Work Package 3
Cross-border Virtual Utility

09.10.2013, Innovation Event, Horsens

FUTURE
INTERNET
SMART
UTILITY
SERVICES

FINESCE

SEVENTH FRAMEWORK
PROGRAMME

FUTURE
INTERNET
PPP

fir
RWTH AACHEN

B2B Energy Eco-System of WP3

FUTURE
INTERNET
SMART
UTILITY
SERVICES

FINESCE

Wind

Gateways

Solar

Factory
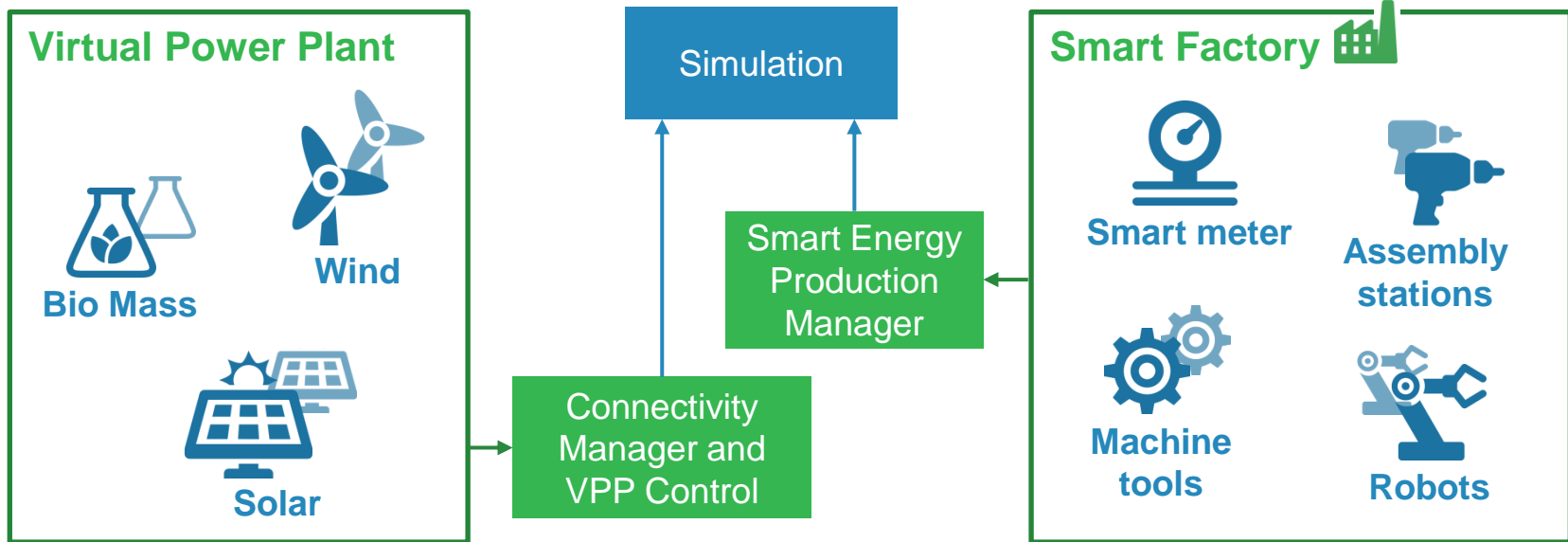
TSO

Bio Mass
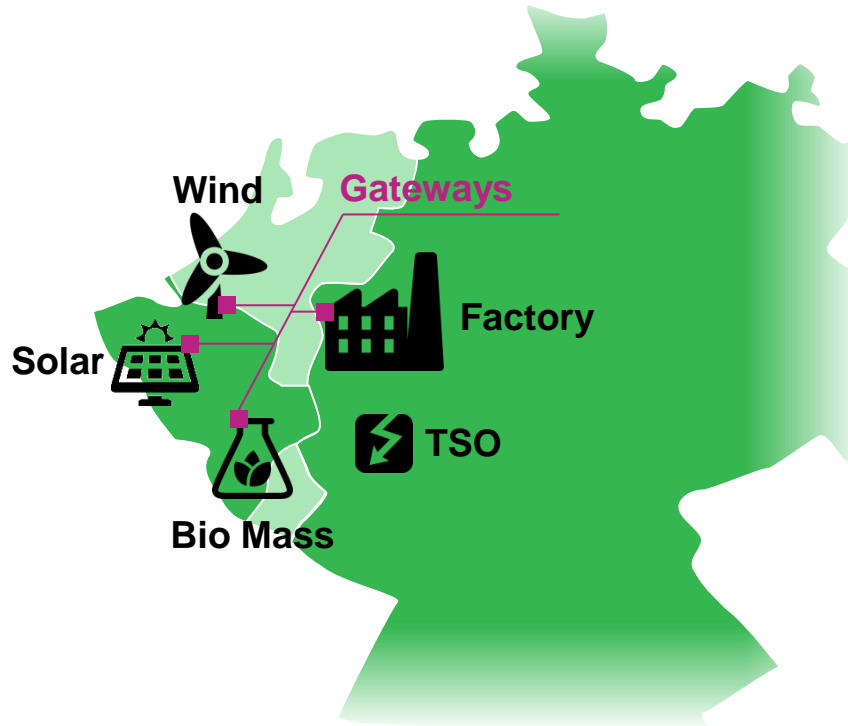
Objectives

- Combine renewable energy production with Demand Site Management to a Virtual Utility
- Combine different volatile energy production to guaranteed CO_2 free certified energy
- Increase the part of renewable energy of the consumption of electrical energy

Trial setup

- Trial installation in Belgium and Germany
