

SIDC Single Intraday
Coupling



Single Intraday Coupling (SIDC)

2nd Wave Pre-Launch Event

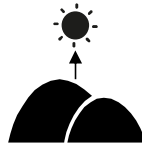
1st October 2019

Carlo IV Hotel; Prague, Czech Republic

9:45-17:00



Morning agenda



Registration, Coffee

9:45-10:30

(l:45)

1 Welcome, Introduction

Jean Verselle (SIDC TSOs Steering Committee Chairman, Artelys)
Stefano Alaimo (SIDC NEMOs Steering Committee Chairman, GME)

10:30-10:35

(l:5)

2 Key Note Speech

René Neděla (Deputy Minister, Czech Ministry of Industry and Trade)

10:35-10:50

(l:15)

3 Overview from European Commission

Nicolas Kuen (Assistant to Deputy Director General, EC)

10:50-11:00

(l:10)

4 Overview of SIDC – background, history and review of 1st year

Mark Pickles (SIDC TSOs Project Manager, National Grid ESO)

11:00-11:20

(l:20)

5 The SIDC matching solution

Vladimir Satek, SIDC NEMOS' Project Manager, Minsait

11:20-12:00

(l:30; QA:10)

6 Overview of borders, market areas & products

Radek Adamec (ČEPS)
Gabriella Juhász (HUPX)

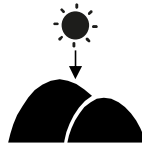
12:00-12:40

(l:30; QA:10)

LUNCH BREAK

12:40-13:40

Afternoon agenda



LUNCH BREAK

12:40-13:40

- | | | | | |
|----|---|--|-------------|---------------|
| 7 | Relevant information for market parties from Local Implementation Projects (LIPs) | Radek Adamec (ČEPS)
Gabriella Juhász (HUPX) | 13:40-14:20 | (I:30; QA:10) |
| 8 | NRA overview | Lajos Valent (ERU & Chair of NEMO Co-ordination Group) | 14:20-14:30 | (I:10) |
| 9 | Member's trial period, go-live plan and next steps for readiness | Ondřej Máca (OTE) | 14:30-15:00 | (I:20; QA:10) |
| 10 | Future plan for SIDC | Mark Pickles (SIDC TSOs Project Manager, National Grid, ESO) | 15:00-15:20 | (I:15; QA:5) |
| 11 | General Q&A + Summary and close | Jean Verseille (SIDC TSOs Steering Committee Chairman, Artelys FRANCE)
Stefano Alaimo (SIDC NEMOs Steering Committee Chairman, GME) | 15:20-15:45 | (I:5; QA:20) |

Get together & networking – refreshments will be served

15:45-17:00

1. Welcome, Introduction

10:30-10:35

Jean Verseille (SIDC TSOs Steering Committee Chairman, Artelys)
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2. Key Note Speech

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3. Overview from the European Commission

10:50-11:00

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SIDC 2nd Wave Go-Live Pre-Launch Event

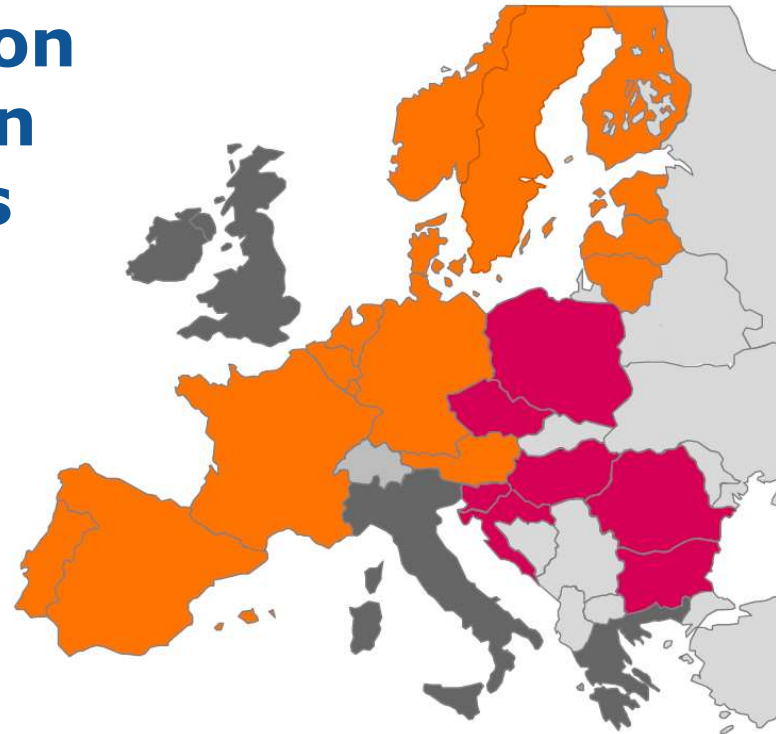
**30 September 2019
Prague**

Nicolas Kuen
Assistant to the Deputy Director-General for Energy
European Commission

Picture 1: Countries coupled by SIDC solution in 1st Wave Go-Live, shown in orange (13th June 2018) and 2nd Wave, shown in purple (planned for Q4 2019)

Welcome extension of SIDC to Eastern European borders

- ✓ Additional liquidity
- ✓ Complement Day-Ahead Market Coupling (DAMC)
- ✓ Integration with Central Dispatch System (CDS)



Please note: Luxembourg is part of the Amprion Delivery Area. Market participants in Luxembourg have access to the SIDC through the Amprion Delivery Area



Challenges and future developments

- Third wave borders
- Full alignment with CACM
 - Intraday flow-based capacity calculation
 - Intraday capacity pricing
- MCO governance, cost recovery and transit shipping
- Number of systems to be integrated, types of products and contracts to be supported



Thank you for your attention!

4. Overview of SIDC – background, history and review of 1st year

11:00-11:20

Mark Pickles (SIDC TSOs Project Manager, National Grid ESO)

1st October 2019

Carlo IV Hotel; Prague, Czech Republic

What is SIDC

SIDC (formerly known as the XBID project) objective:

“Establish a common cross border implicit continuous Intraday trading solution across Europe, where all the cross border capacities are allocated...” *Quote from Request for Offer (RFO) Issued 2012*

“The system will accommodate the continuous matching of bids and orders from market participants in one bidding zone with bids and orders coming from its own bidding zone and from any other bidding zone where cross-zonal capacity is available. “

Shared
Order Book
(SOB)

Capacity
Management
Module
(CMM)

Shipping
Module
(SM)

SIDC System – 3 main modules

The Single Intraday Coupling Mechanism defined in CACM

Benefits delivered by SIDC

- Cross-border trading opportunity 'within day' across Europe on a harmonised platform.
- As the Intraday market develops it will enable increased optimisation of the use of generation - especially variable RES
- Leads to welfare benefits
- Brings the whole European Intraday continuous market together and complements the existing Day Ahead market
- Capable of delivering a wide product range – 15 minutes, 30 minutes, hourly, block products etc.
- Wide range of orders types
 - Iceberg-enabled (they can be made into an iceberg)
 - Link-enabled (they can be linked)
 - Block-order-enabled (they can be combined into user defined blocks)
- Supports a wide range of contract types

SIDC complexity

Competitive Environment

- Multi-NEMOs
- Range of providers of Trading Solutions
- Equal treatment
- MNA and non-MNA areas

Demanding requirements

- 200k-800k orders/day – increasing (+ robotics)
- Calculations/routing/products
- Performance and processing capability

**Multi-party (46)
Governance
- consensus**

Contractual Challenges

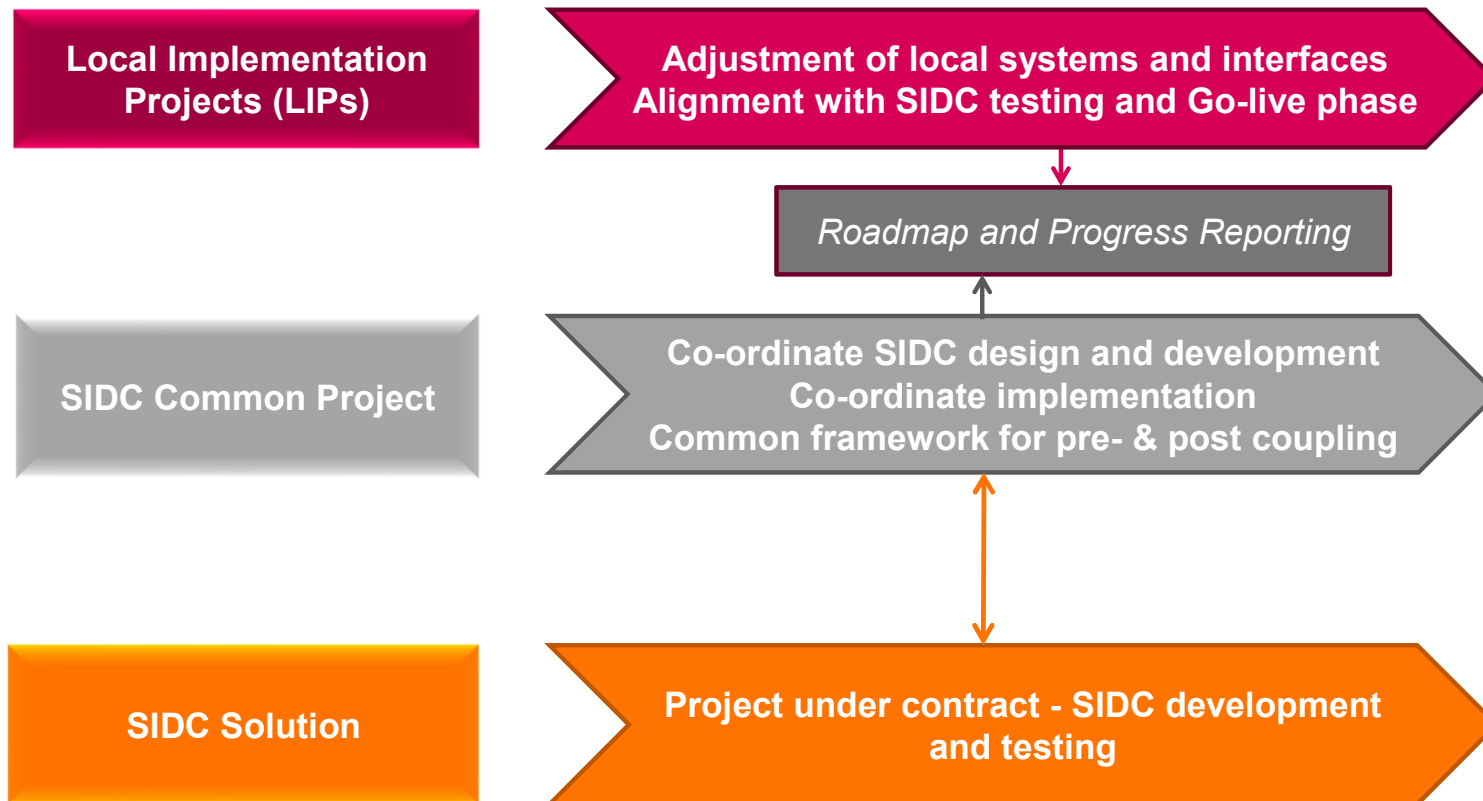
- Supplier/multi-client
- Operational organisation amongst NEMOs and TSOs
- Liabilities
- Transit Shipping

Legislative /Regulatory

- Timescales
- Cost sharing and recovery
- Future strategic roadmap
- Changing environment during project with CACM implementation

