

Slovenia



Every second counts

Fast frequency response and dynamic system security via Digital Twinning



Concept

Main concept of the Slovenian demo is to develop a Dynamic Stability Assessment (DSA) tool that will provide close to real time data to control room operators and help them react to stability issues that might occur in the transmission grid. The tool is based on digital twin of transmission grid going beyond the national borders of the country, which is enhanced by detailed distribution digital twin taking into account different types of loads and distributed generation.

Key outcomes

- Developed transmission system digital twin covering Slovenia as well as relevant wider area of European transmission grid
- Developed distribution system digital twin modelling different types of loads and distributed generation
- Dynamic Stability Assessment tool providing near real time stability indicators to control room operators
- New Fast Frequency Response ancillary service being developed and tested using transmission system digital twin

Impact/added value

- Enhanced observability and controllability of transmission grid reducing the possibility of system wide stability issues by enabling faster and more efficient response of control room operators
- Higher resilience of the grid by implementing new Fast Frequency Response service to be used in critical situations

Time for deployment

DSA tool will be tested in the final year of the project and deployed in full operation in two years after project completion

Potential users

- TSO control room operators

Lesson learnt

„DSA tool will enable control room operators a user friendly close to real time information about the status of the stability of the grid enabling them a timely response in critical situations” – Gregor Omahen, demo leader

Technology Readiness Level



Demo leader:  **ELES**

Demo partners:  **hse**



FE

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