- ~10 renewable energy sources
- ~ 1 demand site

WP3 Trial Architecture

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Virtual Power Plant

Bio Mass

Wind

Solar

Simulation

Connectivity Manager and VPP Control

Smart Energy Production Manager

Smart Factory

Smart meter

Assembly stations

Machine tools

Robots

Ideas for innovations and applications

- Aggregation of typical energy load and production profiles
- User-friendly GUI and dashboard for energy monitoring
- Decision support system for energy-aware production
- Energy efficiency planner for SME customer
- Whatever you have in mind…

FUTURE
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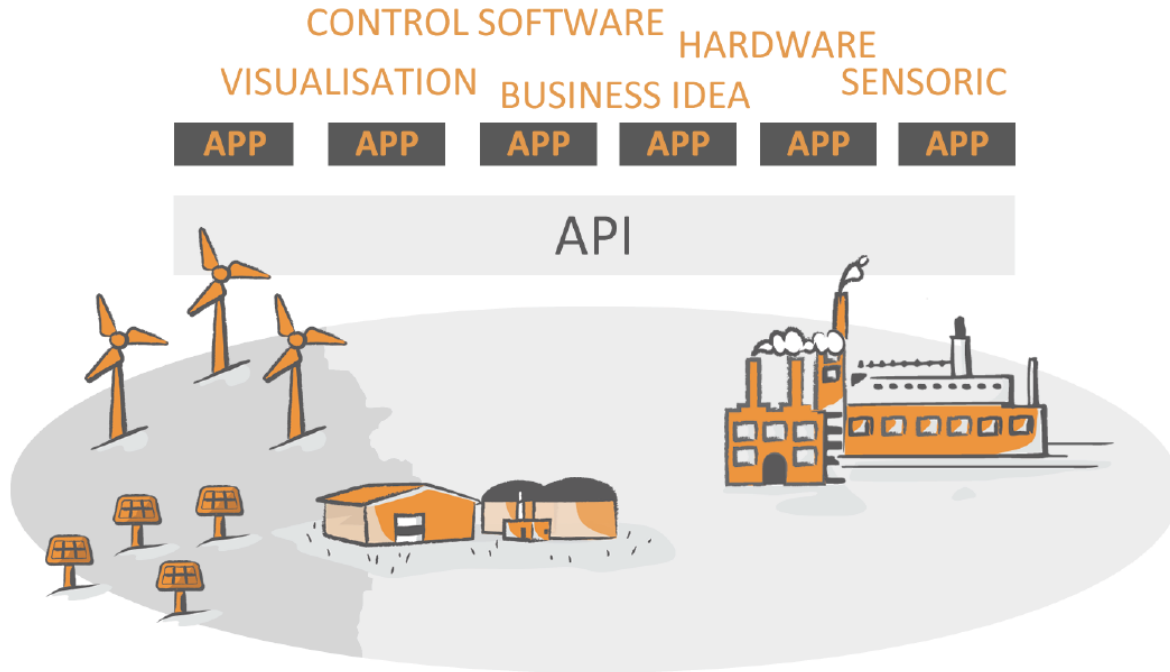SERVICES

