Xetra® Release 10.0

Functional Description

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1 Introduction

The electronic trading system Xetra is enhanced through individual releases. The latest release, Xetra Release 10.0 will be launched on 8 June 2009.

Xetra Release 10.0 is characterized by the introduction of two new optional high-speed interfaces to access Xetra. The "Enhanced Broadcast Solution" and the "Enhanced Transaction Solution", both already known from Eurex, provide members with high-performance, low-latency access to market data and order management, respectively.

Apart from this new technology two new order types, the "Discretionary Order" and the "Hidden Order", are introduced. Additionally "Non-Persistent Orders and Quotes" will be provided for members requiring a faster response from Xetra concerning their order status.

The Midpoint Order introduced with Xetra 9.1 will be enhanced in the course of Xetra 10.0 by the introduction of an additional parameter on Order Level, the Minimum Acceptable Quantity.

Enhanced Data Distribution in the Continuous Auction Trading Models for dedicated instruments and the Synchronization of the Fee Reporting between Xetra Frankurt-1 and Frankfurt-2 add to the scope of Xetra Release 10.0. Xetra trade confirmations will not contain the fee information anymore.

In coordination with issuers Deutsche Börse also plans to introduce the first instruments traded in foreign currencies.

In general the overall system capacity and performance will be further improved.

The *Functional Description* document contains information on the functional structure of Xetra Release 10.0 It describes the functionality provided to market participants by Xetra Release 10.0. The graphical trading user interface (Xetra J-Trader) supports trading in stocks, bonds, warrants, certificates, reverse convertibles and exchange traded funds on the Xetra back end.

The functional description is primarily targeted at those people who are charged with the implementation of Xetra at the participants' sites. This document is designed to provide this group of people with an overview of main Xetra features. This includes the description of the Xetra J-Trader menu structure, the Xetra process components and the Xetra front end functionality.

Note

All information contained in this document represents the current planning status.

2 Fundamentals

2.1 Release History

The core of the electronic trading system Xetra has been introduced by the first two releases, Release 1.0 and 2.0. Over the years, several releases added further functionality to the trading system. The development process is ongoing. The following figure provides an overview of the individual Xetra releases and the current planning status of their implementation:

Release	Date	Content
1	10.06.1997	**Introduction Xetra front end** Provision of the new Xetra front end: • Client-server architecture • Introduction of a modern graphical user interface for IBIS and IBIS-R
2	28.11.1997	**Introduction Xetra back end** Equity-Wholesale trading initiated (replacement IBIS for equities): • Opening and closing auction as well as continuous trading via order book • Volatility interruption • Round lot trading
2.1	30.03.1998	**Front end release** Based on member requirements: • Enhanced front end functionality • Enhanced front end operation architecture
3	12.10.1998	**Xetra "Grundstufe":** Market model for on-exchange trading is implemented for stocks and bonds: • Completion of trading functionality • Trading of all order sizes • Intraday auction • "Designated Sponsor" • Increased number of securities • OTC trades
3.1	03.05.1999 20.09.1999	**IPO-Functionality:** • Support of the first price determination of an IPO • Extensions of the Designated Sponsor functionality • Extended volatility interruptions • Maximum order validity 90 days

Release	Date	Content
4	02.05.2000	**Xetra Warrant Trading:** • Implementation of the market model for warrant trading • Extensions of the transparency during auctions • Multiple settlement accounts per member • Introduction of an IPO matching range • Increased number of securities
5	02.10.2000	**European Alliance Release:** • Multiple exchange support capability • Implementation of European Alliance requirements • Introduction of OTC broadcasts • Introduction of dynamic profiles • Implementation of the market model Xetra XXL
6	30.04.2001	**CCP-Readiness Release:** • Introduction of netting functionality • Introduction of Give up/Take up functionality • Prices without turnover for warrants, certificates and reverse convertibles • Intraday closing auction
6.5	19.11.2001	**Front End Release:** • Introduction of complete trading functionality with Java-based front end (Xetra J-Trader) • Introduction of order completion flag • Enhancements for Xetra XXL
7	19.08.2002	**Xetra BEST Introduction:** • Implementation of the Xetra BEST market model • Abolition of the C++ based front end Xetra Trader • Enhancements for the CCP • Performance enhancements • Creation of the prerequisite for the introduction of a new transaction-based excessive usage fee concept
7.1	06.12.2004	**Subscription Right Trading:** • Enhancements for subscription rights trading • Introduction of an Online Time and Sales Sheet window
8.0	23.04.2007	**Performance & Speed Release:** • Performance measures such as new matcher, delta protocol for Inside Market Broadcast and broadcast split • Improvement of pre-trade and post-trade transparency • Heartbeat functionality • XML Reports

Release	Date	Content
		• Xetra BEST enhancement
		• New framework for Xetra J-Trader
8.1	22.10.2007	**MiFID Readiness Release:**
		• OTC trading enhancements for MiFID compliance regarding post trade transparency
		• Default BEST Execution for Xetra BEST trading
9.0	28.04.2008	**Trading in Structured Products:**
		Implementation of the market model for structured products
		• Introduction of trading model "Continuous Auction with Specialist"
		• Introduction of trading model "Continuous Auction with Issuer"
9.1	24.11.2008	New Order Type
		• Introduction of the Midpoint Order
		Fund Trading
		• Introduction of Mutual Funds on Frankfurt FFM2 in trading model Continuous Auction with Specialist
		Enhancements to facilitate the introduction of additional products:
		• Capability of Multi-Currency Trading
		• CCP Connectivity for Frankfurt FFM2
		• Enhanced Data Distribution via CEF
		• XQS Enhancement for new instrument types

Figure 1: Xetra Release Overview

With the first release, Deutsche Börse AG provided participants with front end applications for using the IBIS and IBIS-R cash market systems.

With Release 2.0, Deutsche Börse AG set up the Xetra overall architecture consisting of a new network infrastructure, a new Xetra back end and the required software. On this basis, stock wholesale trading was transferred from IBIS to Xetra.

Release 2.1 increased the operational efficiency of the Xetra front end functionality.

With the introduction of Release 3.0, the market model for "on-exchange trading" was fully implemented for both stocks and bonds. Among other things, this enables the trading in all order sizes with an increased number of instruments. In addition, the introduction of Designated Sponsors ensures sufficient liquidity even for stocks which are less liquid.

Release 3.1 has further improved the front end functionality for the Designated Sponsor, created the basis for an IPO, complemented the range of protective measures in auctions by the extended volatility interruption feature and has set the maximum order validity to 90 days.

A new market model for warrant trading has been implemented with Release 4.0. Besides an increased transparency in auctions for highly liquid instruments, multiple settlement accounts and a "matching range" for the initial price determination for an IPO have been introduced.

With Release 5.0 the requirements of the European Alliance, multiple exchange support capability and dynamic profiles have been implemented.

The fundamentals for the CCP (central counterpart) have been introduced with Release 6.0 (e.g. netting, give up/take up). Also, the intraday closing auction and prices without turnover for warrants, certificates and reverse convertibles have been implemented.

With Xetra Release 6.5 the complete trading functionality for the Java-based front end Xetra J-Trader has been introduced. Furthermore, an order completion flag and enhancements for Xetra XXL have been implemented.

The focus of Xetra Release 7.0 has been the introduction of the new Xetra BEST market model. In addition, further enhancements for the CCP have been introduced.

Xetra 7.1 introduced trading in subscription rights. The new Online Time and Sales Sheet window was introduced in Xetra J-Trader.

Xetra 8.0 advanced Xetra system performance and introduced heartbeat functionality to monitor members' connection status and automatically delete quotes of disconnected members.

Pre- and post-trade transparency was improved for Xetra, the XML report format was implemented and measures to improve execution probability for Xetra BEST were taken.

With Release 8.1 the requirements laid out by the Markets in Financial Instruments Directive (MiFID) which became effective on November 1, 2007 as well as simplifications concerning the entry of orders into Xetra BEST were implemented.

With the introduction of Xetra Release 9.0 a new Xetra instance (FFM2) for trading in structured products was implemented. The Xetra Frankfurt 2 trading system has been built on basis of the Xetra Release 9.0 software and offers a market model with two trading models. Starting with this release structured products hosted on Xetra and XONTRO (market place Frankfurt) are completely migrated to the new Xetra Frankfurt 2 instance.

Xetra Release 9.1 is characterized by the introduction of the "Midpoint Order". As a first step of introducing additional products, open-ended mutual funds (Publikumsfonds) will initially be traded in the "Continuous Auction with Specialist" trading model. Further enhancements are made to facilitate the introduction of additional products on Xetra Frankfurt 2.

2.2 Functional Features of Xetra Release 10.0

The existing functionality of Xetra is further extended by Release 10.0. Listed below is an overview of the main Xetra Release 10.0 features. All central functional modifications of Release 10.0 are written in bold type.

Criterion	Xetra Release 10.0
Member/type of trading	Wholesale and retail trade.
Trading hours (main trading phase)	8:50 a.m. – 5:30 p.m. (Frankfurt FFM1) 9:00 a.m. – 8:00 p.m. for trading in structured products and mutual funds (Frankfurt FFM2).
Trading models	- Continuous trading with opening auction, intraday auction and closing auction. Xetra BEST functionality is only available during continuous trading. - Several auctions per day. - One auction per day. - Continuous auction with Issuer, or with Specialist
Auction phases	Pre-call phase, call phase, price determination phase, order book balancing phases, IPO call phase and freeze phase.
Instruments	All stocks traded at the Frankfurt Stock Exchange (FWB), selected benchmark bonds as well as warrants, certificates, reverse convertibles, subscription rights, mutual and exchange traded funds.
Order size	Round lots or multiples thereof, odd lots. Xetra BEST orders can only be entered up to a maximum order size which is defined by the exchange. For subscription rights a minimum order size exists. The entry of Midpoint Orders must satisfy the Minimum Midpoint Order Value defined by the exchange. **The entry of Hidden Orders must satisfy the Minimum Hidden Order Value defined by the exchange in order to comply with MiFID large in scale requirements.**
Order and Quote types	(BEST) limit orders, (BEST) market orders, market-to-limit orders, iceberg orders, stop limit orders, stop market orders, midpoint orders, **discretionary orders, hidden orders** and (BEST) quotes, standard quotes, matching quotes and price without turnover quotes.
Order attributes	Detailed identification (bid/ask, limit, volume) and in addition, variable and flexible execution conditions and validity constraints as well as allocation to the trading form. Validity for a maximum of 90 days from date of entry; all open orders are transferred to the following trading day. Orders without validity restriction are good for day. If no default BEST Executor is defined, Xetra BEST orders have to be entered with an executor ID.

Criterion	Xetra Release 10.0
	The optional parameter Minimum Acceptable Quantity for Midpoint Orders defines the minimum quantity for execution with another midpoint order. **The Discretionary Range is a mandatory parameter for Discretionary Orders. It specifies the amount by which the Discretionary Limit should be more aggressive than the visible limit of a Discretionary Order.**
Order prioritisation	• Price/time priority. • For midpoint orders : Volume/time priority taking the Minimum Acceptable Quantity into account.
Market transparency	Open order book with full market depth (accumulated per limit with number of orders for each limit) in continuous trading. **Via the Enhanced Broadcast Solution interface un-netted order book information with additional order book depth is available.** Partially closed order book in stock trading auctions and during the call/freeze phase in continuous auction trading models. When the market imbalance indicator is activated, additional information is available during partially closed order book auctions regarding surplus and executable volume. - Different transparency rules apply for both continuous auction trading models. Details are described in the Market Model Continuous Auction. For structured products an order book depth of 1 is defined. - All on-exchange trade prices are disseminated in Xetra via VALUES and Enhanced Broadcast Solution and via CEF. OTC trades are disseminated via CEF, only, in case reporting is chosen by the originator. - For midpoint orders **and hidden orders** no pre-trade information is disclosed to the market. - **The Discretionary Range of Discretionary Orders is not disclosed to the market.**
Trading form, matching process	Auctions and continuous trading with automatic matching; (extended) volatility interruptions and market order interruptions.
Order Book	Order book (accumulated display for each limit) for each instrument (for open order book only); unlimited number of own orders.
Matching rules	Logical matching rules mapped by the system for order matching; special matching rules for the first quotation of new issues, for midpoint orders, **discretionary orders, hidden orders**, continuous auction trading and Xetra BEST.
OTC trade entry	OTC trades with settlement, with MiFID reporting, and both, settlement and reporting can be entered. The "Open OTC Trading" function in the Xetra J-Trader supports OTC trades with settlement with or without MiFID reporting. The entry, deletion and amendment of OTC trade reports are offered via the "MiFID Reporting Window".

