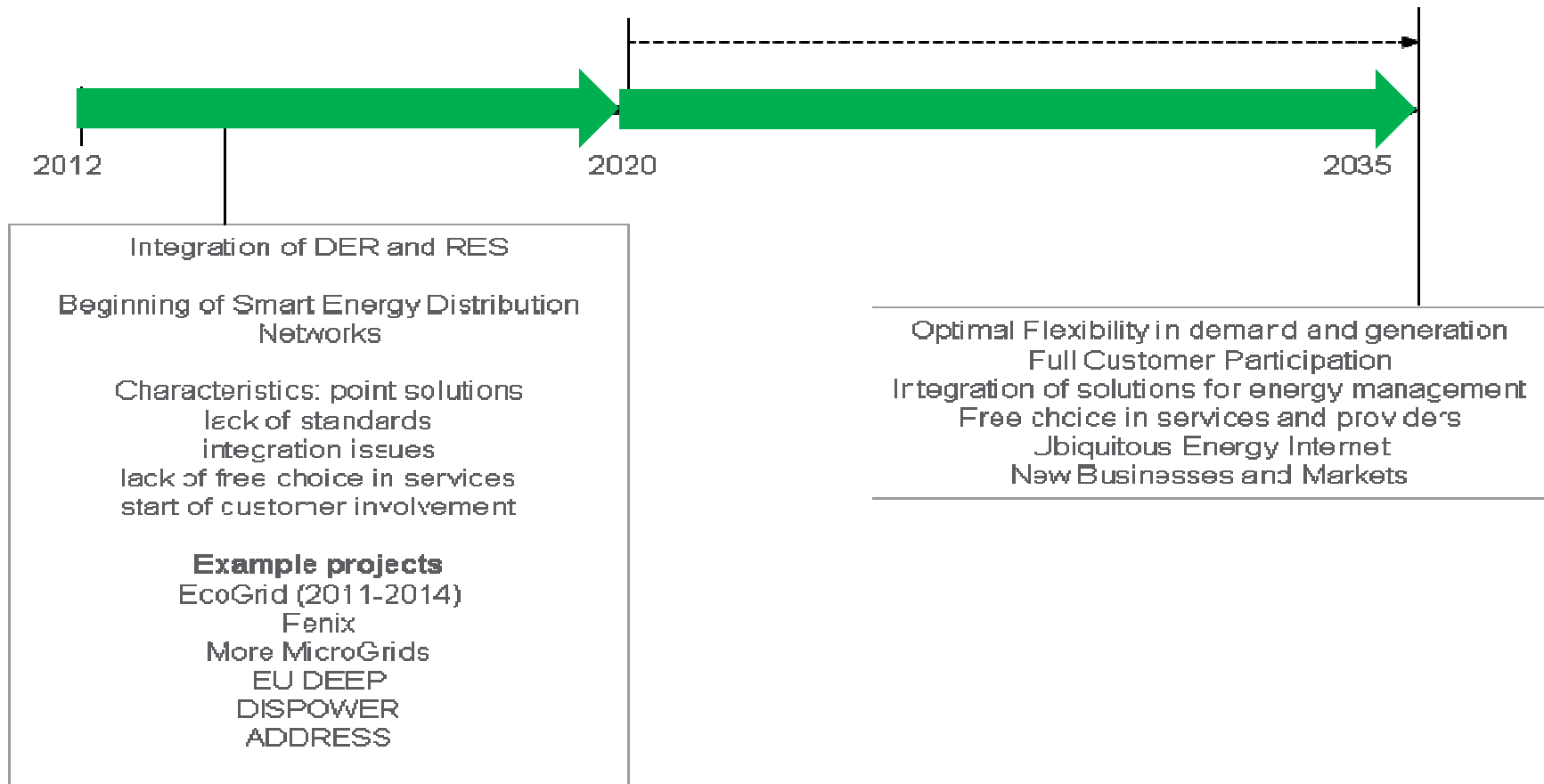
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# What are the expected fundamental changes between 2020 and 2035 for SmartGrids?

