



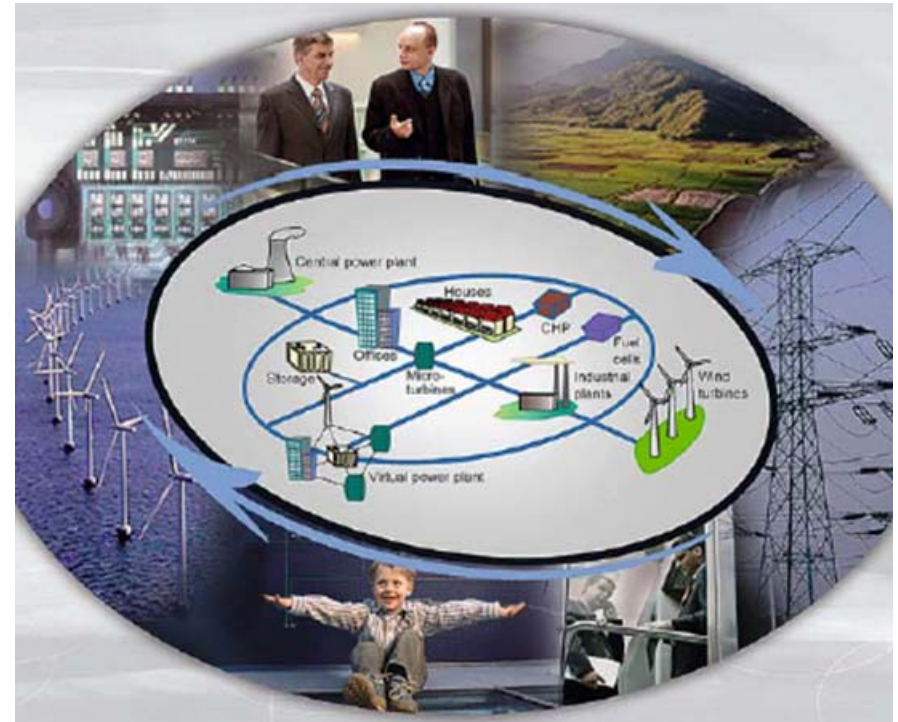
EU Technology Platform SmartGrids WG2 Network Operations

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Overview

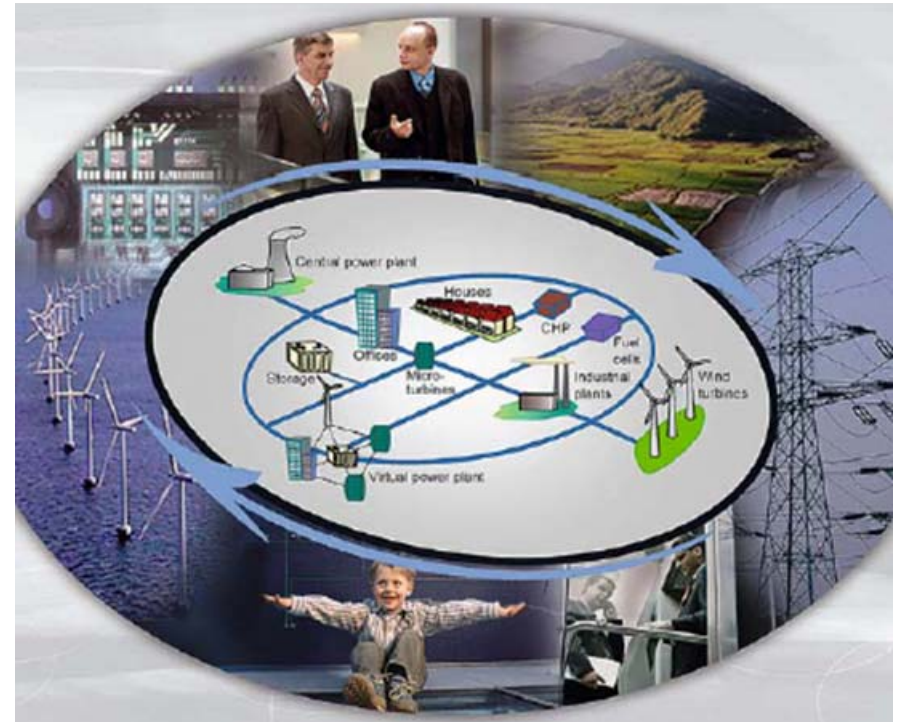
- ❑ SmartGrids organisation
- ❑ Objectives, vision, research areas
- ❑ Deployment and WG2 Network Operations
- ❑ 2nd SmartGrids GA 08-09. Nov. 2007