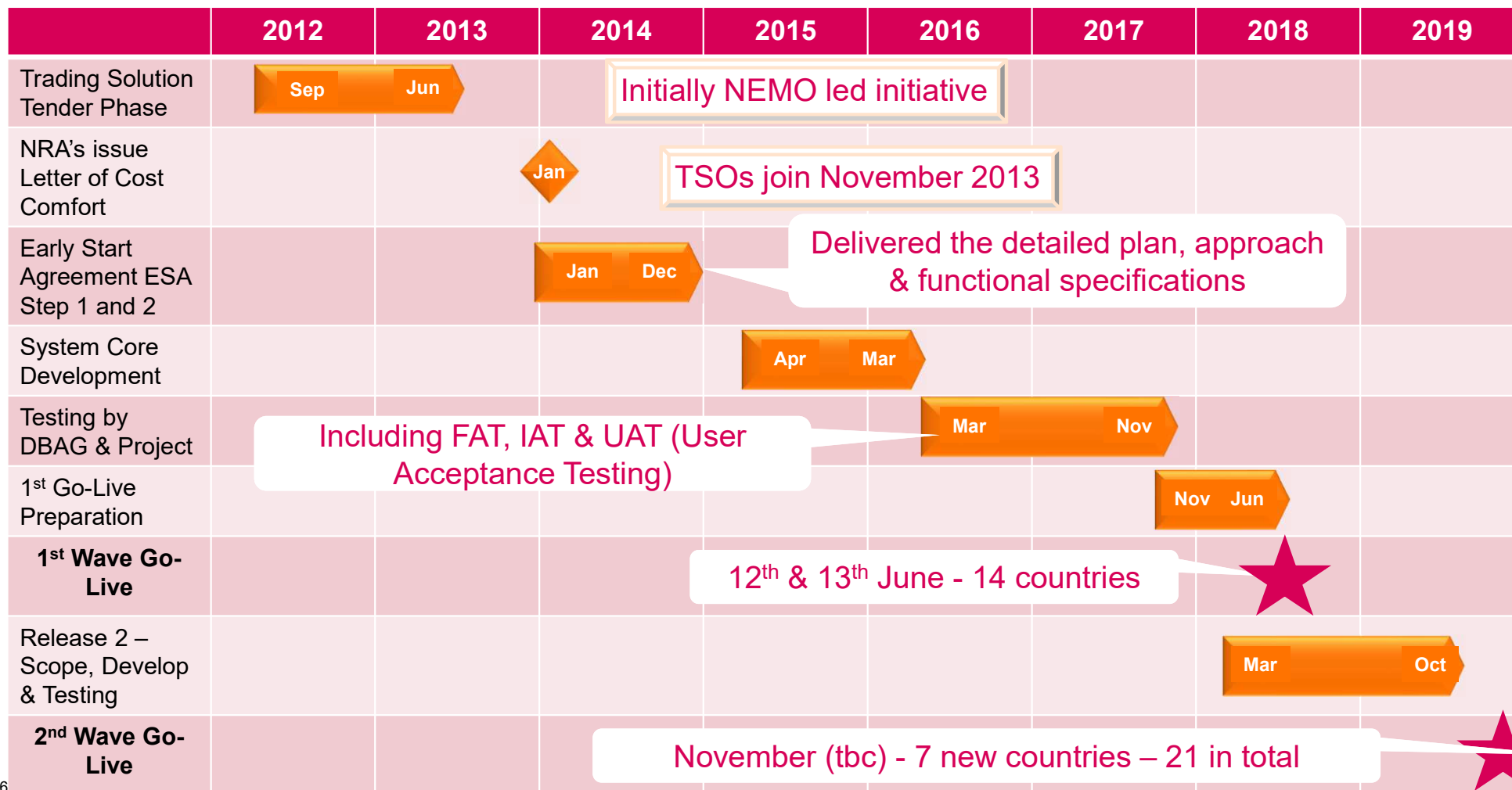
SIDC Approach

Delivery of SIDC has, and still, involves 3 areas of distinct focus:




Key SIDC Historical Milestones

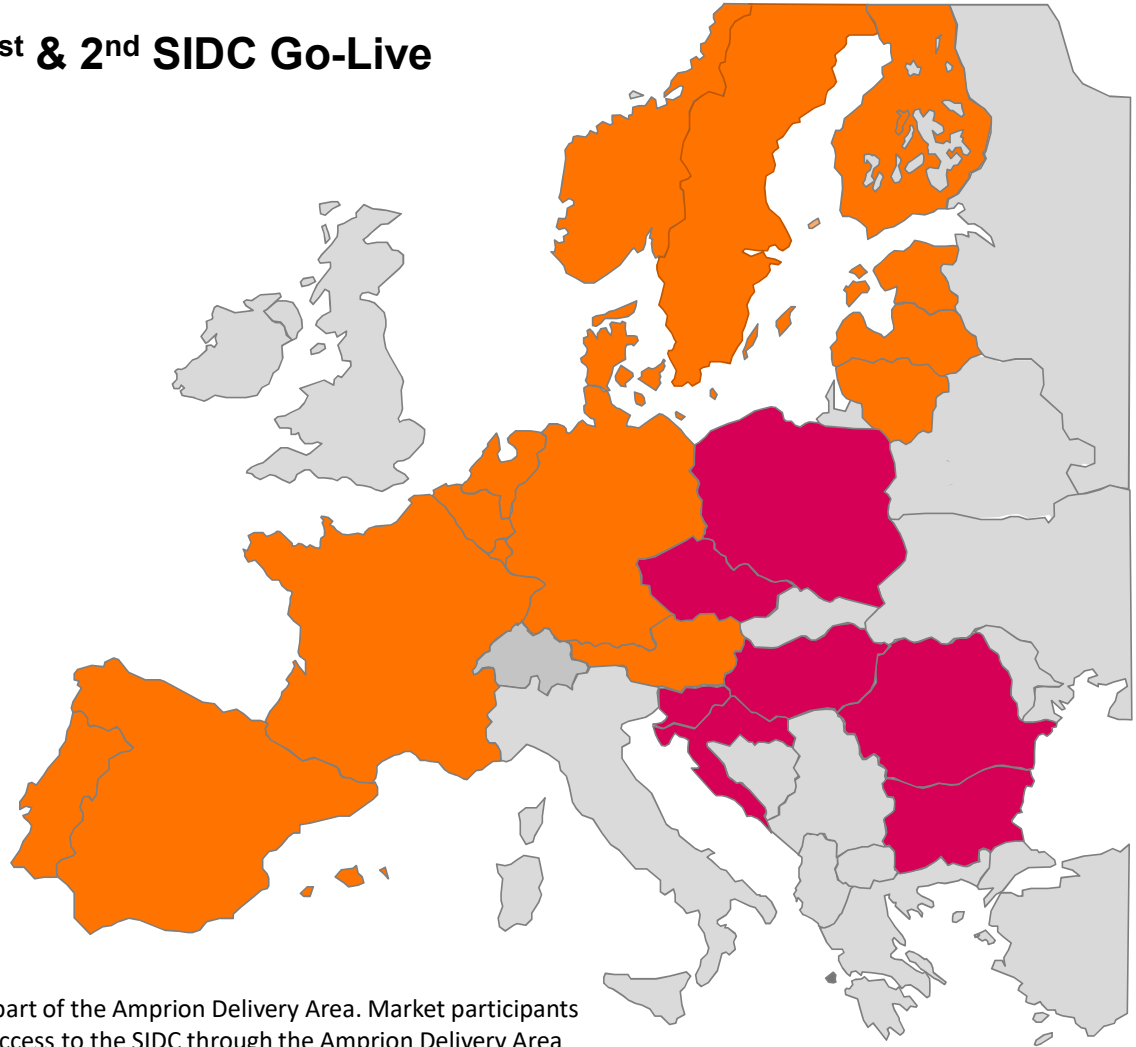
SIDC Single Intraday Coupling



Countries coupled Intraday with 1st & 2nd SIDC Go-Live

 = Countries coupled in 1st go-live (June 2018)

 = Countries to be coupled in 2nd go-live (November tbc 2019)



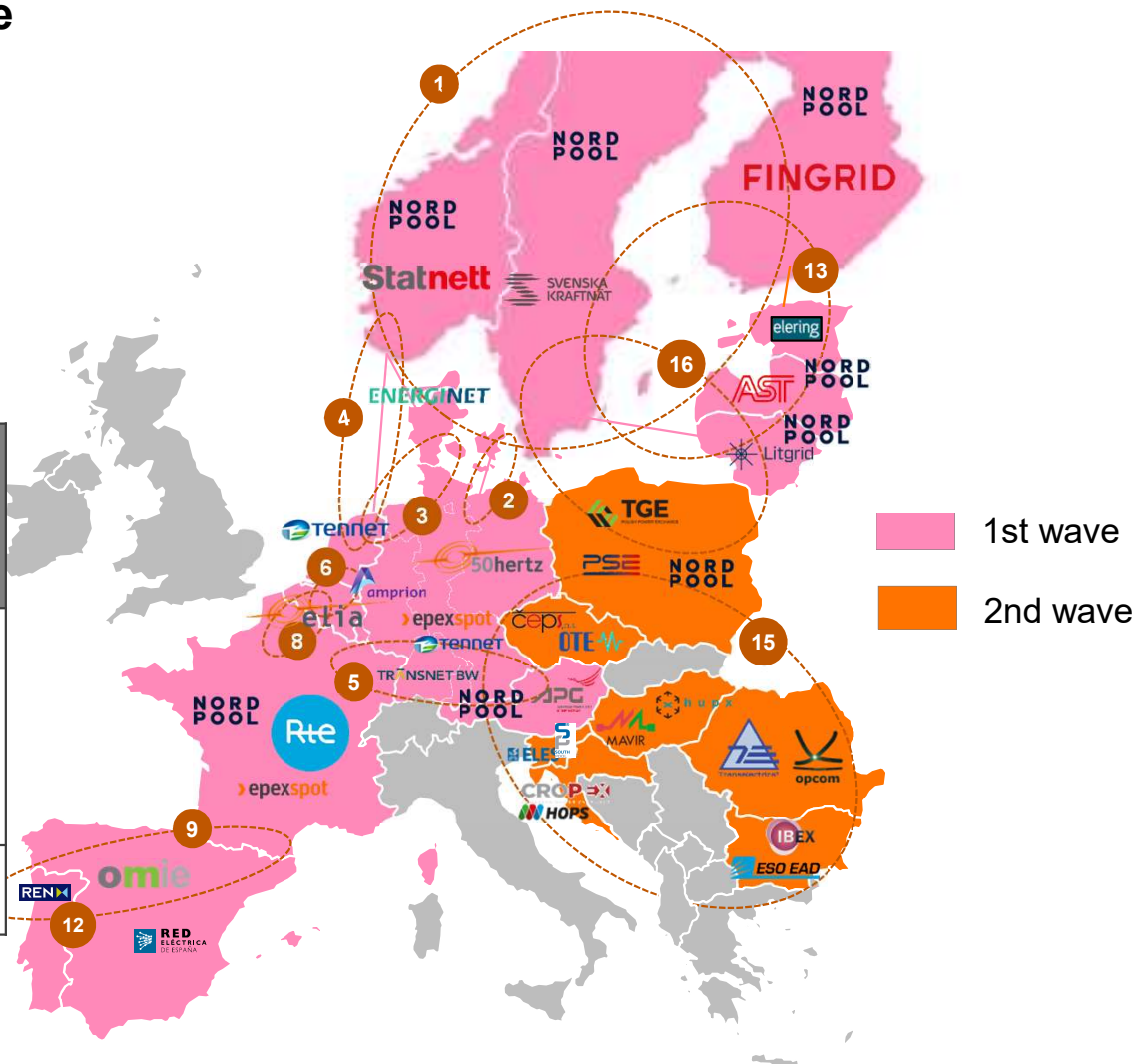
Note: Luxembourg is part of the Amprion Delivery Area. Market participants in Luxembourg have access to the SIDC through the Amprion Delivery Area

Existing solution, Parties and 2nd go-live

- Release 2.0 is due to be deployed at end October 2019
- Delivers Functional improvements including increasing order book depth to 100
- Also delivers more reporting indicators

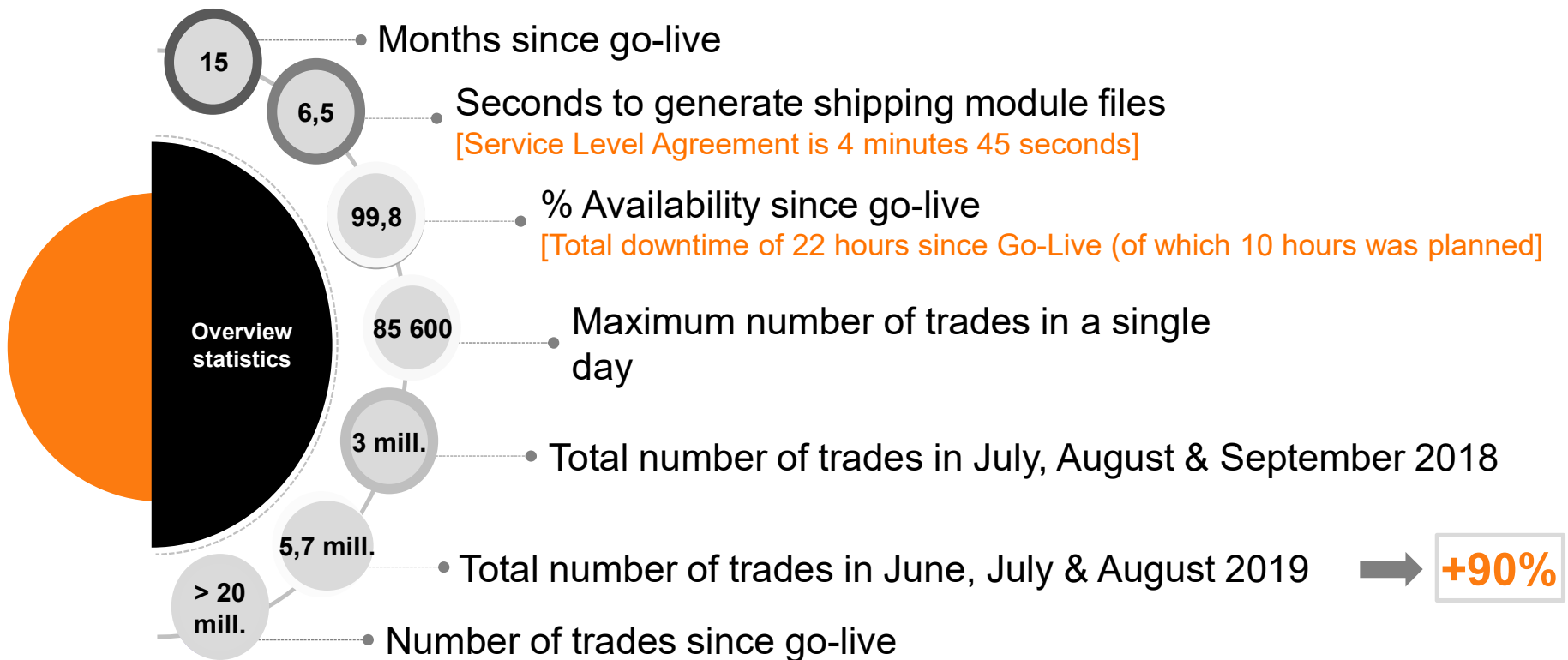
2 nd Go-Live Wave LIPs (Local Implementation Project)		Participants	Foreseen allocation
15	AT-CZ, AT-SI, AT-HU, BG-RO, CZ-DE, CZ-PL, DE-PL, HR-SI, HR-HU, HU-RO	NEMOs: BSP, Cropex, EPEX, HUPX, IBEX, Nord Pool, OPCOM, OTE TSOs: 50Hertz, APG, CEPS, ELES, ESO, HOPS, MAVIR, PSE, Transelectrica, TTG	<ul style="list-style-type: none"> • Implicit • Implicit & Explicit for HR-SI border
16	LT-PL, PL-SE	NEMOs: Nord Pool, TGE TSOs: Litgrid, PSE, Svk	<ul style="list-style-type: none"> • Implicit

