



FORTISSIMO
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FFPLUS SUCCESS STORY: INNOVATION STUDY

ENHANCING EXPLAINABLE AI FOR INVESTMENT MANAGEMENT WITH LARGE LANGUAGE MODELS

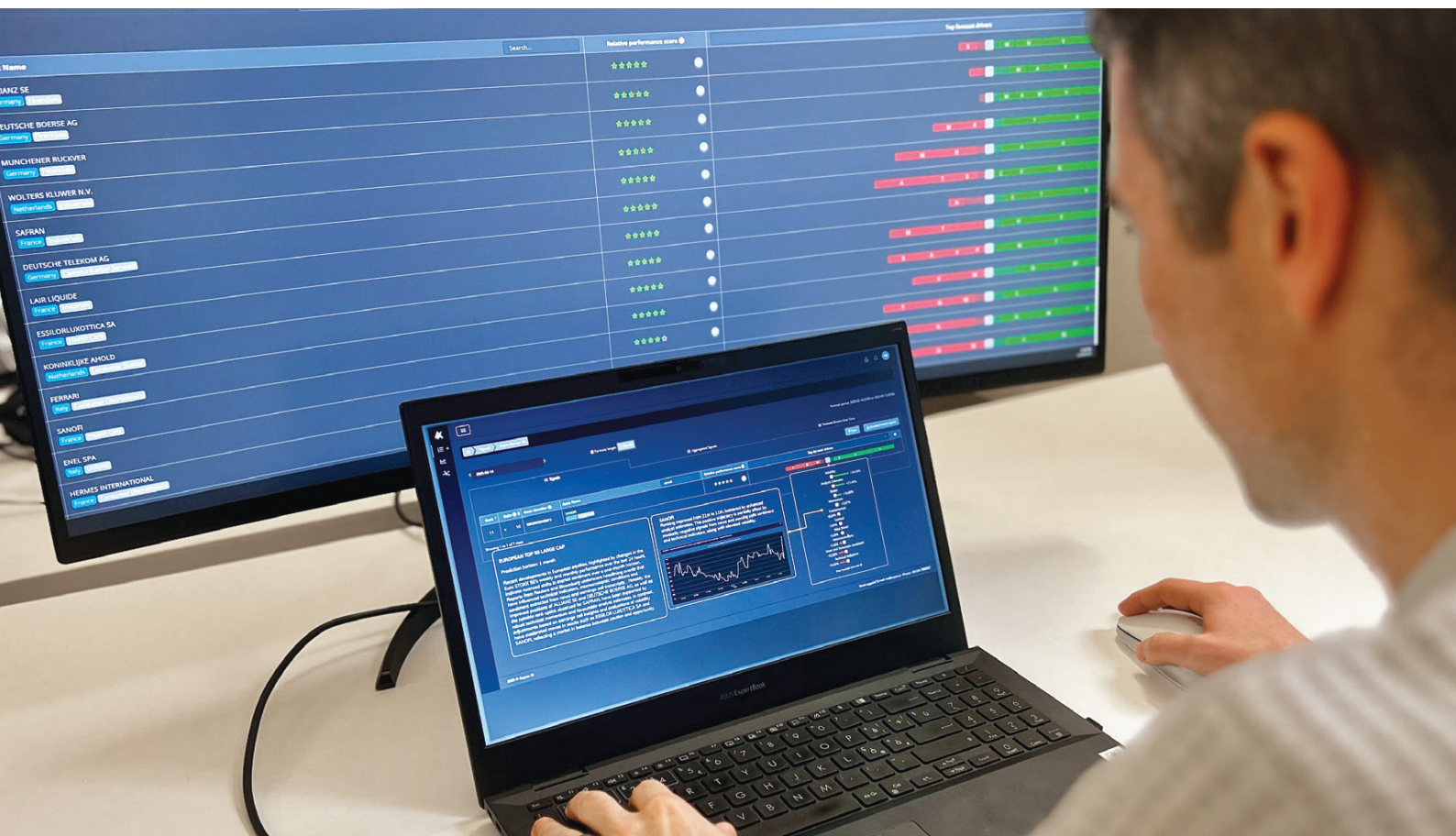
ORGANIZATIONS

Axyon AI is an Italian fintech SME delivering AI-driven predictive analytics for quantitative investment strategies. The company supports asset managers with forecasting, portfolio construction and risk analytics based on advanced machine learning. **UNIMORE-ImageLab** at the University of Modena and Reggio Emilia contributed deep learning and multimodal AI expertise, supporting model training, evaluation and benchmarking within a high-performance computing environment.



THE CHALLENGE

Axyon AI produces rich predictive outputs, but turning technical model insights into clear, consistent narratives was a bottleneck. Analysts spent significant time preparing explanations, while compliance teams required auditable, reviewable documentation. Improving explainability was therefore both scientific and commercial: greater transparency was essential to unlock regulated markets, accelerate adoption and strengthen trust.



Technology used: HPC, GenAI, Data Engineering
Industry Sector: Fintech

THE SOLUTION

Using EuroHPC resources, the partners developed a financial-domain large language model that converts quantitative forecasts, SHAP attributions and market context into clear, human-readable explanations. Fifteen models were benchmarked using an HPC-enabled evaluation pipeline and LLM-as-a-Judge scoring. Selected open-weight models were fine-tuned with parameter-efficient methods such as LoRA and mixed-precision training. Outputs were structured for review by analysts and compliance teams.

THE IMPACT

Enhanced explainability materially strengthens Axyon AI's competitive position within the highly regulated investment management sector. By converting complex quantitative outputs into structured, auditable narratives, the solution reduces the time analysts and compliance officers spend preparing model documentation, lowering operational cost per mandate. Clearer explanations accelerate institutional due diligence, shorten sales cycles and increase confidence during risk committee and model validation reviews. This enables entry into more strictly regulated market segments that require defensible AI governance and transparent model behaviour. Socially, improved interpretability increases transparency for end-investors and supports more accountable decision-making across the investment value chain. Standardised explanation workflows also foster stronger collaboration between data scientists, portfolio managers and compliance teams, improving internal governance and reducing operational friction as the company scales.

BENEFITS

- Up to 55% improvement in explanation quality compared to base models.
- Addressable market has expanded from ~10% to ~25% of investment firms.
- Efficiency gains of ~1 FTE-month achieved per client per year.
- 48,000 EuroHPC GPU-hours enabled scalable benchmarking and training.
- Strengthened collaboration with UNIMORE-ImageLab and NCC Italy.



EuroHPC
Joint Undertaking