Ogre

EV Charging Stations
Demand Forecast AI solution

Boosting the energy transition

Ogre

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.

Founded in 2021

Bucharest & London

First Financing Round 2022

24 FTEs

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

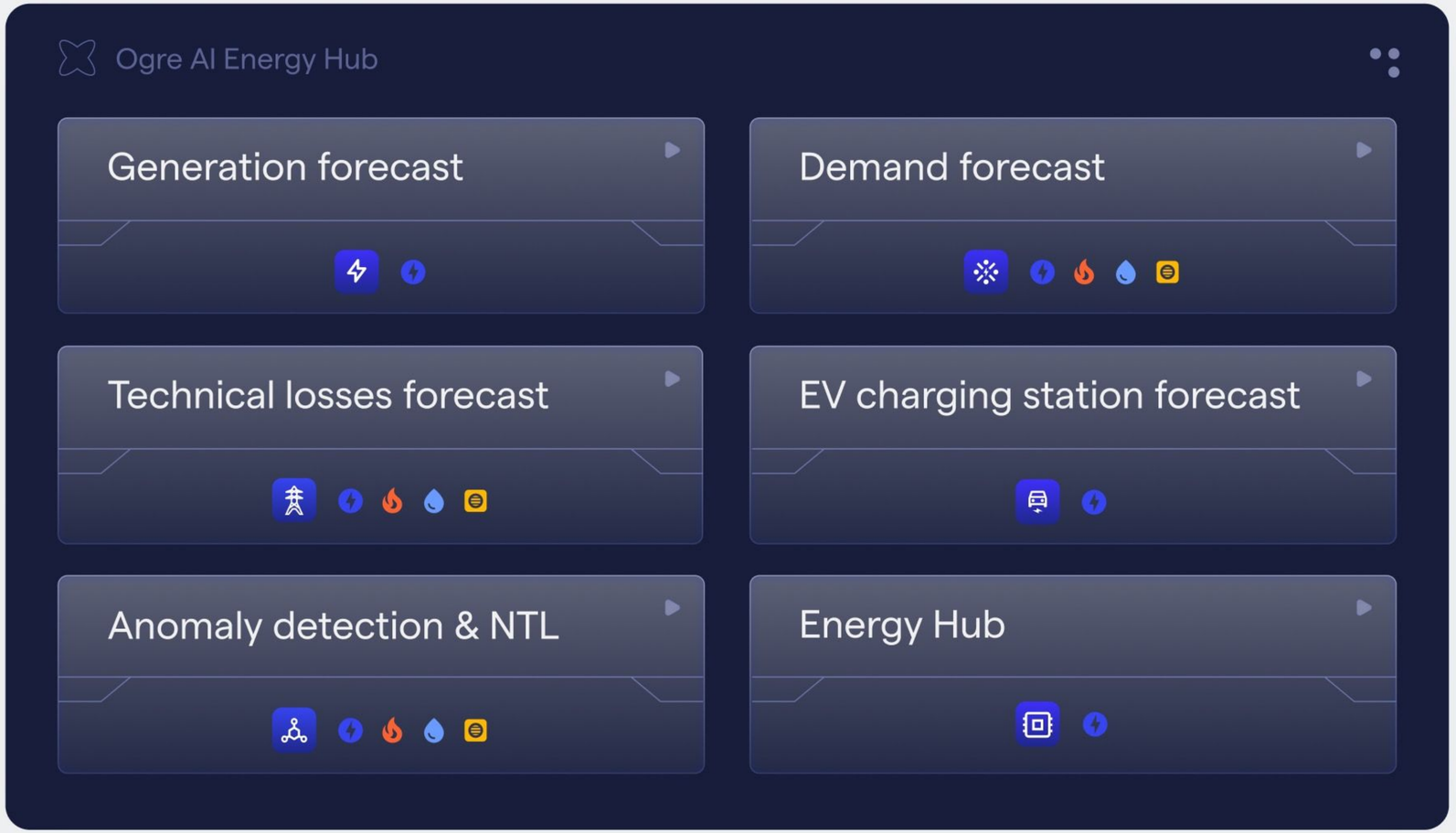
We excel in integrating complex systems. We are not just data users but creators, boasting proprietary data sources including an in-house developed meteorological model that enriches our forecasting capabilities.

