

POSITION PAPER

# How Data and AI Are Shaping the Future of Securities Services



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# Preface

The financial services industry is undergoing unprecedented digital disruption: Sparked by the emergence of new technologies, greater processing capacity, increasing competition, evolving client demographics and industry dynamics, many financial institutions, including those in the securities services industry, are making significant efforts to augment their business models.

In this paper, Clearstream subject matter experts discuss how some of the recent advancements in data-driven technologies and Artificial Intelligence (AI) are reshaping the securities services industry, explored through the lens of our core business areas—including issuance, settlement, asset servicing, collateral and liquidity management, as well as securities lending.

# Introduction

In the rapidly evolving world of securities services, data and AI have become essential enablers of innovation and efficiency. Data underpins informed decision-making, helping firms analyze trends, assess risk, and tailor services, with AI enhancing these capabilities through automation and predictive insights. Together, they can drive operational efficiency, elevate client experience, and position firms to navigate complex markets with agility.

AI spans a spectrum of technologies—from robotic process automation (RPA) for rule-based tasks, to machine learning (ML) for pattern recognition and prediction, to generative AI for content creation. The latest evolution, agentic AI, introduces autonomous systems capable of adapting and executing complex tasks with minimal human input.

Securities services stand to benefit significantly. Over the past 15 years, rising costs, driven by post-crisis regulations like CSDR, EMIR, and AIFMD, have pressured margins. AI offers a counterbalance by automating manual processes, reducing errors, and freeing up resources for higher-value work. As a result, firms are increasingly using AI to enhance client service, unlock efficiencies, and stay competitive.

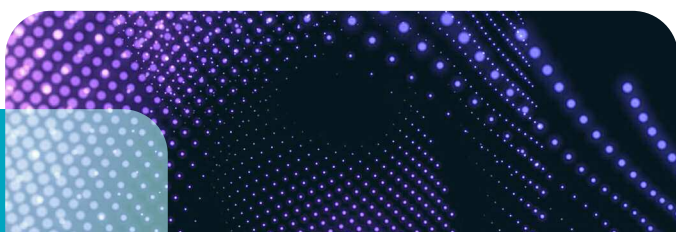
However, the opportunity comes with risk. ICSDs and CSDs manage vast amounts of sensitive data, making robust governance and security essential. Breaches could lead to market manipulation, client losses, reputational damage, and regulatory penalties—especially under frameworks like the EU's GDPR.

AI also introduces challenges around bias and data quality. Models trained on flawed or outdated data can produce inaccurate or unfair outcomes, particularly in sensitive areas like fraud detection or credit risk. Ensuring fairness, accuracy, and transparency is critical to building trust in AI systems.

Meanwhile, competition is intensifying—between traditional players and agile fintechs. Data and AI offer incumbents a path to differentiation, enabling smarter products and more responsive services in an increasingly crowded market.

With its deep industry expertise, tailored solutions, and rich databases, Clearstream is well-positioned to support clients on their digital transformation journey. This paper highlights how we are applying data and AI to help clients thrive in this new era.

**“As we transition into the digital financial era, AI and data-driven technologies present powerful opportunities to streamline operations, enhance risk management, and deliver smarter, client-centric services. By automating manual tasks and enabling real-time insights, FMIs can evolve into agile, data-driven hubs at the heart of digital capital markets.” Jens Hachmeister, Head of Issuer Services & New Digital Markets, Deutsche Börse Group**



# Data and AI in Action: Driving Value Across Business Lines and Control Functions

## Issuance

With a strong emphasis on continuous innovation and adaptation to sustain a thriving marketplace that connects global issuers and investors, the securities services industry is confronting long-standing inefficiencies in the issuance business. In many regions, these processes remain largely manual, dependent on physical documents and numerous intermediaries. A major obstacle to modernization is the lack of data standardization. Combined with fragmented systems, this deficiency restricts access to accurate information and introduces friction into critical functions such as asset servicing, tax processing, and reconciliation.

**Guido Wille, Head of the Eurobonds business at Clearstream, notes:** “While data accessibility may not be an issue during calm markets, it can become critical during volatility. Effective data needs to be standardized, structured, and readily available for electronic sharing.”

