

The NODES market for decentral flexibility in real operation

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Benedikt Deuchert

✉ Benedikt.Deuchert@NODESmarket.com | www.nodesmarket.com

NODES is a Joint Venture between Nord Pool and Agder Energi, aiming at building a marketplace for decentral flexibility



**NORD
POOL**

14. Februar 2018 www.energie-und-management.de 7

E&M daily

Plattform zur Vermarktung von Flexibilitäten gegründet

Die skandinavische Strombörse Nord Pool und der Konzern Agder Energi wollen mit ihrem Joint Venture Nodes einen integrierten Marktplatz zur Vermarktung von Flexibilitäten schaffen.

VON ANDREAS KÖGLER

ENERGIEHANDEL. Über die Plattform des neuen Gemeinschaftsunternehmens Nodes sollen die europäischen Märkte gebündelt werden, teilen die Joint-Venture-Partner mit. Auf dem vollautomatisierten Marktplatz können Netzbetreiber und Anbieter von Flexibilitäten in Echtzeit Kapazitäten zur Netzstabilisierung handeln.

Nach Angaben von Tom Nysted, CEO des norwegischen Energieunternehmens Agder Energi, wolle man mit dem Marktplatz ein Stromsystem schaffen, das größere Mengen an erneuerbaren Energien bewältigen und effizient sein kann. Damit könne eine Alternative zu den Netzinvestitionen geschaffen werden, die gleichzeitig zusätzlichen Wert für Netzbetreiber und Flexibilitätsanbieter bringe.

Die Plattform von Nodes wird von Agder Energi bereits in Südnorwegen betrieben. Über die europaweite Ausdehnung des Marktplatzes verhandle das Unternehmen derzeit mit mehreren interessierten Marktteilnehmern.

Agder Energi ist nach eigenen Angaben der drittgrößte Wasserkraft-Stromerzeuger in Norwegen. In Deutschland hatte das Unternehmen im vergangenen Jahr die Portfoliomanagement-Gesellschaft Markedskraft Deutschland und den Nachfrage-Manager Entelios übernommen. Zudem hatten sich die Skandinavier mit 61,4 % an dem Direktvermarkter Nordgröön Energie beteiligt.



agder energi

50%

50%

NODES

Nord Pool a Nodes Partner

We are expanding in Central Europe (CE)

What

- Multi NEMO Spot power trading DE/LU/FR/AT/NL/BE
- One-stop shop – Trading and Clearing
- Single Sign On

Value proposition

Lowering barriers to trade physical power (for small and large customers)

