

Quality Trading Solutions



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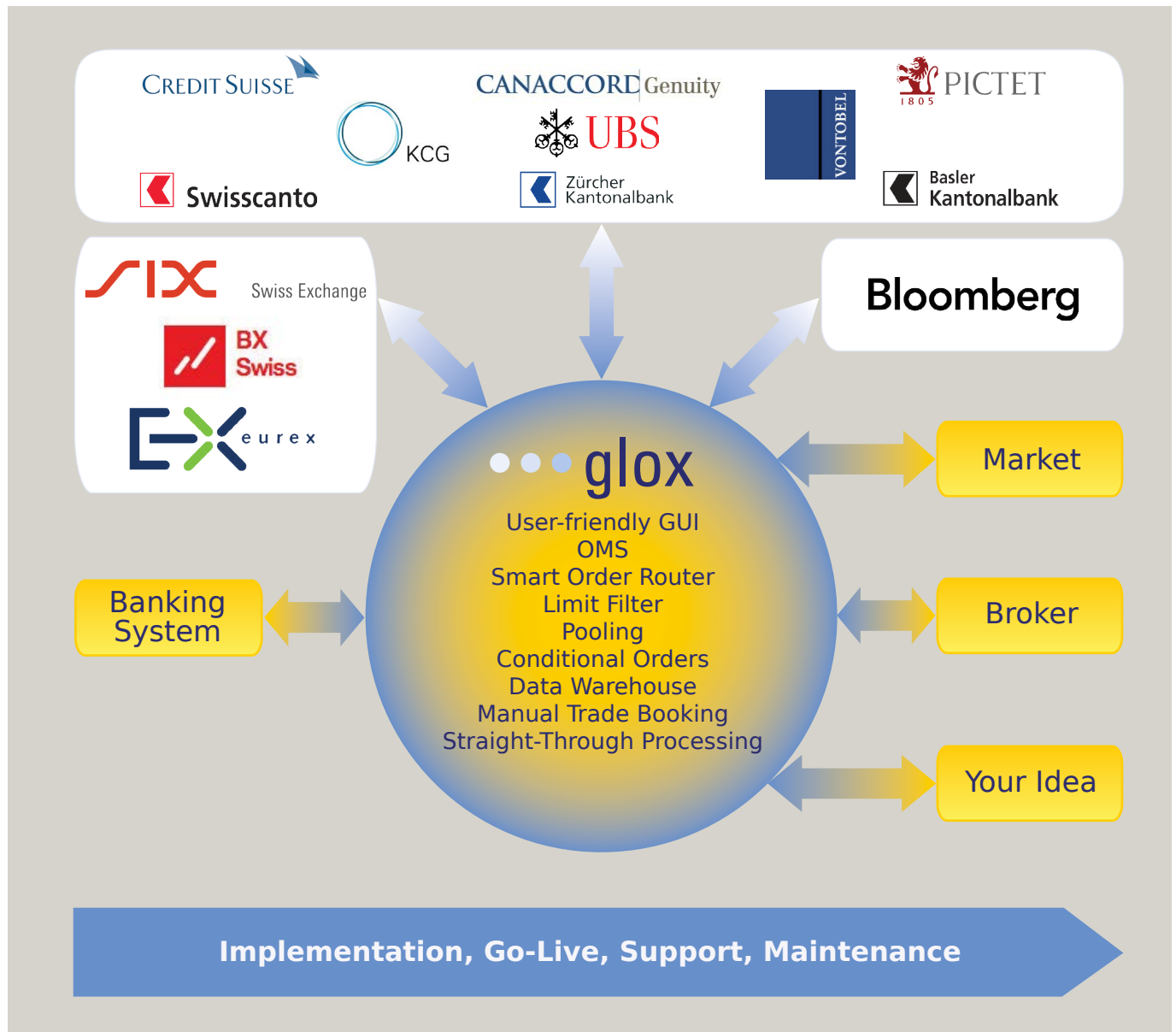
Trading Made Simple

Information Brochure

Trading for Professionals

With our reliable **multi-asset trading system GLOX** you can trade securities via a user-friendly front-end to a wide range of destinations. We offer our efficient order management system as a **hosted application**.