FINESCE

Contraints

Real-time

- End-2-End data management
- Security in critical infrastructure
- Production schedule aggregation
- Demand site response

Demand site management

- Energy schedule planning
- Production process steering through energy production
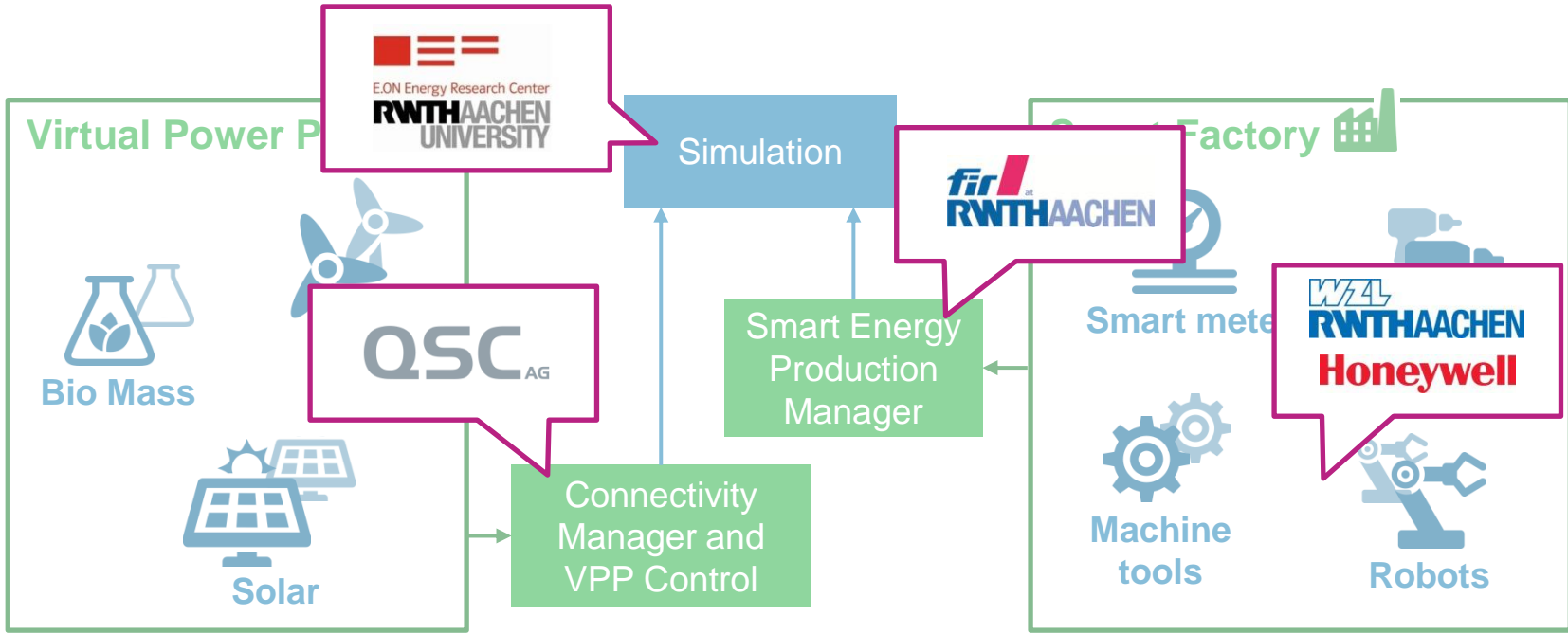
Access to trial site over API

Who will you work with?

