

# Local, digital, flexible : towards a renewed European power market

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ETCSEE Conference

Budapest – 20 June 2019

# A truly European Power Exchange

20+ nationalities in staff

285 members in 21 EU countries

7 European shareholders

51% private, 49% TSOs

8 European markets operated

8 new planned




21 borders

market-coupled

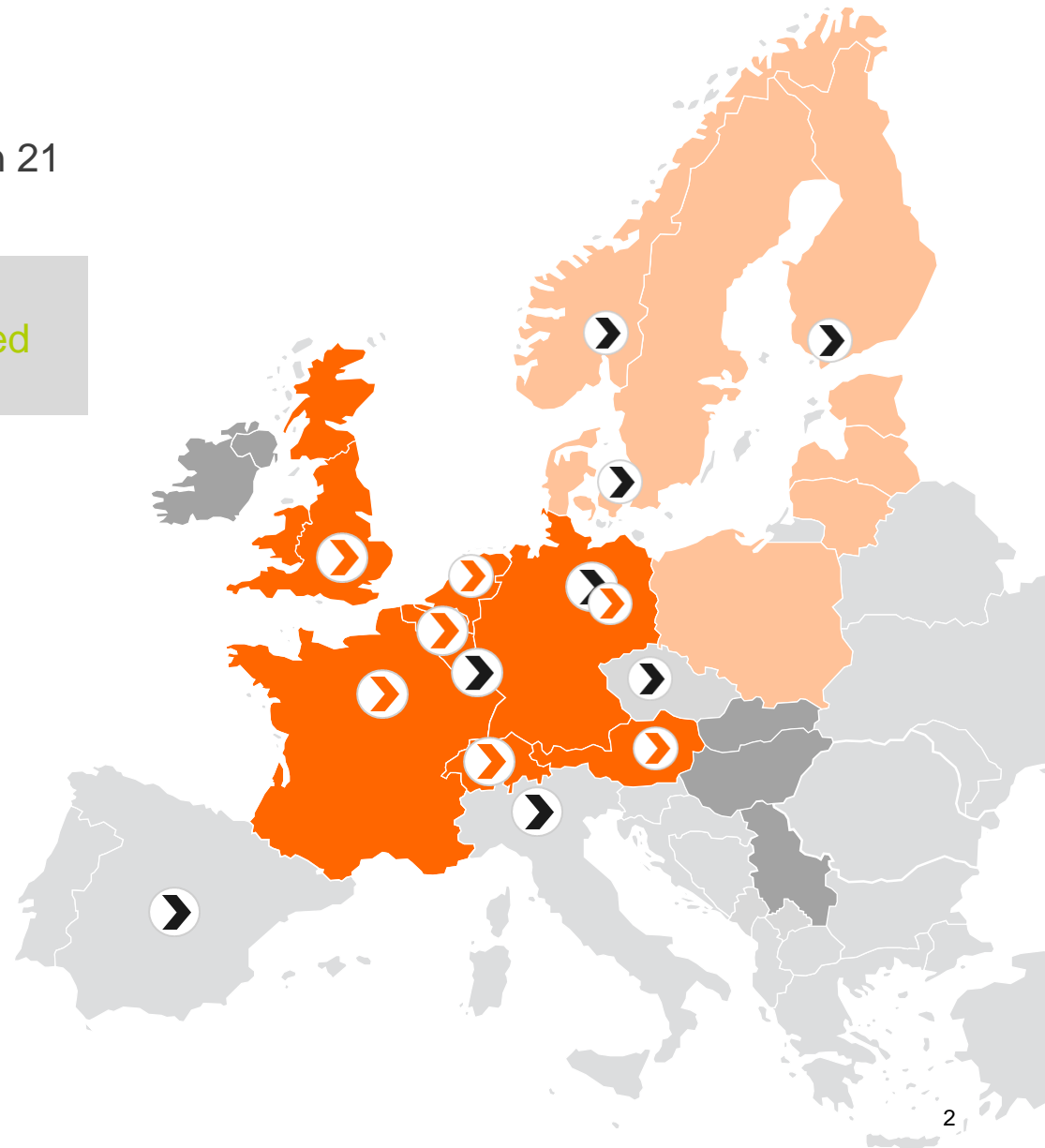
7 local offices across Europe

14 EEX Group

Markets covered under the roof of the Clearing House **ecc**

 Current EPEX markets  
 Coming soon  
 Serviced Power Exchanges

 Local EPEX / EEX Group offices



# One gateway to value the whole chain of power trading

» **eex**

» **epexspot**

**FUTURES  
MARKET**



**CAPACITY  
MARKET**



**DAY-AHEAD  
AUCTION**



