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Cross-Border Intraday: Questions & Answers

1. What is the Cross-Border Intraday initiative?

The Cross-Border Intraday initiative (XBID Project) started as a joint initiative by the Power Exchanges (PXs): EPEX SPOT (including former APX and Belpex), GME, Nord Pool and OMIE together with the Transmission System Operators (TSOs) from 11 countries, to create a joint integrated intraday cross-border market. The single intraday market enables continuous cross-border trading across Europe. This single intraday market solution is based on a common IT system with one Shared Order Book (SOB), a Capacity Management Module (CMM) and a Shipping Module (SM). This means that orders entered by market participants for continuous matching in one country can be matched by orders similarly submitted by market participants in any other country within the project's reach as long as transmission capacity is available. The intraday solution supports both explicit (where requested by NRAs) and implicit continuous trading and is in line with the EU Target model for an integrated intraday market. The purpose of the XBID initiative is to increase the overall efficiency of intraday trading.

2. Why is the intraday market so important to integrate European markets?

There are three different physical markets for trading electricity; Forward Market, Day-Ahead Market and Intraday market before delivery hour.

An integrated intraday market will promote effective competition and pricing, increase liquidity and enable a more efficient utilisation of the generation resources across Europe. With the increasing amount of intermittent production, it becomes more and more challenging for market participants to be in balance after the closing of the Day-Ahead market. Therefore, interest in trading in the intraday markets is increasing. Being balanced on the network closer from delivery time is beneficial for market participants and for the power systems alike by, among others reducing the need of reserves and associated costs.

3. What is the geographical scope of the initiative?

The first phase of the project initially involved the countries named under point 4. However, the scope has since been considerably expanded with almost all other members of the European Union now being part of the project to enable them to prepare to implement XBID. It is envisaged that there will be three phases of go-live. The first go-live in June 2018 included 14 countries: Austria, Belgium, Denmark, Estonia, Finland, France, Germany, Latvia, Lithuania, Norway, The Netherlands, Portugal, Spain and Sweden. A second go-live with further countries is foreseen in 2019. The final objective is to extend the mechanism for cross border intraday trading to all Europe and, potentially, interconnected countries. The same platform will allocate all available intraday cross border capacity in an optimal way.

4. Who are the original partners?

The Power exchanges: EPEX SPOT (including former APX and Belpex), GME, Nord Pool and OMIE.

The TSOs: 50 Hertz, Amprion, APG, BritNed, Creos, Elia, Energinet, Fingrid, National Grid Interconnectors, RTE, Statnett, Svenska Kraftnät, Swissgrid*, TenneT BV, TenneT GmbH, and TransnetBW.

* Please note integration of Swiss borders is not going to be possible due to the intergovernmental agreement on electricity cooperation not having been reached by end of 2016 [CACM Article 1 (4) & (5)]. In consequence, Swissgrid left the project in January 2017.

5. When was project go-live achieved?

The go-live of the XBID Solution was achieved on the 12th June 2018 with first deliveries on 13th June 2018.

6. What is the relation between the XBID project and the network codes/guidelines?

The XBID project is a multiparty project working on the implementation of the XBID Model being a continuous intraday market, based on a single capacity management module and a shared order book within a one-to-one relationship. The Guideline on Capacity Allocation and Congestion Management (CACM GL) endorses this XBID Model. The CACM GL sets out, amongst others, the methods for allocating capacity in intraday timescales, rules for operating intraday markets and the basis for the implementation of a single electricity market across Europe.

The XBID Model is in line with the provisions of the CACM GL and the parties in the project fulfil the future requirements of CACM through their involvement.

7. Who is the system provider of the XBID Solution?

The system provider is Deutsche Börse AG (DBAG).

8. What does this system do?

The orders submitted by the market participants of each PX are centralised in one shared order book (SOB). Similarly, all the intraday cross-border capacities are made available by the TSOs in the Capacity Management Module (CMM).

Order books displayed to the market participants via the usual NEMOs' trading systems contain orders coming from other participants of the concerned NEMO and also orders coming from other NEMOs for cross-border matching, provided there is enough capacity available.

Orders submitted for different market areas can be matched provided there is enough capacity available. In such a case, the order matching is associated with implicit capacity allocation. Concretely, when two orders are being matched the SOB and CMM is updated immediately. Trade is done on a first-come first-served principle where the highest buy price and the lowest sell price get served first. The update of SOB means that the orders that were matched are removed, and consequently that the available transmission capacity in the CMM is updated. For how many borders the capacities are updated depends on where the matched orders were located geographically.

