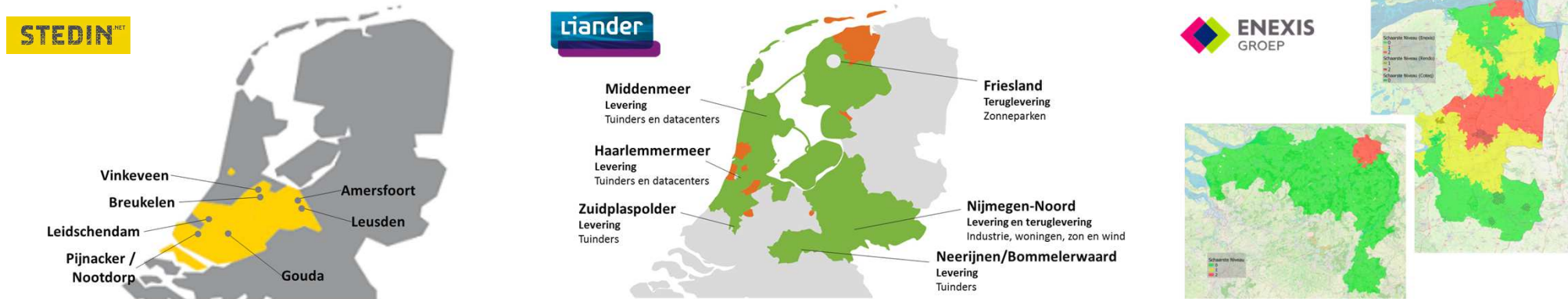# GOPACS

grid operator platform for congestion solutions

Joint TSO-DSO platform for

Market-Based Congestion Management

CEEM Conference Local Flexibility Platforms, 29 May 2019

Growing need congestion solutions at both TSO and DSOs

Main drivers in DSO grids: rapid growth of new hotspots for large scale solar and wind farms, EV charging, data centres.

Main drivers in TSO grid: large scale renewable generation, cross border flows and EU regulation on border capacity.
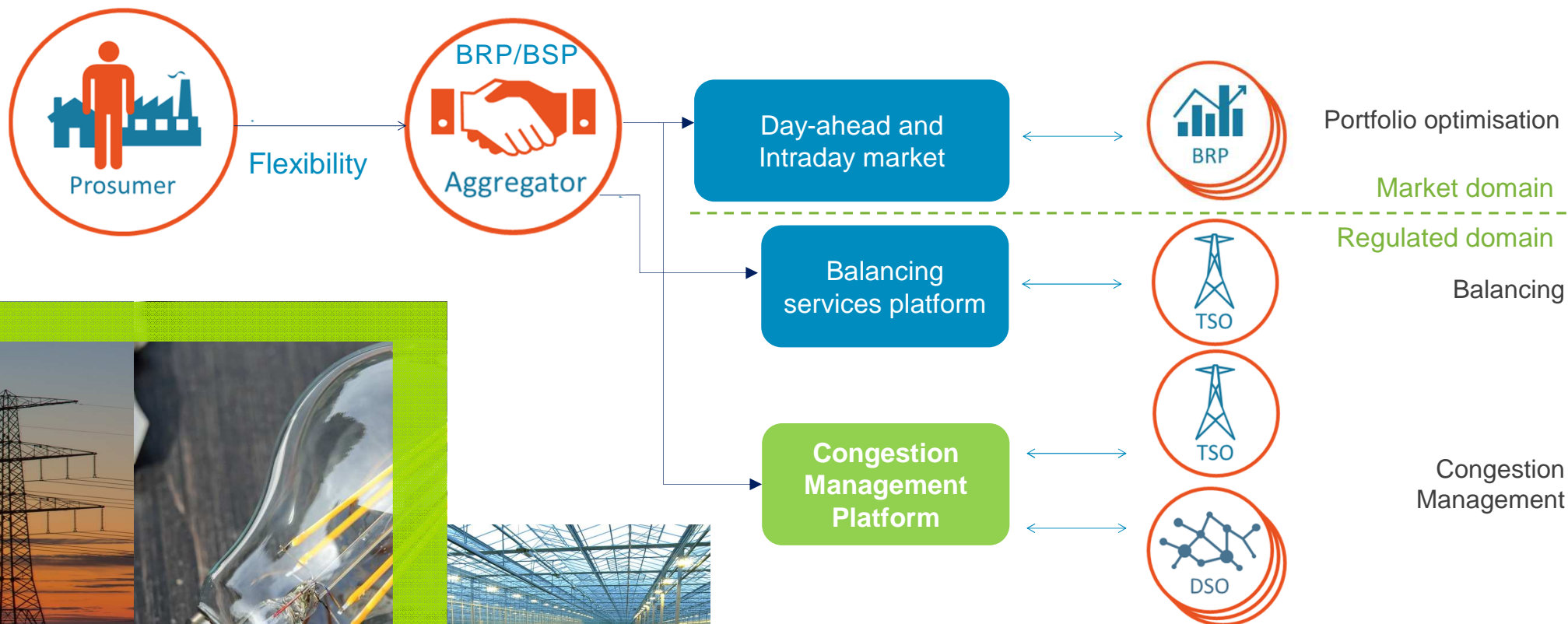

Re-dispatch costs growing in recent years:

2015	15 M€/yr
2017 & 2018	50 M€/yr

Congestion challenges geographically:
    often NE to SW flows, and
    various locations due to maintenance

Enabling customers to valorise flexibility to unlock the potential

Customers enter into agreements with market parties to leverage flexibility resources and for financial compensation. These market parties (BRP, BSP, Aggregator) can sell this flexibility for multiple purposes, seamlessly across platforms.