**INTRADAY  
CONTINUOUS**

Year/Month/Week  
before delivery

Year(s) before/  
after delivery

One day  
before delivery

Until 5 min before  
delivery

**HEDGE**  
fluctuations

Value  
**CAPACITY &  
DEMAND RESPONSE**

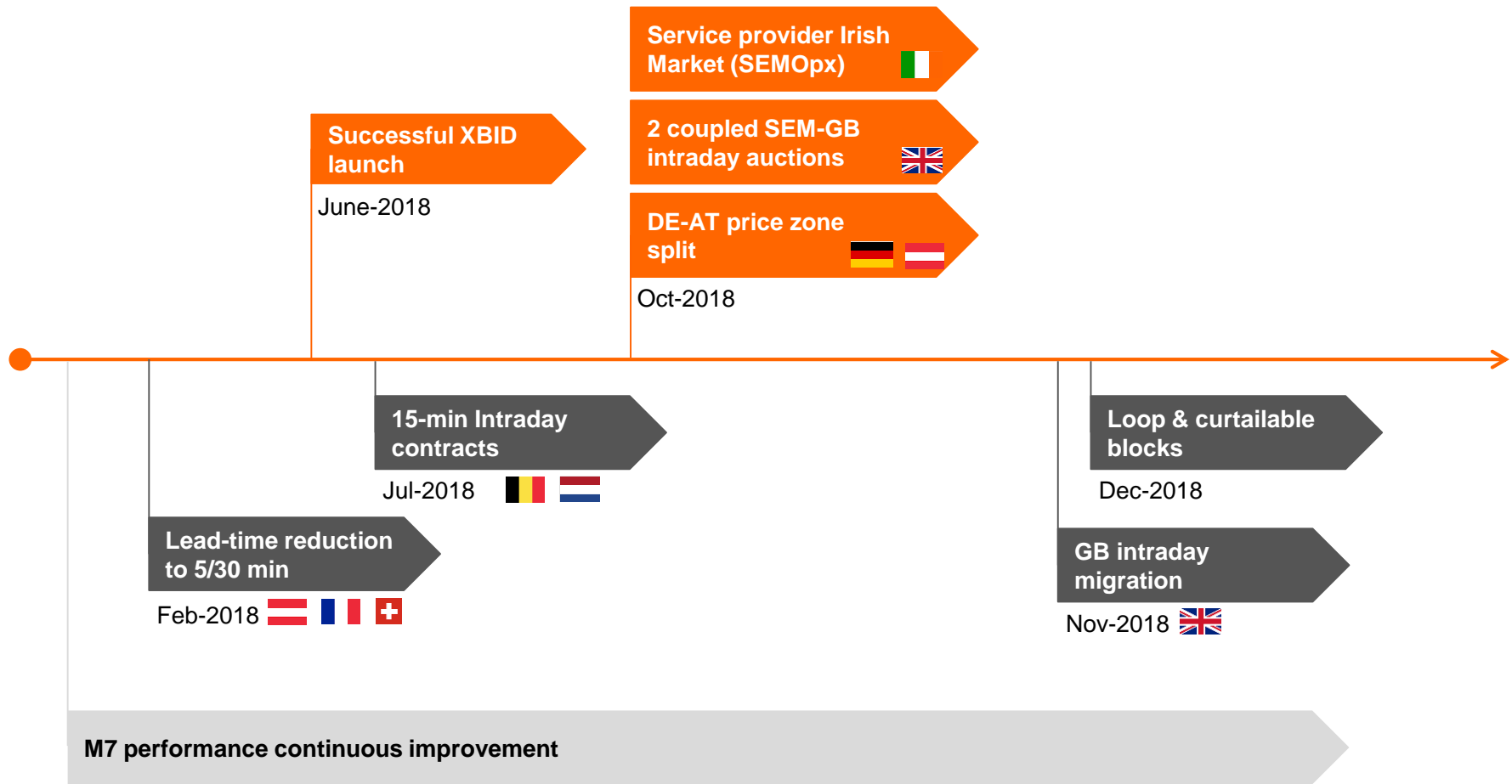
Value  
**PRODUCTION  
CONSUMPTION**

Value  
**FLEXIBILITY**

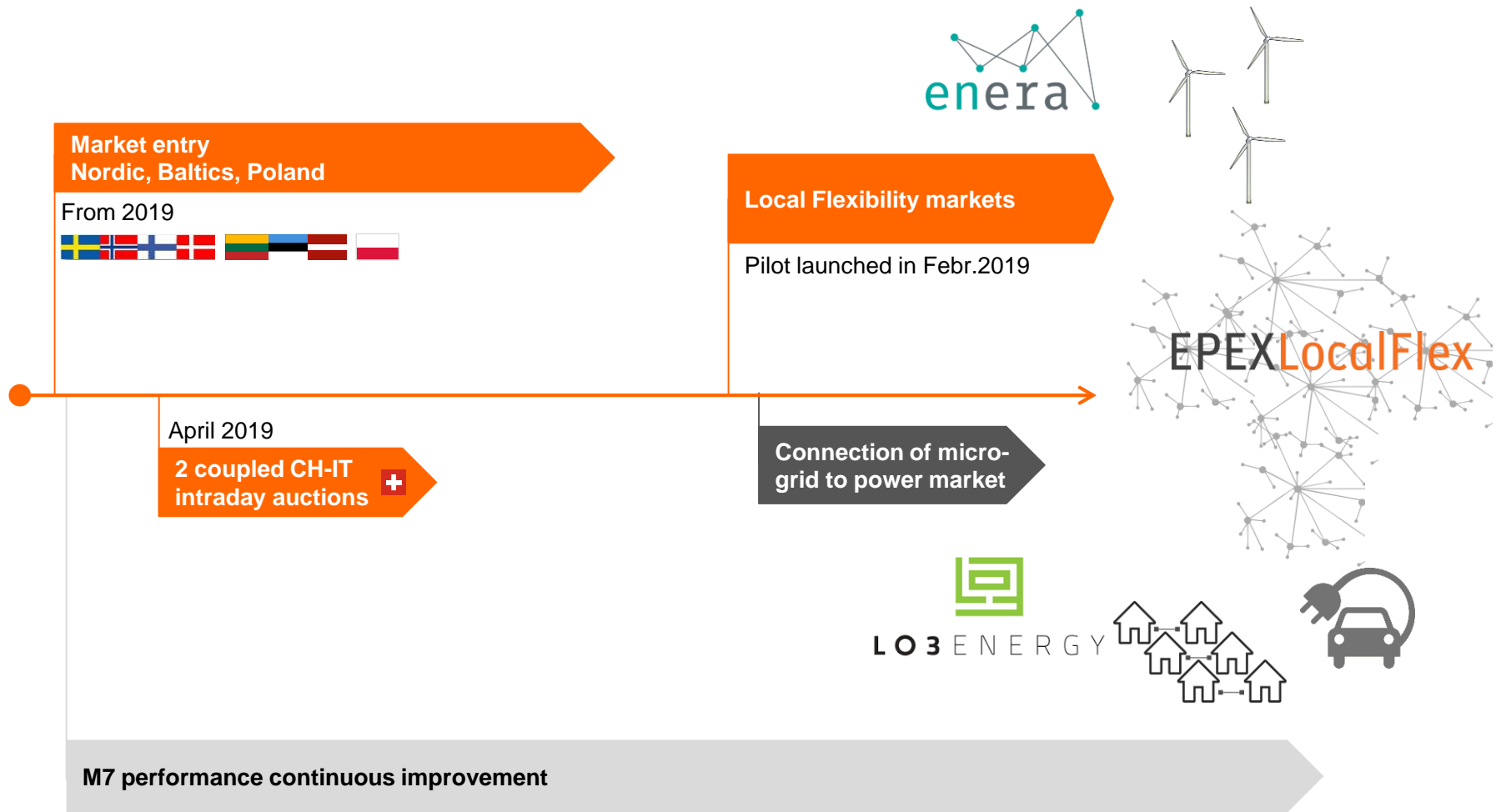
» **ecc**

**Integrated & Secure Clearing Solution**

# Continuous service improvements...



# ... and plans to further shape the future power landscape



# EPEX SPOT at a glance – Market trends

**567 TWh**

traded in 2018 on all  
spot markets

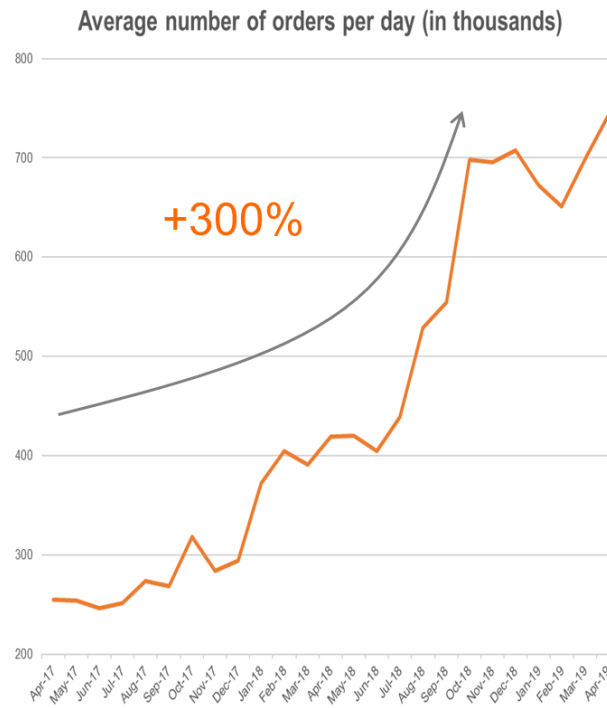
+6% Y2Y

**1<sup>st</sup>**

operator of a European  
market-based **local**  
**flexibility**  
demonstrator in 2019



