

Information Package About Intraday Auction - IDA

Regulatory background

The methodology for the price coupling algorithm, the continuous trading matching algorithm and the intraday auction algorithm (“Algorithm methodology”) establishes relevant processes in accordance with Article 37(5) and Article 55 of Commission Regulation (EU) 2015/1222 of 24 July 2015 establishing a guideline on capacity allocation and congestion management (“[CACM Regulation](#)”) and in accordance with [ACER decision 01/2019 of 24 January 2019](#) establishing a **single methodology for pricing intraday cross-zonal capacity**.

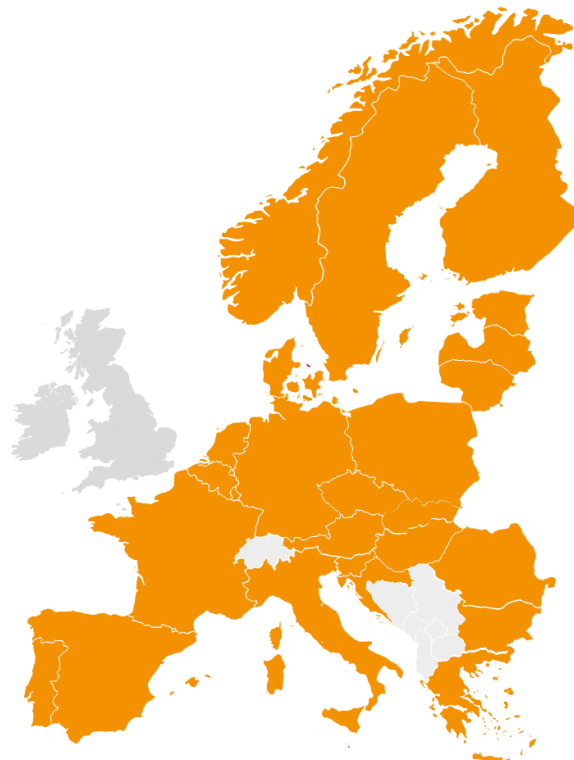
The aim of the methodology is to determine the price of the cross-border capacities, which cannot be realized in continuous trading. It also further promotes effective competition in the generation, trading and supply of electricity (CACM Regulation 3 (a)), optimises the allocation of cross-zonal capacity (CACM Regulation 3 (b)) and ensures fair and non-discriminatory treatment of market participants (CACM Regulation 3 (e)).

The goals of IDA

Pricing the intraday capacity - via Intraday Auctions (IDAs) - is part of the Single Intraday Coupling (SIDC) and it completes the SIDC market which is currently based on continuous trading method. IDAs shall be implemented across Europe to allow for the pricing of cross-border capacity in the intraday timeframe.

The purpose of introducing the intraday auctions is to harmonize the calculation and allocation of cross-border capacities on the intraday market and to price intraday cross-border capacities to reflect their shortage at a given time and thereby send an adequate price signal to the market.

Intraday auctions will provide the ability to accumulate offers and efficiently allocate the scarce transmission capacity. This will be a novelty in the intraday timeframe, since capacity in the continuous intraday trading is currently being allocated on a first-come first served basis. IDA is the first intraday auction involving most of the European countries.



SIDC countries where IDAs will be introduced.

