



# Changes and new products in OKTE's portfolio

Webinar

04.03.2021

 [www.okte.sk](http://www.okte.sk)





## Welcome!

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- Moderator:
  - Juraj Šedivý – Head of Market Operations and Development Department, OKTE, a.s.
- Presenting:
  - Ľubica Krajčovič – market development analyst, Market Operations and Development department, OKTE, a.s.
  - Robert Maier – analyst, sféra, a.s.
- Rules of the webinar:
  - Participants can send their questions via chat
  - Presenters will reply to the received questions after presenting the way of submission of the new orders
  - In case a question is not answered, the answer will be made available at OKTE's website after the webinar
  - The presentation will be available at OKTE's website after the webinar in SK and EN

# WEBINAR AGENDA

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- Day-ahead market development at OKTE
- Introduction of the changes and new products in OKTE's portfolio
  - Testing with market participants
  - Changes in submitting orders
  - Possibility to submit multiple orders
  - How will the existing orders change?
  - New orders
  - Q&A
- Planned development projects for day-ahead market
- Further market development projects
  - Q&A

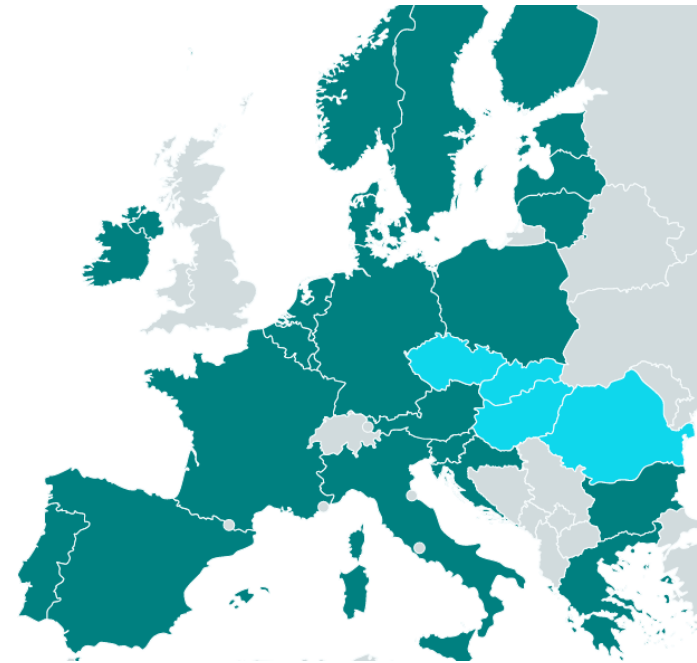




## Day-ahead market development at OKTE

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- **Extension of day-ahead market coupling**
  - Slovak bidding area is a part of the 4M market coupling
  - The coupled market includes the SK, CZ, HU and RO bidding areas
  - The next step is a merger of the 4MMC with Multi-regional Coupling (MRC)
- **Changes in product portfolio**
  - OKTE, a.s. started adjusting its product portfolio already in 2020. As of June 2020, the market participants have the possibility of using purchase block orders





## Introduction of the changes and new products in OKTE's portfolio

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- There will be significant changes in the OKTE's product portfolio as of 01. 04. 2021:
  - Each market participant can submit multiple valid orders
  - Orders with overall acceptance of the first block will be discontinued
  - New products will be introduced:
    - Simple (profile) block orders
    - Flexible hourly block orders
    - Linked block orders
    - Exclusive groups of simple block orders
- Changes in Operational Order of OKTE, Agreement on the Access to the Organized Short-Term Market, Technical Specification of External Interfaces of the System
- Submission of the new orders will be made available as of 31.03.2021 for orders for the trading day of 01.04.2021 (provided the successful results of testing with market participants)



