

# INTRADAY INSIGHT & PREDICT

Introducing the market's first price forecast for continuous trading

PROMOTIONAL DOCUMENT

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# DRIVERS FOR CONTINUOUS TRADING

## RENEWABLE PRODUCTION

An increasing amount of renewable production makes power generation and trading more dynamic and less predictable. As a consequence, continuous trading after the Day-Ahead auction with trading up to 5 minutes before delivery has been established.

## HIGH VOLATILITY

Constantly shifting weather patterns and changing market information can lead to rapid and unexpected changes, making the market extremely volatile. This makes Intraday trading, compared to financial markets, one of the most demanding operations.

## ADVANCED SYSTEMS AND ANALYTICS

Continuous trading requires an increase in resources, improved automation and sophisticated systems when compared to the auction-based Day-Ahead trading. This includes also the best possible market data forecasts.

## GROWING COMPETITION

The number of market participants and volumes traded have increased dramatically in the previous years. This leads to additional competition, making it more challenging to achieve positive results.

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## PREDICTING THE UNPREDICTABLE

Until closing, Intraday prices can vary dramatically. This volatility provides splendid opportunities but exposes market participants to significant financial risks, too.

Traders need to build a robust trading strategy that takes into account the price impact of various inputs at a given time and foresee how the prices may evolve until gate closure. This complexity is hard to handle and requires a new kind of price forecast. A single output variable - like in the case of a Day-Ahead Auction price forecast - does not exist. As the trading is continuous, one has to handle with different indices matching different time horizons.

### A case for advanced machine learning

We have developed a model that constantly evaluates the impact of large quantities of inputs and real-time data, as well as actual price developments in continuous trading and update the forecast close to real-time. These input parameters are built on individual models, each with unique performance history and strengths to capture market movements.

These inputs are weighted by a well-trained machine learning algorithm that understands each impact and how it performs in relation to other inputs, even when the inputs are contradictory. This enables us to come up with the one variable for continuous Intraday trading: the price direction.



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## KNOWING THE PRICE DIRECTION

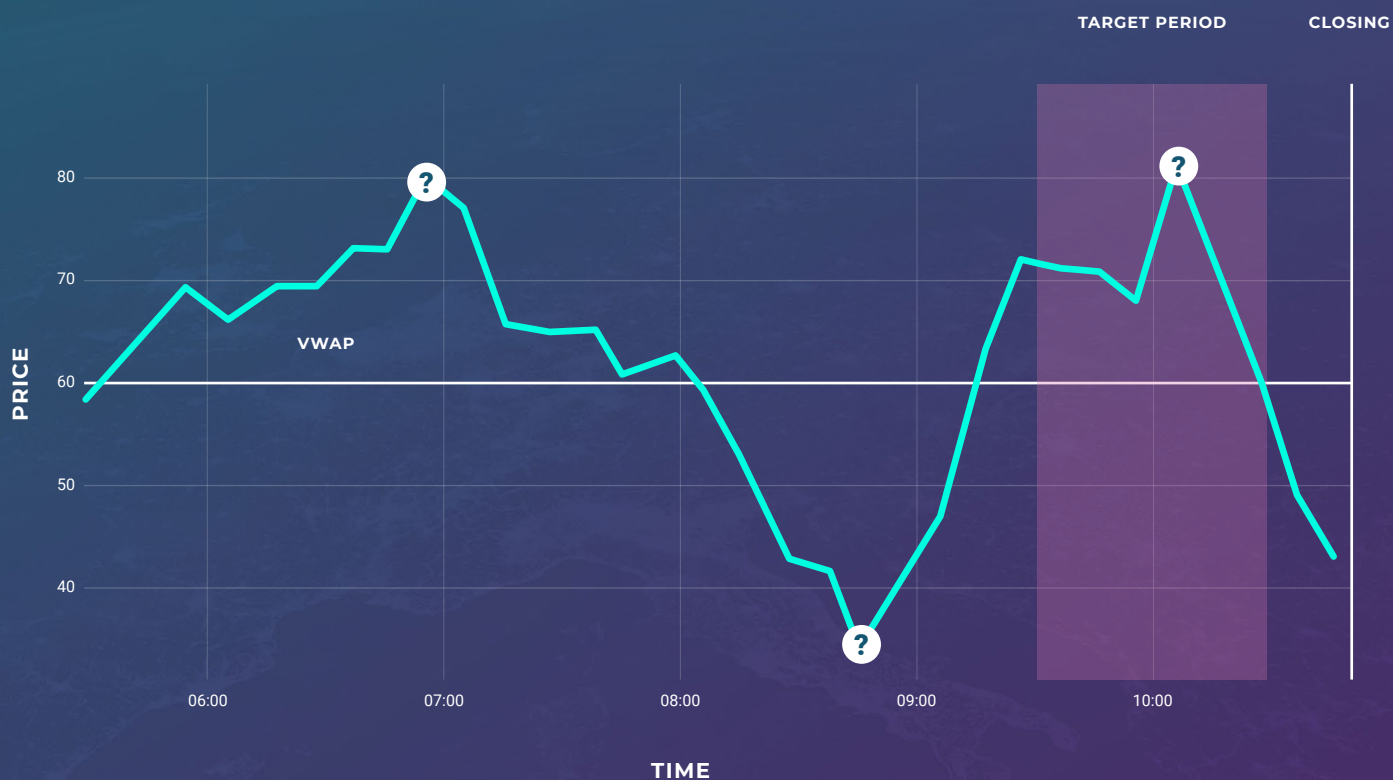
With the continuous trading design in mind, we have designed an entirely new method of creating a price forecast output structure including Direction Hits and Prediction Tags.