Proven technical  
**performance**  
adapted to new market behavior

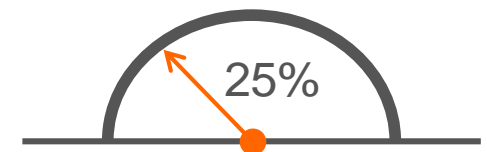


Largest Intraday  
market in Europe with  
**82 TWh**  
traded in 2018

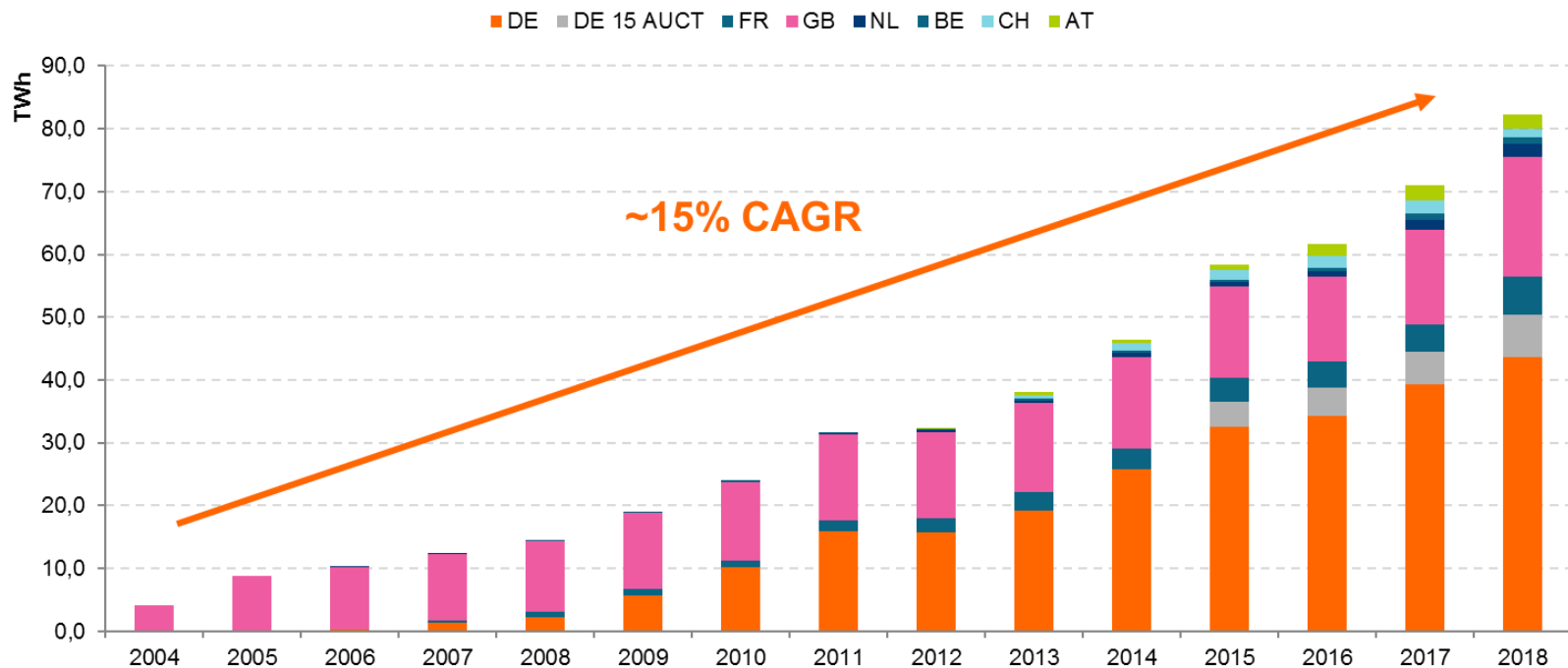
+16% Y2Y

**Success of 15-min products**

25% of German intraday volumes traded on  
15-min contracts in 2018

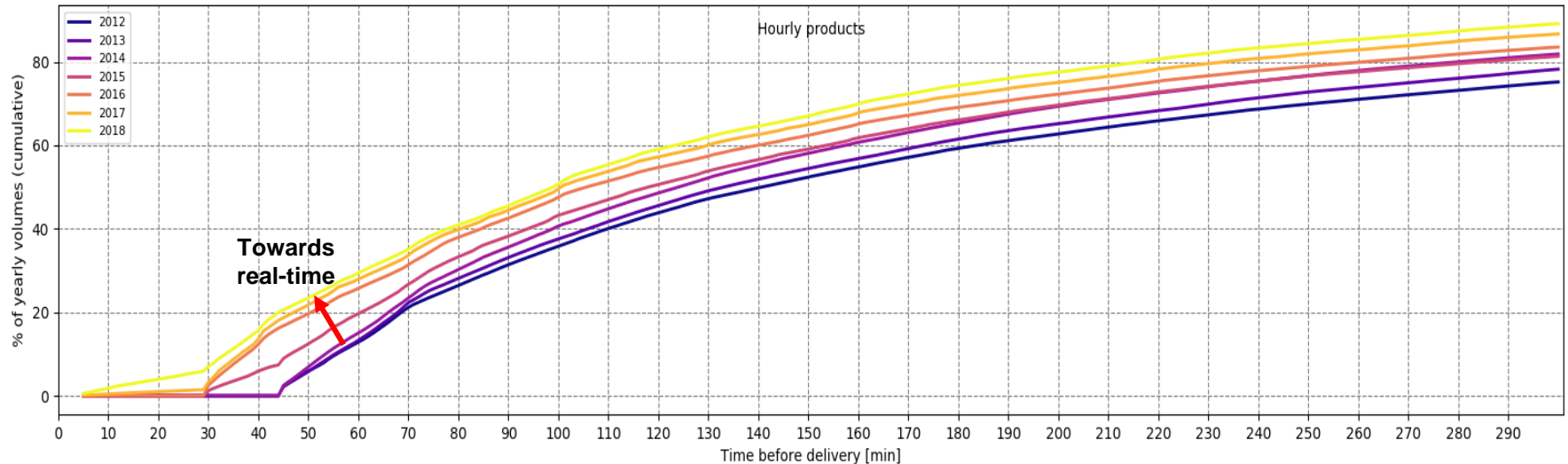


# A dynamic Intraday market, trading closer to real-time, at finer granularities



# A dynamic Intraday market, trading closer to real-time, at finer granularities

Lead time of all trades of 60min products in the German Intraday market

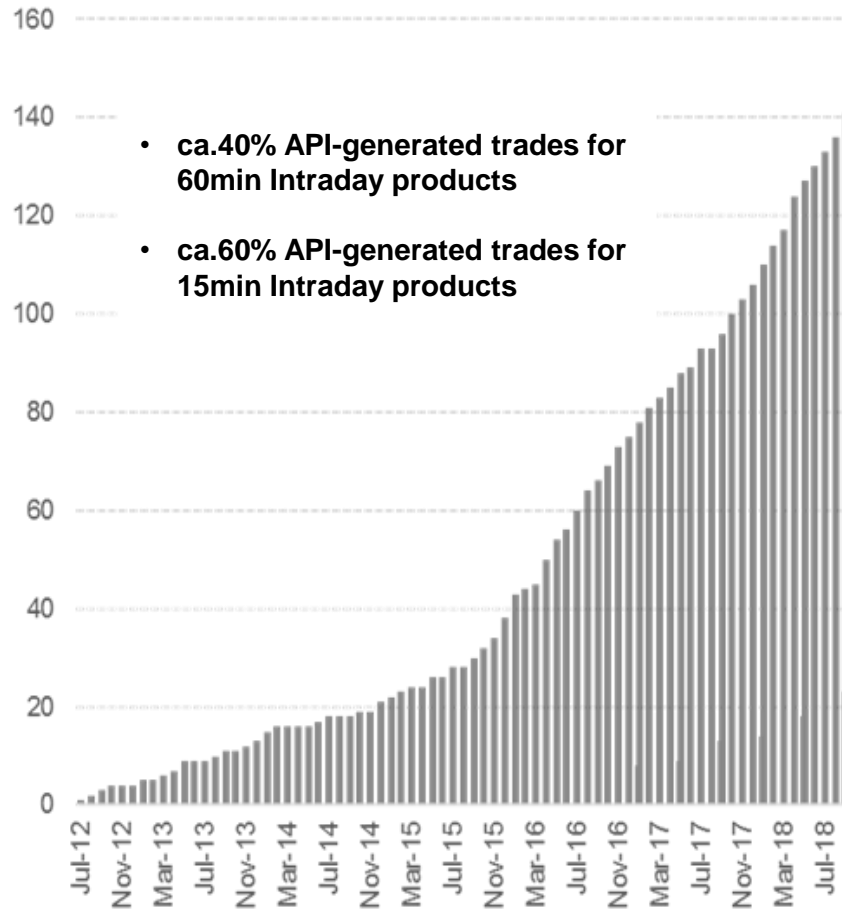


Source: EPEX SPOT

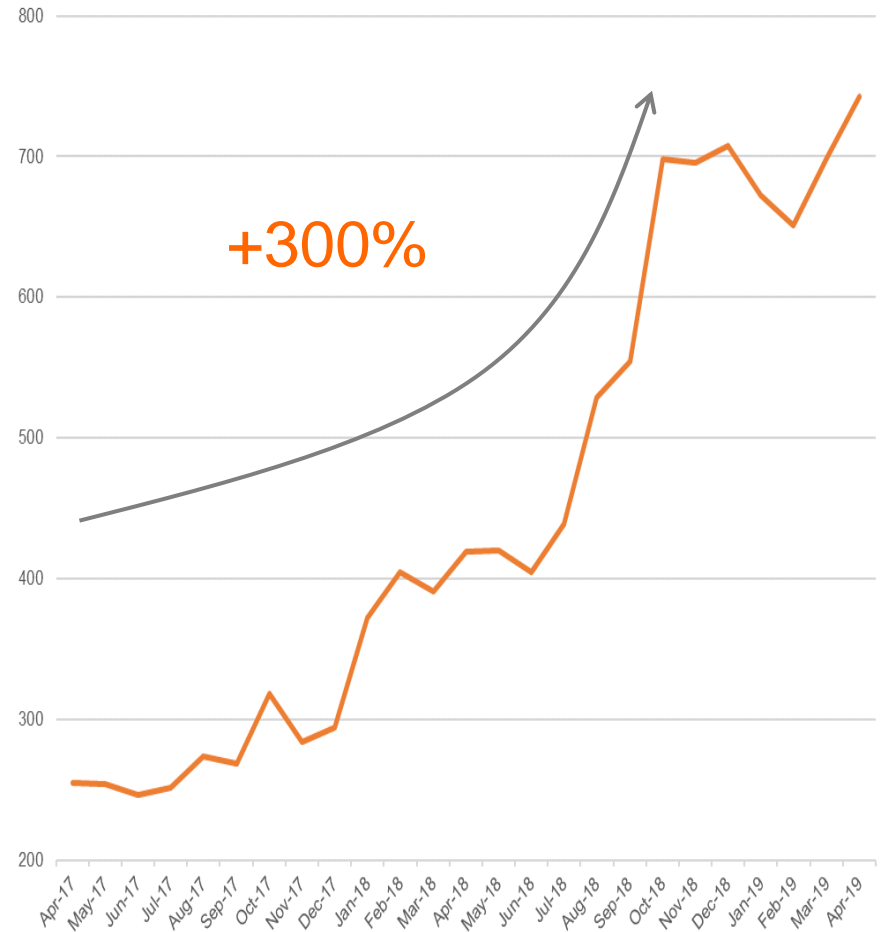