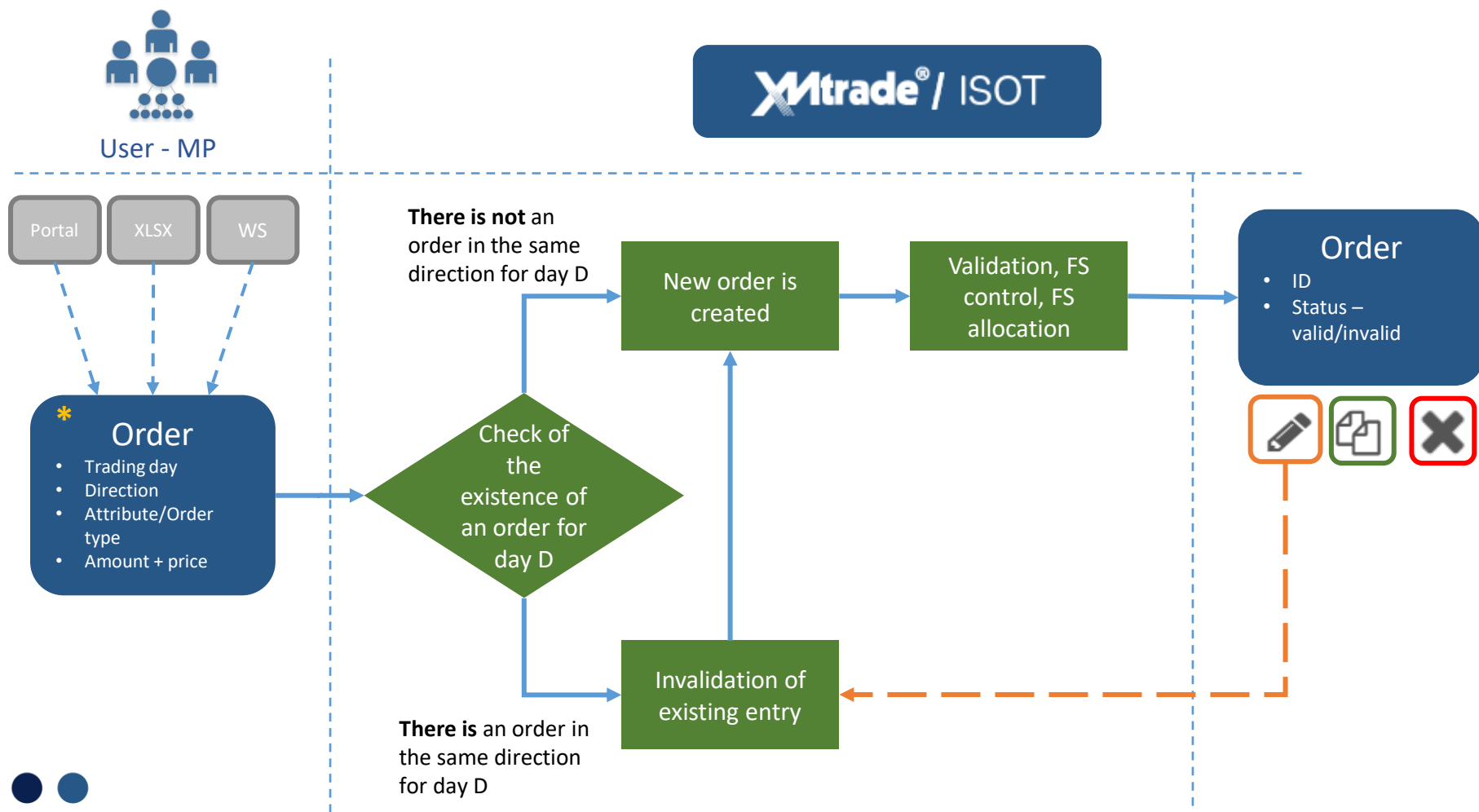
## Testing with market participants

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- OKTE is organising testing with market participants on 16.-17.03.2021
- The purpose of the testing is the confirmation of the functionality of submitting the new orders into the system as well as to give the MPs the opportunity to try out the new features of the system
- The testing will be for trading days D+1, orders submitted for different trading days will not be evaluated
  - On 16.03.2021, the submission of orders for trading day 17.03.2021 is until 11:00
  - On 17.03.2021, the submission of orders for trading day 18.03.2021 is until 11:00
- The submission of new orders for 17.-18.03.2021 will be available as of 16.3.
- Access to the testing environment:
  - If access has been established in the past, it remains functional
  - If the access has not been established for the MP yet, it can be requested by sending the Request for testing XMtrade/ISOT system available on [OKTE's website](#), together with a valid certificate to [dayahead@okte.sk](mailto:dayahead@okte.sk) with subject: „Access to the testing environment“