Challenges Faced by Energy Operators

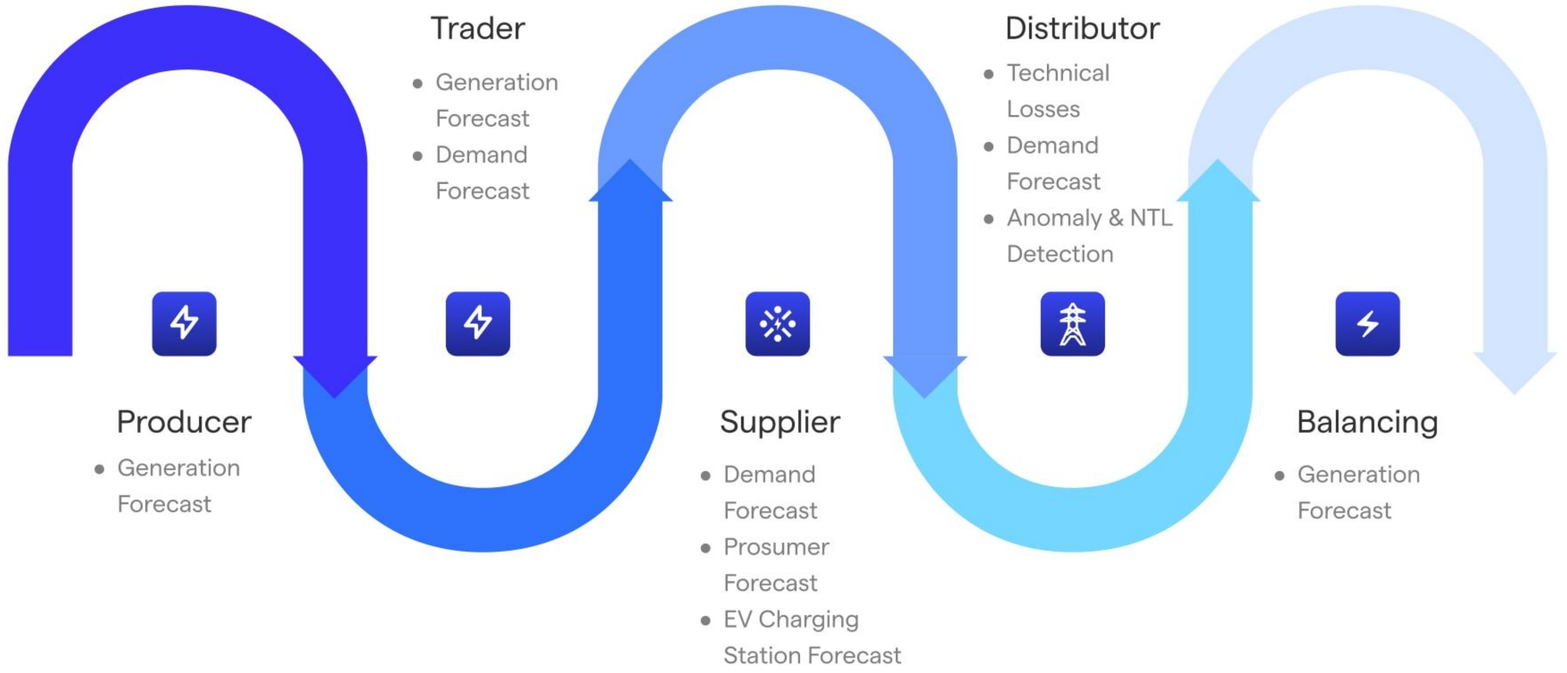
Our integrated platform offers a diverse range of AI modules, uniquely tailored for the needs of our valued partners

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.



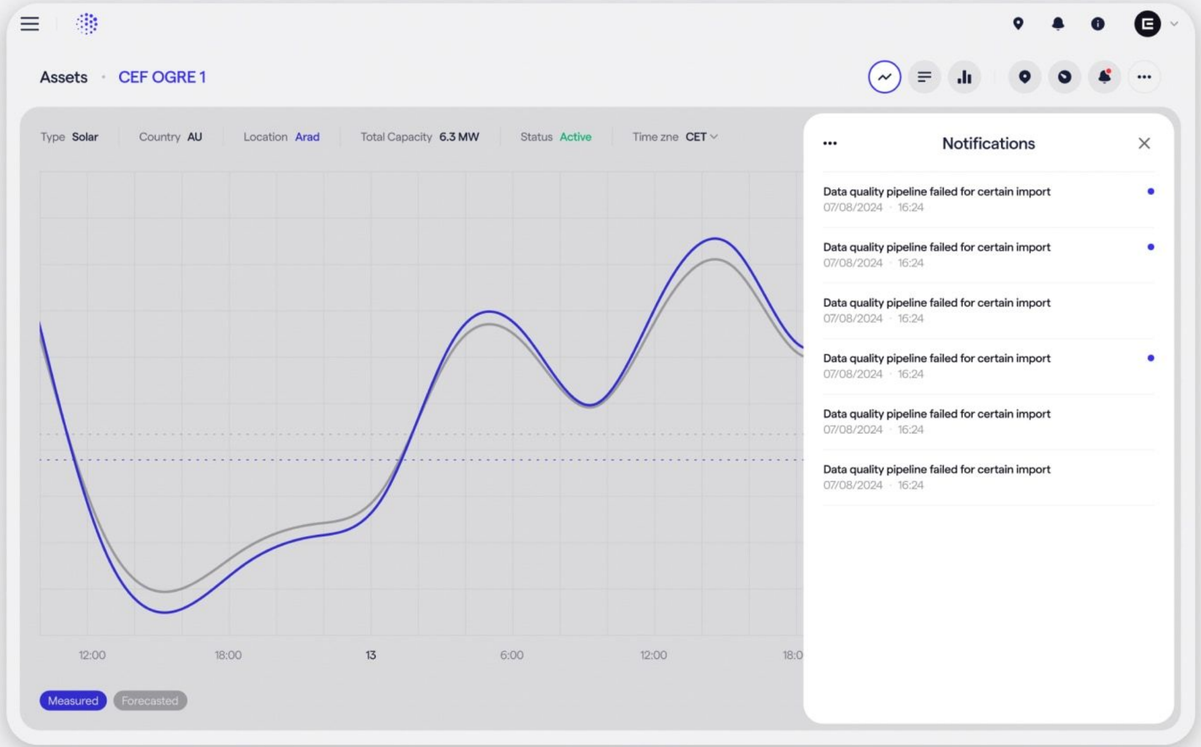
Comprehensive Coverage: spanning the entire Energy Value Chain from Generation to Consumption



