

# Short-term power trading – have the machines taken over?

19.04.2023 German Energy Day @ Montel



Image created by Midjourney



# a sneak peak about us

Don't worry we will be as fast as a solar powered lightning.



## Renewables Trading

We manage your power flows as your balancing responsible party and comply with all necessary market communications with the TSO and DSOs.

We operate your assets within Germany's largest virtual power plant (VPP), forecast production, trade on Day-Ahead and Intraday markets, and take on all balancing risks.



## Battery Trading

We assume dispatch and reporting responsibility and trade your **BESS** asset as a responsible balancing party. We offer you either revenue participation or fixed returns per MW/MWh combination. Each flexible asset is different, and we strive to develop standardized products while allowing you to set technical restrictions depending on cycling capacity, warranties, or behind the meter applications.



## Green PPA Hedge

We facilitate short- and medium-term **PPAs** to help you lock in long-term returns for a part of your production or consumption whenever you wish to do so.

We connect you with industry partner to easily facilitate corporate PPAs that allow for stable returns and the possibility to trade energy with neighboring industry.

# Short-term power trading – have the machines taken over?

1. Well yes...

2. ...but not really




Trader rule no 1:

“always, always,  
always:



**Check your bias!”**

# Have the machines taken over? – ChatGPT says: Yes, pretty much...



Do you think you could or another AI would outperform a human intraday trader on the EPEX spot continuous market? 



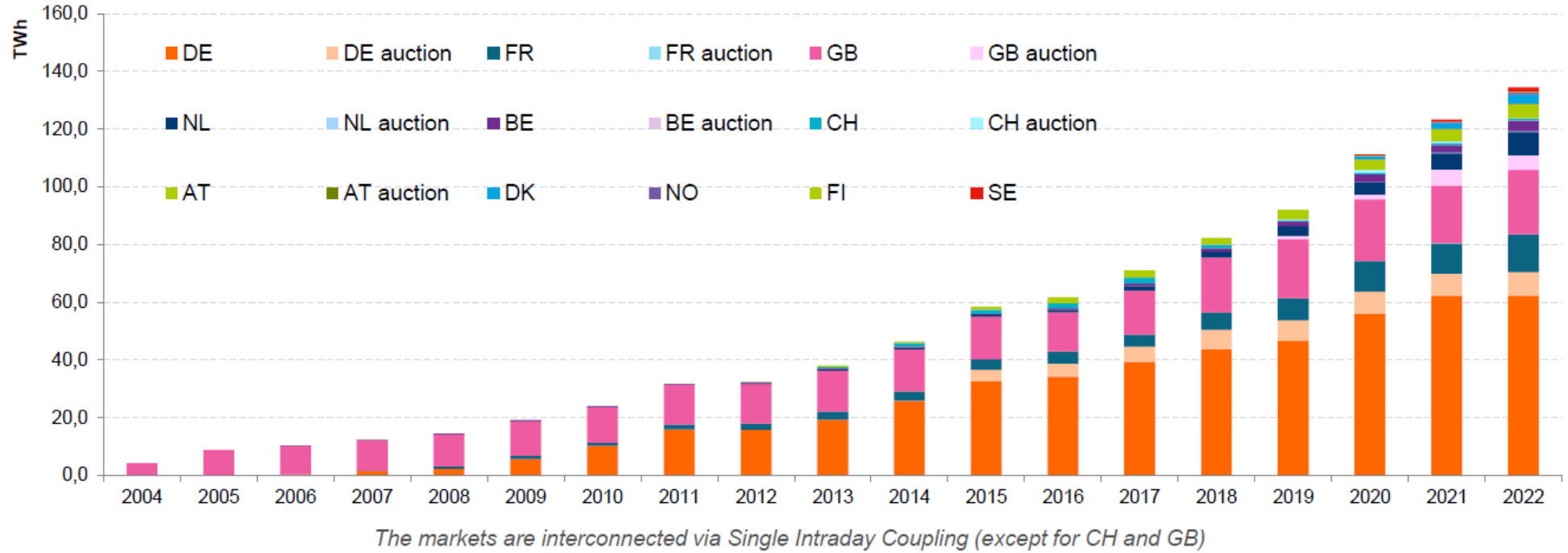
It is possible for an AI to outperform a human intraday trader on the EPEX spot continuous market. A well-designed AI system can process large amounts of data quickly and make decisions based on complex patterns that may not be obvious to a human trader. Additionally, an AI system can operate 24/7 without getting tired, which is an advantage in a market that operates continuously.  

