

CELENT



ING: FX TRADING DIGITAL TRANSFORMATION

Winner of the 2024 Celent Model Sell Side Digital Transformation Award

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March 21, 2024

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EXECUTIVE SUMMARY

ING was looking to accelerate the digitization of its offering in the foreign exchange (FX) markets—the **largest market in the world by traded volume**, but also one that is highly fragmented and going through substantial change. The core interaction between liquidity takers and makers is rapidly moving to a “show me the data” mode, with ever-increasing expectations around data and analytics exchanged between counterparties.

This is a market in need of solutions to solve liquidity sourcing, trade execution, and fair access. With its innovative project to digitally transform its FX trading platform, ING sought to provide the best-on-street customer experience. Achieving a step-change in client experience required an overhaul of ING’s existing technology stack and product offering, with a multi-year plan for delivery and with executive-level support.

Table 1: Case Study at a Glance

Financial Institution	ING
Initiative	FX Global Markets Digital Transformation
Synopsis	<p>Over the last three years ING has embarked on a major digitization project across its FX markets offering, overhauling its technology stack and product to create a step-change in the client experience. The focus has been in three key areas:</p> <ul style="list-style-type: none"> • new products • pricing and hedging • advanced analytics <p>The initiative impacts a range of value chain areas, including front office, treasury capital markets, product development, and venue connectivity.</p>
Timelines	Completed over three years with continuous release of improvements across two main streams: eTrading and distribution
Key Benefits	<p>Better client experience: The new platform allowed ING to internalize flow, reducing its costs and market impact, which is directly passed on to clients through more competitive pricing. The platform also provides improvements in client rankings, hit ratio, and client flow.</p>

Quantifiable business success metrics: These include 100% increase in spot flow, ranked number one on venues for some currency pairs, all of which has led to increased revenue.

New products: The new platform has reduced costs and time to market for new product innovation, such as the ability to enhance pricing based on ESG data, and supported a partnership with a leading electronic market to support electrification of the FX swaps market.

Key Vendors

ION, Lucera, Mosaic, OpenFin, Pragma, Sustainalytics, 360T Deutsche Börse Group

Source: ING

CELENT PERSPECTIVE

The foreign exchange markets, [largest in the world by traded volume](#), are undergoing a combination of evolution and revolution. In FX trading, the core interaction between liquidity takers and makers is rapidly moving to a “show me the data” mode, with ever-increasing expectations around data and analytics exchanged between counterparties. The FX market is also highly fragmented and in need of solutions to solve liquidity sourcing, trade execution, and fair access to markets.

On the dealer side, where ING sits, a substantial increase in investment has been required to meet the quote, risk, and trading speed required to excel. The volume and volatility spikes that occurred during the pandemic created challenging situations for many market participants and accelerated investment in data, connecting, and quoting tools.

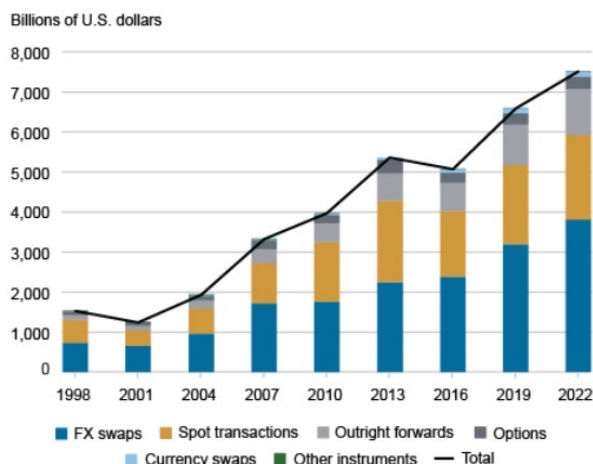
The resulting macroeconomic challenges, including (but not limited to) higher inflation and interest rates, have also created a strong desire by bank management to contain costs. This has driven many traditional liquidity providers to be more aware of the best way to provide institutional engagement across all trading and execution challenges.

Trading on FX markets continues to grow (see Figure 1) as does electronification. There has been an increased demand for analytics and algorithms across the trade lifecycle, from pre- to post-trade. Data from the Bank of International Settlements (BIS) showed algorithms accounted for 20% of spot trading in 2020¹. The BIS Q4 2022 Quarterly Review suggests 60% of FX trades are executed electronically², and that e-trading of non-deliverable forwards (NDFs) and FX swaps has risen significantly, with NDFs increasingly used by hedge funds and principal trading firms (PTFs) for taking directional bets and executing arbitrage strategies. (NDFs have traditionally been a popular product in Asian markets as they were developed for emerging markets in Asia with capital controls, where the currencies cannot be delivered offshore. NDFs enable offshore participants to effectively hedge against foreign exchange risk in those Asian countries.) FX swaps meanwhile are used by dealers and smaller banks to meet funding and hedging requirements.