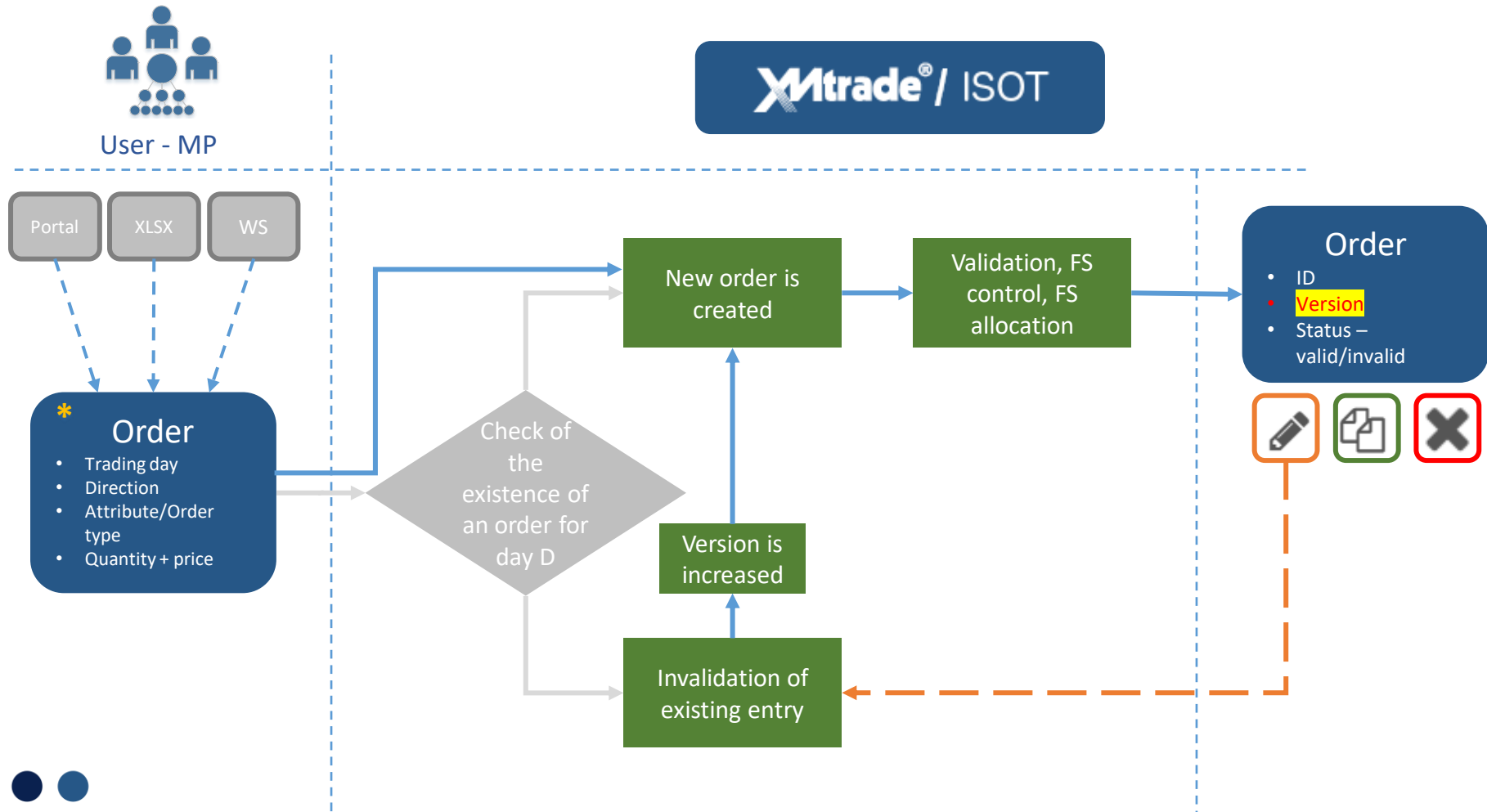
# Changes in submitting orders on DA market