EV Charging Stations Forecast Module

Introducing a sophisticated AI solution that forecasts and integrates EV charging stations networks with high accuracy

Our EV Charging Stations Consumption Forecasting Model is a state-of-the-art solution designed to predict the electricity consumption of EV charging stations across various scales and locations. It enables operators to efficiently manage energy resources, ensuring the reliable operation of the infrastructure



EV Charging Stations Forecast Module

Features

- Real-time forecasting
- Accuracy reporting
- Forecasting at charging station and cluster level
- Interactive dashboard and map
- Cybersecurity
- Customizable notifications

Benefits

Improved Demand Forecast

Accurately predict peak demand periods for EV charging, enabling operators to manage electricity procurement more effectively.

Enhanced network management

Operators can optimize the utilization of their charging infrastructure, ensuring that chargers are adequately used without being overburdened.

Boosted cost savings

Helps reduce balancing costs associated with energy purchasing related to the EV stations network consumption.

Dynamic pricing

Operators can implement dynamic pricing strategies that encourage EV charging during off-peak hours, helping to balance the load on the electrical grid.

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Background

The operator needed a solution to fully automate the forecasting process and to increase the accuracy of the predictions for a network of 1000 EV charging stations.

Challenge

The difficulties of the project were related to the numerous charging stations from rural areas that had little usage and very limited historical data.

We also had challenges in terms of the varying data types - quality, format and granularity.

Solution

We made real time data connection to all of the stations and implemented our fully automated Ail forecast tool dedicated to EV charging stations operators - integrations, powerful AI forecast engine and reporting modules.

We also had to build sophisticated new AI models in order to better predict the demand at the stations and achieve the results desired by our partner.

Results

+60% Boosted accuracy

2-30% MAPE 15 mins

1-15% MAPE monthly

Testimonial

"Partnering with Ogre AI on demand forecasting for our EV charging network has been highly beneficial. Their technical expertise in data analysis and predictive modeling has led to more accurate forecasts and improved operational efficiency. Given the challenges of the energy transition, particularly the prediction of volatile renewable energies, Ogre AI is a valuable partner for integrating renewable energy and enhancing our energy management."