SMARTGRIDS

Transition to optimal Smart Energy System  
with optimal flexibility in demand and  
generation

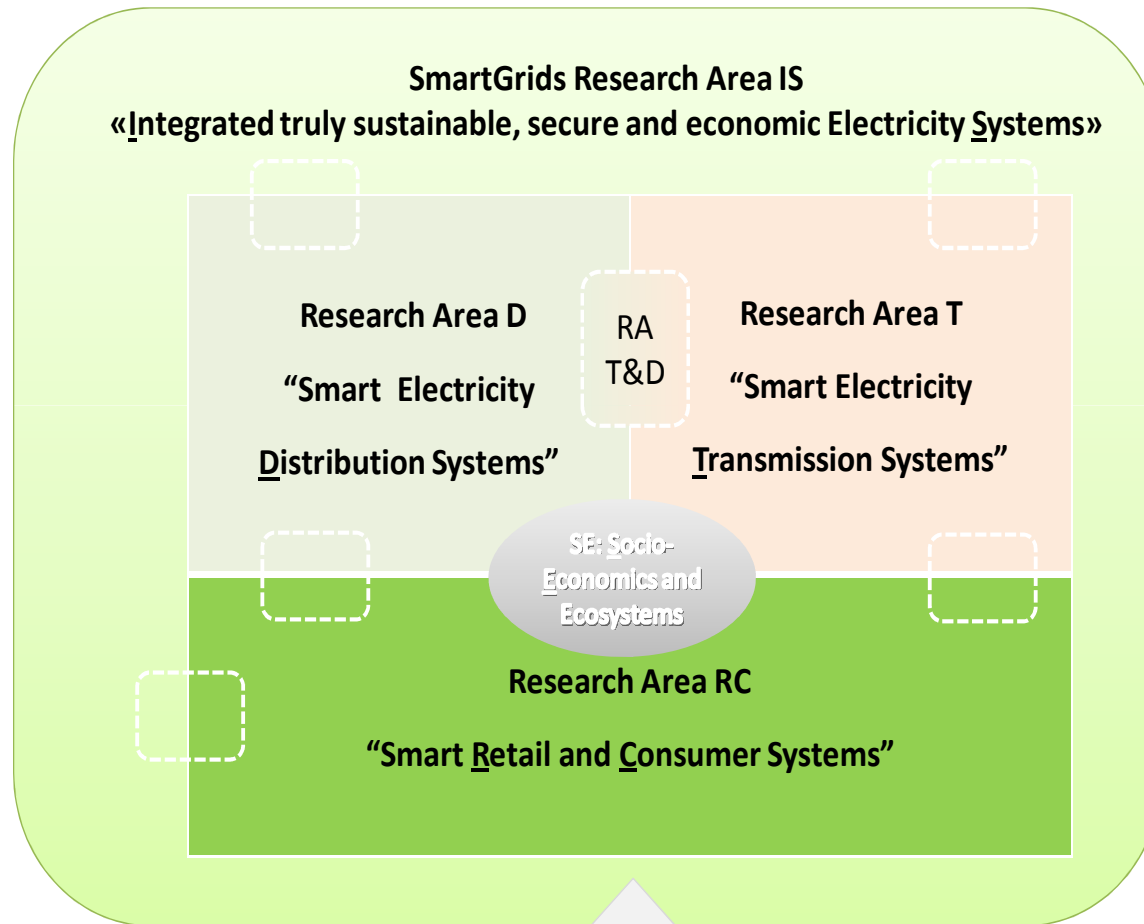






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# We need: Research for SmartGrids 2035



Other research areas contributing to the SmartGrids SRA 2035:  
European Energy Platforms for Wind, PV, CSP, CCS, Bio-Energy,  
Fuel Cells, Hydrogen, SmartCities, Nuclear Fission

