

Korea-EU Horizon Europe Researchers Networking Forum on Energy & Advanced Mobility

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• **Research &
Innovation Lead**



• **Machine Learning -
AI**



1. Short Introduction of your Organization

FOR ALL PRESENTERS

- ULB
- **Research excellence:** 4 Nobel Prizes, 1 Fields Medal, 3 Wolf Prizes.
- **Active in 150+ European projects, including 49 ERC grants.**
- ULB provides institutional support for European grants: proposal setup, incentives, and grant writing assistance.

- The Machine Learning Group was **established 20+ years ago**; team of 5 PIs and 20+ members (PhDs, postdocs, affiliates).
- Core member of:
 - TRAIL AI Institute (Wallonia-Brussels AI initiative)
 - FARI – AI for the Common Good Institute. (VUB & ULB)
 - IB² - Inter-university Institute of Bioinformatics. (VUB & ULB)
 - CAIRNE - The Confederation of Laboratories for Artificial Intelligence Research in Europe.
 - **Key player in the Belgian AI and Data Science ecosystem.**



2. Expertise

FOR ALL PRESENTERS

ML & AI FOR

- Forecasting and time series prediction
- Scalable analytics and big data mining
- Optimisation
- Causal inference and computational statistics
- Anomaly detection
- Multi-agent systems, and collective intelligence
- Game theory, decision-making models
- Bioinformatics

PAST APPLICATIONS

- **Energy**, finance, neuroscience, traffic, fraud detection, cybersecurity, predictive medicine and **digital twins**.

CURRENT INTERESTS

- AI for societal impact: safety, health, **energy systems, smart grids, and**
- **virtual power plants**.

3. Your Project Idea

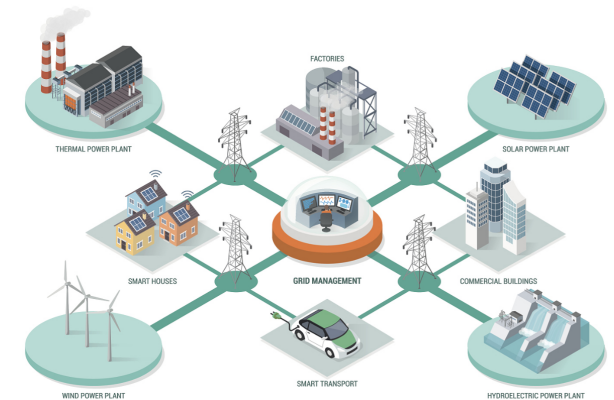
Enabling technologies for a

“Sustainable, Secure, and Competitive Energy Supply”

HORIZON-CL5-2026-03-D3-23:

AI-driven forecasting algorithms for Grid and Consumer friendly Energy Sharing

- **Renewable Energy Forecasting:** AI-driven models for wind/solar generation.
- **Energy Load Prediction:** Adaptive demand forecasting systems.
- **Grid Optimisation:** Dynamic line rating and intelligent control.
- **Transfer Learning for Smart Grids:** Cost-effective monitoring with fewer sensors.
- **Energy Storage Optimisation:** AI strategies for battery use and grid integration.
- **Consumer-Centric Forecasting:** Personalised demand prediction.
- **Behavioural & Cooperative Models:** Human-AI decision mechanisms for energy sustainability and fairness.
- **Virtual Power Plant Simulation.**
- **Forecasting and market participation models.**
- **Digital Twin Development:** Virtual system-wide simulations for infrastructure optimisation.





4. Profile You are Seeking and Why

We are Machine Learning - AI experts...

Looking to join a consortium with:

- Research complementary.
- Domain knowledge in energy grid technologies, energy contracts, etc.
- Interesting Use Cases.
- Loads of data.



5. Contact Details

THANKS FOR YOUR ATTENTION, PLEASE CONNECT WITH US FOR FUTURE COLLABORATIONS.



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