Intraday Auction - IDA

Next events related to the IDA Go-Live preparation

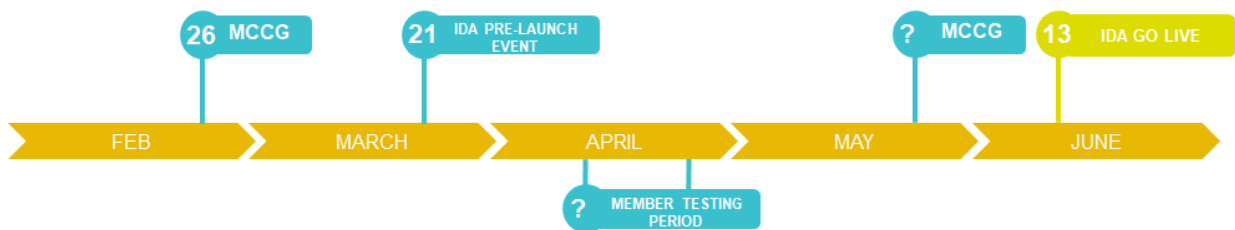
On 26 February, the 5th Market Coupling Consultative Group (MCCG) meeting will be held online. You can access the agenda [here](#). Anyone can join, please register [here](#).

On 21 March, the Market Coupling Steering Committee (MCSC) is organising an online IDA Pre-Launch Event focusing on the next steps, including member testing period.

In April the member testing period is planned to be held, further information will be shared later.

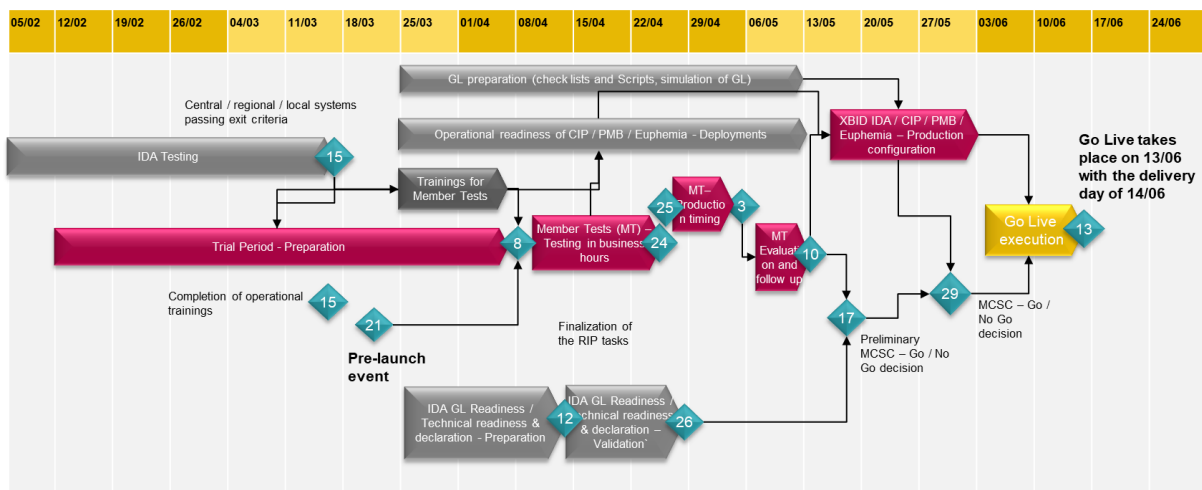
In May (or early June) the 6th MCCG meeting is planned with a dedicated IDA section focusing on the last steps before go-live.

On 13 June, the expected go live of IDAs will take place.



IDA timeline – focusing on Member Testing and Go Live

The Go-Live is expected to take place on 13 June with the delivery day of 14 June. The green light for the go-live will happen after several successful test periods. The member test periods for the market participants are planned to be held between 8th of April and 3rd of May. The market participants will be informed of the relevant testing information in Pre-launch Event on 21st of March.

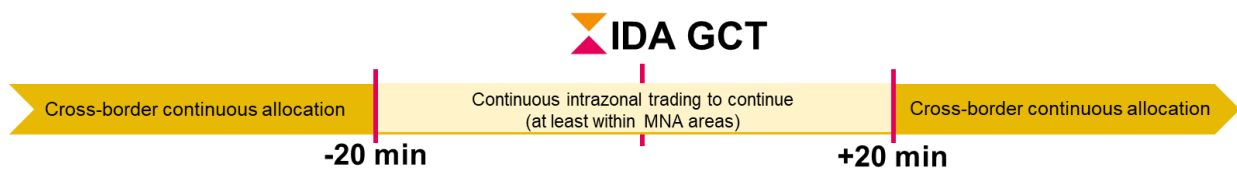


Intraday Auction - IDA

The IDA solution

The IDAs shall be organized as **implicit auctions** where collected orders shall be matched, and cross-zonal capacity shall be allocated simultaneously for different bidding zone borders. IDAs shall take into account all valid orders submitted for the respective auctions and determine clearing prices for the relevant bidding zones based on matched orders.

