HUPX – Volue webinar

Leveraging the pan-EU Intraday Auctions markets

12.03.2024.

hupx

HUNGARIAN POWER EXCHANGE

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DIRECTOR OF MARKETS

Intraday trading in the spotlight

IDA Workshop

13/03/2024

2023 ANNUAL RESULTS

hupx HUNGARIAN POWER EXCHANGE

Day-ahead Market

24 h

Total traded volume in 2023: **26 050** GWh

+14 new members in 2023

Intraday Market

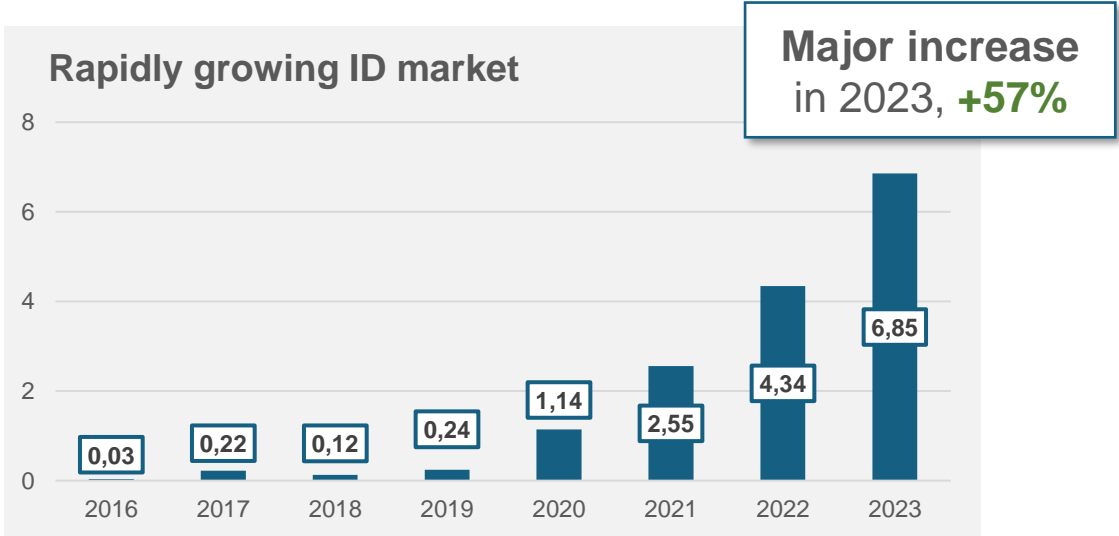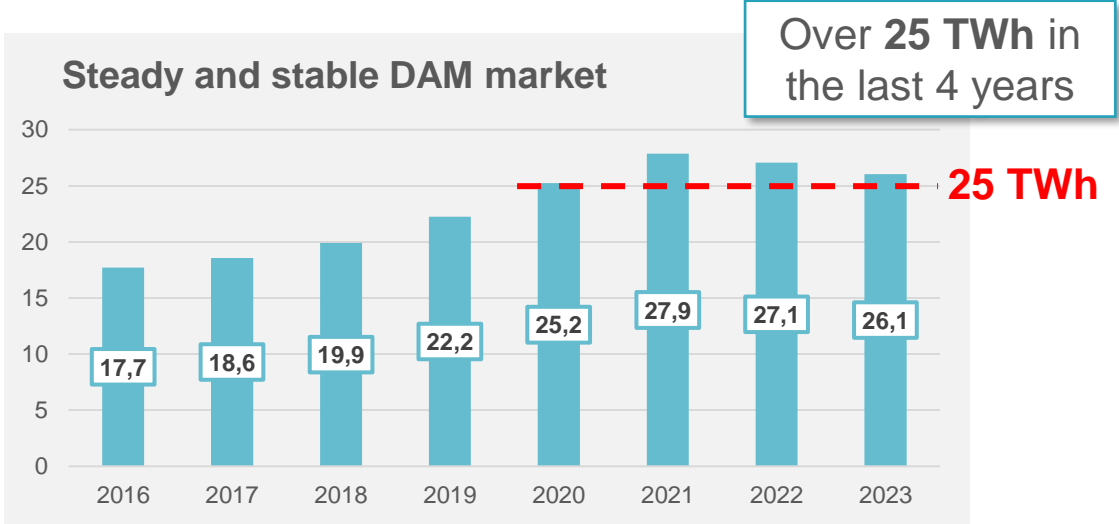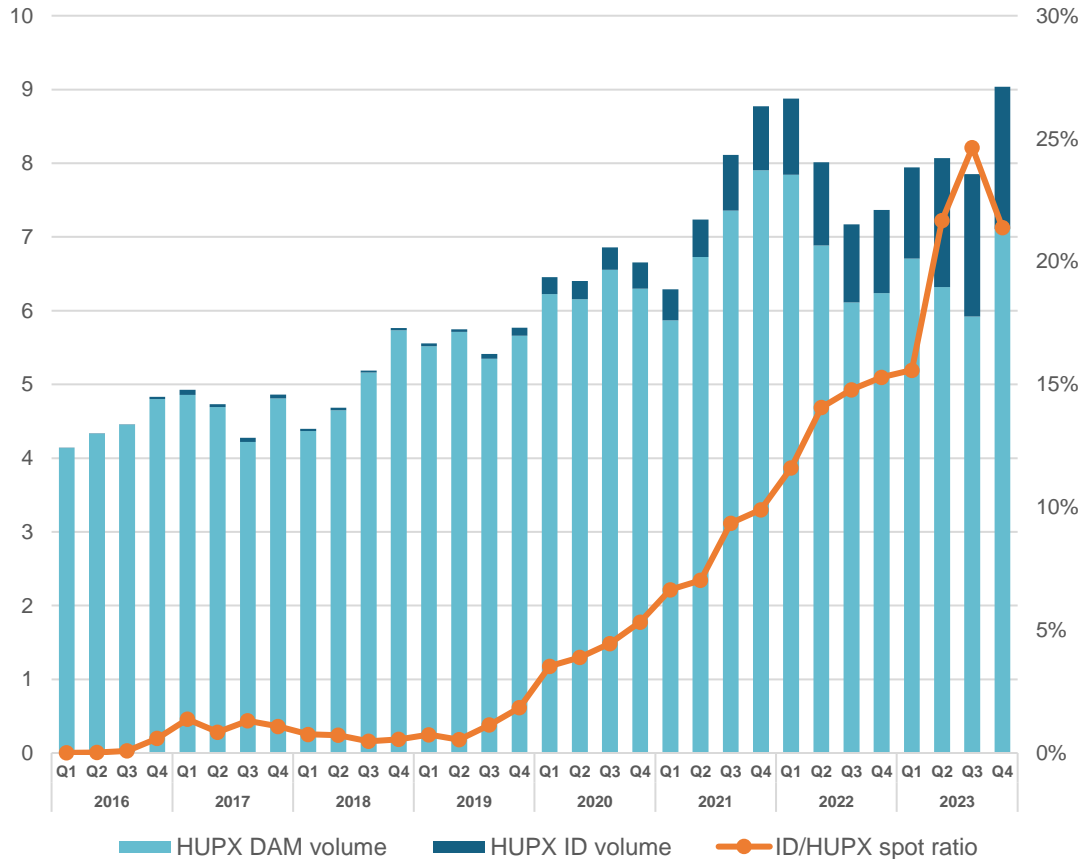Total traded volume in 2023: **6 850** GWh