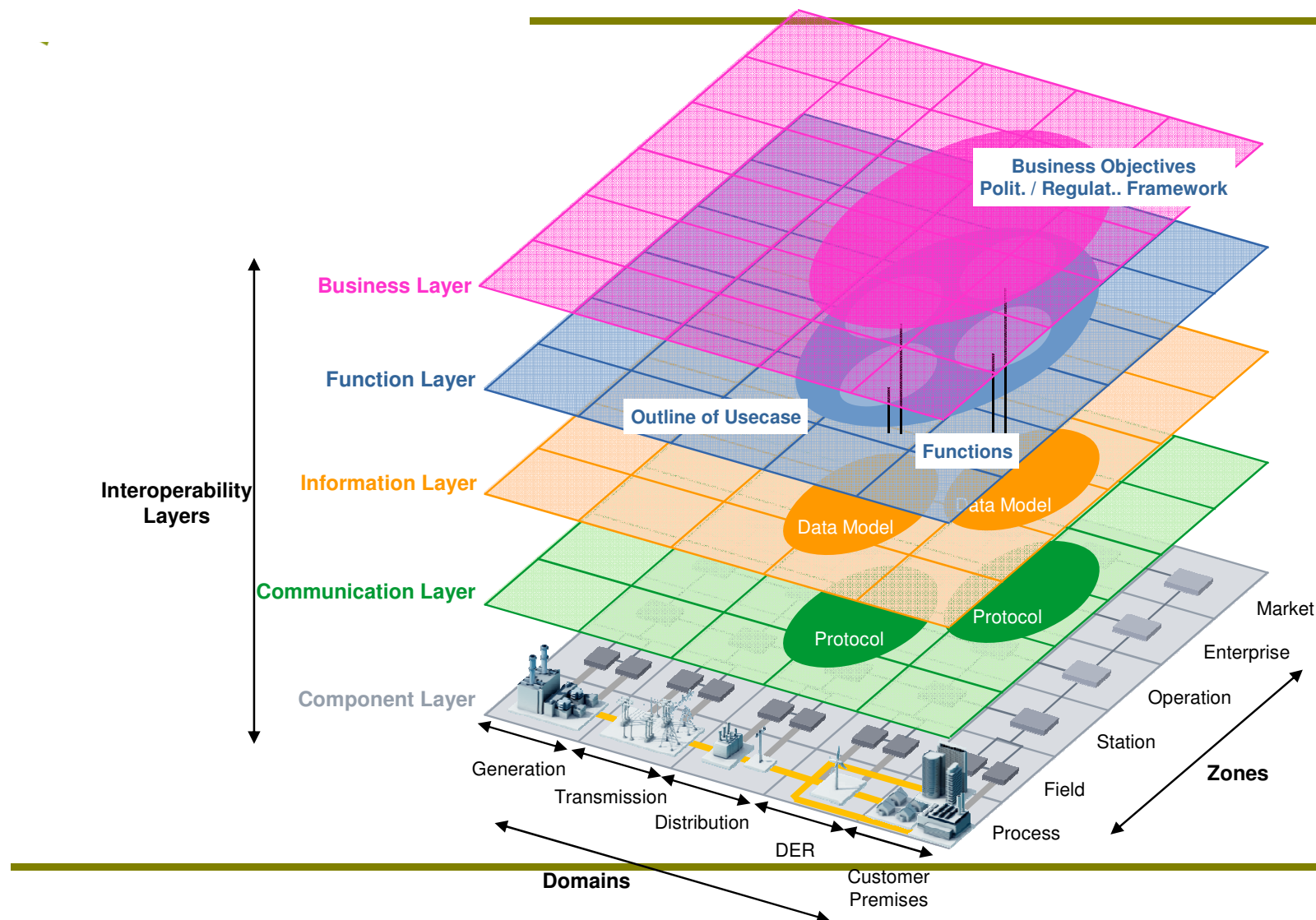
# Agenda

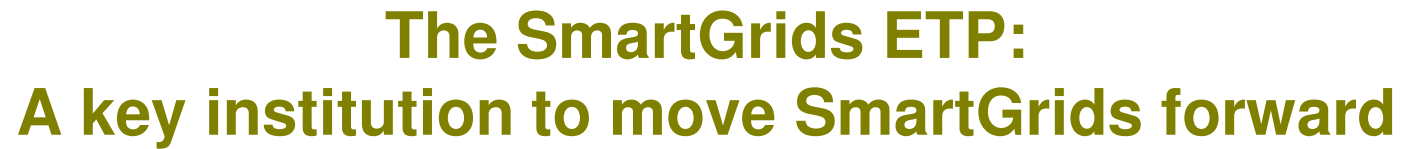
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- ❑ **M/490 initial mandate (2011-2012)  
& CEN-CENELEC-ETSI deliverables by the Smart Grids  
Co-ordination Group**
    - First set of standards
    - Gap lists & ranking
    - Working program – periodic work monitoring
  
  - ❑ **New M/490 iteration (2013-2014)  
& SG-CG objectives**
    - Gap lists & ranking - update
    - Working program – periodic work monitoring
    - New release of the first set of standards
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# Smart Grid Architecture model





## Challenges for standardisation

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- ❑ **Convergence of the different kinds of segmentations/structuration of the « Smart Grid Field »**
  - ❑ **Apart from System architecture & Overall control system, standards also needed for :**
    - Protection system
    - Fault detection
    - Functional specifications for key components
    - D.C. and AC/DC components & fault clearing
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S M A R T G R I D S

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# ETP SmartGrids

**Thank you!**

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