

DEMO 6

Slovenia

Located in Gorenjska region
- including MV/LV substations and
local DSO grid operated by
Elektro Gorenjska

Technology

Slovenia's demo leverages edge-based Dynamic Thermal Rating (DTR) and Dynamic Line Rating (DLR) systems integrated into substations to enhance grid situational awareness. These systems collect real-time data through intelligent sensors, GIS layers, and environmental models.

AI-powered tools process this data to support predictive grid planning and automation while a unified semantic modeling layer ensures interoperability between heterogeneous data sources and grid components.



Key Use Cases

- Real-time dynamic thermal and line rating
- Asset lifetime extension through predictive analytics
- Enhanced visibility of LV networks with edge sensors
- Semantic data fusion for operational decision-making
- Autonomous grid resilience management using AI

HEDGE-IoT Tools Involved

- PowerCIM semantic integration and mapping services
- ML-based services for DER hosting capacity and grid forecasting
- Edge analytics components for DTR/DLR execution
- Data exchange and monitoring platform for real-time grid status
- Secure interoperable middleware enabling cross-domain data flow

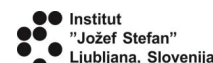


Target Audience/Beneficiaries

- TSO using predictive and AI-based analytics for enhanced grid monitoring
- DSOs and operators benefiting from dynamic line ratings and automated substation intelligence
- Grid planners and engineers accessing detailed semantic models and enhanced data integration
- Citizens and energy communities indirectly benefiting through improved grid stability



Partners involved



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