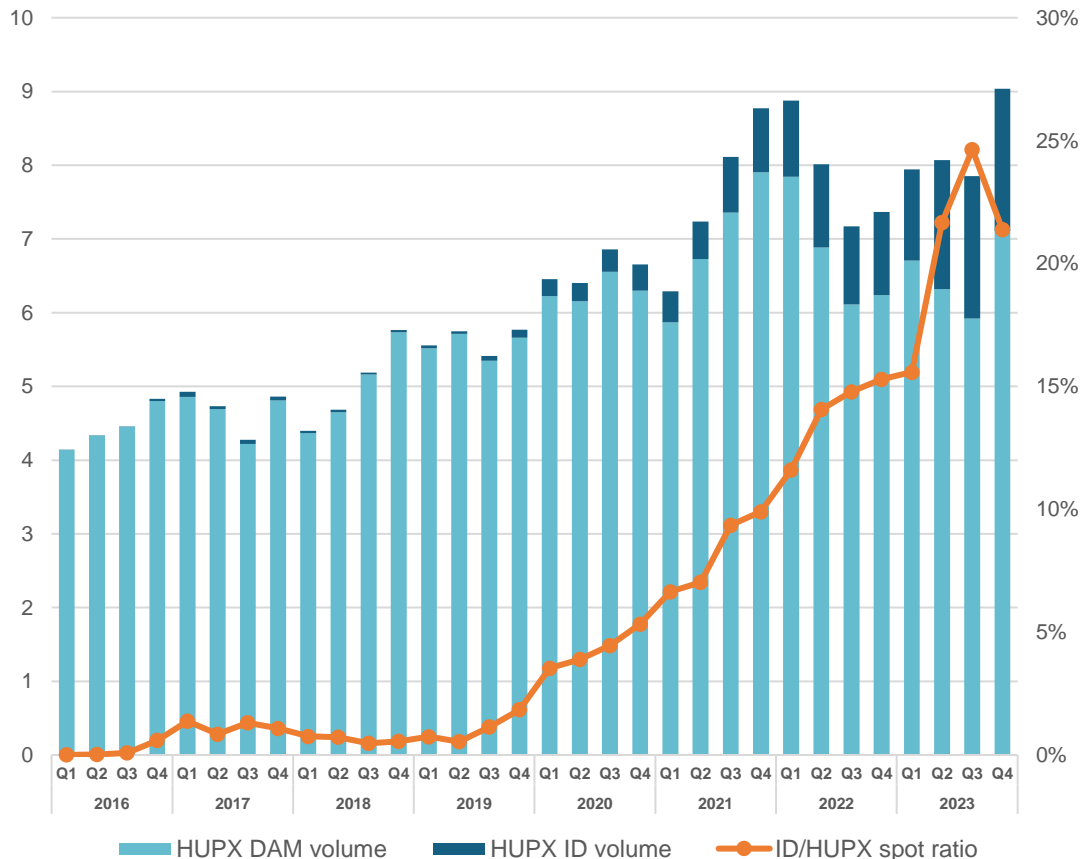+15 new members in 2023 **+59 %** to 2022