For borders where NRAs requested for it, explicit allocation is made available to Explicit Participants (currently only at the FR-DE border).

During the trading period, available capacities and order books are simultaneously updated on a continuous basis.

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:

- Between two different Delivery Areas
- In the same Delivery Area between two different Exchanges

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

9. How is the 24/7 availability of the system guaranteed?

Both CMM and SOB have a primary and a back-up system that are separated physically to guarantee highest availability of the system. Trading at local intraday platforms and the explicit access to the CMM is not affected by a down-time of the SOB.

10. How does the XBID project communicate with stakeholders?

User Group meetings have been held approximately every 5-6 months. Attendees were a representative group of market participants. The purpose of the User Group has been to facilitate the interaction between the XBID project and market participants with the aim of explaining the status of the XBID project and building knowledge/confidence in the proposed solution. It has also provided stakeholders with the opportunity to provide feedback on key aspects of the project.

The User Group meeting slides and minutes have been published at a dedicated XBID project section on the web pages of the involved NEMOs.

Regular XBID project updates are also provided to:

- Regulators (NRAs) through the Implementation Group (IG) meetings
- Market European Stakeholder Committee (MESC) at each scheduled meeting
- The European Commission (EC)/ACER/ CACM WS

A larger scale XBID launch event to which over 150 stakeholders were invited was held on 31st January 2018. The meeting slides were published at a dedicated XBID project section on the web pages of the involved NEMOs.

11. What is the gain for market participants?

The solution is expected to increase the liquidity of the newly coupled intraday continuous markets, since orders submitted for the purpose will be potentially matched with orders submitted in any other participating country. In other words orders that could not be matched in local markets increase their probability of being matched in the larger integrated market. In addition, the solution facilitates the operational tasks of intraday cross-border scheduling, since the capacity allocation and energy matching processes is done simultaneously. As a consequence, market efficiency is also expected to increase, to the benefit of the market participant.

12. How will this impact/how does this benefit the end consumers?

The direct benefit for the end consumer is expected to be positive, and the end consumers will benefit from this initiative increasing the overall wholesale market

efficiency and facilitate the integration of the RES in the market. More concretely market participants having larger possibilities to be balanced before the hour of delivery will contribute to reduce the costs of reserves.

13. How does the XBID project interlink with the PCR Day-Ahead project?

There is no direct interlink between these two projects other than the participating TSO and PXs are mostly the same. However, both projects share the same purpose of implementing the European target models for electricity.

14. What are the Local Implementation Projects (LIPs)?

To implement the XBID solution Local Implementation Projects (LIPs) were set up. Over 15 LIPs have been established so far. A LIP consists of one or more borders, one or more TSOs and one or more NEMOs. LIP's main tasks are adaptation of local arrangements (i.e. procedures, shipping, contracts), IT system adjustments, secure equal treatment between NEMOs and implicit/explicit access and ensuring readiness for the participation in the XBID LIP testing.

The LIPs are monitored via the XBID Steering Committee where individual LIP's progress is reported to. Further each LIP has set up a formal governance structure within the LIP (i.e. project manager, Steering Committee, etc.). Within the XBID governance structure the 2nd and 3rd wave LIPs have to report on their readiness for LIP testing and go-live.

15. The XBID project informed Market Parties about the specific product availability in different market areas. How and when will the range of products at all the borders be increased, i.e. by when will NEMOs introduce sub-hourly products at all other borders?

The Project Parties anticipate increasing the range of products on borders. This requires forward planning including changing local systems and consultations. It is not possible to provide the answer at present but information will be provided on this in the future.

16. The order book depth is 31 orders. By when do NEMOs plan to implement greater depth?

The initial implementation followed these principles: The order book depth is either 31 orders or 600 MWs (limited by max of 50 orders), whichever one comes last.

The order book depth is subject of the overall system performance optimisation process and analysis/plans are underway to increase it. All performance is closely monitored.

For the behaviour of the order book depth applicable for block orders see the next question.

17. How is the order book depth restriction calculated for user defined blocks and Basked Orders?

a) Order book depth basket orders

Basket orders are not a type of order that results in a specific local view for basket orders. It can be best seen as a convenient way to enter multiple regular orders in a single action. When entering a basket order, the basket is given an additional basket execution condition. Three basket execution conditions exist: "None", "Valid" and "Linked"

A basket with basket execution condition “None” or “Valid” falls apart into its contained orders when it is accepted by the XBID system. Each order in the basket enters the local view of its own contract.

