FINSENY PROJECT

Experiences from phase 1 use case project

FP7 – 3rd Call FI-PPP: Road Show in Italy
Pisa, June 27, 2013

presented by Luigi Briguglio, Engineering R&D Lab

OVERVIEW

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   - Objectives
   - Experiences
   - Outcomes
3. **Closing Remarks**
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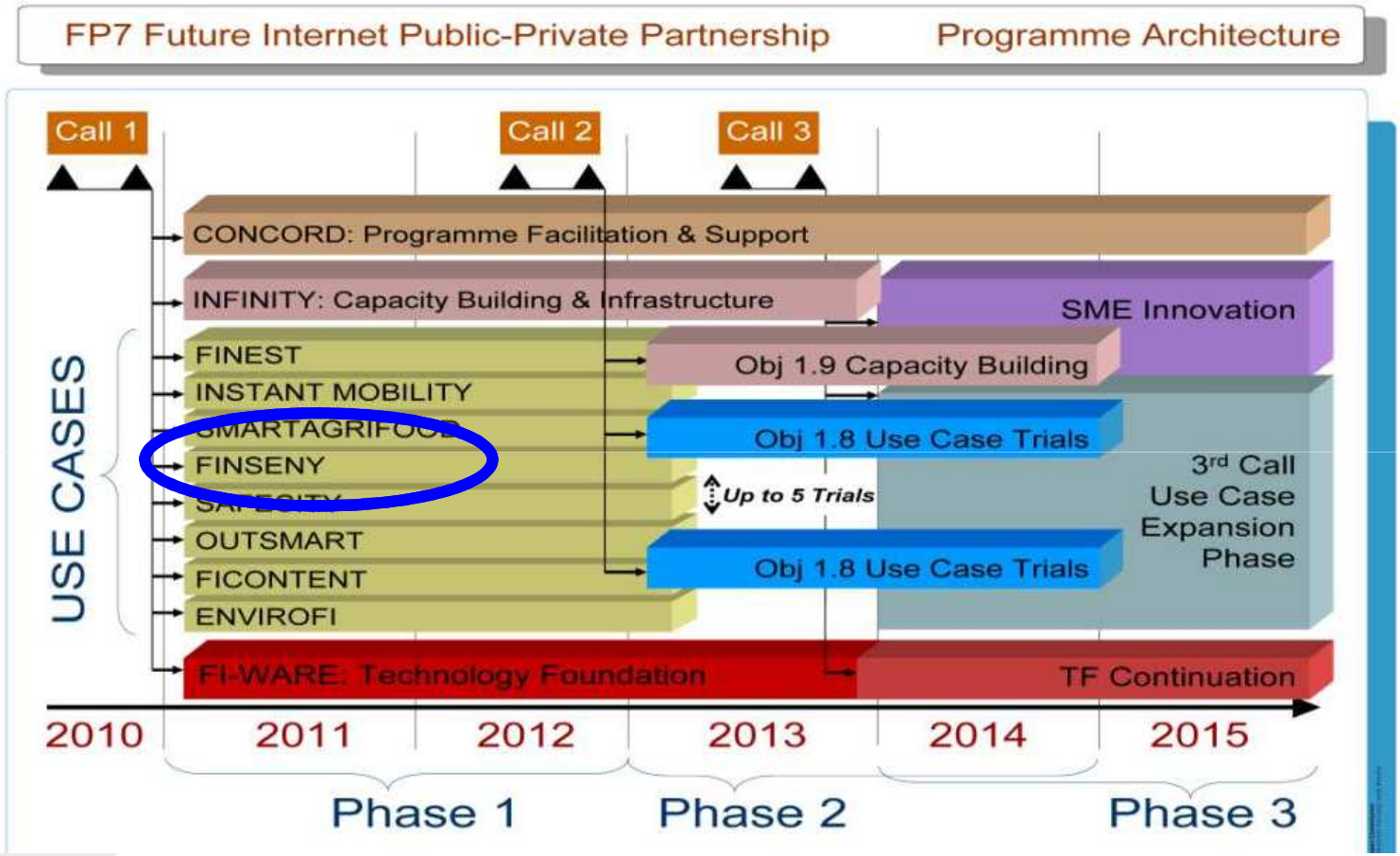
   - Follow up

