Xetra® Release 17.0

Release Description

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1 Introduction

Deutsche Börse AG is planning to introduce Xetra Release 17.0 on 20 November 2017. This release will be mandatory for the participants of all Xetra markets running on the Xetra trading system.

With Xetra Release 17.0, functional and technical enhancements to further increase trading efficiency and to fulfill MiFID II & MiFIR (revised Markets in Financial Instruments Directive & Markets in Financial Instruments Regulation) requirements will be introduced. The major developments and changes that will be implemented with Xetra Release 17.0 are outlined below. Where the changes require amendments of the rules and regulations of the Frankfurter Wertpapierbörse (FWB®, the Frankfurt Stock Exchange), they are subject to corresponding resolutions of the FWB Exchange Council and approval by the Exchange Supervisory Authority.

Orders and quotes, which provide liquidity according to the Commission delegated regulation (EU) 2017/578 of 13 June 2016 supplementing Directive 2014/65/EU of the European Parliament and of the Council on markets in financial instruments with regard to regulatory technical standards specifying the requirements on market making agreements and schemes, can be entered with a "Liquidity Provision" label. A new flag for order and quote entry requests will be created for this purpose.

In addition, tick sizes which are specified in the annex of Commision delegated regulation (EU) 2017/588 of 14 July 2016 supplementing Directive 2014/65/EU of the European Parliament and of the Council with regard to regulatory technical standards on the tick size regime for shares, depositary receipts and exchange-traded funds (ETFs) will be implemented and used in the Xetra trading system. Every year, at the end of March/beginning of April (starting from 2019), ESMA will publish the daily average number of transaction and according to this value the respective liquidity band for the instrument will be applied in the trading system. In case of an amended tick size for an instrument, the orders of the respective instrument will be deleted and a new reason for deletion will be introduced. The new tick size regulation applies only to shares, depository receipts and ETFs. For instruments such as ETCs and ETNs which do not fall within the scope of the Tick Size regulation, tick sizes outside of the scope of the larges liquidity band will be defined. For all other instruments such as bonds or other structured products, the tick size regime under MiFID II will not apply. The existing tick sizes will continue to apply after 3 January 2018.

Furthermore, timestamps in Xetra will change to UTC (Coordinated Universal Time). With the introduction of Xetra Release 17.0, timestamps will still be offered in CET (Central European Time). The conversion to the UTC timestamp is effective by 2 January 2018. From this date on, Xetra will use the UTC timestamp for all transaction interfaces and market data interfaces. Timestamps of existing orders will not be converted. In the Xetra J-Trader GUI and the Xetra reports, the CET timestamp will still be used.

Beside to aforementioned changes, an additional safeguard will be introduced with Xetra Release 17.0: maximum order quantity. The implementation will be conducted analogically to the maximum order value on trader level. The existing safeguard "price reasonability check" will become mandatory for the interfaces Enhanced Transaction Solution (ETS) and FIX Gateway. The Price Reasonability Check will also be implemented for the trading model "Continuous Auction".

In order to fulfill the audit trail requirement according to RTS 24, additional fields will be introduced in order and quote entry requests. Within the scope of a European harmonization, so-called "Short Codes" need to be used when entering an order or a quote.

The following new fields will be introduced with Xetra 17.0:

- ClientID: The customer of the Xetra member, for whom the order has been entered,
- Executing Trader: Replaces "ComplianceID". In this field, the person or algorithm of the Xetra Member who is responsible for the execution of the order needs to be entered,
- Executing Trader Indicator: Indicates whether a person or an algorithm has been entered into the field "Executing Trader",
- Investment Decision Maker: states the responsible person or the used algorithm of the Xetra member who is responsible for the investment decision,
- Investment Decision Indicator: indicates whether a person or an algorithm is responsible for the investment decision.

Additionally to new fields in the order and quote requests, a new field will be introduced into the trade confirmations: Passive/aggressive indicator. This indicator states whether the underlying order has been aggressively or passively executed. Executions in the trading model "Continuous Trading with Specialist" are always indicated as "none".

In addition, with Xetra Release 17.0, Deutsche Börse offers "Direct Market Access" (DMA). Users admitted for direct market access should have the user IDs starting with "DMA" (e.g. "DMA001").