Criterion	Xetra Release 10.0
Order/quote confirmation	Via trader screen, workstation or member server (MISS[1]). Only in case a quote causes a matching situation or is flagged for price determination without turnover, a quote confirmation is processed in continuous auction trading models. **For orders and quotes entered via the new trading interface Enhanced Transaction Solution (ETS) only a synchronous response is sent to the sender. No order and quote confirmations via VALUES are created for orders and quotes entered via an ETS session.**
Execution confirmation	Via trader screen, workstation, member server (MISS) and Enhanced Transaction Solution (ETS). **If orders or quotes entered via the new trading interface Enhanced Transaction Solution (ETS) are executed two types of execution confirmations are returned to the session. One is unreliable and faster and the other one is recoverable.**
Trade confirmation	Trade confirmations for exchange transactions, Xetra BEST transactions and over-the-counter business (OTC) transferred to trader screen, workstation and MISS (in bond trading including accrued interest); may be forwarded to in-house systems. For netted trades update trade confirmations are provided. Additional trade confirmations in XONTRO Trade contract note format on completion of online trading day.
Accounting cut-off	Upon completion of online trading day.

Figure 2: Xetra Features Overview

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[1] Member Integrated System Server

3 Menu Structure of Xetra J-Trader

Via the Xetra J-Trader graphical user interface, Release 10.0 offers exchange members' access to the Xetra trading system of Deutsche Börse AG. The menu structure of the windows (Figure 3) represents the functionality provided by the Xetra trading user interface in Release 10.0.

Xetra Trading System
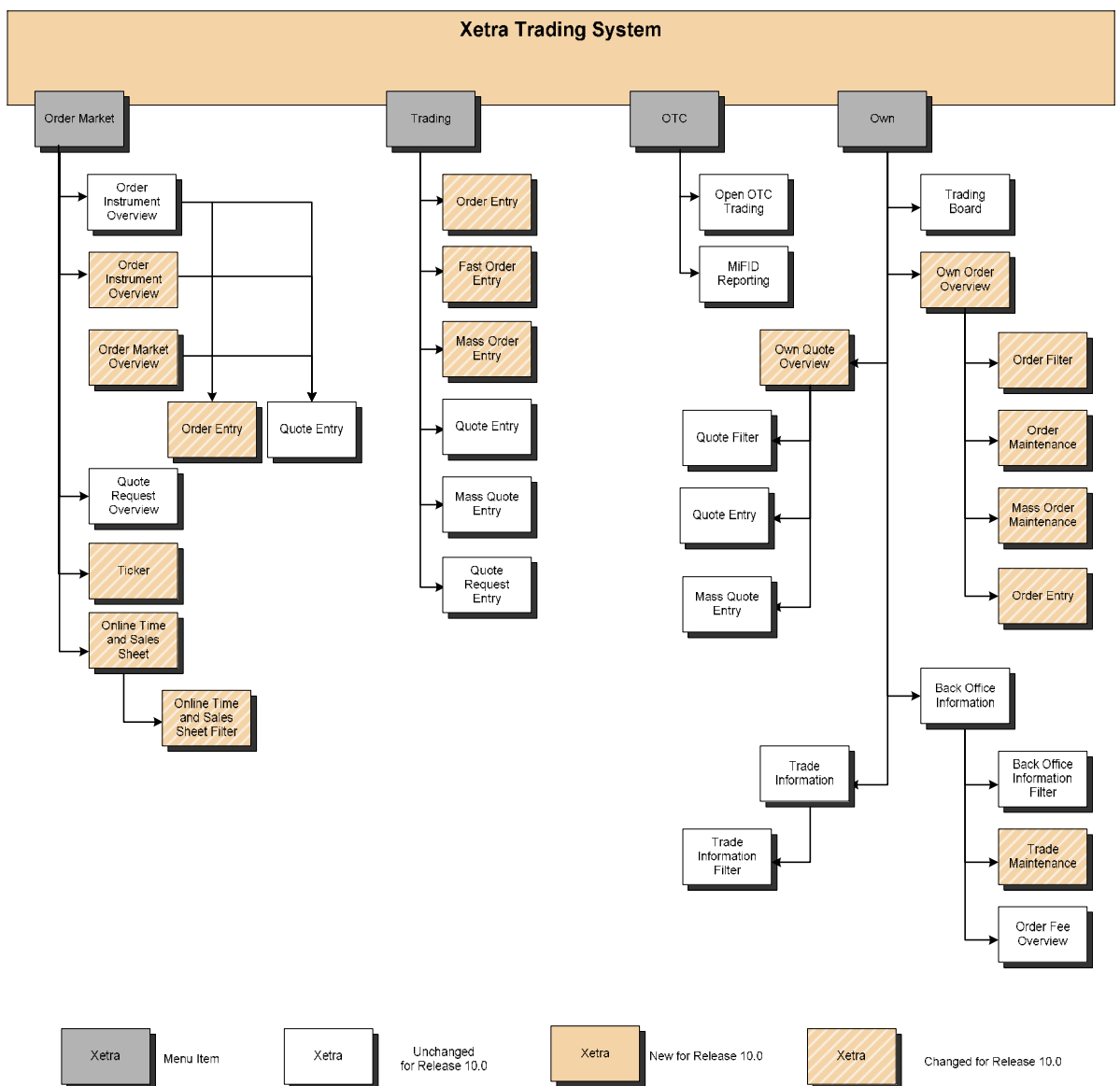
Figure 3a: Xetra J-Trader R10.0 menu structure 1

The windows Hourly Bid Entry, Block Bid Entry and Results are only relevant for EEX instruments.
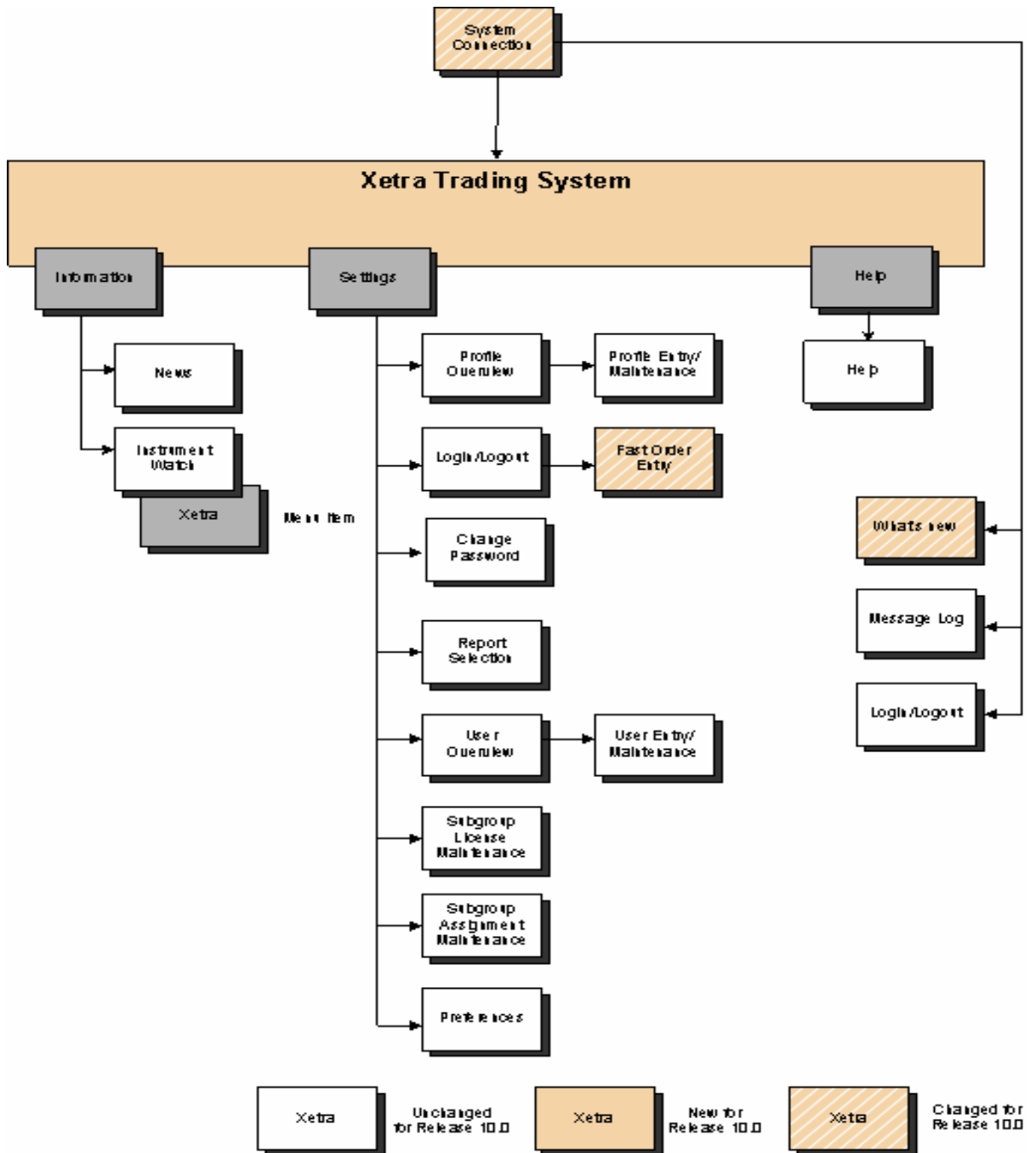
Figure 3b: Xetra J-Trader R10.0 menu structure 2

With the Xetra Release 10.0 two new order types "Discretionary Order" and "Hidden Order" are introduced. The relevant windows have been modified as such in order to support this new order type. Details of window-specific modifications made to the J-Trader can be found in the document "Xetra Release 10.0 J-Trader User Manual".

3.1 Login

Allows the user to log into the Xetra front end. By entering both user ID and password, access to the Xetra front end main menu ("Xetra Trading System") is provided. The *Login*/*Logout* window provides access to different exchanges. Since Xetra Release 8.1, logins to more than one exchange are disabled. To log in one or more users to more than one exchange, the start of multiple J-Trader application sessions is necessary.

3.2 Message Log

The *Message Log* window opens automatically after the Xetra login and cannot be closed. All major exception codes as well as instrument suspensions, volatility and market order interruptions, fast market situations and high priority news are displayed in chronological order. The latest message is always visible in the top row, even if the message list is scrolled down.

If the *Open OTC Trading* window is not open, the button "OTC Alerts/No OTC Alert" is active.

3.3 Window

Allows the user to log out from the Xetra front end application.

Below the menu item *Window* all opened windows will be displayed. Clicking on the menu item lists all windows that are currently open. The items of this menu item are dynamically updated. The title of a window will reflect the currently selected filter criteria as displayed in the window title bar at the point of time the *Window* menu item is opened. After selecting an item of the list, the respective window will pop up automatically. Iconized windows will pop up with the same size as before having been minimized.

3.4 Order Market

Contains windows which provide an overview of the order situation for one or more instruments. In the order market windows, instruments of the exchange the user is logged into are displayed. The specific submenu contents of the Order Market Menu are outlined briefly in the table below.

Window	Content
Order Instrument Overview	For a single instrument, this window provides detailed order book information on both continuous trading and auction trading. This includes, for example, information on the accumulated order size per limit for the best 10 bid or ask side limits as well as the number of orders for each limit and a variety of instrument data regarding the current trading day (last price, size and time of last trade, highest and lowest exchange price, valuation price, daily transaction volume, etc). Prices without turnover are indicated with a "bid" in the price columns. When the market imbalance indicator is activated for the Continuous Trading trading model or the One Auction trading model, additional information is available during auctions with a closed order book regarding surplus and executable volume. The last price, quantity and time of last trade as well as the accumulated quantity and the total number of Xetra BEST and midpoint trades are published in separate columns. For the *Order Instrument Overview* window a quick filter functionality exists.

