i-EM

Intelligence in Energy Managemen
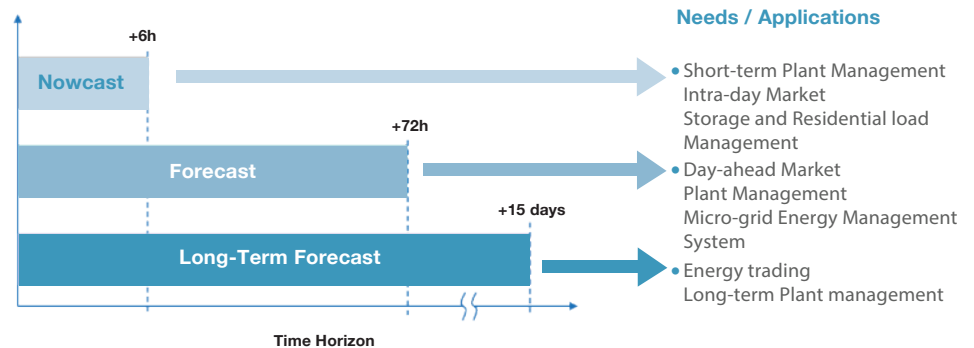
RES2Grid

Renewables To Grid

Solar and Wind Power Forecast

Know the future, increase your efficiency, optimize your costs

Added value to weather data

The i-EM suite of Forecast services produces precise information about plant, portfolio or regional power production processing by proprietary NWP models and 3d party Weather Data.
High value benefits for energy producer, system operators and energy traders.

Needs / Applications

+6h

Nowcast

+72h

Forecast

+15 days

Long-Term Forecast

Time Horizon

- Short-term Plant Management
  Intra-day Market
  Storage and Residential load Management
- Day-ahead Market
  Plant Management
  Micro-grid Energy Management System
- Energy trading
  Long-term Plant management

www.i-em.eu

Service Description

The i-EM models fuse several kinds of raw data as inputs: numerical weather prediction data (third parties and proprietary), satellite optical imagery, and (if available) on-site data from ground-based measurements. According to the customer's specific requirements and data availability, the best combination of algorithms configures automatically to provide the most precise forecast.

The advanced IT infrastructure ensures high service reliability and flexibility.
Outputs can be delivered through any format along with the possibility to visualize on a user-friendly Business Intelligence dashboard.

Performance

The i-EM services are recognized by our customers as a best-in-class solution.
Continuous up-to-date artificial intelligence techniques allow us to uphold the highest performance level.
i-EM services comes with the power forecasts accuracy assessment.

Our Customers

i-EM provides worldwide competitive and innovative management services.
About 50 plants adopted our solution to optimize its performance and a lot of customers have already chosen our solution:

>> Energy Producers
>> Energy Traders
>> Transmission and Distribution System Operators (TSOs, DSOs)

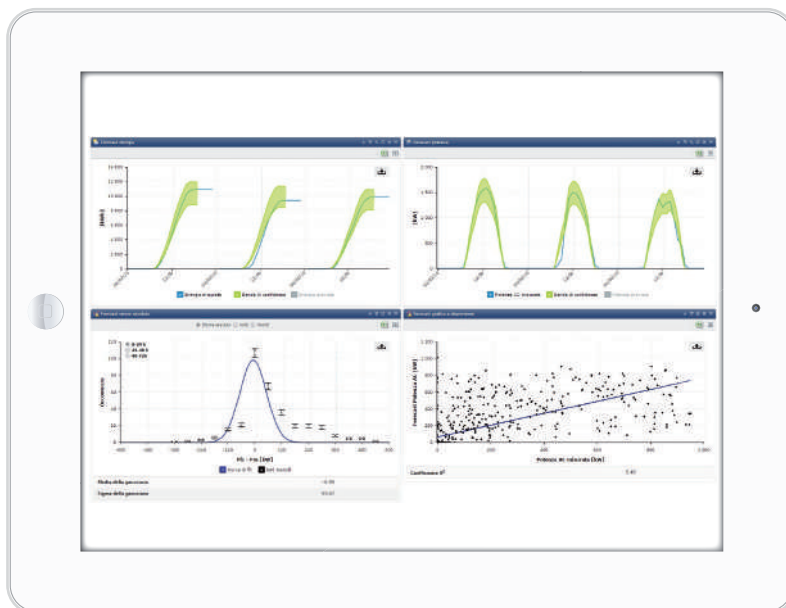![i-EM logo]