- Easy & more simple access
- Cost-competitive offering

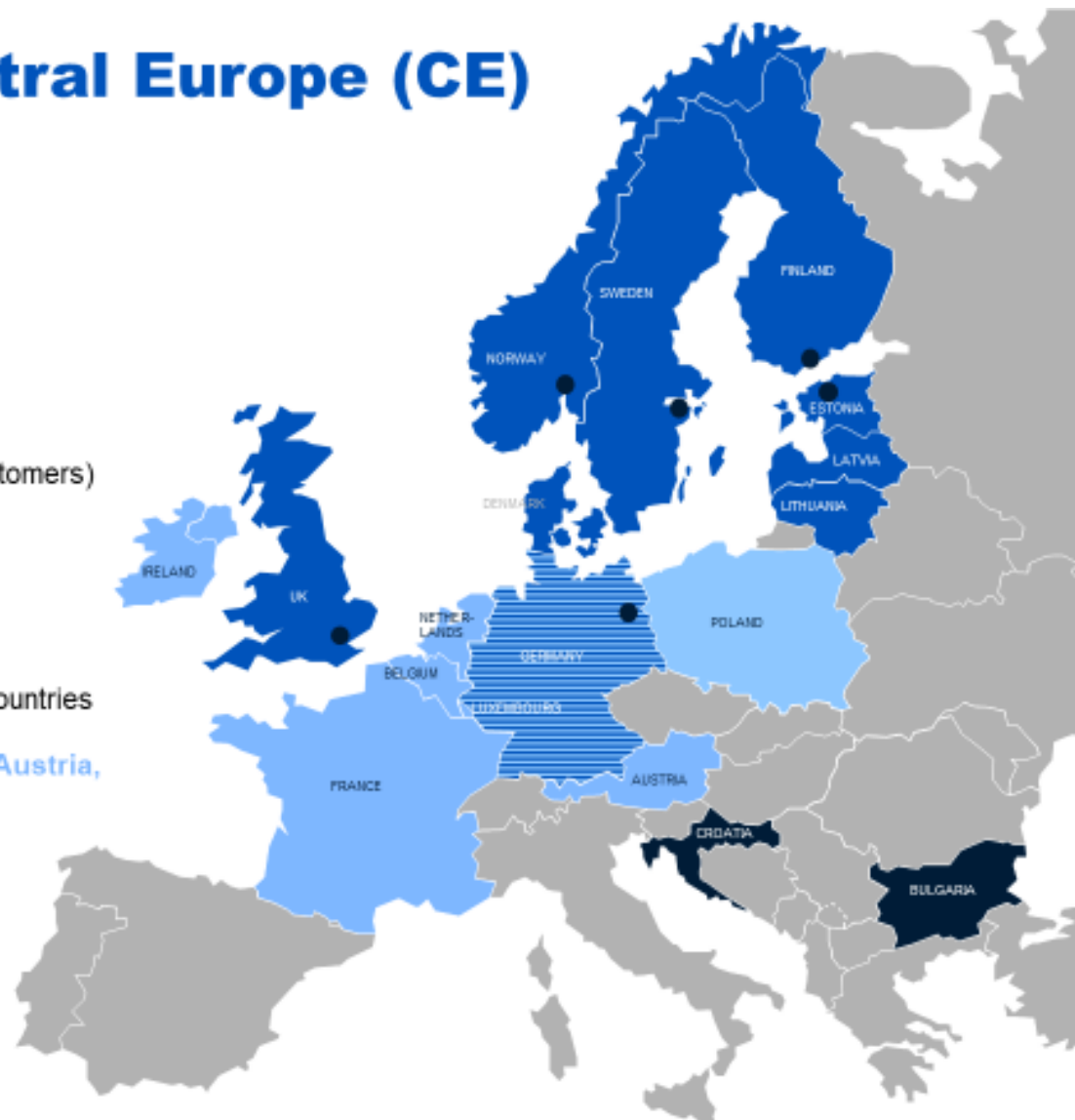
Where

Nominated Electricity Market Operator (NEMO) in 15 European countries

We are rapidly **expanding to 6 markets** in Central Europe (CE): **Austria, Belgium, France, Germany, Luxembourg, the Netherlands**

When

Mid 2019



Agder Energi: home in South Norway

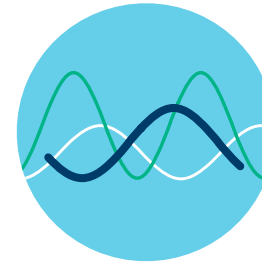
Expansion to Germany and Europe



- Production, Grid, Sales, Services
- 4th largest Power producer in Norway: 8,1 TWh Hydropower from 49 power plants
- 4th largest Grid operator in Norway
- Headquarter in Kristiansand
- Share E Mobility Vehicles (new registrations): > 50%