SIDC Single Intraday Coupling



SIDC Post Go-Live - Key Figures

A very successful start



5. The SIDC matching solution

11:20-12:00

Vladimír Satek, SIDC NEMOs' Project Manager, Minsait

1st October 2019

Carlo IV Hotel; Prague, Czech Republic

1. The SIDC matching solution in the context of SIDC project



Overview of SIDC – background, history and review of 1st year



The SIDC matching solution



Overview of borders, market areas & products




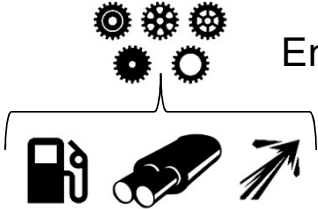
Relevant information for market parties from Local Implementation Projects (LIPs)



Member's trial period, go-live plan and next steps for readiness



2. The SIDC matching solution from MP's view (1/2)

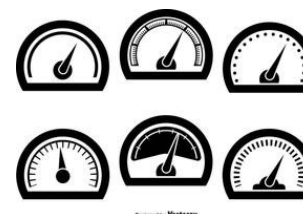
Component	Provided by	Comment
 Cockpit	LTS	Local Trading Solution (LTS) offers ultimate interface to Market Participants, either via pre-built screens or via automated communication which allows MP's development of the „cockpit“. LTS is sole interface to MPs to provide market data (order, trades, status of the market, status of the products, etc.). Each LTS has an individual functionalities and individual look & feel.
 Engine	XBID Solution (SIDC matching solution)	Core of the system ensuring matching of the orders in line with predefined and transparent principles including processing of the trades. It is done via utilization of The trading Module (SOB), The Capacity Management Module (CMM) and The Shipping Module (SM)



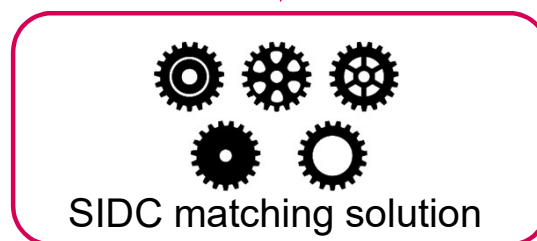
2. The SIDC matching solution from MP's view (2/2)

To get familiar with your LTS you need to contact your respective NEMO(s).

- It is important to note that XBID Solution provides relevant information to LTS **at the same time and in the unique form, which ensures transparency and equal treatment on the SIDC.**
- Content of the information differs based on the market areas reflecting e.g. available capacities.
- It is **responsibility of each NEMO** how the information is presented to the market participants.



Note 1: The XBID Solution provides capacities to all LTSs in the form of Hub-To-Hub matrix (H2H). LTSs process the H2H matrix and provide this information further to Implicit Market Participants. The presentation form of H2H matrix is specific per each LTS.



Note 2: The XBID Solution provides matching services (SOB) to LTSs. **Each NEMO has a right to offer local matching services by LTS' specific functionalities, products and services or by any other means.** This may also relate to the cases in which LTS provides extended trading period outside of the XBID Solution and therefore the approach may differ per NEMO/LTS.



3. The SIDC matching solution – XBID Solution

The XBID Solution is a trading solution designed to enable power exchanges to trade energy contracts seamlessly across different geographies in a transparent and efficient way. It aims at creating an integrated matching platform based on the shared order book concept of trading module (SOB), the Capacity Management Module (CMM) and the Shipping Module (SM). The combined entity allows multiple exchanges in different geographies to trade cross border energy contracts continuously on a 24 by 7 basis on a centralised platform.

The trading Module (SOB) is a commodity trading system catering to the requirements of the energy markets. The trading system is designed to offer trading services to the members continuously. It supports a wide range of energy products and contract types.

The Capacity Management Module (CMM) refers to a capacity allocation module which offers the ability to allocate cross border capacity to users continuously. CMM offers both explicit (standalone capacity requests by user entities) as well as implicit (triggered by trades generated in SOB) allocation.

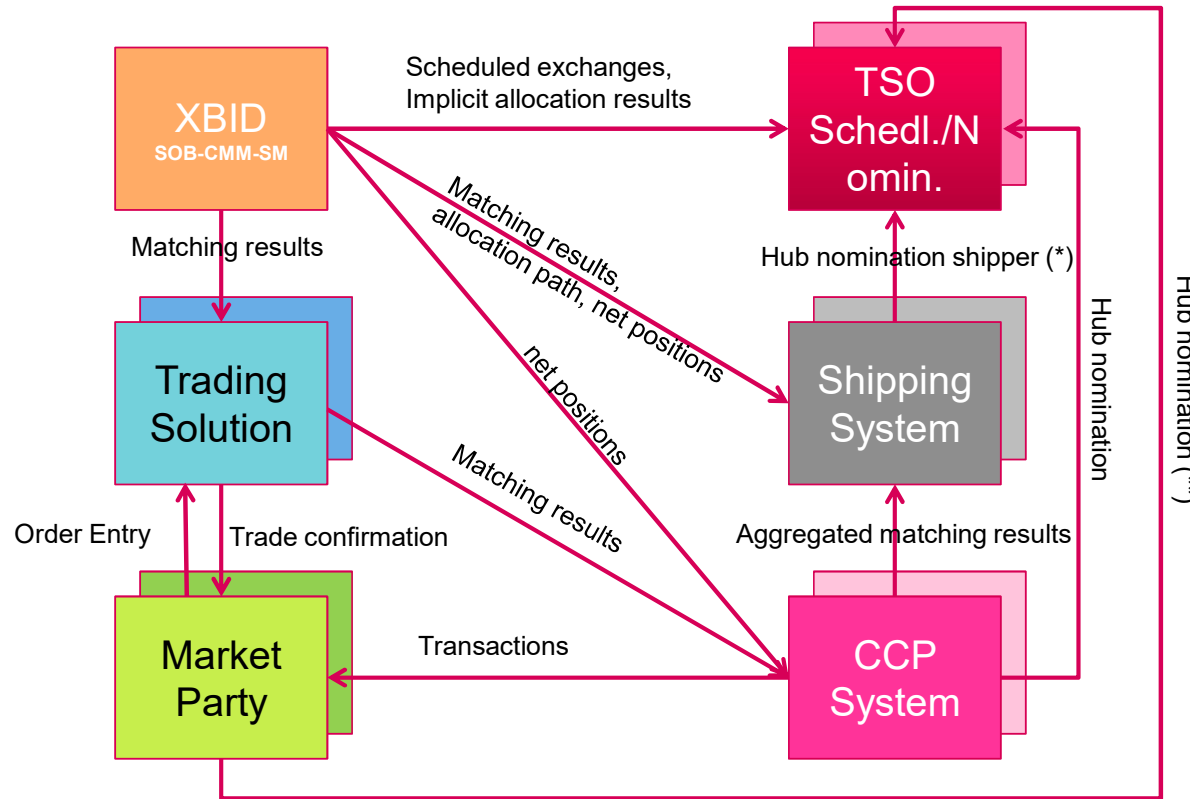
The Shipping Module (SM) of the XBID Solution provides information from trades concluded within XBID to all relevant parties of the post-coupling process. The SM receives data from the SOB about all trades concluded:

1. Between two different Delivery Areas (DA)
2. In the same DA between two different Exchange Members

The data from the SOB and the CMM are enhanced with relevant TSO, CCP and Shipping Agent data from the SM and transferred to the parties at the configured moments.



3. The SIDC matching solution – High Level Architecture

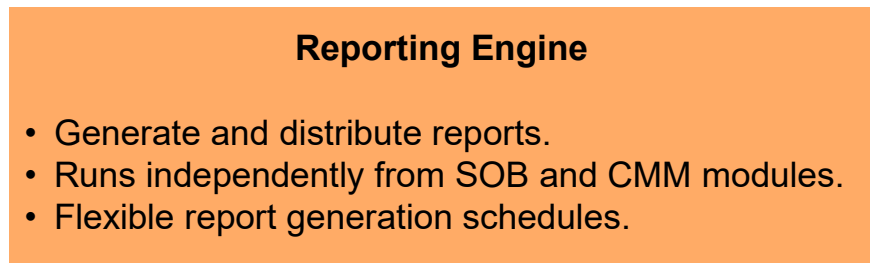
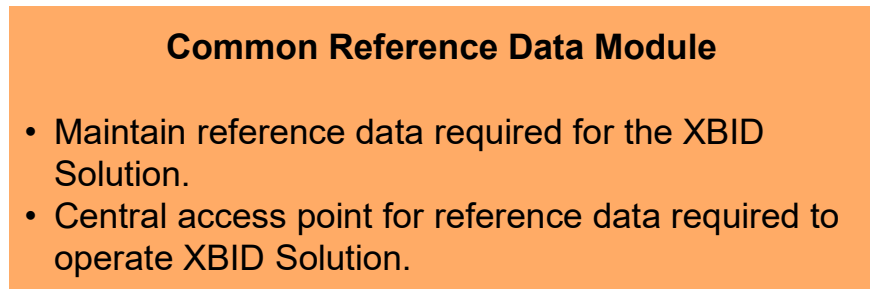
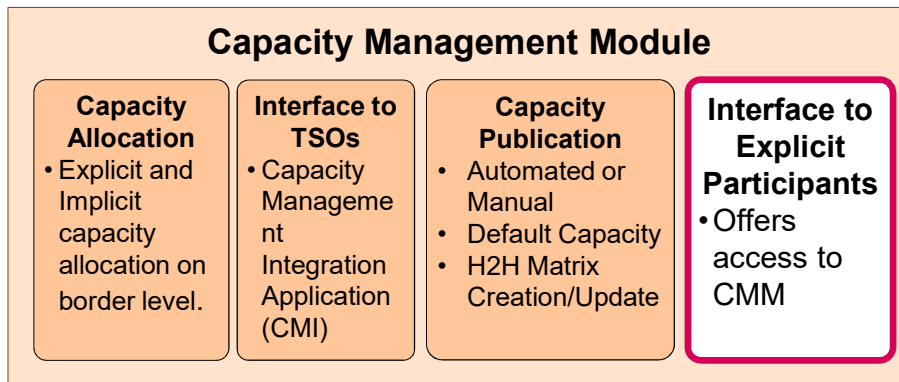
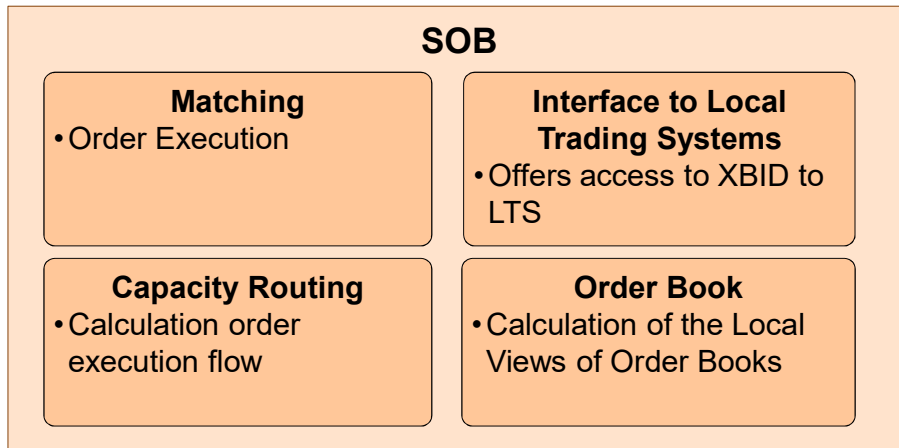


(*) XB nominations could be also needed in areas where nomination behalf is not applicable

(**) According to local procedures (direct or indirect nominations)



3. The SIDC matching solution – Architecture



Explicit Market Participants have a direct technical access to the XBID Solution in order to perform explicit allocations on the German-French and Croatian-Slovenian borders.



