

European Utilities Driving Open Innovation in the Energy Market Enabled by Future Internet Technology

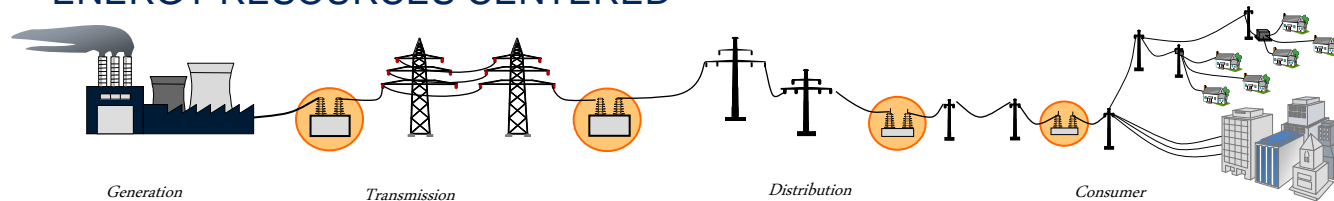
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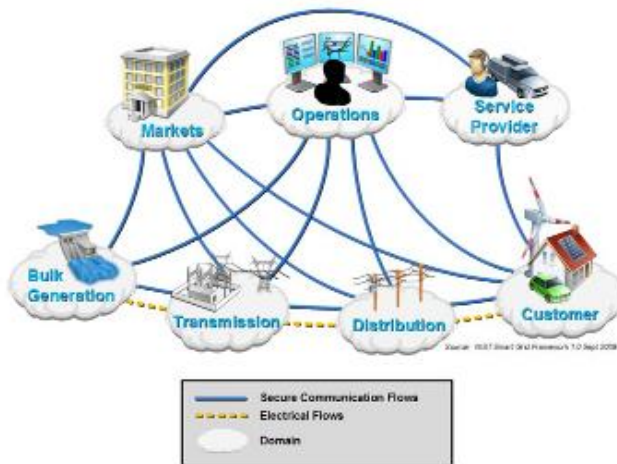
GRID transformation