Entelios



Flexibility



Portfolio-management



Energie-services

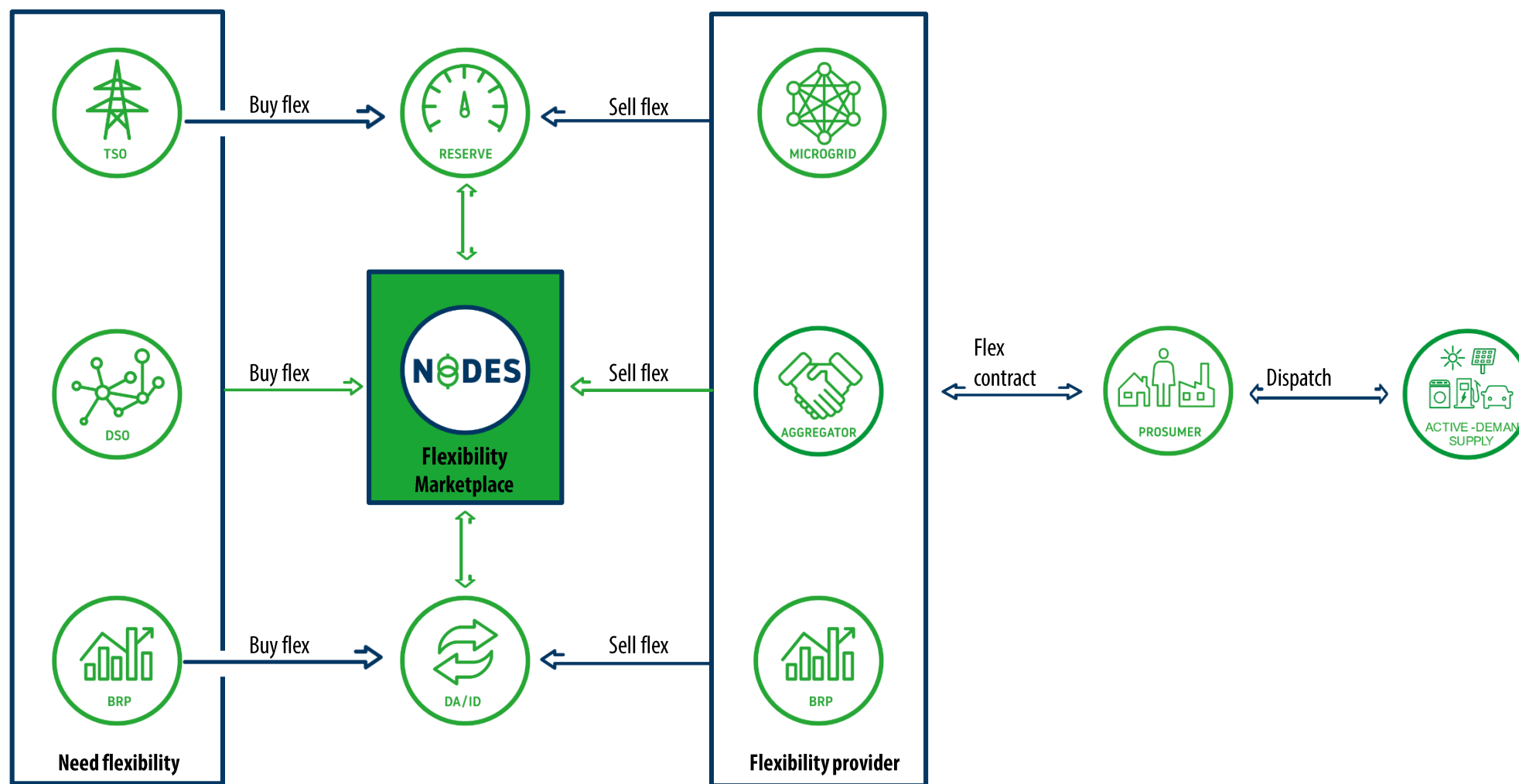


