

SERVICE DE METROLOGIE NUCLEAIRE
RELIABILITY AND SAFETY OF POWER SYSTEMS

MASTER THESES

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**Improvement of the quality of the forecasts for congestion management in power systems
(in collaboration with Elia)**

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For master thesis and internship

Context & objectives

Elia is the operator of the Belgian high-voltage grid from 380 kV to 30 kV with the mission to lead the way in the energy transition by developing diversified, sustainable and reliable on- and offshore electricity systems that open up new possibilities.

We develop, build and maintain our transmission grid according to long-term needs. We heavily invest in the integration of renewable energy, the development of an on- and offshore high-voltage grid and the construction of interconnectors to facilitate the integration of the European energy market. By doing so, Elia Group drives the transition to tomorrow's energy system.

Work description

In the framework of a CREG incentive, Elia is performing a root cause analysis on deviations in several forecasts (load, wind, solar, CHP, ...) compared to real time. Based on this analysis Elia will look into possible solutions in order to improve the forecast quality. This improvement can be done in the infeed data (data needed to build a forecasting model), the model itself or the translation of the resulting forecast in data to be used in other processes.

After the summer, Elia will have a clear view on possible solutions with a prioritization for implementation (short-term versus roadmap towards the future).

The goal of the thesis would be to collaborate with Elia on some short-term implementations, which will probably include data analysis and modeling.