TODAY ENERGY RESOURCES CENTERED



ONE ENERGY FLOW, ONE INFORMATION FLOW

EXPECTED DISTRIBUTED AND PARTICIPATIVE MARKET

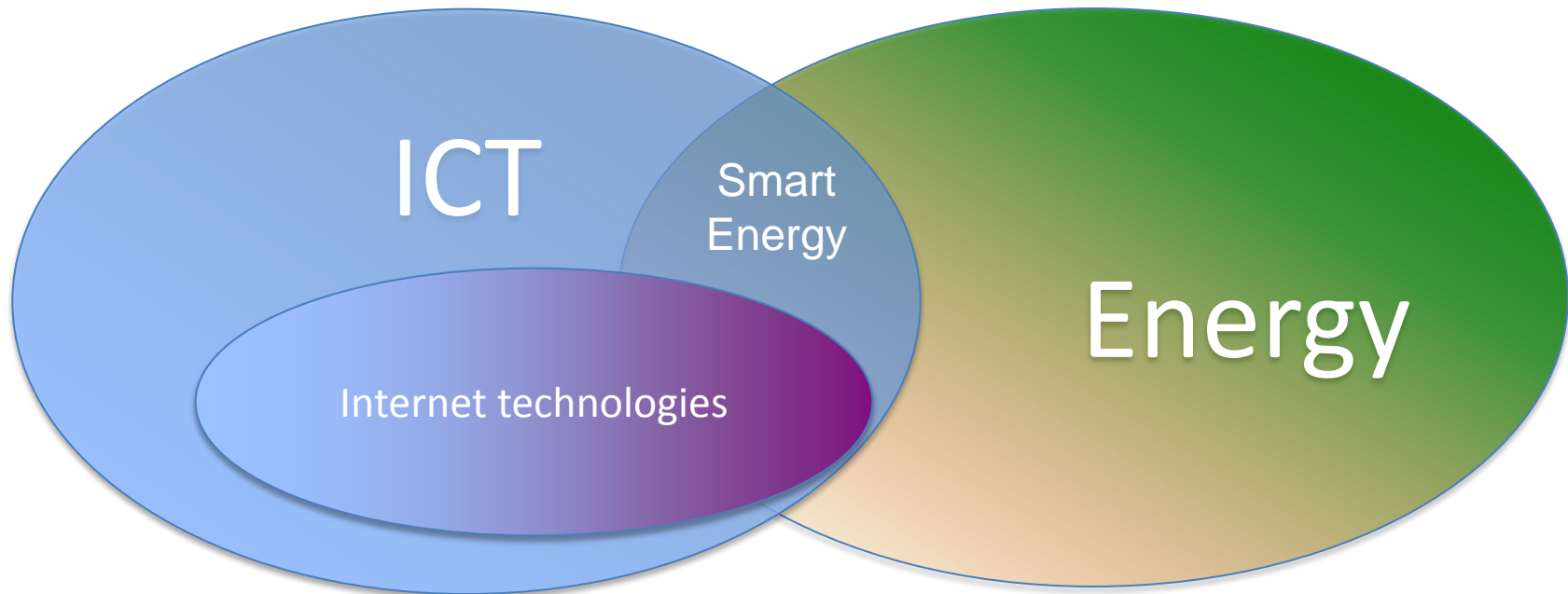


- Distributed generation and consumption
- More focus on customer concerns; quality, security of supply
- New market participants, pro-sumers, aggregators, mobility service operators, etc