### Prediction Tag

The Prediction Tag depicts the index we are forecasting and results in a volume weighted average price for different Target Periods before delivery (e.g. 90-30 minutes Tag). We start publishing the forecasts eight hours before delivery and update them every five minutes. Hence, you will get them continuously.

### Direction Hit

The Direction Hit is one of the most important accuracy measurements to improve your own trading strategy. The direction indication is the delta between the forecasted value and the currently traded price. Depending on the sign (positive or negative), it indicates which position you should take.



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## WHAT YOU GET

INSIGHT		PREDICT	
Live Prices	Imbalance Analysis	Market Drivers	Price Forecasts
<ul style="list-style-type: none"> <li>• Ask, Bid</li> <li>• Clear overview of trading charts and orders</li> <li>• Comparison and tracking of prices</li> </ul>	<ul style="list-style-type: none"> <li>• Live estimates of balancing prices</li> <li>• Continuous updates of the most relevant drivers such as grid data</li> </ul>	<ul style="list-style-type: none"> <li>• Actual production</li> <li>• Forecasts renewable production and consumption</li> <li>• Forecast shifts</li> <li>• Outages</li> <li>• Delayed prices</li> </ul>	<ul style="list-style-type: none"> <li>• Direction Tag 90-30*</li> <li>• Hourly traded market</li> </ul>
App & API	App & API	API	
DE	DE	Europe	DE**

\* Additional tags to be added

\*\* Additional areas to be added in Q4 2019 / Q1 2020

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## ROADMAP

We are constantly developing and improving Intraday Insight and Predict. We are adding new features and markets in the next months but be assured, this is just the start.



- Price predictions for DE
- Intraday Market Drivers for all European price areas
- Available in the Time Series API

- Price predictions for FR and BE
- Implementation in Live Prices application
- 15 minutes market for DE
- Additional Direction Tags (e.g. 60-30)

- Add forecasts for A, CH, NL and ELBAS

Continuous development





## ABOUT THE TEAM



**Dr. Błażej Radomski** is a Senior Quantitative Analyst in the German office of Wattsight. He has been working with the analysis of electricity markets, modeling of fundamental data and price forecasts for more than 15 years. His PhD thesis dealt with methods for efficiency measurement related to the Data Envelopment Analysis.



**Tim Becker** is a Quantitative Analyst at Wattsight. He obtained his B.Sc. and M.Sc. degrees in engineering from RWTH Aachen University. His master's thesis at the University of California, Berkeley, dealt with the analysis of a huge set of predicted properties to assess their quality. Before joining Wattsight, Tim was a member of the Engineering Thermodynamics group at TU Delft. There, he developed computational methods to predict properties of materials that can help to reduce CO2 emissions of power plants.



**Jan-Phillip Eisenbach** is a Quantitative Analyst at Wattsight. He graduated with a M.Sc. in Mathematics at the TU Berlin and is specialized in Graph Optimization. During his studies he interned at IBM implementing Regression, feature selection and recommendation algorithms. He continued working in the logistics industry doing route optimization, customer segmentation with Machine Learning and Data Analysis. Before joining Wattsight, he gained experience in project management at Deloitte Consulting and developed a Fraud Detection and a Natural Language Processing prototype.

## PROVEN PERFORMANCE

Learn how Intraday Insight & Predict can add value to your trading strategy.  
Schedule a 10 min presentation and have a look at the results of  
our shadow portfolio.

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