3. The SIDC matching solution – CMM. Market Area / Delivery Area



Market Area

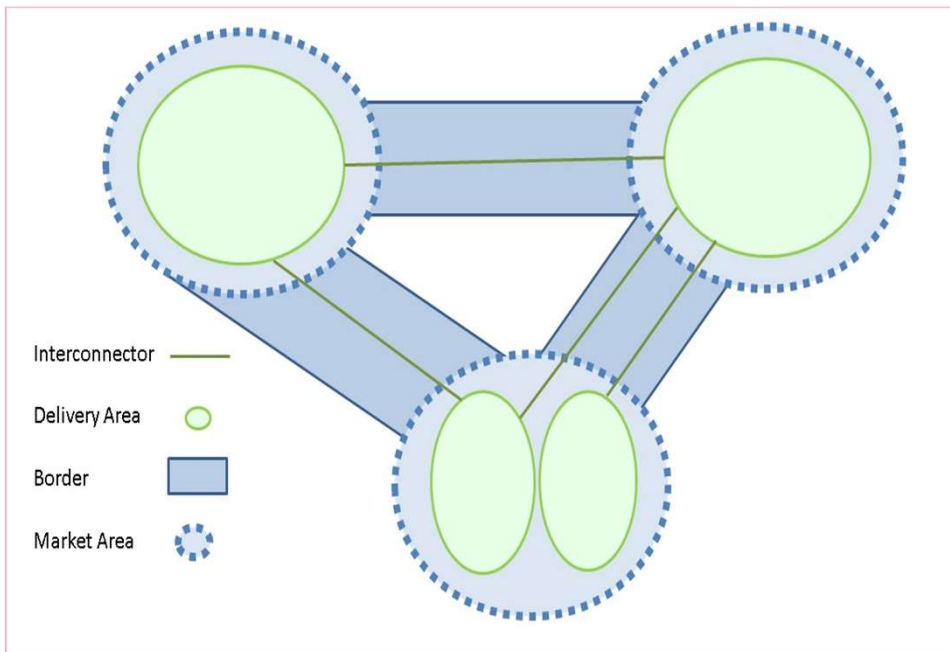
- Represents a 'price area' in the delivery grid
- Can contain **one or more** Delivery Areas
- Transport capacity between Market Areas is **subject to congestion**

Delivery Area

- Represents an area in the delivery grid which is **managed by one TSO**
- **Order entry is into a Delivery Area** (from which a bought commodity is received, or to which a sold commodity is delivered)



3. The SIDC matching solution – CMM. Interconnectors and borders



Separate Configuration per Interconnector

- Opening and Closing Time,
- Capacity Resolution,
- Default Capacity,
- Ramping,
- Validity, etc

Interconnector
A connection between two Delivery Areas.

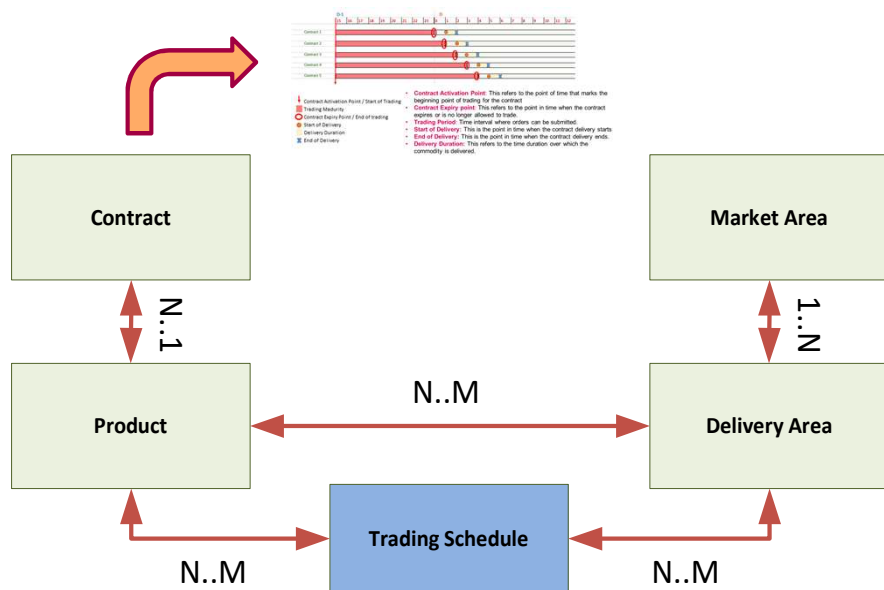
Common Configuration per Border

- Common ATC,
- Leading TSO,
- Validity, etc

Border
A connection between two Market Areas.



3. The SIDC matching solution – products, contracts, trading schedule



Product

- Represents one unique set of trading features (e.g. hourly product: a product with an hourly resolution)
- Defines the guidelines for generating the underlying contracts
- Products are made available for trading per delivery area, thus each delivery area can have a separate set of tradable contracts.

Contract

- An instance of a Product in time, an actual tradable instrument (e.g. an hourly product for the hour 11h-12h on 25 November 2017)
- With a predefined time of delivery
- Used by the trading member entities to enter into agreement to sell/buy a certain quantity
- Each product will have multiple contracts and each contract will belong to one and only one product.

Trading Schedule

- Defines when a contract opens and closes for trading
- Each delivery area will be assigned to some specific schedule (pre-defined).



3. The SIDC matching solution – Contract Life Cycle



- ↓ Contract Activation Point / Start of Trading
- Trading Period
- Contract Expiry Point / End of Trading
- Start of Delivery
- Delivery Duration
- ✕ End of Delivery

- **Contract Activation Point:** This refers to the point of time that marks the beginning point of trading for the contract
- **Contract Expiry point:** This refers to the point in time when the contract expires or is no longer allowed to trade.
- **Trading Period:** Time interval where orders can be submitted.
- **Start of Delivery:** This is the point in time when the contract delivery starts
- **End of Delivery:** This is the point in time when the contract delivery ends.
- **Delivery Duration:** This refers to the time duration over which the commodity is delivered.



3. The SIDC matching solution – SOB

SOB

- Enters orders coming from LTS into a **public order book**
- **Matches orders** against the most suitable counter-orders (following price-time-capacity priority criteria)
- Initiates implicit **capacity allocation**

Price-time-capacity priority criteria

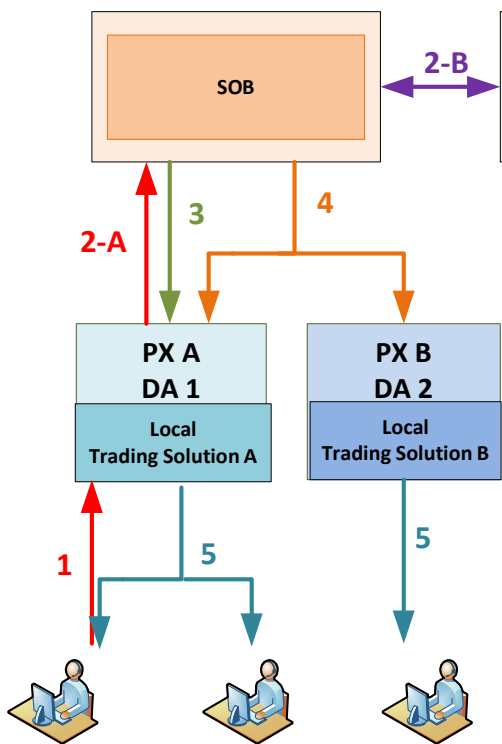
- **Price:** Orders are always executed at the best price
- **Time:** A timestamp (assigned at entry into SOB) is used to prioritize orders with the same price limit (earlier means higher priority)
- **Capacity:** Capacity should be available to make order execution possible

Order Book Views

- The SOB maintains a single **consolidated order book** for all orders that are entered for a contract
- CMM maintains two ATC values, one for each direction in that power could flow. Based on these two values the SOB module can calculate a customised **local view** for each contract and delivery area, which contains all the executable orders for the concerned area.



3. The SIDC matching solution – Order Processing



Calculation of the local view of an order book is based on the following factors:

- The available transmission capacity.
- Orders entered for the contract.

1. New order entered
- 2-A. Trading Solution anonymized the order and forward to SOB
- 2-B. Available capacities retrieved from CMM

SOB validates if any orders in the local view of the order book can match and calculate the Local View for each DA

3. SOB send the result of order entry to trading solution
4. Local view of the updated order book is published via the Public Message Interface to the Trading Solution

5. Trading Solution publish new local view



Order Book Calculation

- Local views will be enriched with cross-border orders if sufficient transmission capacity is available
- The same order can be displayed in multiple local views (depending on available transmission capacity)
- Cross-border orders in the local views will be displayed up to the available capacity; hence orders can be shown with partial volume
- An order is removed from all local views after full execution, deactivation or deletion

Rules for Order Book Calculation

- Orders from other markets are selected based on available capacity and price-time-priority
- Iceberg orders are displayed with their visible quantity and not with their total quantity
- AON orders can only be displayed with full quantity

! Traders cannot see in which area the orders that they see in their local order book were entered

Implicit Market Participant 1 Implicit Market Participant 2 Implicit Market Participant 3



3. The SIDC matching solution – Local views, Order Book

Principles of local views

- Local views will be **enriched with cross-border orders** if sufficient transmission **capacity** is available
- The same order can be displayed **in multiple local views** (depending on available transmission capacity)
- Cross-border orders in the local views will be displayed **up to the available capacity**; hence orders can be shown with partial volume
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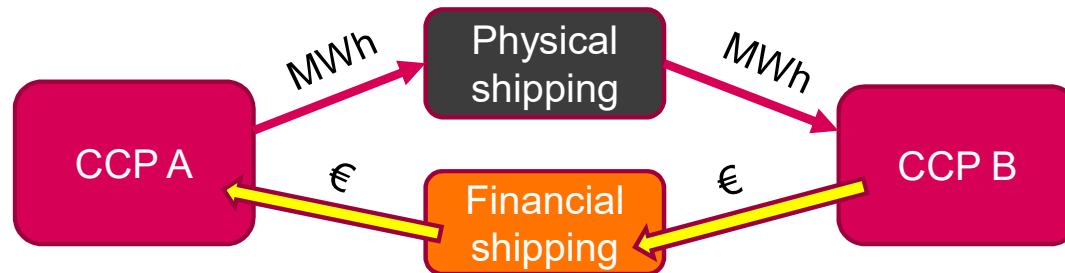


Traders cannot see in which area the orders that they see in their local order book were entered



3. The SIDC matching solution – Shipping Module

- Shipping is the process of **transferring energy between CCPs** within and across the delivery areas including the financial clearing. By definition, shipping does not apply to explicitly allocated capacities
- **Physical shipping** is the process to transfer energy between CCPs by way of nomination, without the financial clearing for the change of energy ownership.
- **Financial shipping** is the process of financial clearing for the change of ownership of the transferred energy between CCPs.





4. The SIDC matching solution – Performance

Performance development stage	Peak length - as the current production peak length is exceeded in some cases	Peak load - as the current production value is close to or even exceeding defined boundary	Overall load and topology – uplift for 2 nd Wave and to give some headroom	Relaxation of Order Book limit - (increase # of Orders in Local View)
RTS3 Slice A - required capacity of the XBID Solution for 1st Business Go-Live	2 seconds	10% Daily maximum of Order transactions in peak; sustainable load threshold 16,54 order transactions per second	30 Hubs, 50 Interconnectors 800 000 Order transactions per day	31 orders in the Local View update
RTS3 Slice B - required capacity of the XBID Solution for 2nd Business Go-Live	10 seconds	15% Daily maximum of Order transactions in peak; sustainable load threshold 40 order transactions per second	52 Hubs, 82 Interconnectors 1 500 000* Order transactions per day	100 orders in the Local View update

*Additional safeguard related to the order transactions per day:

- 1,5 million (1 500 000) maximum daily number of Order Transactions with daily maximum of 15.00% of Order Transactions in peak
- 1,5 - 2 million (2 000 000) maximum daily number of Order Transactions with daily maximum of 11.25% of Order Transactions in peak (This is linked to KPIs and timing percentiles of 93% respectively 96.50%)

6. Overview of borders, market areas & products

12:00-12:40

Gabriella Juhász (HUPX, Hungarian NEMO)
Radek Adamec (ČEPS, Czech TSO)