Overview

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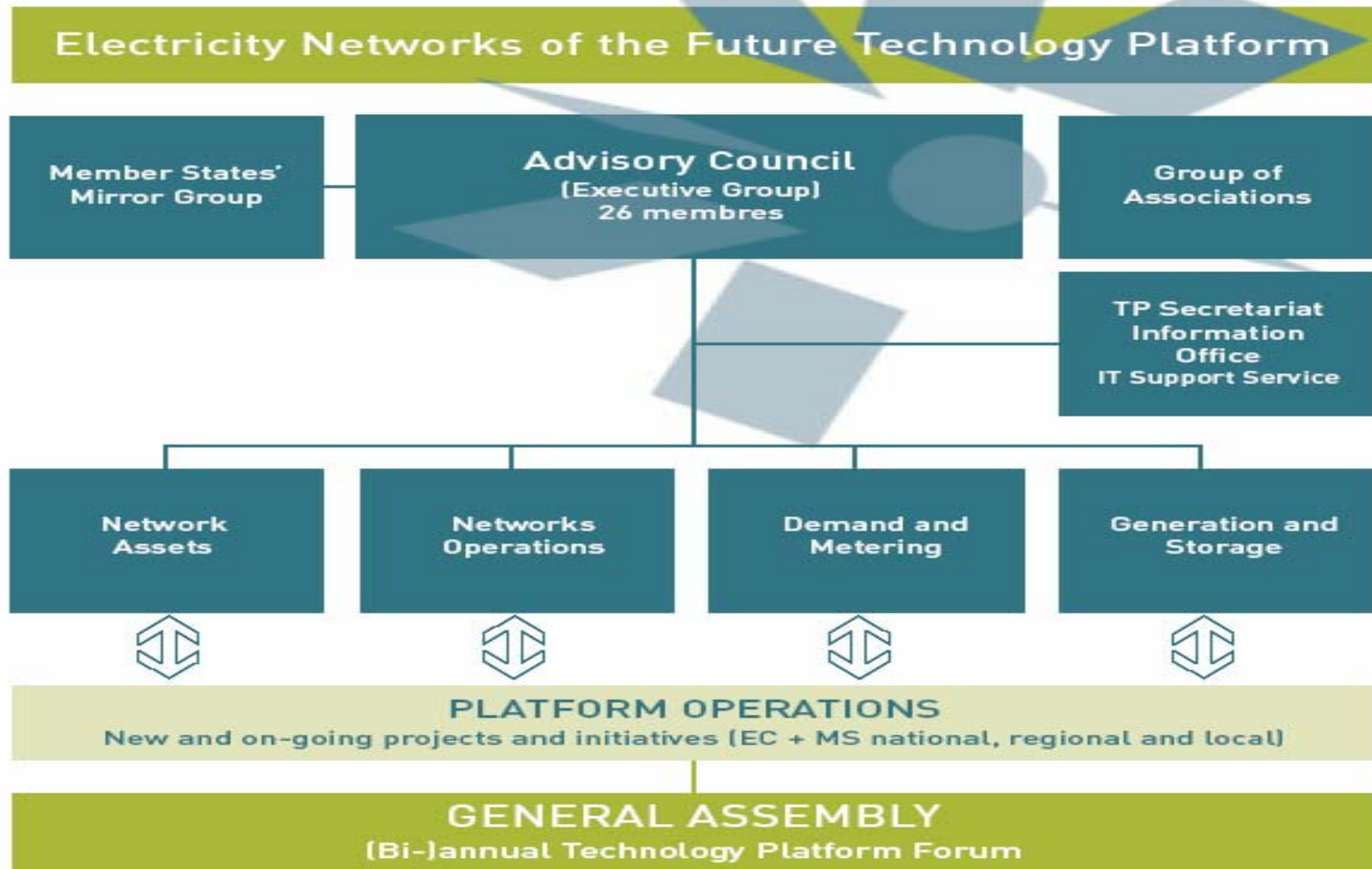