- New management models; transparency and non discriminatory access.
- New products and services.

Source: NIST Smart Grid Framework 1.0 Sept 2009

BI-DIRECTIONAL ENERGY FLOW, "N" INFORMATION FLOWS

The Future Internet of Energy



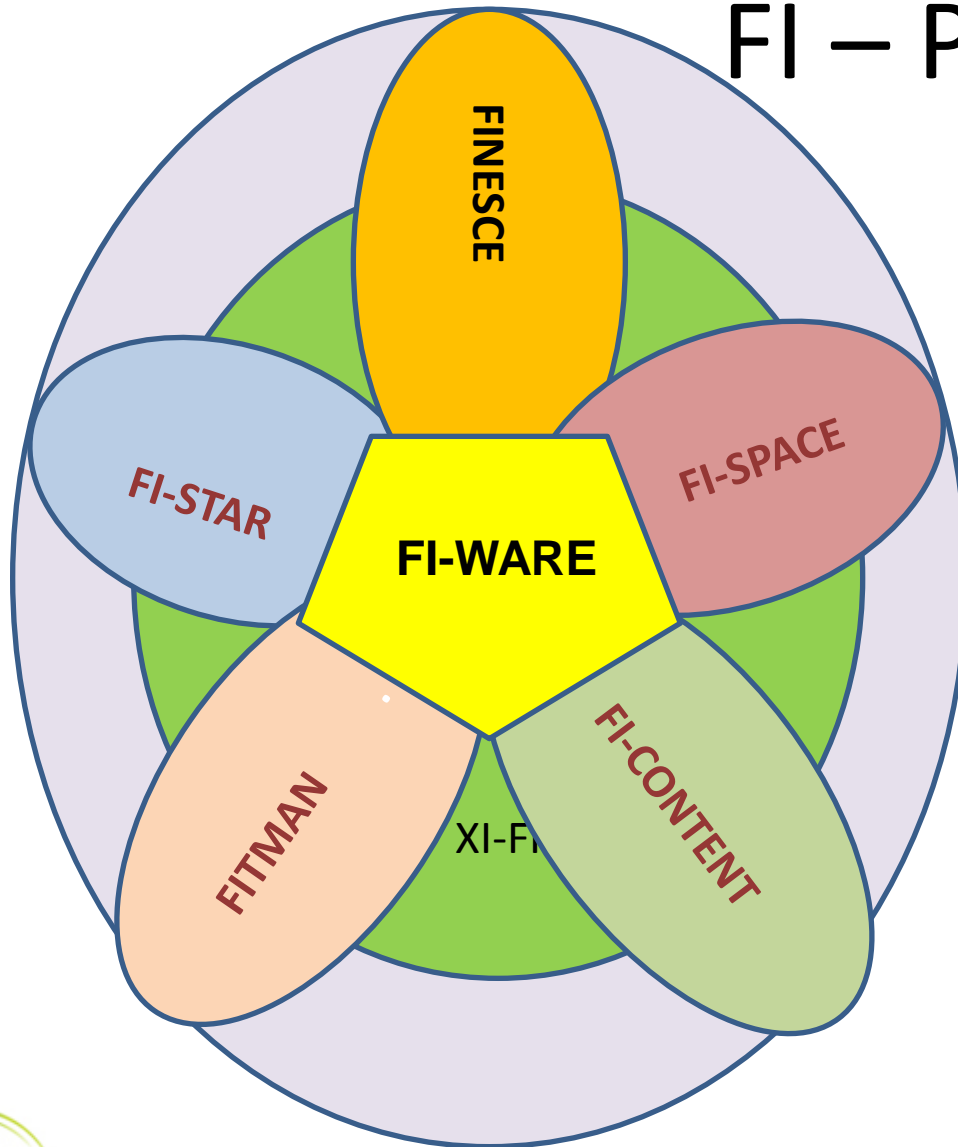
Benefits of using future internet technologies:

- lower costs for application development
- easy access for new partners
- scalability of applications
- makes innovations based on IP accessible in the energy sector
- better network performance

Future Internet of Energy: organising many...

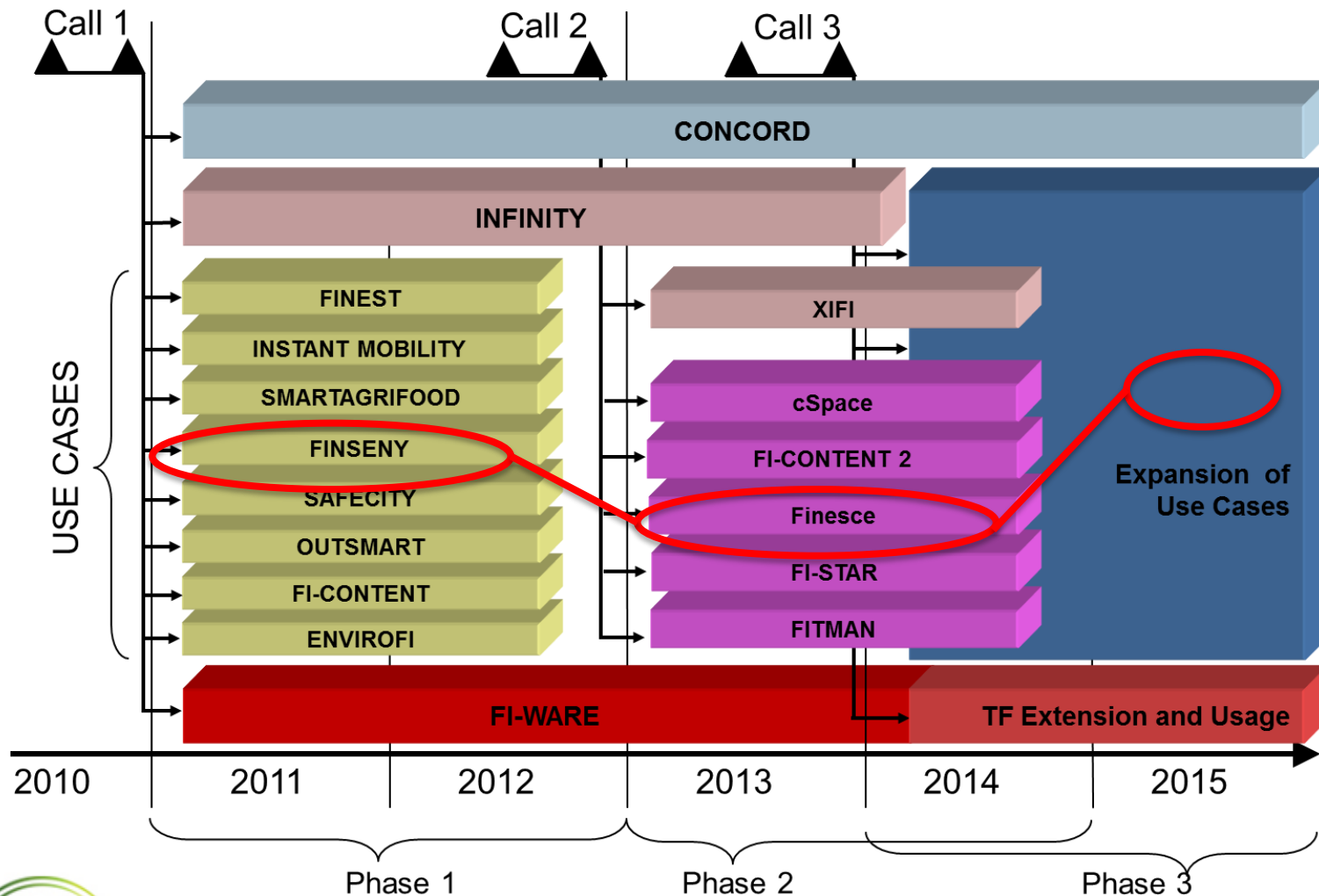
- (volatile) distributed energy production
- (flexible and unpredictable) consumers
- electric vehicles (as consumers and storage)