Window	Content
Order Instrument Full Overview	This window provides detailed order book information on both continuous trading and open auction of a single instrument, i.e. information on the accumulated order volume per limit for the entire order book depth. For the *Order Instrument Full Overview* window a quick filter functionality exists.
Order Market Overview	The *Order Market Overview* provides an overview of the market activity for a variety of instruments. This includes e.g. information on the accumulated order size per limit for the best ten bid or ask side limits as well as the number of orders for each limit and data on the most recent trade executions. When the market imbalance indicator is activated for the Continuous Trading trading model or the One Auction trading model, additional information is available during auctions with a closed order book regarding surplus and executable volume. The last price, quantity and time of last trade as well as the accumulated quantity and the total number of Xetra BEST and midpoint trades are published in separate columns. For the *Order Market Overview* window a quick filter functionality exists.
Quote Request Overview	This window provides a detailed overview of any quote requests received for one or more selected instruments. For the *Quote Request Overview* window a quick filter functionality exists.
Ticker	The *Ticker* window contains the current values for individual indices (e.g. DAX, MDAX, Dow Jones, STOXX 50) and displays both prices and executed volumes which are based on profiles defined by the user. Prices without turnover that have been determined in Xetra are displayed with the indicator "bid". Xetra BEST prices are displayed with the indicator "XB". For midpoint prices the identifier "XM" is displayed. For the *Ticker* window a quick filter functionality exists.
Online Time and Sales Sheet	The *Online Time and Sales Sheet* window allows members to inquire all trade prices and quantities of an instrument for the current and any of the previous four business days. The *Online Time and Sales Sheet* window offers quick filter functionality.

Figure 4: Order market submenus

3.5 Trading

Contains windows for detailed entry of orders, quotes and BEST quotes. Orders, quotes and BEST quotes can only be entered for instruments of the exchange the user is logged into. The following table describes the trading functionality submenus (keep in mind that Xetra BEST trading is restricted to market orders and limit orders which are marketable in Xetra BEST, i.e. immediate execution is necessary).

Window	Content
Order Entry	Detailed order entry. For instruments a Designated Sponsor or Liquidity Manager is available, manual quote requests can be sent to all Designated Sponsors or Liquidity Managers via the QR button. An agent order can be specified as a BEST order if the executor ID is filled with the member ID of a BEST Executor. An agent order is specified as BEST order if a default BEST Executor is defined for the instrument to be ordered, the executor ID field is left empty and the user's

Window	Content
	subgroup is set for Default BEST Execution.
Quote Entry	Detailed entry of quotes, and BEST quotes. BEST quotes are entered with relative limits (minimum 0.001 €) and additional parameters.
Quote Request Entry	Entry of quote requests for Designated Sponsor and Liquidity Manager instruments.
Mass Order Entry	Simultaneous entry of multiple orders. For instruments a Designated Sponsor, or Liquidity Manager is available, manual quote requests can be sent to all Designated Sponsors, Liquidity Managers via the QR button. An agent order can be specified as a BEST order if the executor ID is filled with the member ID of a BEST Executor. An agent order is specified as BEST order if a default BEST Executor is defined for the instrument to be ordered, the executor ID field is left empty and the user's subgroup is set for Default BEST Execution.
Mass Quote Entry	Simultaneous entry of multiple quotes, or BEST quotes. BEST quotes are entered with relative limits (minimum 0.001 €) and additional parameters.
Fast Order Entry	Quick entry of single orders after selection via market windows. In case an agent order is submitted for an instrument to which a default BEST Executor is assigned (and Default BEST Execution is active for the user's subgroup), the order is routed to Xetra BEST and the specified Default BEST Executor. For instruments Designated Sponsors, Liquidity Managers is available, manual quote requests can be sent to the Designated Sponsors, Liquidity Managers via the QR button. The Fast Order Entry Window cannot be closed.

Figure 5: Trading submenus

3.6 OTC

Enables users to enter over-the-counter business (OTC) into Xetra, including the possibility to report OTC trades according to MiFID post trade transparency demands. Three basic entry options are supported: namely "settlement only", "settlement and reporting" or "reporting only". After entry, trade reports are forwarded to the dissemination system CEF.
OTC trades entered for settlement need an approval of the counterparty. For this feature, a dynamically updated list box showing all open OTC trades for settlement processing (and optional trade reporting) is available. Xetra offers an additional window exclusively for reporting matters that features a dynamic list of all daily trade reports and allows entry confirmation and cancellation.

Window	Content
Open OTC Trading	This window is used to enter, approve and report (open) over-the-counter business trades (OTC) and dynamically displays information on open OTC trades

Window	Content
	that have not yet been approved by the counterparty. Trades can be entered for settlement only (no MiFID reporting information supplied) or settlement and reporting. OTC trades can be approved by the counterparty by selecting the trade via a double click and pressing the *Approve* button. If the Open OTC Trading window is closed, the Message Log window shows an active toggle button "OTC alert"/ "No OTC alert" giving notice of any incoming open OTC trades to be approved and of successful approval by the counterparty of previously entered OTC trades.
MiFID Reporting	This window is used to report OTC trades not entered for settlement into Xetra or entered previous for settlement only in Xetra. Additionally, trade reports can be amended, or existing trade reports can be confirmed or cancelled. A list box in the upper half displays line-by-line information about trade reports entered on the current business day.

Figure 6: OTC trading activities submenu

3.7 Own

Contains windows that provide an overview of own orders, quotes, BEST quotes and trades as well as the associated inquiry functions for the particular exchange. In these windows, instruments of the exchange the user is logged into can be displayed.

Window	Content
Trading Board	The *Trading Board* window is an individual configurable frame set which includes the information and functionality of several windows. A special *Trading Board Ticker* window is offered for the *Trading Board*.
Own Order Overview	Based on a user-defined profile, this window provides an overview of own orders. In order to individually define and display any selection, the selection can be filtered in accordance with a variety of criteria using the *Order Filter* window. Via the *Own Order Overview* window single or multiple orders can be deleted. Additional windows can be used to enter or modify single orders (via *Order Maintenance* window) and to modify multiple orders (via *Mass Order Maintenance* window) in accordance with the filter. For the *Own Order Overview* window a quick filter functionality exists.
Own Quote Overview	Based on a user-defined profile, this window provides an overview of own quotes, or BEST quotes, which can also be deleted, held and released via this window. The quote entry is accessible using the respective buttons. In order to individually define and display any selection, quotes, and BEST quotes can be filtered in accordance with a variety of criteria using the *Quote Filter* window. For the *Own Quote Overview* window a quick filter functionality exists. This window is not available for instruments of the continuous auction trading models.

Window	Content
Back Office Information	This window lists all securities transactions (exchange and off-exchange) performed by the relevant user. Xetra BEST trades can be identified by the trade type "XB" and midpoint trades by the trade type "XM". For netted trades additional information is provided (e.g. average price, accumulated quantity, netting type). Using the *Instrument Selection* or the *Back Office Information Filter* (entry of selected filter criteria) window, users can opt to view trade information (e.g. average bid price/ask price, accumulated trade quantities) regarding a specific instrument or a range of different instruments. The *Trade Maintenance* window allows for the modification of individual attributes (e.g. settlement account) of own trades. For each trade confirmation in the *Back Office Information* window it is shown whether the underlying order has been partially or fully executed. For the *Back Office Information* window a quick filter functionality exists.
Trade Information	This window gives an overview of all execution confirmations, providing users directly with relevant information on a specific order execution. Xetra BEST executions can be identified by a flag. The *Trade Information Filter* window can be used to filter the display of execution confirmations, for example on the basis of the selected profile. For the *Trade Information* window a quick filter functionality exists.

Figure 7: Own trading activities submenus

3.8 Information

Contains windows for the representation of both general market information (messages) and individually set alerts. In the information windows, only the information of the exchange the user is logged into is displayed. The following table provides an overview of the content of the Information submenus.

Window	Content
News	The Exchange can use this window to transmit information to market participants in the form of freely formattable texts (e.g. introduction of new trade instruments).
Instrument Watch	The *Instrument Watch* window provides an overview of any alerts entered. These alerts are designed to inform members of changes in the market when individually set limits are either fallen short or exceeded. Also, the *Instrument Watch* window allows to enter/maintain alerts.

Figure 8: Information submenus

3.9 Settings and Help

Contains windows for trader-specific configuration (e.g., profiles, colors, fonts) and a context-sensitive system help function. The following table outlines the setting function submenus.

Window	Content
Profile Overview	This window allows for creation, modification and deletion of profiles. Profiles may be created and modified using the *Profile Entry/Maintenance* window**.** The *Profile Maintenance window* will open after double clicking on a profile.
Login/Logout	This window can be used for logging into and out of Xetra. Only one user can log in to only one exchange simultaneously (in contrast to releases prior to Xetra 8.1).
Change Password	The *Change Password* window provides users with the functionality for modifying their user-specific Xetra password.
Report Selection	This window allows for the selection of specific reports (e.g. trade confirmations). Reports selected by members are made available as XML reports. In addition, text reports generated on the basis of XML Reports are available.
User Overview	Using the *User Overview* window, members can carry out the administration of their own users. The addition of new users is done via the *User Entry* window. There the user authorizations, the accounts (e.g. Agent, Proprietary, Liquidity Manager, BEST Executor), the maximum order value (value has to be entered in the exchange currency) and the Default BEST Execution assignment (valid for the user's subgroup) can be determined. The *User Maintenance* window allows modifying the above-listed attributes of an existing user. The attributes of a user (i.e. user code, user name, resource access levels, senior indicator and agent/proprietary accounts) can easily be copied from one user to another.
Subgroup License Maintenance	This window can be used to assign or revoke the Designated Sponsor, Liquidity Manager and BEST Executor licence with regard to specific trader subgroups.
Subgroup Assignment Maintenance	This window allows for the assignment of individual instrument groups to specific trader subgroups.
Default BEST Executor Assignment Window	The Default BEST Executor Assignment Window allows flow providers to assign Default BEST Executors to each instrument. Upon selection of an instrument group (assigned to the member), instruments in this group (which are assigned to the flow provider) are listed below one per row. The Default BEST Executor Assignment can be modified based on selected instruments; i.e. by clicking a field in the column DefBESTExec a Default BEST Executor can be assigned to or removed from the respective instrument. Clicking the Submit or Apply button completes the modification. It is possible to choose more than one instrument at once for maintenance. This window is not available for instruments of the continuous auction trading models.
General Settings	The *General Settings* window is a tabbed pane window, which allows the user to select fonts and colours, configure the increments of limits and quantities, set up user-defined text field context menus, set up the default timing for highlighting

Window	Content
	and quote request indicators, define the display of time and date formats, enable yield calculation, raise quote alerts, and turn tool tips on and off.

Figure 9: Settings submenus

All windows within this menu structure are non-modal, i.e. the user can interact with all windows at the same time. The Xetra front end enables users to save their individual window configuration. This means that location, size, column scaling, setting of filters and profiles of all currently opened dynamically updated windows can be saved. This also applies to each individual window. Therefore, the individually saved settings are still available after the next login procedure.

4 Xetra Release 10.0 Functionality

4.1 Exchange Members and User IDs

In order to participate in Xetra Frankfurt, exchange members must meet the admission requirements of a German stock exchange. They are required to ensure proper settlement of trades. Exchange members who are not directly involved in Clearstream clearing transactions are required to nominate a settlement member.

Once a new member has been admitted, the Exchange enters the member with the associated access rights into the Xetra system and assigns a Member ID (e.g., ABCFR). User IDs are allocated, then entered and maintained in the Xetra system by the members themselves (e.g., TRD001).

User IDs for trading functions are authorized by the Exchange following admission/verification. Admission is a prerequisite for entry, modification and deletion of orders and quotes. All other user IDs are authorized for inquiries only.

The Exchange creates instrument groups which can be allocated to the individual members by the Exchange. The members have to use these predefined instrument groups for authorization of trader subgroups.

Changes in access rights covered by a specific user ID are carried out by the members themselves and recorded by the Exchange. They are made available to members at the end of the day in form of text reports, XML reports. Therefore users of the system can be divided into several categories:

- Traders
  Traders are individuals admitted for exchange trading. A trader can act as agent trader (account A) or as proprietary trader (account P). As Designated Sponsor (account D), as Liquidity Manager (account Q), as Issuer (account I) or Specialist (account I, or L) the trader can enter quotes into the system to provide additional liquidity.

- Issuers
  Issuers participate by entering quotes into the system ("Issuer", account I). A quote consists of a simultaneous entry of a limit buy and a sell order and is flagged accordingly. In addition, Issuers (in the 'Continuous Auction Trading Model') permanently provide quotes for the purposes of limit surveillance.

