



QUALITY TRADING SOLUTIONS

## DEVELOPMENT OF A CORPORATE BOND TRADING SYSTEM FOR THE SIX SWISS EXCHANGE

CASE STUDY SCB



SIX Swiss Exchange is planning for a go-live in March 2015, meaning that there are less than five months to develop a system, which will cover the agreed functional requirements.

## STARTING POINT

SIX Swiss Exchange operates the main Swiss financial marketplace. It also offers additional services worldwide, primarily in the area of securities trading. MACD has been a strategic partner of the SIX Swiss Exchange for many years and connects MACD customer banks to the exchange platform via the well-established GLOX trading system.

Currently the bond market is experiencing a number of changes, partly as a result of new regulation. SIX Swiss Exchange is developing a new business model for this area of trading and has been working with Algomi since 2014 on a new electronic platform for fixed income trading. The underlying concept and the external architecture for this system already exists. SIX Swiss Exchange now requires a suitable partner to develop a trading system to facilitate order entry. They contact MACD on the 8th October 2014.

## CHALLENGE

MACD must develop a new workflow with a complex functional coverage for the GLOX trading system. In contrast to existing order book trading, the process for negotiating a price for these bonds requires several steps before a trade can be matched.

The work has to be managed alongside other current MACD projects.

Despite the tight timescales the delivered product must match the high quality standards of the SIX Swiss Exchange and cover all the functional requirements stipulated.

Within the bounds of an initial statement of intent MACD has 3 weeks to produce an implementation concept, which will confirm the feasibility of the project and convince SIX Swiss Exchange that the milestones can be achieved in the time allowed.

## SOLUTION

### CONCEPT DEVELOPMENT

Within two days of the initial contact from SIX Swiss Exchange, MACD account managers meet with their project management in Zürich. Even before the contracts are completed intensive and focussed sessions result in a business analysis, which will form the basis and roadmap for the subsequent software development.



A range of questions are answered, including:

- ✓ Exactly which exchange transactions should be considered?
- ✓ What are the specific business processes?
- ✓ What are the requirements for the order management system?
- ✓ How can they be sensibly integrated in the existing system?
- ✓ GUI requirements for the GLOX trading client.
- ✓ Effort and cost estimates.

After three weeks, MACD presented SIX Swiss Exchange with a convincing concept which persuaded them to award MACD the project on 27th October 2014 to build a trading system.

## IMPLEMENTATION

Now the project must turn concept into reality: SIX project managers and the MACD team plan the approach in a set of workshops in Aachen and Zürich. Two members of the MACD team make regular visits to SIX Swiss Exchange in Zürich to support continuous development and collaboration throughout the project.

### ALREADY AVAILABLE

- ✓ Connection to SIX Swiss Exchange
- ✓ GLOX trading system
- ✓ Trader management
- ✓ Workflow for order and trade messages

### REQUIRED DEVELOPMENT

Workflows:

- ‚Indications of Interest‘ (IOI)
- ‚Request for Quote‘ (RFQ)
- ‚Benchmark‘

New trading sessions

Bond Market Overview (BMOV)

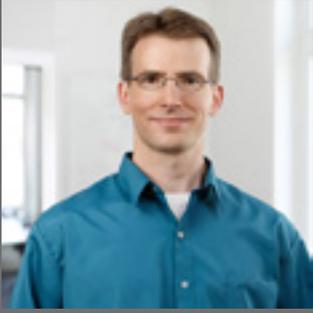


GEORGE MACDONALD,  
CEO MACD

*‚GLOX has always been involved in the bond markets. That was the initial start for GLOX in 1999. The first banks that we connected were to trade on SWX Eurobonds - Van Der Moolen, Rabobank, Winterflood etc. Later, we advised Barclays and UBS on fixed income strategy. This SIX project was very interesting for us: GLOX is now enhanced with a whole new way of trading. IOIs are something that many markets are bringing in, and it is therefore great to open up the possibility to offer multi-bond market connectivity for GLOX.‘*

