



Demand Forecast AI forecasting solution

Boosting the energy transition



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**Ogre is a technology company
specialized in Forecasting and
Energy Management**

Mission

Revolutionize the energy sector with cutting-edge AI forecasting and energy management technology, providing comprehensive, integrated solutions that enhance efficiency, reliability, and sustainability across the entire energy value chain.

Vision

To be the global leader in AI-powered energy solutions. We envision a future where our integrated solutions platform seamlessly connects all facets of the energy value chain, from generation and distribution to consumption, driving innovation, reducing environmental impact, and creating value for all stakeholders.



Why Ogre



Expert Team

Our team boasts exceptional industry and AI / ML expertise together with academic and professional resources, with professorship at Oxford University and gold medalists in both international mathematics and informatics Olympiads.



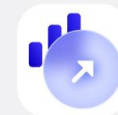
Applied knowledge

We have vast expertise in both electricity and gas sectors, with applied knowledge across the whole value chain: generation, supply and transport and distribution. We work with very large utilities such as ENEL, Engie and E.ON.



State of the Art Forecast Engine

Utilizing the forefront of AI innovation, our forecasting tool is ahead of the curve and produces a customized forecasting engine for every asset or every consumer of every supplier, sometimes producing millions of individual engines for a single client.



Data Proficiency

We excel in integrating complex systems. We are not just data users but creators, boasting proprietary data sources including an in-house developed meteorological model that enriches our forecasting capabilities.

