

Bulgaria



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Managing flexibility and DERs in a highly digitalised grid



Concept

Bulgarian pilot is dedicated to making it easier for the participants in the energy market to face the ever-growing challenges coming with the green transition. This is done by utilizing the cutting-edge technologies for the forecasts of the relevant system parameters and for the optimization of points for connection of the renewable sources and battery storages. In addition to all of this, the benefits that could be expected if these solutions were to be fully implemented are clearly demonstrated.

Key outcomes

- Improved forecasting algorithms based on the application of the artificial neural networks;
- Modified genetic algorithm for optimizing the connection points of generators and storage units;
- Codes for automatic pairing of the developed solutions with network and market models.

Impact/added value

- Better congestion management;
- Higher predictability of the system state;
- Enhanced maintenance scheduling;
- Improved risk assessment;
- Optimal connections of new units;
- Investment repurposing;
- Higher grid operational reliability;
- Stronger TSO-DSO coordination.

Time for deployment

1-2 years in case the decision is reached to move on with the practical implementation of the developed solution.

Potential users

- TSO;
- DSO;
- Market operators;
- Aggregators and users.

Lesson learnt

„Although general public may be slightly skeptical regarding the applicability of modern techniques in the established field such as the energy sector, we hope that our work has shown that we do not need to reject those, but to embrace and utilize them for well-being of all.” – SCBG, demo leader

Technology Readiness Level



Demo leader:



Demo partners:



Southeast European Technological Company Ltd



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