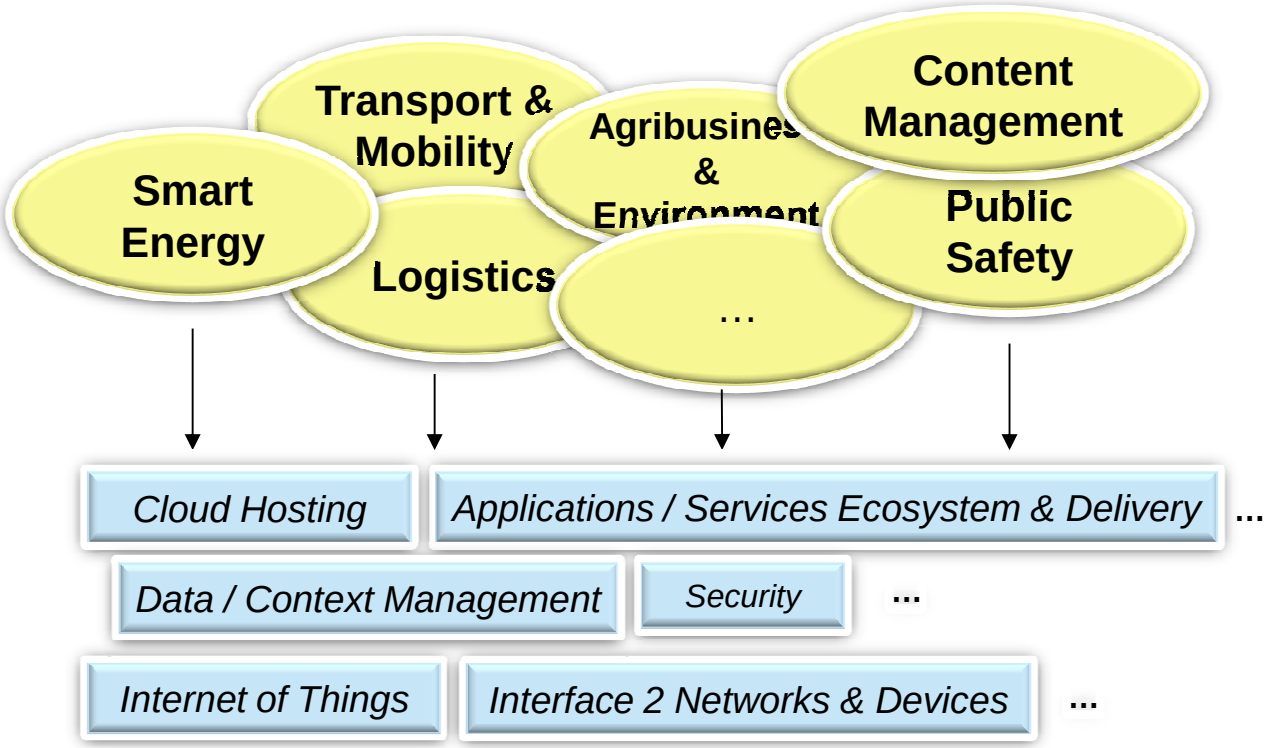
THE CONTEXT: FI-PPP Programme



THE CONTEXT: FI-PPP Programme
Basic Idea

Usage Areas like …

require today or in future …

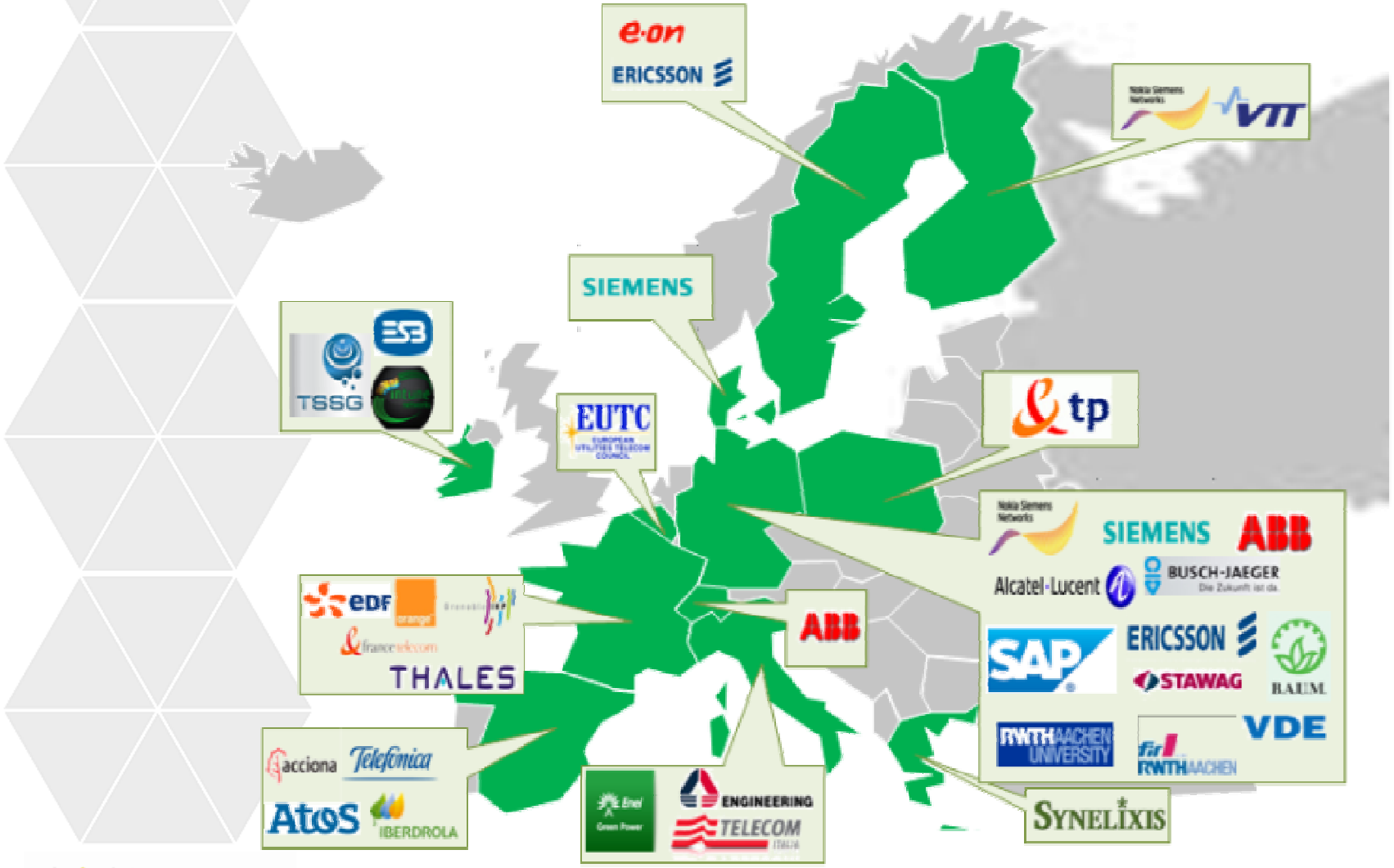


which should be provided in a generic way by the Future Internet

FINSENY IDENTITY CARD

PROJECT TITLE	FINSENY - Future INternet for Smart ENergY	
	Start Date	April 2011
	End Date	April 2013
	Website	http://www.finseny.eu
	Consortium	• 35 partners • 12 countries
	Expertises	• Energy • ICT
Vision		
A **Sustainable Smart Energy system in Europe**, combining critical infrastructure reliability and security with adaptive intelligence, **enabled by** open **Future Internet Technologies**. »		