Challenges Faced by Energy Operators

Real-Time Data Processing

EV adoption

Market Regulations

Energy Transition

Short term variability and ramp events

Balancing market penalties

Forecast horizon challenges

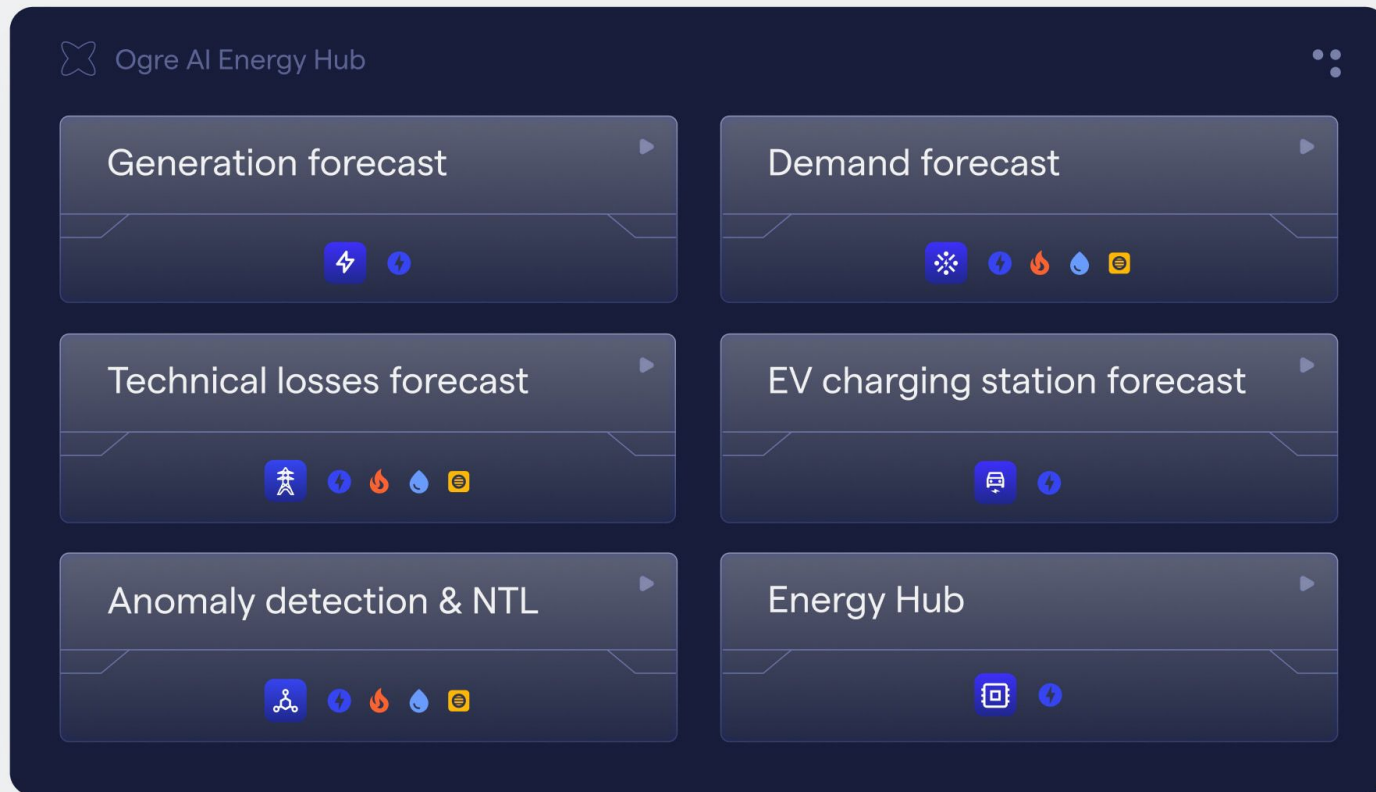
RES adoption

Data Quality and Availability

Our integrated platform offers a diverse range of AI modules, uniquely tailored for the needs of our valued partners

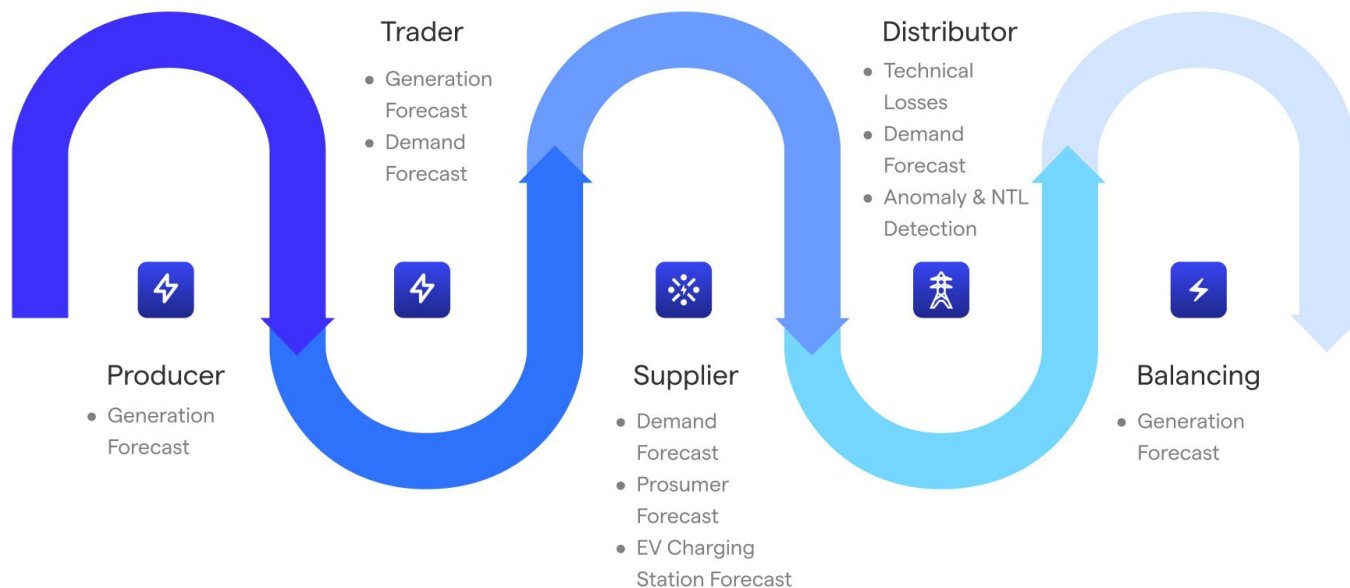
Our utilities industry and machine learning expertise can be leveraged to integrate complementary AI modules, seamlessly adapted to different domains or players and with a clear eye on scalability

Every module is a product in itself, and we are already selling and integrating them for some of the world leading utilities.





