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From Hourly to Quarter-Hourly: Hypermeteo supports the evolution of the Power System

Starting in 2025, the Italian power system will manage energy trading and balancing on a quarter-hourly basis, in line with European regulations.
In this new context, Hypermeteo has upgraded its technologies to support the entire energy sector, further enhancing the accuracy of its weather and climate datasets.

By implementing **EU Regulation 2017/2195** (Electricity Balancing Guideline) and the new **Testo Integrato del Dispacciamento Elettrico** (TIDE) issued by **ARERA** (Autorità di Regolazione per Energia Reti e Ambiente), as of January 1, 2025, Italy has aligned with European electricity market standards, which require the management of energy exchanges and imbalances (deviations from the equilibrium between energy injected into and withdrawn from the grid, entailing costs and risks for operators) on a **quarter-hourly** basis (every 15 minutes).

The **quarter-hourly granularity** marks a true paradigm shift for the Italian power system, enabling more accurate forecasting and improved risk management for producers, traders, aggregators, and consumers, who can now access more detailed information on energy production and consumption.

High-resolution weather forecasting represents one of the key elements in the management of dispatching and balancing processes, particularly given the growing share of renewable energy generated from non-programmable sources such as solar and wind.

Hypermeteo is supporting this transformation in the energy sector by enhancing the accuracy of its **forecasting, historical, and near real-time datasets**. This improvement is achieved through the use of

more advanced technologies, broader data sets, and the integration of physical and statistical models with real-world observations from weather stations, radars, and satellites.

Among the key innovations stands out **HFSENS – Hypermeteo Forecast System Ensemble, a multi-model system with quarter-hourly resolution** that extends medium-term forecasts and ensures greater precision and timeliness of information. The nowcasting system (very short-term forecasting) has also been refined, particularly for solar radiation and wind speed, which are crucial parameters for optimizing renewable energy production.

Hypermeteo's solutions are widely adopted across the energy sector as they deliver tangible and immediate benefits, including: more **accurate estimation of renewable generation and energy consumption, more efficient imbalance management, enhanced operational and strategic decision support to mitigate the impact of severe weather events, and improved forecasting for energy trading**.

« Hypermeteo aims to strengthen its role as a strategic partner for the entire energy sector," states Gianluca Ferrari, Co-founder and Chief Data Analysis Officer, "by providing advanced forecasting and analytical technologies to support an increasingly renewable, dynamic, and complex power system.».

COMPANY PROFILE | HYPERMETEO

An innovative startup that develops high-resolution weather and climate datasets — historical, real-time, and forecast — along with climate indices and scenarios, supporting all industrial sectors in managing their interaction with climate change.

The quality of its data and services is certified under ISO 9001 and ISO/IEC 25000.