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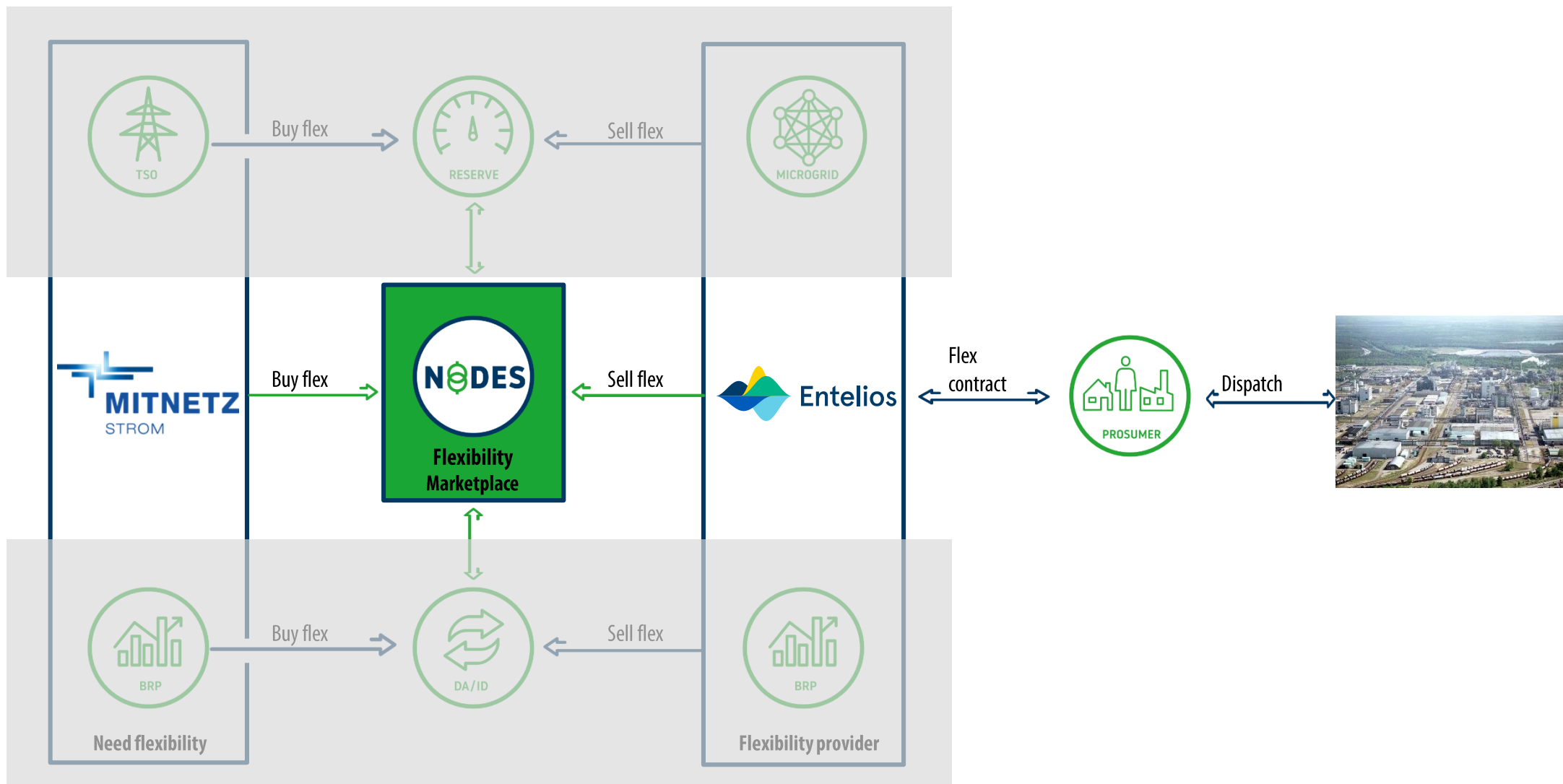