Furthermore the market data will be enhanced by the "Algorithmic trading indicator". This indicator states whether an algorithmic order and/or quote has participated within a matching event.

Beside of the above mentioned new functionalities, with Release 17.0 Xentric order support will be ceased. Customers using this interface, need to change to the Xetra interfaces FIX, ETS or VALUES API.

Xetra Release 17.0 will be a mandatory release without backward compatibility.

2 Functional Enhancements of Xetra Release 17.0

2.1 Liquidity provision

With MiFID II members need to specify their orders and quotes with the new flag "liquidity provision indicator" if they conduct a market making strategy according to the Commission delegated regulation (EU) 2017/578 of 13 June 2016 supplementing Directive 2014/65/EU of the European Parliament and of the Council on markets in financial instruments with regard to regulatory technical standards specifying the requirements on market making agreements and schemes. Therefore, with Xetra Release 17.0 a new flag "Liquidity Provision" will be introduced in order and quote entry requests.

The value of the flag can either be set to 1 ("liquidity provision") or the flag can be skipped ("no liquidity provision").

2.2 Tick Sizes

A new tick size regime will apply for shares, certain ETFs and depository receipts at Deutsche Börse with beginning of 3 January 2018. The tick sizes, which are specified in the annex of Commission delegated regulation (EU) 2017/588 of 14 July 2016 supplementing Directive 2014/65/EU of the European Parliament and of the Council with regard to regulatory technical standards on the tick size regime for shares, depositary receipts and ETFs will be implemented. Every year, at the end of March/beginning of April (starting from 2019), ESMA will publish the average daily number of transactions in the respective instruments. According to the average daily number of transactions the respective liquidity band will apply in the trading system. For ETFs subject to the MiFID II tick size regime, the highest liquidity band will apply. For ETFs not subject to the MiFID II tick size regime, new tick sizes will be defined. In case of an IPO, ESMA will publish the estimated average daily number of transactions for a new IPO at least one day before the first trading date. Otherwise, the highest liquidity band for newly listed shares and depository receipts will apply. After an IPO of a share or a corporate action the tick size might be adjusted again no later than six weeks after the share has started trading. A potential update of the tick size leads to deletion of all active orders in the book in the respective instrument. In order to identify the reason for the deletion due to tick size amendment, a new deletion reason code will be introduced.

In addition to the implementation of the MiFID II tick size regime, new tick sizes will be defined for ETFs, ETCs and ETNs, which do not fall within the scope of the tick size regime under MiFID II. For all other instruments such as bonds or structured products, the tick size regime does not apply. The existing tick sizes will continue to apply after 3 January 2018.

2.3 Business Clocks

In order to fulfil the requirement of the Commission delegated regulation (EU) 2017/574 of 7 June 2016 supplementing Directive 2014/65/EU of the European Parliament and of the Council with regard to regulatory technical standards for the level of accuracy of business clocks and Article 50 of Directive 2014/65/EU, that operators of trading venues and their members or participants shall synchronise the business clocks they use to record the date and time of any reportable event with the Coordinated Universal Time (UTC), Deutsche Börse will offer timestamps in UTC. With the introduction of Xetra Release 17.0, timestamps will still be offered in CET (Central European Time). The conversion to the UTC timestamp is effective by 2 January 2018. From this date on, Xetra will use the UTC timestamp for all transactions interfaces and market data interfaces. Timestamps of existing orders will not be converted. In the Xetra J-Trader GUI and the Xetra reports, the CET timestamp will still be used. In the following the affected interfaces from UTC will be discussed.

2.3.1 Affected interfaces

Enhanced Transaction Solution:

The timestamps in all transactions will be in UTC time from 2 January 2018.

FIX Gateway:

The Xetra FIX Gateway already provides Xetra members with UTC timestamps.

MISS servers:

The MISS servers will continue to run on local time and can be configured as desired by the Xetra members.

VALUES API:

The timestamps in all transactions will be in UTC time as of 2 January 2018.