However, it's important to note that AI systems are not infallible and can also make mistakes. Furthermore, the effectiveness of an AI system is highly dependent on the quality and quantity of data that it receives. It's also worth considering that trading strategies may need to be adjusted over time to remain effective, and an AI system would require constant monitoring and maintenance.

Overall, while it's possible for an AI system to outperform a human trader on the EPEX spot continuous market, it's important to carefully evaluate the potential benefits and risks before making any decisions about using AI for trading.

# Intraday markets are still growing

## Booming Intraday liquidity on all granularities



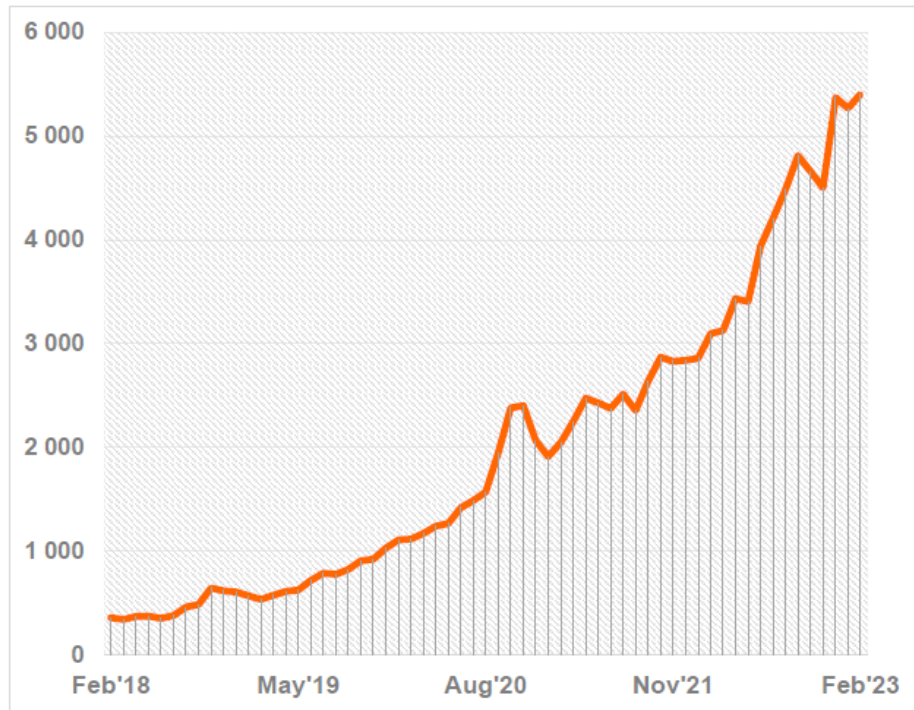
### Fast-expanding Intraday continuous markets

- 50% CAGR since 2008
- 17% QH and HH continuous market share

# Intraday orders are growing

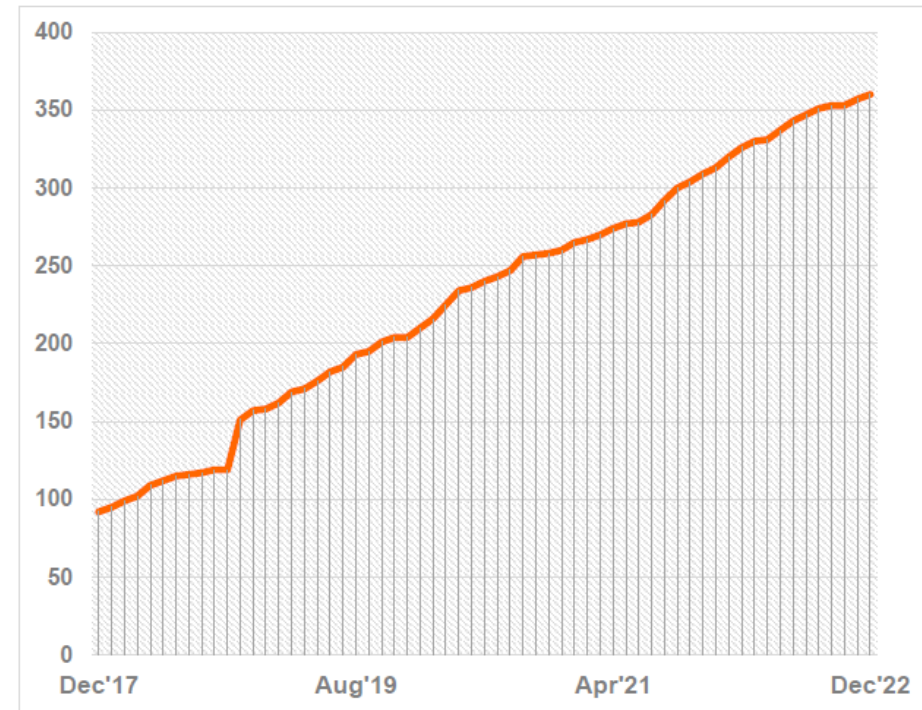
## Increased activity on the Intraday market