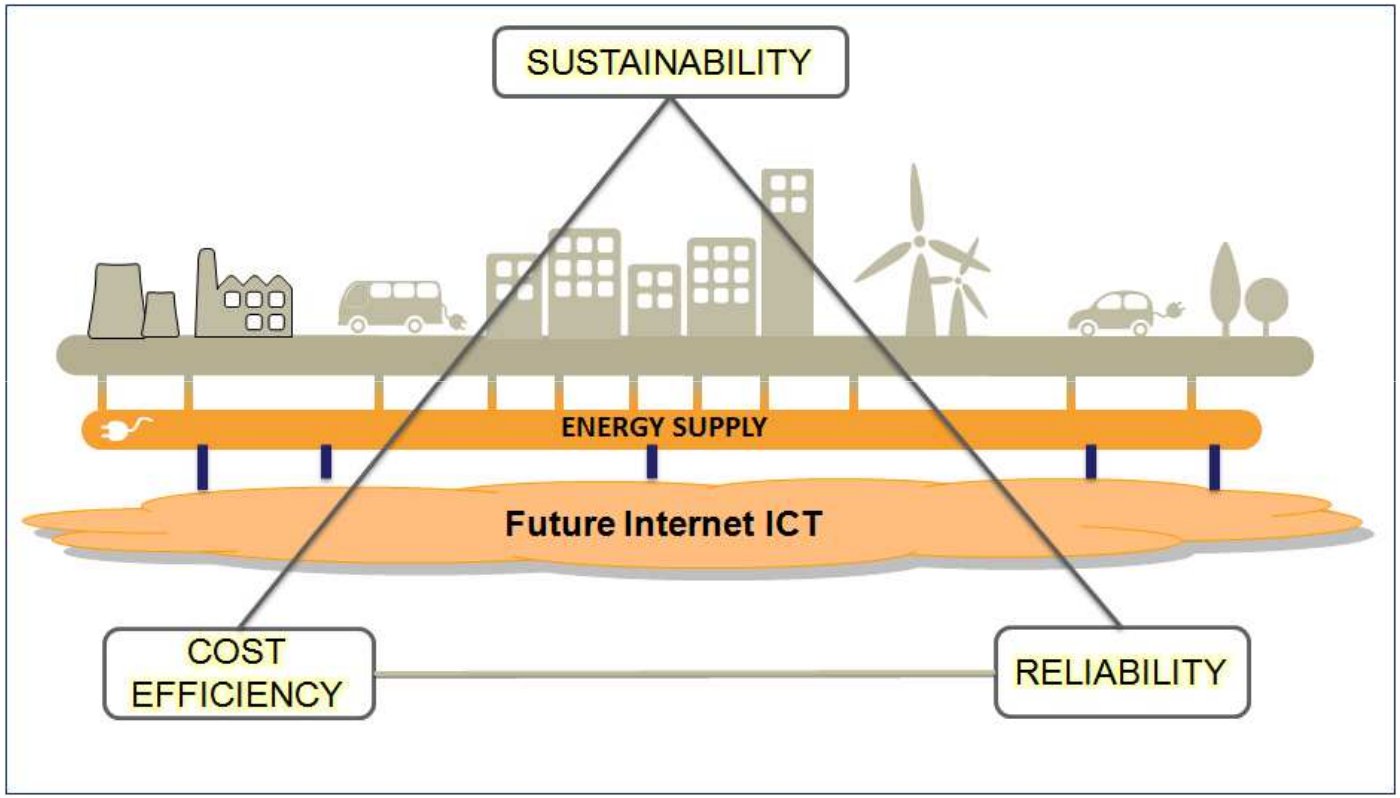
FINSENY IDENTITY CARD



FINSENY MOTIVATION

- **Why a Sustainable Energy System**
  - Europe has committed to 20/20/20 targets
- **Why new Energy Scenarios**
  - Integrate Renewable and Decentralised Energy Generation
    - NEED TO COPE WITH VOLATILITY
    - NEED TO OPTIMALLY USE EXISTING GRID INFRASTRUCTURES
  - Liberalisation of Energy Markets
    - NEW SERVICES
    - NEW MARKET PLAYERS
  - Combination of Action Fields
    - SMART GRID AND SMART HOME
    - SMART GRID AND E-MOBILITY