Clearstream, in collaboration with industry partners, is driving a series of strategic initiatives aimed at modernizing and digitizing the full issuance lifecycle. These efforts span data standardization, legal harmonization, platform innovation, and market transparency:

- **D7® Pre-Issuance API:** Streamlining workflow and data exchange for issuance at speed and scale via zero-touch processing from ISIN code request to instrument activation, via real-time REST APIs.
- **Data models:** Co-developing an Issuance and Processing Taxonomy (IPT) to define the data points required for standardizing securities issuance and processing.
- **Standard legal documents:** Standardizing key economic terms across the issuance lifecycle, by moving from human-readable documents to structured data dictionaries.
- **Dematerialization of securities:** Removing the requirement for physical security certificates so they can be held and transferred digitally through a centralized or decentralized securities depository system.
- **D7:** Providing a fully digital alternative to conventional physical issuance and processing of securities via Deutsche Börse Group's digital securities platform. Market participants can issue securities digitally within seconds with enhanced speed, transparency and flexibility.

 **>€34 billion**

**issued in digital securities via D7  
(as of July 2025)**

 **8 seconds**

**for digital issuance with D7**

- **DLT:** Launching Eurobonds on D7, enabling on-chain issuance with legacy settlement—bridging blockchain and traditional systems while unlocking new data flows.
- **Issuance datasets:** Empowering market participants with deep insights into fixed income holdings and liquidity dynamics. These datasets support liquidity scoring and provide enhanced transparency and market signaling for both buy-side and sell-side institutions.

Digital issuance provides numerous real-time data points, reducing the need for unnecessary reconciliations and ensuring consistent information for all parties. The richness and immediacy of data make intelligent systems increasingly valuable, potentially enabling automated solutions to create and trade financial instruments in response to market movements, thus increasing efficiency for high-frequency traders.

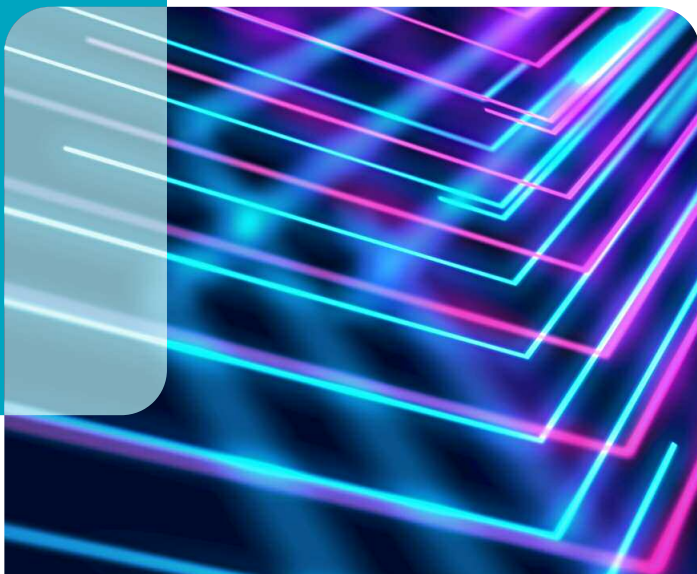
## Settlement

Market participants have faced increasing pressure to improve settlement efficiency in recent years. The EU, UK and Switzerland are now preparing to implement T+1 settlement by October 2027, following the introduction of shorter settlements in India and North America (Canada, Mexico, and the U.S.A.).

Impending time constraints could lead to increased settlement failures, driving up operating costs and exposing market participants to potential penalties. To address these risks and enable informed decision-making, predictive analytics are becoming increasingly pertinent.

The industry expectation from (I)CSDs is to understand how data can be leveraged to improve the settlement efficiency of clients. Clearstream's Settlement Prediction Tool uses ML to help anticipate transaction failures and support timely interventions. This leads to a reduction of penalties and improved settlement efficiency. The technology uses historical data and recent behavior patterns to identify transactions with the highest probability of failure, ultimately minimizing the risk of market participants incurring punitive charges.

“We have also developed a Settlement Dashboard—this solution offers clients an overview of activity, complemented with the desired granularity to evaluate their historical settlement performance. This information can then help clients identify and address thematic issues and monitor improvements,” explains Michel Bricq, Head of Settlement at Clearstream.



## Asset servicing & tax

Advancements in technology and the rise of data-driven insights have come at a critical moment for the industry. As the eurozone approaches T+1 settlement, clients are increasingly looking to their custodians for innovative solutions that can deliver real-time transactional visibility, flag potential issues with actionable insights, and highlight common themes. These capabilities are no longer optional—they are essential for keeping pace with accelerated settlement timelines and rising client expectations.

Across the asset servicing landscape, we observe various data and AI powered solutions emerging, to solve key challenges around event prediction, claims matching, entitlement, general shareholder meetings and tax processing.

Corporate action processing is rife with intermediation, involving issuers, CSDs, sub-custodians, global custodians, brokers, asset managers, and end investors. Such complexity often leads to duplication—or worse, errors in the process, which in turn exposes investors to added risk or even financial loss.