It can also be operated locally at the customer's site. With only one connection to GLOX, it is possible to connect to all counterparties and to trade with them. We place great emphasis on efficiently handling the different workflows and in achieving the maximum benefit for each client.

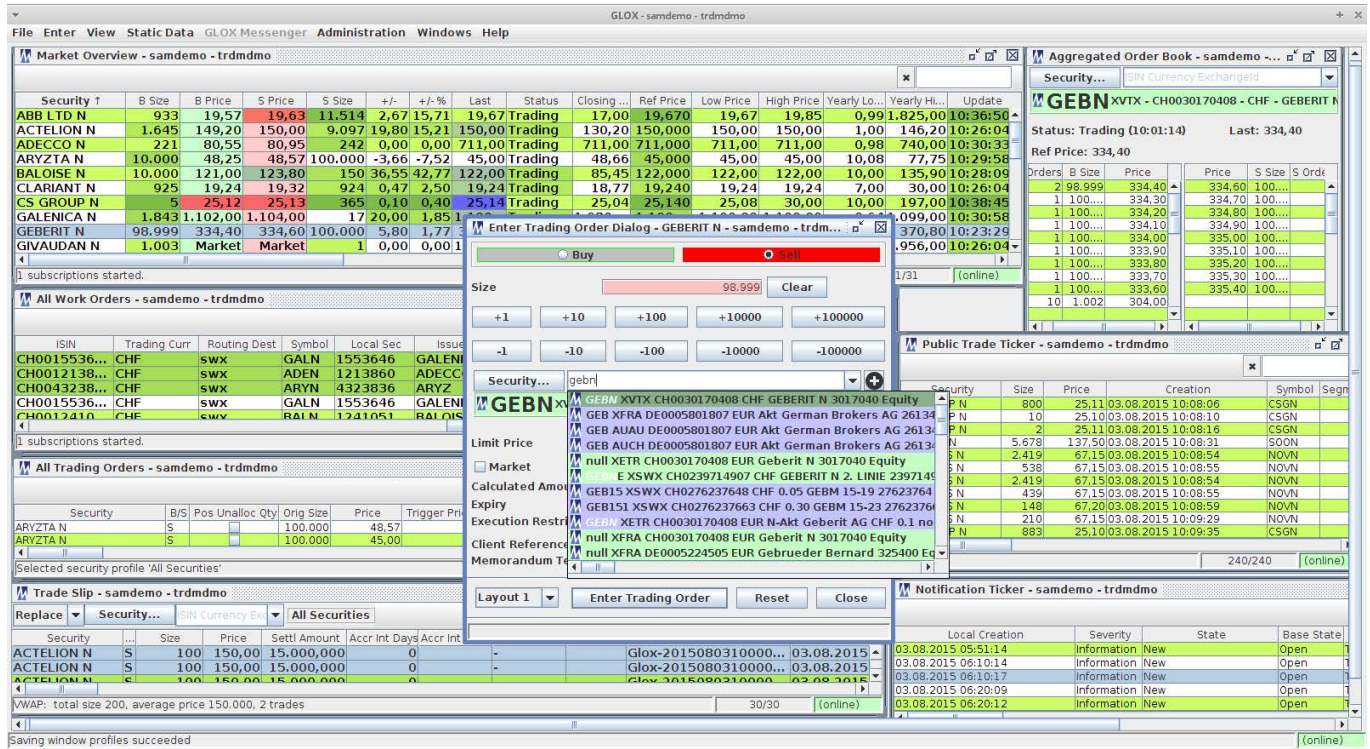


GLOX processes more than **2 million trades annually** in various asset classes, currencies and to many destinations worldwide. GLOX is very **flexible** and adaptable. This allows us to gradually expand the offering, e.g. with other brokers, exchanges and MTFs.