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Key Features

Data analytics expertise

>> Artificial Intelligence Model

>> Physical Model

>> Ensemble Forecasting (improved performances)

>> Probabilostic Forecasting (risk assessment)

>> Up-to-date services: most recent AI techniques implementation

>> Multiple Sources data aggregation

>> Flexibility: best solution according to data availability

IT and service delivery

>> Software as a service solutions (SaaS)

>> Several daily updates (up to 24)

>> Time and spatial resolution: from 15 minutes to 1 hour, from plant to portfolio

>> Any data format delivery

>> Any delivery area (FTP, mail, etc.)

>> i-EM operators support

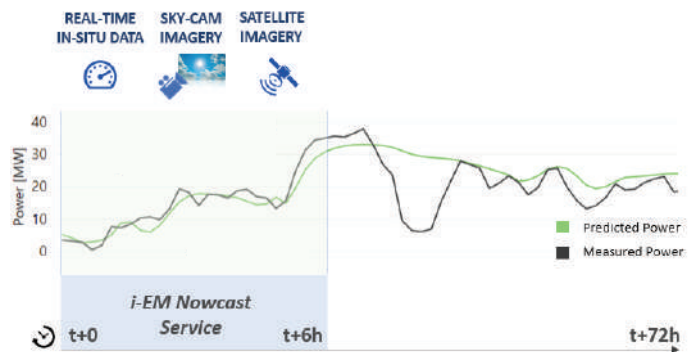>> User-friendly Business Intelligence dashboard output visualization

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Nowcast

Improved short-term forecast using real-time data. Solar and Wind power forecast up to 6 hours ahead can be highly enhanced exploiting real-time data:

>> Real-time Satellite solar irradiation data
>> Cloud Motion from real-time ground based
>> Sky Camera images processing

Our Artﬁcial Intelligence models are tailored to improve intra-day market, operational and system operators' activities.
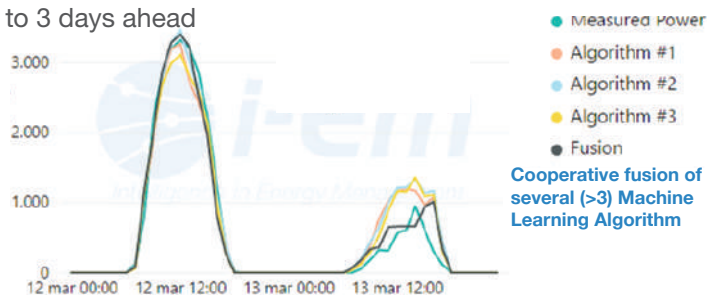

Forecast and Long-Term Forecast

Improved forecast and long-term forecast thanks to cooperative fusion of Artificial Intelligence algorithms. The use of 3d party weather forecast data and proprietary Numerical Weather prediction model in a Machine Learning cooperative framework, allow us to provide:

>> accurate solar and wind power forecast up to 3 days ahead
>> long-term forecast up to 15 days ahead

This i-EM service already demonstrated his reliability compared to the market world leaders' services, that decided to adopt it.

Cooperative fusion of several (>3) Machine Learning Algorithm

Regional/ Portfolio Forecast

A novel forecast solution tailored to Energy Traders specific requirements. The solution provides accurate regional and/or portfolio solar and wind power forecast up to 15 days ahead. Best combination of weather data and power production data in an Artificial Intelligence framework allow us to give accurate forecast. Finally, the energy traders improve their activities and optimize revenue.

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