Members:
76 DAM
60 IDM

INCREASING SPOT VOLUMES WITH A SHIFT OF FOCUS

HUPX SPOT: 32,9 TWh (+1,5 TWH +5%) ⬆

HUPX SPOT traded volume and the shift of focus [TWh]

Legend: HUPX DAM volume | HUPX ID volume | ID/HUPX spot ratio

Steady and stable DAM market

Over **25 TWh** in the last 4 years

Values: 2016: 17,7 | 2017: 18,6 | 2018: 19,9 | 2019: 22,2 | 2020: 25,2 | 2021: 27,9 | 2022: 27,1 | 2023: 26,1

25 TWh

HUPX DAM volume 2017 - 2023

Rapidly growing ID market

Major increase in 2023, **+57%**

Values: 2016: 0,03 | 2017: 0,22 | 2018: 0,12 | 2019: 0,24 | 2020: 1,14 | 2021: 2,55 | 2022: 4,34 | 2023: 6,85

HUPX IDM volume 2017 - 2023

INCREASING VOLUME WITH A SHIFT OF FOCUS

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HUPX SPOT traded volume and the shift of focus [TWh]

Legend: HUPX DAM volume | HUPX ID volume | ID/HUPX spot ratio

Strongly coupled, stable DAM market performance and benchmark

» **Decreasing and less volatile DAM spreads** towards benchmark prices

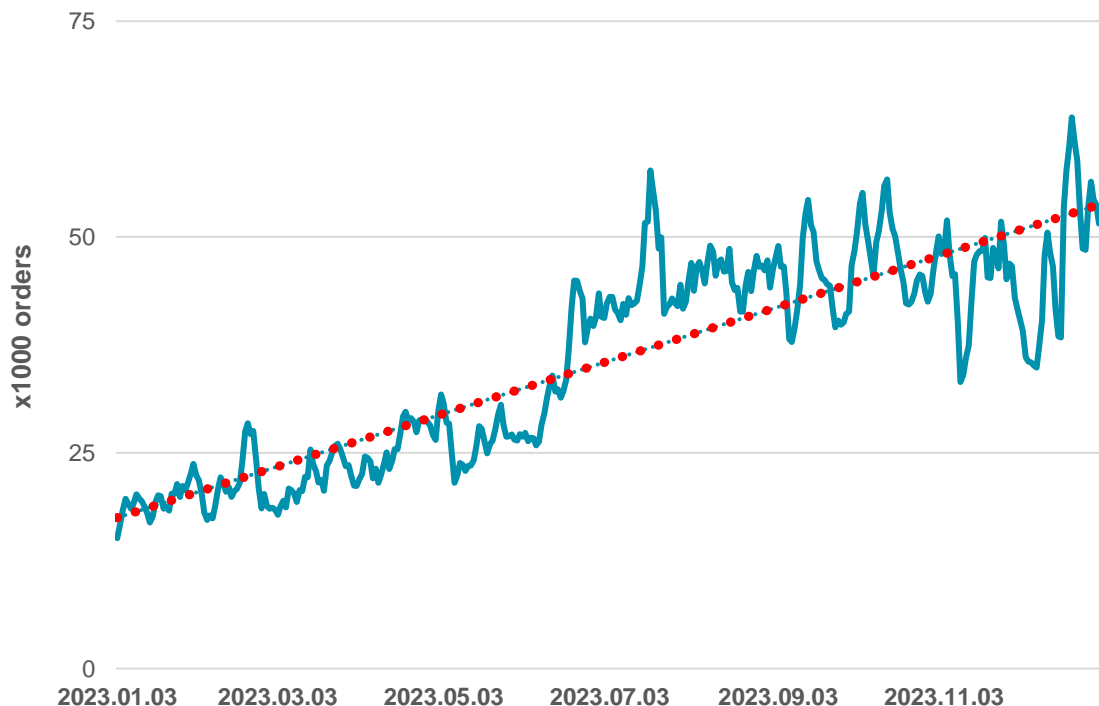» Steady **~60% of consumption traded**

Altering Hungarian fundamentals

» **Growing installed PV capacity**

» Increasing **volatility** in **HU import**

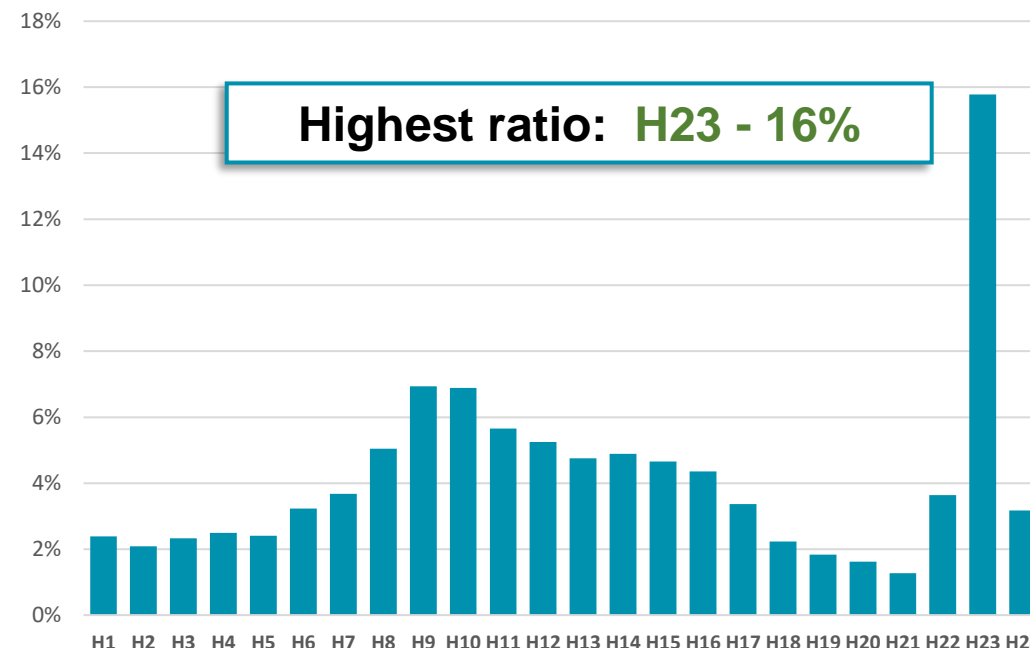## Boosting ID liquidity and market activity

» Increasing **ID membership and volume**

» Order number increase and **algo trading**

BOOSTING ID LIQUIDITY AND MARKET ACTIVITY

Order numbers – 5 point moving average

Increasing order numbers on HUPX IDM market

The **average weekly order numbers** raised from **15 000 to 55 000** orders per day

PV production effect on ID volume

Highest ratio: H23 - 16%

Lowest ratio: H21 - 1,3%

The peak number of trades is highly correlated with the **opening hour of XBID.**

Total trade number in 2023: 4 297 387

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2024 Q3
API to be available on HUPX DAM and IDA

» **API endpoints** will be available for both **IDA and HUPX DAM** markets

» Increasing flexibility in the order actions

