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From Data do Deals

ETCSEE 2025, Vienna

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Key trends on European Power Derivatives Markets

Continuing trend of increased clearing

- There is a long-term trend towards more cleared transactions (± 50%)
- This follows maturing of markets, entering of new (types of) market players
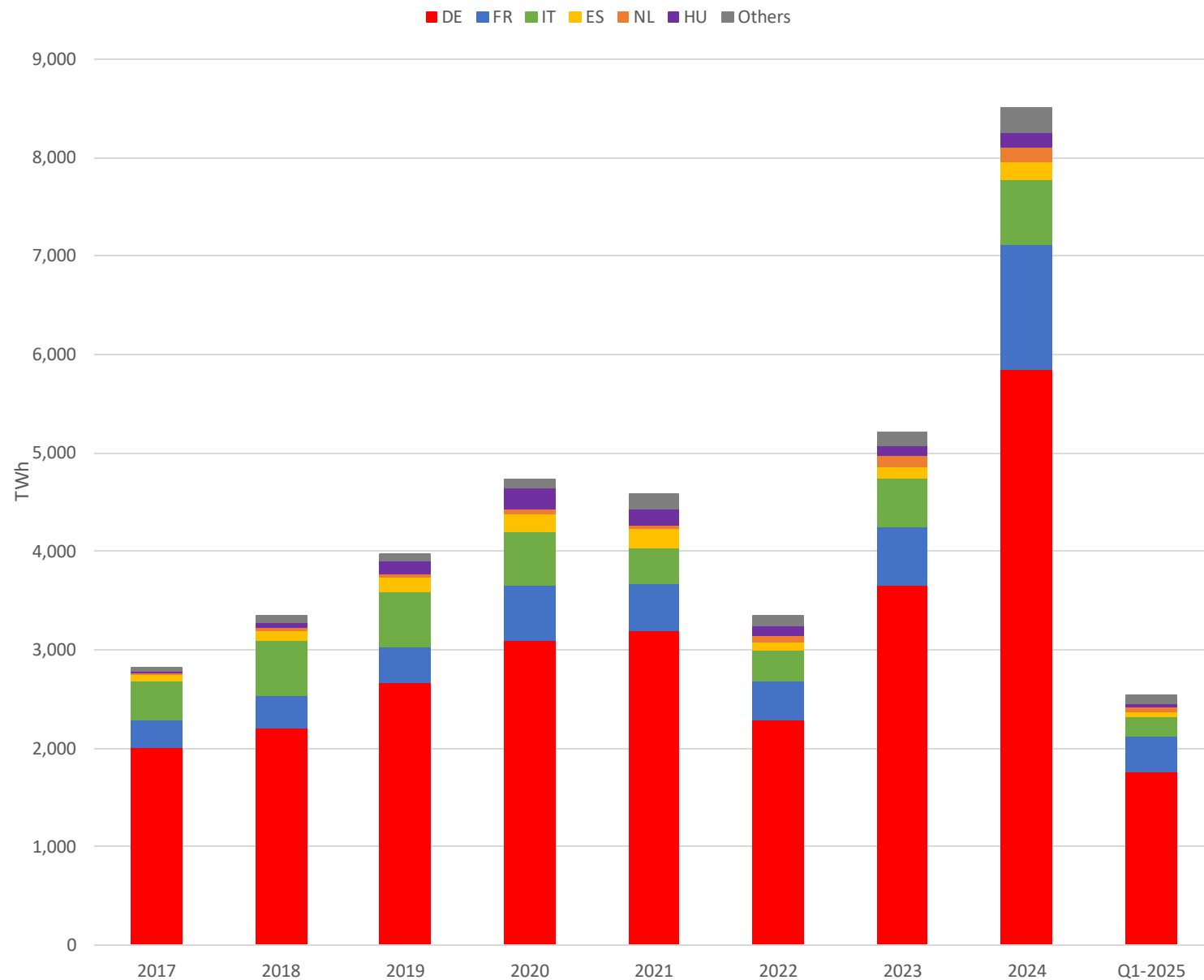- Large differences between market areas exists