Current status – until 31.03.2021

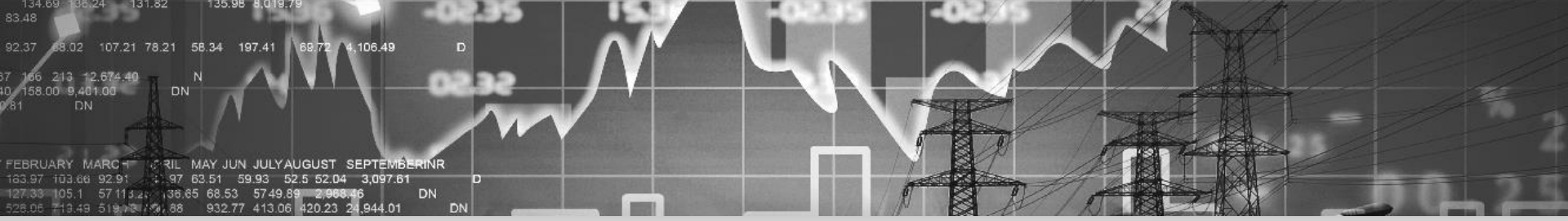


# Changes in submitting orders on DA market

New status - from 01.04.2021





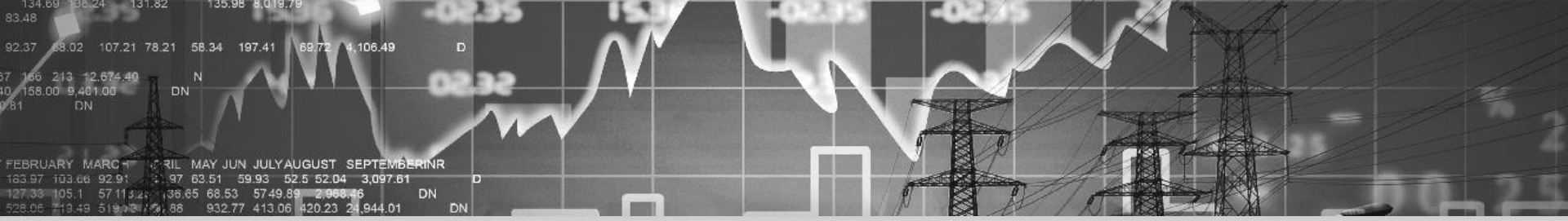


## Possibility to submit multiple orders

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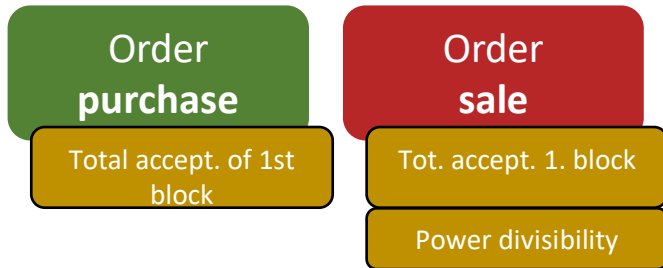
- As of 01.04.2021 the number of orders for a market participant will not be limited
- Each order is unequivocally defined by its ID and version
- When modifying an order, it is necessary to identify the specific order to be modified (by entering the order ID without specifying the version)
- System only works with the last version of the order
- Financial security must cover each order separately



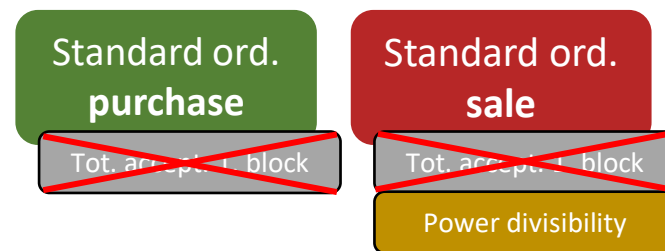


## How will the existing orders change?

Until 31.03.2021 (including)

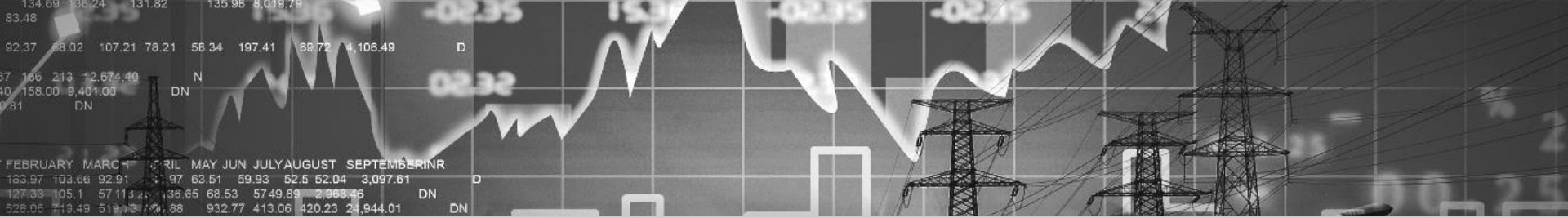


From 01.04.2021



- As of 01.04.2021 it will not be possible to define the attribute of total acceptance of the first block
- Power divisibility for Standard sell orders will still be enabled





# New orders

- From 01.04.2021 following block products will be available:

- Simple (profile) block order
- Linked block order
- Flexible hourly block order
- Exclusive group of simple block orders

ISOT > Orders > Orders DAM

← Save

Head Blocks

**Order parameters**

Business day: 3/9/2021

Market participant: Market participant

Type:  BUY  SELL

Block order:  No  Linked block  Flexible block  Simple block  Exclusive group

Comment:

View more than 3 blocks:

Confirm head of order

## From 01.04.2021

Standard ord.  
purchase

Standard ord.  
sale

Power divisibility

Simple block order

Linked block order

Flexible hourly block order

Exclusive group of simple block orders



# New orders

## Simple (profile) block order

ISOT > Orders > Orders DAM

← Save

Head Blocks

| Price (EUR/MWh) | Hour         | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   |
|-----------------|--------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 55.13           | Amount (MWh) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |

### Definition:

- 1 block, 24 periods (23/25 for transitional day)
- Amount in MWh period by period
- The order can be accepted as a whole or not at all (minimum acceptance ratio = 1)
- 1 average price
  - Form – 1 separate price
  - XLSX/XML – the same price is filled for all periods