¹ Markets Committee, [FX Execution Algorithms and Market Functioning](#), BIS October 2020

² BIS Quarterly Review, [FX Trade Executions Through the Lens of the Triennial](#), BIS December 2022

Figure 1: FX Market Growth Is Substantial, with FX Swaps Particularly Strong



Source: BIS Triennial Central Bank Survey (does not include transactions in exchange-trade FX instruments)

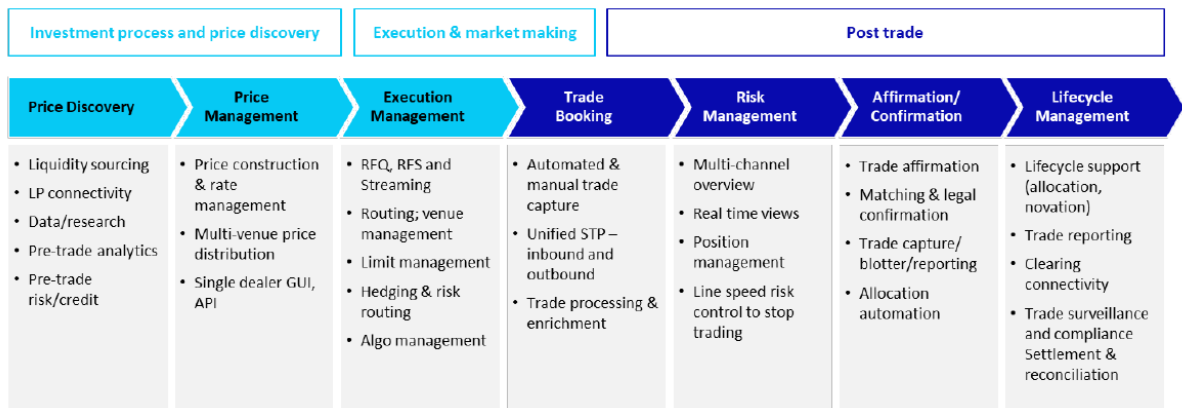
Interactions between counterparties is becoming more data-driven, with increasing demands for transparency. These counterparties include a broadening variety of market participants. Whereas 25 years ago two-thirds of turnover was done in the inter-dealer market (large dealers trading amongst themselves), this has declined to less than half—with principal trading firms (PTFs), who often employ high-frequency trading (HFT) strategies, picking up most of the remaining volume.

At the same time, the trading ecosystem has become more complex, with single bank platforms, multi-dealer platforms, and other trading platforms emerging. This trend, combined with the increase in PTFs, has resulted in the percentage of spot trades occurring electronically rising to nearly 60%. With competition and options to trade increasing, along with the growth of internalization of trades, price discovery has become more challenging.

While algo trading in FX spots continues to accelerate, a desire for workflow and trading process efficiency is also driving demand for non-spot algos, especially in the NDF space.

Overall, we see a strong demand to create better flows across FX among market participants. Electronic trading in FX has become more embedded and more crucial in every part of the front-to-back FX value chain. (See Figure 2.)

Figure 2: Schematic, Generic View of the Front-to-Back FX Value Chain



Source: Celent

DETAILED DESCRIPTION

Introduction

Table 2: ING Snapshot

Year Founded	1991
Headquarters	Amsterdam, Netherlands
Wholesale Bank Revenue	22.58 billion EUR (December 2023)
Geographic Presence	APAC, Europe, Middle East, NA
Employees	60,000 (December 2023)
ROE Wholesale Banking, Full Year 2023	15.4% (up from 6.9% in 2022)
Profit – Financial Markets FFY 2023	1.28 million EUR (up 4.4% from FY 2022)
Relevant Technologies	APIs Connectivity Data analytics Desktop interop DevOps/Continuous Integration (CI)
Vendors	ION, Lucera, Mosaic Smart Data, OpenFin, Pragma (a MarketAxess company), Morningstar Sustainalytics, 360T (a Deutsche Börse Group company)

Source: ING

Opportunity

ING was looking to accelerate the digitization of its FX markets offering. The intent was to ensure that the bank provides the best-on-street customer experience, leading to increased revenues for the business unit. ING's goal was a step-change in client experience which required an overhaul of its existing technology stack and product offering. A multi-year plan was sponsored by the financial leadership and approved by the board.

Solution

The new FX Markets platform was built through a build, buy, and partner approach. This began internally by assembling all the business and technology skills required to build and run a leading eTrading desk, including quants, low-latency developers, data specialists, and FX/eTrading specialists. The focus for ING's work has been in three key areas: new products, pricing and hedging, and advanced analytics.