Franz Zöchbauer
Head of Corporate Innovation

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

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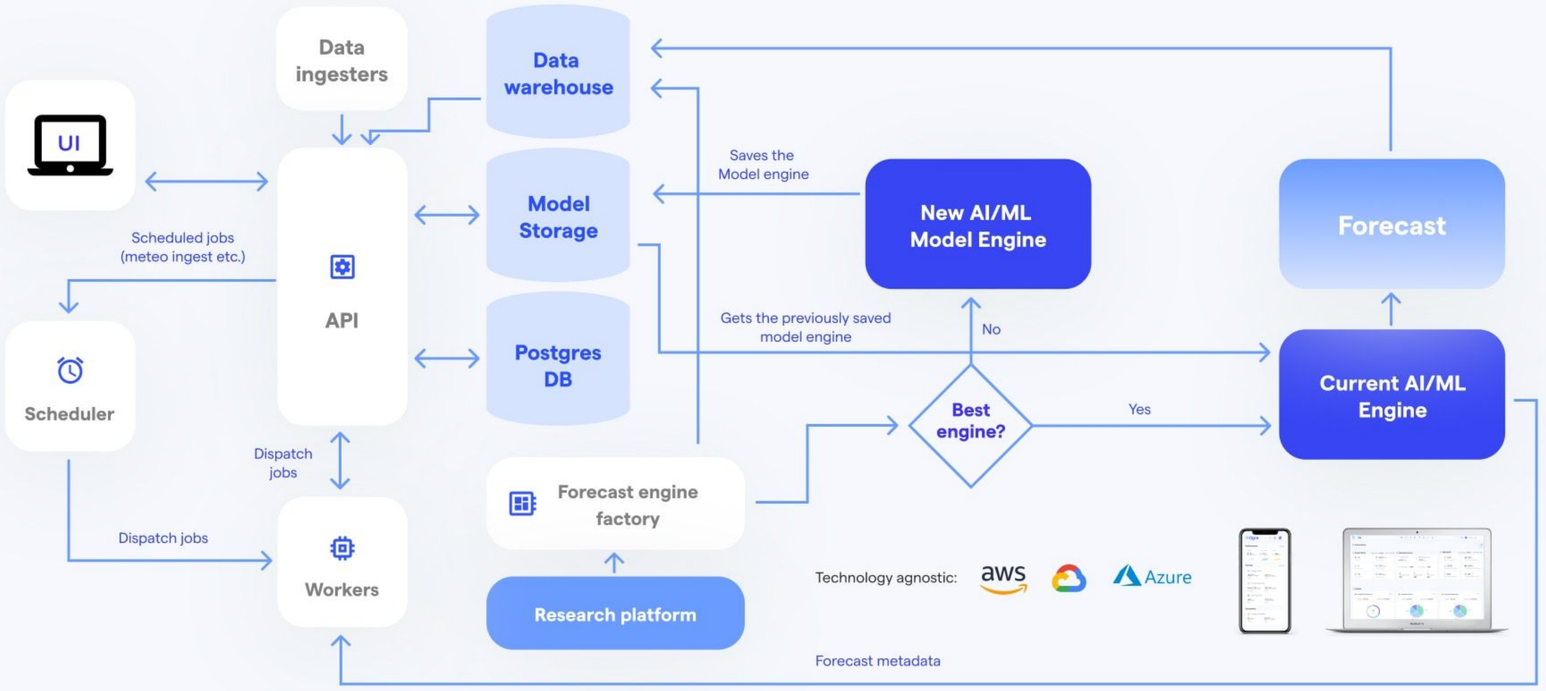
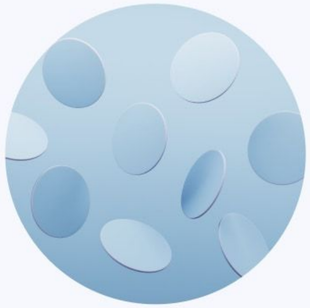
Ogre Forecast Engine

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

High Level Architecture



Ogre Forecast Engine



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.

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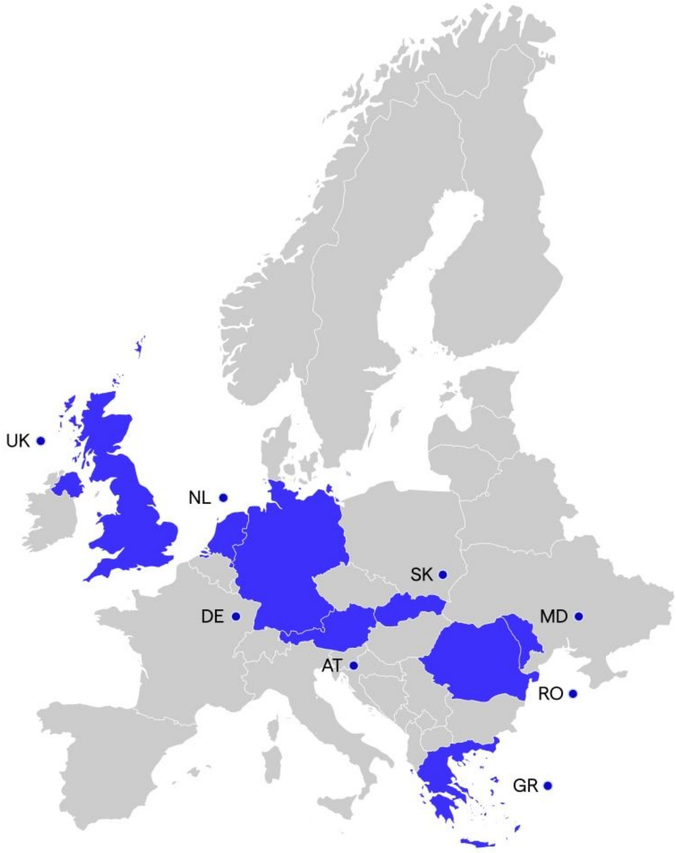
References

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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