DAILY AVERAGE NUMBER OF SUBMITTED ORDER COUNTS



- › The number of orders a day (both avg and max) grows significantly – the **daily average exceeding 5.4 million**

NUMBER OF CONNECTIONS VIA EPEX API



- › Today **360 API applications**, out of which **316 (88%)** are trading member applications, are active on the exchange

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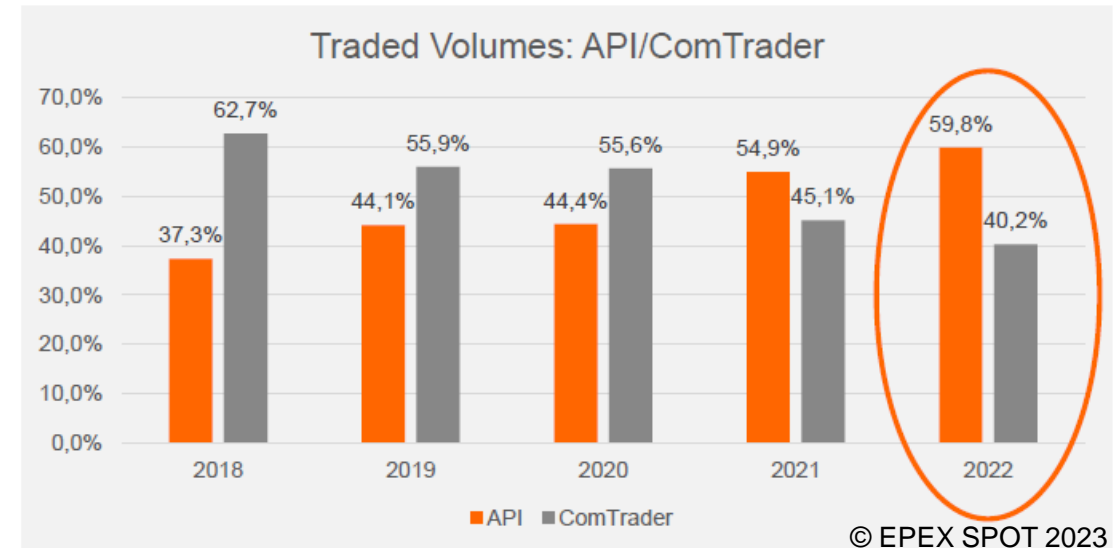
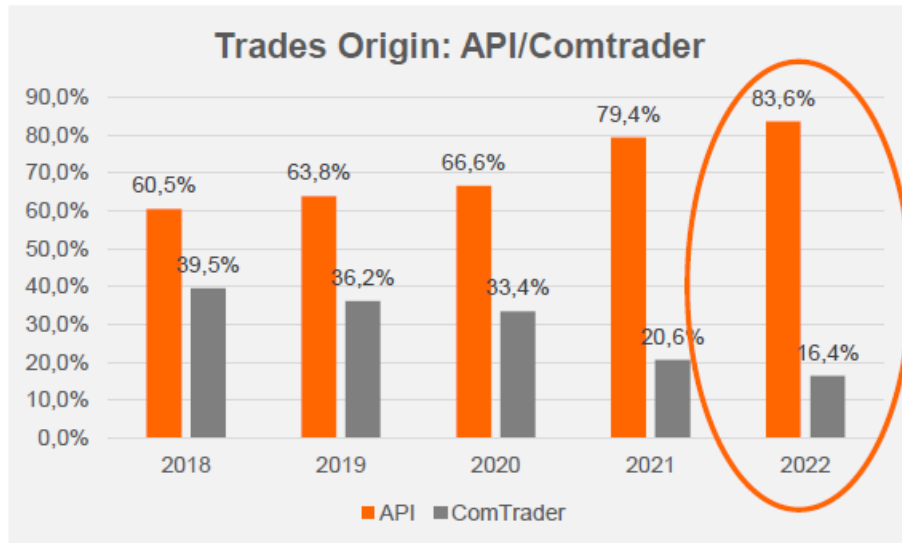
# Automated intraday trading has taken over...