Full supply
Green energy

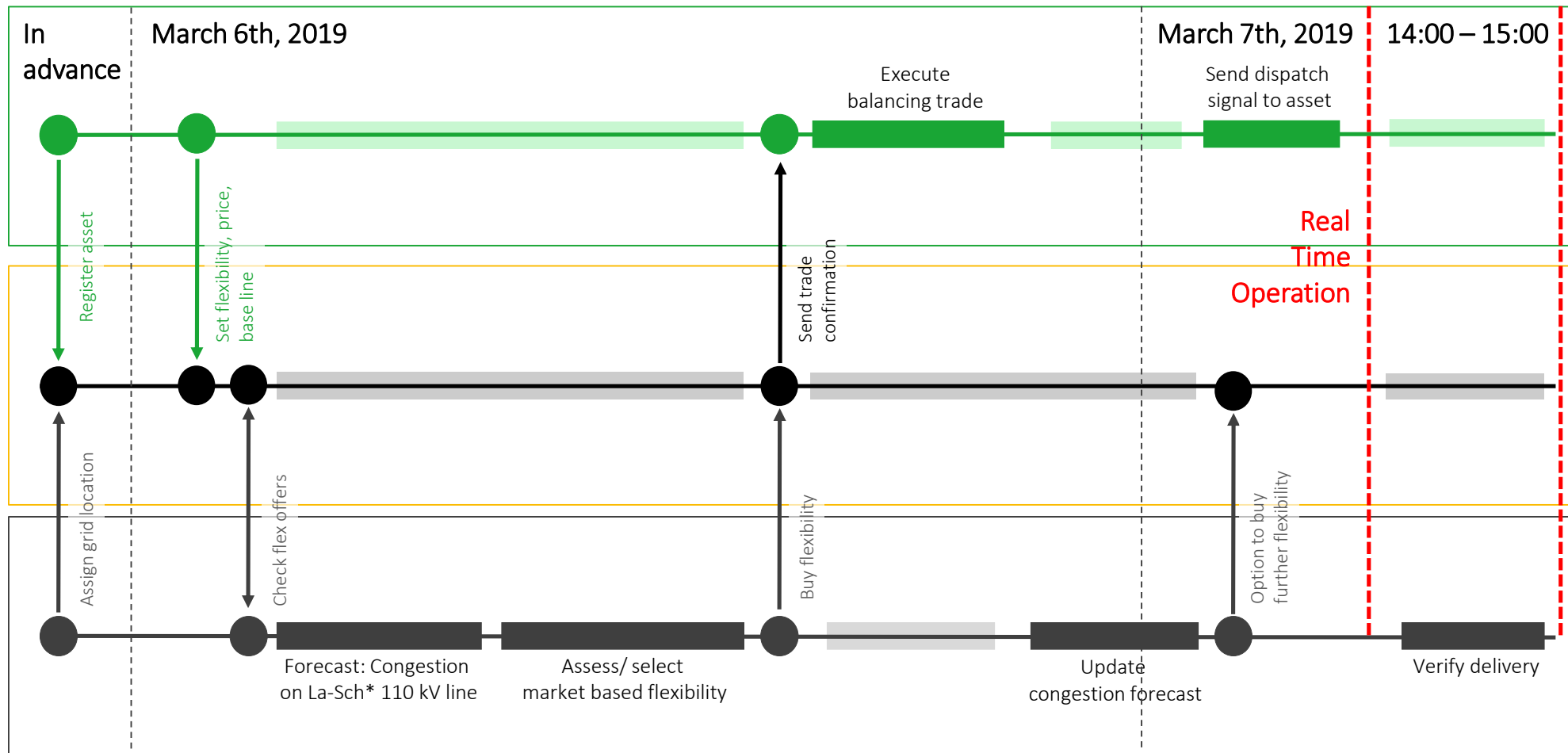
NODES helps unlocking the value of local flexibility while maintaining the existing power market design