Organisation & WGs

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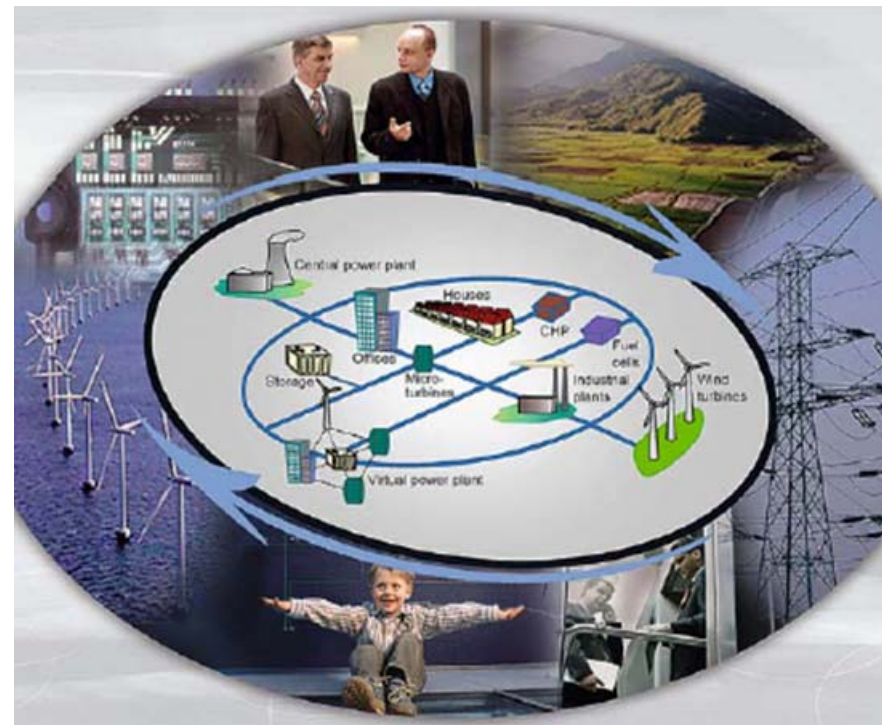
S M A R T G R I D S





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Objectives

- ❑ Develop a **shared vision** for the future which encourages the engagement of multiple, independent parties
- ❑ Identify **research needs** and build support for increased public & private research effort on electricity networks
- ❑ **Align** ongoing RTD projects and new European, national and regional programmes on electricity transmission and distribution systems
- ❑ Draw **conclusions and recommendations for follow-up actions and implementation** of the strategic research agenda and deployment plan



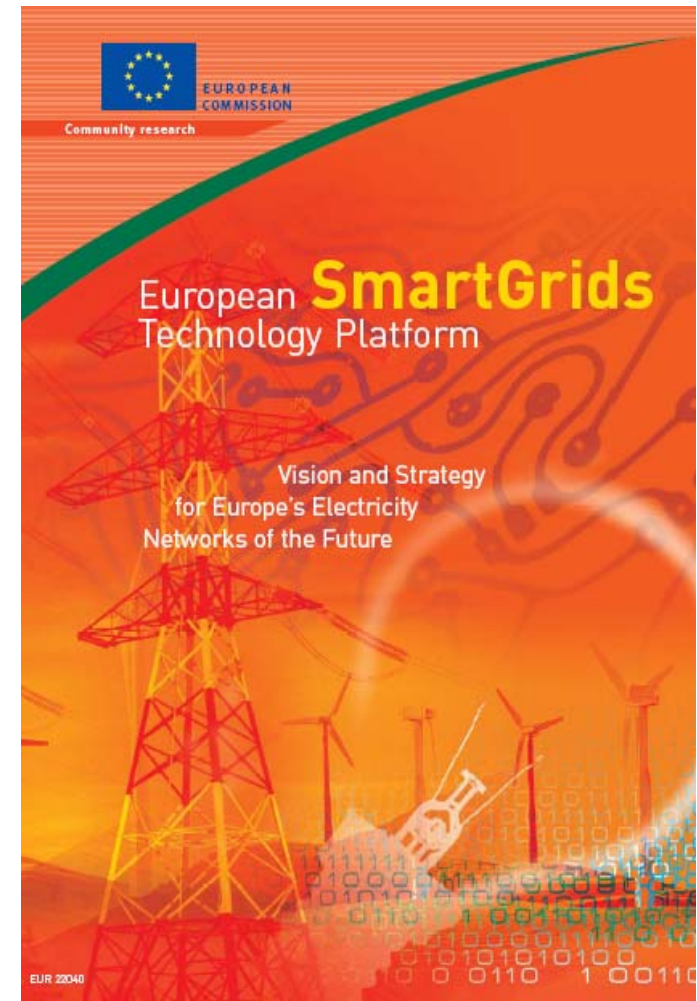
SMARTGRIDS

Vision

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Sustainability, competition, security of supply