|           |                         |                        |       |                                   |       |       |   |   |   |       |       |       |       |       |       |       |       |    |    |    |  |  |                  |  |
|-----------|-------------------------|------------------------|-------|-----------------------------------|-------|-------|---|---|---|-------|-------|-------|-------|-------|-------|-------|-------|----|----|----|--|--|------------------|--|
| DAM order |                         | Delivery Day: 1.4.2021 |       | Order ID for modification:        |       |       |   |   |   |       |       |       |       |       |       |       |       |    |    |    |  |  |                  |  |
|           |                         | Order Type: BUY        |       |                                   |       |       |   |   |   |       |       |       |       |       |       |       |       |    |    |    |  |  |                  |  |
|           |                         | EIC: 10X--123445678    |       |                                   |       |       |   |   |   |       |       |       |       |       |       |       |       |    |    |    |  |  |                  |  |
|           |                         | Block order: Yes       |       | Type of block order: Simple block |       |       |   |   |   |       |       |       |       |       |       |       |       |    |    |    |  |  | Linked order ID: |  |
| 1. block  | Trading Hour            | 1                      | 2     | 3                                 | 4     | 5     | 6 | 7 | 8 | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17 | 18 | 19 |  |  |                  |  |
|           | Volume (MWh)            | 10,0                   | 10,0  | 10,0                              | 10,0  | 10,0  |   |   |   | 10,0  | 0,0   | 10,0  | 10,0  | 10,0  | 10,0  | 10,0  |       |    |    |    |  |  |                  |  |
|           | Price (€/MWh)           | 53,12                  | 53,12 | 53,12                             | 53,12 | 53,12 |   |   |   | 53,12 | 53,12 | 53,12 | 53,12 | 53,12 | 53,12 | 53,12 | 53,12 |    |    |    |  |  |                  |  |
|           | Production Divisibility |                        |       |                                   |       |       |   |   |   |       |       |       |       |       |       |       |       |    |    |    |  |  |                  |  |

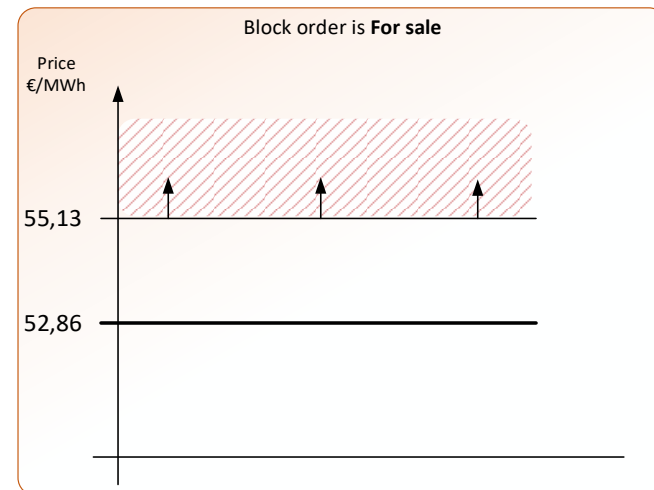
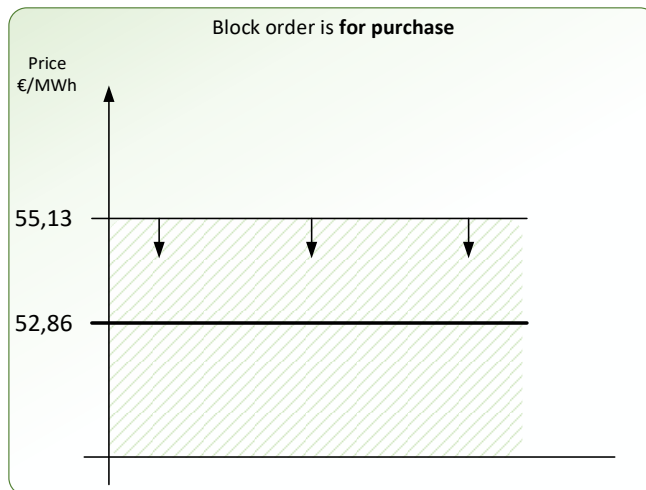


# New orders

## Simple (profile) block order

| Order price (€/MWh) | Period              | 1    | 2    | 3    | 4   | 5   | 6   |
|---------------------|---------------------|------|------|------|-----|-----|-----|
| 55,13               | Amount (MWh)        | 10,0 | 10,0 | 10,0 | 5,0 | 4,0 | 3,0 |
|                     | Result price(€/MWh) | 40   | 41   | 43   | 90  | 80  | 70  |

$$\text{Order res. price} = \frac{\sum_{p=1}^{24} (Q_p + MC_p)}{\sum_{p=1}^{24} Q_p} = \frac{(10 \cdot 40 + 10 \cdot 41 + 10 \cdot 43 + 5 \cdot 90 + 4 \cdot 80 + 3 \cdot 70)}{(10 + 10 + 10 + 5 + 4 + 3)} = 52,86 \text{ €/MWh}$$



# New orders

## Linked block

ISOT > Orders > Orders DAM

← Save

Head Blocks

| Linked order | Price (EUR/MWh) | Hour         | 1    | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|--------------|-----------------|--------------|------|---|---|---|---|---|---|---|---|
| 389639       | 3.00            | Amount (MWh) | 10.0 |   |   |   |   |   |   |   |   |



### Definition:

- Simple block order with defined link to a superior (mother) order
- Graphical representation of the order's position is shown in the tree
- Limits:
  - Maximum level of linking for the superior orders is 3,
  - Maximum number of daughter orders linked to one mother order is 3,
  - Total number of orders linked together is 7.