Mitnetz case – Too much (renewable) production in the high voltage grid



The marketplace is in live operation – Most recent event on March 7th, 2019



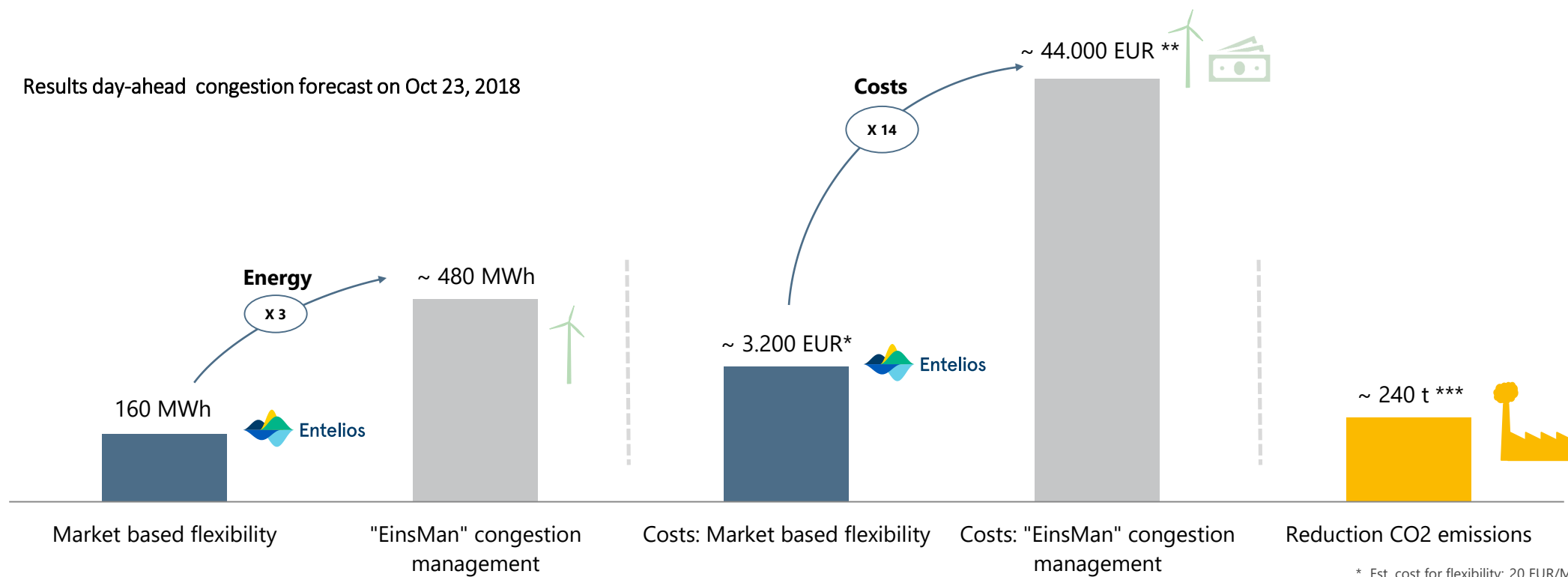
➤ March 7th, 2019, 14:00 – 15:00: 2 MW NEG „ramp down“ flexibility sold from Entelios to MITNETZ for 20 €/MWh

* 110 kV high voltage line „Lauta – Schwarzheide“

Using market based flexibility promises high efficiency gains - in this pilot:

- ✓ Higher sensitivity on the congestion than alternative, conventional congestion management measure (factor 3!)
- ✓ Lower specific costs per MWh of flexibility
- ✓ As a result: Overall costs for congestion management to be lowered by an order of magnitude

Results day-ahead congestion forecast on Oct 23, 2018



* Est. cost for flexibility: 20 EUR/MWh
 ** Weighted avg RES compensation in region 92 EUR/MWh
 *** Avg. 489 g/kWh

Preliminary results from the MITNETZ pilot

The NODES marketplace is an effective tool for congestion management

NODES marketplace tested with all relevant market roles. Flexibility products offered on NODES are suitable for congestion management.

Congestions in the distribution grid can be forecasted by the DSO. Flexibility offers can be assessed against alternative measures. Existing market processes can be applied.

No abuse of market power even with low liquidity, as the grid operator has the „EinsMan“ fallback option. „Inc/Dec“ gaming would involve considerable risk for the flexibility provider and has not been observed.

Costs and CO₂ emissions for congestion management can be reduced in live operation

The market based flexibility offered in the MITNETZ pilot has a considerably higher sensitivity on a specific congestion than EinsMan measures. On a day with congestions, the potential in CO₂ savings was calculated at 240t. The potential in cost savings was calculated at 40 TEUR.

The current regulatory environment needs to be adjusted

The overall regulatory uncertainty in the operation of local flexibility markets needs to be removed in accordance with the regulatory framework on European level (CEP).

Demand side flexibility needs a level playing field: The tax, grid tariff and EEG levy structure needs to be adjusted so that any flexibility used for regulation or congestion management has an equal (or no) burden.

Grid operators need to be properly incentivized to use the cheapest option for congestion management in the „yellow phase“, including the use of market based flexibility. For efficiency reasons, options involving direct control by the grid operator (e.g. §14a EnWG) need to be limited to the operational „red phase“.

NØDES