2024 Q2
Introduction of ID3 index

» New **price index** for HUPX Intraday market

» VWAP for the **last three trading hours** before GTC

» Liquid price index for **all quarter-hours**

2024 Q3
Development of data access and transparency

» **Improved data services** for HUPX market data

» Export function for HUPX aggregated and historical data **with API endpoints**

MARKET OPERATION

Number	Timing	Allocated period	Available capacities
IDA 1	D-1 15:00	D [00:00-24:00]	DAM leftover
IDA 2	D-1 22:00	D [00:00-24:00]	ID recalculated capacities
IDA 3	D 10:00	D [12:00-24:00]	ID recalculated capacities

KEY FEATURES

» Auction based bidding on ID timeframe,
>> **Concentrated liquidity**
>> **Reliable price snapshot**

» ID capacities for trading earlier
>> **DAM leftover capacities** made available for:
>>> **IDA1 and**
>>> **XBID (between IDA1 and IDA2)**

» **API for seamless integration and automation**

IDA preparation toolkit with short technical briefs

Gabriella Juhász

Market development team leader

12.03.2024

Agenda

- IDA Solution & Architecture
- IDA Features
- Products and interconnectors
- Intraday Auction Process
- Trading Parameters in ETS
- Bid Submission
- Result Publication
- Extreme Cases
- Project Timing

The IDA

- Coupled EU markets where orders and cross border capacities are allocated in parallel

- Implicit auctions (*similar to DAM)* run by Euphemia

- NTC-based capacity calculation methodology

The architecture

- XBID is used as source of network data for IDA (pre-coupling) and to validate the IDA results in terms of capacity meeting the network constraints (coupling)

- Network data are provided via NEMOs to EUPHEMIA (auction algorithm)

- Market participants' orders are submitted by NEMOs to the algorithm and results are sent back to Market participants

- IDA results are submitted to XBID to update the information about Already Allocated Capacity (AAC) in XBID and to reflect in relevant CMM files the existence of capacity reserved for IDA results