- Specialists
  Specialists participate as information and liquidity provider. Matching quotes initiating the price determination process are entered on behalf of Issuers (account I). These quotes are based on the separately received Issuer quotes and the current order book situation. In addition orders can be entered on proprietary basis (account P), and proprietary basis with additional liquidity (account L).

- BEST Executors
  BEST Executors participate as traders by offering BEST execution services to their own customers or customers of Flow Providers by entering BEST quotes into the system ("BEST Executor", account E).

- Other users
  Administrators are users who are not admitted or authorized for trading (they assign and maintain authorization rights for the member's personnel). This category also includes personnel in settlement, operation, supervision and information users.

4.2 Market Transaction Process

The entire process of entry, processing and settlement of all transactions in Xetra Release 10.0 is outlined below.
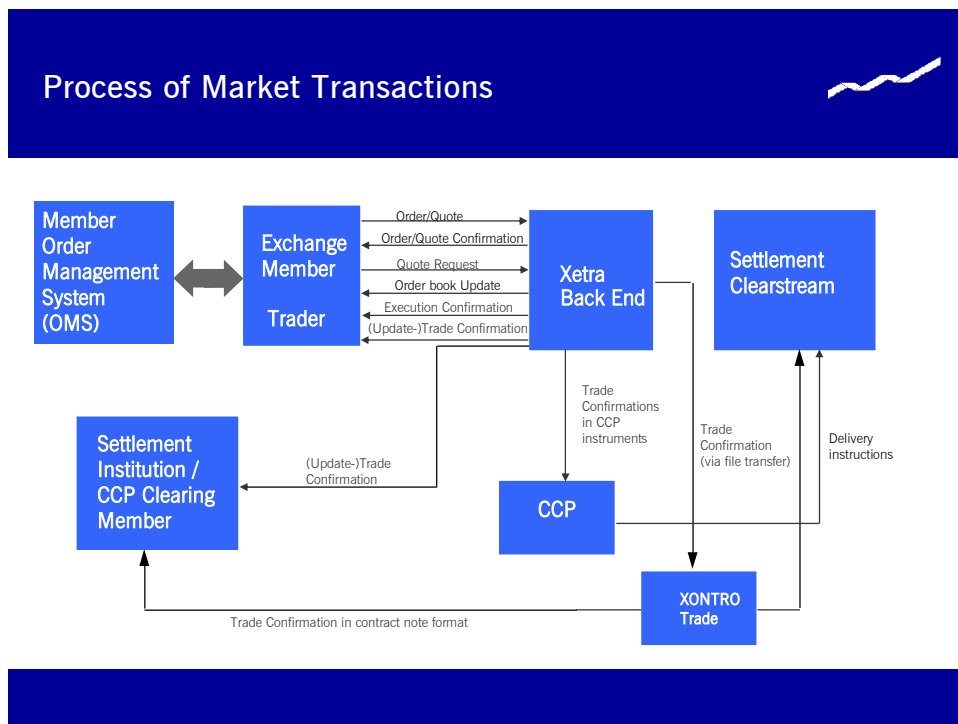
Figure 10: Process of market transactions

Traders enter orders, BEST orders, quotes, BEST quotes, and quote requests using their Xetra front end application. These are forwarded to the Xetra back end where they are processed in accordance with set attributes.

Designated Sponsors and BEST Executors as well as Issuers and Specialists may select Heartbeat Monitoring. In case of a member application or connection breakdown, all quotes of this Member/Subgroup will be deleted automatically in accordance with the market model. In case of any concerned instrument being in the IPO related FREEZE status at the time of an automated quote deletion attempt, according to the market model the quote deletion for such instrument cannot be processed immediately. Such quote may then still be executed during the instrument state change from FREEZE to continuous trading, or immediately thereafter, since the deletion request will not be stored in the processing queue but will be resent in short intervals until successful.

In every phase of the transaction process, members obtain information on the state of their entered orders, BEST orders, quotes, BEST quotes as well as on executed trades. Once the entry of an order, BEST order, quote or BEST quote has been accepted by the Xetra back end and entered into the order book, an order or quote confirmation is forwarded to the trading member. Within the trading models 'Continuous Auction with Issuer' and 'Continuous Auction with Specialist' only for quotes that lead to a matching situation or that are flagged for price determination without turnover, a quote confirmation is processed. When a trade is executed, an execution confirmation is forwarded to the member in a timely manner. This confirmation details essential order information (order dates, execution price and volume, execution time). Almost simultaneously, a more comprehensive (update-) trade confirmation is also forwarded. All trade

confirmations are displayed on the trading screen and are available to the relevant exchange member, CCP clearing member and the settlement institution via the server (MISS).

During the online day trade confirmations in CCP instruments are forwarded to the CCP. At the end of the online trading day, all trade confirmations are forwarded via File Transfer to the XONTRO Trade system. In XONTRO Trade, trade confirmations are created for Deutsche Börse AG members in contract note format. The exchange members, CCP clearing members and settlement institutions can receive these trade confirmations in contract note format. The Xetra trades of Deutsche Börse AG members in non-CCP instruments are automatically forwarded to Clearstream for initiation of the settlement process. For CCP instruments delivery instructions are sent from the CCP to Clearstream.

4.3 Order Types

Round lots as well as odd lots are tradable on Xetra. Round lot quantities for the individual instruments will be defined in connection with determining both trading segments and trading parameters. For subscription rights a minimum order size exists.

4.3.1 Order Types and Order Specification

All orders entered in Xetra are anonymous. However specialists receive detailed information about all orders entered in instruments the specialist offers his services for. The trading members do not receive any information as to which member has entered an order into the order book. As a general rule, limit, market, market-to-limit, midpoint, discretionary, hidden and iceberg orders can be entered into the system during exchange trading. The trading restrictions detailed in Figure 11 are supported for market and limit orders, whereas execution restrictions are supported for market, limit, market-to-limit and midpoint orders. The validity constraints are supported for all order types. However, iceberg orders can only be entered with the validity constraint "Good-for-Day (GFD)". In addition, stop limit and stop market orders can be entered in Xetra.

Midpoint, Discretionary and Hidden Orders are only available for instruments in trading model "Continuous Trading in Combination with Auction".

Only market orders and marketable limit orders (limit orders which can be executed immediately against a BEST quote) are subject to Xetra BEST. To enter a BEST order, either a valid Executor ID must be provided or Default BEST Execution has to be activated by respective instrument and user subgroup settings. BEST orders that can not be executed immediately within Xetra BEST are routed into the Xetra order book and are shown as regular limit or market orders in the order book.

Orders are valid for a maximum of 90 days from the date of entry. This applies also to those validity constraints that do not define automatic order expiry at a fixed point in time (i.e., GTC).

During the order book balancing phase of an auction, members can execute any remaining surplus, i.e., orders which are executable at the auction price, but could not be executed at this point. For this purpose, Xetra provides a special order type, the accept surplus order.

Only members who are registered in the system as Designated Sponsors, Liquidity Manager, Issuers or Specialists can enter quotes into Xetra. A quote is the simultaneous entry of a limited buy and sell order in Xetra. Quotes entered into the system are always "good-for-day". A newly entered quote in an instrument will overwrite any existing quote of the same trader subgroup in the order book. A quote cannot be modified. At any time, for each trader subgroup, there is only one quote per instrument in the order book.

Only members who are registered in the system as BEST Executors can enter BEST quotes into Xetra. A BEST quote consists of different parameters and dynamically adapts to the current order book situation on a relative basis. The minimum price improvement of a BEST quote is 0.001 €. The parameters of BEST quotes are described in Figure 12. BEST quotes entered into the system are always 'good-for-day'. A newly entered BEST quote will overwrite any existing BEST quote of the member. BEST quotes cannot be modified. At any time, for each member, there is only one BEST quote per instrument in the order book.

4.3.2 Non-Persistent Orders

For members requiring a faster response from Xetra concerning their order status, non-persistent orders are provided.

Thereby, members can choose whether they send their orders as persistent or as non-persistent orders. The main functional difference is that non-persistent orders will be removed from the order book in exceptional circumstances, i.e. typically, if there are technical problems on the exchange's back-end side or when an instrument leaves the "HALT" state. In both cases a "Market Reset" will be triggered, whereby only persistent orders are restored in the order book. Non-persistent orders and quotes entered via the new interface Enhanced Transaction Solution are deleted if the trading session loses the connection or because of missing heartbeats.

The member may select between the non-persistent and the persistent order attribute independent of the type or restriction code of the order. Once the order has been sent to the exchange, the persistency attribute of the order cannot be changed anymore.

Non-persistent orders are not supported for trading model "Continuous Auction".

Members are able to select between the non-persistent and persistent attribute for their orders at the time of the order entry. The new field "Persistency Indicator" is provided in the order entry windows for this purpose:

- 'P' - Persistent order

- 'N' - Non-persistent order

- ' ' - Blank (Default)

Orders with the attribute ' ' will be treated by the following rules regarding order persistency:

- Agent orders are persistent by default.

- All other orders (account type not 'A') are non-persistent if the validity of the order is GFD ("good for day") or explicitly stated the current business day.

- All orders with validity greater than GFD ("good for day") are persistent orders by default.

- All orders entered via the Enhanced Transaction Solution interface are non-persistent by default once the persistency attribute is omitted.

4.3.3 Iceberg Orders

The order type "iceberg order" can be used by a trader to avoid adverse price movements due to a large order size.

Iceberg orders are orders with quantities only partially visible in the order book. An iceberg order is characterized by its overall quantity, the peak quantity which characterizes the visible part of the order and the mandatory limit. The peak quantity and the overall quantity must always be a round lot. If the overall quantity divided by the peak quantity leaves a rest, the last peak creates a smaller order than the original peak, but also of a round lot size.

Iceberg orders have different behaviours in continuous trading and in auction trading. In continuous trading, as soon as the peak quantity (i.e., the visible order quantity) is fully executed, another peak with the same limit and quantity is entered into the order book, as long as there is a remaining quantity. This newly entered peak receives a new timestamp. It is sorted with all other orders already available at the respective limit according to time priority (i.e., the new quantity of the iceberg order does not have time priority within the respective limit). Price priority is guaranteed. The iceberg order will be completely matched before the next limit in the order book is executed. The order number remains the same for the entire iceberg order.

In auction trading, the complete quantity of the iceberg order is considered for the (indicative) auction price calculation. During the call phase (if the market imbalance indicator is switched on) the complete order quantity and during the order book balancing phase the remaining order quantity is used to calculate the surplus.

If the iceberg order has only been partially executed during the auction, a new order with the (remaining) peak quantity is entered into the order book for continuous trading. It does not matter whether the order has been executed against an odd or a round lot order. If it is not possible to completely refill the peak quantity and if the new peak consists of a round lot and an odd lot part, the iceberg order will be treated as follows: The round lot part will be traded in continuous trading whereas the odd lot part can only be executed in the next auctions.

If a volatility interruption in continuous trading occurs the complete quantity of the iceberg order is considered. For Xetra BEST iceberg orders are not supported. Iceberg orders are considered when calculating the price for executions in Xetra BEST.

Iceberg orders are not supported in continuous auction trading models.

Execution and trade confirmations are created after each partial execution. An increase of the peak or overall quantity leads to a new timestamp – loosing time priority - and a new order number, whereas a reduction maintains the original timestamp and order number.

The order type 'I' always has to be entered if an iceberg order is entered. All order entry and maintenance windows support iceberg orders. It is not possible to modify an iceberg order to a different order type and vice versa. The *Own Order Overview* window displays the iceberg order with remaining quantity, peak quantity, and executed quantity.

The minimum overall quantity and minimum peak quantity is defined on instrument level. Iceberg orders entered in pre-trading can be executed for the first time in the opening auction. Iceberg orders entered in post-trading are deleted after post-trading because iceberg orders can only be entered with the validity constraint "Good-for-Day". Trading restrictions and execution restrictions are not supported.

4.3.4 Market-to-Limit Orders

With the order type "market-to-limit order", Xetra provides an order type giving a trader a high execution probability (like a market order) combined with a protection against unintended price impact (like a limit order).

In continuous trading a market-to-limit order is executed against the best limit available on the opposite side of the order book. If the order is not executed completely, the order is entered into the order book with a limit equal to the partial execution for the remaining quantity. The incoming market-to-limit order is only accepted if there are only limit orders on the opposite side of the order book. If there are no orders, or only market orders, or market and limit orders on the opposite side of the order book, the incoming market-to-limit order is rejected.