Furthermore, the data is often not harmonized, as issuers tend to announce events using their own customized terminology rather than adhering to a clearly defined market standard. This lack of consistency can result in misinterpretations further along the processing chain. With Europe transitioning to a shortened settlement cycle, there is growing emphasis on eliminating non-standard practices in corporate event processing.

Data and AI are playing a transformative role in how corporate actions work. Moreover, Clearstream is actively contributing to industry-wide standardization efforts, having already adopted ISO 20022 standards for both general meetings and corporate actions.

### ► 5% improvement

**in settlement efficiency  
for clients using  
Clearstream solutions**

Conversations around intelligent systems in settlement also seem to be gaining pace, given the potential to streamline operations, reduce risk, and cut costs. Technologies such as distributed ledger technology (DLT) could significantly accelerate settlement times in future: it ensures immediate availability of both cash and securities, making transactions fully transparent, secure and immutable. Although traction has been slower than anticipated due to upfront costs and infrastructure complexities, the success of recent ECB trials (which included Deutsche Börse Group), has broadened industry understanding and represents a major step toward achieving delivery versus payment on chain.

**“We are seeing exciting results in testing of AI use cases surrounding event capture and processing. AI has the potential to reduce operational complexity and manual errors, harmonize processes and improve the client experience,” explains Adam Bowen, Head of Asset Servicing Product Development at Clearstream.**



Clearstream is experimenting with tools to extract and interpret data from unstructured sources such as issuer announcements, enabling a more automated and intelligent approach to corporate actions processing. By leveraging advanced algorithms capable of identifying all relevant event types—including complex two- or multi-event scenarios—the system can automatically select the appropriate template containing all mandatory information. This structured output can be transformed into standardized, simplified formats, significantly reducing the need for manual intervention and improving the flow of information across the corporate actions value chain.

AI enhances the overall quality and accessibility of corporate action data by detecting logical inconsistencies or errors in the information received, helping to prevent downstream processing issues. Furthermore, AI can generate natural language versions of structured event data, making complex corporate actions easier to understand for clients and stakeholders. Its multilingual translation capabilities also ensure accurate and timely communication across global markets, supporting a more inclusive and efficient processing environment.

In tax operations, few areas are as complex and fragmented as withholding tax reclaims. Far from being a straight-through process (STP), reclaiming tax often involves navigating a patchwork of documentation requirements, each shaped by country-specific rules that are frequently

updated. For clients operating across multiple markets, keeping pace with these changes, and ensuring compliance can be a daunting task.

Storing tax information in a large language model (LLM) and accessing it through a conversational AI interface can dramatically simplify the way users interact with complex tax documentation. Instead of manually navigating vast repositories of tax rules and forms, users could retrieve precise answers instantly through natural language queries. This could be expanded further by automating the submission of data for taxable events. This would not only reduce manual workload but also minimize errors in withholding tax calculations and support compliance efforts with both local and international tax regulations. These improvements would be particularly helpful for investors with global footprints, many of whom are dealing with tax affairs across multiple jurisdictions.



➤ **€3 million**

**monthly revenue opportunity  
realized by a client freeing up HQLA**

➤ **30 minutes**

**basket creation time using AI**

## Collateral management

Collateral management is under increasing pressure from rising regulatory demands, fragmented data sources, operational inefficiencies and market volatility. These challenges have created clear opportunities for tools that support smarter inventory management, predictive funding needs, balance sheet optimization, and the identification of new commercial opportunities.

In this context, Data and AI solutions have many applications, facilitating greater transparency to clients, with unique insights into their collateral portfolios, such as asset breakdowns across different geographies, historical activity, trends, counterparty behaviors and forecasting.

Clearstream's Collateral Mapper helps clients visualize their collateral usage and identify opportunities for securities not currently held at Clearstream, enabling them to optimize holdings and free up precious high quality liquid assets (HQLA). The Collateral Insights tool helps users leverage comprehensive KPIs and advanced analytics to gain deeper insights into their collateral performance and drill down into data by geography, asset, product category, from both giver and receiver standpoint.

**"A key pain point in collateral management has historically been the drafting of collateral schedules, as the process can take days or weeks to negotiate and implement.**

**Clearstream is embedding AI technology to make the experience more seamless for clients. Natural language processing and machine learning can help with the drafting of the schedules, while automated reasoning helps spot errors and can be further utilized as a tool to ensure rules fit a specific financing or funding purpose,"** comments **Gaël Delaunay, Head of Collateral Management at Clearstream.**

OSCAR (Own Selection Criteria with Automated Reasoning) uses a bespoke large language model and is revolutionizing the way collateral schedules are managed. By automating schedule generation, eligibility validation, and counterparty matching, OSCAR has reduced a process that once took up to two weeks to just three minutes. OSCAR will shortly introduce an automated marriage broking feature, intelligently identifying counterparties with complementary supply, demand, and eligibility profiles, to proactively facilitate trading opportunities.