Opening up of markets

- markets are further opening up, increasing international participation
- This brings increased liquidity and market players, leading to more on-exchange trading
- Increasing participation of financial market participants

RES investments and hedging

- Increased development of and investment in renewable energy (RES) leads to more specific hedging needs
- Subsidy phase out brings new market participants to our derivative markets
- Allowing these markets to grow, the more reliable the price becomes, encouraging more long-term RES projects

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EEX Power Derivatives Volume Development

Legend: DE · FR · IT · ES · NL · HU · Others

Y-axis: TWh (0 – 9,000)
X-axis: 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, Q1-2025

- Growth trend on European Power Derivatives markets continue with new record year for EEX in 2024

- German Power remains most liquid contract and benchmark for Europe

- CSEE region outstanding growth for the Emerging Markets (+ 105% YoY) with Hungary remaining the benchmark for the CSEE region

- New daily trading record on Sep 19th with 67.4 TWh

klasifikace: veřejné

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CSEE Volume Development

klasifikace: veřejné

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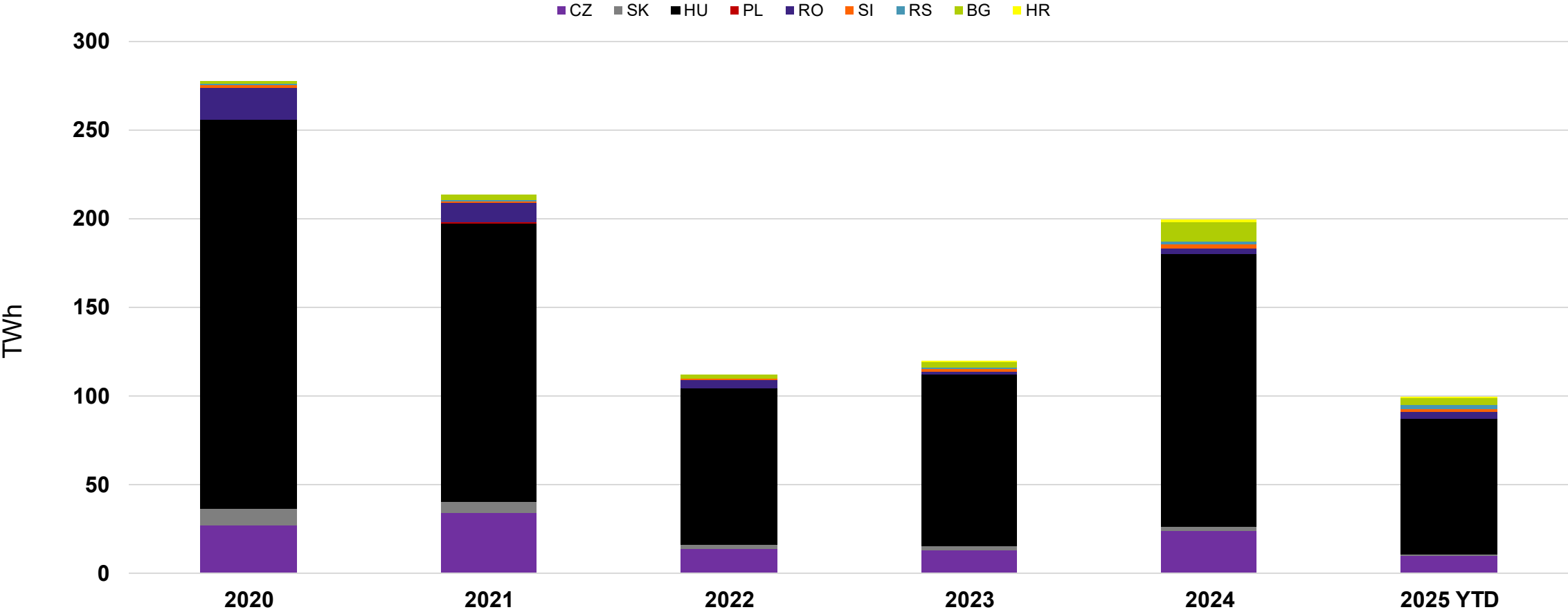
What is Algorithmic Trading

Funny definitions (powered by my own intelligence and the artificial one)

Electricity HFT is like playing 4D chess with lightning, but blindfolded, underwater, and someone keeps changing the rules.