Market-to-limit orders entered during an auction (including volatility interruptions and market order interruptions) are treated like market orders.

At the end of an auction, the market-to-limit order is executed at the auction price. Market-to-limit orders can trigger market order interruptions and volatility interruptions. If the order can not be fully executed (irrespective whether the order is partially executed or not executed at all) the rest of the order is offered during the order book balancing phase. If at the end of this phase the order has only been partially executed or not executed at all, the order is entered into the order book with a limit equal to the auction price. If there is no auction price, market-to-limit orders which were entered during the call phase of the auction are deleted.

Market-to-limit orders can also be entered during pre-trading and post-trading. Those orders are considered for the next auction and treated as described above.

Market-to-limit orders can not be changed to a different order type during order maintenance. For market-to-limit orders all validity constraints are supported. If the execution restriction "Fill-or-Kill" or "Immediate or Cancel" is selected the validity constraint must be "Good-for-Day". No trading restrictions (e.g., auction only) are supported.

The order type 'T' always has to be entered if a market-to-limit order is entered. All order entry windows allow the entry of a market-to-limit order.

Market-to-limit orders are not supported with the continuous auction trading models. For Xetra BEST market-to-limit orders are not supported.

4.3.5 Midpoint Orders

The "Midpoint Order" is an order type which is completely hidden concerning pre-trade information, i.e. neither limit nor volume of midpoint orders is disclosed to the market. Since a midpoint order interacts only with other midpoint orders but not with orders of the Xetra open order book this order type offers the possibility of executions at the midpoint of the Xetra best bid/ best ask spread and thus without any market impact.

Midpoint orders can be entered with or without a limit. Executions take always place at the midpoint of the Xetra best bid/ best ask spread which is either equal to or better than the specified limit price respectively without a limit at midpoint. Validity constraints as well as execution restrictions are supported for midpoint orders. Trading restrictions are not available for this order type.

Midpoint orders are available for continuous trading model instruments only. They are only valid in continuous trading, i.e. no execution of midpoint orders will take place during Auctions.

For executions of midpoint orders the volume/time priority rule applies, i.e. prioritization of the largest order respectively if two or more midpoint orders have the same order volume, the midpoint order with the oldest time stamp is prioritized. Additionally the Minimum Acceptable Quantity of the Midpoint Orders is taken into account during the matching process.

The Minimum Acceptable Quantity entered for an order is applied to "every fill". If an order is partially executed and its volume is reduced below the Minimum Acceptable Quantity, the Minimum Acceptable Quantity is set to the remaining volume.

Matching is only carried out if an execution at the midpoint of the Xetra best bid/best ask spread would not result in a volatility interruption. Midpoint Orders themselves do not trigger volatility interruptions.

For Xetra Best midpoint orders are not supported.

The order type 'P' always has to be entered if a midpoint order is entered. All order entry and maintenance windows support midpoint orders. It is not possible to modify a midpoint order to a different order type and vice versa.

4.3.6 Discretionary Orders

The Discretionary Order is a new order type for the open order book of Xetra. It enhances the already existing Limit Order by a second parameter, the "Discretionary Range".

The Discretionary Range is hidden and therefore not visible for other market participants. It defines the upper limit of the price improvement at which the discretionary order may be executed if execution at the visible limit is not possible. Hence, with respect to a buy order, the Discretionary Range must be positive and with respect to a sell order, the Discretionary Range must be negative. Execution possibilities within the Discretionary Range will only be verified if no "conventional" executions against normal visible orders or Hidden Orders are possible.

A Discretionary Order can only be entered with a limit, the Discretionary Range and the order type 'D'. All order entry and maintenance windows support discretionary orders. It is not possible to modify a discretionary order to a different order type and vice versa.

The validity of a Discretionary Order can be determined by means of further constraints:

- Good-for-day: Order only valid for the current exchange trading day.

- Good-till-date: Order only valid until a specified date (up to a max. of 90 days from the date of entry).

- Good-till-cancelled: Order only valid until it is either executed or deleted by the originator or the system on reaching its maximum validity of 90 days.

Trading restrictions (e.g. opening auction only or closing auction only) are not available. Execution restrictions (e.g. Fill-or-Kill or Immediate-or-Cancel) are not available.

Discretionary orders are allowed for Xetra Best.

4.3.6.1 Matching Rules in Continuous Trading

A. Processing / Matching of incoming orders

Incoming orders are always considered with their most aggressive limit only (i.e., if the incoming order has a Discretionary Limit, then the order is considered with its Discretionary Limit). Besides this, the existing matching procedure for incoming orders is used.

B. Matching of sitting orders

In general, the visible limit of sitting Discretionary Orders is always considered first and their Discretionary Limit will only be verified for execution if no full execution against normal visible limits and Hidden Orders in the order book is possible. That means that the Discretionary Limit of a sitting Discretionary Order serves only as a subsidiary execution possibility for incoming orders within the "Discretionary procedure".

Firstly, the execution of the incoming order against the normal visible limits and Hidden Orders in the order book is verified. Sitting Discretionary Orders are considered with their visible limit only.

Secondly, if full execution of an incoming order against normal visible orders or Hidden Orders is not possible, the execution of the incoming order within the Discretionary Range of sitting Discretionary Orders is verified. In case of an execution matching takes place at the limit of the incoming order.

If two or more sitting Discretionary Limits compete for execution the following visible price/time priority rule applies:

1. Prioritization of the Discretionary Order with the most aggressive visible limit.

2. For Discretionary Orders with the same visible limit: prioritization of the Discretionary Order with the oldest time stamp.

If the execution of the incoming order is neither possible against visible orders and Hidden Orders nor within the Discretionary Range, the incoming order is placed in the order book.

4.3.6.2 Matching Rules in Auction

The insertion, modification or deletion of Discretionary Orders in auctions is possible. Discretionary Orders are considered with their Discretionary Limit. The visible limit is not relevant for determining the auction price. The published indicative auction price is also based on eventually available Discretionary Limits. Only if no indicative auction price can be determined (i.e. no crossed order book), then only visible limits are considered and published as best bid/best ask.

4.3.7 Hidden Orders

The Hidden Order works similar as the already existing Limit Order, whereas the limit is hidden and therefore not visible for other market participants.

Visible orders (limit orders, discretionary orders with their visible limit and iceberg orders (with peak volume and iceberg volume)) have priority over same-priced Hidden Orders.

The order type 'H' always has to be entered if a hidden order is entered. All order entry and maintenance windows support hidden orders. It is not possible to modify a hidden order to a different order type and vice versa.

The validity of a Hidden Order can be determined by means of further constraints:

- Good-for-day: Order only valid for the current exchange trading day.

- Good-till-date: Order only valid until a specified date (up to a max. of 90 days from the date of entry).

- Good-till-cancelled: Order only valid until it is either executed or deleted by the originator or the system on reaching its maximum validity of 90 days.

Trading restrictions (e.g. opening auction only or closing auction only) are not available.

Execution restrictions (e.g. Fill-or-Kill or Immediate-or-Cancel) are not available.

For Xetra Best hidden orders are not supported.

4.3.7.1 Matching Rules in Continuous Trading

In general, Hidden Orders are executed according to price-visibility-time priority and executions are disseminated immediately as normal "Börsenpreis" (no post-trade delay):

- Incoming Hidden Orders are treated as conventional Limit Orders when entering the Xetra order book.

- Should an incoming Hidden Order (or parts of it) not be executable, it is stored in the order book. The Hidden Order is not displayed.

- Passive Hidden Orders are executed according to price-visibility-time priority:

    o If a Hidden Order provides the best price, then an incoming order is executed against the Hidden Order (price priority)

    o If a Hidden Order competes with a same-priced (visible) Limit Order for execution, the (visible) Limit Order is executed first, regardless of the respective timestamps (visibility priority)

    o If a Hidden Order competes with a same-priced Iceberg Order for execution, the total Iceberg Order (i.e. peak and iceberg volume) is executed first (visibility priority).

If a Hidden Order competes with another same-priced Hidden Order for execution, the order with the older timestamp is executed (time priority).

4.3.7.2 Matching Rules in Auction

The insertion, modification or deletion of Hidden Orders in auctions is possible – as it is the case for any other limit order. Hidden orders are considered with their full volume in auctions.

Hidden Orders are considered in Auctions to determine the auction price:

- The published indicative auction price is also based on eventually available Hidden Orders and the volume of Hidden Orders is part of the Market Imbalance information.

However, if no indicative auction price can be determined (i.e. in case of an uncrossed order book) Hidden Orders are not disclosed to the market, i.e. the published best bid/best ask consists of visible orders only.

4.3.8 Order Attributes

Xetra Release 10.0 enables members to clearly identify their orders. The order attributes are shown in the table below.

Order Attribute	Description/Content	Mandatory
Bid/ask	Bid/ask.	yes
Instrument	Securities identification number, ISIN or short name.	yes
Volume	Order size depends on tradable unit (number of securities/nominal value) and the minimum order size of an instrument. The minimum order size is a multiple of the minimum tradable unit.	yes
Limit	Limit (without specification: market order/stop market order).	Only for limit, iceberg and stop limit orders.
Order type	- market order (M) - limit order (L) - market-to-limit order (T) - iceberg order (I) - midpoint order (P) - discretionary order (D) - hidden order (H) - stop order	Only for market-to-limit, iceberg, midpoint, discretionary, hidden and stop orders.
Stop Limit	Stop Limit	Only for stop orders
Peak quantity	Peak quantity for iceberg orders.	Only for iceberg orders.
Validity constraints	- Good-for-Day (GFD), - Good-till-Date (GTD), - Good-till-Cancelled (GTC) (without specification: GFD) Valid for a maximum of 90 days from date of entry. Iceberg orders are only valid Good-for-Day.	no
Execution restrictions	- Immediate-or-Cancel (IOC) - Fill-or-Kill (FOK) Executions restrictions are not available within the continuous auction trading models. Execution restrictions are not available for	no

Order Attribute	Description/Content	Mandatory
	iceberg orders, discretionary orders and hidden orders.	

Trading restrictions	- Opening Auction only
	- Auction only
	- Closing Auction only
	- End-of-day Auction only
	- Main Trading Phase only
	- Auctions in Main Trading Phase only
	  (Auction restrictions are not available for orders traded in the continuous auction trading model.)
	- Accept Surplus
	  (Entry possible only during order book balancing and only as IOC or FOK order.)
	
	Within the continuous auction trading models trading restrictions are not supported.
	
	Trading restrictions are not available for iceberg orders, midpoint orders, discretionary orders, hidden orders and market-to-limit orders.
		no

Text field	Freely usable.	no
Member internal order number	Freely usable.	no
Executor ID	Member ID of the BEST Executor the BEST order will be sent to. If a Default BEST Executor is defined and the field is left empty, the orders will be directed to Xetra BEST.	no
Account identification	- A ("Agent") - P ("Proprietary") - D ("Designated Sponsor") - Q ("Liquidity Manager") - I ("Issuer") - L ("Specialist") - E ("BEST Executor")[2]	yes
Netting type	- No netting - Order Level Netting The chosen netting type has to fit to the member's netting setting.	no

[2] Orders cannot be entered on the BEST Executor account. However the BEST Executor account is used for automatically generated orders on the Xetra back end to ensure order book consistency for orders with a limit better than or equal to the execution price of Xetra BEST.