FINSENY MOTIVATION

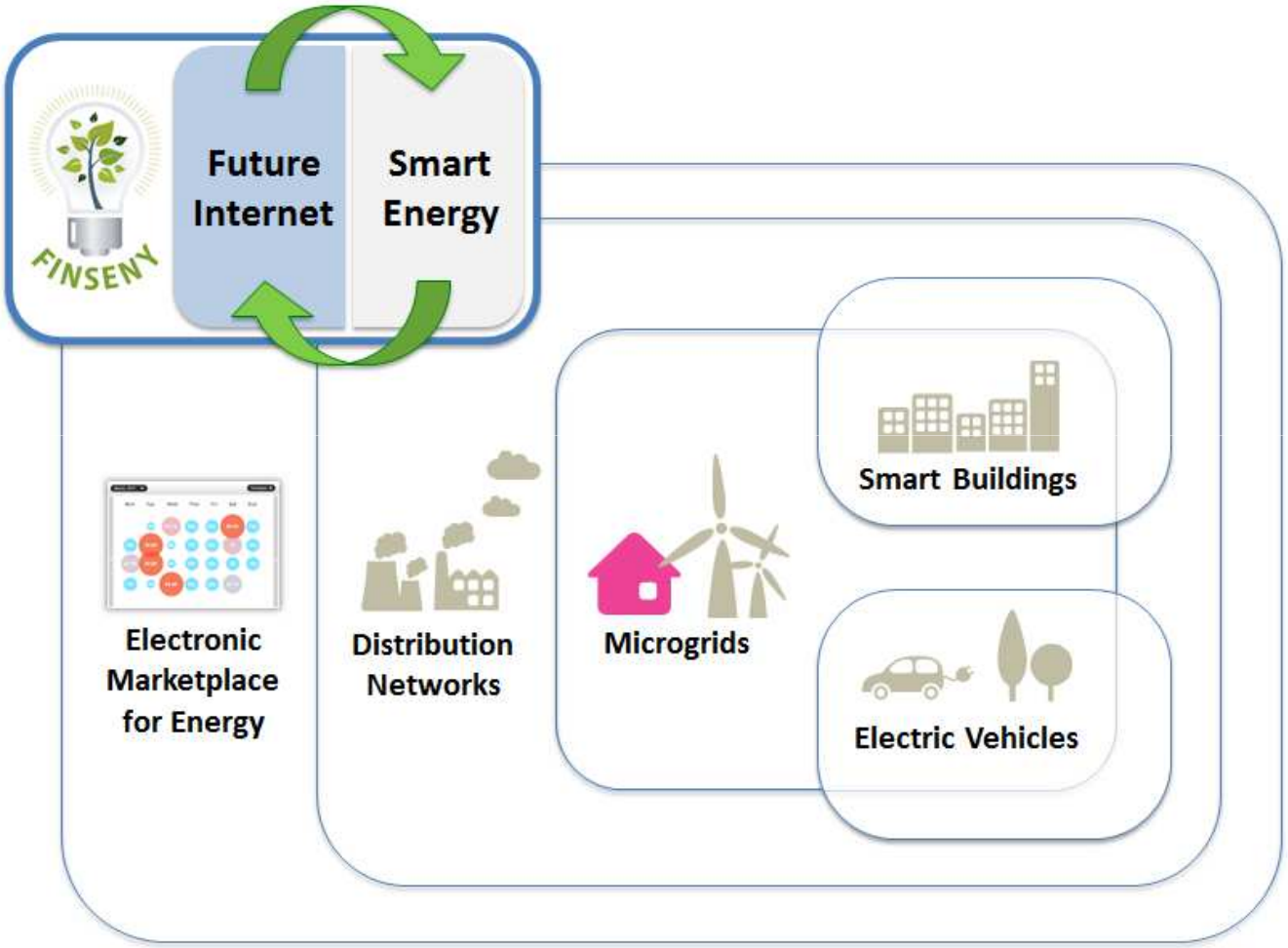


➔ **ICT is the key enabler for the Smart Energy**

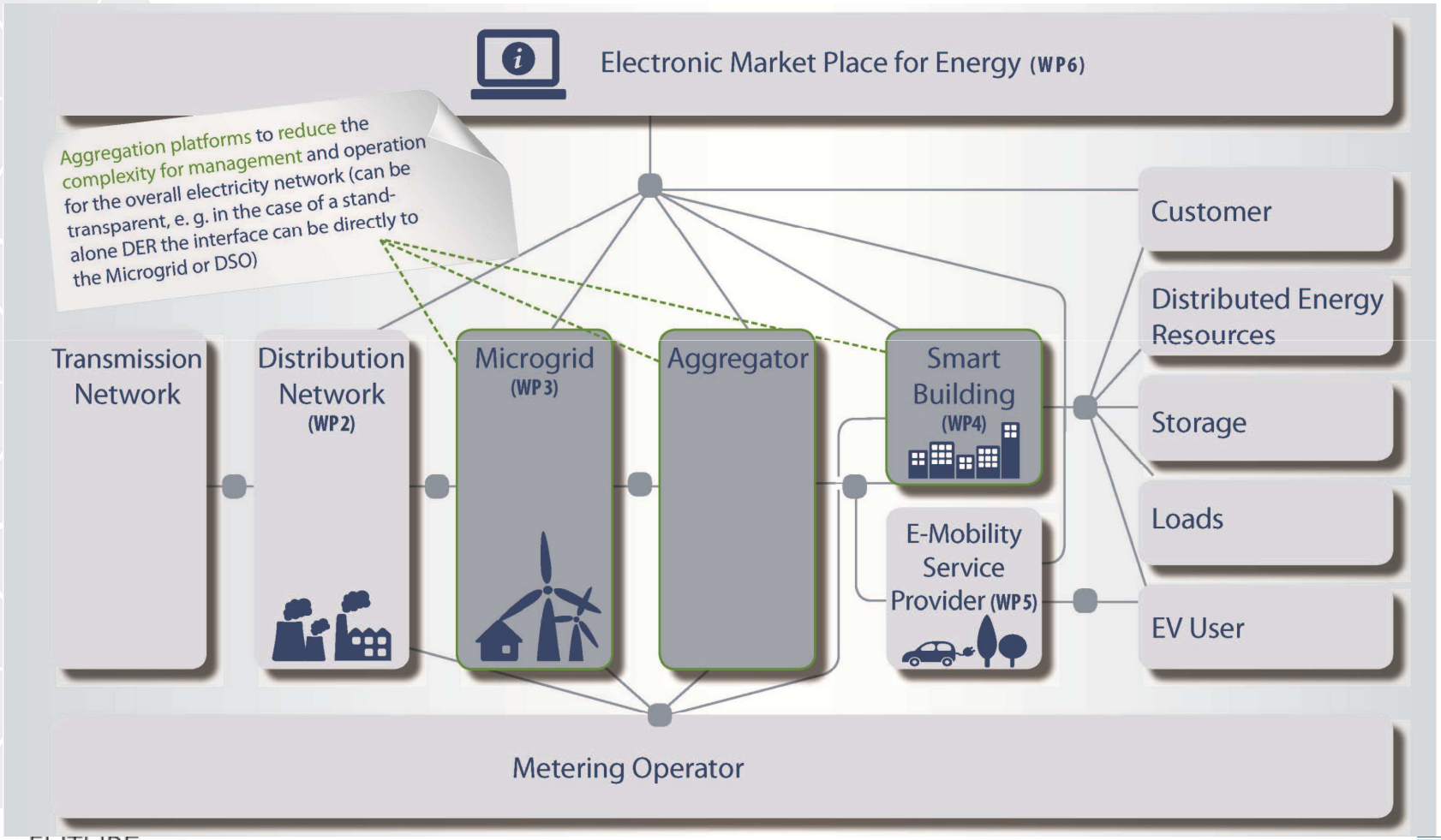
PROJECT OBJECTIVES

- Shape the FI ICT platform(s) for European Smart Energy:
  - **Obj1** - Analyse scenarios, Identify requirements, Develop reference **architectures**;
  - **Obj2** – Identification of **Generic Enablers** (together with other FI-PPP projects);
  - **Obj3** – Provision of selected **Domain-Specific Enablers**;
  - **Obj4** - Prepare pan-European **use case trials**;
  - **Obj5** - Development of a cross-industry **standardisation strategy**.

