

Last update: 01/03/2018

Cross-Border Intraday: Questions & Answers

1. What is the Cross-Border Intraday initiative?

The Cross-Border Intraday initiative (XBID Project) is 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 will enable continuous cross-border trading across the entire Europe. This single intraday market solution will be 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. The solution for implementing the Target model for the Day-Ahead market went into operation in February 2014 covering approximately 75% of the consumption in Europe. On the Forward market there are ongoing projects to harmonise auction rules and making a joint allocation platform.

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. Are there currently any existing Cross-Border Intraday solutions?

There are several cross-border intraday solutions across Europe. On some borders, capacity is allocated through explicit procurement before energy is traded. On other borders, implicit allocation mechanisms are in place, which means that energy and capacity are traded simultaneously. On other border, none of these mechanisms currently exist.

4. What is the geographical scope of the initiative?

The first phase of the project initially involved the countries named under point 5. However, the scope has since been considerably expanded with all other members of the European Union being invited to join the so called 'Accession Stream' to enable them to prepare to implement XBID. It is envisaged that there will be three phases of go-

live. The three Baltic TSOs and the two TSOs on the Iberian Peninsula have all confirmed that they will join the first go-live phase. The final objective is to extend the mechanism for cross border intraday trading to all Europe and, potentially, interconnected countries, coherently with the scope foreseen for the target model and this is being organised through the Accession Stream. The same platform will allocate all available intraday cross border capacity in an optimal way.

5. Which countries/areas are currently involved in the initiative?

The original members of the project are Austria, Belgium, Denmark, Finland, France, Germany, Great Britain, Italy, Luxembourg, Norway, Portugal*, Spain*, Sweden, Switzerland**, and The Netherlands. The Accession Stream covers Bulgaria, Croatia, Czech Republic, Estonia, Greece, Hungary, Ireland, Latvia, Lithuania, Poland, Romania, Serbia, Slovakia and Slovenia.

* Please note that the TSOs in these countries are currently not full members of the project

** 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.

6. 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.dk, 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.

7. Is the initiative open for other TSOs and PXs to join?

All PXs and TSOs across Europe who are not currently members of the project have been invited to join the XBID Accession Stream. The current members of the Accession Stream are:

Company	Country	Company	Country
EXAA	Austria	AST	Latvia
IBEX	Bulgaria	Litgrid	Lithuania
Cropex	Croatia	TGE	Poland
HOPS	Croatia	PSE	Poland
ČEPS	Czech Republic	REN	Portugal
OTE	Czech Republic	OPCOM	Romania
Elering AS	Estonia	Transelectrica	Romania
IPTO	Greece	EMS	Serbia
Lagie	Greece	Seepex	Serbia
HUPX	Hungary	OKTE	Slovakia
MAVIR	Hungary	BSP	Slovenia
Terna	Italy	ELES	Slovenia
Eirgrid	Ireland		

8. What is the timeframe of the project go-live?

The current planning targets a go-live of the XBID Solution in Quarter 2 2018.

The use of the system in production will be subject to TSOs and PXs Local Implementation Projects (LIPs) consisting on migrating respectively their borders and markets on to the XBID Solution.

9. Why has the project been delayed by 3 months?

As the testing phase for the Local Implementation Projects (LIPs) was drawing to a close, the XBID solution system developer, DBAG, identified some latent faults in XBID which occurred under specific circumstances. In order to ensure the required quality of the solution for go-live it is necessary for the project parties to test the fixes for these faults which DBAG has deployed. The preparation of the test cases, the testing, bug fixing and verification has led to the delay of 3 months. The project was also facing other risks which continue to be managed. These include the provision of clarifications on cost sharing by the NRAs which are essential for parties to commence the signature process of the Intraday Operational Agreement.

10. 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) endorse 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 will be in line with the provisions of the CACM GL and the parties in the project will fulfil the future requirements of CACM through their involvement.

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

The system provider is Deutsche Börse AG (DBAG) and a development contract has been signed with them. Negotiations for the Maintenance of the solution have been finalised.

12. What does this system do?

The orders submitted by the market participants of each PX will be 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 trading systems provided by their PXs will contain orders coming from other participants of the concerned PX and also orders coming from other PXs 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 will be associated with implicit capacity allocation. Concretely, when two orders are being matched the SOB and CMM will be 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 will

mean that the orders that were matched are removed, and consequently that the available transmission capacity in the CMM will be updated. For how many borders the capacities are updated will depend on where the matched orders were located geographically.

For borders where NRAs requested for it, explicit allocation will be made available to Explicit Participants (currently only at the FE-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 Exchange Members

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.

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

The intention is to implement for both, CMM and SOB 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 will not be affected by a down-time of the SOB.

14. How is the XBID project going to communicate with stakeholders? Will market participants receive reliable information on a regular basis?

User Group meetings will be held approximately every 5-6 months. Attendees are a representative group of market participants. The purpose of the User Group is 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 also provides stakeholders with the opportunity to provide feedback on key aspects of the project.

The User Group meeting slides and minutes will also be published at a dedicated XBID project section on the web pages of the involved PXs.

Regular XBID project updates are also provided to:

- Regulators (NRAs) through the Implementation Group (IG) meetings
- Market European Stakeholder Committee (previously AESAG) at each scheduled meeting
- The European Commission (EC)/ACER/ CACM WS (with potential for lead NRAs)

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 PXs.

15. What is the gain for market participants?

The solution is expected to significantly increase the liquidity of the intraday continuous market, 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 should facilitate the operational tasks of intraday cross-border scheduling, since the capacity allocation and energy matching processes will be done simultaneously. As a consequence, market efficiency is also expected to increase, to the benefit of the market participant.

16. 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.

17. 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.

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

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

The LIPs are monitored via the Joint XBID Steering Committee and the Joint Coordination Team 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 LIPs have to report on their readiness for LIP testing and go-live.

19. 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.

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

Current implementation foresees following 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. All performance will be closely monitored during operation of the XBID Solution. NEMOs and TSOs have established a process with the aim to translate monitoring results into XBID parameter optimisation.

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

21. 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:
 - $\text{MaxObkDepth} / \text{user defined period between dlvrStart and dlvrEnd in hours rounded down}$. 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 OrderBookDepth 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 as 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.

22. 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.

23. 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.

24. 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.

25. The tick size on XBID has been set at the value of EUR 0,01/MWh. When can a larger tick size be implemented?

As indicated during the Launch Event, the price tick size is under clarification of the project parties. NEMOs are taking the necessary measures to finalize this clarification as soon as possible.

26. When will be true portfolio bidding in the intraday timeframe available in Iberia?

This question needs to be addressed to the Iberian NRAs.

27. Will it be possible to implement auction Model B in Iberia as soon as possible, accompanied with clear requirements and a precise timeline to rapidly reduce the number of auctions to one single opening auction?

This question needs to be addressed to the Iberian NRAs. Further documentation related to the Consultation on the new intraday model can be found in the following links (listed in chronological order – the latest one being the most recent):

- <http://www.omie.es/en/home/markets-and-products/european-market/results-consultation-new-intraday-model>
- https://www.cnmec.es/sites/default/files/editor_contenidos/Energia/Consulta%20Publica/20170728_MI_BEL_NRAs_public_consultation_of_Intraday_Coupling_Model_proposal_.pdf
- <https://www.cnmec.es/sites/default/files/Request%20For%20Amendments.pdf>

28. 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.