Cross-zonal capacities cannot be allocated simultaneously for IDAs and for continuous trading along the same borders. Therefore cross-zonal capacity allocation within the continuous SIDC shall be suspended for a limited period during which the cross-zonal capacities shall not be allocated through the continuous SIDC.



IDA1: Gate Closure Time for market parties at D-1 15h. Allocated period D [0h-24h]

IDA2: Gate Closure Time for market parties at D-1 22h. Allocated period D [0h-24h]

IDA3: Gate Closure Time for market parties at D 10h. Allocated period D [12h-24h]

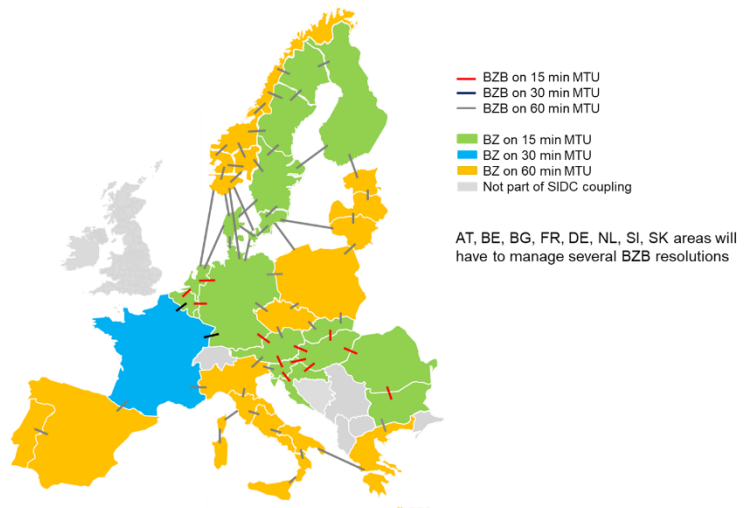


It may be allowed to apply loss factor in IDA prior to losses being implemented in continuous trading. It is however not expected as of IDA go-live.

Time resolution of Bidding Zone Borders (BZB)

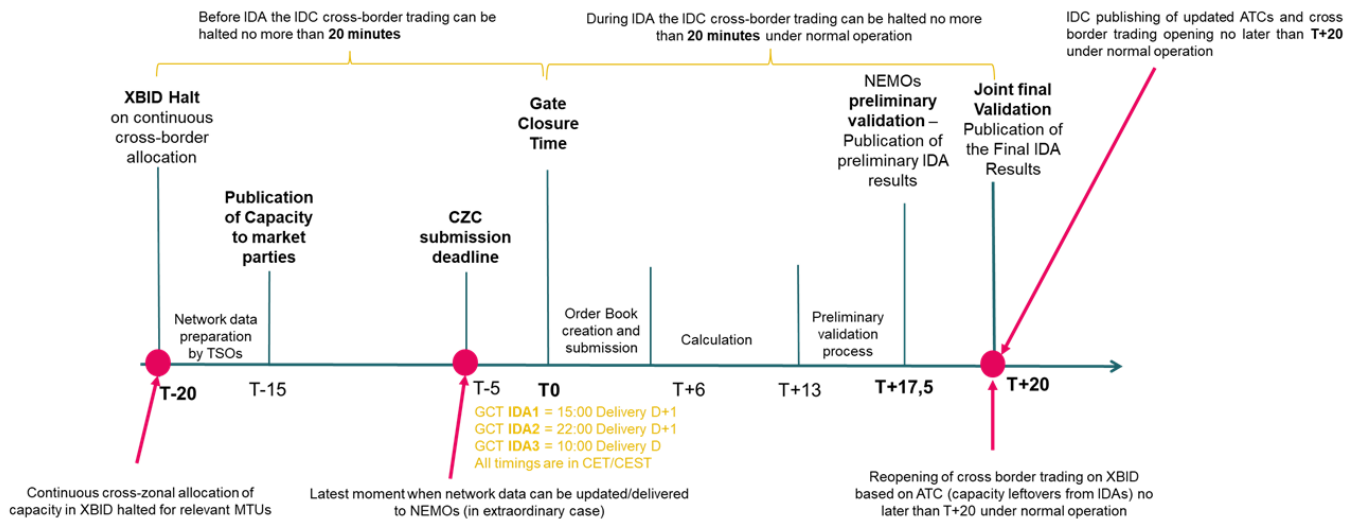
The map shows the available Market Time Units (MTUs) on the different borders and areas at IDA go-live.