## M7 automated trading applications increase across the market

### Volume distribution

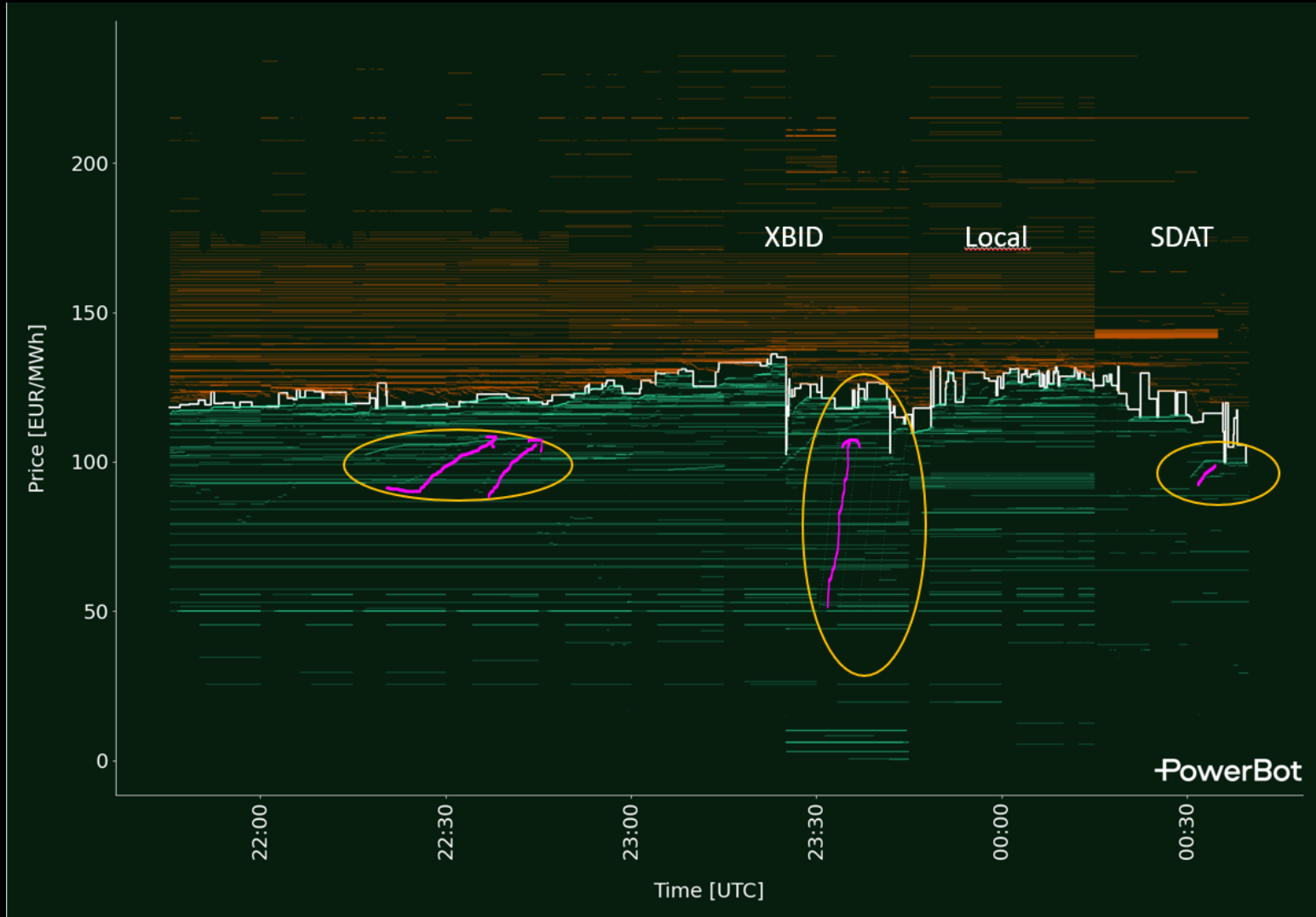
- ~83% of M7 traded orders come from API apps
- ~59% of M7 volumes are traded directly via a custom API app