The next phase of AI innovation involving our strategic partner Google will harness the power of generative AI for cross-venue collateral optimization. This advanced solution will interpret eligibility criteria and user preferences to deliver intelligent recommendations, complete with visual projections of potential outcomes. It will empower teams to make smarter pre-execution decisions, accelerating the shift from strategy to execution, while enhancing both speed and precision.

## Securities lending

One of the primary considerations in securities lending is that lenders often struggle to maintain a comprehensive and up-to-date understanding of the whereabouts of their lendable securities.

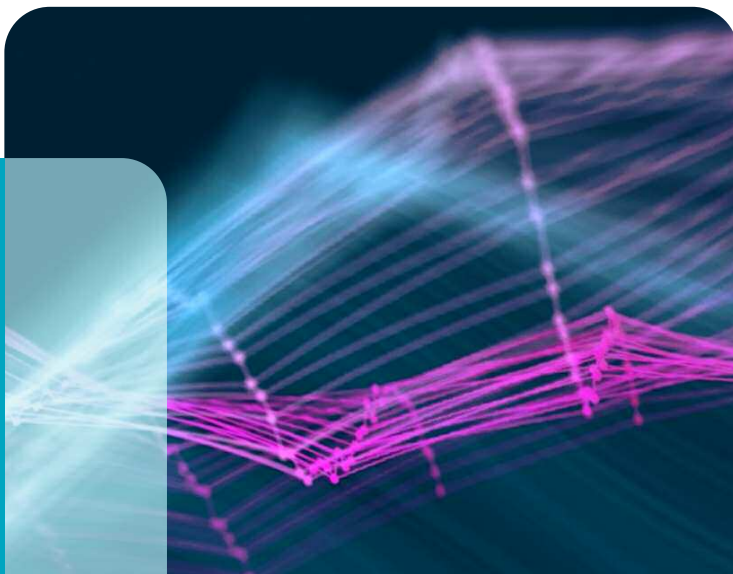
**“A challenge of T+1 accelerated settlement is the potential impact on recall notification and the process of securities lending activity. Due to the compressed settlement cycles, there is less time for borrowers to process and meet the recall timelines and settle on T+1. This point can be especially challenging when lenders and borrowers operate out of different time zones,”** explains Banu Apers, Head of Securities Lending and Borrowing at Clearstream.

In response to these challenges, Clearstream is focused on delivering data-led solutions that enhance transparency and decision-making. Through intuitive dashboard functionalities, we can provide clients with timely and actionable insights into the location and status of their securities—enabling clearer visibility into which assets are available versus those currently on loan.

This increased transparency will be critical for firms managing both settlement and counterparty risk, particularly in the context of a compressed T+1 settlement cycle. It also plays a key role in inventory management, supporting timely decisions such as whether to borrow or buy securities in response to short positions triggered by recalls.

Data is also being leveraged to drive other efficiencies such as maximizing the pool of assets available for commercial use. With timely access to data, we can more effectively identify lendable asset pools across our client base and align them with market demand, unlocking greater value and operational agility.

Lastly, in the same way that we do a highly accurate settlement fails prediction, we are starting to evaluate the potential to predict ISINs that “go special” from a borrowing standpoint. Combining borrower demand data, settlement success data, volatility and outliers, Clearstream can analyze and respond to asset scarcity in the market.