FI – PPP 2013



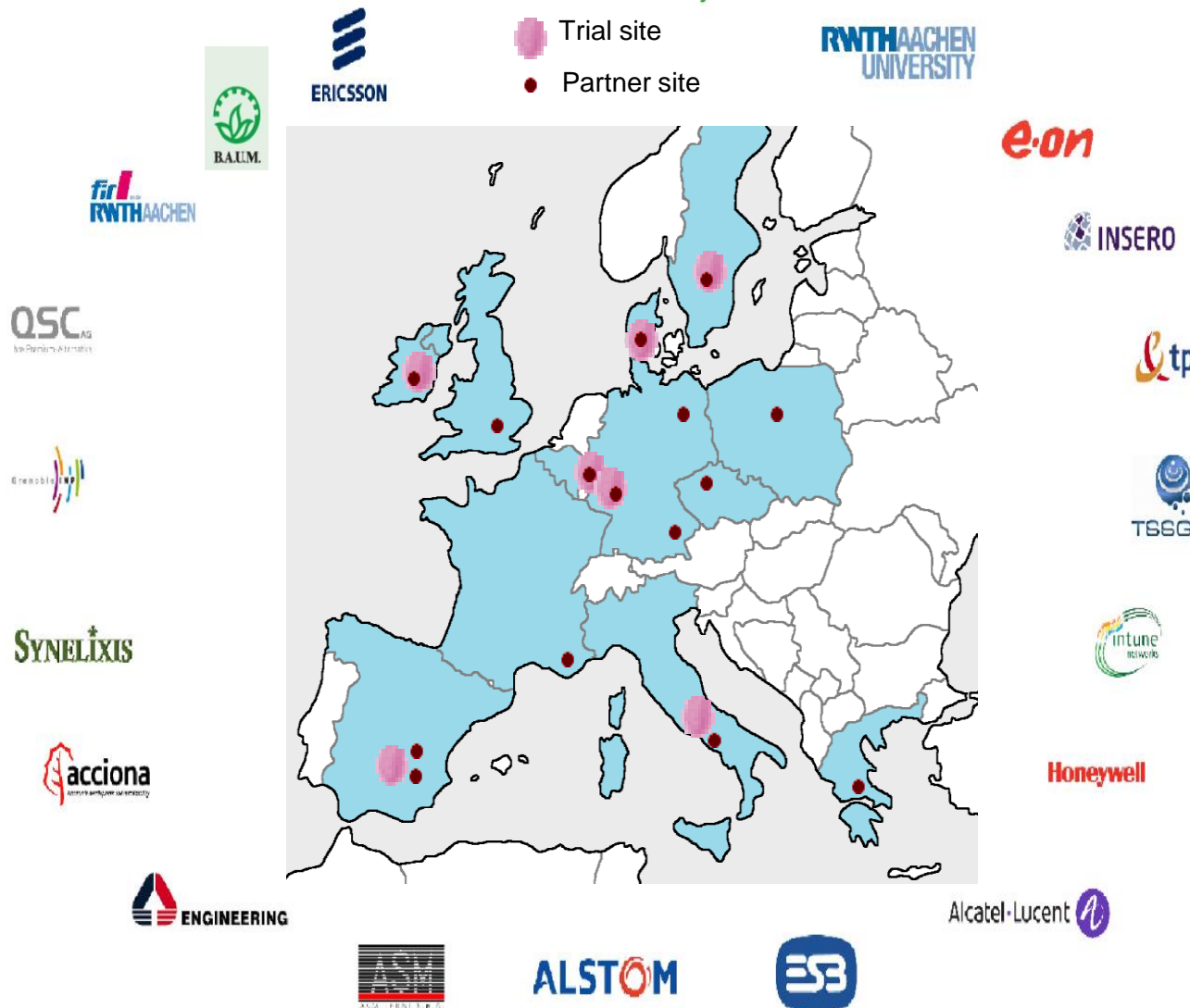
- FI-WARE provides a large selection of reusable key technology enablers, called Generic Enablers
- Validate Generic Enablers via large-scale service and application use case trials in different business sectors