Basically, speed dating for money — your bot flirts with a thousand prices per second and ghosts them all.

When your trading strategy is so complicated even *you* don't know why you're rich... or broke.

Where bots trade sparks and fumes before humans smell the news.

klasifikace: veřejné

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What is Algorithmic Trading

Definition according to MiFID II

Algorithmic Trading (§ 80 Para. 2 Clause 1 WpHG, Art. 4 Para. 1 No. 39 MiFID II)

trading in financial instruments where a computer **Algorithm** automatically determines individual parameters of orders
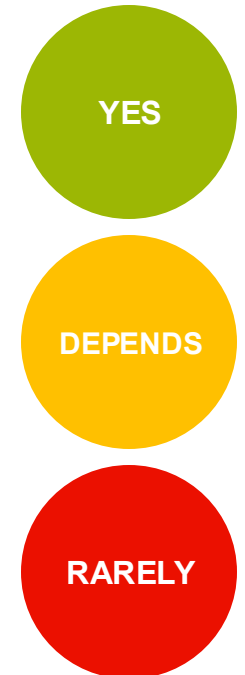
| Order Initiation | Timing | Price | Quantity | Order management after its submission, with limited to no human intervention |

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Algorithmic Trading / High Frequency Trading (HFT)

HFT is a subset of algo trading but not all algo trading is HFT

Common for HFT?

- Sentiment-Based
- Statistical Arbitrage
- Options / Greeks Trading
- Algo Trading
- Market Making
- Machine learning / AI Models
- Trend Following / Momentum Strategies
- Event Driven (news)

YES

DEPENDS

RARELY

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What makes HFT tick

- HFT is all about the "Need for Speed!"
- By way of comparison, a typical non-HFT human trader may engage in 1,000s of orders per day, while HFT numbers are more like 100k–1 million+ orders per day.
- Small profits of a few Euros quickly add up to significant profits when repeated.
- The underlying idea is to instantly identify trends and make sure you are at the front of the line to take advantage of a situation.
- To do this, HFT customers make use of software (very smart **Algos**), hardware and location to achieve their goals.

**What you need to be considered HFT – MiFID definition?**

- Infrastructure intended to minimize network and other types of latencies

  Close proximity hosting; high speed DEA; Co-location room.

- Using **Algo Trading** (non-human).

- High message intraday rates which constitute orders, quotes or cancellations

  Engage in transactions above 2 tps (transactions per second).

All three criteria's have to be fulfilled cumulatively to be considered HFT.

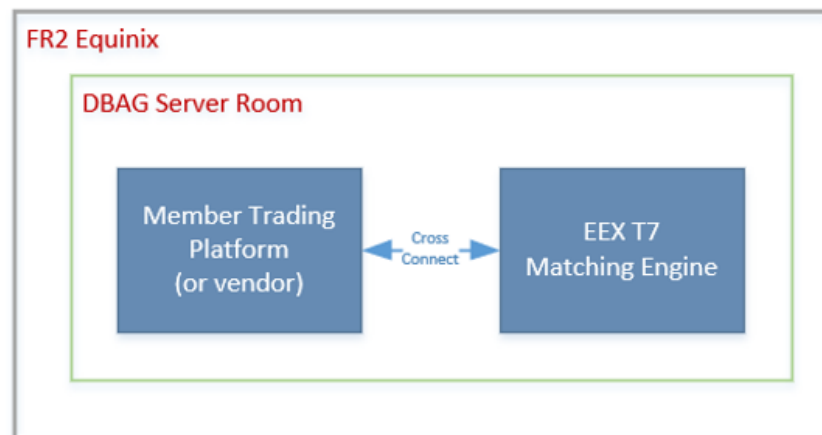This distinction is important HFT trading had additional reporting for MIFID