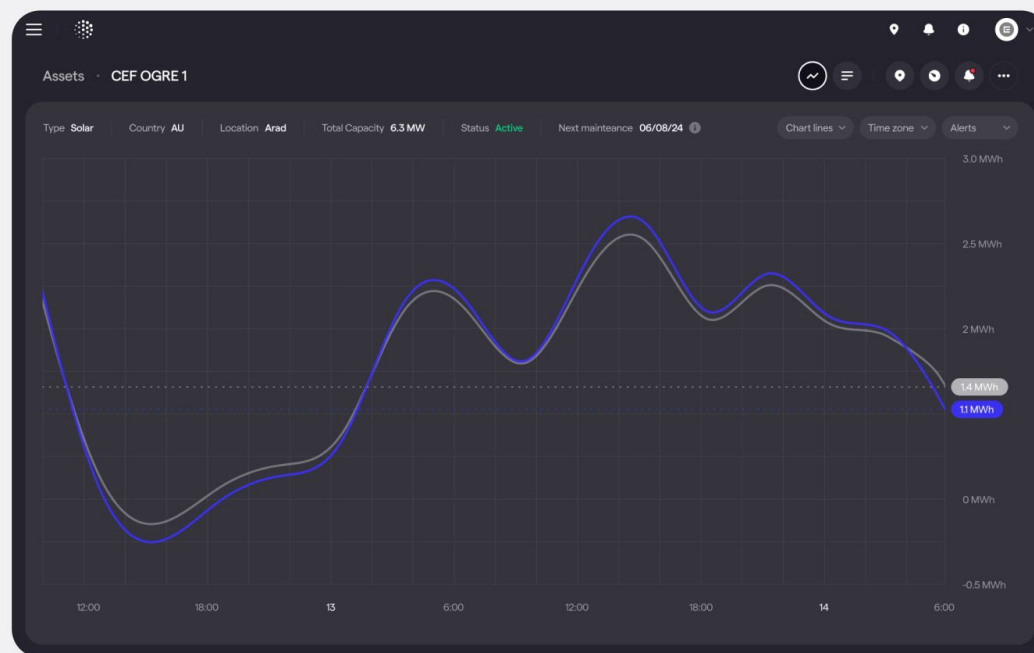
Comprehensive Coverage: spanning the entire Energy Value Chain from Generation to Consumption



Demand Forecast Module

This module supports energy market operators to accurately forecast Demand / Load and provides built in reporting support

Our solution leverages advanced analytics, AI, and machine learning to provide precise energy demand forecasts. By analyzing historical data and incorporating real-time inputs, we empower utilities to optimize their operations and reduce costs



Demand Forecast Module



Features

- Reporting
- Weather, economic & social data integration
- Consumers, Clusters, Segments forecasting
- Advanced AI algorithms
- Historical Data visualization
- Performance tracking & Forecast accuracy metrics
- Role-based access control
- Notifications & Alerts
- Continuous Learning
- Prosumer Integration

Benefits

Enhanced economic efficiency

Allows for more strategic energy purchasing decisions while suppliers can buy energy at the most favourable prices and optimize their portfolios.

Enhanced consumer service

Allows for tailored demand response programs and improved customer satisfaction with cost-effective services

Facilitation of RES adoption

Operators can better manage the variability associated with renewable energy generation, ensuring that the grid can accommodate these sources without compromising reliability.

Accurate demand predictions

Our proprietary AI algorithms offer precise predictions of energy demand.



Background

The supplier needed a forecasting solution for accurately predicting the consumption of its 3.4M consumers in order to reduce balancing costs and boost profitability

Challenge

We were faced with a very limited implementation duration for our project, due to extremely complicated local market conditions - Ukraine war at the border and unfavourable regulations

Solution

For this supplier we have implemented our full stack solution composed of the data integrations and data management modules, our leading AI forecast engine and the Ogre reporting tool.

The full solution for 3.4M consumers was implemented in just a few months, within our partner's Azure cloud infrastructure system.

Results

26% Forecast error reduction

2-6% MAPE 15 mins

1-2% MAPE monthly

Testimonial

"The AI-driven solution we adopted to address profit margin problems has been transformative for our energy company.