FI-PPP Family of projects



20 partners and 7 trials sites

27.5 M \$ EU
Funding over
2 years



Trial 3 - FI Developing B2B electricity eco-system - Building a cross-border Virtual Utility

Motivations

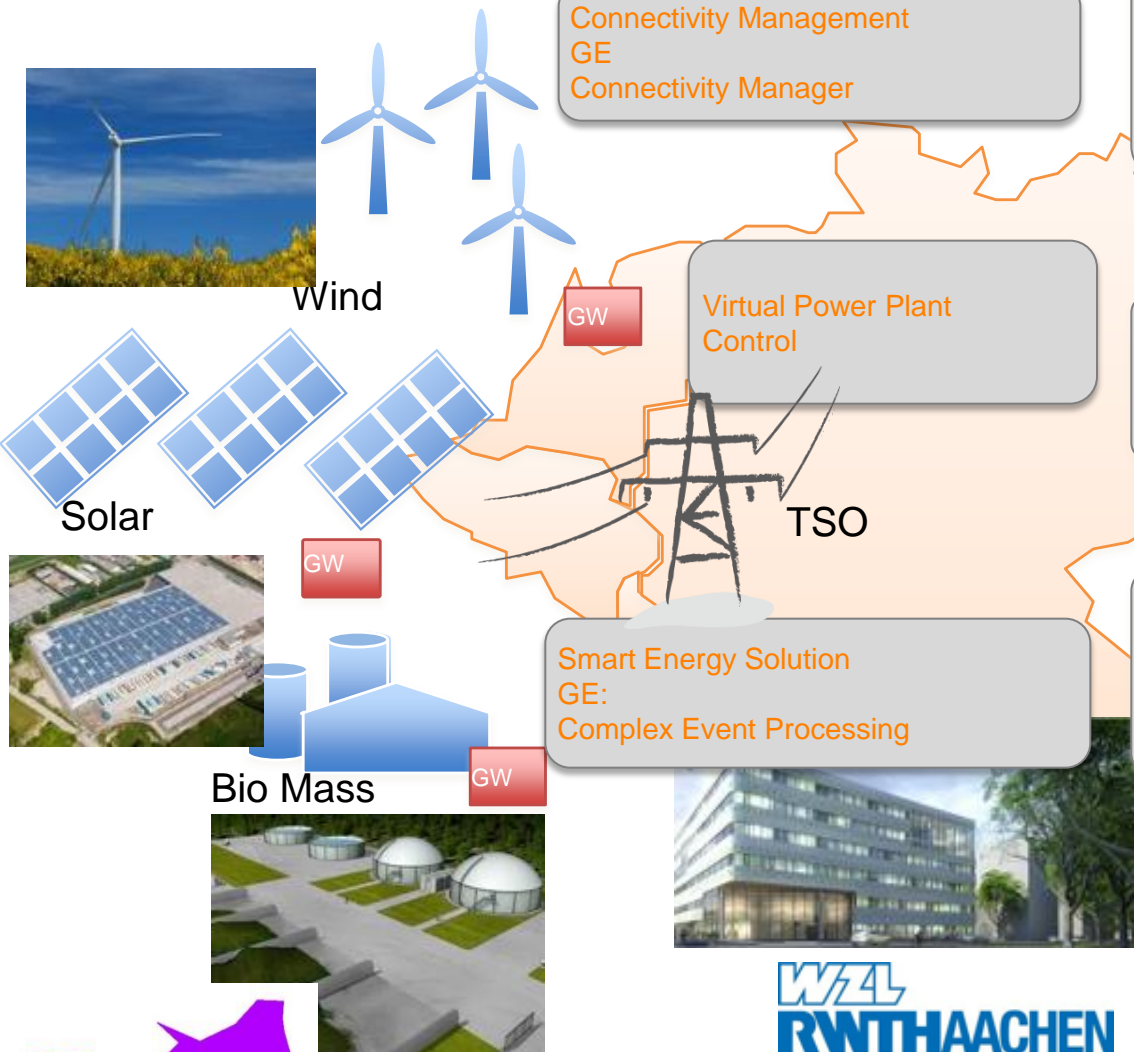
- Combine renewable Energy production with Demand Site Management to a Virtual Utility
- Combine different volatile energy production to guaranteed CO2 free certified energy