# New orders

## Linked block order

The screenshot shows the ISOT Orders DAM interface. At the top, there are navigation breadcrumbs: ISOT > Orders > Orders DAM. Below this is a header bar with a back arrow and a 'Save' button. The main content area is a table with columns for 'Linked order', 'Price (EUR/MWh)', 'Hour', and nine numbered columns (1-9) for 'Amount (MWh)'. A dropdown menu is open under the 'Linked order' column, showing three options: 389639 (SELL: 55.0 MWh/11.00 EUR/MWh), 391573 (SELL: 2.0 MWh/10.00 EUR/MWh), and 391574 (SELL: 47.0 MWh/12.00 EUR/MWh). A red box highlights the text 'This order' in the table, and a mouse cursor is pointing at the 391574 option in the dropdown.

- The system will offer a list of orders available for linking
- It is possible to link (to choose as the superior)
  - Simple block order
  - Linked block order



# New orders

## Flexible hourly block orders



The screenshot shows the ISOT Orders DAM interface. At the top, there is a breadcrumb navigation: ISOT > Orders > Orders DAM. Below this, there are navigation buttons: a back arrow, a 'Save' button with a floppy disk icon, and an 'Operations' dropdown menu with a wrench icon. The main content area has two tabs: 'Head' and 'Blocks'. The 'Blocks' tab is active, displaying a table with the following columns: Price (EUR/MWh), Amount (MWh), Hour, and 10 numbered columns (1-10). The data row shows a price of 11.00, an amount of 11.0, and the text 'Included periods' followed by 10 checked boxes.

| Price (EUR/MWh) | Amount (MWh) | Hour             | 1                                   | 2                                   | 3                                   | 4                                   | 5                                   | 6                                   | 7                                   | 8                                   | 9                                   | 10                                  |
|-----------------|--------------|------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| 11.00           | 11.0         | Included periods | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

### Definition:

- Simple block order for 1 undefined period
- The fields indicating „included periods“ are for information-only and are not editable
- The resulting period is defined by the matching algorithm based on the principle of maximizing *social welfare*
- In XLXS and XML the individual orders are entered into separate blocks of one orders





# New orders

## Flexible hourly block order

- In XLXS the order is entered with the same amount and price into all periods of the 1st block

|           |                         |                |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----------|-------------------------|----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| DAM order | Delivery Day:           | 1.4.2021       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|           | Order Type:             | BUY            |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|           | EIC:                    | 10X--123445678 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|           | Block order:            | Yes            |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|           | Type of block order:    | Flexible block |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|           | Linked order ID:        |                |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 1. block  | Trading Hour            | 1              | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    | 21    | 22    | 23    | 24    |
|           | Volume (MWh)            | 10,0           | 10,0  | 10,0  | 10,0  | 10,0  | 10,0  | 10,0  | 10,0  | 10,0  | 10,0  | 10,0  | 10,0  | 10,0  | 10,0  | 10,0  | 10,0  | 10,0  | 10,0  | 10,0  | 10,0  | 10,0  | 10,0  | 10,0  | 10,0  |
|           | Price (€/MWh)           | 53,12          | 53,12 | 53,12 | 53,12 | 53,12 | 53,12 | 53,12 | 53,12 | 53,12 | 53,12 | 53,12 | 53,12 | 53,12 | 53,12 | 53,12 | 53,12 | 53,12 | 53,12 | 53,12 | 53,12 | 53,12 | 53,12 | 53,12 | 53,12 |
|           | Production Divisibility |                |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |

- In XML file the order is entered without defining the trading period

```
<?xml version="1.0" encoding="utf-8" ?>
<ISOTEDATA xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  id="ISOTSK2019126165214271N" message-code="811" date-time="2019-12-06T16:52:14" dtd-version="1" dtd-release=
"1" answer-required="false" xmlns="http://sfera.sk/ws/xmtrade/isot/interfaces/orders/types/2009/04/01">
  <SenderIdentification id="11XAENSK-----B" coding-scheme="15" />
  <ReceiverIdentification id="24X-OT-SK-----V" coding-scheme="15" />
  <Trade trade-day="2020-10-08" trade-type="N" block-order="A" block-type="FB" trade-stage="P" sett-curr=
"EUR" market-area="SK">
    <TimeData datetime="2019-12-06T16:40:28" datetime-type="DTC" />
    <ProfileData profile-role="BC01">
      <Data value="10.0" unit="MWH" splitting="A" />
    </ProfileData>
    <ProfileData profile-role="BP01">
      <Data value="10.00" unit="EUR" splitting="A" />
    </ProfileData>
    <Party id="11XAENSK-----B" role="TO" />
  </Trade>
</ISOTEDATA>
```