# A trend supported by more automated and performant trading solutions

Number of connections via EPEX API



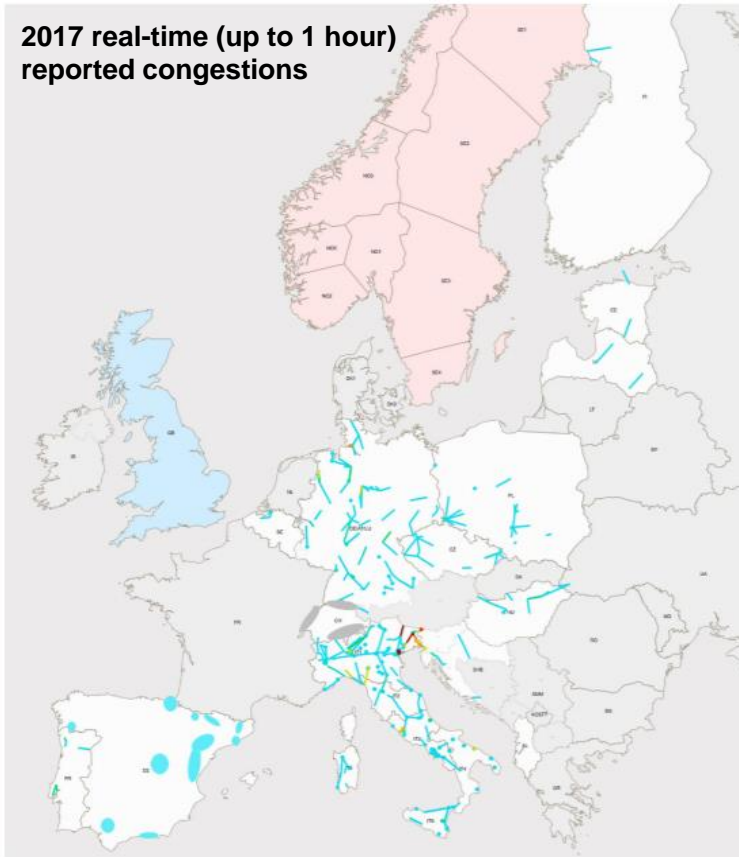
Average number of orders per day (in thousands)



# Congestions are slowly appearing in Europe

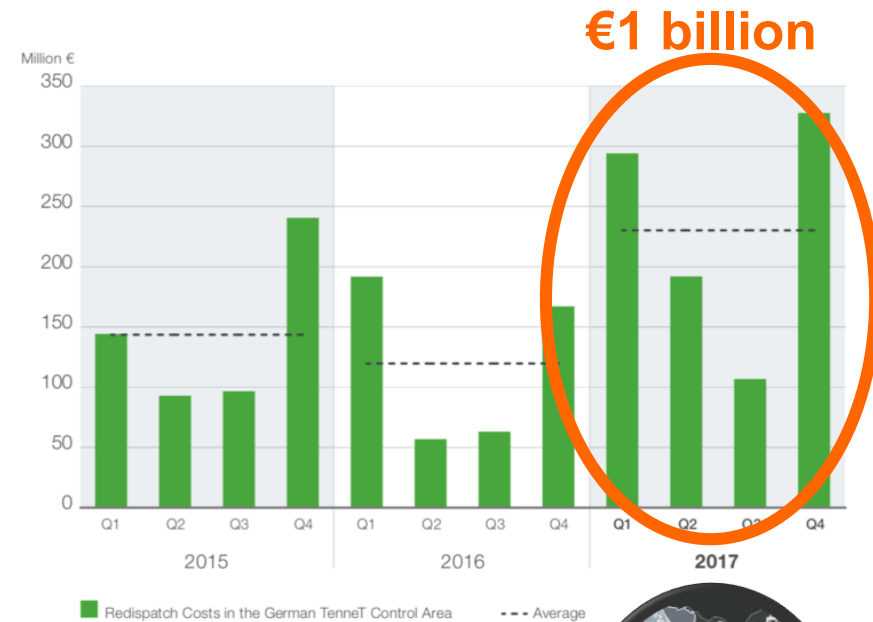


2017 real-time (up to 1 hour)  
reported congestions

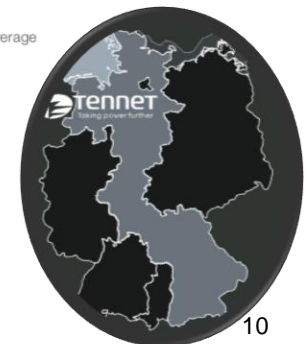


Source: ENTSO-E Regular Reporting on Bidding Zone Configuration – Technical Report 2018

Redispatch costs in the TenneT control area, spreading from the North-West to the South-East of Germany



Source: ENTSO-E Transparency platform



# Local flexibility markets to complement the EU market

wholesale market

EU XBID   EPEX		Bid		Ask	
Product	Qty	Price	Price	Qty	
DE 03:00	10	32	33	25	
DE 03:00	3	31	34	5	
DE 03:00	8	30	35	1	
DE 03:00	7	29	38	4	



... in parallel to ...

on-demand local  
orderbooks to  
relieve congestions

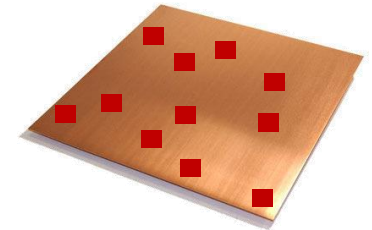
Local Market 4		Bid		Ask	
Product	Qty	Price	Price	Qty	
DE 03:00 Local 2	10	32	33	25	
DE 03:00 Local 3	3	31	34	5	
DE 03:00 Local 2	8	30	35	1	
DE 03:00 Local 2	7	29	38	4	

Local Market 3		Bid		Ask	
Product	Qty	Price	Price	Qty	
DE 03:00 Local 2	10	32	33	25	
DE 03:00 Local 3	3	31	34	5	
DE 03:00 Local 2	8	30	35	1	
DE 03:00 Local 2	7	29	38	4	

Local Market 2		Bid		Ask	
Product	Qty	Price	Price	Qty	
DE 03:00 Local 2	10	32	33	25	
DE 03:00 Local 3	3	31	34	5	
DE 03:00 Local 2	8	30	35	1	
DE 03:00 Local 2	7	29	38	4	