Objective

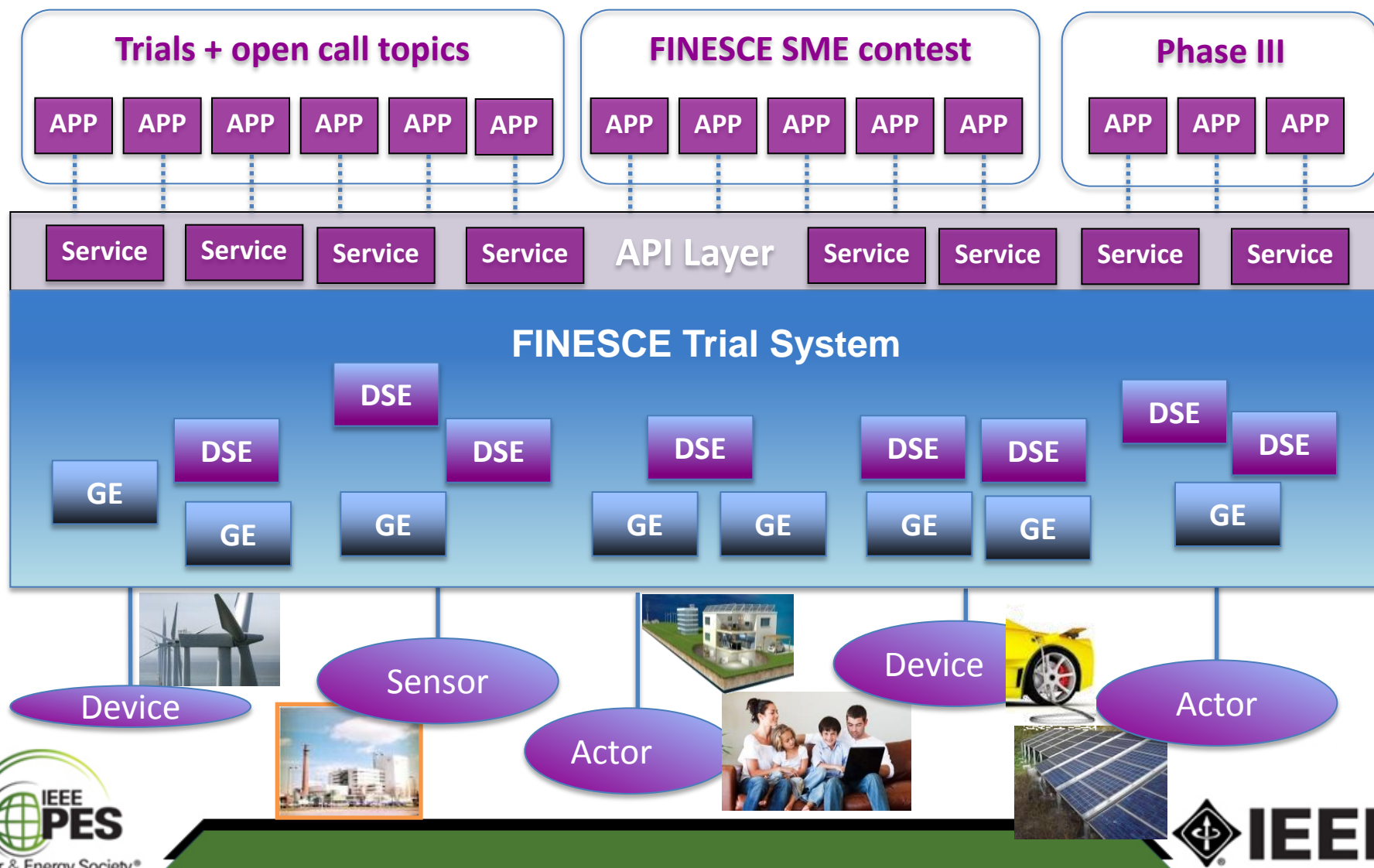
- Increase the part of renewable Energy of the consumption of electrical Energy

Scope

- Trial installation in Belgium and Germany
- ~10 Renewable energy sources
- ~1 Demand Site

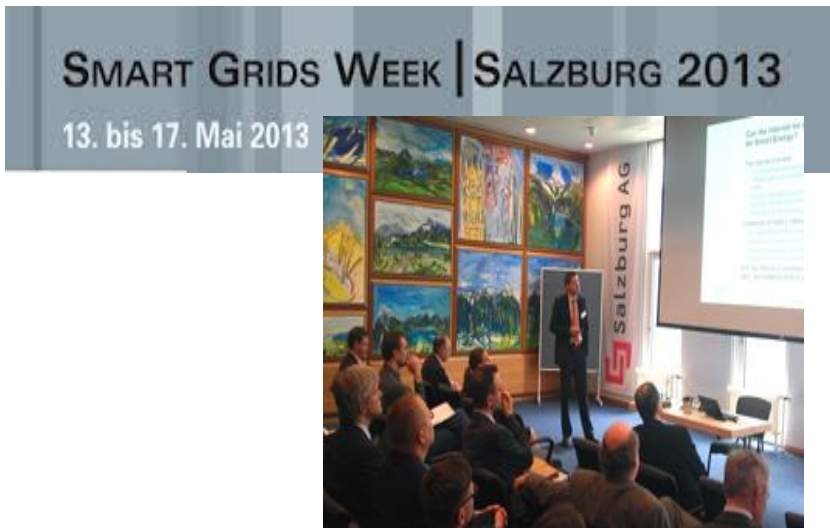


API Layer Offers Services to Apps



Smart Grid Stakeholder Group

“The Smart Grid Stakeholder Group (SGSG) has been established to create a liaison between industry organisations involved in the evolution and roll out of Smart Grids.”



