





Case Study

Intraday Issuing of Structured Products



Client

Partners



"TTMzero has proven again that even complex extensions can be added flexible to the Financial Instruments Automation Platform so that a complete business-ready production chain can be built in months."

Christine Romar, Head of Retail Products Germany & Austria, Citigroup Global Markets Europe AG

Citigroup Global Markets Europe AG

Institutional Clients Group (ICG). Based in Frankfurt, it serves companies, institutional investors and government agencies. Further, Citi is one of the most successful issuers of warrants, certificates and derivative products globally. Citi also offers innovative solutions for local and global payment transactions, liquidity and treasury management, trade financing, securities settlement and

TTMzero

TTMzero is a technology company that offers RegTech and Capital Markets Tech solutions for the financial sector. Using state-of-the-art technology and in-depth knowledge of the capital markets, TTMzero assists companies in shaping their digital future. TTMzero's wide range of real-time data products combined with process automation services help companies to better manage risk while meeting regulatory and supervisory requirements. The solutions offered are audit-proof, easily accessible and meet the highest standards.

Ahead of the project, TTMzero successfully accomplished various projects with Citi.

Finbridge

We build bridges for you: From complex questions to successful solutions! Finbridge is a consulting company that specializes in financial services. With over 90 highly qualified employees, Finbridge supports banks and other financial service providers in implementing change processes along the entire supply chain. Finbridge has and always had a strong partnership with TTMzero and could prove itself to be a strong Citi partner in this project as well.

FINBRIDGE

Ensuring more efficient and market-oriented issuing processes in order to be able to react to the market movements quickly, was the main goal for Citi. External partners such as TTMzero and Finbridge helped achieving this goal.

THE CHALLENGE

Citi developed the task of implementing intraday issuance capability for structured certificates with the aim of providing more efficient issuing processes that were closer to its customers' respective markets. This gives Citi the opportunity to react to market movements throughout the day and issue products tailored to their customers' needs in a matter of seconds. In addition, manual effort is reduced to a minimum, thereby pushing forward the digitalization of the issuing processes. In the long run, this streamlined process will also provide Citi clients with ondemand issued products customized to their individual requirements. Having customer safety in mind, it was particularly important to ensure that any information relevant for market participants are provided to the registration and settlement agencies in due time, even under this intraday schedule. Furthermore, exchanges and participating brokers must be informed about any new products in order to provide customers with the information in a timely manner.

Of particular importance is that regulatory requirements must always be fulfilled. In particular, all MiFID and PRIIPs related duties regarding the publication of product information must be addressed. To tackle this challenge, Citi teamed up with their long-time partner TTMzero to provide a streamlined and swift connection to market agencies and exchanges. To ensure additional external insight and manage the development from start to finish, Finbridge was involved providing a project manager, due to both entities' long-standing relationship with TTMzero. This gave Citi the opportunity to profit from both, insights into TTMzero's broad repertoire of market solutions as a software provider and an experienced project manager that worked up close with Citi's development teams both on and off site.

"This combination of skills and experience drove the development towards a solution that meets Citi's high standards on agile and state-of-the-art technologies to provide customer services.", says Christine Romar, Head of Retail Products Germany & Austria, Citigroup Global Markets Europe AG.

THE SOLUTION

The solution was seen in the expansion of existing interfaces to provide data towards partners and related internal systems not on a day-to-day basis, but in a few seconds after its arrival. For this purpose, real-time interfaces, enterprise messaging systems and eventoriented data processing were set up or extended in scope. With the help of these technologies, time-critical processes could be optimized for delivery in due time.

Furthermore, the already established connections towards TTMzero were extended to comply with Citi's requirements. The system is responsible for the automatic submission of issued products to registration authorities, the real-time determination of MiFID and PRIIPs costs, and creating kev information documents. All these functions had to be extended to allow for intraday processing and adhering to the strict cut-off times from agencies as WM Datenservice or exchanges.

Both Citi and TTMzero use agile methods to develop their systems quickly and thoroughly. With Finbridge acting as a project manager, Citi established a way to connect and correlate development backlogs while looking for quick wins in the process. Stakeholders could be kept in the loop about internal, as well as external progress at any time.

In order to keep maintenance and manual intervention at a low level, rule-based algorithms were implemented to allow Citi to efficiently customize the registration process via web front ends, thereby constantly monitoring supply and demand for new product emissions and reacting to market chances at any time in the day.

"Enabling Citi to immediately adapt the product offering to investor demand and short-term market shifts is another milestone in shaping our automation solution around issuer requirements."

Simon Ullrich, Managing Partner at TTMzero GmbH

Key Success Factors



The efficient involvement of external partners in all project phases - from design and initial conceptual drafts, through the first implementations to the final acceptance tests - enabled Citi to gain additional insights and use resources in a targeted manner.

State-of-the-art **Technologies**

The use of best-practice technological standards, particularly scalable cloud architecture, modular microservices, message-oriented middleware and **RESTful APIs has contributed** significantly to achieving the project goal.

TTMzero's Financial Instruments Automation Platform (FIAP) embeds Capital Markets Tech and RegTech automation building blocks to release the full productivity of digitized production chains and offers a one-stopshop for data distribution to a broad network of datahub providers. The highly adaptable software seamlessly fills the gap between financial institutions' infrastructure and third-party providers.

Excellent Cooperation

The excellent cooperation between bank, project management and IT service provider has been one of the essential success factors. This has involved external resources being allowed to efficiently allocate all required skills within the project.

Transparent communication through all stages of the project kept all stakeholders informed and ensured that customized software was built according to the client's needs. Thanks to the use of agile methodology, the first functions of the software were introduced early to the market and were then extended incrementally. This approach has resulted in a successful project conclusion.



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