VA	IOI	Security	My Size	My Price	B/S	Quote Size	Bid Price	Ask Price	Time ↓	Phase ↓	Exchange Phase	Matching Status		
1425464992391	✓	4.54 CRLOG 60	4.000.000	101,000	S						Curtain Time	Both	CB0000	
1425464997488	✓	5.50 CBAAU 60	2.000.000	101,000	S						Closed	Curtain Time	Live	CB0000
1425465039799	✓	4.875 BBVASM 60	2.000.000	101,000	S						Closed	Curtain Time	Live	CB0000
1425465006370	✓	4.75 BESPL 60	2.000.000	99,000	B						Closed	Curtain Time	Both	CB0000
1425465011157	✓	2.50 CABKSM 60	2.000.000	99,000	B						Closed	Curtain Time	Both	CB0000
1425465617970	✓	5.971 ACAFP 50	2.000.000	99,000	B						Closed	Curtain Time	Both	CB0000
1425465024735	✓	5 CABKSM 60	2.000.000	99,000	B						Closed	Curtain Time	Historical	CB0000
1425465613767	✓	6.75 SNCF 09 JEE		99,000	B	2.000.000		99,000	0:18	Private Work...	Private Workup	NONE	FR0000	
1425465622045	✓	5.125 ANZ 60		99,000	B	2.000.000		99,000	2:56	Market Sess...	Market Session	NONE	CB0000	
1425465166044	✓	6.25 ACAFP 60	2.000.000	99,000	B				P 2:19	Curtain Time	Curtain Time	Live	CB0000	
1425465035891	✓	4 BESPL 60	2.000.000	99,000	B				0:09	Curtain Time	Curtain Time	Historical	CB0000	
1425465029860	✓	5.875 ACAFP 60	2.000.000	99,000	B				P 0:02	Curtain Time	Curtain Time	Live	CB0000	
	✓	2.50 CABKSM 50	2.000.000	99,000	B						Found Match	-	Both	CB0000
	✓	3 DNBN0 50	2.000.000	99,000	B						Found Match	-	Both	CB0000
	✓	3.25 CABKSM 50	2.000.000	101,000	S						Found Match	-	Both	CB0000

Bond Market Overview with ‚IOI‘, ‚Remaining Time‘, ‚Trading Phase‘



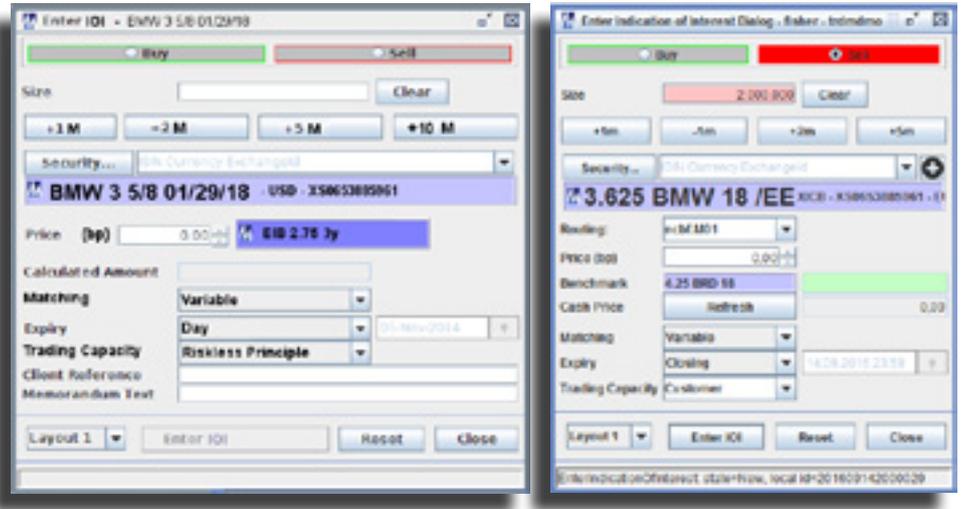
**DENNIS PANNHAUSEN,**  
HEAD OF SOFTWARE  
ENGINEERING, MACD

*Projects such as these are a challenging undertaking in a complicated and in this case previously uncharted environment because a completely new business process was being developed. It requires short feedback loops, which are tightly interwoven with all levels of the process.*

