



DEUTSCHE BÖRSE
GROUP

Market Data + Services

Xentric Trade Machine

Algorithmic trading.
Designated Sponsor Quoting.

Tailor-made solutions give you a competitive edge

The best trading strategies are characterised by intelligence and speed.

Xentric Trade Machine helps you gain a competitive advantage by programming your own trading algorithms in Java. Commonly-used standard software is simply inadequate to deal with more ambitious requirements, and to cope with today's market speed. For this reason, the focus of Xentric is on customisation.

Thanks to the modular structure of Xentric Trade Machine, you can use the Xentric framework for all professional applications in algorithmic trading. Xentric Trade Machine is particularly suitable for:

- arbitrage trading;
- proprietary trading for the purposes of position hedging;
- spread trading;
- quoting as a Designated Sponsor.

Integrated services are used to receive reference market, trading and master data, and to submit your orders and quotes to the Xetra and Eurex trading systems. In this connection, data is used as input for the algorithms mapping your business logic.

Leverage our experience for your company

Xentric Trade Machine has been successfully used by various Designated Sponsors since the beginning of 2009. As an integrated application within our limit control system, the application has been used since 2006 by lead brokers and specialists.

We will be happy to host your application at Deutsche Börse AG's IT centre or at one of our Proximity Centres. This service comprises hardware procurement and configuration, software installation, and ongoing system maintenance and monitoring.

The following explanations and screenshots illustrate the ways in which Xentric Trade Machine can be used in algorithmic trading – and especially for quoting by Designated Sponsors – to provide you with an insight into the Xentric Trade Machine functionality. We will of course be happy to introduce you to the application in a personal presentation, where we can discuss your specific requirements and implementation options.

Framework functionality

Architecture

- High-performance client/server architecture
- Optimised for low latency
- Redundant architecture
- Scalable platform

Services

- Connectivity to the Xetra and Eurex trading systems
- Provision of reference market data from Xetra, Eurex, Reuters, Morningstar, as well as from generic data sources or MS Excel worksheets
- Automatic integration of master data
- Provision of trading data: order book depth, price data, and own position
- Database integration, e.g. for storing master data

Interfaces

- VALUES API
- ETI/MDI
- ETS/Enhanced Broadcast Solution
- FIX

Markets

- Xetra Frankfurt 1 and 2, Xetra Vienna
- Börse Frankfurt Zertifikate AG
- Irish Stock Exchange
- Eurex

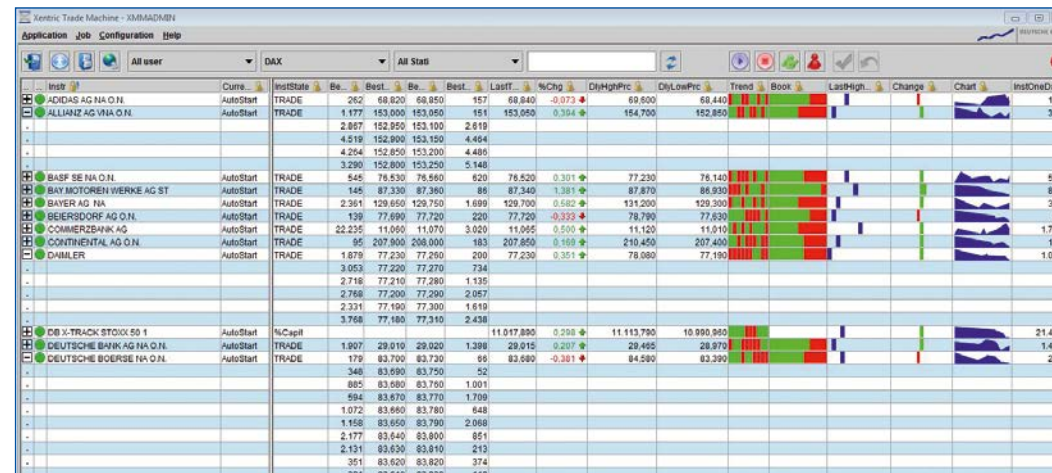
Reference markets

- Xetra, Eurex
- Reuters
- Morningstar
- Quote Manager Universal

Configuration options

- Configurable logging scope
- Integrated scheduler for timed parameter settings
- Role-based authorisation concept – e.g. for traders, senior traders and administrators

When using the Charts module, intraday data may be displayed graphically, to visualise market trends.