- ❑ **Flexibility:** fulfilling customers needs
- ❑ **Accessibility:** to all network users, particularly RES and high efficiency DG with zero or low CO2 emissions
- ❑ **Reliability:** assuring and improving Quality of Supply and resilient to hazards and uncertainties
- ❑ **Economics:** best value through innovation, efficient energy management and level playing field for competition, also through regulation



□ Purpose

- Resource for European and National programmes
- Non-prescriptive
- Strategic in nature
- Encourage competitive activities
- Inspiration for new thinking in important areas

□ Key principle: grid user at the focus of development





□ Framework for a future research programme:

- Ensure that Europe's electricity networks develop to enhance Europe's competitive position while supporting environmental objectives and sustainability
- Capture the benefits of collaboration and co-operation in addressing challenges that are common across all Member States
- Provide a clear framework, goals and objectives on which the research community can focus, encouraging innovative solutions
- Generate the momentum and support necessary to convert good ideas to adopted products and solutions

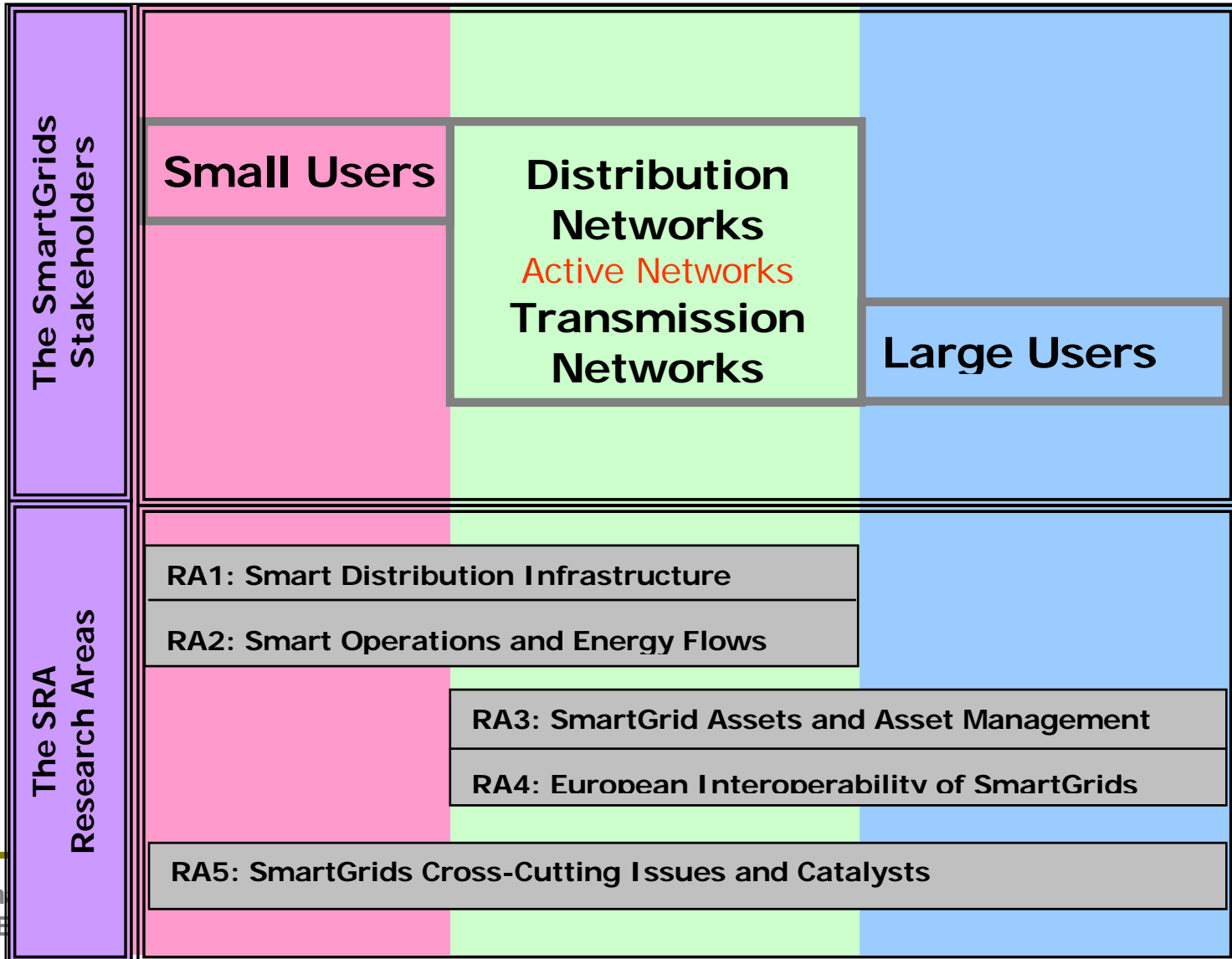




Structure & Research Areas

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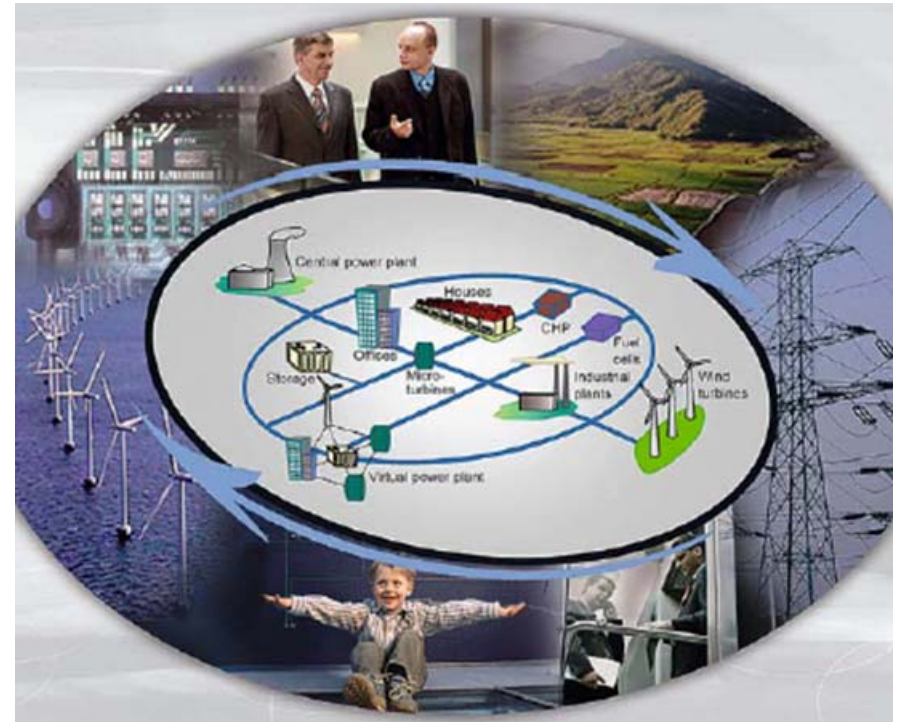
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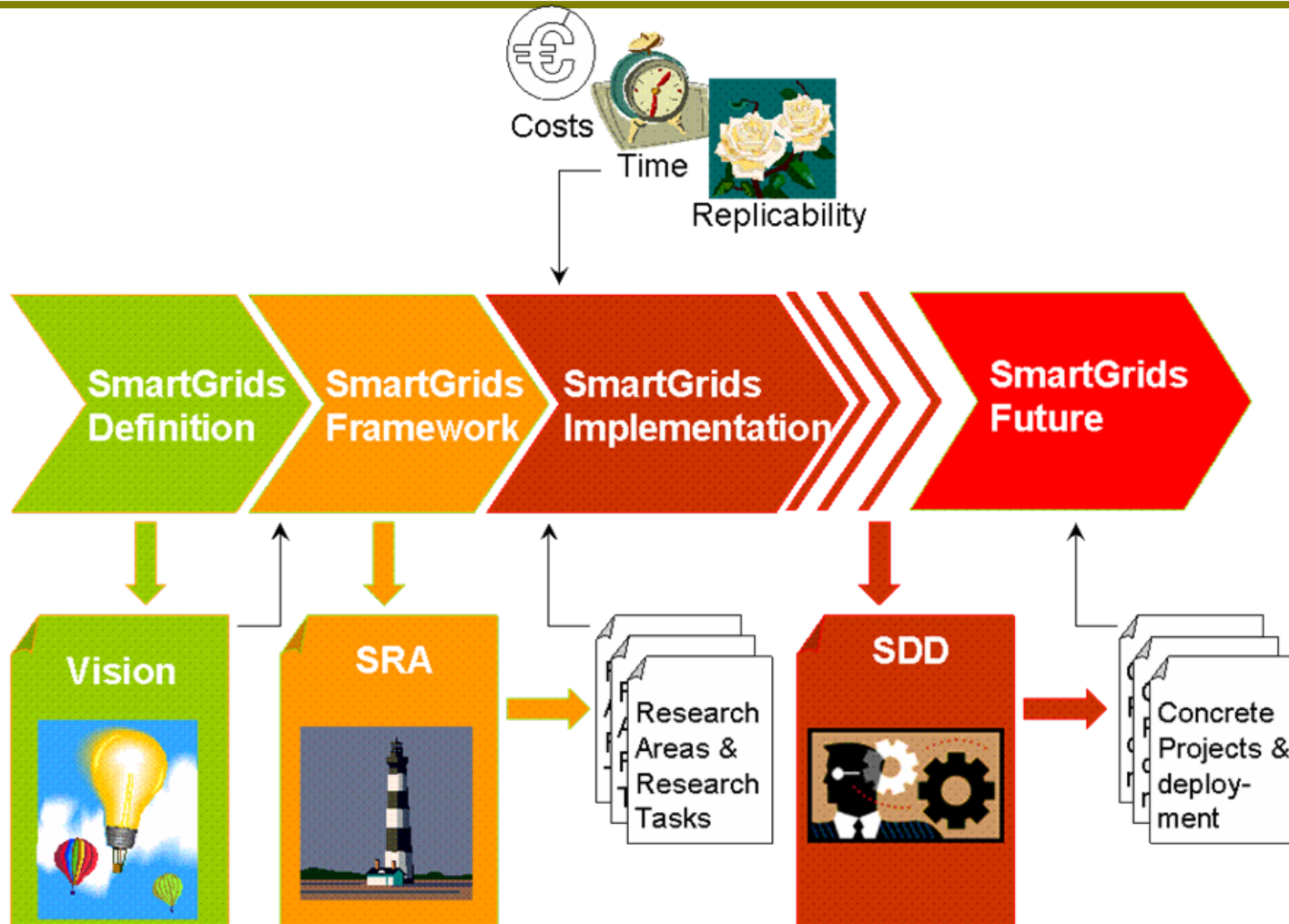
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From Vision to Reality