## Liquidity management

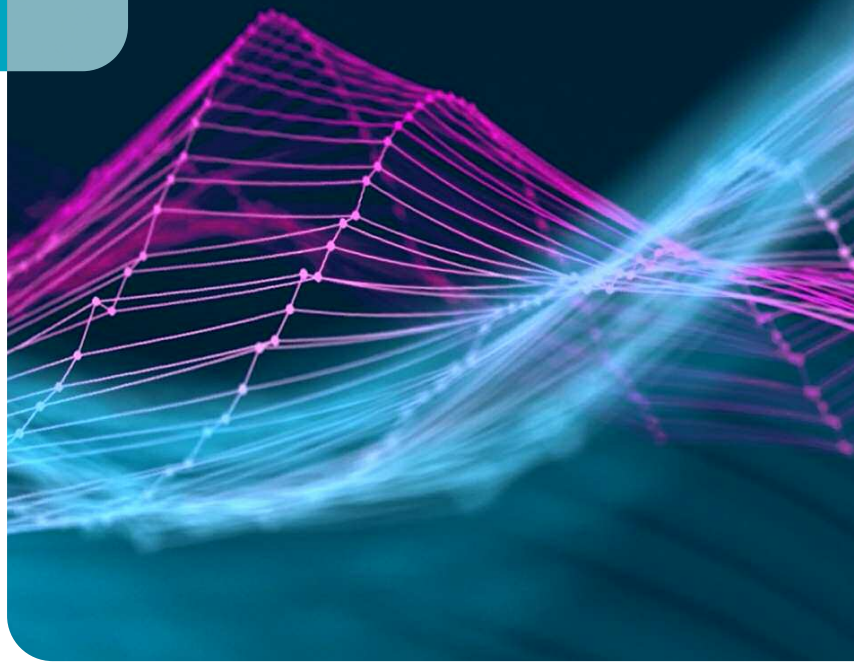
Amid today's volatile market conditions, effective liquidity management is essential if firms are to meet their various settlement obligations. Without an effective cash management strategy, financial institutions are at risk of suffering from settlement fails leading to rising costs and potential penalties under the CSDR settlement discipline regime.

**"In this interest rate environment, clients are managing their liquidity as closely as possible, but the biggest challenge they face is ensuring that they have liquidity at the right time and in the right place," according to Lars Janssen, Head of Liquidity Solutions, Product Management, at Clearstream. "Data-led solutions are having a material impact here. Providers are helping clients optimize their liquidity and cash balances on an intraday and end-of-day basis. The use of data dashboards can help clients forecast expected cash and settlement flows, while also optimizing their intraday and end-of-day cash positions," says Janssen.**

Balance sheet, liquidity, and funding optimization are crucial themes driving client activity. By further developing our cash and foreign exchange products, which cover over 40 currencies, and creating related data tools, we can offer valuable support to our clients.

The Asset Liability Analyzer delivers credit-related insights directly to clients' fingertips, enabling faster and more informed decision-making. This tool introduces a detailed breakdown of failed settlement instructions, helping clients understand whether a transaction was blocked or failed due to missing cash or collateral. It also provides insights on credit line usage and offers customizable analysis with an intraday view, along with advanced reporting capabilities.

Looking ahead, AI is set to play an even more significant role. It will help clients analyze cash and credit-related data, deriving recommendations to further optimize cash and FX management linked to client's settlement flow. Clients will receive smart alerts for concentration or liquidity gaps to mitigate risk. Additionally, further integrating market data will improve the measurement of economic benefits from optimized liquidity and facilitate more informed decision-making and investments.



## Regulatory and compliance

Risk management and compliance teams are no strangers to having well-defined mechanisms to monitor suspicious activities, often by reviewing and analyzing transactional and holdings data, securities reference data, corporate actions data and tax information. Such tasks require a lot of manual intervention with compliance experts, typically spending hours or even days scouring online sources for important data.

At Clearstream we are leveraging AI to comb through this data to detect unusual patterns more quickly, using capabilities like natural language processing (NLP) in screening and background checks, expediting the entire process.

Retrieval-augmented generation (RAG) is an NLP technique that combines the strengths of both retrieval and generative-based AI models. It helps avoid the risk that arises through hallucinations and out-of-context replies, commonly observed when using large language models. We are utilizing RAG to generate templates for internal credit assessments where officers typically handle information in PDF files that can span hundreds of pages. In addition to the generated text, users will receive references to the sources that were used to generate this text.

When dealing with risks in relation to collateral concentration limits of our clients, regulators expect a well-defined process, with little to no room for subjective decision-making. Outcomes are largely determined by automated rule-based processing, but any decisions taken by human operators are logged and fed back into the model to improve its accuracy and objectivity, that is, its robustness against biases.

For sanctions and embargo screening, we use a tool that cross-references data against official sanctions lists. As the volume of sanctions and screened data continues to rise, the number of alerts has (understandably) increased significantly. The AI (using Machine Learning) streamlines alert handling by recommending actions, accurately identifying false positives, and ensuring true positives are never misclassified. We now have an opportunity to reduce manual effort by up to 50%, once sufficient comfort can be derived from the model.

**“AI is a useful complement, and it can support activities like sanctions monitoring. One of the main benefits of AI is that in some instances it may be more accurate than humans and has better scalability. This allows us to deploy our people and resources more widely and efficiently,”** explains Jan Kobbach, Head of Compliance for Clearstream Banking AG.

**➤ 50% reduction**  
**in manual sanctions screening**

## Client services and relationship management

In recent years, Clearstream has focused on building internal tools that bring data closer to the people who need it most, especially those engaging directly with clients. Dashboards and sandbox environments have empowered our teams to respond to activities, identify opportunities and prepare for meetings independently, accelerating responsiveness and supporting our broader goal of democratizing data.