Speed is another decisive factor besides the intelligent concepts on which a trading strategy is based. That is why we strongly emphasise **“low latency”**.

To provide you with more precise data on the speed of the software, we have compiled the results of a processing speed test within Xentric Trade Machine, using Xetra as an example.

Test environment

- Trading system: Xetra Simulation
- Hardware: Sun SPARC M5000 (8 CPUs with 4 zones each, 2.4 GHz, MaxMem 16Gb/zone)

Scenario

- Receiving order book data for 600 instruments via Enhanced Broadcast Solution
- Enhanced Broadcast Solution feed during a production day, between 13:30 and 14:00
- Quoting 20 instruments via Enhanced Transaction Solution (ETS)
- Placing orders for 2 instruments via ETS

Order book display via Enhanced Broadcast Solution

Processing time 0,22 ms

ETS activity

Enter Quote	0,40 ms
Enter Order	0,52 ms
Modify Order	0,33 ms

Designated Sponsoring

As a Xetra Designated Sponsor, your needs and objectives are:

- fast and efficient automated quotation;
- optimum support for manual quotation;
- compliance with minimum quote requirements; and
- achieving a Designated Sponsor “AA” rating.

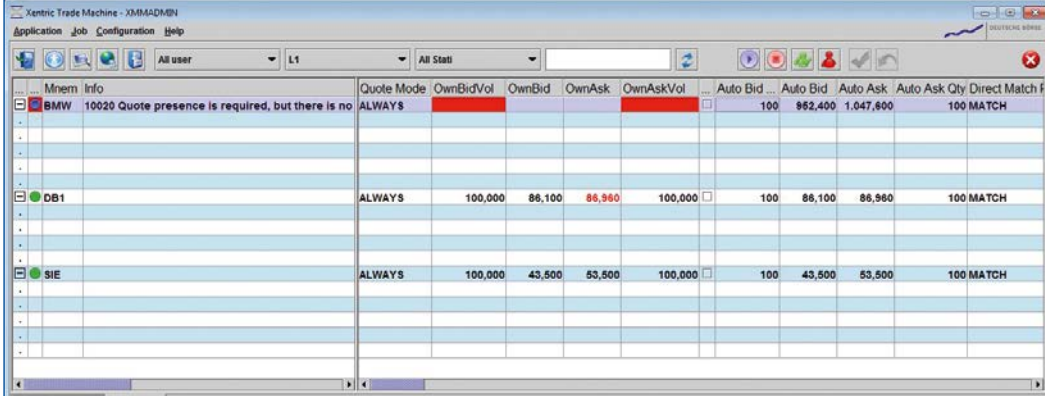
We offer an ‘out-of-the-box’ algorithm for this purpose, whereby extensive security functions are already integrated – for example, to prevent excessive system usage or immediate execution. You will receive two algorithms – one for the calculation of a market price, and one for quoting.

Market Estimation algorithm

This algorithm acts as a basis for additional algorithms, providing a market estimation. Based on real-time order book data and/or traded prices on the reference markets assigned, the algorithm generates a VWAP-based assessment of markets. Depending on the liquidity of the instrument concerned, data weighting can be adjusted. Where required, the assessment may also be used to support manual quotes.

Designated Sponsor Quoting algorithm

This algorithm supports quotation as a Designated Sponsor, in line with exchange rules and optimised to achieve the best possible Designated Sponsor rating. Automated quotation is based on quotation parameters applied to the results of market estimation, depending on the prevailing trading phase.