note: import/export areas not considered here



Auction process timing (for any of the three IDAs)

The IDA process timing is introduced on the timeline below:



20 minutes before each IDA, the cross-border allocation on SIDC Continuous Trading will be halted for 40 minutes for the relevant MTUs. The publication of IDA capacities to market parties will happen 15 minutes before the Gate Closure Time (GCT). The submission of Cross-Zonal Capacities should happen 5 minutes before GCT, this is also the deadline for when network data can be updated/delivered to NEMOs in any extraordinary case. After the GCT the calculation and validation process will be done, and the preliminary results will be published 17,5 minutes after the GCT, the latest. The publication of the final, validated IDA results will be happening 20 minutes after the GCT. The reopening of the cross-border allocation SIDC Continuous Trading will be done no later than 20 minutes after the GCT.

How process' irregularities will be handled

In case IDA results are late due to longer calculation time (or other possible delays)

IDA is cancelled if the IDA results are not delivered by the prescribed time. Specific process steps, delays and possible reactions to them are addressed by procedures.

In case XBID CMM (Cross Border Intraday Market Capacity Management Module) rejects the IDA results

IDA is cancelled automatically in XBID at the same time as normal end of IDA i.e. GCT + 20

Partial (de)coupling

- a) in case of issues experienced by a NEMO, the NEMO is decoupled and other NEMOs will be either automatically decoupled together with it or stay in the session, depending on configuration - the expected configuration is that GME, OMIE and HENEX stay coupled (due to different configuration in these areas), and all other NEMOs will decouple, in case of a missing order book. The configuration reflects the impossibility, due to the short time available in IDA, of re-opening the Orderbooks (OBKs) (common practice that gives Market Participants the possibility to adjust their bids due to the unexpected changes of market topology – less capacity available)
- b) the decoupled borders are kept closed in XBID CMM until the end of IDA auction -> no continuous cross-border allocation.

Soon after Go live, point b) will be replaced by resuming of cross-border continuous trading on decoupled borders as soon as possible after declaration of partial decoupling, without waiting for the completeness of IDA session for parties that remained coupled.

In case of IDA result reversion

This situation may theoretically occur if XBID confirms the IDA results correctness, but IDA is cancelled by NEMOs e.g. due to for example a claim of a Market Participant in Spain. In this case IDA CIP (Common Interface Point) will issue an instruction to XBID to revert (remove) IDA results.

Intraday Auctions: Technical Solution

EUPHEMIA, i.e. the algorithm developed for SDAC, is used for the purpose of IDAs.