TSO–DSO DATA MANAGEMENT REPORT

This report provides input to the European Commission in TSO-DSO framework, being part of the forthcoming "Ma..."

TSO–DSO REPORT
AN INTEGRATED APPROACH TO ACTIVE SYSTEM MANAGEMENT
WITH THE FOCUS ON TSO–DSO COORDINATION IN CONGESTION MANAGEMENT AND BALANCING

EU level TSO-DSO initiatives ENTSO-E and DSO associations

TSO-DSO Data Management Report (2016)

TSO-DSO Active System Management report (2019)
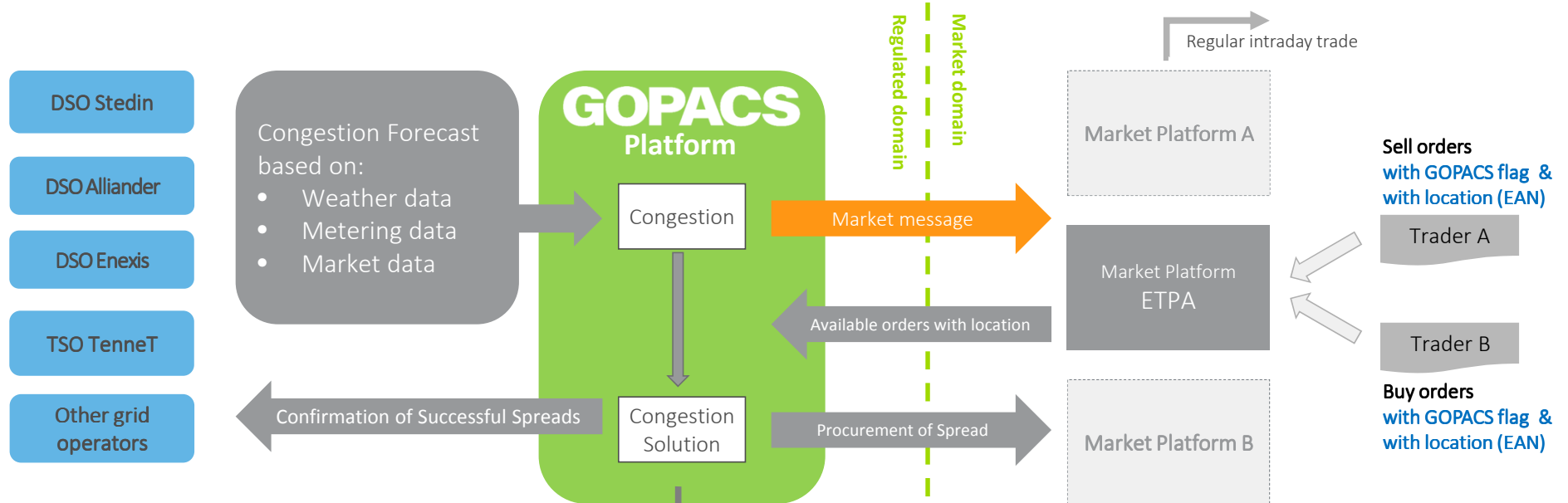
Step-by-step approach: learning by doing

2016	Decision joint development of concept in pilot with ETPA
2017	Proof of concept MVP implementation
2018	Initial market pilot by Stedin
2019	Launch GOPACS platform v1.0, start operational use TenneT