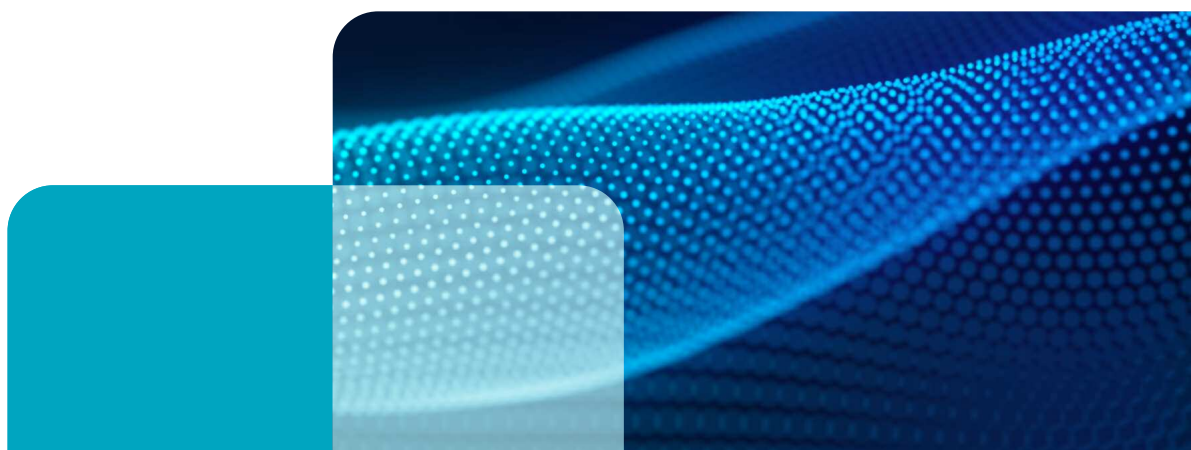
Our external data products are designed to surface actionable business insights, helping clients streamline operations, optimize collateral, maximize balance sheet efficiency, and seize revenue-generating opportunities. While this value proposition remains strong, we are now focused on elevating client experience to the next level: intelligent support powered by data and AI.

In this exciting new phase, our client service teams will evolve from addressing routine challenges to anticipating and proactively mitigating potential issues. By joining insights across business domains, we will be able to pre-empt market events—such as business-impacting corporate actions—or resolve unmatched instructions before they fail.

At the heart of this transformation, there is a deeper understanding of our clients. From onboarding, we begin building rich, dynamic client profiles—tailoring services to evolving needs and refining our view through a blend of real-world interactions and business KPIs.

For day-to-day queries, automation through chatbots will continue to handle tasks like trade status updates. But we want to move beyond conversational automation toward smart assistants that recognize patterns, flag recurring or thematic issues, and guide clients directly toward operational improvements. It's not just about support and service—it's about partnership.

The next frontier in relationship management is digital intelligence led. By harvesting insights from client engagements, integrating performance metrics, market sentiment, and peer comparisons, Clearstream will deliver sharper, faster, deeper insights—and unlock even more business opportunities.



# Conclusion and Recommendations

In securities services, data is no longer just a record of activities—any more than AI is mere hype. Together, data and AI form a powerful catalyst for our business and the industry at large, fueling smarter decisions, seamless operations, and stronger client partnerships.

Data and AI are natural cornerstones of a modern business strategy, demanding disciplined development practices to ensure sustainable value, trust, and resilience. To enable this, a variety of strategic imperatives and investments must come together, spanning governance, technology, talent, and culture.

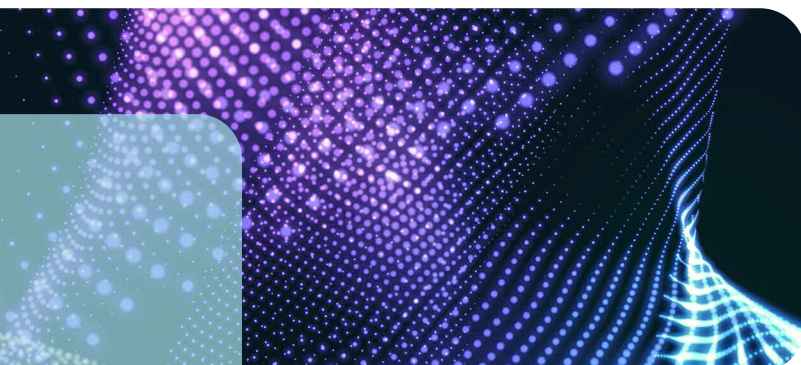
A strong commitment to data governance is paramount—ensuring that data is accurate, explainable, secure, and responsibly used across the enterprise. The reliance on data now extends far beyond feeding dashboards; it is actively driving AI-powered solutions that shape client outcomes and operational agility. A modern data mesh architecture is a sensible approach to support how we scale data governance and innovation, decentralizing data ownership and empowering domain teams to treat data as a product—accelerating innovation while maintaining control and accountability.

