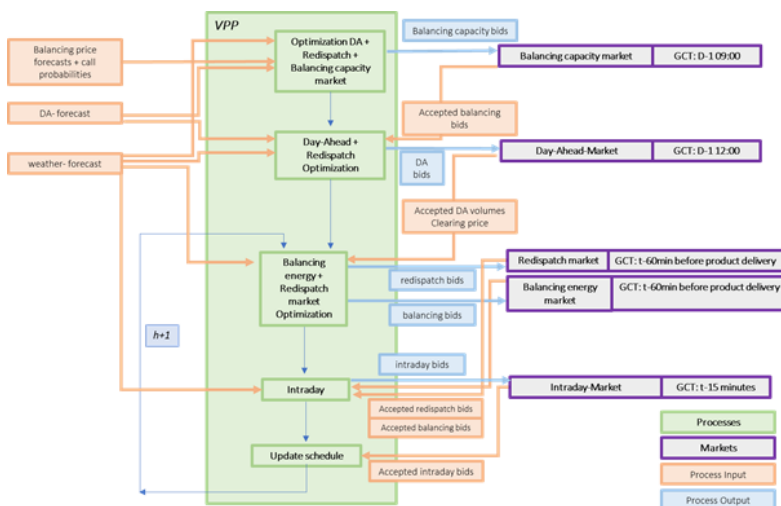


REgions

Full title of your project

“ Project regions will help us in the future to pick up the full potential of decentralized renewable energy generation systems and make them usable for markets ”

REgions will enable fluctuating renewable energies (RES) to further support the energy system on several levels: regional, interregional and the European markets. RES, mostly grid connected at lower voltage levels, can help stabilizing the regional grid if intelligently operated. In addition, RES can also contribute to the stability of the higher-level grids, e.g. by intelligently rescheduling their balancing bids in the event of re-dispatch. REgions will analyse how RES can support the stabilisation of the energy system by improving traditional Virtual Power Plants (VPPs) to include also regional and interregional services and further improve the participation on the markets. Therefore, the whole tool-chain of the VPP will be enhanced in REgions as well as the interaction of different VPPs on regional and interregional level: nowcasting of PV, price forecasts (intraday, imbalance, redispatch) as well as the probability of grid accurances (re-dispatch, congestion, voltage, balancing).



Picture: Sequencing of the different markets in Austria and interaction with the VPP

Project Duration

01.10.2019 - 30.09.2022

Project Budget

Total Budget: € 3,972,563.-

Funding: € 2,206,765.-

Project Coordinator

AIT Austrian Institute of Technology GmbH (Austria)

Project Partners

- BOKU - University of Natural Resources and Life Sciences, (Austria)
- Wien Energie GmbH, (Austria)
- UBIMET GmbH, (Austria)
- Fraunhofer IEE, (Germany)
- ENGIE GREEN, (France)
- ARMINES, (France)
- Hespul, (France)
- Artelys, (France)

Project Website

www.regions-project.info

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Main Objectives

The two overall objectives of the project:

1. Design of a new regional market and interregional coordination of VPPs for redispatch/voltage support based on technical, social and regulatory aspects as well as evaluation and test
2. Increase the coordinated support of fluctuating renewable energie sources (RES) to regional, interregional and European layers of ancillary services and markets

All other goals help to reach these overall objectives:

- a. Improve solar radiation and regional PV forecast and nowcast
- b. Improve price forecasts for intraday, imbalance as well as call probability of balancing reserve
- c. The interaction between the different layers of services and markets will be analysed for different configurations of the regional markets
- d. These markets will be integrated in the VPP optimisation as well as the VPP controller
- e. Regional market models will be designed together with the stakeholders (DSOs, TSOs, VPP-operators and the owners of the RES-units and municipalities and further owners of flexibilities) based on technical, regulatory assessments
- f. Simulate and include this regional market in a large-scale European model
- g. The interaction of the stakeholders on this regional market will be assessed
- h. The physical demonstration on existing power plants of the VPP is developed
- i. Demonstration of the interconnection of the VPPs to provide interregional services with a relevant amount of units
- j. Derive guidelines and exploitation strategy for the products and services of the stakeholders for the services of the three layers of markets/services

Expected Main Results

Demonstration and validation of the main goals (see above) of project Regions.

Joint Programming for Flourishing Innovation from Local and Regional Trials towards a Transnational Knowledge Community

www.eranet-smartenergysystems.eu



Universität für Bodenkultur Wien
University of Natural Resources
and Applied Life Sciences, Vienna



Non-funded partners:

