Last update: 11/09/2019

Single Intraday Coupling (SIDC): Questions & Answers

1. **What is the Single Intraday Coupling (SIDC) initiative?**

   The aim of SIDC, formerly known as the XBID, Cross Border Intraday project, is to create a single pan European cross zonal intraday electricity market. An integrated intraday market will increase the overall efficiency of intraday trading by promoting effective competition, increasing liquidity and enable a more efficient utilisation of the generation resources across Europe.

   With the increasing amount of renewable intermittent production, interest in trading in the intraday markets is increasing as it can become more and more challenging for market participants to be in balance after the closing of the Day-Ahead market. Being balanced on the network closer to delivery time is beneficial for market participants and for the power systems alike by, among others reducing the need of reserves and associated costs. In addition, the intraday market is an essential tool that allows market participants to take unexpected changes in consumption and outages into account.

   SIDC is an initiative between the Nominated Electricity Market Operators (NEMOs) and Transmission System Operators (TSOs) which enables continuous cross-border trading across Europe.

   The SIDC Solution was first launched on 12th/13th June 2018 across 14 countries. In the first 14 months of operation over 20 million trades have been completed.

   It 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 if 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.

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 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 – Bulgaria, Croatia, Czech Republic, Hungary, Poland, Romania and Slovenia - is foreseen in Quarter 4 2019. A third go-live is also foreseen but a date for this is not confirmed at present.

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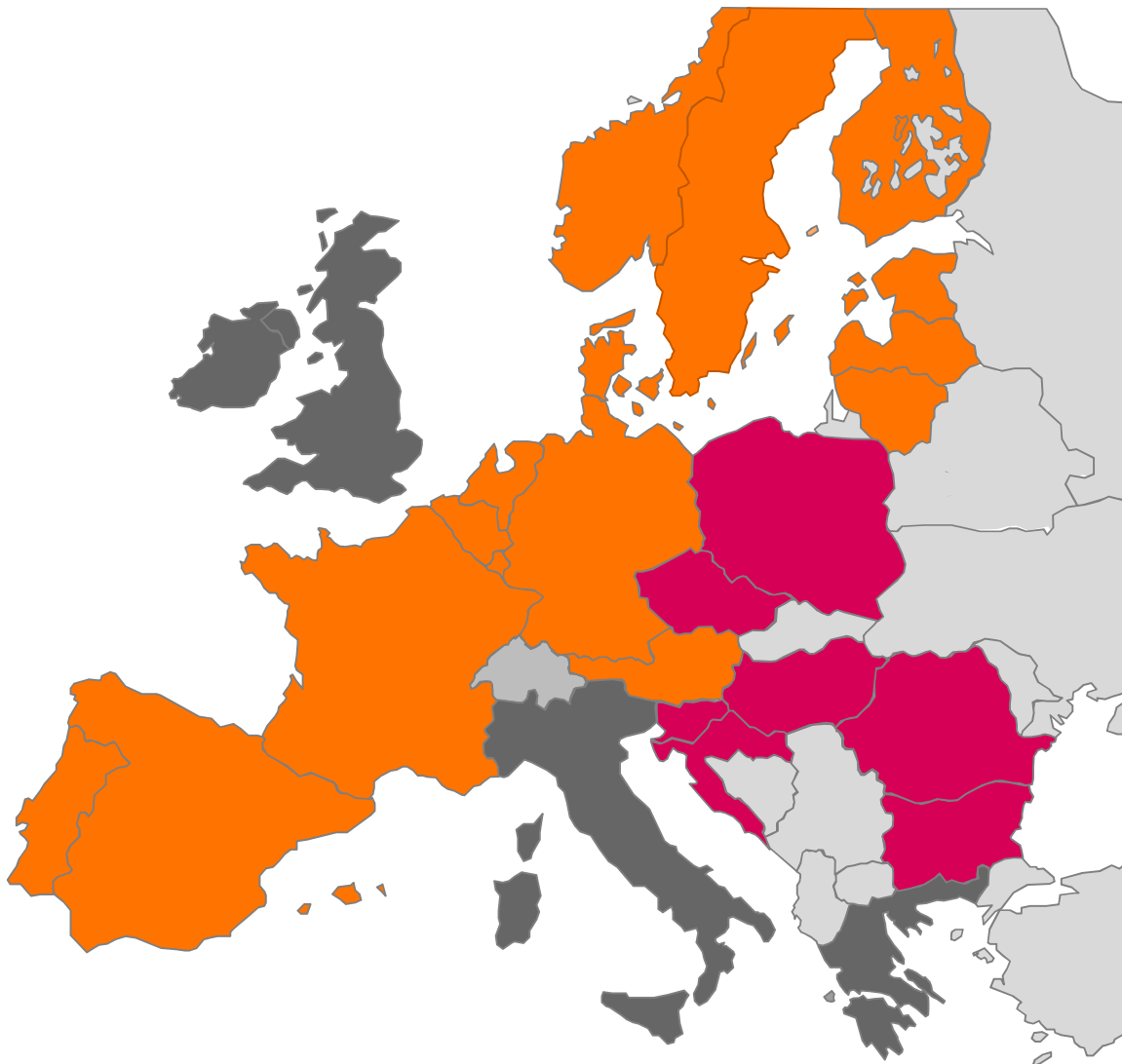
Please note: Luxembourg is part of the Amprion Delivery Area. Market participants in Luxembourg have access to the SIDC through the Amprion Delivery Area