J-Trader GUI:

Besides the functional changes that are implemented in the J-Trader GUI, the J-Trader will continue to use CET/CEST time in all windows. Details on GUI window changes are described in the Xetra J-Trader user manual.

Reports:

The timestamp of the Xetra reports will be in CET/CEST.

EnBS/MDI:

Starting on 2 January 2018, all timestamps in the EnBS and MDI interface will be in UTC.

2.3.2 Functional impacts

The conversion to the UTC timestamp is effective by 2 January 2018. From this date on, Xetra will use the UTC timestamp for all transactions interfaces and market data interfaces. Timestamps of existing orders will not be converted. In the Xetra J-Trader GUI and the Xetra reports, the CET timestamp will still be used.

2.4 Pre-Trade Controls

According to Art. 20 of the Commission delegated regulation (EU) 2017/584 of 14 July 2016 supplementing Directive 2014/65/EU of the European Parliament and of the Council with regard to regulatory technical standards specifying organisational requirements of trading venues, three pre-trade controls need to apply for all orders and quotes before they are entering the order book:

- **Price collar check** (price reasonability check), which automatically block orders and executable quotes that do not meet pre-set price parameters on an order-by-order basis,

- **Maximum Order Value**, which prevents orders and executable quotes with uncommonly large order value (in EUR) from entering the order book and

- **Maximum Order Quantity**, which prevents orders and executable quotes with uncommonly large order quantity from entering the order book.

The price reasonability check is already existing in "Continuous Trading with Auctions". In this trading model the field "Skip price reasonability check" will become mandatory in ETS and FIX Gateway.

Additionally, the price reasonability check will be implemented in the trading model "Continuous Auction with Specialist" and "Continuous Auction with Market Maker". The price reasonability check will be performed for ordersas well as matching quotes of the Specialist and Issuer and for the standard quote of the Market Maker.

The Maximum Order Value check will remain unchanged.

In addition to the existing maximum order value check, a check of the maximum order quantity will be introduced. The implementation will be conducted analogically to the maximum order value on trader level. With the introduction of Xetra Release 17.0, the initial values for the field "Maximum Order Quantity" will be set to the highest possible value, which can be modified per trader by the respective member supervisors accordingly. The value will apply to all instruments the respective trader is allowed to trade.

2.5 Audit Trail

Based on the Regulation 600/2014/EU [MiFIR], Article 25 (2), (3) and the related Commission delegated regulation (EU) 2017/580 of 24 June 2016 supplementing Regulation (EU) No 600/2014 of the European Parliament and of the Council with regard to regulatory technical standards for the maintenance of relevant data relating to orders in financial instruments, the regulator envisages ensuring to maintain transaction records in a full and complete manner. The data records shall encompass all orders and quotes, their characteristics and details of orders that link them to related executions. With the implementation of this requirement, additional information need to be given when entering an order and quote. With Xetra Release 17.0, new fields for the order and quote entry will be introduced.

The following new fields will be implemented with Xetra Release 17.0:

- **ClientID**: Identifier of the client of the Xetra member. Where the client is a legal entity, the LEI code of the client shall be used. Where the client is a natural person, the National ID shall be used. In the case of aggregated orders, the value AGGR shall be used. In case of pending allocations, the value PNAL shall be used. This field is only required for an order entered on account type A.

- **Executing Trader**: This field replaces the field "ComplianceID" in all trading interfaces. This field is to be used to identify the person or algorithm within the Xetra member who is responsible for the execution of the transaction resulting from the order or quote.

- **Executing Trader Indicator**: This indicator identifies whether the field "Executing Trader" contains the information of a person or an algorithm.

- **Investment Decision Maker**: This field is used to identify the person or the algorithm within the Xetra member who is responsible for the investment decision.

- **Investment Decision Indicator**: This indicator identifies whether the field "Investment Decision Maker" contains the information of a person or an algorithm.

Within the scope of a European harmonisation, so-called "Short Codes" will be used when entering an order or a quote. Members have to use instead of a LEI (Legal Entity Identifier) or a CONCAT (Concatenated Code), the short code. Such short codes will be stored and audited according to the respective standards on data storage and handling. More information about short code handling will be provided in a separate documentation.