8th Smart Grid Stakeholder Group Meeting



9th Smart Grid Stakeholder Group Meeting

**Currently
150 Members**

FINESCE – Team up with us!

› **FINESCE Student contests - Q1 & 2, 2014**

- student contest (internships for winners) & hackathon, Ericsson will host winning students as interns

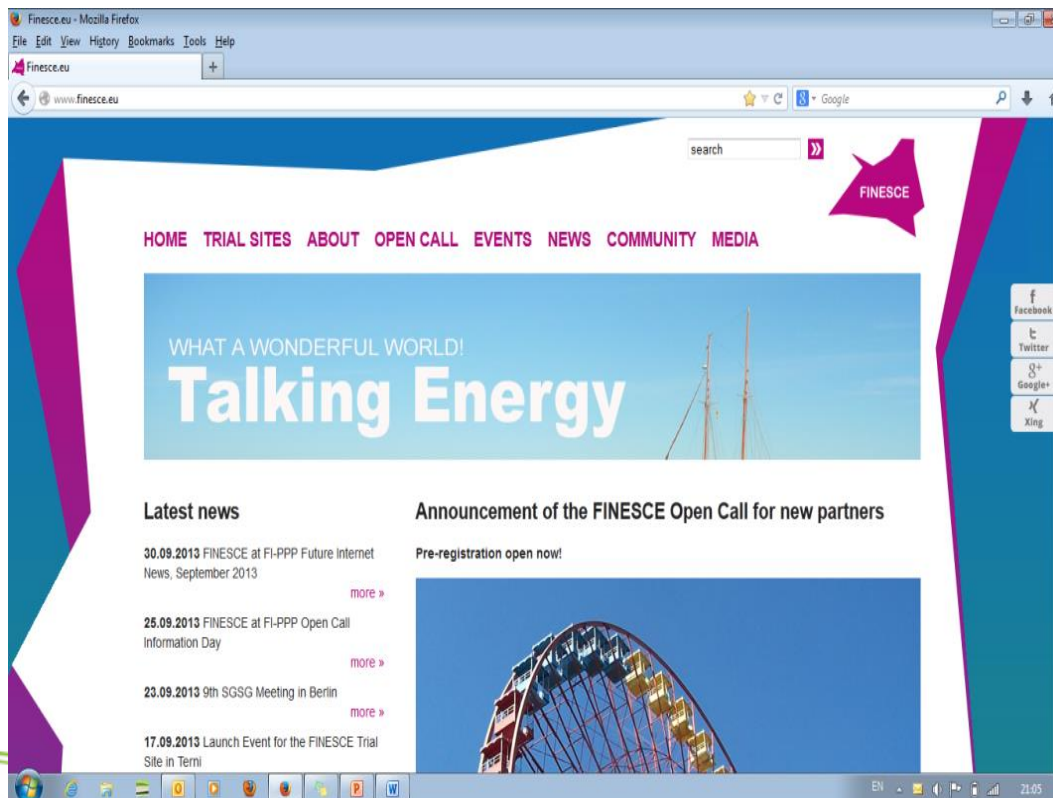
› **FINESCE Trial Open Days – experience our trials 1st hand!**

- March 10, 2014 Madrid, Spain (Smart office buildings trial demonstration)
- June 12, 2014 Aachen, Germany (Smart car factory and VPP) – Date to be confirmed
- September 2014 Dublin, Ireland (EV charging and Grid trial)
- December 2014 Horsens, Denmark (Smart Region & homes)
- February 2015 Terni, Italy (E-marketplace for energy)
- June 2015 Malmö, Sweden (Smart City area)

› **FINESCE Innovation Community (www.finesce.eu)**

- for all interested to follow what we are doing
- membership is free of charge – just enter your email address on our web site or give us a business card

THANK YOU FOR YOUR ATTENTION!



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