The platform's advanced capabilities have resulted in several differentiators. This included the ability to offer:

- very competitive pricing to clients,
- low-latency delivery, and
- creation of new products and capabilities.

Product and capability enhancements included:

- new risk management and execution algorithms,
- a new single-dealer GUI,
- a new ESG offering,
- increased data analytics insight, and
- extended coverage in streaming and NDF products.

An ESG (environmental, social, and governance) offering has also been launched, leveraging the new digitally transformed platform. The ESG offering is the first linked e-FX pricing available to clients. It differs from ESG-linked transactions in other asset classes in that it does not peg trades to a pre-agreed sustainability metric or KPI. Rather, clients are judged on their overall ESG profile.

The platform also positioned ING to work with [360T](#)—part of the Deutsche Boerse Group and a leading multi-asset trading platform and provider of web-based trading technology—on building a central limit order book (CLOB) for FX swaps.

The FX transformation project to build out the e-trading team and digitalization of its FX markets business was a vital foundation for this partnership to deliver this innovation for the FX swap market. This led to ING participating in the first front-to-back electronic trade on 360T SUN (Swaps User Network), a fully automated FX swaps limit order book. This was a completely new interaction method for the FX swap market, where orders are hard-matched on a CLOB. (A central limit order book is a centralized trading method using the order book and a matching engine to execute limit orders.) ING leveraged its innovative FX platform to build a full-stack pricing and hedging solution for FX swaps, including an in-house developed credit API; having this API is what helped ING to be the first to execute a trade.

For the FX swaps initiative, ING has built the technology, business logic, and team for an electronic FX swap desk. Its pricing and trading engines enable ING to price and manage the risk electronically, connect to a leading venue to consume and analyze data and make trading decisions.

Uniting sales and trading to deliver market-leading client experience

The platform helped ING solve another challenge it identified around data analytics. Partnering with Mosaic Smart Data to empower its trading and sales in supporting the franchise also improved the way ING shares insights with clients. Individual salespeople and traders did not have access to real time data, instead relying on other teams to generate reports, which quickly became out of date. Democratization of data and analytics was a key gap filled by the partnership with Mosaic. Without any technical knowledge ING's salespeople can generate trade ideas like an upcoming swap rollover, be alerted to potentially defecting clients, and be truly proactive. Demonstrating such insights into clients' business helps to increase flows and revenue at scale across large portfolios of clients.



Source: ING and Mosaic

Implementation

This was an extremely complex, high-risk, and high-profile project as it was a complete rewrite of ING's global technology stack—affecting users in 40 countries, tens of thousands of clients, and thousands of employees, and the results would have a direct impact on the revenue of the financial markets business unit.

The value chain impact was broad, spanning client and connectivity engagement; front office trading including research, sales, and trading; treasury capital markets; product development and management; and trading and liquidity venue management. Note that while ING does have an internal cloud, this project did not involve moving components to cloud.

The implementation took about three years. ING shared with us that they did not have project phases; instead, the work was split into 97 desired features. These features were planned so that complexity was built over time, i.e., constantly releasing improvements. The feature developments were split into two streams: eTrading and distribution.

The work involved integrating many new financial technology partners and a whole new way developing in-house for front office development. The core project team comprised around 30 people, structured as an expert eTrading team supported by an internal operations team.

In addition to the core team, multiple other teams were involved from across the bank, including architects, governance professionals, middle/back-office teams, and stakeholders from other areas that want to use this team's services. Outside

the core team, the algo governance team had the most interaction with the project. This team consists of senior people from risk, compliance, business, trading, and technology.

Today the core team remains in place and is continuing to iterate across further enhancements while ING is currently reskilling the operations team to align their skills with those needed to support a modern e-Trading business.

Table 3: Technology Partners Responsibilities and Resources

Company	Support
Mosaic	ING worked with Mosaic to democratize its data access between ING's sales and trading and provide analytics, leveraging AI, to support the franchise and share insights with clients in an innovative way.
OpenFin	ING leveraged OpenFin to create an interactive desktop that integrates and supports two-way data exchange between all applications used in sales. For example, when a client calls, the relevant applications are automatically populated with information such as analytics and credit information.
Pragma	ING used Pragma's high-performance algorithmic trading tools to achieve better time to market than building in-house. The bank's view is that there are a small number of strategies clients want, so there was little value in building rather than buying. Pragma is a MarketAxess company.
Lucera	Market connectivity was moved from the incumbent system to Lucera as it offered both substantial performance improvements and provided ING the ability to offer API connectivity to its clients.
Morningstar Sustainalytics	ING collaborated with this vendor on the analysis of the ESG ranking for companies, leveraging its API, data science, and analytics capabilities, and translating relevant ESG scores, which results in a pricing enhancement that can be sent to clients.
360T	ING supported an initiative to bring the FX swap market closer to the spot market in terms of pricing by increasing the ability to execute more trades electronically. This included preparing ING's side for their launch. 360T is a Deutsche Boerse Group company.