As described above, the field "ClientID" is mandatory only for account type A. Therefore, if the order is entered on an A account, then the field "ClientID" has to contain the short code of one of the following long codes/values:

- Legal Entity Identifier (LEI)

- NationalID

- AGGR (aggregated order)

- PNAL (allocation to client still pending).

The fields "Executing Trader", "Executing Trader Indicator", "Investment Decision Maker" and "Investment Decision Indicator" are conditional mandatory. If the "Executing Trader indicator" is set to 1 (Algo), then the field "Executing Trader" becomes mandatory and needs to contain the algorithmic identifier. In case the execution decision is taken by the person within the Xetra member's firm submitting the order, then "Executing Trader indicator" can be left empty or set to 0. In this case the system will provide the National ID of the respective trader in the Audit Trail report to ESMA.

Following table should give an overview on the field "Executing Trader":

Executing Trader	Executing Trader Indicator	Audit Trail
8-byte Algorithmic identifier	1 (Algo)	Algorithmic identifier
8-byte short code	0 (Human)	NationalID of the persom from the mapping table.
Blank	0 (Human)	NationalID of the trader from SAP member portal.

Table 1 Executing Trader - In- and Output

The field "Investment Decision Maker" can either be used for an algorithmic identifier or a person within the Xetra member who is responsible for the investment decision. Is the investment decision based on an algorithm, then the field "Investment Decision Maker" need to contain the algorithmic identifier. In this case the "Investment Decision Indicator" need to be set to 1 (Algo). In case of the investment decision is taken by the person within the Xetra member, then the short code of the National ID of this person need to be entered into the field "Investment Decision Maker" and the "Investment Decision Indicator" need to be set to 2 (Human). Is the person responsible for the investment decision the owning trader, then the field "Investment Decision Maker" can be left blank, but the "Investment Decision Indicator" need to be set to 2. In this case the National ID of the trader will be mapped from SAP into the Audit Trail report. If the investment decision is taken outside the Xetra member's firm, then both fields – "Investment Decision Maker" and "Investment Decision Indicator" – need to be left blank.

Following table should give an overview on the field "Investment Decision Maker":

Investment Decision Maker	Investment Decision Indicator	Audit Trail
8-byte Algorithmic identifier	1 (Algo)	Algorithmic identifier
8-byte short code	2 (Human)	NationalID of the person from the mapping table.
Blank	2 (Human)	NationalID of the trader from SAP member portal.
Blank	0 (not applicable)	Blank (=Decision made outside the investment firm)

Table 2 Investment Decision Maker - In- and Output

2.6 Passive/aggressive indicator

In addition to new fields in order and quote entry requests, with Xetra Release 17.0 a new field will be introduced in trade confirmations: **Passive/aggressive indicator**. This indicator shows whether the order was already resting on the order book and providing liquidity (passive) or the order initiated the trade and thus took liquidity (aggressive).

In continuous trading in the trading model "Continuous Trading with Auctions" trade confirmations for a matched incoming order/quote will be marked as "aggressive" and trade confirmations for a matched sitting order/quote will be marked as "passive". If a triggered stop order matches immediately after triggering, then this "Passive/aggressive indicator" will be "aggressive". For partial order/quote executions, each partial match is considered on its own. For example, if an incoming order with total quantity of 1000 matches partially with 400, then the trade confirmation of this match will show in the "Passive/aggressive indicator" set to "aggressive", whereas the 600 will enter in the order book. The trade confirmation/s of the remaining 600 will be marked as "passive". For trade confirmations of members using "Order Level Netting", the last partial match will be the current status.

In contrary to match events during continuous trading, all trades resulting from an auction in "Continuous Trading with Auctions" will neither be marked as "aggressive" nor as "passive" – the "Passive/aggressive indicator" will be set to "none". Executions in the trading model "Continuous Trading with Specialist" are always indicated as "none".

2.7 Direct Market Access

With Xetra Release 17.0, Deutsche Börse offers "Direct Market Access" (DMA). Trading members offering their clients DMA shall have the user IDs starting with "DMA" (e.g. "DMA001").