Roadmap for the SmartGrids deployment

Implementation

- Input provided by the WG
- Synthesis and modelling
- Organisation and standardised proj. specification

Deployment strategy

Replicability

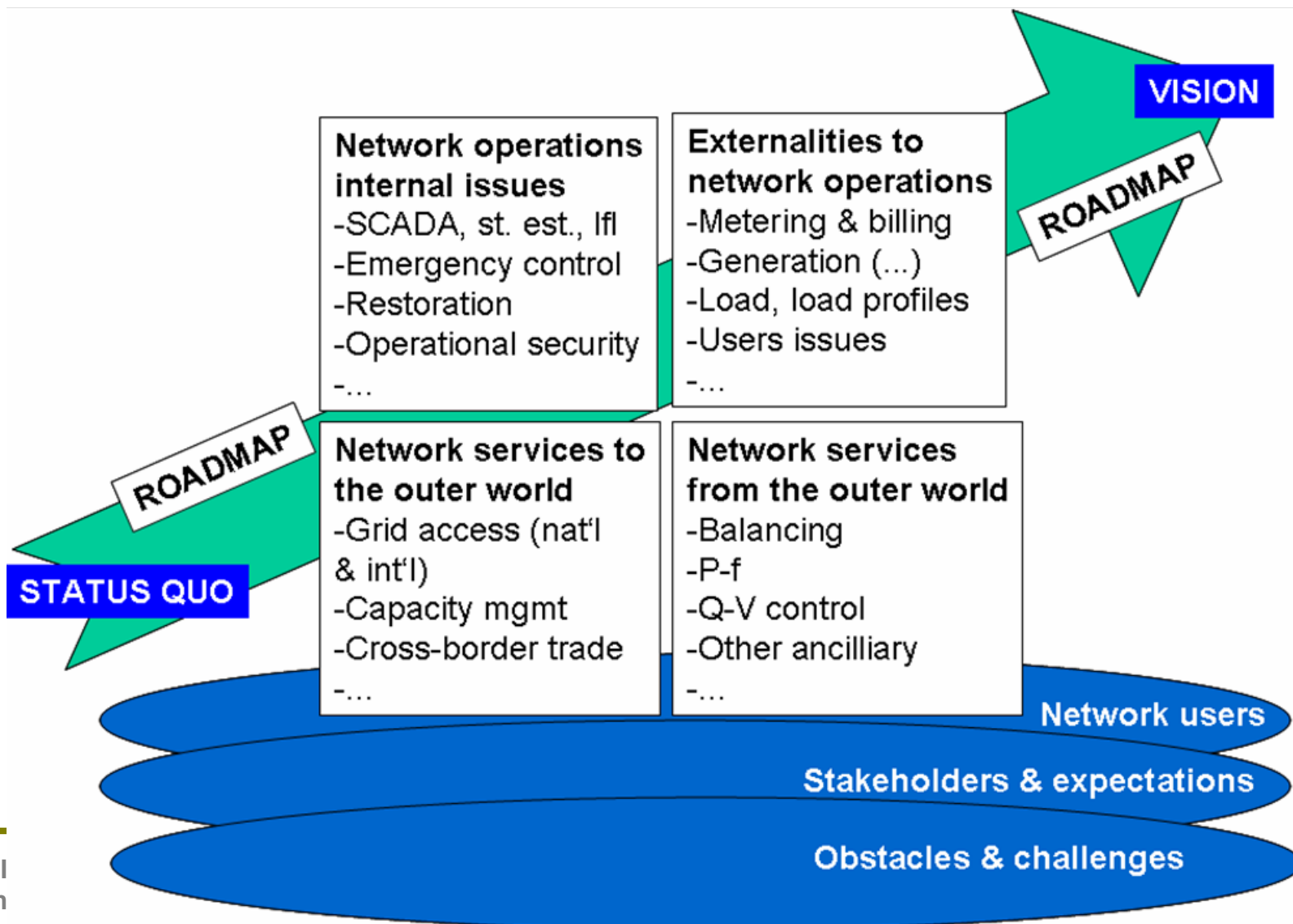
**Very preliminary,
first draft ...**



WG2 Network Operations

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WG2 Topics (2nd GA)

Research topic	->2015	2020+
1. Security		
2. Deployment		
3. Grid		
4. Access		
5. Architecture		
6. Efficiency		
7. Localization		▶▶
8. Sustainable power supply incl. low-level dispatching	▶▶	▶▶
9. Advanced operation of the high voltage system	▶▶	▶▶

For the practical deployment:

- ***What ?***
- ***When ?***
- ***How much & how much it costs ?***
- ***By whom ?***



WG2 Deployment

- 1. Network operational planning & design tools**
- 2. Real time security assessment and advanced dispatching tools**
- 3. Communications and control infrastructure for real time operation**
 - Customer-centric network control
 - High-level communication and control infrastructure for Distributed Energy Resources



- 4. Devices & components for real-time operation**
- 5. Combined HV AC-DC lines**
- 6. Towards an EU ancillary services market**
 - Ancillary services infrastructure and systems
 - EU ancillary services regulatory framework
- 7. Advanced forecasting algorithms and techniques**



- 8. Innovative defence systems to prevent large disturbances and blackouts**
- 9. European training program for Transmission System Operators**
- 10. Distributed state estimator (SE) suitable for large scale power systems**
- 11. Market & Regulation**
- 12. Innovative high temperature conductors**



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- SmartGrids
- SmartGrids
organisations
- Objectives
- Research
- Deployment
- WG2 Network
- Operational
- 2nd SmartGrids

2nd General Assembly of the European Technology Platform **SmartGrids**

**“The SmartGrids Revolution
-making the earth move”**

**8th - 9th November 2007
Monastery Banz, Bad Staffelstein,
Germany**

Organised by the Technology Platform

Supported by 





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Thank you for your attention!

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