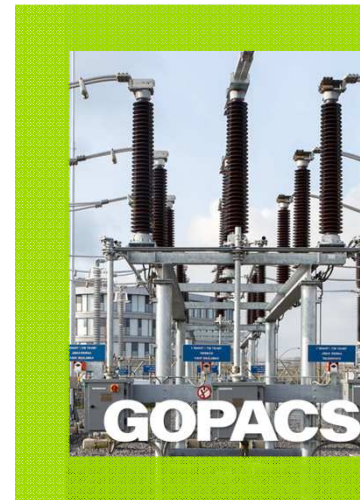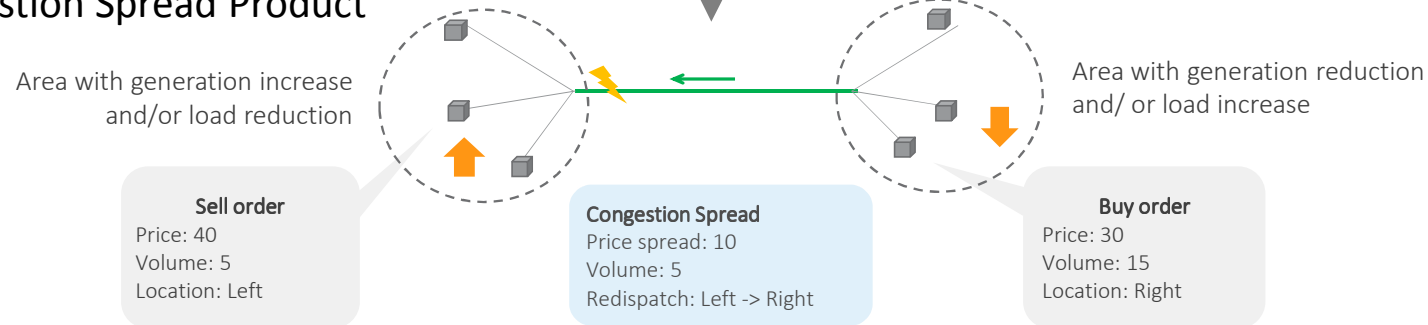## National TSO-DSO working groups addressing key challenges

TSO-DSO working groups Grid Strengthening & Congestion Management

Comprehensive Energy Transition Programme Netbeheer Nederland
(NL association of grid operators)

Design of GOPACS Platform and Congestion Spread Product

Platform

| DSO Stedin |
| DSO Alliander |
| DSO Enexis |
| TSO TenneT |
| Other grid operators |

Congestion Forecast based on:
- Weather data
- Metering data
- Market data

GOPACS Platform

Congestion

Congestion Solution

Regulated domain | Market domain

Regular intraday trade

Market Platform A

Market message →

Market Platform **ETPA**

← Available orders with location

← Confirmation of Successful Spreads

Procurement of Spread →

Market Platform B

Sell orders
with GOPACS flag &
with location (EAN)

Trader A

Trader B

Buy orders
with GOPACS flag &
with location (EAN)

Intra-day Congestion Spread Product

Area with generation increase and/or load reduction

Area with generation reduction and/ or load increase

Sell order
Price: 40
Volume: 5
Location: Left

Congestion Spread
Price spread: 10
Volume: 5
Redispatch: Left -> Right

Buy order
Price: 30
Volume: 15
Location: Right

GOPACS

Using GOPACS in practice

1. Signing up by market party through   www. gopacs.eu
   - Agree to terms & conditions: rulebook, product specifications
   - Basic info: identity, contact, grid connection points (EAN code)
   - Grid operators include in GOPACS effectivity matrix

2. Forecasting congestion by each grid operator
   - Grid safety analysis from transport prognoses, weather, history
   - Sizing of congestion solution, upload case to GOPACS
   - Publish request request for bids: website and notification

3. Activation by grid operators
   - Request from GOPACS platform to market platforms
   - Evaluates cost-effectiveness, avoid worsening congestion elsewhere
   - Grid operator activates and receives conformation

4. Settlement and verification
   - Market parties notified and settled through market platforms
   - Logging and audit trail is provided for NRAs (ACER)
   - Verification delivery based on data metering and grid flows
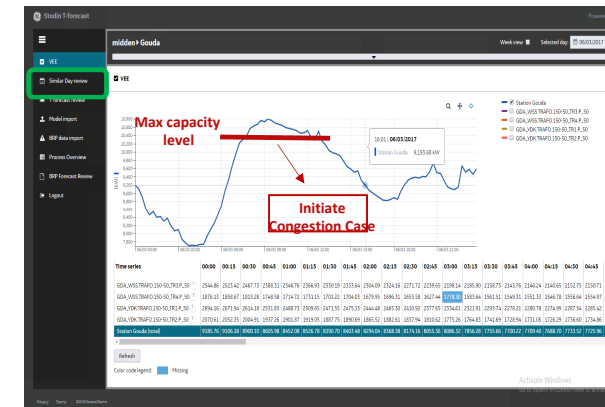
Status &
Next Steps

Key success factors:

- Built trust and clearly define roles and responsibilities between all parties
- Market -Pull thinking, instead of Technology Push
- Executive sponsorship
- Adaptation in operational teams and control room

Next steps in continuing development

- Market information sessions, dialogue and onboarding of market parties
- Next steps process integration and scaling-up operational use at DSOs and TSO
- GOPACS v2.0 concept development and new releases
- Improving grid codes in working group with NL regulator (ACM)

In conclusion, GOPACS platform provides a solid foundation for:

- Additional congestion management products in the future
- Maturing TSO-DSO cooperation in active system management

Please get in touch

We are looking forward to your questions or suggestions.

In particular, if you are a market party that can offer flexibility, contact us to learn more about the new opportunities that GOPACS offers.

More information at   https://en.gopacs.eu/
including

       FAQ

       Product specification

       Notification congestion management orders

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