Minem	Info	Quote Mode	OwnBidVol	OwnBid	OwnAsk	OwnAskVol	Auto Bid	Auto Bid	Auto Ask	Auto Ask Qty	Direct Match	f
BMW	10020	Quote presence is required, but there is no					100	862,400	1,047,600		100 MATCH	
DB1		ALWAYS	100,000	86,100	86,960	100,000	100	86,100	86,960		100 MATCH	
SIE		ALWAYS	100,000	43,500	53,500	100,000	100	43,500	53,500		100 MATCH	

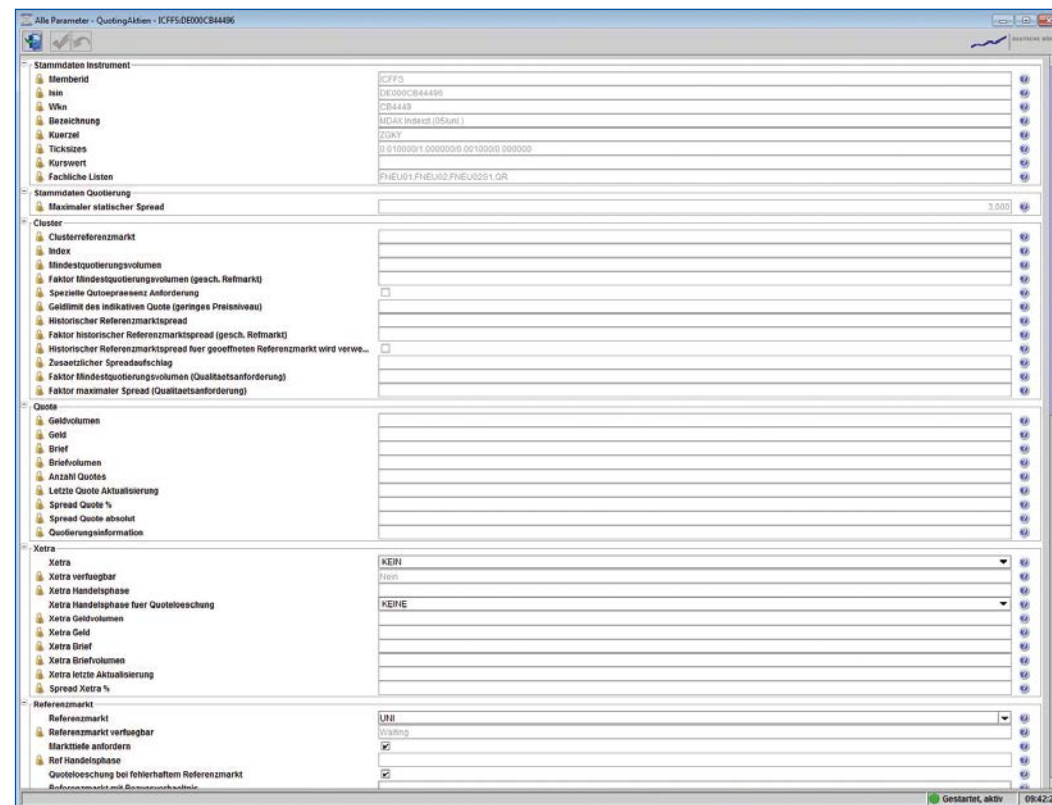
The “Job View” in the upper half of the **main window** shows identical parameters on each side. Users may customise the window by moving the parameter columns as required. Parameters can be easily renamed via the XML file.

The “Job Monitor” in the lower half of the window would signal a critical state if, for example, the user has no active quote in the market, in spite of being required to maintain a quoting presence.

The **configuration and display options** available in Xentric Trade Machine include:

- Assigning contingents to avoid excessive system usage
- Display of bonus time granted by Xetra to Designated Sponsors
- Trade confirmation display
- Calculation of quoting presence
- Spread enhancement
- Protection mechanisms against immediate execution
- Quote modus settings: “always”, “auction” or “none”
- Time-controlled configuration

The following screenshot shows **parameter settings** for automated quotation:



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