Collaborating with specialist technology, data and AI providers, firms can accelerate development, reduce costs, and avoid duplicating capabilities that already exist in the market. These alliances offer access to mature solutions, specialized expertise, and emerging technologies—allowing internal teams to focus on delivering differentiated value and enhancing client experience.

To keep AI systems effective and trustworthy, organizations must implement robust lifecycle management practices. This involves ongoing monitoring to detect performance issues, bias, or data drift; maintaining clear, transparent documentation to ensure systems are auditable and understandable; and conducting rigorous stress testing across a range of scenarios. Validating models in controlled, production-like environments further ensures they integrate smoothly and perform reliably under real-world conditions, delivering not just accuracy, but also resilience and scalability.

As AI tools—such as intelligent desktop assistants—are introduced, upskilling the workforce becomes essential. Equipping employees with the skills and confidence to engage with AI responsibly not only drives adoption and personal growth but also unlocks meaningful productivity gains.

Ultimately, success hinges on a willingness to embrace cultural transformation. Organizations must ensure everyone understands and utilizes data while embracing the potential of AI. By fostering shared ownership, curiosity, and ethical awareness, firms can build a resilient, adaptive culture—one that continuously unlocks innovation.



# Outlook:

## The Autonomous Future of Securities Services

The future of data and AI in securities services reveals a promising landscape shaped by intelligent automation, real-time insights and digital agility.

While much attention is currently given to AI technology, model improvements and compute resources, the quality and uniqueness of data will be a more decisive factor. High value data shapes a model's domain expertise and significantly influences the relevance and accuracy of its outputs. As access to generic models and compute power becomes more widespread, competitive advantage is shifting toward proprietary data and fine-tuned, smaller open-source models. Organizations are increasingly leveraging these domain-specific datasets to differentiate their AI capabilities and overall value proposition.

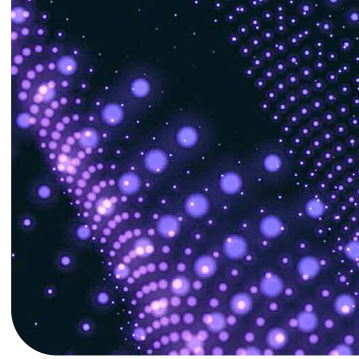
Companies will likely leverage AI to automate complex post-trade workflows, strengthen risk and compliance, and deliver personalized client experiences. Agentic AI offers the potential for autonomous operation within securities services, executing tasks without human intervention. As employees increasingly use desktop assistants for administrative tasks, they will similarly seek AI agents to streamline more complex processes.

We anticipate an industry shift beyond language processing toward AI models capable of reasoning, interpreting vast datasets, and making context-aware decisions. Rather than simply supporting operations, AI will take on a more orchestral role—proactively delegating tasks, intelligently managing exceptions, and enabling adaptive workflows. The result: faster,




more informed decisions, deeper risk insights, and reduced operational costs. Consider, for example, the potential for increased efficiency in settlement operations by using intelligent agents to monitor transactions end-to-end and proactively intervene before issues arise. This could include actions like notifying a counterparty, updating middle office, or correcting discrepancies. A critical consideration for firms will be the balance between AI autonomy and human oversight—how much autonomy can be safely granted to these self-learning AI agents while ensuring appropriate human intervention?

What remains clear is that data and AI will be central to shaping the FMIs and CSDs of tomorrow, supported by digital architectures enabling a dematerialized securities lifecycle and the use of tokenized assets. This evolution will be complemented by modular, interoperable systems and highly automated, zero-touch processes designed to maximize efficiency and resilience. Yet, even as technology transforms the landscape, the human element will remain indispensable—bringing judgment, oversight, and ethical stewardship that will continue to guide and enrich these innovations.