# New orders

## Exclusive group of simple block orders

ISOT > Orders > Orders DAM

← Save Operations

Head Blocks

|   | Price (EUR/MWh) | Hour         | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   |
|---|-----------------|--------------|------|------|------|------|------|------|------|------|------|------|
| 1 | 50.00           | Amount (MWh) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| 2 | 45.00           | Amount (MWh) | 5.0  | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| 3 | 50.00           | Amount (MWh) |      |      |      | 4.0  | 4.0  | 4.0  | 4.0  | 30.0 | 30.0 | 30.0 |
| 4 | 55.00           | Amount (MWh) | 10.0 |      | 12.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 |      |      |
| 5 | 45.12           | Amount (MWh) |      | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 |      |      |      |      |
| 6 | 20.13           | Amount (MWh) | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 | 20.0 |
| 7 | 55.33           | Amount (MWh) |      | 20.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 |      |      |      |
| 8 | 66.63           | Amount (MWh) |      |      |      | 5.0  | 5.0  |      |      |      |      |      |

### Definition:

- Group of simple block orders
- Possibility to define at least 2 and maximum of 8 orders
- The group cannot contain 2 identical orders
- A maximum of 1 order can be accepted out of the group, the accepted order will be defined by the matching algorithm based on the principle of maximizing *social welfare*



# New products

## Exclusive group of simple block orders

- In XLXS and XML the individual orders are entered into separate „blocks“ of one order

| DAM order |                         | Delivery Day:        | 1.4.2021        |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-----------|-------------------------|----------------------|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|           |                         | Order Type:          | BUY             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|           |                         | EIC:                 | 10X--123445678  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|           |                         | Block order:         | Yes             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|           |                         | Type of block order: | Exclusive group |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|           |                         | Linked order ID:     |                 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 1. block  | Trading Hour            | 1                    | 2               | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    | 21    | 22    | 23    | 24    |
|           | Volume (MWh)            | 10,0                 | 10,0            | 10,0  | 10,0  | 10,0  | 10,0  | 10,0  | 10,0  | 10,0  | 10,0  | 10,0  | 10,0  | 10,0  | 10,0  | 10,0  | 10,0  | 10,0  | 10,0  | 10,0  | 10,0  | 10,0  | 10,0  | 10,0  | 10,0  |
|           | Price (€/MWh)           | 53,12                | 53,12           | 53,12 | 53,12 | 53,12 | 53,12 | 53,12 | 53,12 | 53,12 | 53,12 | 53,12 | 53,12 | 53,12 | 53,12 | 53,12 | 53,12 | 53,12 | 53,12 | 53,12 | 53,12 | 53,12 | 53,12 | 53,12 | 53,12 |
|           | Production Divisibility |                      |                 |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
| 2. block  | Trading Hour            | 1                    | 2               | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    | 21    | 22    | 23    | 24    |
|           | Volume (MWh)            |                      | 5,0             | 10,0  | 10,0  |       |       |       |       |       |       |       |       |       |       |       | 10,0  | 10,0  |       |       |       | 10,0  | 10,0  |       |       |
|           | Price (€/MWh)           |                      | 55,00           | 55,00 | 55,00 |       |       |       |       |       |       |       |       |       |       |       | 55,00 | 55,00 |       |       |       | 55,00 | 55,00 |       |       |
| 3. block  | Trading Hour            | 1                    | 2               | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18    | 19    | 20    | 21    | 22    | 23    | 24    |
|           | Volume (MWh)            | 10,0                 | 10,0            | 10,0  | 10,0  | 10,0  | 20,0  | 20,0  | 20,0  | 20,0  | 20,0  | 20,0  | 20,0  | 20,0  | 20,0  | 10,0  | 10,0  | 10,0  | 10,0  | 10,0  | 10,0  | 10,0  | 10,0  | 10,0  | 10,0  |
|           | Price (€/MWh)           | 40,00                | 40,00           | 40,00 | 40,00 | 40,00 | 40,00 | 40,00 | 40,00 | 40,00 | 40,00 | 40,00 | 40,00 | 40,00 | 40,00 | 40,00 | 40,00 | 40,00 | 40,00 | 40,00 | 40,00 | 40,00 | 40,00 | 40,00 | 40,00 |

### Note:

From 1.4.2021 the exclusive group of block orders will be supported only in the coupled mode with cross-border matching. In case local matching is necessary, this type of order including all the block orders included in the group will be invalidated.