The general description applicable to IDA is the same as for SDAC:

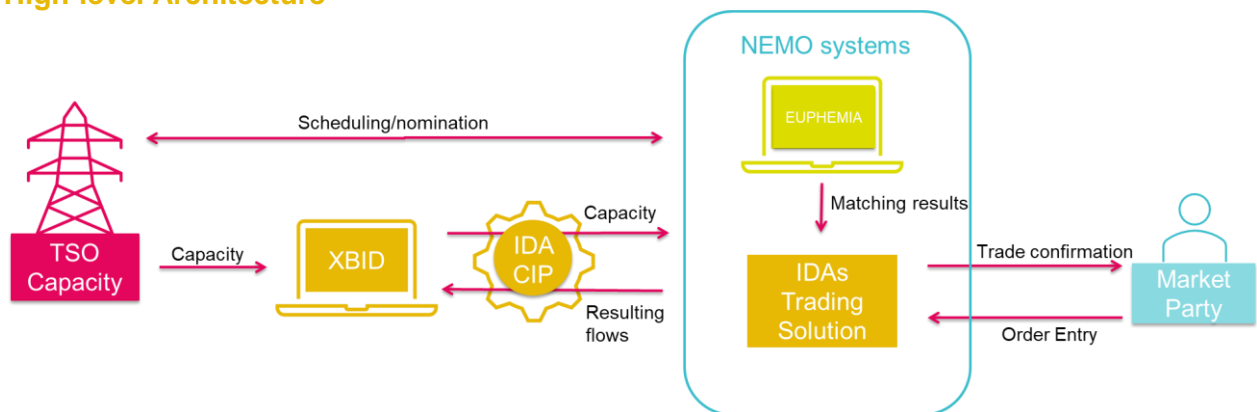
First, Market participants start by submitting their orders to their respective NEMO. All these orders are collected and submitted to Euphemia that determines which orders are to be executed and which orders are to be rejected in concordance with the prices to be published such that:

- *The social welfare (consumer surplus + producer surplus + congestion rent across the regions) generated by the executed orders is maximal.*
- *The power flows induced by the executed orders, resulting in the net positions, do not exceed the capacity of the relevant network elements.*

Additional features of IDAs:

- Already Allocated Capacity (AAC) need to be provided to EUPHEMIA for interconnectors where losses and/or ramping are applicable.
- Additional boundary condition is included for EUPHEMIA, which checks that when AAC and IDA flows are summed up, the change of flows between Market Time Units should not exceed the ramping constraint.
- AAC is also used in calculation of losses impact since if the flow in IDA goes in opposite direction than AAC, then the losses from previous allocation phases are up to certain level mitigated.

High-level Architecture



Explanation of the architecture picture:

- XBID is used as source of network constraints data for IDA (pre-coupling) and to validate the IDA results in terms of capacity meeting the network constraints (coupling).
- Network data are provided via NEMOs to EUPHEMIA (auction algorithm).
- IDA results are submitted to XBID to update the information about Already Allocated Capacity (AAC) in XBID and to reflect in relevant CMM files the existence of capacity reserved for IDA results.
- IDAs Trading Solution could be the same solution as used for day-ahead or adapted for IDAs, depending on each NEMO.
- IDA CIP is an intermediate system (interface) between XBID and NEMO Systems.

Products & Order Types

IDAs solution supports hourly, half-hourly and quarter-hourly products.

Simple orders of only one time resolution will be allowed in each BZ for IDAs Go-Live.

Additional order types to be supported as of Go-Live by NEMOs are **simple block order** and **merit order** (*Prezzo Unico Nazionale (PUN)* excluded).

Merit orders are individual step orders defined at a given period for which it is associated a so-called merit order number. A merit order number is unique per period and order type (Demand; Supply) and is used for ranking merit orders in the bidding zones containing this order type. The lower the merit order number, the higher the priority for acceptance. More precisely, when, within an uncongested set of adjacent bidding zones, several merit orders have a price that is equal to the market clearing price, the merit order with the lowest merit order number should be accepted first, unless constrained by other network conditions.