*But no matter how sophisticated our software development process is, in the end projects of this kind stand and fall on the individuals and interactions of the people at MACD and the customer. Their attitude and their individual strengths and weaknesses are the real key to the success of the project.'*

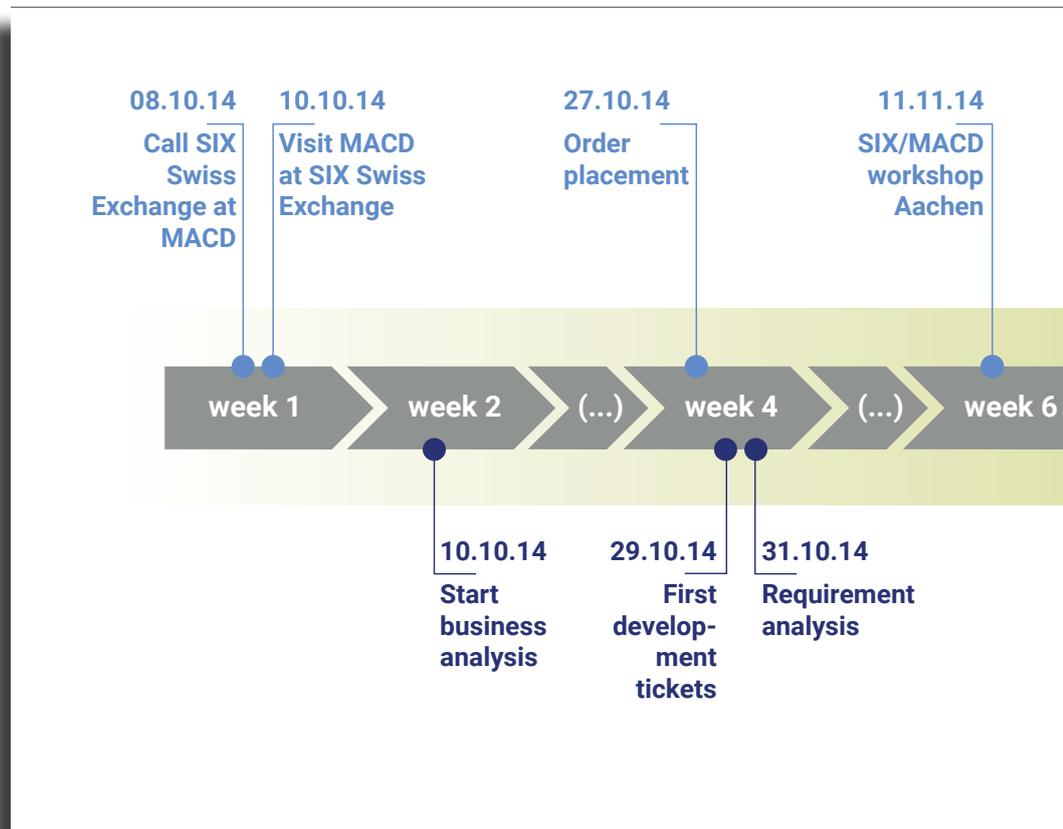
## VISUALISING THE CONCEPT

MACD presented the first mock-ups four weeks after the contract was awarded. These showed how the GUI would implement the new Corporate Bond front end and the various workflows.



Left: Mock-up of the 'Enter Indication of Interest' Dialogue.  
Right: Final implementation.

The mock-ups helped to visualise the corporate bond concept and give a feeling for how it would work. SIX used these clear templates to convey the trading process to representatives of participating banks. This allowed potential customers to be involved in the process and give feedback in workshops and customer presentations.



Project timeline

The workflows required for the corporate bond system; ,Indications of Interest (IOIs)', ,Request for Quote' and ,Benchmark' are developed and integrated into the GLOX trading system.

## TEAMWORK AND TIMELINE

The close partnership and teamwork between SIX Swiss Exchange and MACD, an extensive business analysis, an in-depth understanding of the business area and the clear assignment of responsibilities are the foundations for a common project team which is able to produce presentable results in a very short space of time.

The MACD team uses the established ticket and documentation systems; JIRA and Confluence. The use of Agile software development methods such Scrum and its predecessor Extreme Programming (XP) forms the basis for a fast and succesful implementation.