The impressive efficiency gains and heightened sustainability practices have placed us at the forefront of innovation."

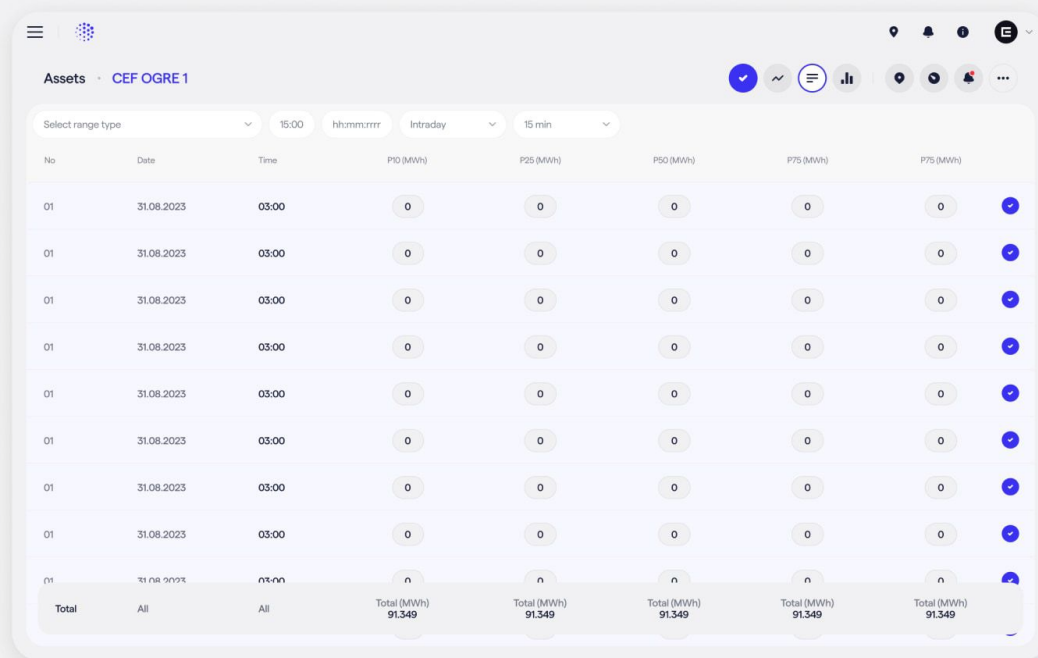


Claudia Griech
CEO

Prosumers Forecast Module

Our platform offers a cutting-edge AI module that effortlessly forecasts and integrates prosumers into the consumption portfolios of energy suppliers.

Our solution boasts leading predictive analytics and AI to anticipate the production and consumption patterns of prosumers and helps to smartly allocate resources when and where they are needed.



The screenshot displays the 'Assets' section for 'CEF OGRE 1'. It features a table with columns for 'No', 'Date', 'Time', and five forecast categories: 'P10 (MWh)', 'P25 (MWh)', 'P50 (MWh)', 'P75 (MWh)', and 'P75 (MWh)'. The data is for the date 31.08.2023 at 03:00. The table shows multiple rows of data, all with values of 0. A 'Total' row at the bottom shows a total of 91,349 MWh for each category. The interface includes a top navigation bar with a hamburger menu, a search icon, and a user profile icon. Below the navigation bar, there are filters for 'Select range type', '15:00', 'hh:mm:ss', 'Intraday', and '15 min'.

No	Date	Time	P10 (MWh)	P25 (MWh)	P50 (MWh)	P75 (MWh)	P75 (MWh)
01	31.08.2023	03:00	0	0	0	0	0
01	31.08.2023	03:00	0	0	0	0	0
01	31.08.2023	03:00	0	0	0	0	0
01	31.08.2023	03:00	0	0	0	0	0
01	31.08.2023	03:00	0	0	0	0	0
01	31.08.2023	03:00	0	0	0	0	0
01	31.08.2023	03:00	0	0	0	0	0
01	31.08.2023	03:00	0	0	0	0	0
01	31.08.2023	03:00	0	0	0	0	0
01	31.08.2023	03:00	0	0	0	0	0
Total	All	All	Total (MWh) 91,349	Total (MWh) 91,349	Total (MWh) 91,349	Total (MWh) 91,349	Total (MWh) 91,349

Prosumers Forecast Module



Features

- Generation forecasting
- Historical data visualization
- Reporting
- Demand forecasting
- Access to prosumers realtime data
- Environmental impact metrics
- Prosumer integration in consumer portfolio
- Weather integration
- Continuous Learning

Benefits

Optimized energy trading & pricing strategies

Suppliers can implement more dynamic and flexible pricing models enhancing competitiveness and potentially increasing market share.