Add-on: API Volume share in Germany is approaching 80%



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# A majority of bots are not all that sophisticated



# Have the machines taken over? – ... not really



**Nassim Nicholas Taleb** ✓

@nntaleb

**Power Trading**

~~Finance~~ run by technologists is just like food cooked by pharmacists, books written by printers, operas composed by sound engineers, and planes flown by mechanics.

# Do you humans still have a chance? – ChatGPT says: sometimes!



in which situations do you think humans might outperform an AI and otherwise?



Humans might outperform an AI in situations where there is a high degree of ambiguity, uncertainty, or unpredictability. For example, in situations where the outcome of a decision depends on human intuition, creativity, or empathy, humans may be better suited to make decisions than AI. Humans are also better at handling situations that require moral or ethical judgement.



In contrast, AI might outperform humans in situations where there is a large amount of data to process, and the decision-making process is largely based on patterns and statistical analysis. For example, AI is better suited for tasks such as image recognition, language translation, or fraud detection, where the processing of vast amounts of data is required.

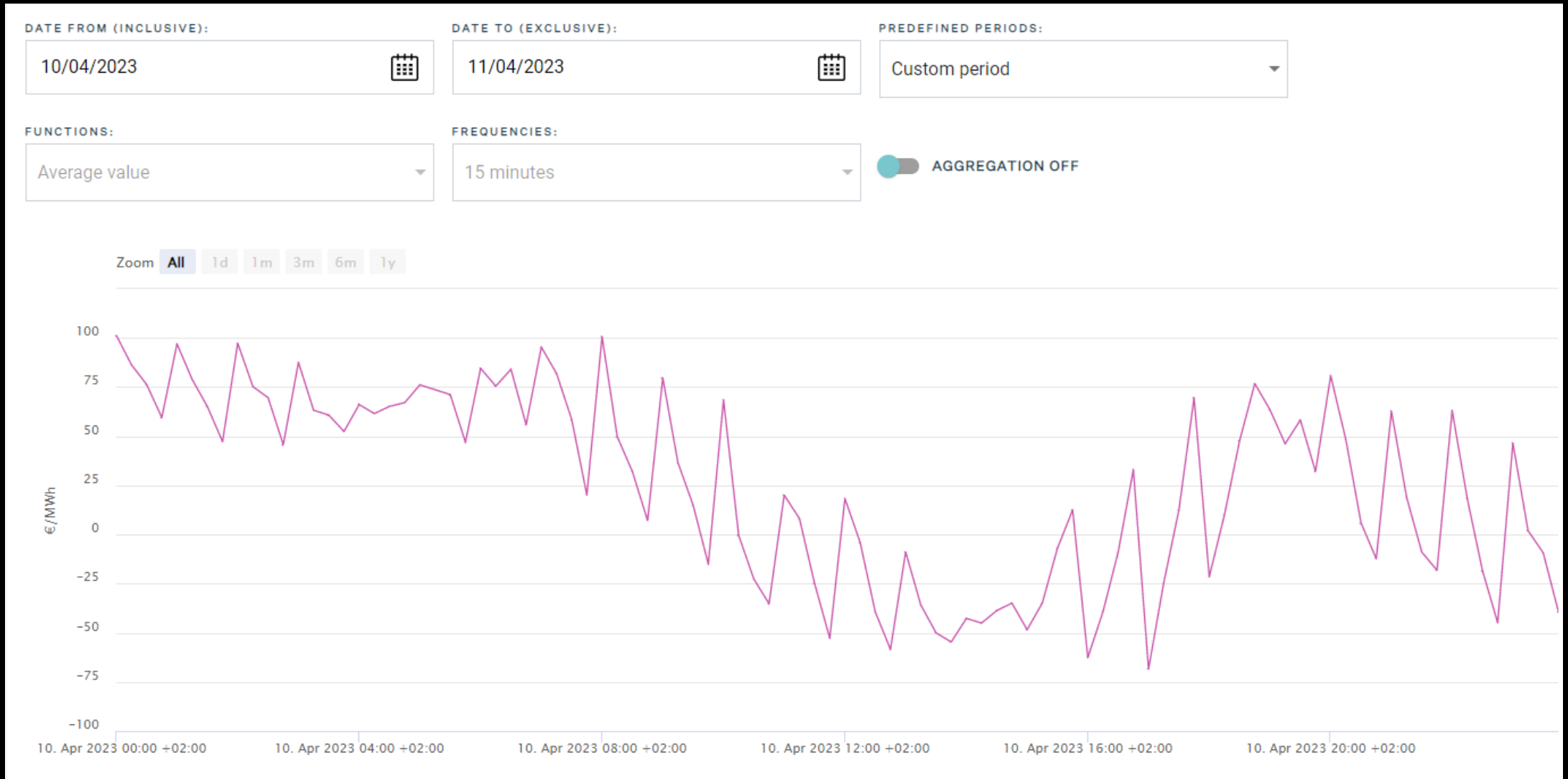
Additionally, AI may outperform humans in situations that require continuous and precise execution of a task. For instance, in fields such as manufacturing or logistics, AI can optimize processes, increase efficiency, and reduce errors.