Local Market 1		Bid		Ask	
Product	Qty	Price	Price	Qty	
DE 03:00 Local 2	10	32	33	25	
DE 03:00 Local 3	3	31	34	5	
DE 03:00 Local 2	8	30	35	1	
DE 03:00 Local 2	7	29	38	4	

Local Market 1		Bid		Ask	
Product	Qty	Price	Price	Qty	
DE 03:00 Local 1	7	21	42	43	25
DE 03:00 Local 1	8	3	30	35	5
DE 03:00 Local 1	7	3	29	37	55
DE 03:00 Local 1	7	21	58	4	



# Local flexibility markets to complement the EU market

## FLEXIBILITY SUPPLY

### Flexibility providers:

- Power plants
- Aggregators
- VPPs
- Storage
- Renewables



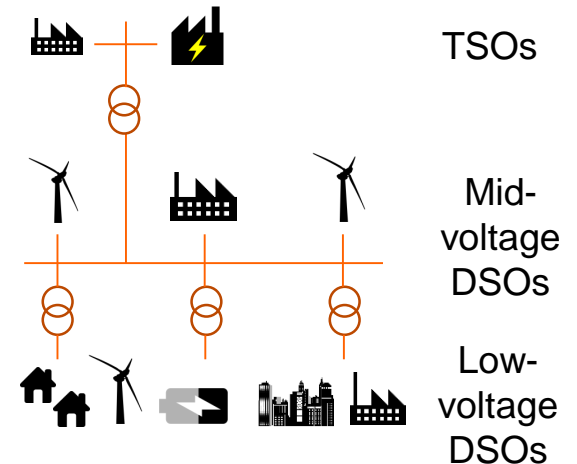
## FLEXIBILITY MARKET PLACE



### Market-based congestion management

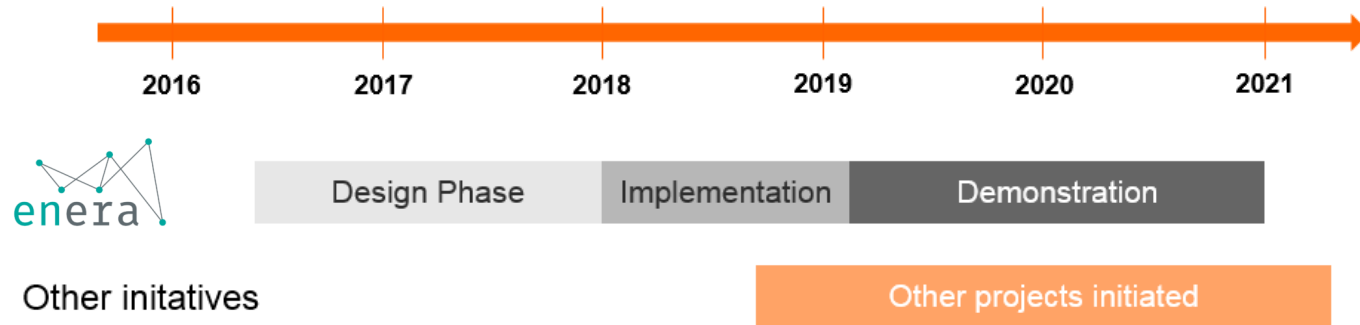
Trading systems  
Standards  
Transparency  
Coordination  
Neutrality

## FLEXIBILITY DEMAND FROM SYSTEM OPERATORS

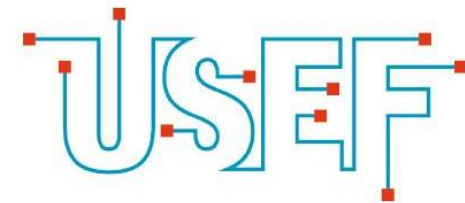


# EPEX SPOT in project mode

## EPEXLocalFlex



Live since  
Feb.2019!



and more to be announced soon...