Order Attribute	Description/Content	Mandatory
Member ID	Xetra-specific identification assigned by the Exchange.	yes
User ID	Xetra-specific identification assigned by the member.	yes
Xetra order number	Xetra-specific identification assigned by the system.	yes
Time stamp	Xetra-specific identification assigned by the system.	yes
Minimum Acceptable Quantity	The Minimum Acceptable Quantity (MAQ) is only available for Midpoint Orders. It must be less than or equal to the overall size of a Midpoint Order. The entry of a MAQ has to be a multiple of the "Minimum Tradable Unit" and the "Round Lot Quantity". An order with a MAQ executes only against other orders if the MAQ-restriction is fulfilled. The Minimum Acceptable Quantity entered for an order is applied to "every fill". If an order is partially executed and its volume is reduced below the Minimum Acceptable Quantity, the Minimum Acceptable Quantity is set to the remaining volume.	no (only available for Midpoint Orders)
Discretionary Range	The Discretionary Range specifies the amount by which the Discretionary Limit is more aggressive than the visible limit. The minimum allowable amount of the Discretionary Range is one tick. The Discretionary Range for a Discretionary Sell Order must be lower than its visible limit	only for Discretionary Orders
Persistency Indicator	Members will be able to select between the non-persistent and persistent attribute for their orders at the time of the order entry: • 'P' - Persistent order • 'N' - Non-persistent order	yes

Order Attribute	Description/Content	Mandatory
	' ' - Blank (Default) Orders with the attribute ' ' will be treated the following way: - Agent orders are persistent by default. - All other orders (account type not 'A') are non-persistent if the validity of the order is GFD ("good for day") or explicitly stated the current business day. - All orders with validity greater than GFD ("good for day") are persistent orders by default. - All orders entered via the Enhanced Transaction Solution interface are non-persistent by default.	
ETS Session ID	Xetra-specific identification assigned by the system.	yes (Enhanced Transaction Solution only)
Client Order ID	When entering an order via ETS the member has to assign a client order ID which will be used as a unique identifier for later reference.	yes (Enhanced Transaction Solution only)
Order Creation Date	The Order Creation Date field indicates the order/quote creation date and is assigned by the Xetra system.	yes
Order Creation Time	The Order Creation Time field indicates the order/quote creation time and is assigned by the Xetra system.	yes
Total Executed Order Quantity	Total executed order quantity since the creation of the order (assigned by the Xetra system).	yes
Total Order Quantity	The total order quantity which is the sum of the executed order quantity since the creation and the remaining order quantity (assigned by the Xetra system). Via the Enhanced Transaction Solution the field Total Order Quantity can be modified.	yes
Market Reset Indicator	This field is assigned by the Xetra system when a market reset event occurred and indicates the	no

Order Attribute	Description/Content	Mandatory
	reason for deletion of non-persistent orders.	
Set ID	This field indicates the instrument set where an instrument is allocated. Xetra-specific identification assigned by the system.	yes
Linked Order Number	In the Continuous Auction trading model order maintenance is not considered during the freeze phase. While the order book is locked for price determination order entries, modifications and deletions are queued and stored in the so called locked stock.

The Linked Order Number field is used in the context of the locked stock to indicate the linkage to the original order in the normal order book. (Xetra-specific identification assigned by the system.) | no |

Figure 11: Order attributes of Xetra Release 10.0

4.3.9 Quote Attributes

The quote functionality enables Designated Sponsors, Liquidity Manager, Issuers and Specialists to enter limited buy and sell orders simultaneously. The quote functionality enables BEST Executors to enter BEST quotes.

With the introduction of Xetra 10.0 all quotes will become **non-persistent** by definition.

Quote Attribute	Description/Content	Mandatory[1]
Exchange	Exchange at which the instrument is being traded.	yes
Instrument	Securities identification number, ISIN or short name.	yes
Bid limit	Limit of bid side. BEST quotes have to be entered with relative limits in steps of 0.001 €.	yes
Ask limit	Limit of ask side. BEST quotes have to be entered with relative limits in steps of 0.001 €.	yes
Bid quantity	Bid quote quantity depends on tradable unit (number of securities/nominal value). For BEST quotes the bid quantity defines the maximum executable quantity for one BEST order, which is subject to execution against the bid leg of the BEST quote.	yes
Ask quantity	Ask quote quantity depends on tradable unit (number of securities/nominal value). For BEST quotes the ask quantity defines the maximum executable quantity for one BEST order, which is subject to execution against the ask leg of the BEST quote.	yes
Account identification	- D ("Designated Sponsor") - Q ("Liquidity Manager") - I ("Issuer") - I ("Specialist") - E ("BEST Executor")	yes
Netting type	- No netting - Order Level Netting The chosen netting type has to fit to the	no

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[1] The term „mandatory" refers to all market models except the continuous auction trading models. Quote attributes available in the continuous trading models depend on the type of quote (e.g. matching quote).

Quote Attribute	Description/Content	Mandatory[1]
	member's netting settings.	
Bid boundary	Upper bound for the execution against the bid leg of the BEST quote (only for BEST quotes).	no
Ask boundary	Lower bound for the execution against the ask leg of the BEST quote (only for BEST quotes).	no
Bid reserve quantity	Reserve quantity for executions against the bid leg of a BEST quote.	only for BEST quotes
Ask reserve quantity	Reserve quantity for executions against the ask leg of a BEST quote.	only for BEST quotes
Member ID	Xetra-specific identification assigned by the Exchange.	yes
User ID	Xetra-specific identification assigned by the member.	yes
Xetra order number	Xetra-specific identification assigned by the system.	yes
Time stamp	Xetra-specific identification assigned by the system.	yes
Market Reset Indicator	This field is assigned by the Xetra system when a market reset event occurred and indicates the reason for the deletion of the quotes.	no
Set ID	This field indicates the instrument set where an instrument is allocated. Instruments with the same set ID (and the same trading model) can be combined into a single mass quote request. Xetra-specific identification assigned by the system.	yes

Figure 12: Quote attributes of Xetra Release 10.0

4.4 Enhanced Transaction Solution – Functional Overview

The Enhanced Transaction Solution is a new optional trading interface introduced for low-latency market access and transaction processing. It offers high-speed access for the core trading activities; focus is on order and quote maintenance functions. The connection to the Xetra system is established through a standard TCP/IP socket interface connection whereby any operating system and programming language supporting TCP/IP can be used.

Please find more details regarding the "Enhanced Transaction Solution" in the "Xetra 10.0 Technical Description" and the "Enhanced Transaction Solution – Interface Specifications".

The main new functional concepts provided by the Enhanced Transaction Solution are described in the following.

4.4.1 Session Concept

The Enhanced Transaction Solution is a session-oriented interface whereby the session is the basic context of the interaction with the Xetra system. Enhanced Transaction Solution based applications will receive information for orders and quotes entered within their own session.

Several traders may share a single session, but every session may only be instantiated once.

Upon closing the session the user can decide if all non-persistent orders and quotes of the session are to be deleted (mass delete). Also in case of a connection loss, all non-persistent orders and quotes belonging to that session are deleted (heartbeat).

4.4.2 Total Order Quantity Modification

The Enhanced Transaction Solution (ETS) provides members with the facility to perform an absolute order modification. This means that members are able via ETS to specify the new total order quantity when modifying an order. This approach assumes that the member maintains the value of the previous total order quantity.

The total order quantity will be the sum of the cumulated executed and the remaining unexecuted quantities.

total order quantity = cumulated executed order quantity + remaining order quantity

This feature helps members to have a clear and accurate view of their order quantities. The modification of the total order quantity to a value lower than the cumulated executed quantity will mean the deletion of the order.

Please note that the order modification logic currently provided will continue to be available via VALUES. Total Order Quantity Modification is not supported via VALUES.

4.4.3 Client Order Identification

The Enhanced Transaction Solution provides members with the facility to assign user order reference numbers to orders. The provision of the client order ID is mandatory for orders entered via the Enhanced Transaction Solution. Additionally the system order ID generated by the Xetra system will be reported.

The reference assigned to an order must be unique within the corresponding Xetra system's order book, i.e. per session ID (member), instrument, buy-or-sell code and trader's subgroup. Entry of orders with references duplicate to orders existing in the order book will be rejected by the Xetra system. Members can use this reference number during the lifetime of an order to inquire and to perform maintenance activities on it.

The lifetime of an order will be over when it is fully executed or when it is deleted. The modification of an existing order cannot change the client order ID. The cumulated executed order quantity will not be reset in the event of an order modification. The order creation time also remains unchanged, while the order price-time priority may change depending on modification details.

The client order id will have an alphanumeric format with a maximum length of 12 characters, only upper case letters and numbers can be used. This will supplement the system generated order numbers but will not replace them.

This facility will not be available for trade management; members instead can use the exchange order number and/or the member internal order number and the text field to reference their orders.

Please note that the Client Order cannot be entered via VALUES requests.

4.4.4 Functional Restrictions

The existing VALUES functionality will be required in addition to the Enhanced Transaction Solution for back-office (e.g. trade confirmation) and administrative (e.g. trader ID setup) functions.

The Enhanced Transaction Solution does not provide access to the following Xetra system services:

- OTC trading including Post-trade transparency services according to MiFID

- Market data such as instrument prices, order book depth, or indices

- System state or instrument trading phase data

- Member support services including Security Administration

- Trade inquiry and trade management

- News messages

4.5 Enhanced Broadcast Solution – Functional Overview

The Enhanced Broadcast Solution offers a high-performance, functionally enhanced transmission mechanism for un-netted market information.

The Enhanced Broadcast Solution is provided as an optional service for transmission of un-netted market data. Dissemination of netted price information via the existing MISS architecture (Public Inside Market Broadcast) using the VALUES API connection remains unchanged. Transaction data and specific customer data (Private Broadcast) will continue to be transmitted via the current connection or via the new Enhanced Transaction Solution.

The Market data transmission concept via Enhanced Broadcast Solution is based on the principle of a subscription model.

Synchronization of broadcast transmission in the various streams for display of the complete order book has to be made by the recipient's application.

4.5.1 Reference Data

A reference data stream transmits information about all instruments including assignment of instrument, order book depth and the corresponding multicast address. Client applications can process this information automatically on a daily basis. In case of changes, manual re-configuration is not required.

4.5.2 Order Book Information

The current state of the order book is distributed using the order book information messages. Members have to build and maintain their own picture of the order book from these messages.

- **Snapshot**: Snapshots contain complete order book information at a specific point in time up to the depth indicated in the reference information. The snapshot message should be used only for the creation of the market picture at the beginning of a trading day and for its recovery in case of a data loss. Snapshots provide information about the actual instrument status, the details of the last trade and the days' statistical information for the instrument. The Snapshots contain also information as to which delta broadcasts are included in the snapshot.

- **Delta or Incremental**: Deltas contain absolute values which are disseminated whenever an event with influence on the market (e.g. orders or transactions) takes place. Only the changes that took place in the market (delta) are transmitted. Deltas should be interpreted as commands issued by the exchange. Members have to alter/change their copy of the order book for each instrument based on the delta messages received. Deltas contain consecutive numbers so that a possible loss of previous broadcast trans-missions during system outage or under peak load can be detected.

Under normal conditions members will be able to maintain their copy of the order book by joining the delta broadcast stream and applying the received messages.

Listed below are some rules or exceptions pertaining to the data content published by the Enhanced Broadcast Solution interface.

- **Order book rules for auctions**: Order book information displayed during auctions depends on the instrument set-up. Order book depths will not be delivered during auctions; only top of book information will be disseminated. Please find more details in the corresponding market models (see chapter 4.9).

4.5.3 Statistical Information

Trade Price Information: The Xetra All Trade Price (ATP) broadcast stream contains the Xetra trade price information. All ATP messages will be disseminated over the ATP stream.

4.5.4 Status Information

State change messages will inform the members of a system or exchange state change. State Change messages will not be sent per instrument. The instrument state through out the day is received via the delta stream.

Please find more detailed information about the specification of the interface to Enhanced Broadcast Solution in the document Enhanced Broadcast Solution – Interface Specifications.

4.6 Xetra OTC Trading – Post-trade transparency services according to MiFID

With Xetra Release 10.0 and as part of the services offered by Deutsche Börse Group, reporting of trades concluded off-exchange will be supported in accordance with the requirements set out in the EU financial markets directive MiFID. As stated there a member that has traded off-exchange is responsible to comply with the reporting requirements and timelines given.

With respect to disclosure functionality, the following types of OTC trades are supported by the Xetra system:

- OTC trades for settlement including reporting

- OTC trades for reporting only

- OTC trades for settlement without reporting (existing functionality)

The CCP also supports OTC trades entered into Xetra for settlement. CCP will only process OTC trades if the Xetra member opted for the settlement code "DVP" (Delivery versus Payment). CCP immediately becomes the legal counterparty to both members as soon as the trader of the counterparty has approved such Xetra trade. Approved OTC trade information distributed to the members via the Xetra trade confirmation will show CCP's member identifier as counterparty, as well as the original counterparty's identifier. OTC trades in CCP instruments that are entered with the settlement codes "DAP" (Delivery and Payment) or "DFP" (Delivery Free of Payment) will still be processed as non-CCP trades via CBF's LION system. This means that the CCP will not enter into these trades as the central counterparty.