Improved customer retention

Provides insights into prosumer behaviours & preferences, enabling energy suppliers to offer custom services, incentives, and tariffs.

Reduced operational costs

Reduces the need for expensive peak generation resources by allowing suppliers to rely more on prosumer-generated energy during times of high demand.

Enhanced grid management

Allows for more effective grid management, ensuring a balance between supply and demand.

Business Model Overview - from Pilot stage to Yearly license

Test

Pilot program

Limited to 1-3 months



Ogre solution

Yearly Subscription

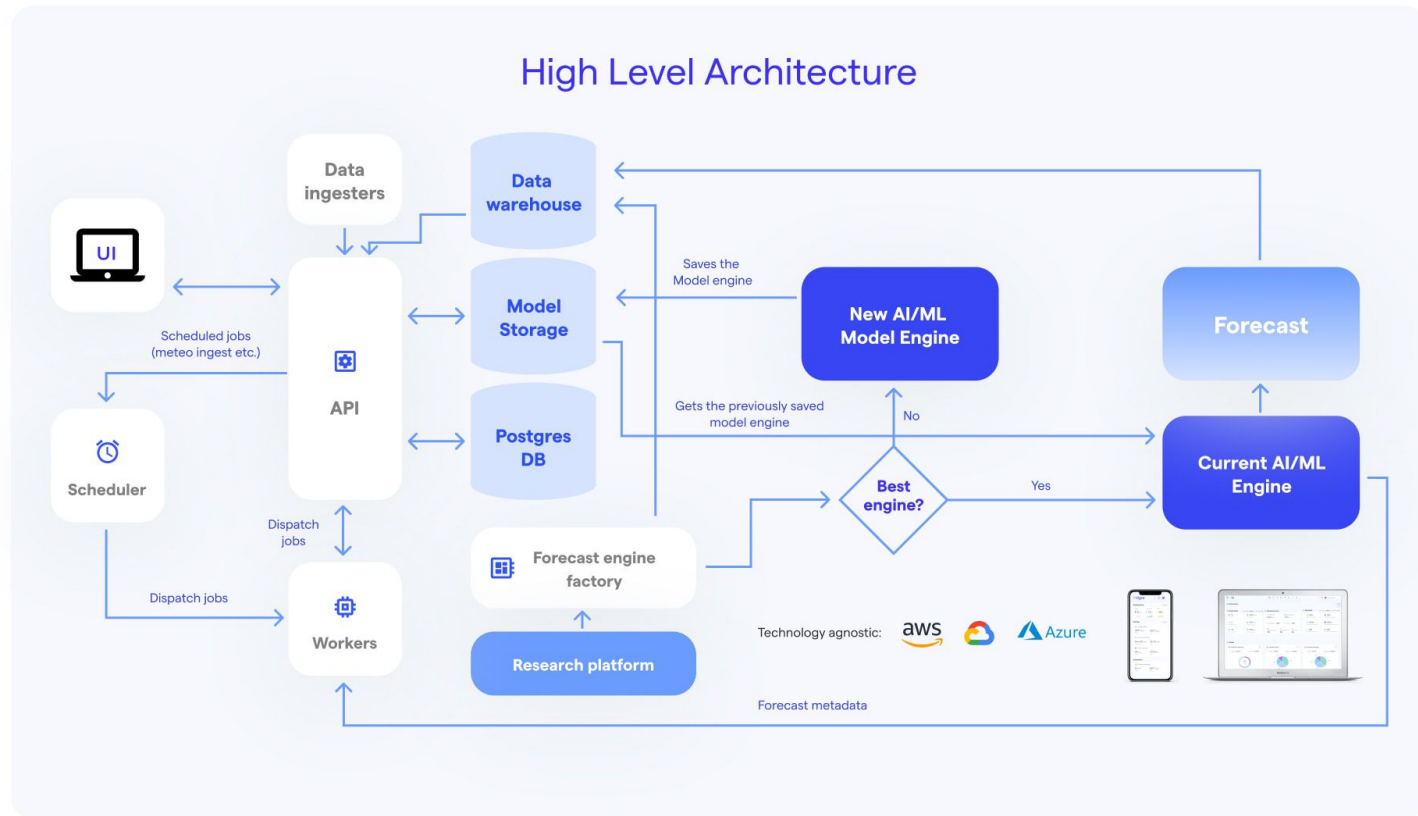
- Unlimited usage
- One time payment for integration
- Monthly / Yearly / Multi-Year Payments