For many years banks and securities dealers have trusted in the reliability of GLOX. With their continuous feedback they have a significant influence on the development of the system which is tailored to their needs. Through an open communication and **collaborative partnership**, we stay up-to-date and are able to exactly meet the increasing requirements in securities trading.

Front End

In the GLOX front end you have a range of useful functionalities, which are constantly expanding. You can configure the system to match your personal requirements.



Screenshot GLOX Trading Client 2016

Order Management System

The GLOX order management system is not only flexible but supports a wide range of work flows. Limit filters, multiple order types and field configurations allow consistent coordination with your core banking, back office and risk management systems.

GLOX enables pooling and splitting for situations when multiple orders should be grouped together into one market order – for example for fund trading. Also, functionality for market making is supported. GLOX can be used for customer trading (execution), principal trading and market making activities.

Integration and Interfaces Management

GLOX can be integrated within your system landscape using the highly developed FIX Interface or alternatively we can develop other interfaces on request such as MQ Series or direct database connections. We already have interfaces to several banking systems in production, including Apsys, OTMS, BBP, Olympic, Avaloq und TCS Bancs.

We are happy to support you in the process of introducing new banking systems. Our extensive experience in such projects helps us to contribute to the successful implementation of new interfaces to GLOX.

Running GLOX

GLOX can be implemented in two different ways:

■ **Outsourcing**

The ASP model (Application Software Provider) includes a connection to GLOX which enables access to all markets available in the GLOX network. This model is cost efficient because the IT footprint remains very small. MACD runs, maintains, and monitors the systems and can react immediately. Our dual-site model with two data centres ensures very high reliability and availability of the system.

Using a hosted solution has a range of benefits:

Monitoring	We have a fully automated alert and alarm system that ensures that we can pro-actively address problems as they occur.
Hardware	We buy, maintain, and replace hardware as part of the fixed price.
Upgrades	A system needs to be maintained over time. We perform necessary software and hardware updates to ensure that the systems remain up to date.
Shared Resources	In many cases, cost savings can be achieved through shared resources with our other customers. An example is market connectivity where we maintain the exchange connection and thereby reduce your infrastructure.
Network Effect	Our customers can benefit by establishing links to other customers in our trading network. For example, a bank may act as a broker to other customers for a specific asset class. Or an exchange might benefit from our customer base as potential new participants.
Environment	Through shared resources and modern virtualisation techniques, we are able to match the energy usage to the required performance. In this way the total energy use can be significantly reduced.

■ **Run at Client's Site**

Alternatively GLOX can be run in the clients own data centre. In this solution the software is installed at the client's site. The client monitors the connection themselves or, alternatively, delegates this to MACD with remote access.

Service & Support

Our highly motivated and very well educated support and development team is experienced in helping you with issues. Almost all supporters also work on the development of our GLOX trading system. So your contact person is a **real GLOX expert**.

Our ticket system ensures that all questions are documented and any problems are solved in a timely manner. Also feedback about improvements to our software or new features are documented and planned in for future releases.

Our team in Maur (Zurich) attends personally to your concerns. Not only on the first trading day but also for example for system changes or a migration we are happy to visit you personally to consult and ensure a smooth process. Of course we also visit you regularly to collect your feedback and to ensure your satisfaction.

Select your GLOX Services!

■ **GLOX Exchange Direct**

Our collaboration with SIX Swiss Exchange goes back to the introduction of electronic trading in 1996. In 2001 we were one of the first application service providers and we were able to establish ourselves as a leading supplier. We fulfil all legal and technical system requirements and offer a wide range of functions and options.

With GLOX Exchange Direct, you can choose which of the following exchanges you want to connect to:

- SIX Swiss Exchange
- BX Swiss
- EUREX

Using our product XLFIX you can also perform market-making on all exchanges. More details can be found at www.macd.com under Offer/ XLFIX Trading.