Overall, the ability of humans or AI to outperform one another depends on the specific task, the quality and quantity of available data, and the decision-making criteria. It's important to carefully evaluate the strengths and limitations of each approach to determine the best course of action for a particular situation.

# Easter Monday 2023 – why humans still have some value

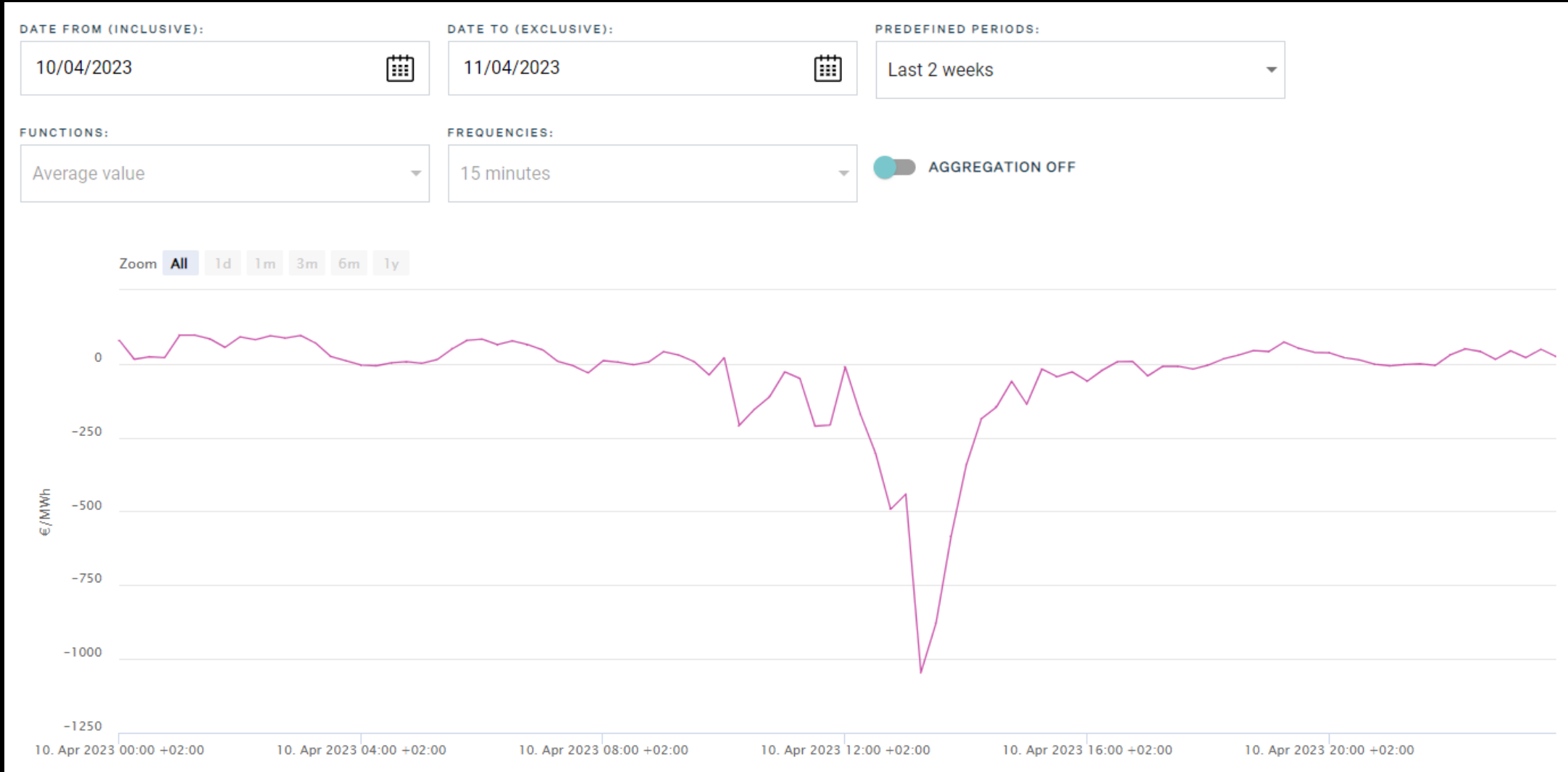