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What does co-location look like
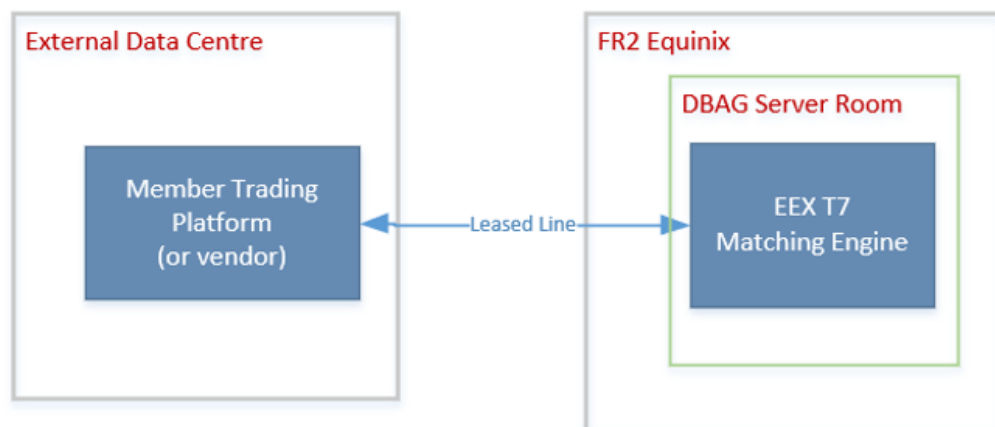
Traditional leased lines and Co-location

EEX has always and continues to support traditional "leased line" connections between a member's data center and the EEX T7 server.

In today's competitive world of algorithmic trading, some market participants wish to host their technology as close as possible to the Exchanges' matching engines.
Co-Location is now available for all EEX Members, bringing access to the dedicated DBAG co-location rooms via our strategic partner "Equinix"

EEX offers high frequency trading via co-location since Q1 2023 for all members

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Activity of Algo based trading decision established at EEX
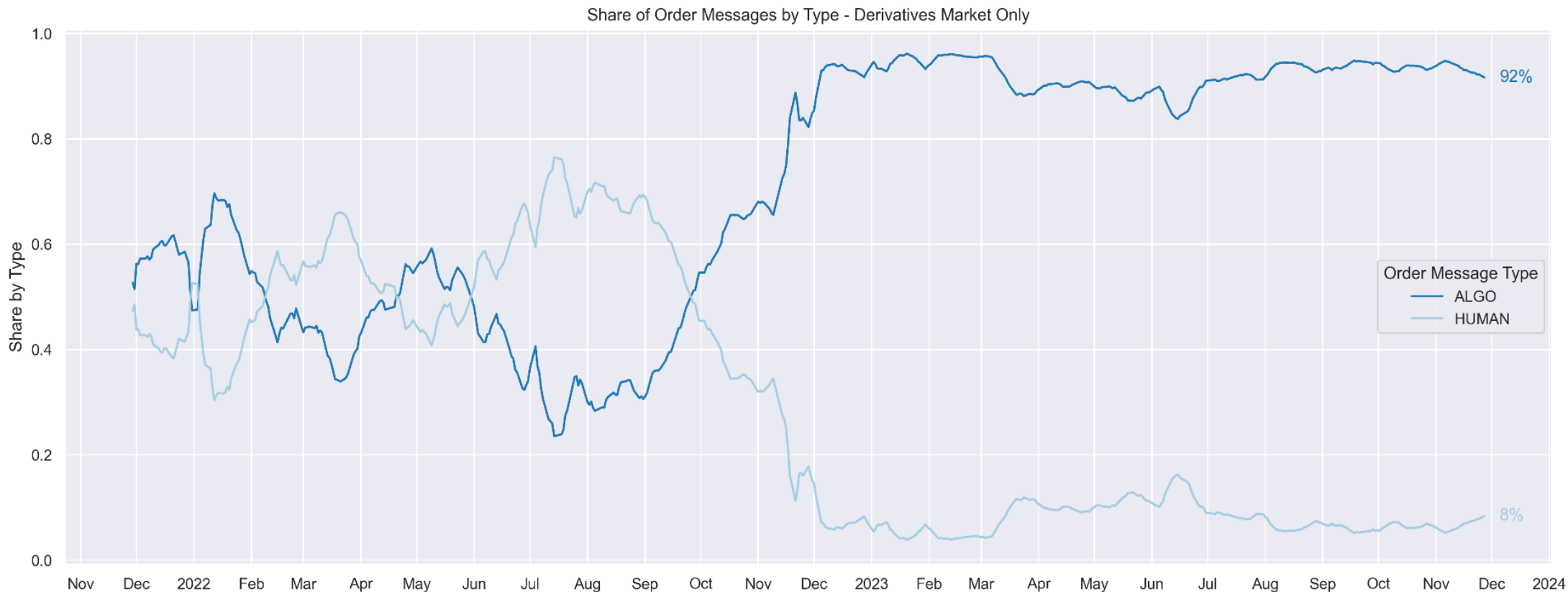
Algo in some cases modified a single order, due to an array of factors **=>** majority of these changes may not result in a trade right away.
1 single order at 100 MW vs 100 orders at 1MW (Algo is adding 1MW each time until it trades 100 MW)