- IDA CIP is an intermediate system (interface) between XBID and NEMOs
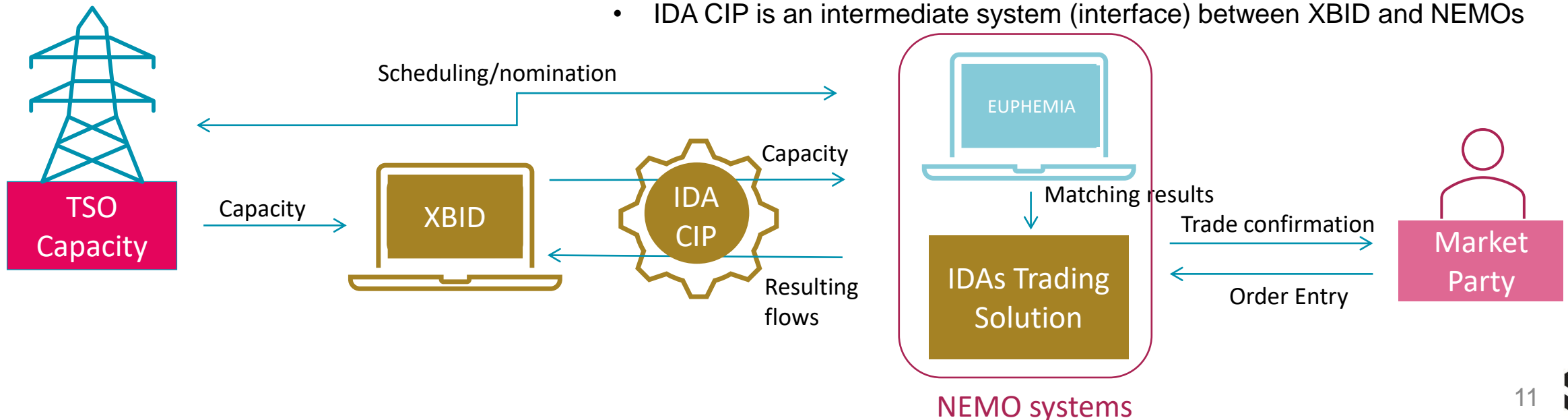
Number	Timing	Allocated period	Available capacities*
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IDA 3	D 10:00	D [12:00-24:00]	ID recalculated capacities

Cross Product Matching

- to allow a matching between different time units (60, 30, 15 min MTU) at a border

ID continous market

- M7 trading system for local market available during IDA market sessions
- XBID cross border allocation halted 20 min before and after IDA gate closure

Trading system

- ETS *(same to DAM)*

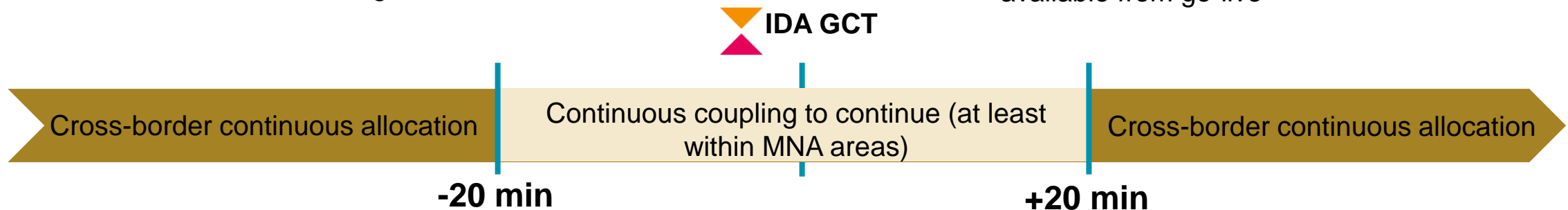## HUPX Service provider: EPEX SPOT

- Trading system, market coupling and supporting market operation

API connection

- available from go-live

IDA GCT

Cross-border continuous allocation | Continuous coupling to continue (at least within MNA areas) | Cross-border continuous allocation

-20 min   **+20 min**

*for more info see next slides or join the Core Consultative Croup here

IDA Go-Live / 1st July 2024 (working assumption)

2025 (working assumption)*

Legend:
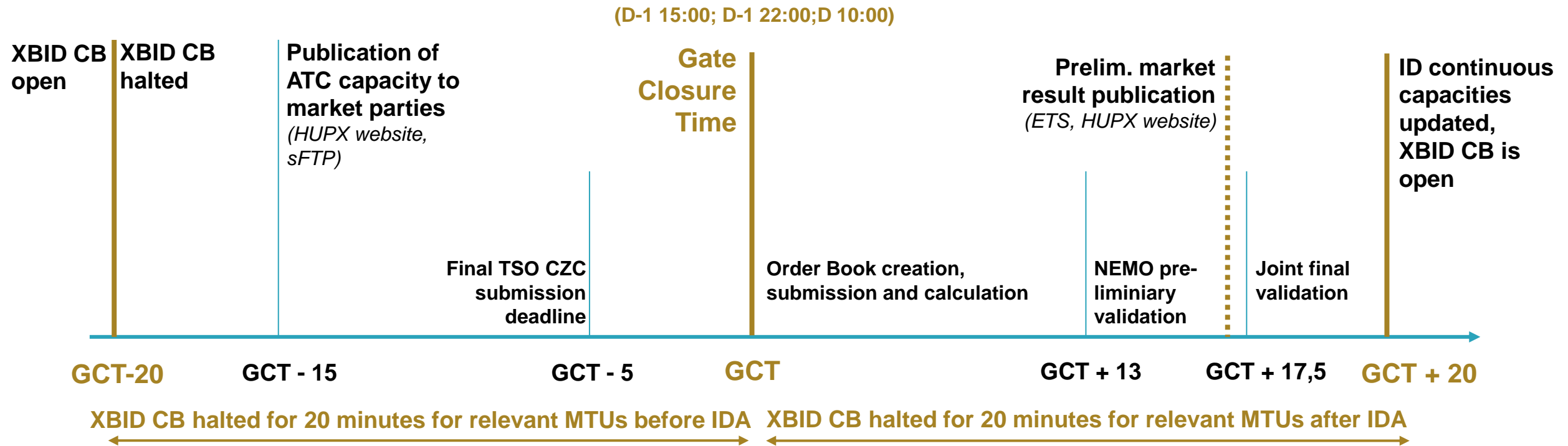- ——— Border on 15 min MTU
- ——— Border on 30 min MTU
- ——— Border on 60 min MTU