The order types to be supported upon NEMO individual readiness are:

- **Linked block order:** Block orders can be linked together, i.e. the acceptance of individual block orders can be made dependent on the acceptance of other block orders. The block which acceptance depends on the acceptance of another block is called “child block”, whereas the block which conditions the acceptance of other blocks is called “parent block”.
- **Exclusive group block order:** An Exclusive group is a set of block orders for which the sum of the accepted ratios cannot exceed 1. In the particular case of blocks that have a minimum acceptance ratio of 1 it means that at most one of the blocks of the exclusive group can be accepted. Between the different valid combinations of accepted blocks the algorithm chooses the one which maximizes the optimization criterion (social welfare).
- **Scalable complex orders:** A Scalable complex order is a set of stepwise hourly orders (which are referred to as hourly sub-orders) belonging to a single market participant, spreading out along different periods and are subject to an economic condition that affects the set of hourly sub-orders as a whole.

Impact of IDA to continuous trading

XBID **cross-border trading** shall be interrupted during IDA but should not be interrupted within regular operation more than 20 minutes before GCT of the IDA and 20 minutes after GCT of the IDA.

- Cross-border trading halt is applicable to contracts and borders being included to IDA.
- For interconnectors, where ramping is applicable, the contract prior IDA is also halted (e.g. for IDA3 and 60min border resolution contract 11:00-12:00 is halted) and last contract within IDA include zero offered capacity

Continuous trading within a bidding zone may be allowed within XBID during IDA respectively other services may be offered locally. This is specifically regulated also by paragraph (45) of ACER decision 01/2019 of 24 January 2019 establishing a single methodology for pricing intraday cross-zonal capacity, see below:

“For this purpose, the cross-zonal trade and cross-zonal capacity allocation within the continuous SIDC has to be temporarily suspended and during this suspension all the available cross-zonal capacity has to be allocated through the IDA. Nevertheless, the Agency considers important, in order to limit the impact of the IDAs on the continuous SIDC and to facilitate NEMOs’ competition, that, during the running of the IDAs, intrazonal trade within the continuous SIDC is maintained at least in those bidding zones where more than one NEMO operates.”

What is the benefit of IDAs?

The introduction of IDAs:

- **will provide more efficient allocation of the limited cross-border capacities;**
- **may offer additional opportunities for market participants for intraday cross-border trading;**
- **market participants may benefit from higher liquidity in the IDA;**
- **market participants will still have the possibility to adjust positions closer to real time (after the IDA) during continuous matching sessions.**

About SIDC:

The Single Intraday Coupling (SIDC) is a market mechanism in the intraday timeframe defined in the CACM Regulation based on continuous trading and complemented by three intraday implicit auctions (so called “IDAs”).

The SIDC continuous trading solution is based on a common IT system with one Shared Order Book, a Capacity Management Module and a Shipping Module. It allows for orders entered by market participants for continuous matching in one bidding zone to be matched by orders similarly submitted by market participants in any other bidding zone within the project's reach as long as transmission capacity is available. The intraday continuous trading solution supports both explicit allocation (where approved by the respective National Regulatory Authorities) and implicit continuous trading. It is in line with the EU Target model for an integrated intraday market.

On the other hand, SIDC IDAs allow for the pricing of cross-border capacity in the intraday timeframe. IDAs are implicit auctions where collected orders shall be matched, and cross-zonal capacity shall be allocated simultaneously for different bidding zones, determining clearing prices for each bidding zone.

European-wide intraday coupling is a key component for completing the European Internal Energy Market. With the rising share of intermittent generation in the European generation mix, connecting intraday markets through cross-border trading is an increasingly important tool for market parties to keep positions balanced. The purpose of the SIDC is to increase the overall efficiency of intraday trading.

For additional information on SIDC go to:

<http://www.nemo-committee.eu/sidc>

https://www.entsoe.eu/network_codes/cacm/implementation/sidc/