Source: ING

Results

Table 4: Success Metrics

Benefit	Results
Cost reduction/ Business efficiency	Improvements in hedging and savings from internalizing flow, which reduced ING’s costs and market impact. This all resulted in savings which could be passed on to clients.
Ability to bring new innovative products	The platform allowed ING to build innovative new offerings quickly and easily. Examples include a new ESG FX pricing offering, a new single-dealer GUI, and partnering with 360T on its award-winning SUN product.
Return on investment	ING’s ability to offer competitive pricing has led to 100% growth in client flow. Client rankings, hit ratio, and client flow have all substantially improved, leading to direct revenue increases. Client feedback and industry response has been exceptional.

Source: ING

Lessons Learned

For large-scale projects such as this, while the careful management of KPIs is of course a key factor, ING found that the human element cannot be understated. Much of the project success came down to people, both in ensuring diverse skills set across the eTrading team and ensuring that client feedback on changes is part of the overall process. Resource management across change and non-change work also needs to be managed carefully.

ING was most surprised by how quickly they saw impact, sharing that even for small changes the impact both for clients and ING was instant and positive. This created a very positive feedback loop.

However, there were lessons learned. For example, ING found the team spent a lot of time addressing gaps in vendor solutions and so would recommend a full review of the vendor solutions in advance of project start.



Plan big, but make sure you deliver and communicate all the positive achievements. Image and reputation are important.”

Simon Bevan, Global Head of eFX Trading, ING



PATH FORWARD

ING told Celent it wants to be a pioneer in defining ways to do business and that its number one priority is offering an outstanding client experience. This initiative proves that ING has the means to deliver on this ambition in the FX trading markets.

The liquidity providers in the FX markets, including bank and non-bank financial institutions, are facing numerous challenges including latency reduction, increased volatility, a move to real time for more processes such as credit assessment, price transparency, and requests for customized client pricing based on market and other conditions, e.g., ESG factors. Trading platform must be built on modern technology to support the scalability and flexibility required to support addressing these challenges.

With a thoroughly modern platform supporting its electronic trading of FX, ING is well-positioned to continue innovating around products and services. It has already shown itself to be a leader in the ESG space with its award-winning ability to offer clients more competitive FX spot, swaps, and forwards pricing with better sustainability rankings.

In addition to rewarding its best-ranked clients, ING will continue to collaborate with clients to achieve their sustainability goals. Its partnership with 360T resulted in real market change by bringing the FX swap market closer to the spot market in supporting electronic exchange of risk by executing a high percentage of trades electronically. ING continues to work with 360T to improve this solution.

This is a completely new way of interaction for the FX swap market. ING told us that this is just the start. From here, they intend to accelerate improving in pricing, risk management, and data analytics.

After the success of the last three years, ING is not standing still. In fact, they have a new three-year road map to introduce further innovations to continue to identify products that can fully embrace digitalization. While core functionality leverages ING's on-premises infrastructure and is likely to remain so, looking forward the bank is considering which platforms can be moved to the cloud, whether public or internal.

LEVERAGING CELENT'S EXPERTISE

If you found this report valuable, you might consider engaging with Celent for custom analysis and research. Our collective experience and the knowledge we gained while working on this report can help you streamline the creation, refinement, or execution of your strategies.

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Typical projects we support include:

Vendor short listing and selection. We perform discovery specific to you and your business to better understand your unique needs. We then create and administer a custom RFI to selected vendors to assist you in making rapid and accurate vendor choices.

Business practice evaluations. We spend time evaluating your business processes and requirements. Based on our knowledge of the market, we identify potential process or technology constraints and provide clear insights that will help you implement industry best practices.

IT and business strategy creation. We collect perspectives from your executive team, your front-line business and IT staff, and your customers. We then analyse your current position, institutional capabilities, and technology against your goals. If necessary, we help you reformulate your technology and business plans to address short-term and long-term needs.

Support for Vendors

We provide services that help you refine your product and service offerings. Examples include:

Product and service strategy evaluation. We help you assess your market position in terms of functionality, technology, and services. Our strategy workshops will help you target the right customers and map your offerings to their needs.

Market messaging and collateral review. Based on our extensive experience with your potential clients, we assess your marketing and sales materials—including your website and any collateral.

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