4.6.1 OTC trade entry

Entry of OTC trade information exclusively for publication purposes will be supported for all instruments admitted to trading on a regulated market inside the European Economic Area (EEA). OTC trades within these instruments are subject to transparency requirements according to MiFID.

The selection between the three types of OTC trades is supported via two new flags that are integrated into the existing Xetra OTC trade entry facility: The settlement indicator is used for entering an OTC trade including settlement. The reporting indicator is applied to generate an OTC trade for MiFID compliant trade reporting. Both indicators can be combined, i.e. if an OTC trade for settlement including reporting should be entered, both indicators have to be set. The settlement indicator can only be set for instruments that are on-exchange tradable on Xetra Frankfurt.

All OTC trades entered with reporting will be subject to validations for reasonable prices and volumes.

All types of OTC trades entered receive a unique OTC trade number. With Xetra 8.1 entry of the OTC trade time will become mandatory including time difference to UTC[2]. Based on the assigned OTC trade number, deletion functionality for the Open OTC trade (OTC trade with settlement prior to an approval by counterparty) and the OTC trade report (OTC trade with reporting) is supported.

All attributes that are required for post-trade transparency services according to MiFID can be entered in Xetra.

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[2] Universal Time Coordinated

4.6.2 OTC trade price validation

OTC trade entered for reporting purposes and OTC trades entered for settlement with reporting will be price-validated. The validation will be performed against the "OTC reference price" of the instrument. Depending on liquidity, the "OTC reference price" is the current reference price in the Xetra order book, or an imported price of an instrument at its most relevant market in terms of liquidity. If no external price is available from the previous business day, the most current price available from the most relevant market in terms of liquidity is used for validation. The competent authority of each EEA country defines the most relevant market in terms of liquidity of an instrument.

It is validated whether the OTC trade price entered is not higher (lower) than the "OTC reference price" plus (minus) a fixed deviation parameter of the "OTC reference price". The deviation parameter will be set on instrument level and depends on the liquidity of the instrument. In case an OTC trade price is qualified as "invalid", the trade will be published with a price alert code via the CEF system, and the member receives a feedback.

Based on that feedback information a member has to provide a confirmation in case the OTC trade that had been qualified as invalid is actually correct. A member can generate a confirmation via entry of the OTC trade with the original OTC trade number and the confirmation flag set. The confirmed trade will be published with a confirmation indicator via the CEF system.

OTC trades entered with reporting option will not be price-validated and disseminated to CEF with respective mark in case one of the following conditions are fulfilled:

- OTC trade date is not equal to the current business day.

- OTC trade currency cannot be converted into EURO, e.g. due to missing conversion factor.

- Unit of trading of the instrument differs to the unit provided within the OTC trade.

- OTC trade was conducted at an "ex day" of that instrument.

- The OTC trade that was previously entered and qualified as invalid is being confirmed.

Trades that are not price-validated will be published including an indicator that no price validation was performed, except for a confirmation of a trade entry with a previously invalid price check.

4.6.3 OTC trade volume validation

OTC trades entered by a Xetra member with the reporting option will be volume-validated. It is validated whether the OTC trade volume entered does not exceed the volume cap for the respective instrument. Volume caps are set on instrument level and are derived from the average daily turnover classes.

OTC trades entered with reporting option will not be volume-validated in case one of the following conditions is fulfilled:

- The volume cap parameter of the instrument is not available in Xetra.

- An OTC trade that was previously entered and qualified as invalid is being confirmed.

In case an OTC trade volume is qualified as invalid, the trade will be published with a volume alert code via the CEF system, and the member receives a feedback. Based on that feedback information a member has to provide a confirmation in case the OTC trade that had been qualified as invalid is actually correct. A confirmation can be generated by a member via entry of the OTC trade with the original OTC trade number and the confirmation flag set. The confirmed trade will be published with the confirmation indicator via the CEF system.

4.6.4 OTC trade deletion

OTC trade deletion is supported for all types of OTC trades (including OTC trades for reporting only). Deletion is supported for OTC trades entered on the current business day. OTC trades with settlement can be deleted prior to approval by the counterparty. For a deletion, the OTC trade number assigned by the exchange is required. Non-approved OTC-trades will be deleted during the daily accounting cut-off and will not be forwarded to settlement.

The Xetra member can request a publication of the OTC trade deletion via the reporting flag. If the OTC trade deletion is to be published, i.e. the reporting flag has been set for the OTC trade , then the deletion will be published in the same way as the entered OTC trade with reporting, i.e. including its trade details.

As mentioned, OTC trades entered for settlement can be deleted prior to a successful counterparty approval. However, Market Supervision can perform deletion of an approved OTC trade for settlement via trade reversal on behalf of the members. This deletion can be published by the Xetra member via deletion of the OTC trade with the reporting flag set but not the settlement flag.

4.6.5 Publication of OTC trades

The CEF system will publish the OTC trades entered for reporting. In case a trade has been flagged accordingly, CEF will perform the delay of Block-Trades automatically according to MiFID[3].

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[3] For more detailed information regarding the Block Trade delay please refer to the "MiFID Service Description".

4.7 Administrative Trading Support

4.7.1 Electronic Confirmations in Xetra

Throughout the entire transaction process, the trading members are supplied with electronic confirmations. This enables them to trace the status of their orders at any given moment. Using an order entry as an example, Figure 13 below summarises in which phase of the transaction process electronic confirmations are forwarded to the members.
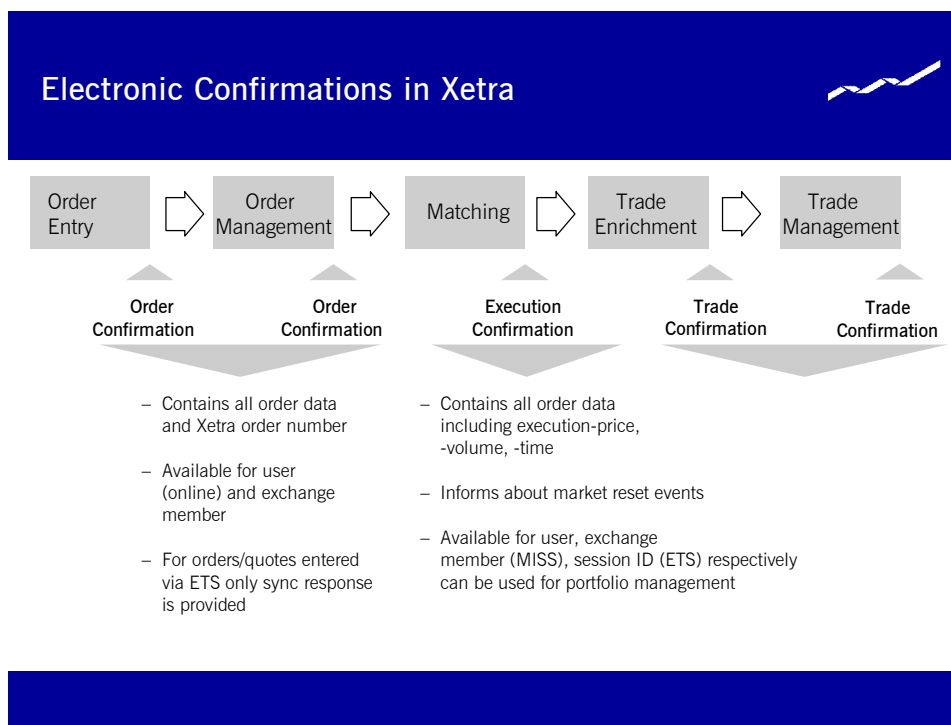

Figure 13: Electronic Confirmations in Xetra

When it is possible to fully execute an order immediately in continuous trading, the relevant member does not receive an order confirmation but only an electronic execution confirmation for each trade.

According to the Market Model Xetra BEST, in some cases orders on the BEST Executor account are generated on the back end to ensure order book consistency. These orders are not entered by a trader. Therefore members acting as a BEST Executor have to be able to process execution confirmations without having entered an order. Trade confirmations based on the execution of an automatically generated order can by identified by the combination of the trade type "XP" and the account "E" (BEST Executor).

Executions based on the entry of a BEST quote do not have the same order number as the entered BEST quote. These executions can be linked to the entered BEST quote via the member internal order number and the text field which are inherited to the executions.

Due to the role of the Specialist as an intermediary all entered quotes of the Specialists are "on behalf" of the Issuer. This means that all trades resulting from such a quote are executed against the Issuer and not against the Specialist himself. Therefore, the Issuer will receive all trades resulting from quote matching as

well as all execution and trade confirmations related to those trades. The Specialist receives responses for quotes entered on behalf and execution confirmations but no trade confirmation for matched quotes.

4.7.2 Trade Enrichment

The Xetra system will automatically add to all trades (both exchange transaction and over-the-counter business entries) all transaction data required for settlement. This transaction data includes determination of settlement amount, calculation of accrued interest for bonds, addition of KV-number to the member ID, etc.

The main trade attributes are listed in the table below.

Trade Attributes	Description/Content
Trade number	Identification number for the specific trade; assigned by the Exchange.
Exchange	Exchange at which the instrument is being traded.
Trade Type	- XP ("Xetra trade"), - XB ("Xetra BEST trade"), - OTC ("OTC trade"), - XM ("Xetra Midpoint trade") - EXT ("External trade").
Instrument	Securities identification number, ISIN, short name.
Price	Price of the (last partial) execution.
Average price	Average price based on market value and netted quantity.
Quantity	Quantity of the (last partial) execution.
Accumulated quantities	Accumulated quantities of underlying executions (only for netted trades).
Settlement amount	Sum of money to be settled.
Accrued interest	Accrued interest contained in settlement amount.
Accrual days	Number of days for which interest accrues.
Settlement date	Day on which the trade is due for settlement.
Account identification	- A ("Agent") - P ("Proprietary") - D ("Designated Sponsor") - Q ("Liquidity Manager") - I ("Issuer") - L ("Specialist") - E ("BEST Executor")

Trade Attributes	Description/Content
Counterparty Member ID	Counterparty in a trade (for instruments with a central counterparty/post trade anonymity always filled with a generic value).
Counterparty Clearing Member ID	Clearing member via whom the counterparty settles the trade (for instruments with a central counterparty/post trade anonymity always filled with a generic value).
Kassenvereinsnummer of the counterparty	Kassenvereinsnummer of the counterparty in a trade (for instruments with a central counterparty/post trade anonymity always filled with a generic value).
Kassenvereinsnummer of the Clearing Member	Kassenvereinsnummer of the settlement member via whom the counterparty settles the trade (for instruments with a central counterparty/post trade anonymity always filled with a generic value).
Xetra order number	Xetra-specific identification assigned by system (not for over-the-counter business entries).
Order completion flag	Information of completion status of underlying order. The order completion flag may have the value • "F" if the trade results from a full order execution which means that there will be no additional (update) trade confirmation resulting from further executions of the underlying order, • "P" if the trade results from an order execution with a remaining positive order quantity, • blank (initialised) for imported floor trades, and OTC trades.
Member internal order number	Freely usable.
Text field	Freely usable.
Executor ID	For Xetra BEST trades: Member ID of the BEST Executor the order has been sent to. For CCP OTC trades: Original Counterparty.
Netting Type	Netting type of the trade.
Execution time	Time at which the order was executed (determined by the system).
Kind of depository	Specification how the instrument is deposited by Clearstream.

Figure 14: Overview of trade attributes

4.7.3 Multiple Settlement Accounts per Member

Each member has a maximum number of 16 available settlement accounts at Clearstream. Xetra members who settle Xetra trades for a number of non-clearing members have at their disposal 16 settlement accounts for each non-clearing member and also for themselves. This enables market participants to keep any trades which are separated during trading also separate during settlement.

The maximum of 16 settlement accounts is entered by the Exchange and available to the member as of the following trading day. One of the settlement accounts provided is nominated by the member as the member default settlement account.

The maximum of 16 settlement accounts operated by the member is available to all traders of this member. The member has the option to explicitly allocate one of these 16 settlement accounts to each individual trader as a default for any trades executed by the particular traders. Where a trader is not allocated an individual default settlement account, all trades executed by the particular trader are settled via the member default settlement account. The default settlement account is assigned to all trades.

Any changes to member and trader default settlement accounts become effective on the following trading day.