# List of Abbreviations

<b>AI</b>	Artificial intelligence
<b>AIFMD</b>	Alternative Investment Fund Managers Directive; Directive 2011/61/EU of the European Parliament and of the Council of 8 June 2011 on Alternative Investment Fund Managers and amending Directives 2003/41/EC and 2009/65/EC and Regulations (EC) No 1060/2009 and (EU) No 1095/2010
<b>API</b>	Application programming interface
<b>CCMS</b>	Canadian Collateral Management Service
<b>CSD</b>	Central securities depository
<b>CSDR</b>	Central Securities Depository Regulation; Regulation (EU) 2023/2845 ("CSDR Refit") amending Regulation (EU) No 909/2014 of the European Parliament and of the Council on improving securities settlement in the European Union and on central securities depositories as regards settlement discipline, cross-border provision of services, supervisory cooperation, provision of banking-type ancillary services and requirements for third-country central securities depositories and amending Regulation (EU) No 236/2012
<b>DLT</b>	Distributed ledger technology
<b>ECB</b>	European Central Bank
<b>EMIR</b>	Regulation (EU) No 648/2012 of the European Parliament and of the Council of 4 July 2012 on OTC derivatives, central counterparties and trade repositories
<b>EU</b>	European Union
<b>FMI</b>	Financial market infrastructure
<b>FX</b>	Foreign exchange
<b>GDPR</b>	General Data Protection Regulation; Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC



<b>HQLA</b>	High-quality liquid asset
<b>ICSD</b>	International central securities depository
<b>IPT</b>	Issuance and processing taxonomy
<b>KPI</b>	Key performance indicator
<b>LLM</b>	Large language model
<b>ML</b>	Machine learning
<b>NLP</b>	Natural language processing
<b>OSCAR</b>	Own Selection Criteria with Automated Reasoning
<b>RAG</b>	Retrieval augmented generation
<b>REST</b>	Representational state transfer
<b>RPA</b>	Robotic process automation
<b>STP</b>	Straight-through processing
<b>T</b>	Trade date



# Clearstream's Data Solutions at a Glance

Our data solutions are based on the use of trusted data, advanced analytics and artificial intelligence aimed at supporting our clients in mitigating risks, taking faster decisions, and finally driving growth.



## **Settlement Dashboard: Insights into past and present**

The Settlement Dashboard offers clients detailed insights into their settlement activity, such as efficiency and failure analysis and assessing the potential impact on a daily basis.



## **Settlement Prediction Tool: Insight into future settlement**

The Settlement Prediction tool calculates the probability that a specific instruction will settle on time, based on the transaction specificities and historic data feed.



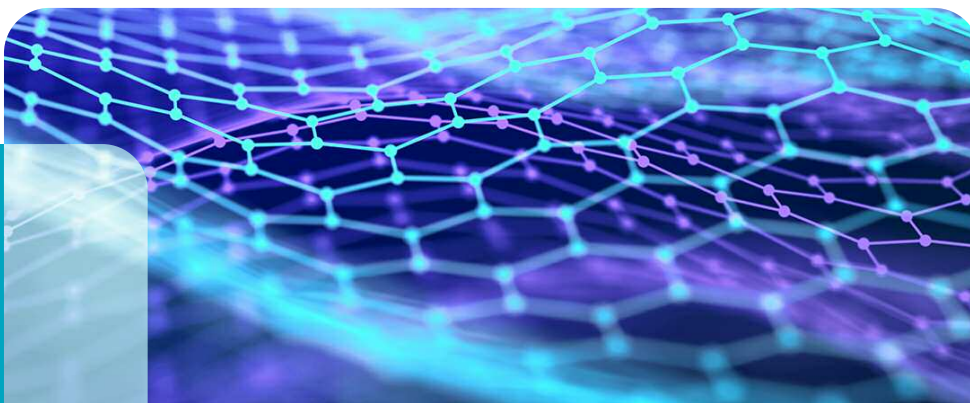
## **Collateral Mapper: Optimizing collateral usage**

The Collateral Mapper is an intuitive dashboard that summarizes complex sets of reports on collateral usage and evaluates the potential of a collateral portfolio.



## **Collateral Insights Dashboard: Your gateway to enhanced collateral management**

The Collateral Insights Dashboard consolidates your collateral data into a single, user-friendly dashboard that provides a holistic view of your collateral and lending activities.





#### **OSCAR: Simplify your collateral management**

The Own Selection Criteria with Automated Reasoning (OSCAR) tool allows clients to easily define, create, negotiate and exchange optimized eligibility profiles of collateral baskets using natural language processing.



#### **Lending Analytics Dashboard: Gain global insights and optimize your transparency**

The Lending Analytics Dashboard provides enhanced transparency through a single GUI for comprehensive lending activity across all Clearstream lending solutions.



#### **Asset Liability Analyzer: Manage your credit line and collateral usage**

The Asset Liability Analyzer provides market participants with a user-friendly dashboard. It eliminates the need for manual calculations by visualizing historical intraday credit line usage and collateral pool fluctuations.

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