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**Q & A**

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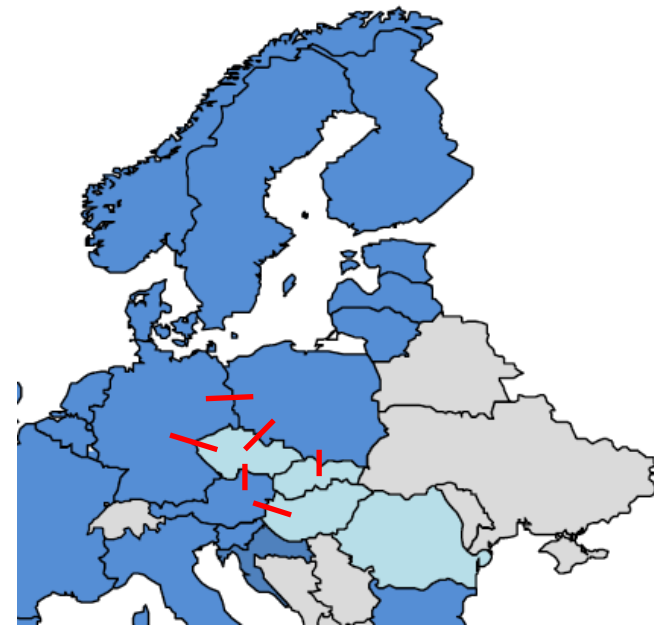


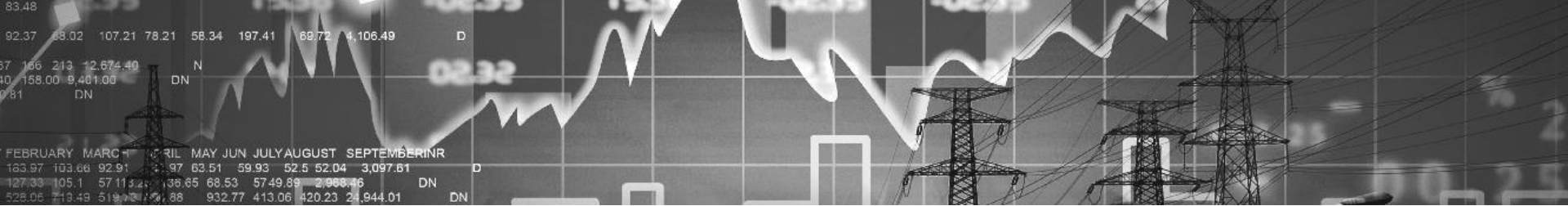
# Planned development projects for day-ahead market

## Interim Coupling Project

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- Planned merger of 4MMC and MRC using the current method of cross-border capacity calculation (ATC)
- The go-live is currently planned for the first half of 2021, the project is in the phase of testing the functionality of all systems
- The market participants will be informed about the possibility of participating in a dedicated project webinar (in English) and EU-wide testing
- The project will bring the possibility to trade across single EU day-ahead market as well as multiple changes (e.g. CGT 12:00, partial decoupling etc.)



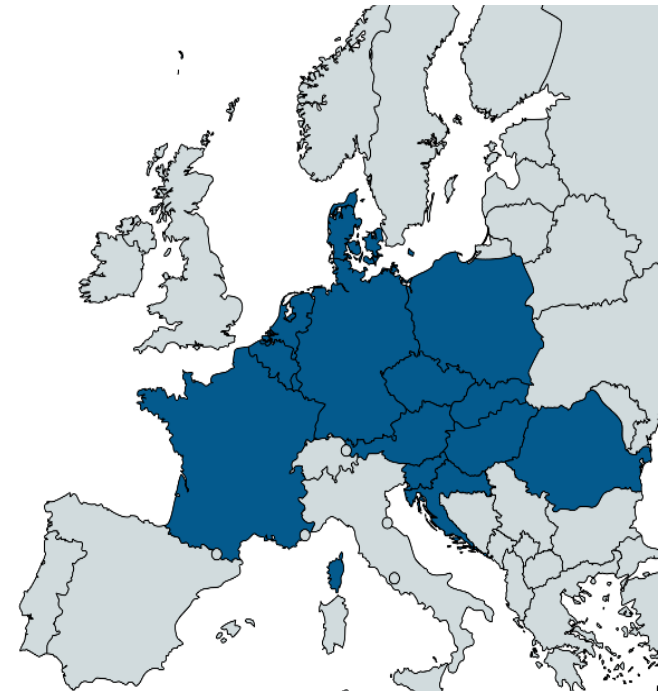


## Core FB MC project

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- Introduction of capacity calculation using the flow-based method
- The go-live is currently planned for February 2022
- Press releases related to the project are published on OKTE's website

 Core capacity calculation region





## Further market development projects

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- OKTE is also preparing some changes in intraday electricity market, mainly the launch of cross-border trading on the intraday market by including the Slovak bidding area to the EU single intraday market.
- Further development of electricity market is planned in the future. It is closely linked with the development of EU-wide solutions for the day-ahead and intraday market and corresponding legislation:
  - Introduction of trading in 15 minute market time units (MTU)
  - Broadening the intraday trading options to include the auction mechanism

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**Q & A**

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# THANK YOU FOR YOUR ATTENTION

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