4. Who are the partners involved?

The parties involved are:

Transmission System Operators (TSOs):

50HERTZ, ADMIE, AMPRION, APG, AST, BritNed, ČEPS, CREOS, EirGrid, ELERING, ELES, ELIA, ELSO, ESO, FINGRID, HOPS, Litgrid, MAVIR, NGIC, PSE, REE, REN, RTE, SONI, STATNETT, SVENSKA KRAFTNÄT, TenneT DE, TenneT NL, TERNA, TRANSELECTRICA and TransnetBW.

Nominated Electricity Market Operators (NEMOs):

BSP, CROPEX, EirGrid, EPEX, EXAA, GME, HEnEx, HUPX, IBEX, Nord Pool EMCO, OMIE, OPCOM, OTE, SONI and TGE.

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

The SIDC initiative is a multiparty project working on the implementation of the SIDC 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 SIDC 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.

SIDC 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.

6. Who is the system provider of the SIDC Solution?

The system provider is Deutsche Börse AG (DBAG).

7. What does this system do?

The orders submitted by the market participants of each NEMO 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 at the FR-DE border and planned for the SL-HR in the 2nd wave go-live).

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

The Shipping Module (SM) of the SIDC Solution provides information from trades concluded within SIDC 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.

8. 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.

9. How does the SIDC project communicate with stakeholders?

User Group meetings have been held approximately every 5-6 months, particularly prior to the 1st Go-Live. Attendees were a representative group of market participants. The purpose of the User Group has been to facilitate the interaction between the SIDC project and market participants with the aim of explaining the status of the SIDC 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 SIDC (or XBID) project section on the web pages of the involved NEMOs.

Regular SIDC 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 SIDC (XBID) launch event to which over 150 stakeholders were invited was held on 31st January 2018 at Brussels. The meeting slides were published at a dedicated SIDC (XBID) project section on the web pages of the involved NEMOs. A further launch event for the 2nd Wave Go-Live has been scheduled for 1st October 2019 in Prague.

Going forward, the Market European Stakeholder Committee (MESC) will serve as the primary interface between SIDC and the market parties.

10. 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.

11. 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.

12. How does the SIDC project interlink with the PCR Day-Ahead project?

There is no direct interlink between these two projects other than the participating TSOs and NEMOs are mostly the same. However, both projects share the same purpose of implementing the European target models for electricity. Co-ordination is taking place between the senior leaders and project management teams of the two projects. In the future, in line with CACM requirements, it is expected that the governance for the ID and DA projects will progressively merge.

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

To implement the SIDC 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. The LIPs 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 SIDC LIP testing.

The LIPs are monitored via the SIDC Steering Committee where individual LIP's progress is reported. Further each LIP has set up a formal governance structure within the LIP (i.e. project manager, Steering Committee, etc.).

14. The SIDC 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.

15. 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 (OBD) is either 31 orders or 600 MWs (limited by max of 50 orders), whichever one comes last.

Following analysis and additional investment the order book depth is due to be increased to 100 before the 2nd Wave Go-Live (Quarter 4, 2019).

During the User Group meeting in November 2018 the market parties confirmed that the proposed OBD relaxation meets their expectations.

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

16. How is the order book depth restriction calculated for user defined blocks and Basket 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 SIDC 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 (with the original depth of 31):

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.

17. **What is the scope and purpose of the LTS compared to the SIDC solution?**

It is important to clearly distinguish between Local Trading Solutions (LTSs) and SIDC 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 SIDC Solution is a so called backend system which does not interact with the Implicit Market Participants directly. The SIDC 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 SIDC Solution in order to perform explicit allocations on the German-French border (and from the 2nd Wave Go-Live on the Slovenian-Croatian border).

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

The SIDC 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 SIDC Solution and therefore the approach may differ per NEMO/LTS.

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

The SIDC 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.

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

The outcome of an analysis performed by NEMOs based on the first months of operation shows that the majority of the monitored parameters are within the agreed system boundaries and the analysis did not indicate an immediate need for proposing to change the tick size.

21. **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.