- BZ on 15 min MTU
- BZ on 30 min MTU
- BZ on 60 min MTU
- Not part of SIDC coupling

* Transfer to status presented in this figure may happen in several steps where individual BZs and Borders will switch to 15 min MTU

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(D-1 15:00; D-1 22:00;D 10:00)

XBID CB open

XBID CB halted

Publication of ATC capacity to market parties *(HUPX website, sFTP)*

Gate Closure Time

Prelim. market result publication *(ETS, HUPX website)*

ID continuous capacities updated, XBID CB is open

Final TSO CZC submission deadline

Order Book creation, submission and calculation

NEMO pre-liminiary validation

Joint final validation

GCT-20	GCT - 15	GCT - 5	GCT	GCT + 13	GCT + 17,5	GCT + 20

XBID CB halted for 20 minutes for relevant MTUs before IDA | **XBID CB halted for 20 minutes for relevant MTUs after IDA**

- XBID cross-border trading shall be interrupted during IDA: 20 minutes before GTC of the IDA and 20 minutes after GCT of the IDA by default (but depending on result of testing it may be increased to 30 minutes in the first year of operation)
- ATC information will be published 15 minutes before GTC on JAO's website
- ATC can be updated by TSOs 5 minutes before GTC
- Preliminary results are published by NEMOs 17,5 minutes after the GTC
- Final results are published by NEMOs 20 minutes after GTC

Trading procedures	**3 auctions/day year around**
Delivery procedure (Nomination)	Nomination by the Clearing House (on behalf of HUPX) and by the HUPX Member
Clearing and Settlement	Trade information transmitted by HUPX to the Central Counterparty, ECC for Settlement and Delivery of the Contracts
Delivery unit	**15 minutes**
Tradable contracts (Expiries)	In case of IDA 1 & IDA 2: 1 quarter-hour of the day, altogether 96 quarter-hours In case of IDA 3: 1 quarter-hour of the day, altogether 48 quarter-hours. Quarter-hour 01: the period between 12:00 and 12:15 am
Order types	Linear (quarter-hour) Order; Block Order (simple, linked, exclusive) same parameters as DAM
Lot size	0.1 MW
Tick size	0.1 €/MWh
Minimum and maximum prices	**-9999 €/MWh; 9999 €/MWh**
Published results precision	0.01€/MWh
Gate Opening Time	45 days before the Delivery Day
Gate Closure Time	IDA1: 15:00 (CET), one day before Delivery Day IDA2: 22:00 (CET), one day before Delivery Day IDA3: 10:00 (CET), on Delivery Day
Publication time of final results (estimated)	IDA1: 15:20 IDA2: 22:20 IDA3: 10:20
Second auction	No

For more info visit: www.hupx.hu

Bid submission options

ETS

- DAM and IDA will be accessible with the same ETS users if not requested differently
- Trader or read only users can be asked
- DAM and IDA will be accessible with the same portfolios if not requested differently
- By default 2 users and 2 portfolios per member
- HUDEX physical delivery only on DAM, not on IDA

API

- For API connection please contact membership@hupx.hu

Market Global View - My view [Epex Trading System]

File View Format Settings Window Help

Day Type

Auction Day

From Date	Auction Status	Auction Group	Auction Name	Market Area
07/03/2024	All	All	All	All

| Delivery Day	Area	Portfolio	Auction Date Time	Order Book Status	Duration	Currency
All	All	All	All	All	All	All
08/03/2024	HU-MVR	COMPANYAB-TH01	PWR-MRC-D+1 2024-03-07-12:00 (cet/cest)	OBK Closed	60 min	EUR
08/03/2024	HU-MVR-IDA1	COMPANYAB-TH01	PWR-SIDIDA1-D+1 2024-03-07-15:00 (cet/cest)	OBK Closed	15 min	EUR
08/03/2024	HU-MVR-IDA2	COMPANYAB-TH01	PWR-SIDIDA2-D+1 2024-03-07-22:00 (cet/cest)	OBK Open	15 min	EUR
07/03/2024	HU-MVR-IDA3	COMPANYAB-TH01	PWR-SIDIDA3-D 2024-03-07-10:00 (cet/cest)	OBK Closed	15 min	EUR