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Adoption of Algo Trading Tool

Algo trading has a long history of being an important part of the EEX fabric. Q3 2022 saw an inflection point towards greater **Algo** usage on the orderbook.

Greater availability of **Algo** tools from third parties:

- Our Partners / Vendors have made algo tools widely available and common place.

- Quants/Quant Devs deploying their skills from other market into energy markets.

- Traders are empowered to create custom algos / or modify parameters on the fly from third party vendor platforms.

- Market Making tools are standard features offered by nearly all vendors.

Why:
Speed, Performance: **Algos** analyze, react and execute predefined instructions.
Reducing manual work, free up traders to focus on adding value and developing markets.
Fast response to changes to market conditions. The price factors in all available knowledge at that point in time.

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Obligations of Members when connecting an Algo to EEX

Art. 8, 9 Delegated Regulation (EU) 2017/590, Section 2.3.1.2 EEX Technical Implementation Regulation

Notification to the Exchange

Members must notify EEX of the intended connection or modification of an algorithm (Algo).

This notification confirms successful testing, sufficient resilience, and adequate monitoring and record-keeping

Testing of Algos before connection to EEX:

Members must conduct:

1. **Conformance Test** to ensure the Algo interacts as expected with EEX's matching logic and processes data flows correctly.
2. **Market Disruption Test** to ensure the Algo does not cause disorderly trading conditions.

Standard Algos provided by vendors are exempt from these tests

Flagging of Algos and further obligations:

Algos must be flagged for two key tags:

1. Investment Decision Maker
   who takes the investment decision to acquire or dispose of a specific instrument
1. Executing Trader
   who determines the trading venue or any conditions in relation to execution of an order

Algos must be monitored and emergency measures to handle unforeseeable system disruptions must be implemented.

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Exchange measures

Tasks of Market Surveillance

- Ensures that trading processes and pricing are carried out on a fair and manipulation-free basis.
- Records all data regarding exchange trading and the settlement of exchange transactions on a daily basis for analyses and required investigation activities.
- Carries out special investigations on its own initiative or upon an instruction to this end by the exchange supervisory authority.
- Reports to the exchange supervisory authority and the Management Board of the exchange on a regular basis or for specific reasons.
- Supports various national, European and international authorities, in particular, in the fields of exchange and financial market supervision, energy regulation and competition supervision.

Volatility interruptions

- Automatic volatility interruption mechanism (circuit breakers).
- Trade Registration Price Ranges.
- Market Suspension

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A7 Analytics Platform

A7 is a proprietary platform developed by DBAG that facilitates algorithmic trading by providing our clients with historical market (tick) data for analytical purposes.

This historical market data, which is detailed to a nano-second level, is presented in an intuitive environment, offering valuable insights into market conditions and microstructures.

It aids our clients in enhancing trading efficiency and allows for the development and testing of execution algorithms, among various other applications.

Key Features/Benefits

- Back-test your algorithms and receive immediate results.

- Utilize the built-in algorithm engine for rapid algorithm development and back-testing.

- An economical way to access accurate information that enhances trading efficiencies by reducing development time.

Contact & Information

For inquiries, reach out to the EEX Market Data Services Team at: datasource@eex-group.com / +49 341 2156 288.

Further information is also available on our Deutsche Börse Website.

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Thank you for your attention!

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