# Nordic - Baltic - Polish market expansion



*EPEX is a licensed NEMO\*  
in the Nordic, Polish and  
Baltic regions*

\*Nominated Electricity Market Operator

- Current EPEX markets
- Coming soon
- Serviced Power Exchanges

## What's in it for members?

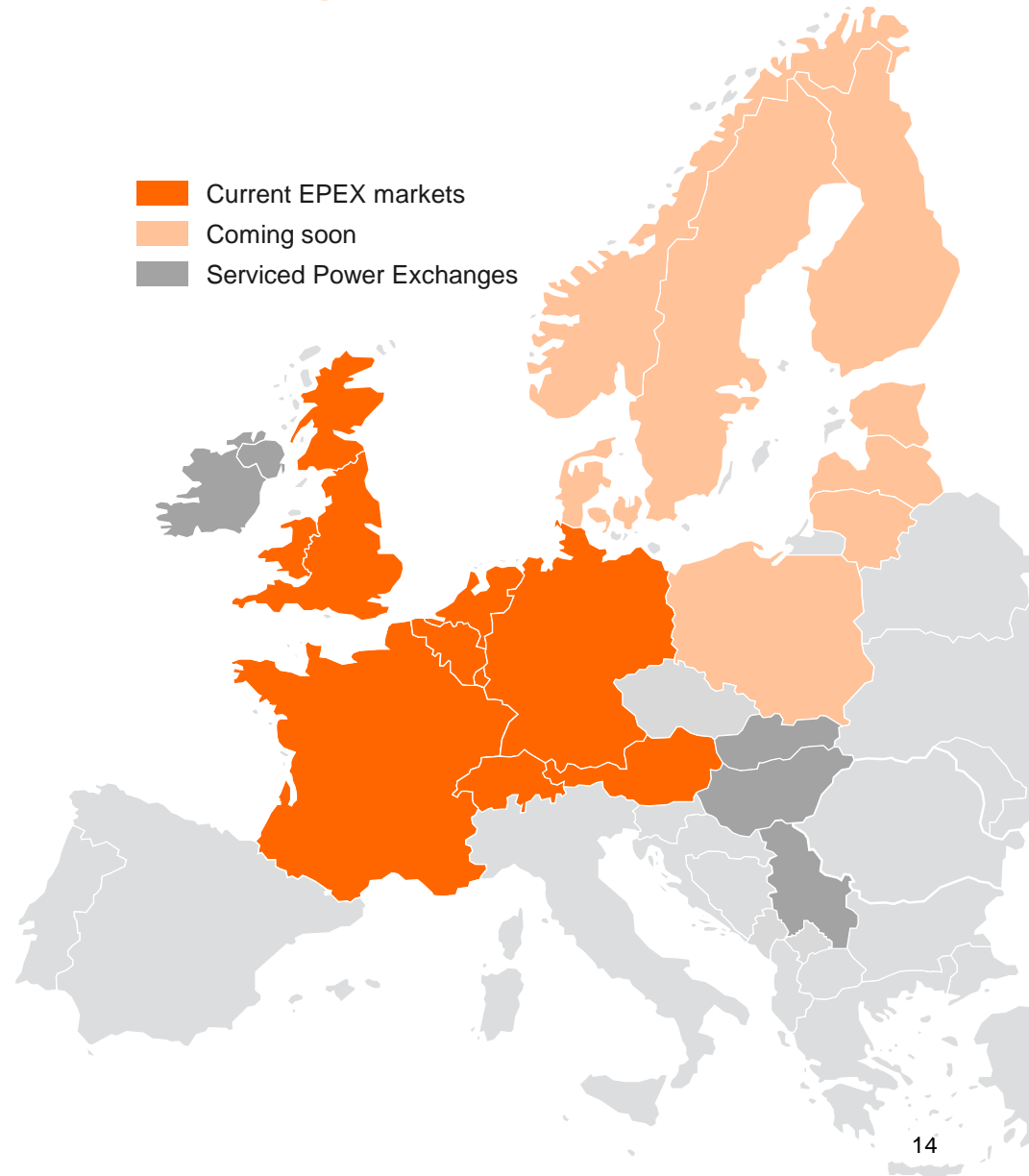
Operational & IT **Simplification**

Enhanced Trading **Experience**

Financial **Security**

**Economies** of scale

*using EPEX SPOT as your European power  
spot trading gateway*



# Day-Ahead : Secured price formation

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## Single reference price

fully **preserved**

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Based on the Multi-NEMO Arrangements, a **single regional Day-Ahead price is always secured amongst all NEMOs**

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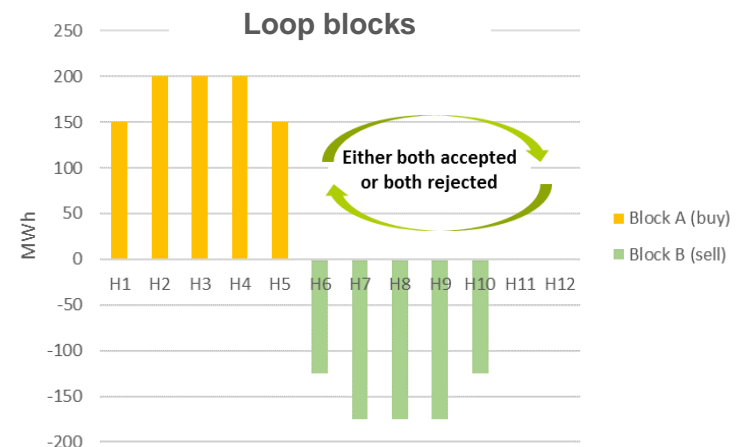
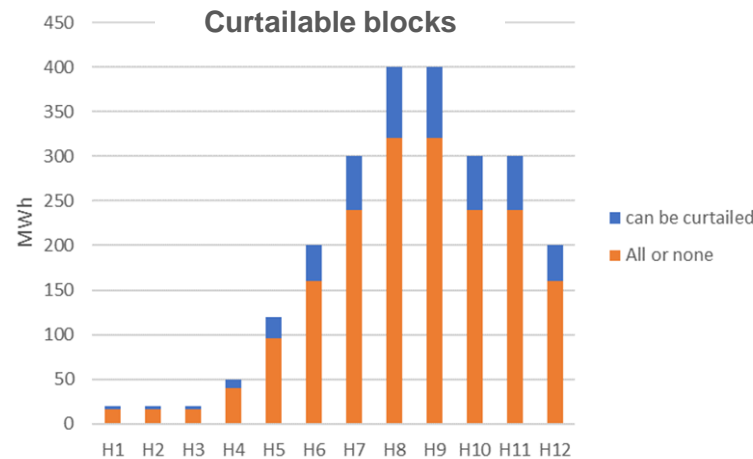


# Day-Ahead : More products to optimize your portfolio

## Orders types

fitting your **optimization needs**

- **Curtailable blocks** adapted to thermal units
- **Linked & Exclusive blocks** to sophisticate your optimization strategy
- **Large blocks** to secure important quantities
- **Loop blocks** to optimize your storage facilities





# Intraday : A unique trading venue with the largest product range & performance in Europe

## Trade with more products and functionalities

### Widest range of orders type

- Market sweep order
- Basket orders
- Linked Fill-Or-Kill
- All-or-none block
- Good for session / Good till date
- ...

### Unique functionalities

- Automatic trade recall
- Trading on Behalf
- Local trading back-up in case of XBID outage

The screenshot displays the EEX Spot trading interface. The top panel shows 'Market Overview' with tabs for General, Profile, Layout, Connection, and Help. Below this, the 'Market Details' section shows a table with columns: CHs, VWAP, Acc, Qty, Bid, and Ask. The 'Own Trade' section shows a table with columns: TrdCode, TrdName, Area, B/S, and Ctrct. The 'Market Overview (Predefined Products)' section shows a table with columns: Area, Ctrct, Pba, BQty, BAcc, OIBid, and BIQty. The 'Own Order' section shows a table with columns: TrdCode, Area, B/S, Ctrct, and IQty. The bottom panel shows a 'Message' section with columns: Market, Time, Priority, Type, and Text.

CHs	VWAP	Acc	Qty	Bid	Ask
CH01	0.11	2.4	2.4	0.11	0.14
CH01	0.02	19.4	17.0	0.01	0.50

TrdCode	TrdName	Area	B/S	Ctrct
TRD001	TM011-8G1	Demo	B	21-22

Area	Ctrct	Pba	BQty	BAcc	OIBid	BIQty
Demo	22-23	CONT				
Demo	20-21	CONT				
Demo	21-22	CONT	0.6	0.6		
Demo	14-15	CONT	2.4	2.4		
Demo	15-16	CONT	7.0	7.0		
Demo	18-19	CONT	6.5	6.5		

TrdCode	Area	B/S	Ctrct	IQty
TRD001	Demo	B	14-15	2.4
TRD001	Demo	B	14-15	0.7
TRD001	Demo	B	18-19	6.5

Market	Time	Priority	Type	Text
DEMO	05.01.2016 14:02:12	High	Buy	Order entered: Buy 14-15 - 2.400 MW for 0.
DEMO	05.01.2016 14:02:04	High	Sell	Order entered: Sell 14-15 - 0.700 MW for 0.