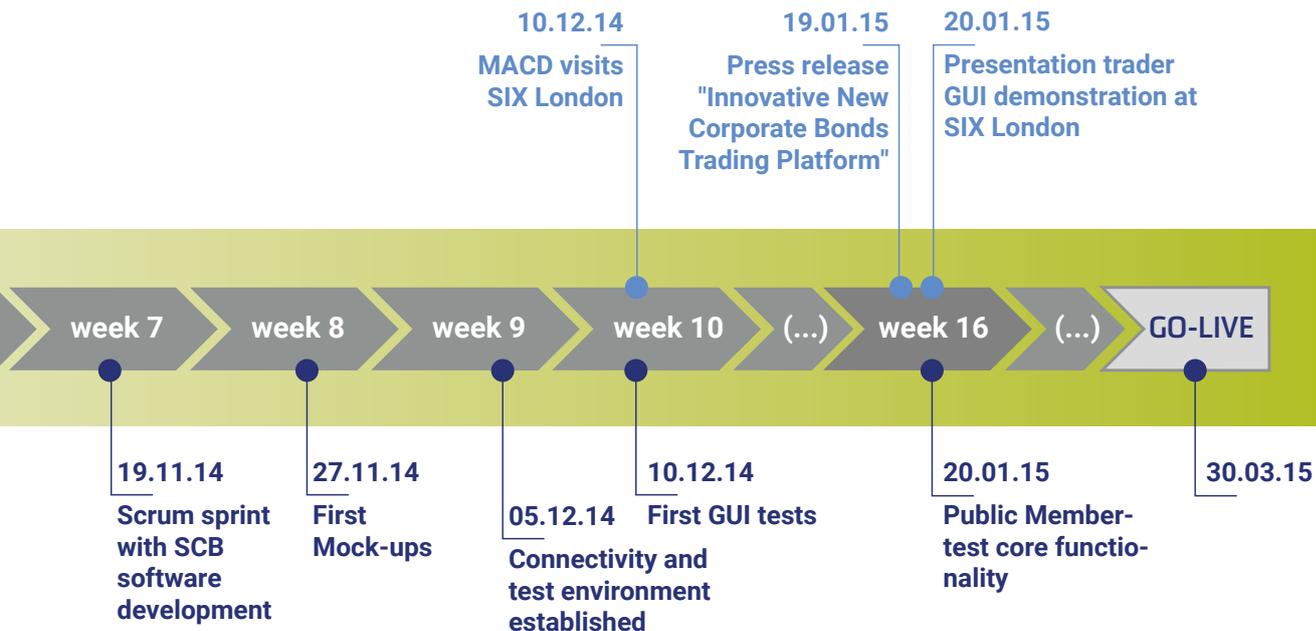
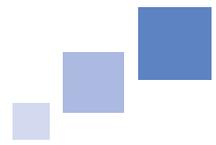
## RESULTS

Just eight weeks after the contract was awarded, the GLOX test system is available for the SIX Swiss Exchange to use. This allows sample time for a phase of extensive testing and feedback and the technical go-live is achieved as planned on the 30th March 2015.

UELI GOLDENER,  
SIX SWISS EXCHANGE

*,Thanks to the fast development of the GUI by MACD, our client-facing staff was able to see, test and present the system they required for the first time.*

*This was an important milestone for the project.'*



## ABOUT MACD

As one of the first application service providers in the financial sector, MACD has been successfully implementing IT projects for financial institutions for more than 20 years. MACD is the market leader in trading connectivity in Switzerland and supports more than 35 banks and stock exchanges across Europe and worldwide. Around 40 IT engineers, computer scientists and economists are working on innovative solutions at locations in England, Germany and Switzerland.

Since 2004, MACD has been a member of the non-profit-organisation FIX Trading Community, where George Macdonald, CEO MACD, is currently engaged as a Director.

## WANT TO KNOW MORE ABOUT MACD AND GLOX?

Please feel free to contact us at any time!



### TOMAS FORT

### HEAD OF SALES & ACCOUNT MANAGEMENT

tomas.fort@macd.com

M +41 79 749 49 30

T +41 43 343 30 00

[www.macd.com](http://www.macd.com)

