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50Hertz & Energinet Research Challenge: Accelerating speed from Research to (System) Operations

The cooperation dynamics between research/academia and industry don't fit the current need and speed triggered through the energy transition. Research tenders' volumes are generally too large, and the questions asked are too complex. This in turn leads to multi-year long research projects, time the industry simply doesn't have. Often enough, on top of that, the industry is not providing the necessary resources for a speedy solution, such as data, real-life projects, experts or test environments. 50Hertz' and Energinet's new „Research Challenge for Innovation in Power Systems” will put an end to that. This challenge will limit the scope of the tender while simultaneously provide the necessary resources the research partners need. The objective is to help research partners to produce tangible results, i.e. applicable within the control room, within a year.

A Clear Objective & Tangible Support

Elia Group owns two transmission system operators (TSOs): Elia Transmission Belgium (ETB) and 50Hertz in the north and east of Germany. Together, ETB and 50Hertz own and operate their high-voltage grids, ensuring that the production and consumption of electricity are balanced around the clock, and supplying 30 million end users with electricity.

Energinet is an independent public enterprise owned by the Danish Ministry of Climate, Energy and Utilities. They own and develop the backbone of the Danish electricity and gas supply: the large high-voltage power lines and gas pipelines that deliver electricity and gas to the energy providers.

As TSOs, both act in the interests of society by providing it with a robust power grid and driving the energy transition: they are working on establishing a reliable, sustainable and affordable energy system.

The growing challenges in system operations, including monitoring, control, data management, forecasting, and grid analysis (such as accelerated load flow calculations), demand a faster and more agile approach to collaboration with research institutions.

Elia Group and Energinet want to shorten the time from R&D to operational implementation. To do this, we propose a new agile and dynamic way of cooperation between TSOs and researchers.



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Focus areas and research questions

The five priority areas for the Elia Group Open Research Challenge are:

- 1. Monitoring
- 2. Control
- 3. Data
- 4. Grid Analysis
- 5. Grid Forecasting

The ultimate goal of the Research Challenge is to reduce the time from R&D to operations. With increasing amounts of RE that needs to be integrated into our grids, society faces new challenges that call for new solutions. By bringing together system operators and researchers, Elia Group and Energinet can accelerate this transition.



Mirko Pracht, Product Director Grid, Asset & System and Lead Digitization System Control "The Research Challenge for Innovation in Power Systems is a strong commitment from Elia and further leading TSOs to acknowledge the importance and necessities of research initiatives. We will collaborate with research partners without compromise and provide resources such as knowledge, staff, and funds to produce results for the control room within a year."



Stay Up to Date

Please read up on the Research Challenge and keep yourself up to date at this link:



<https://innovation.eliagroup.eu/en/how-we-work/research-challenge>



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