# Easter Monday 2023 – why humans still have some value





# Easter Monday 2023 – why humans still have some value

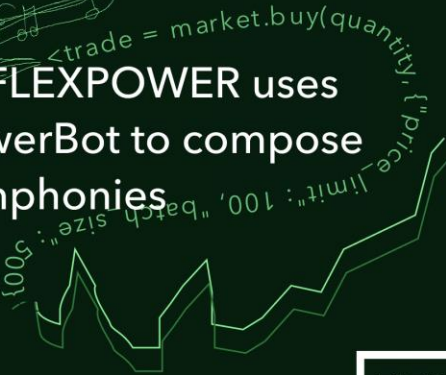


# A little bit of advertisement

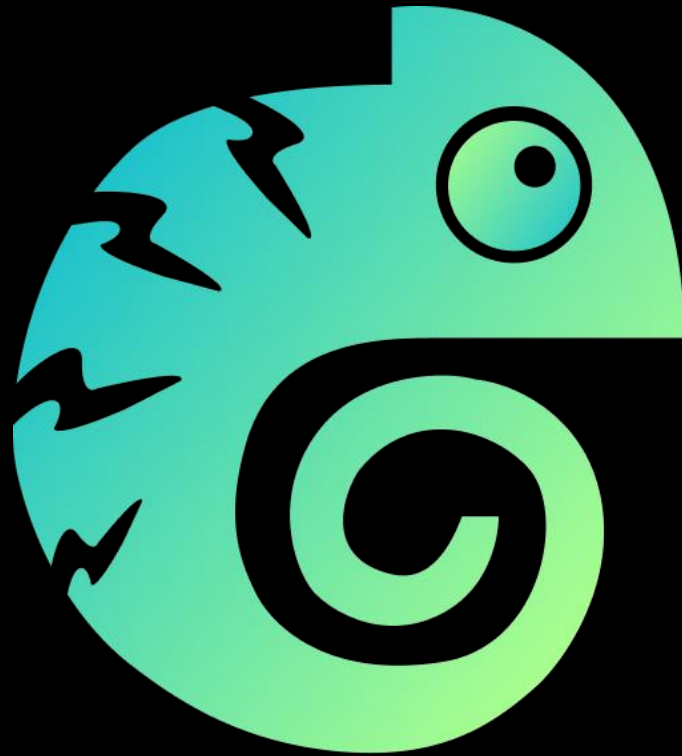
Some traders use  
BoringBots to play  
old records ...



... FLEXPOWER uses  
PowerBot to compose  
symphonies







...THE END