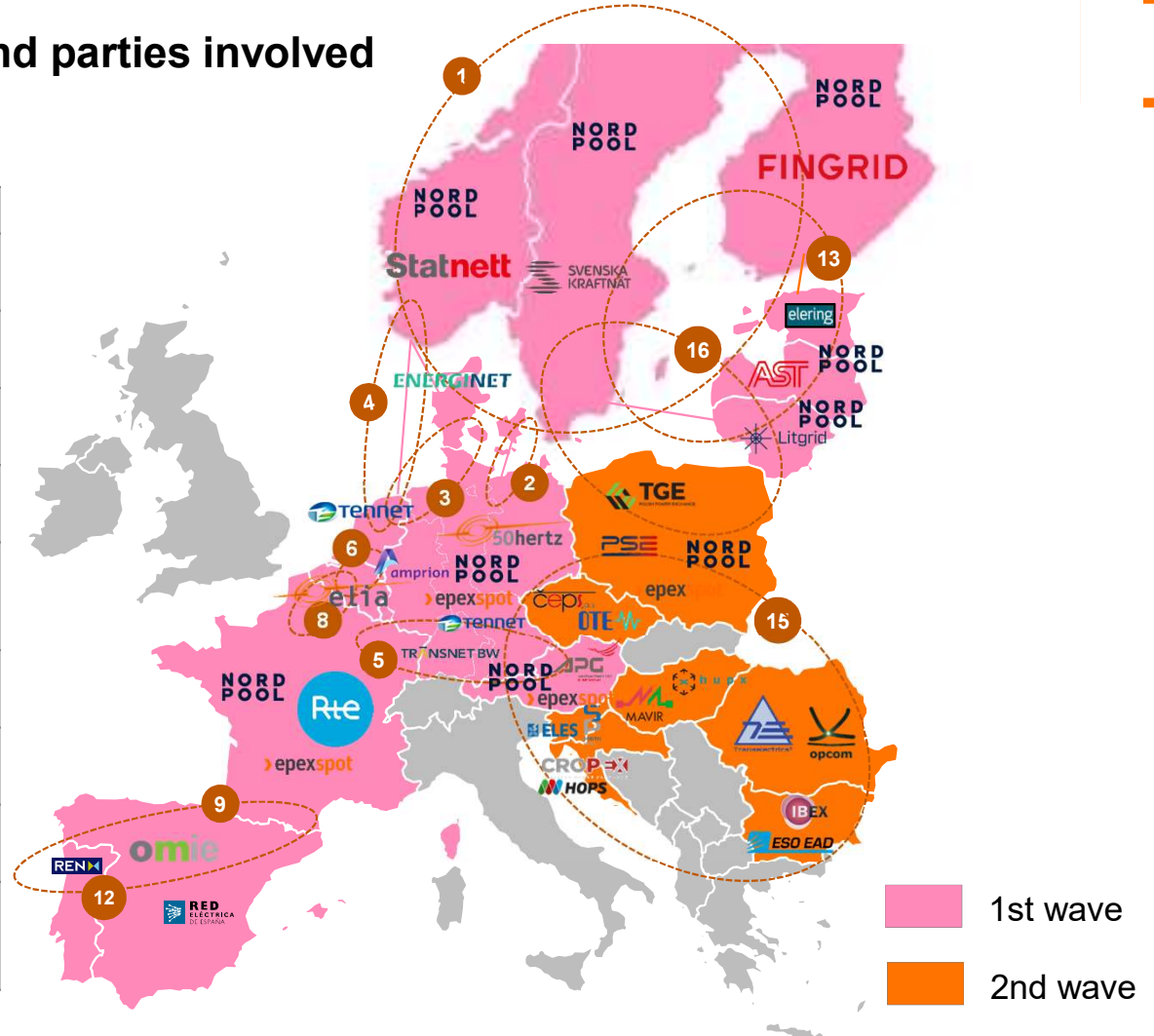
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1. Overview of initial go-live wave and parties involved

• LIPs part of initial go-live:

LIP	Participants	Allocation	
1	Nordic	Fingrid, Energinet, SvK, Statnett, Nord Pool, EPEX	• Implicit
2	Kontek	Energinet, 50Hz, Nord Pool, EPEX	• Implicit
3	DK1/DE, DE/NL	Energinet, TenneT NL& DE, Amprion, EPEX, Nord Pool	• Implicit
4	NorNed	Statnett, TenneT NL, EPEX, Nord Pool	• Implicit
5	FR/DE, DE/AT	Amprion, TransnetBW, APG, RTE, EPEX, Nord Pool, Tennet DE	• Implicit - all • + Explicit (DE/FR)
6	NL/BE	Elia, TenneT NL, EPEX, Nord Pool	• Implicit
8	FR/BE	RTE, Elia, EPEX, Nord Pool	• Implicit
9 12	FR/ES& ES/PT	RTE, EPEX, OMIE, REE, REN, Nord Pool	• Implicit
13	Baltic	Elering, Litgrid, AST, Fingrid (Estlink), Svenska Kraftnät (NordBalt), Nord Pool	• Implicit

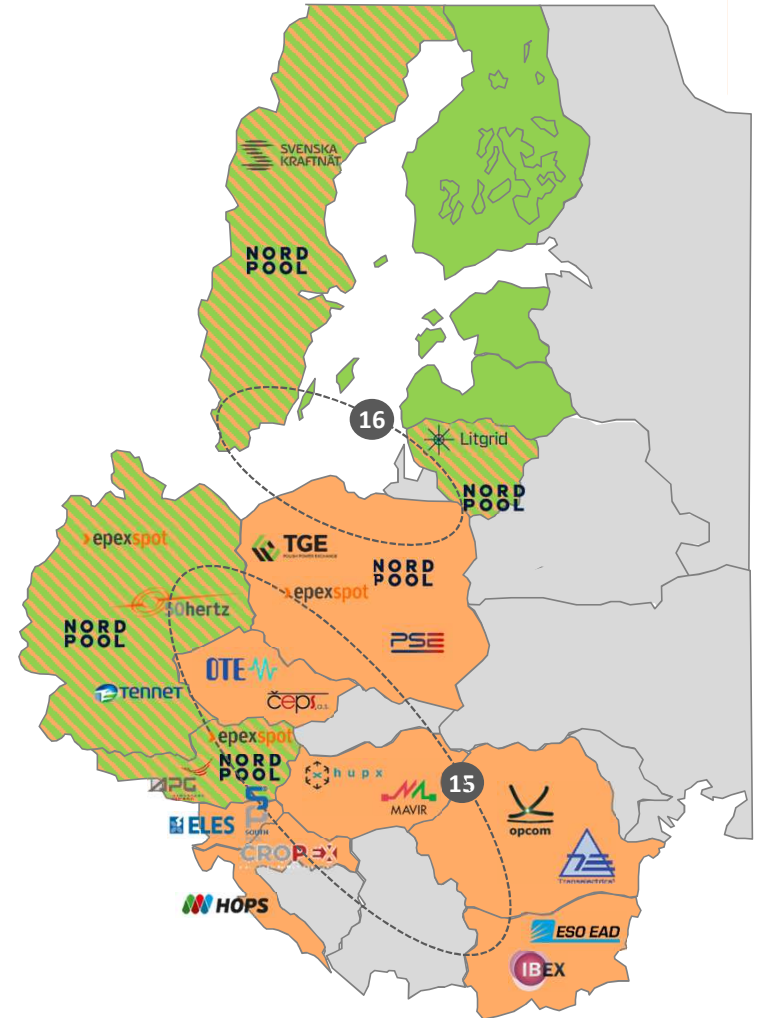


1st wave
2nd wave

2. Overview of 2nd go-live wave and parties involved

LIP	Participants	Foreseen allocation
15	<p>NEMOs: BSP, Cropex, EPEX, HUPX, IBEX, Nord Pool, OPCOM, OTE</p> <p>TSOs: 50Hertz, APG, CEPS, ELES, ESO, HOPS, MAVIR, PSE, Transelectrica, TTG</p>	<ul style="list-style-type: none"> • Implicit • Implicit & Explicit for SI-HR border
16	<p>NEMOs: Nord Pool, TGE</p> <p>TSOs: Litgrid, PSE, Svk</p>	<ul style="list-style-type: none"> • Implicit

- Operational
- Operational, part of 2nd wave
- 2nd wave





3. Products offered in the XBID solution

A. Overview

- XBID system supports the following products:
 - 15-minutes
 - 30-minutes
 - 60-minutes
 - Hourly User Defined Blocks
- Products are configured to the XBID solution per market area
- For specific product availability in different market areas see next slide

3. Products offered in the XBID solution

B. Details

		1st wave						2nd wave						
		Austria	France	German TSO areas	Iberia	NL & Belgium	Nordics & Baltics	Bulgaria	Croatia	Czech Republic	Hungary	Poland	Romania	Slovenia
Size		Min vol. Increment 0.1 MW												
Price Tick		EUR 0.01 per MWh												
Volume Range		0.1 MW to 999 MW												
Price Range		-9 999 €/MWh to 9 999 €/MWh												
Products	15-min	X		X										X
	30-min		X	X										
	Hourly	X	X	X	X	X	X	X	X	X	X	X	X	X
	User Defined Blocks*	X	X	X		X	X	X	X	X	X	X	X	X
Notes		* Hourly blocks (not 15 or 30 min blocks)												

Please note that locally traded products are not indicated on the slide

3. Products offered in the XBID solution

C. Order types

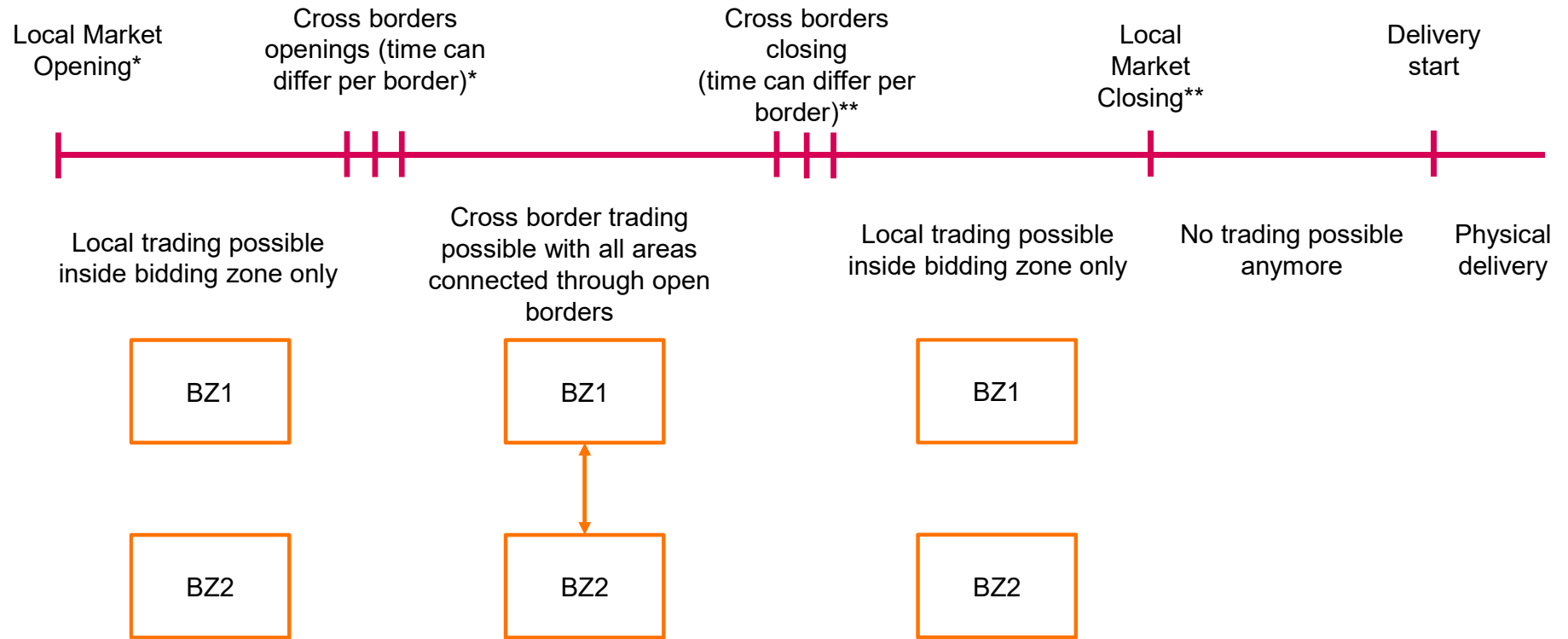
Order type	Execution Restrictions	Validity Restrictions	Predefined	User-Defined
Regular predefined	NON (None) IOC (Immediate-or-Cancel) FOK (Fill-or-Kill)	GTD (Good Till Date) GFS (Good For Session)	Yes	No
Regular user-defined block	AON (All-or-Nothing)	GTD (Good Till Date) GFS (Good For Session)	No	Yes
Iceberg	NON (None)	GTD (Good Till Date) GFS (Good For Session)	Yes	No
Basket Orders	None (1) Valid (2) Linked (3)	--	Yes	No

(1) Orders are processed as if they would have been submitted separately

(2) All orders in the basket are accepted or rejected

(3) All orders in the basket must be executed immediately with their entire quantity, all orders inside basket have the execution restriction "FOK"

4. Contract life cycle for a Bidding Zone (BZ)



* In some cases Local Market Trading opens in the same time as Cross Borders Trading