2.8 Algorithmic Trading indicator

In order to show whether a trade is an algorithmic trade, the new field "Algorithmic Trade indicator" will be available via Enhanced Broadcast Solution, VALUES API and the Xetra J-Trader GUI. Trades in equities, ETFs, ETCs and ETNs, where at least one algorithmic order and/or quote with an algorithmic identifier responsible for the execution decision was involved, the trade will be marked as algorithmic. If an order/quote which has the code of the algorithmic identifier in the field "Executing Trader" - specified by the "Executing Trader indicator"-, then the trade price will be marked as algorithmic in the field "Algorithmic Trade indicator".

2.9 Reports TL100 and TL900 Order to Trade Ratio

2.9.1 TL100 Order to Trade Ratio

With Xetra Release 17.0 the existing report TL100 Order to Trade Ratio will be changed in order to fulfil the requirements based on Directive 2014/65/EU, Article 48 (6), (12 b) and the related RTS 9. Therefore, this report will provide each member with his daily values of the volume based OTR and the number based OTR per ISIN. In addition, the values of binding orders and quotes which had been added, modified, deleted and executed in the order book with respect to volumes and numbers for the respective OTR are provided. The floor component is given as well. Furthermore, it will provide those values split up by trader. The OTR values are provided per OTR instrument group and ISIN for one trading day.

More details of the report changes can be found in the XML Report Manual.

2.9.2 TL900 Daily Order and Quote Transactions

In addition, there are changes planned for the report TL900 Daily Order and Quote Transactions. This report will contain the rates under Directive 2014/65/EU Article 4, (40c). The report will contain daily, month-to-date and yearly message rates per ISIN as well as daily, month-to-date and yearly message rates on a total of all traded ISINs. In addition, the seconds the ISIN was available for trading and the respective messages are provided on a single ISIN basis. For calculation purposes messages include order and quote insertions, modifications and deletions. Furthermore, this report will contain "financial instruments for which there is a liquid market" and market making and proprietary messages only. The report will be automatically distributed to all members using a 10Gbit/s connectivity. No report selection will be available for this report.

More details of the report changes can be found in the XML Report Manual.

3 Additional Xetra Interface Changes

In addition to the functional changes to the Xetra system described above and their effect on the customer interfaces, technical changes and interface extensions are planned with Xetra 17.0.

3.1 Enhanced Transaction Solution Interface

No further changes in addition to the impact from above described functional changes are currently planned. More details on all the enhancements can be found in the document "Enhanced Transaction Solution – Interface Specification Modification Announcement".

3.2 FIX Gateway

In Xetra FIX Gateway the new fields described in Chapter 2.1, 2.5 and 2.6 will be introduced. More Details about the changes and enhancements to the Xetra FIX Gateway can be taken from the document "Xetra FIX Gateway - FIX 4.2 and 4.4 Modification Announcement".

3.3 Enhanced Broadcast Solution Interface

In Enhanced Broadcast Solution interface the the new field described in 2.8 "Algorithmic Trade indicator" will be introduced. More details about changes and enhancements can be found in the document "Enhanced Broadcast Solution – Interface Specification Modification Announcement".

3.4 Xetra Market Data Interface

No functional changes are currently planned. The final and programming version for "Xetra Market Data Interface" will be updated to reflect the change of timestamps from CET/CEST to UTC.

3.5 Common Report Engine

With Xetra Release 17.0 no changes to the report transfers to the Common Report Engine (CRE) are planned.

3.6 Xentric order

Xentric Orders will no longer be supported after the introduction of Xetra 17.0 on 20 November 2017. Customers using this interface, need to change to the Xetra interfaces FIX Gateway, ETS or VALUES API.

4 Technical Implications

Xetra Release 17.0 will be a mandatory release without backward compatibility.

Please be aware that all members must install the (update) kits on their existing and new MISS servers or workstations. By means of these kits, the Xetra Release 17.0 software with the latest version of the Xetra J-Trader GUI will be installed.

For Xetra Release 17.0, installation of GATE 3.5 is required, as has been for Xetra Release 16.0.

Existing own or third-party applications using VALUES API, Enhanced Transaction Solution interface, FIX Gateway or Enhanced Broadcast Solution Interface have to be adjusted.