Flexible pricing

Opex vs. Capex



Ogre Platform keeps cost at a minimum while still delivering results and optimal performance of our systems and machine learning proprietary models





Ogre Forecasting Engine is an assembly of individual smaller pieces, that can have various roles in the Forecasting Process

Data Set calibrators:



- Some data sets need specific calibration to incorporate client specific information.
- E.g calibrating the meteorological data for a specific geography terrain or equipment properties.

Data processing:



- Data is processed in a format compatible with forecasting algorithms.
- This includes removing atypical or erroneous data, and/or performing other cleaning and processing operations. Automated processing is essential.

Data set ingestors:



- To make accurate forecasts, Ogre forecast engine needs relevant and comprehensive historical data.
- This data can be collected from several sources, such as databases, smart meters or consumption monitoring devices.

Model Aggregators:



- Given a set of sub-engines compute an ensemble forecast by various methodologies, ranging from simple model stacking to more complex aggregation neuronal networks.

Forecast Algorithms:



- The core of the Ogre forecast engine
- Used to generate forecasts and predictions based on historical data.
- Various types: linear regression algorithms, machine learning algorithms or time series algorithms

Forecast Transformations:



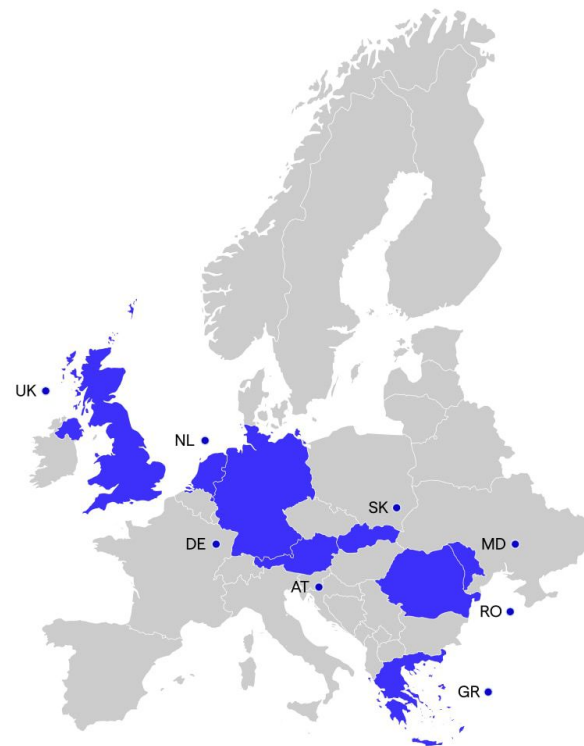
- Smoothing, regularizations and other transformations of the forecasting time-series to respect given constraints that are imposed by client specifications and technical knowledge.





We have a presence in several European markets

Providing accurate forecasting for energy companies in the UK, Netherlands, Germany, Austria, Greece, Romania, Slovakia, Moldova



We have all the relevant ISO certifications



Certificate S-MC
nr. 2906, SR EN
ISO 45001:2018



Certificate SI-MC
nr. 1103, SR EN ISO
27001:2018



Certificate M-MC
nr. 3517, SR EN ISO
14001:2015



Certificate C-MC
nr. 3286, SR EN ISO
9001:2015



Certificate
SR EN
ISO 37001:2016



The AI platform for energy management



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