** In some cases Cross Borders Trading closes in the same time as Local Market Trading

5. Opening and closing times (1/2)

A. For Cross Border Allocation

CC	Bidding Zone border	GOT as of 2nd go-live wave	Cross-border capacities published at GOT	Point in time cross-border capacity is made available after GOT (Effective GOT)	GCT as of 2nd go-live wave
Baltic	EE – FI	15:00 CET D-1	0	As soon as possible after GOT	One hour before delivery of MTU
	LT – LV				
	EE – LV				
	LT – SE4				
	PL – LT				
Core	DE – NL	15:00 CET D-1	0	22:00 CET D-1	
	FR – BE				
	BE – NL				
	DE – FR				
	DE – AT				
	PL – DE				
	PL – CZ				
	CZ – DE				
	CZ – AT				
	AT – HU				
	AT – SI				
	SI – HR				
	HR – HU				
	RO – HU				
Hansa	DE – DK1	15:00 CET D-1	0	18:00 CET D-1	
	DK1 – NL				
	DE – DK2				
	NO2 – NL				
	PL – SE4				
SWE	ES-FR	15:00 CET D-1 (See Note 1 below)	0	22:00 CET D-1	
	PT-ES		0	15:10 CET D-1	
SEE	RO – BG	15:00 CET D-1	0	16:00 CET D-1	

D – Delivery Day *NOTE 1: Iberian GOT is foreseen to be switched to 15:00 CET by Q4 2019 subject to the needed Iberian regulatory changes being ready. (Once this switch is performed the effective GOT for PT-ES border will be 15:10)*

5. Opening and closing times (2/2)
A. For Cross Border Allocation

CCR	Bidding Zone border	GOT as of 2nd go-live wave	Cross-border capacities published at GOT	Point in time cross-border capacity is made available after GOT (Effective GOT)	GCT as of 2nd go-live wave
Nordic	DK1-DK2, DK1-NO2, DK1-SE3, DK2-SE4	15:00 CET D-1	Calculated cross-border capacity	N/A	One hour before delivery of MTU
	FI-SE1, FI-SE3, NO1-NO2, NO1-NO3, NO1-NO5, NO1-SE3, NO2-NO5, NO3-NO5, NO3-SE2, NO4-SE1, NO3-SE4, NO4-SE2, SE1-SE2, SE2-SE3, SE3-SE4, NO3-NO4	15:00 CET D-1	Calculated cross-border capacity	N/A	

5. Opening and closing times

B. For SIDC Market Trading (within a Bidding Zone)

		1st wave						2nd wave						
		Austria	France	German TSO areas	Iberia	NL & Belgium	Nordics & Baltics	Bulgaria	Croatia	Czech Republic	Hungary	Poland	Romania	Slovenia
Opening times	All products	15:00	15:00	18:00	15:00**	14:00	14:00	14:00	15:00	15:00	15:00	14:00	15:00	15:00
Closing times	15-min	H-30 min		H-30 min										H-60 min
	30-min		H-30 min	H-30 min										
	Hourly	H-30 min	H-30 min	H-30 min	H-60 min	H-5 min	H-60min*	H-60 min	H-30 min	H-60 min	H-60 min	H-60 min	H-60 min	H-60 min
	User Defined Blocks	H-30 min	H-30 min	H-30 min		H-5 min	H-60min*	H-60 min	H-30 min	H-60 min	H-60 min	H-60 min	H-60 min	H-60 min
Notes	* Finland and Estonia at D-30 min ** The GOT within Iberian market will be 15:00 as of Q4 2019 (pending of regulatory decision) NOTE: The opening and closing times are SIDC/SOB system timings; individual NEMO timings might differ.													

H – Delivery MTU

Please note that locally traded products are not indicated on the slide

LUNCH BREAK

12:40-13:40

1st October 2019

Carlo IV Hotel; Prague, Czech Republic

7. Relevant information for market parties from Local Implementation Projects (LIPs)

13:40-14:20

Gabriella Juhász (HUPX, Hungarian NEMO)
Radek Adamec (ČEPS, Czech TSO)

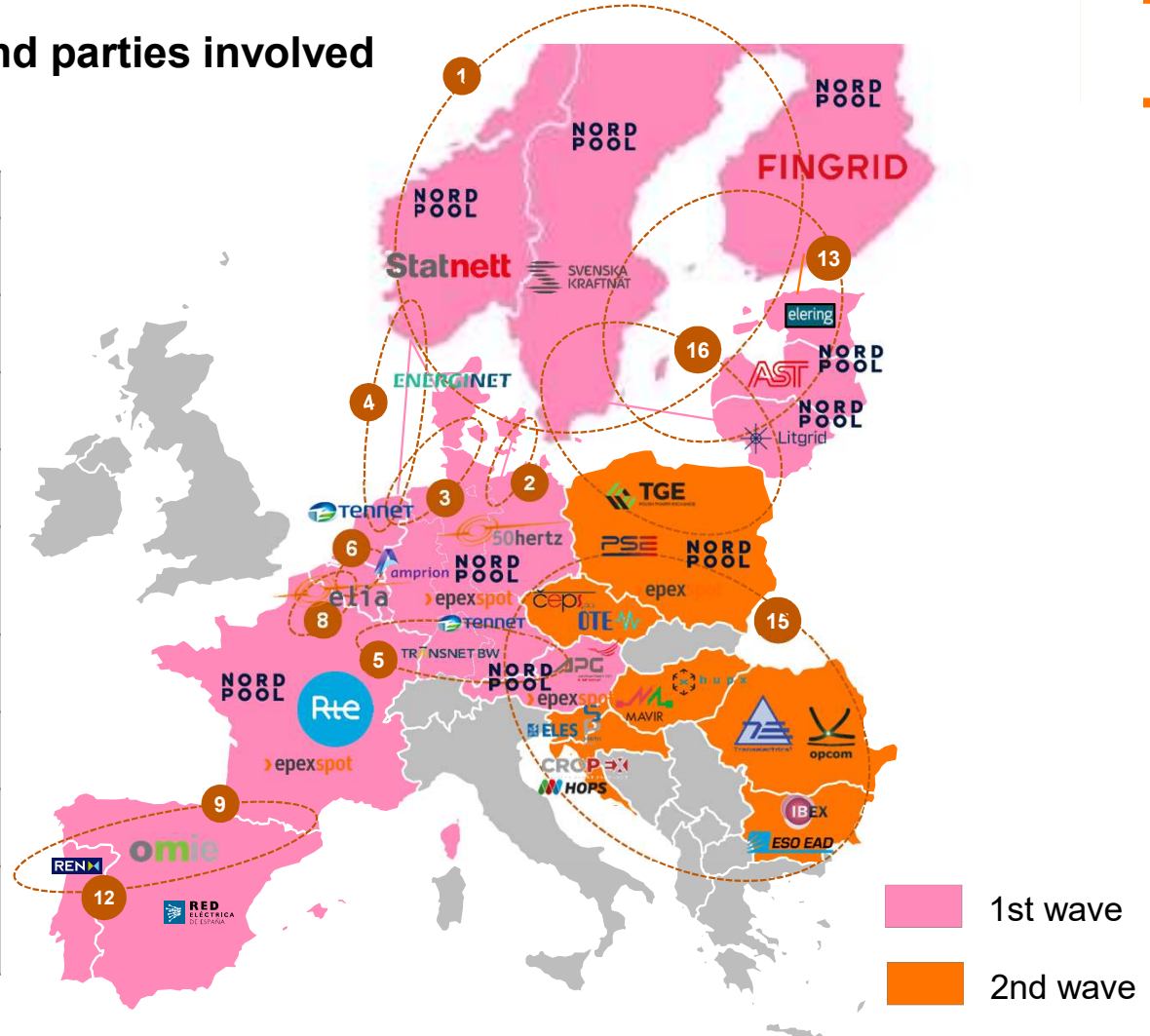
1st October 2019

Carlo IV Hotel; Prague, Czech Republic

1. Overview of initial go-live wave and parties involved

• LIPs part of initial go-live:

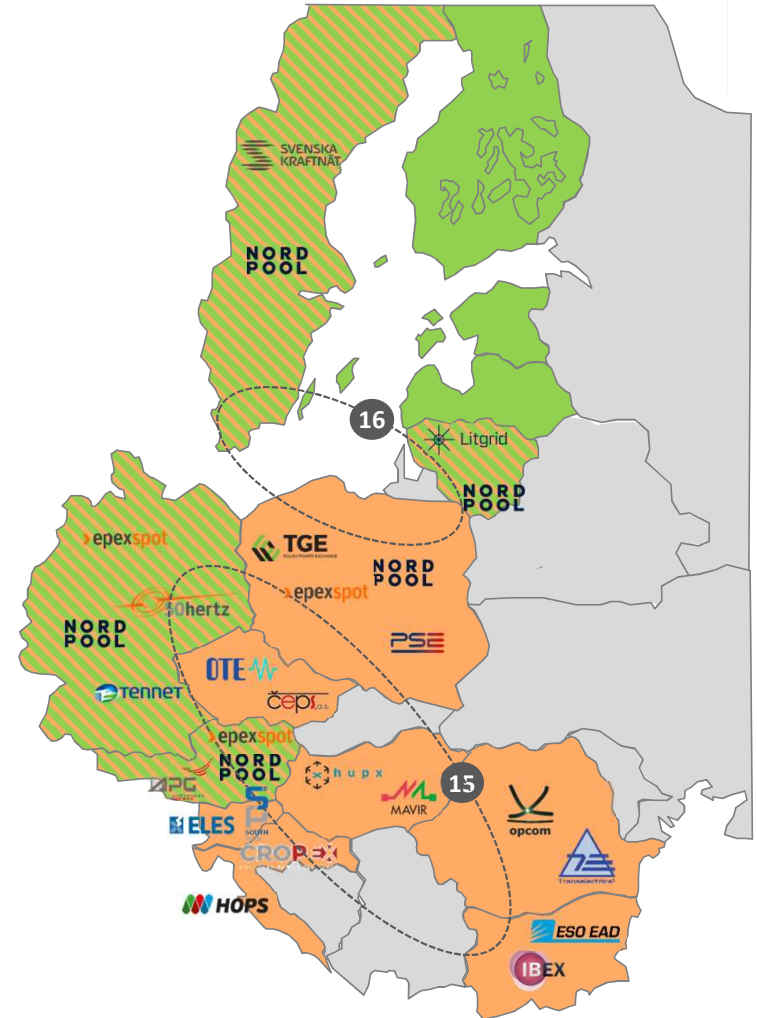
LIP	Participants	Allocation	
1	Nordic	Fingrid, Energinet, SvK, Statnett, Nord Pool, EPEX	• Implicit
2	Kontek	Energinet, 50Hz, Nord Pool, EPEX	• Implicit
3	DK1/DE, DE/NL	Energinet, TenneT NL& DE, Amprion, EPEX, Nord Pool	• Implicit
4	NorNed	Statnett, TenneT NL, EPEX, Nord Pool	• Implicit
5	FR/DE, DE/AT	Amprion, TransnetBW, APG, RTE, EPEX, Nord Pool, TenneT DE	• Implicit - all • + Explicit (DE/FR)
6	NL/BE	Elia, TenneT NL, EPEX, Nord Pool	• Implicit
8	FR/BE	RTE, Elia, EPEX, Nord Pool	• Implicit
9 12	FR/ES& ES/PT	RTE, EPEX, OMIE, REE, REN, Nord Pool	• Implicit
13	Baltic	Elering, Litgrid, AST, Fingrid (Estlink), Svenska Kraftnät (NordBalt), Nord Pool	• Implicit



2. Overview of 2nd go-live wave and parties involved

LIP	Participants	Foreseen allocation
15	<p>NEMOs: BSP, Cropex, EPEX, HUPX, IBEX, Nord Pool, OPCOM, OTE</p> <p>TSOs: 50Hertz, APG, CEPS, ELES, ESO, HOPS, MAVIR, PSE, Transelectrica, TTG</p>	<ul style="list-style-type: none"> • Implicit • Implicit & Explicit for SI-HR border
16	<p>NEMOs: Nord Pool, TGE</p> <p>TSOs: Litgrid, PSE, Svk</p>	<ul style="list-style-type: none"> • Implicit