A basket with basket execution condition “Linked” is either fully executed, or not at all at entry (the orders in a linked basket must have execution condition FOK). This means that orders in a linked basket never enter any local view.

b) Order book depth user defined blocks

The number of orders displayed in the local view is limited by four parameters:

- Maximal number of orders (max order book depth)
- Minimum volume
- Minimum volume for blocks (yes/no)
- Effective maximum number of orders

Calculation of the maximal order book depth:

Maximal order book depth is defined by following algorithm.

- For Products with a Delivery period of 60 min or shorter the maximal number of orders equals MaxObkDepth.
- For User Defined Block Orders as well as for orders for predefined contracts longer than 60 min following algorithm is used:
  - MaxObkDepth / user defined period between dlvryStart and dlvryEnd in hours rounded down. Maximum equals MaxObkDepth.

Example:

Assumption: MaxObkDepth = 31

- For 15hours user defined block order = 2
- For 18hours user defined block order = 1
- For 20hours user defined block order = 1
- For 7hours user defined block order = 4
- For 30min (2*15min contracts) user defined block order = 31

This maximal order book depth is then used in conjunction with the minimum volume to determine how many orders will effectively be displayed.

If the total number of orders in the OBK is lower or equal as the fixed Maximum number of orders, all orders are sent regardless of their volume.
If the total number of orders in the OBK is higher than the fixed Maximum number of orders, either:

- the number of orders in the Public Order Books Delta Report Message is limited by Max OrderBook Depth when the total quantity exceeds the Minimum Volume or
- the number of orders in the Public Order Books Delta Report Message exceeds the fixed maximum number of orders by as many orders as are needed for the total volume in the Public Order Books Delta Report to reach at least the Minimum Volume.

With the minimum volume for blocks parameter set to “yes” this minimum volume also applies to block orders, meaning the system will ensure the minimum volume will also be displayed for user defined blocks, even for long user defined blocks, where the maximal order book depth is reduced to 1. If the minimum volume for blocks parameter is set to “no” then the minimum volume mechanism is not applied to user defined blocks, meaning the number of visible user defined blocks for every user defined contract is restricted by the maximal order book depth calculated a described above (meaning down to 1 for long user defined blocks).

The effective maximum number of orders parameter puts an upper limit to the number of orders. This means that the system will never exceed this number of orders, even if the minimum volume is not yet reached. E.g. if this parameter is set to 50, the system will at most display 50 orders per contract per side.

18. What is the scope and purpose of the LTS compared to the XBID solution?

It is important to clearly distinguish between Local Trading Solutions (LTSs) and XBID Solution.

LTSs represent an interface (the only interaction point) between the Implicit Market Participants and the Single Intraday Coupling (SIDC) Solution. In other words the Implicit Market Participant may access the SIDC only via the LTS of a particular NEMO.

The XBID Solution is so called backend system which does not interact with the Implicit Market Participants directly. The XBID Solution provides, amongst others, a functionality of the Shared Order Book via interaction with the connected LTSs.

Note: Explicit Market Participants have a direct technical access to the XBID Solution in order to perform explicit allocations on the German-French border.

19. As announced by the NEMOs, the bids and offers introduced on the LTS will not automatically be transferred to the XBID platform when continuous cross-border intraday trading opens, and unmatched orders on XBID will not be automatically transferred back to the relevant LTS when XBID closes. Could NEMOs inform by when they the automatic transfer to/from XBID will be implemented?

The XBID Solution provides matching services (SOB) to LTSs. Each NEMO has a right to offer local matching services by LTS' specific functionalities 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.

20. Where will be capacities published and can you see in the LTS the available capacity and where?

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.

21. The tick size on XBID has been set at the value of EUR 0.01/MWh. When can a larger tick size be implemented?

An assessment will be made by mid-August 2018 on the effect of the 0.01/MWh tick size.

22. Why does cross-border trading for central Europe start at 22:00 only?

Calculation of the available cross-zonal capacity (between Germany and neighbouring central Europe countries) requires an extensive alignment and calculation process with various parties involved. As the process within one market area is less complex, the inner German continuous intraday trading can start earlier than the cross-zonal continuous intraday trading.