Preliminary results in the ETS at the earliest

- IDA1: 15:17:30
- IDA2: 22:17:30
- IDA3: 10:17:30
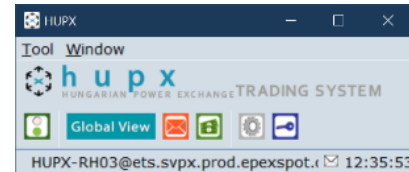
Final results in the ETS at the earliest

- IDA1: 15:20
- IDA2: 22:20
- IDA3: 10:20

HUPX Webpage publication (preliminary and final)
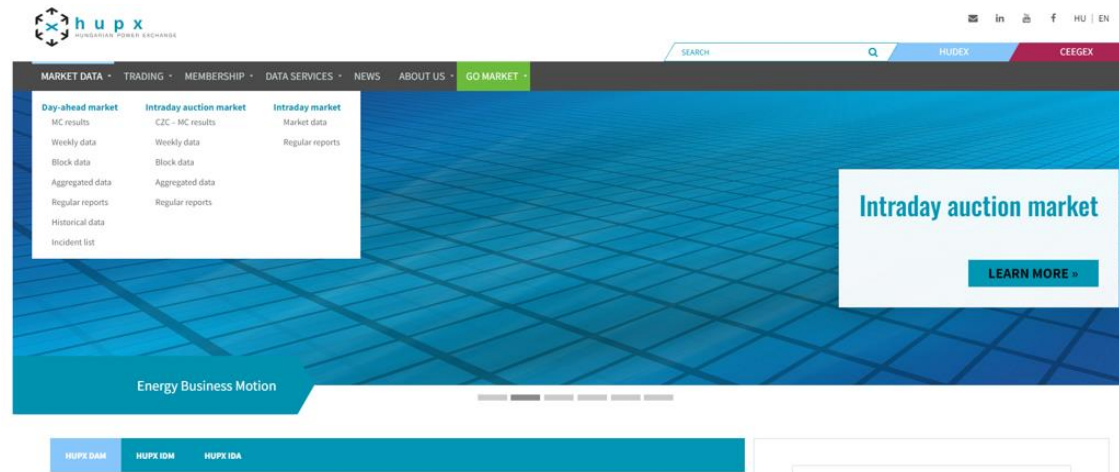
HUPX SFTP publication after the auction

- Member level
  - Trading Data
  - Block data
- Market level
  - Price and volume
  - Aggregated curves
  - Block bid
  - CZC
  - Flow

DAM results are not known by 14:10 D-1

- IDA1 session will be cancelled. Continuous trading will be available from 15:00 D-1

IDA results are not delivered by the prescribed time for validation (GCT+27)
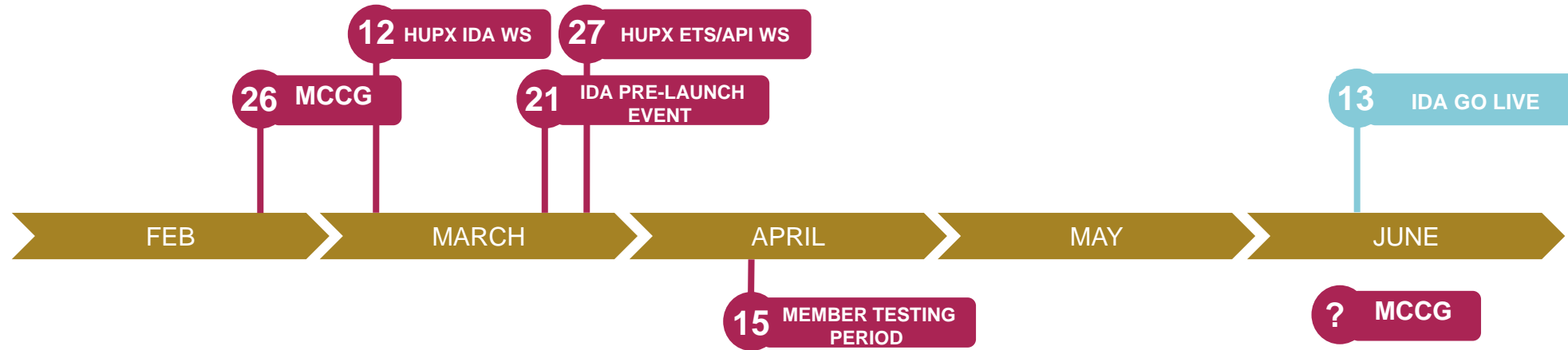
- IDA session will be cancelled

Fallback / Partial (de)coupling

- if any unexpected procedural problem after GCT/during coupling occurs, and a NEMO is decoupled most of NEMOs (HUPX as well) will be automatically decoupled together with this

- However, GME, OMIE and HENEX stay coupled

- The configuration reflects the impossibility, due to the short time available in IDA, of re-opening the OBKs (common practice that gives Market Participants the possibility to adjust their bids due to the unexpected changes of market topology)

- For IDA go-live the decoupled borders are kept closed on continuous market until the end of IDA auction, i.e., no continuous cross-border allocation, but this feature is foreseen to be modified later (in 2025) allowing to resume continuous cross-border allocation for decoupled borders earlier

- No shadow auction

Rollback/Suspension

- 1 week after GL serious issues occur on IDA (several sessions are cancelled)