Virtual Power Plant

E.ON Energy Research Center
RWTH AACHEN UNIVERSITY

Simulation

fir at RWTH AACHEN

Smart Factory

Bio Mass

QSC AG

Solar

Connectivity Manager and VPP Control

Smart Energy Production Manager

Smart meter

WZL RWTH AACHEN
Honeywell

Machine tools

Robots

Timeline on integration

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Data exploitation

Data interpretation

Data gathering

Functional GE evaluation

Test-integration of GEis

Production integration of GEis

| Q1/13 | Q2/13 | Q3/13 | Q4/13 | Q1/14 | Q2/14 | Q3/14 | Q4/14 | Q1/15 |

Trial infrastructure setup

GE and trial evaluation
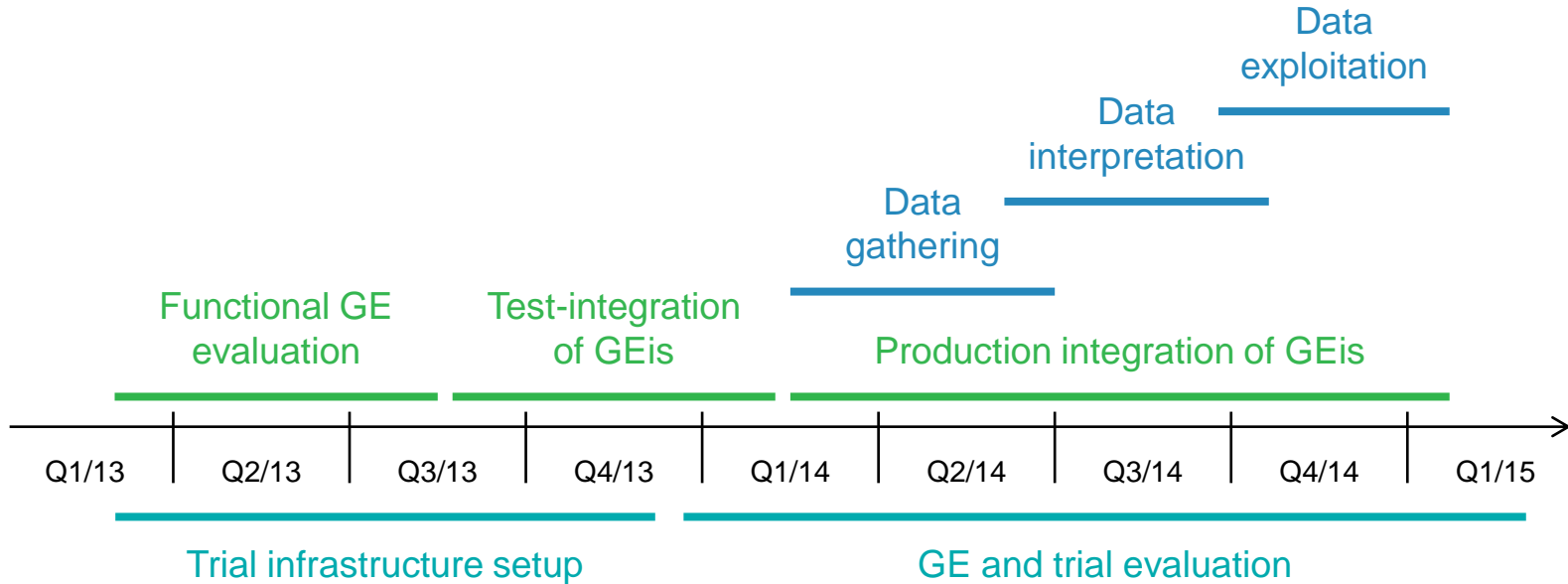
Good luck!

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