# Intraday : A unique trading venue with the largest product range & performance in Europe

## Platform

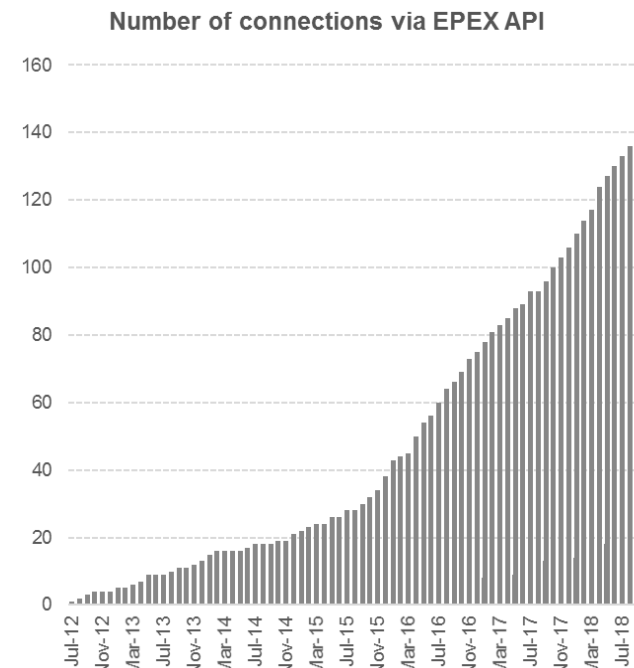
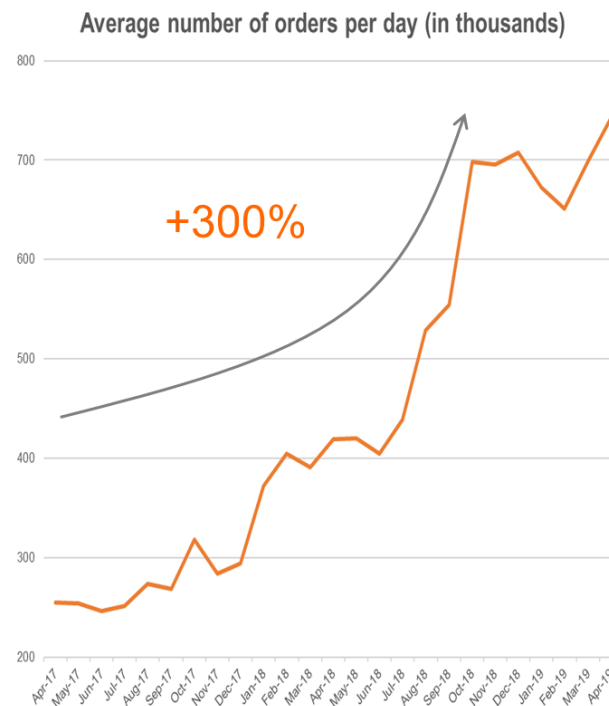
**scalable** and of **high performance**

### Robust & fast machine

- High availability rate
- Low latency even at peak-times

### State-of-the-art API technology

- Robust to high load
- Dedicated API technical support
- Largest community of ca.20 certified ISVs



# Clearing : Safe and cost-efficient solutions

## Supported by a European Clearing House

### Strong protection against counterparty risks

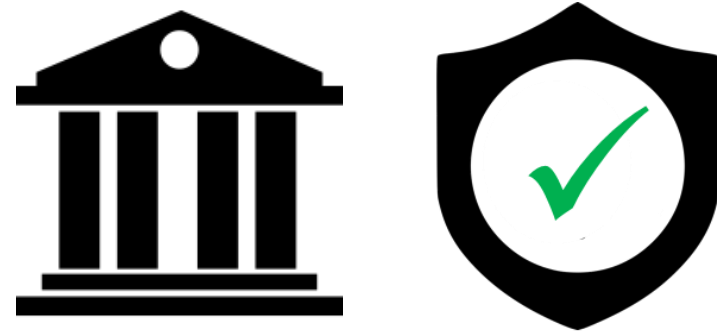
- Default-fund and five lines of defense
- EMIR-certified clearing model

### Fast and safe financial settlement

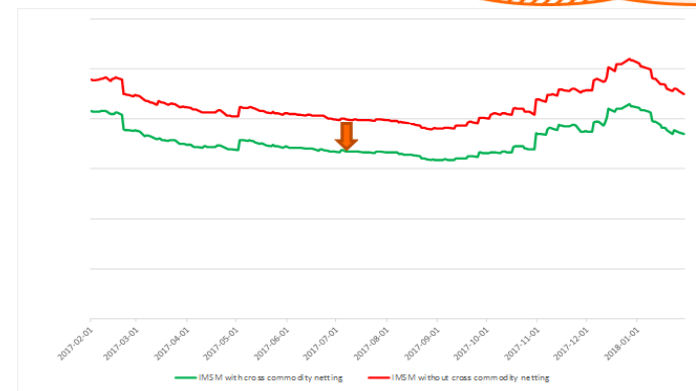
- D+1 settlement cycle for both Day-Ahead and Intraday markets

### Cross-margining savings

- Cross-margining accross markets and products cleared by ECC (e.g. gas & power)



Assesment over all Epexspot members, including those which are not Powernext members and therefore can not benefit from any cross commodity netting):



# Transparency services for fair and efficient markets

## Expert Market Surveillance

to build **trust & confidence**

- Highest Market Surveillance standards
- 1 million orders a day screened
- Expertise on new algo trading practices
- Trusted network of European authorities



## Data service

increasing **transparency & efficiency**

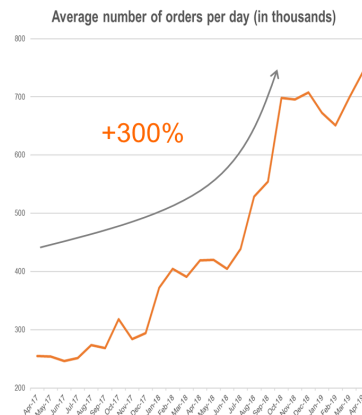
- Complete range of market data and indices for members
- Unique real-time data access service available
- Certified REMIT reporting services



# Competition amongst Power Exchanges is not about duplicating existing infrastructures!



**LIQUIDITY FROM DAY 1,  
100% SECURED**



**HIGH PERFORMANCE  
& DIGITAL EXPERIENCE**



**SAFER & ECONOMICAL  
CLEARING**



**PROVIDING THE  
LATEST INNOVATIONS**

# Thank you for your attention!

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