■ **GLOX Broker Connect**

With GLOX Broker Connect you can connect to all the important markets using a single interface to your banking system. Using our consolidated user interface you can trade securities through well-known brokers. Trading is fully automated using our straight-through processing (STP) network. ‚Filtering‘, ‚Best Execution Options‘ and ‚Handling Instructions‘ are possible. GLOX Broker Connect is adaptable for banks in all asset classes in the securities area.

The following brokers are available:

- Basler Kantonalbank
- Bloomberg Tradebook
- Cannaccord Genuity
- Credit Suisse
- KCG
- Pictet & Cie
- UBS
- Vontobel
- Zürcher Kantonalbank

Based on customer requirements, we are happy to extend our broker offering.

■ **GLOX Fund Trade**

GLOX Fund Trade ensures that you don't miss any cut-off times! Fund trading via GLOX is efficient and fully automatic with STP via Swisscanto. ‚Pooling‘ and ‚Splitting‘ in GLOX enables the automatic merging of orders and assignment of trades. Our order monitor ensures the timely release of orders. As soon as the order is matched, the trade will be automatically split across the child orders. You can choose to send an order either automatically or manually.

■ **GLOX Bloomberg Send**

GLOX Bloomberg Send enables the trading of Fixed Income or Equity products over Bloomberg over a single interface. Your orders will be routed automatically to Bloomberg trading platforms TSOX or EMSX and can be traded with various brokers. Executions of the orders are communicated on a full STP basis back to your core banking system. The interface is certified from Bloomberg, prevents multiple entries and reduces errors caused by manual input.

■ **GLOX Bloomberg Receive**

With GLOX Bloomberg Receive you act as a broker and receive orders from other banks via Bloomberg. Once the orders are in the GLOX system you can process them as you would any other order, so full STP is possible. Executions will also be sent back to your own banking system. With GLOX you have only one interface, reducing errors that can be caused by manual input.

■ **GLOX Bloomberg Algo**

Using the rich algorithmic capabilities of Tradebook, you can take advantage of extensive Algo trading within the GLOX network. It works like this: You define your algo parameters in GLOX and we send this information to Bloomberg Tradebook. There, they calculate the child slices that need to be executed on SIX Swiss Exchange and notify GLOX to send the order to the exchange - all trading is done on the exchange using your exchange membership, thereby ensuring that you have full control, visibility and journaling of all orders going to the exchange.

■ **GLOX Archive**

If you require a record of all relevant data concerning your trading activities then GLOX Archive is the right choice. All relevant data (orders, trades, modifications) will be saved for 10 years in a manner which is easy to search. This service is not only useful for auditing but also for analysing business trends.

Shaping the Future!

The rapid development of financial markets and regulatory conditions require standards which are often hard to fulfil. We provide **innovative solutions** which reduce your manual effort significantly. Our extensive network allows us to identify trends early and respond to changes quickly.



As a privately held family company, we are **independent** and can offer the ideal long term solution. We work with a fixed-price concept, so you always have a clear overview of the costs.

Compliance with our own high quality standards is very important to us - the stability and availability of our systems and a reliable support are a fundamental requirement for us. Our goal is to work with you in a **cooperative partnership** with regular, open communication, to respond best to your needs.

Our offering is comprehensive: We plan your individual project. We develop the software. We manage the hosting. We advise and train you. We care for you personally.



Lucas Fowler, Director; Tomas Fort, Head of Business Development; George Macdonald, CEO

Experience / Reference

As one of the first application software providers in the finance industry, we are not only well experienced and have built up a profound understanding of the market, but we are also very proud that over 20 financial institutions rely on GLOX. A list of our references can be found here www.macd.com.

About MACD

MACD has been offering innovative financial IT-solutions since 1996. We have developed from a family-owned company into an international company with locations in England, Germany and Switzerland. Approximately 30 highly qualified employees work on the development and support of software and solutions for the financial sector. Our offering covers software development, hosting, consulting, support and also tailor made solutions. We are a member of the FIX Trading Community. Further information can be found here: www.macd.com.

Would you like to get more information about MACD and GLOX?

Please contact us at any time!

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