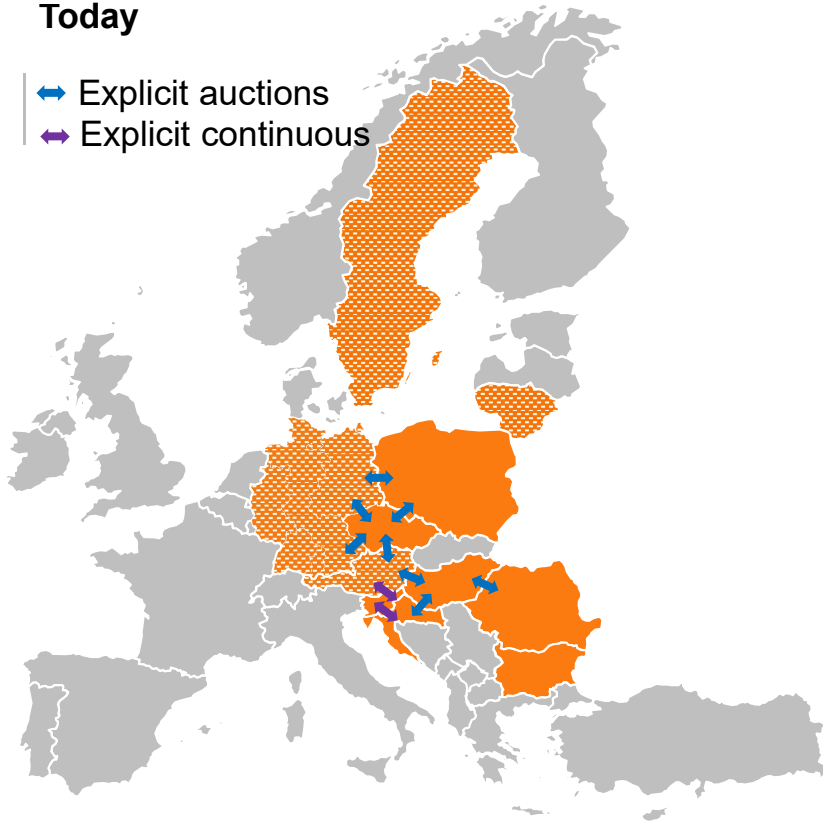
- Operational
- Operational, part of 2nd wave
- 2nd wave



Type of cross-zonal capacity allocation 1/2

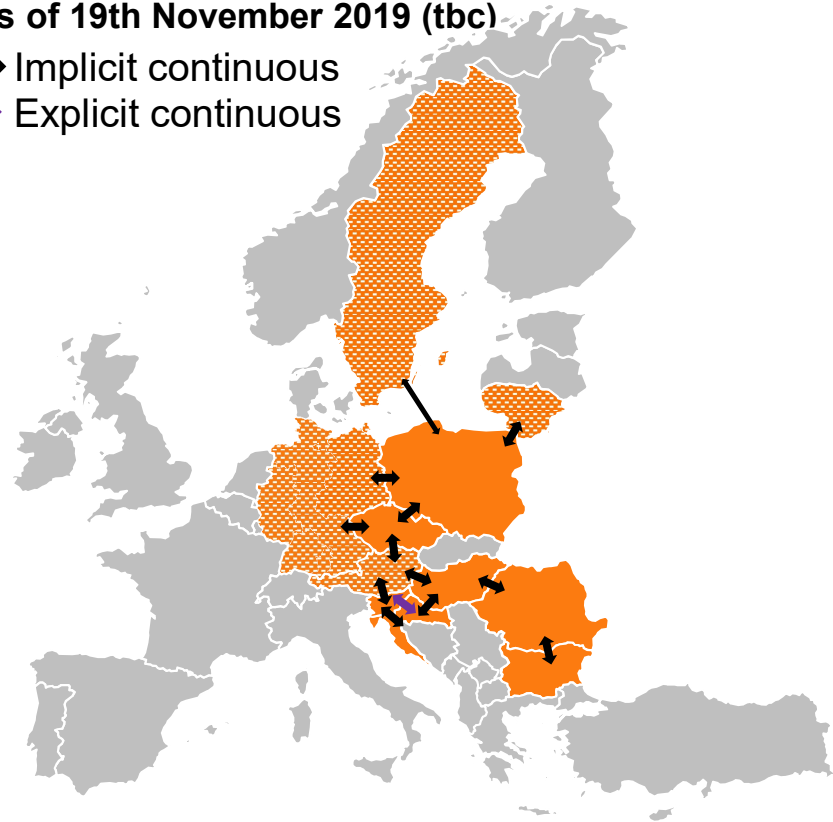
Today

- ↔ Explicit auctions
- ↔ Explicit continuous



As of 19th November 2019 (tbc)

- ↔ Implicit continuous
- ↔ Explicit continuous



Type of cross-zonal capacity allocation 2/2



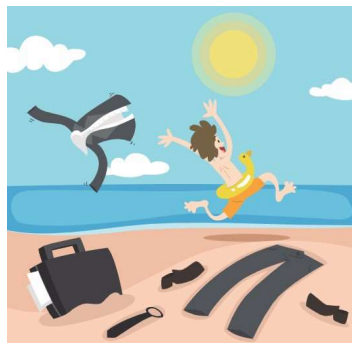
NO need to submit explicit capacity allocation request on XBID borders



NO more explicit capacity allocation on the coupled borders*



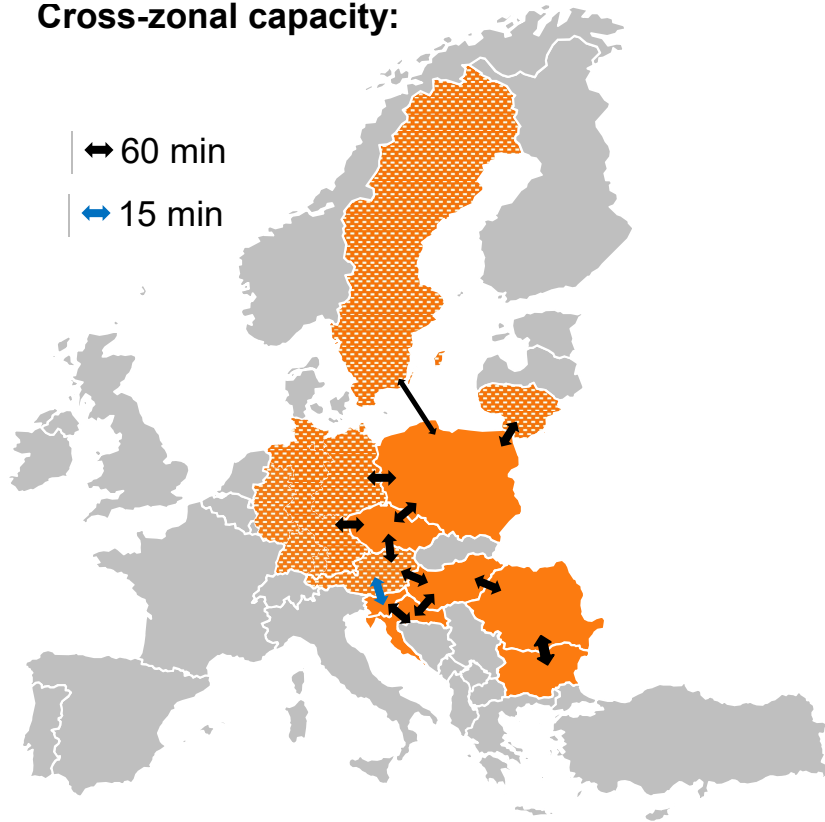
NO need to waste time with submission of cross border nomination on intraday timeframe and cross border settlement



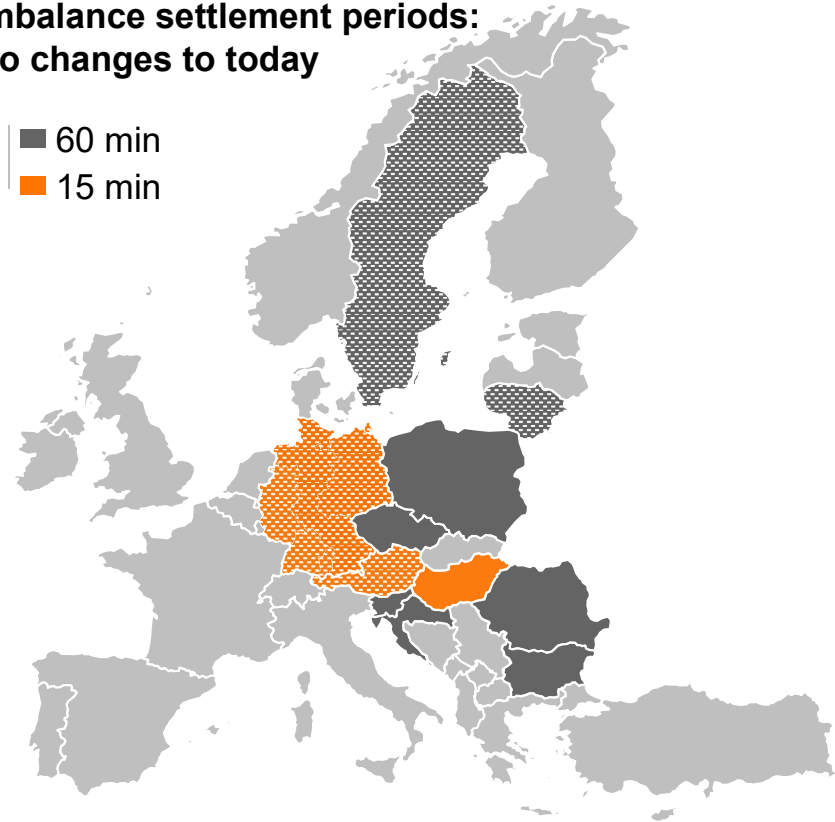
Traders will save time!

Granularity offered cross-zonal capacity and imbalance settlement periods

Cross-zonal capacity:



Imbalance settlement periods:
No changes to today

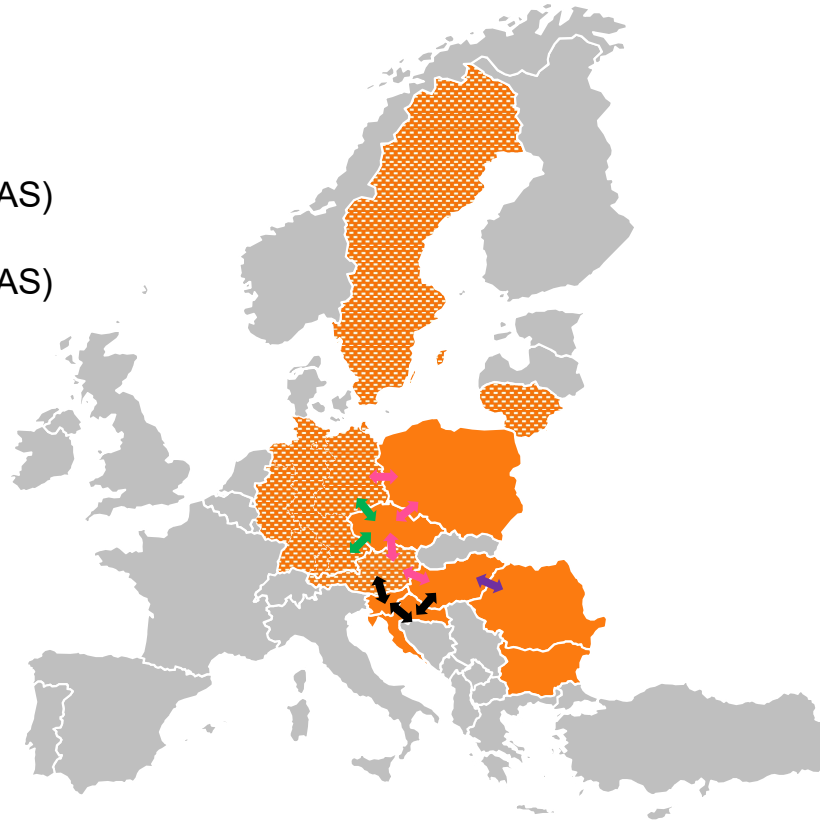


Gate opening (GOT) and gate closure (GCT) times today For Cross Border Allocation

Today

- ↔ GOT 18:00 D-1, GCT H-60min D
- ↗ 6 explicit auctions run by CEPS via MMS (DAMAS)
GOT H*-6:00, GCT H-2:30
- ↔ 6 explicit auctions run by CEPS via MMS (DAMAS)
for ČEPS-50HzT and ČEPS-TenneT separately
- ↖ 6 Implicit auctions run by TEL
GOT H*-4:00, GCT H-3:00