4.7.4 Trade Management

In the case of executed orders, any trade attributes which are not subject to the counterparty's approval (e.g., settlement account, member internal order number, text, etc.) may be modified. This applies to exchange trades, BEST trades and over-the-counter business entries. Every modification results in a new trade confirmation.

In connection with trade processing, a user can replace the settlement account of a specific trade using one of the remaining 15 settlement accounts of the relevant member during the same business day. If a settlement account is modified, a new trade confirmation will be forwarded to both counterparties.

4.7.5 Netting

Netting is only provided in accordance with the member's netting settings which can be specified for the agent and the proprietary accounts in general. The settings for the proprietary account are also valid for the Designated Sponsor, Liquidity Manager, Issuer and BEST Executor accounts.

It is possible that one order[4] is matched against several other orders of different members. Netting describes the accumulation of single trades. On Xetra, no netting and order level netting is supported for CCP instruments. Only order level netting is described in detail in this chapter, as the handling of trade confirmations with no netting does not differ from the handling of trade confirmations in non-CCP instruments.

Upon order entry/modification it is validated whether or not the netting type is consistent with the member's netting settings. In case the netting type field is left blank the netting type will be filled with the member's netting settings.

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[4] The term order is used as a synonym for orders and quotes.

Each trade confirmation for a CCP instrument contains the CCP as counterpart, i.e., each execution leads to a minimum of two trade confirmations with a minimum of two trade numbers. The trade confirmation contains information about e.g. the weighted average price, accumulated volume and netting type.

The concept of execution confirmations is not changed with the introduction of netting.

4.7.5.1 Order level netting

For an order with the netting type "order level netting" only one trade number is assigned independent of the number of partial executions.

If a partially executed order with the netting type "order level netting" is not fully executed until the end of the trading day, the order is deleted or kept in the order book depending on the expiry date. On the next trading day a new trade number is assigned if the order is executed. The weighted average price and accumulated volume in the trade confirmation does not include the executions of the previous day.

- If the order is fully executed against several orders at one limit, one execution confirmation and one trade confirmation is sent to the member.
- If the order is fully executed against several orders at different limits, an execution confirmation for each single execution price is sent to the member with the respective price. One (update-) trade confirmation with a weighted average price for each particular price within one matching transaction is sent to the member. The weighted average price is rounded according to "kaufmännischer Rundung" to two decimal places ("Symmetric arithmetic rounding", as usually used in accounting).
- If the order is partially executed against several orders at one limit, one execution confirmation and one trade confirmation with a weighted average price (in this case equal to the limit) and accumulated volume is sent to the member. The remaining quantity is written into the order book. For each further partial execution an execution confirmation and an update trade confirmation is sent to the member. The update trade confirmation includes the weighted average price and the accumulated volume based on all partial executions of the order for the current trading day as well as the price and volume of the last execution.
- If the order is partially executed against several orders at different limits, one (update-) trade confirmation for each particular price within one matching transaction with the weighted average price and the accumulated volume and one execution confirmation for each single execution price are sent to the member with the respective price. The remaining quantity is written into the order book. For each further partial execution an execution confirmation and an update trade confirmation is sent to the member. The update trade confirmation includes the weighted average price and the accumulated volume based on all executions of the order for the current trading day as well as the price and volume of the last execution.

4.7.5.2 Order modification and trade modification

In Xetra, orders can be modified. In case the netting type is changed it has to fit to the member's netting settings. If the modification of the order changes its price/time and volume/time priority respectively, this modification will result in the deletion of the order and entry of a new order (i.e., new time stamp, new order number). For orders entered with a netting type this has also an impact on the trade confirmations for partially executed orders.

Partially executed orders with a netting type can not be modified, i.e., the attributes (e.g., text) that would not lead to a new time stamp of the order are not modifiable. The attributes that lead to a new time stamp are modifiable. In this case a new order number is assigned. The netting for the trade resulting from the new order starts again and the executions of the "old" order are not taken into account. The calculation of accumulated volume and average price for the new trade is only based on the executions of the new order.

In case an order with a netting type has been partially executed and the resulting trade has been modified, further executions of the (original) order do not lead to update trade confirmations. Any further execution of the order will lead to a new trade confirmation and an update of this new trade confirmation according to the chosen netting type of the order. The only exception is that a trade has been selected for modification and is sent to the back end with the same values (not modified). In this case netting continues for this trade.

Account modifications of trades and not yet executed orders are only possible if the netting type of the order/trade fits to the netting type of the target account.

4.7.5.3 Trade Reversal

With the introduction of the CCP the same trade number is not assigned to both counterparties of the trade anymore. As described in the paragraph "order level netting" one trade can consist of several executions against several members. For each trade the CCP is assigned as counterparty. Therefore a trade reversal is always a reversal of two trades, i.e., the trade of member A against the CCP and the trade CCP against member B have to be reversed.

If only one partial execution of a netted trade is reversed an update trade confirmation is sent to the member. The update trade confirmation will lead to a decrease of the volume and a recalculation of the average price.

4.7.6 Reports

Members can obtain evaluations of their trading activities in the form of XML reports. These reports may also be obtained as standard text reports on the basis of XML reports or (partially) as RAW data reports. Selected reports (daily trade confirmation, fees per executed order) may be forwarded to a settlement service provider.

The Xetra back end currently provides members with the following reports which can be requested via the trading user interface.

Report	Content	Availability
Daily Order Maintenance	Provides an overview of all (BEST) orders entered, modified or deleted during the trading day.	Daily
Daily Quote Maintenance	Provides an overview of quotes entered persistently or deleted during the trading day.	Daily
Daily BEST Quote Maintenance	Provides an overview of all BEST quotes entered or deleted during the trading day.	Daily
Open Order Detail	Provides an overview of all orders in the order book at market close, sorted according to trader and instrument.	Daily
Daily Trade Confirmation	Provides an overview of all trades (including given up and taken up trades) during the trading day.	Daily
Daily Open OTC Maintenance	Provides an overview of all open off-exchange trades not confirmed by the counterparty.	Daily

Report	Content	Availability
	These entries are automatically deleted by Xetra at the end of the relevant trading day.	
Daily MiFID Trade Reporting Confirmation	To satisfy MiFID reporting requirements, this report contains an inventory of all OTC trades (entered with trade report for publication) that occurred on the current day, showing all added, modified and cancelled MiFID reporting trades.	Daily
Daily Trade Statistics	Provides an overview of all trading activities in all instruments on any given day.	Daily
User System Security Maintenance	Documents all modifications to user authorizations during the trading day.	Daily
User System Security Status	Identifies and documents status of user authorizations.	Daily
User Instrument Maintenance	Documents all modifications in the allocation of instruments to members.	Daily
Default BEST Executor Maintenance	Lists changes to Default BEST Executor assignments on instrument level made on the current day.	Daily
Fees per Executed Order	Overview of charges per executed (BEST) order, including cap and floor (and inclusive of over-the-counter business entries).	Daily
Fee Overall Summary	Overview of charges incurred on any given trading day.	Daily
Fee Statement	Detailed statement of charges for completed month.	Monthly
System Transaction Overview	Overview of all transactions for each trading day, sorted by transaction type.	Daily
Transaction Overview	Overview of all transactions that are relevant for the calculation of excessive usage fees.	Daily
User Instrument Status	Provides an overview of both the current instrument groups and the instrument allocation for each member and trader subgroup (including Designated Sponsor admissions). The *User Instrument Status* report can also be created on the MISS as a formatted text file (RPTT125) and in raw data	Daily (should not be requested on a daily basis)

Report	Content	Availability
	format (RAWT125); members have to expressly request this report if and when required. The below report is very comprehensive and should not be required on a daily basis.	
Specialist State Change	Provides information about all instrument state changes performed by the Specialist. This report is available for Specialists, only.	Daily
Summary of loaded instruments per Issuer	Overview of all instruments of an issuer that are traded in the continuous auction trading model including instruments where the import to the Xetra system has been failed. This report is available to the respective issuer.	Daily

Figure 15.: XML Standard reports

Additionally, performance reports and rating reports are created as standard reports for Designated Sponsors, Liquidity Managers, Issuers, Specialists and BEST Executors and can be called up via the MISS.

4.8 Initial Price Determination for an IPO

Xetra supports special functions supporting the initial price determination for new issues (IPOs). One functionality is a matching range preset by the lead bank. The "IPO matching range" defines the lower and upper limits for the first price determination, offering both lead bank and members certainty that there will be no erratic price fluctuations during the first price determination.

This first price determination will only be available once, either as an opening auction (in the case of instruments traded in continuous trading or using several auctions throughout the trading day) or as a single intraday auction (for instruments traded with a single auction only). Initial price determinations will take place by way of auctions which differ from existing Xetra auctions with respect to auction flow and transparency.

Market Supervision will always run auctions for the purpose of initial price determination manually. Auctions commence with the IPO call phase. During the IPO call phase, information on the indicative price or the best bid and/or ask limit are not published. During this phase, the lead bank of the IPO will be enabled to enter an IPO matching range via Market Supervision. This price indication is published using the *Newsboard* function available to Market Supervision.

During the IPO call phase, market participants will be able to enter orders or quotes, and to modify or delete existing orders or quotes. The procedures regarding the assignment of new quote and order execution priorities following modifications will apply without changes. In the Continuous Trading trading model orders with the trading restriction "OA – Opening Auction Only" are only valid in the IPO auction.

Following completion of the IPO call phase, Market Supervision will switch to the freeze phase. During this phase, market participants will still be able to view their own orders and the quotes of their user group, however, the entry, modification or deletion of orders/quotes will be disabled. The order book is frozen in order to allow the lead bank to assess the market situation. Having done so, the lead bank will be able to enter orders via Market Supervision, by way of trading on behalf. Market Supervision will then manually initiate the price determination phase, executing existing orders at the auction price within the IPO matching range.

If the IPO matching range is modified during the freeze phase, the lead bank can broadcast a new price indication via the *Newsboard* function. In this case, Market Supervision will switch back to the IPO call phase, allowing the market to react upon the new price indication by entering, modifying or deleting orders. This second IPO call phase will again be followed by a freeze.

For instruments traded in the Continuous Trading trading model, the IPO auction is followed by an intraday auction. Continuous trading is re-initiated at the end of the intraday auction. For instruments traded in a different trading model, trading is resumed in accordance with the applicable trading model.
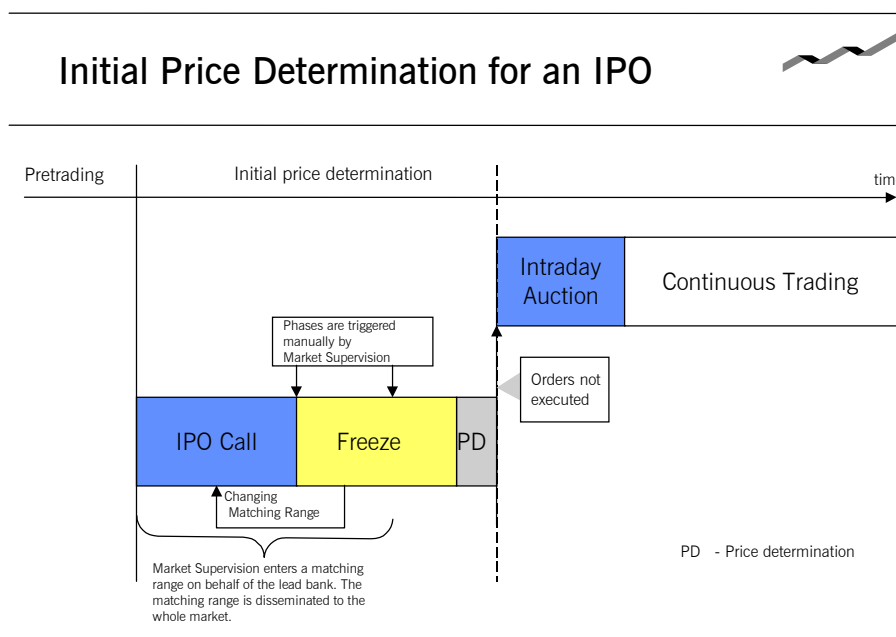

Figure 16: Initial Price Determination for an IPO

4.9 Market Models

Xetra 10.0 allows trading of stocks, bonds, warrants, certificates, reverse convertibles, exchange traded funds and subscription rights. Detailed information about this can be found in the documents "Market Model Equity", "Market Model Continuous Auction" and "Market Model Xetra BEST. The market model for subscription rights is included in the market model for equities.