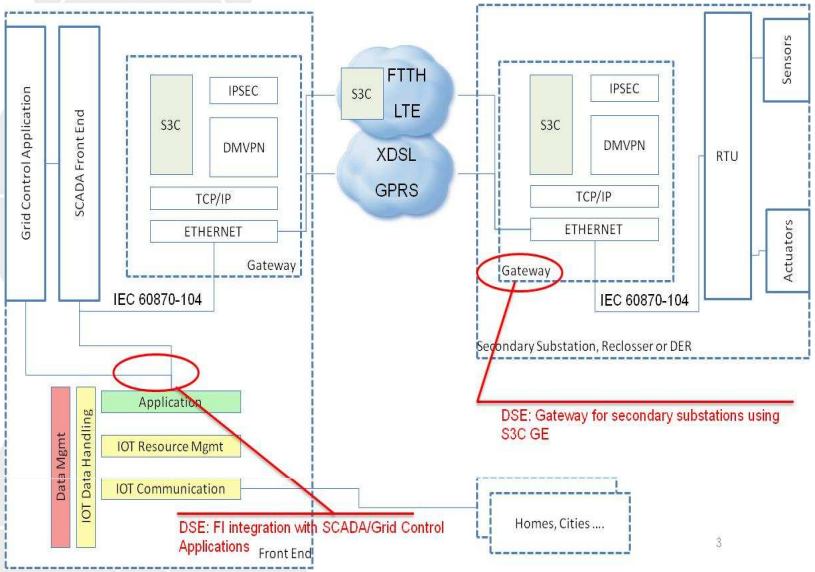
FINSENY SCENARIOS



FINSENY BIG PICTURE



FINSENY EXPERIENCES

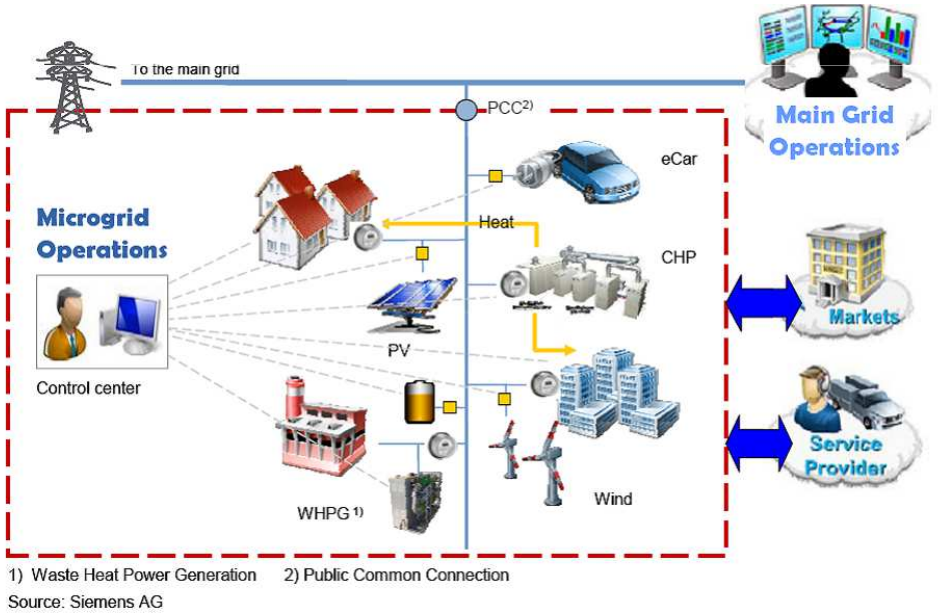


Distribution Network

MVDAC – Medium Voltage Data Acquisition and Control

Microgrid

Control Center



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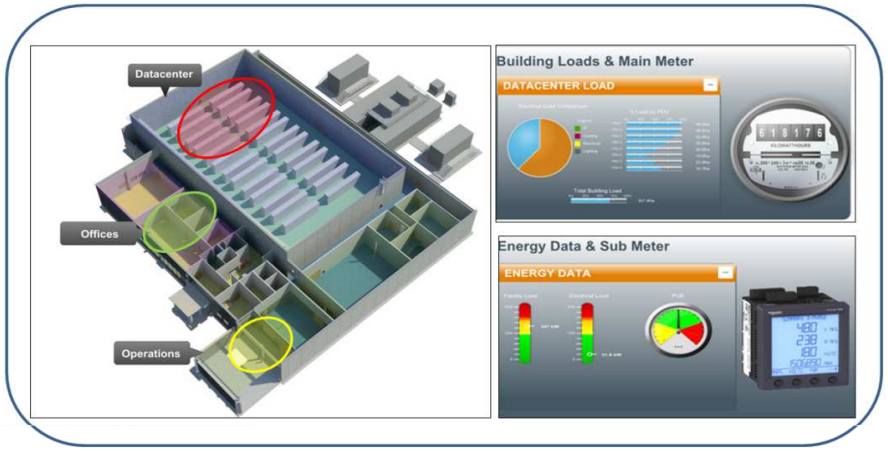
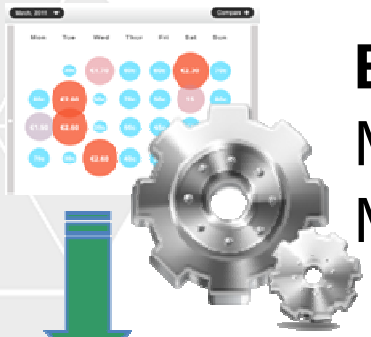
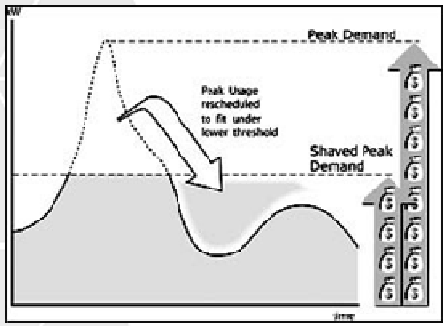


Smart Buildings
Supervisory Control

Electric Mobility
Vehicle to Grid

FINSENY EXPERIENCES





Electronic Marketplace for Energy

Marketplaces for Demand-Side Management

FINSENY OUTCOMES

- Overall **ICT requirement specifications** documented for final consolidation in FI-PPP Architecture Board
- **Functional architectures** of the five use case scenarios (distribution networks, microgrids, smart building, electric mobility and electronic market place for energy) developed and defined. Smart Grid Architecture Model (**SGAM**) taken into account.
- In preparation of Phase II of FI-PPP, FINSENY provided a **Consolidated Trial Description**. This information was used as input for the **FINESCE** Phase II project

FINSENY OUTCOMES

- **Set of recommendations** on Standardisation Strategies developed and gaps in standardisation identified;
- **Regulation in energy and telecommunication domain** in Europe and selected countries assessed and investigated how FINSENY scenarios might be impeded or encouraged by existing or changed regulation;
- **Business models** identified and described based on analysis of different scenario use cases including new or already existing stakeholders and benefits related to each Smart Grid functionality

FINSENY OUTCOMES

- **Domain-specific enablers** defined, developed and validated in specific experimentation environments. Information used as input for Phase II
- Investigation and description of **security elements**, especially including the energy domain specific security elements needed for use case scenarios
- Extensive contributions to dissemination of results in peer-reviewed **papers, conferences, workshops** and other events and prepared posters and flyers

1 2 3

LESSON LEARNED

Difficulties

Communication

- Energy & ICT domain experts
- Smart Grid Issues
- Identification of ICT Requirements

Experiences & Know-how

Cooperation with other Projects

- Joint Events
- Common Methodology
- Working Groups

Reference Architectures

- Functionalities
- Trial Candidates
- Interactions with GEs

1 2 3

FOLLOW-UP

FUTURE INTERNET SMART UTILITY SERVICES

Interested to know more about FINSENY and Smart Energy?

http://www.finseny.eu/finseny-white-paper/

THANK YOU FOR YOUR ATTENTION!