*H is the first hour of intraday time interval

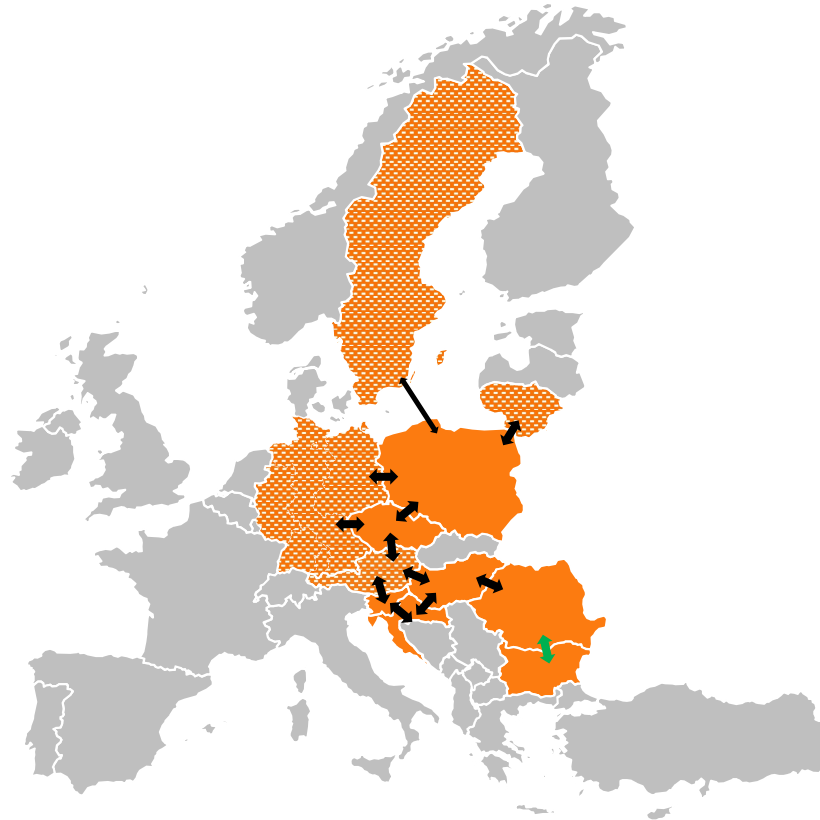


**Gate opening (GOT) and gate closure (GCT) times as of 2nd wave go-live
For Cross Border Allocation**

**As of 19.11.2019 tbc (for
delivery on 20.11.2019 tbc)**

↔ GOT 15:00 D-1 GCT H-60min D
Effective GOT 22.00

↔ GOT 15:00 D-1 GCT H-60min D
Effective GOT 16:00~16:30

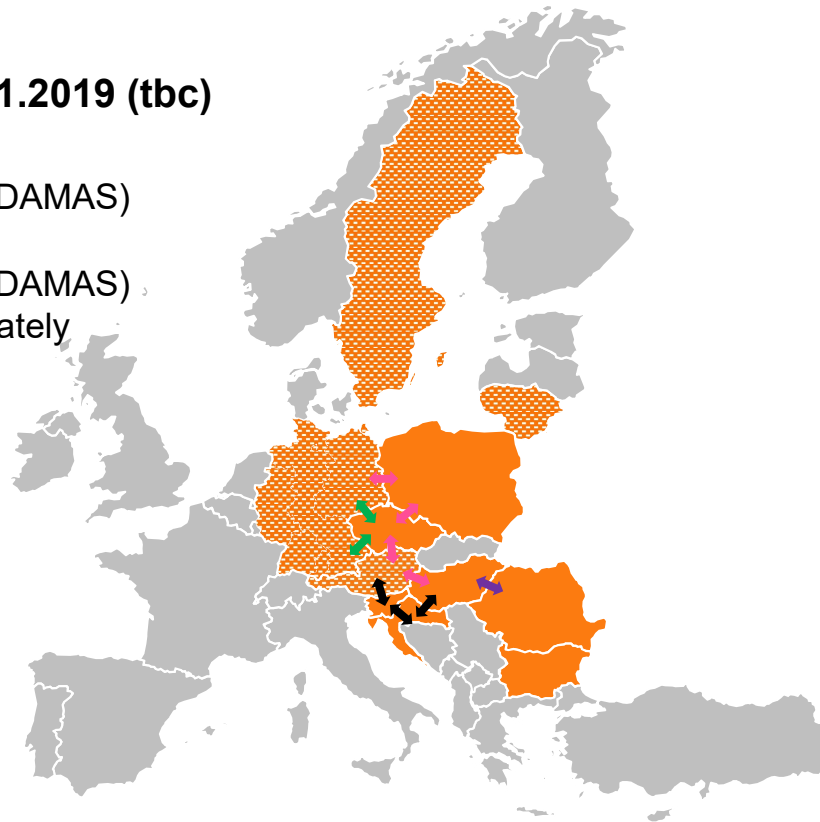


Explicit capacity allocation for day 19.11.2019 (tbc)

Explicit capacity allocation for day 19.11.2019 (tbc)

- ↔ GOT 18:00 D-1, GCT H-60min D
- ↔ 6 explicit auctions run by CEPS via MMS (DAMAS)
GOT H*-6:00, GCT H-2:30
- ↔ 6 explicit auctions run by CEPS via MMS (DAMAS)
for ČEPS-50HzT and ČEPS-TenneT separately
GOT H*-6:00, GCT H-2:30
- ↔ 6 Implicit auctions run by TEL
GOT H*-4:00, GCT H-3:00

*No changes compared to a regular day as today.



Cross-border trading possibilities for D-1 delivery (tentative)*



*Exact timing/sequence shall be properly confirmed shortly before the go-live through the usual market communication.

Cross-border trading possibilities for D-1 delivery (tentative)

Local markets of 2nd wave parties

Each 2nd wave NEMO will communicate on the potential down times of its local markets.

First tradeable local contracts in local trading systems could be available earlier than the start of cross-border capacities allocation.

Potential impact on 1st wave local market will be communicated locally

2nd wave Cross-border markets

2nd wave aims at connecting to SIDC on the **19th November 2019 (tbc)** and first tradeable cross-border contracts will be for the **20th November 2019 tbc [00:00-01:00]**

The detailed launch plan and checklists are still being worked on, detailed information on the duration of the migration, downtimes of 'old' and 'new' platforms are still being investigated.

Downtimes will be limited as much as possible

Capacities will be published according to the timings defined by the relevant TSOs on a border per border basis.



Fallback

During the 2nd wave go-live if something goes wrong...
...with a local trading system: effected party may be decoupled
...with the XBID central system: all parties may be decoupled
and local intraday market trading can be restored.

In such kind of unexpected market events market participants will be informed without undue delay.

This is only a last resort solution. All parties will make all effort to prevent such an action.



8. NRA overview

14:20-14:30

Lajos Valent (ERU & Chair of NEMO Co-ordination Group)

1st October 2019

Carlo IV Hotel; Prague, Czech Republic

9. Member's trial period, go-live plan and next steps for readiness

14:30-15:00

Ondřej Máca (OTE, Czech NEMO)

1st October 2019

Carlo IV Hotel; Prague, Czech Republic



Agenda

1

Market Trial

2

Go-live sequence

1. Market Trial (1)

What is the Market Trial?

- The Market Trial Period gives the Market Participant the **opportunity to connect via Local Trading Systems (LTS) of the NEMOs to the SIDC system**
- **The Market Trial Period is locally organized by individual NEMOs/TSOs** – NEMOs and TSOs (for Explicit Market Participants) are the main communication interface for both technical and organizational matters – **connectivity details and credentials will be communicated locally**
- Mainly focused on the new Implicit and Explicit Market Participants, but **all** market participants are invited and encouraged to join
- The Market Trial will be conducted in **production-like conditions**, meaning that following items are configured in accordance with the foreseen go-live configuration:
 - product range
 - product naming and product scheduling
 - cross-border capacities publication times,
 - coupling perimeter.

1. Market Trial (2)

- **Goal:** to become familiar:
 - With **SIDC functionalities and process** – applicable for the Market Participants who are not using SIDC services yet
 - With the new features introduced in the 2nd XBID release – applicable for the Market Participants already actively participating in the SIDC (provided that their respective NEMO participates in the Trial Period),
 - **Post-coupling activities like nominations are out of scope** of the Market Trial.
 - Note: The Implicit Market Participants have access to SIDC via the **Local Trading Solution which may differ among NEMOs** as it may also have additional functions supporting individual processes
- **Period of execution:**
 - 1st timeslot: 21/10/2019 - 25/10/2019
 - 2nd timeslot: 28/10/2019 - 02/11/2019
 - Note: **Activation of the timeslot is the full responsibility of the SIDC project.** The goal is to execute all related scenarios within the first timeslot.
- **ALL NEMOs with the exception of EPEX Spot will participate in the Market Trial Period.**

1. Market Trial (3)

- **Operating times:**

- The IT System will be operating on a 24x5 basis during the Trial Period.
- The support services (operational and technical consultation, simulation of the predefined scenarios) will be provided between 9am and 5pm CET by NEMOs for Implicit Market Participants and by TSOs (HOPS, ELES, RTE, Amprion) on the respective borders for Explicit Market Participants.
- All requests for support or consultation outside of the supported times are the responsibility of each of the NEMOs.

- **Technical arrangements:**

- Implicit Market Participants – are fully the responsibility of each NEMO
- Explicit Market Participants – are within the responsibility of the respective TSOs (HOPS, ELES, RTE, Amprion) – connectivity data distribution, connectivity tests, manuals for Explicit MPs, ...

- **Operational Messages:**

- The purpose of the Trial Period is to simulate operation as close as possible to the standard production operation. This implies that the system will generate operational messages. The Market Participants shall be advised to distinguish between messages coming from the Trial Period and those coming from routine operations.

1. Market Trial (4)

Detailed Schedule:

- **Week 43** (21/10/2019 - 25/10/2019)
 - Mo 21.10.2019 Normal operations
 - Tu 22.10.2019 Normal operations + Closing of HU market
 - We 23.10.2019 Normal operations + Trade recall and trade cancellation + Closing of market(s)
 - Th 24.10.2019 Normal operations + Trade recall and trade cancellation + Closing of borders
 - Fr 25.10.2019 No testing planned
- **Week 44** – Reserved for additional Trial Period testing if activated by the SIDC project

Normal operations = testing against production-like products

Trade recall and trade cancellation = For and between the NEMOs offering the service

Closing of market(s)/borders = simulations of situations where specific messages will be communicated, specific local NEMO processes in local trading systems might be proposed



2. Go-live sequence

Release 2.0

- Needed to accommodate the 2nd wave go-live
- Will be implemented in advance on **30th October 2019** on current **SIDC** and will follow established procedures and communication channels

Local markets of 2nd wave parties

- As presented under agenda item 6

2nd wave Cross-border markets

- As presented under agenda item 6

10. Future plan for SIDC

15:00-15:20

Mark Pickles, TSOs SIDC Project Manager, National Grid ESO

1st October 2019

Carlo IV Hotel; Prague, Czech Republic

SIDC – Future Roadmap

- The 1st and 2nd Wave Go-Lives, together with the SIDC development already undertaken provides a solid foundation for the medium and longer term.
 - The growing use of SIDC is enabling delivery of the benefits foreseen
 - But it is only the beginning!
- There is a lot more to be done.....
 - **3rd Wave Go-Live.** The EC has set the expectation that all remaining EU borders will go-live in 2020. This predominantly means Italy, Greece, Slovakia, Ireland and UK (awaiting clarity on Brexit)
 - **Losses on DC Cables.** The Proof of Concept is currently in progress and implementation is in 2020
 - **Intraday Auctions support/involvement (Capacity Pricing).** Initial work is commencing following the ACER decision
 - **Improvements in reporting and usability.** These are being progressed – Release 2.0 (October 2019) and Release 3.0 (2020)
 - **Longer term development** to deliver remaining CACM requirements (e.g. Flow Based) and enduring Shipping solution.
 - Maintaining **performance** is a continuous challenge and may trigger significant developments together with new functionalities (i.e. Losses and 15 min products, cross-product matching...)
- The SIDC parties have developed a roadmap that contains 130 items



Strategic Roadmap – Illustrative “Longer Term” sequence of developments to be prioritized/agreed with stakeholders

November 2019

SIDC 2nd Go-live

Support Analysis & Design for Intraday Auctions (IDAs)

Support IDAs Development /Deployment

Analysis & Design of enduring Shipping Solution

Enduring Shipping Solution implemented

Analysis & Design of Flow Based Allocation

Flow Based Allocation Developed/ Prod. then Parallel Run

Design of non-standard ID products

Implementation of non-standard ID products

Release planning likely to mean no more than 2 releases or 1 major release p.a. due to testing cycles etc.

Impact analysis needs to be done for all elements

Dependency on cost/ budget as to how quickly changes can be implemented

Sequence of all these activities are not agreed – it will be discussed with Steering Committee & external stakeholders such as NRAs

SIDC Governance

- Governance underpins the ability of the SIDC parties to manage and further develop the solution
- The SIDC Intraday Steering Committee (IDSC) comprises all parties who have signed the Operational Agreement and manages:
 - Annual budget and agreed priorities
 - Development and implementation of short, medium and long term strategic roadmap
- Operationally OPSCOM is established to manage and monitor operations. Incident Committees are mobilised as needed
 - OPSCOM reports to IDSC
- Other parts of the SIDC Governance include:
 - Quality Assurance and Release Management
 - Market and System Design
 - Support functions covering Finance, Legal and Communications
- SIDC has commenced initial work with Single Day Ahead Coupling (SDAC) regarding the co-ordination and merging of governance



SIDC Future Plans - Summary

- We have had a successful start
- SIDC is a complex central system that is connected to multiple local systems
- Competition rules need to be constantly considered and this can put constraints on the collaboration at times
- We remain very focused on performance – the system is performing very well and our goal is to maintain this with further geographic extension and functional development
- Testing a new release takes 6 months and this means that there can be no more than one major release p.a.
 - We are piloting an Agile development approach to see if we can develop and deploy new functionality in a less cumbersome and more efficient way
- There remains much to develop – support for Intraday Auctions, Flow Based, enduring Shipping solution etc. and much of this is very complex
- We have a good foundation and this gives us optimism for the future of SIDC



General Q&A + Summary and close

15:20-15:45

1st October 2019

Carlo IV Hotel; Prague, Czech Republic



Thank you for your attention!

Get together & networking – refreshments served

1st October 2019

Carlo IV Hotel; Prague, Czech Republic