



FORTISSIMO  
PLUS

## FFPLUS SUCCESS STORY: INNOVATION STUDY

# GENAI-BASED CO-PILOT SUPPORTING ENERGY TRANSITION BY LEVERAGING HPC

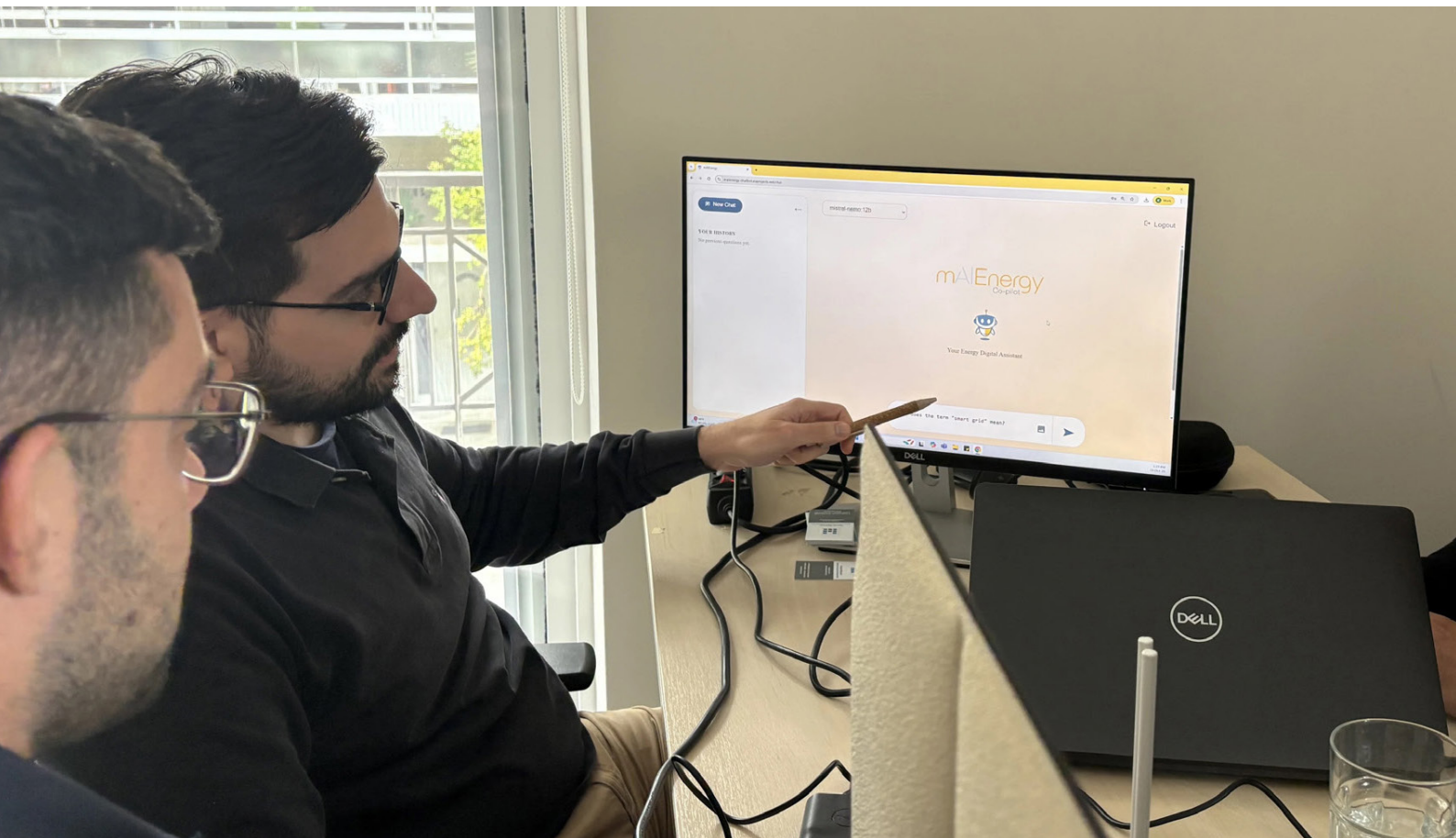
## ORGANIZATIONS

**UBITECH** is a Greek SME specialising in explainable, high-performance Generative AI and LLM-based conversational systems for the energy sector. Its solutions operate in 15 countries, supporting 31 languages and handling over 580,000 “dialogues” per month. **The University of Innsbruck** has expertise in HPC, AI and digital twin technologies for energy systems, while **FEN Research** focuses on applied R&D on climate-neutral, electricity- and hydrogen-based energy solutions.



## THE CHALLENGE

Europe’s clean energy transition depends largely on active citizen participation, yet energy literacy remains low. Consumers struggle to understand energy markets, incentives and efficiency options, while energy professionals lack effective digital tools to explain complex topics clearly. General-purpose LLMs could not capture the detailed regulatory and contextual aspects of the energy domain, and building a reliable Energy Copilot required large-scale, multimodal training beyond commercial cloud capacity.



**Technology used:** HPC, GenAI, Data Engineering, LLMs  
**Industry Sector:** Energy

## THE SOLUTION

The innovation study developed mAIEnergy, a GenAI Energy Copilot powered by EuroHPC resources. Using LEONARDO, the consortium trained and fine-tuned energyspecific language models on large multimodal datasets. A Retrieval-Augmented Generation pipeline was created that links to curated expert knowledge, ensuring accurate, explainable and continuously updated guidance for citizens and the energy industry.

## THE IMPACT

mAIEnergy strengthens UBITECH's business position by enabling a transition from small-scale cloud experimentation to a commercially viable, HPC-enabled AI solution. Access to HPC infrastructure has significantly reduced training times, and enabled greater model accuracy, supporting new B2B partnerships with energy retailers, aggregators and public authorities across Europe.

Socially, the Energy Copilot improves energy literacy by translating complex policies, incentives and market mechanisms into clear, personalised guidance, empowering citizens to make informed choices. This supports behavioural change, increased participation in energy communities and more efficient energy use.

Environmentally, mAIEnergy contributes to EU climate objectives by supporting energy efficiency, renewable adoption and carbon reduction, while also demonstrating how transparent, European AI innovation can strengthen digital sovereignty in the clean energy domain.

## BENEFITS

- Up to 90% reduction in model training time using EuroHPC resources.
- Improved response accuracy through domain-specific fine-tuning.
- Efficient large-scale GPU utilisation enabling faster experimentation.
- Transformation of a prototype into a scalable SaaS offering.
- Reusable and transparent open-source knowledge repository for energy AI ecosystem.



**EuroHPC**  
Joint Undertaking