- Market participant will be informed ASAP

- ETS IDA Auction status will be changed to IDLE mode

- Continuous market will be available only no IDAs

12 HUPX IDA WS

27 HUPX ETS/API WS

26 MCCG

21 IDA PRE-LAUNCH EVENT

13 IDA GO LIVE

| FEB | MARCH | APRIL | MAY | JUNE |

15 MEMBER TESTING PERIOD

? MCCG

On 21 March IDA Pre-Launch Event focusing on the next steps, including member testing period. Program and registration here

On 27 March HUPX IDA & Auction API technical workshop

From 15 April until 3 May the member testing period is planned to be held, further information will be shared later, similar registration process as on DAM

- Testing in business hours and testing in production timing will be organised as well
- Different scenarios will be organised: normal day, partial decoupling and cancellation

In June the 6th MCCG meeting is planned with a dedicated IDA section

On 13 June, the expected go live of IDAs will take place

Extension for HUPX DAM Members

- **Automatic extension at ECC***

- **Simple extension at HUPX**
    - **1 document prefilled by HUPX:**
      Annex 1 of HUPX Membership Agreement for Membership extension
    - Extension of existing DAM portfolios
    - Extension of existing DAM users
    - Automatic registration of existing traders
    - Possibility of API:
      API users can be requested for DAM and IDA separately and for both DAM and IDA commonly

- **Extension at HUPX with the registration of new users / traders is also possible**
    - Besides the ‚Annex 1 of HUPX Membership Agreement for Membership extension' further documents can be requested
    - Further fees can arise
    - Details to be discussed with HUPX

> *With simple extension the prefilled Annex can be finalized by the member within some minutes with some ticks and the proper (electronical) signature*
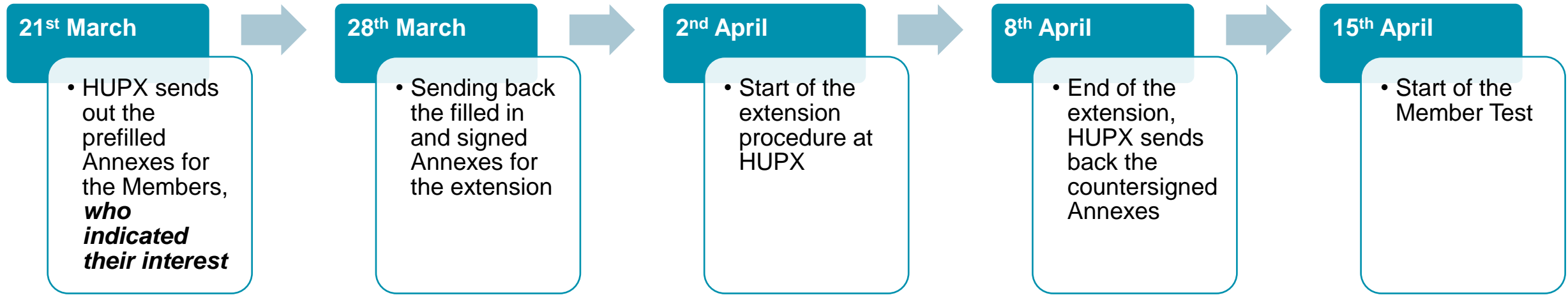
Admission for non-Members

- **Fulfilling the preconditions of joining HUPX**
    - *Trading license (MEKH)*
    - *Balance group membership (MAVIR)*
    - *Clearing Bank selection, admission to ECC and appropriate assurance on deposit account*
    - *HUPX Trader exam (or EPEX Spot Trader exam)*

- **Registration at ECC** (with updated TP Forms): new package will be uploaded to ECC's website

- **Sending whole Admission Package for HUPX**
    - Membership Agreement
    - REMIT Agreement
    - *D01 – Identification form*
    - *D02 – Form for authorized signatories*
    - *D03 – Trader registration form*
    - *D04a – ETS User registration form (DAM & IDA)*
    - *D04c – M7 User registration form (IDM)*
    - Supporting documents (License, Agreement, Company reg. extract, VAT)

ECC will extend all the DAM clearing memberships for IDA automatically, unless the parties have expressly provided otherwise, until the beginning of May.

Roadmap for the Extension

21st March		28th March		2nd April		8th April		15th April
• HUPX sends out the prefilled Annexes for the Members, *who indicated their interest*	→	• Sending back the filled in and signed Annexes for the extension	→	• Start of the extension procedure at HUPX	→	• End of the extension, HUPX sends back the countersigned Annexes	→	• Start of the Member Test

► From the 25th of March, HUPX will send out the prefilled Annexes for all other HUPX DAM Members

► The ones who would like to join the IDA Market shall send back the signed Annex and the internal extension process can start

Fee Schedule: Updated HUPX Fee Schedule

The new HUPX Fee Schedule is under approval

► **Founding Member Discount**: Members can make the extension at start at minimum cost

For more information contact us at
membership@hupx.hu

Contact us and have a 30 min call about the extension and accession.

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In case of any question please contact us

membership@hupx.hu

Thank you!