

Reimagining structured products: Technology as the catalyst for the next wave of innovation

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When numbers matter

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1. Introduction

Structured products – such as structured notes, investment certificates, and other derivative-based investments – are an important revenue generator for banks. These products combine multiple financial instruments (e.g., bonds, options, swaps) to deliver customized payoff profiles to investors. Delivering and managing structured products is a complex endeavor, spanning front office activities (product design, pricing, trading, and sales), the middle office (trade capture and validation, risk monitoring, lifecycle event management, P&L and exposure oversight, and operational controls), and back-office processes (documentation, booking, settlement, and regulatory compliance).

In recent years, rapid advances in technology have fundamentally impacted how structured products are created, distributed, and managed. Tier 2 and tier 3 banks, in particular, face pressure to modernize their technology to stay competitive with larger institutions.

This white paper explores the top technology issues facing the structured products business and the innovations that address them, with a global view across markets. It covers the full operating model across front, middle, and back-office functions.

2. Key technology challenges in structured products

Despite the lucrative opportunities in structured products, banks often encounter several technology-related challenges that hinder efficiency and growth. Below we outline the key issues and how they impact the structured products business.

Manual and fragmented processes

Many structured product workflows remain highly manual and paper-based, involving sequential steps and numerous hand-offs between systems and teams[1]. From structuring to issuance to settlement, processes are often labor-intensive and rely on outdated technology. This sequential, siloed approach causes delays, increases operational risk, and drives up costs, as tasks cannot be easily done in parallel and status tracking is poor[2].

For example, issuing a new structured note may require manually preparing term sheets, obtaining approvals, and coordinating with multiple intermediaries, which slows time-to-market. Fragmented systems also lead to data reconciliation challenges – different departments maintain separate records of product details, requiring repetitive reconciliations and creating “multiple versions of the truth”[3]. These inefficiencies are especially burdensome for smaller banks with limited operational staff.

Complex pricing and risk analytics

Structured products often have exotic payoff structures and embedded derivatives that are challenging to price and hedge. Managing the market risks (equity, interest rate, FX, volatility risk) of these products requires sophisticated quantitative models and significant computational power[4].

[1] Taurus. Tokenization Use Cases: Trading & Settling Digital Securities with Tokenized Structured Products
[2] Taurus. Tokenization Use Cases: Trading & Settling Digital Securities with Tokenized Structured Products
[3] Taurus. Tokenization Use Cases: Trading & Settling Digital Securities with Tokenized Structured Products
[4] Grid Dynamics. Structured products: Harnessing AL-driven digitalization.

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Front office quant teams need to run extensive simulations (e.g. Monte Carlo scenarios) to price products and compute sensitivities (Greeks), and risk managers must perform stress tests and dynamic hedging simulations. Legacy infrastructure at many banks struggles to handle this computational load in a timely manner.

Without modern high-performance computing or optimized algorithms, analytics can be slow, limiting a bank's ability to respond quickly with prices for custom structures. Inadequate risk analytics also introduce model risk – if models or inputs (like volatility or correlations) are wrong, the bank could misprice deals and face unexpected losses[5]. Thus, the complexity of structured products puts pressure on technology for fast, accurate pricing and real-time risk management.

Regulatory compliance and reporting

The structured products industry is heavily regulated, and compliance requirements have tightened in recent years. Banks must produce detailed documentation (e.g., prospectuses, PRIIPs KIDs), conduct suitability checks, and report transactions promptly to regulators. New regulations continue to raise the bar. For instance, FINRA's Rule 6730 in the US now requires trade reporting within one minute for certain structured trades[6], and settlement cycles have moved from T+2 to T+1 in the US. (Regulatory authorities in the EU, UK, Norway and Switzerland have agreed to adopt the same standard for settlement of all securities registered at a Central Securities Depository (CSD) by October 2027).

In Europe and the UK, MiFID II and consumer protection rules (like the UK's new Consumer Duty framework) demand greater disclosure and oversight of how structured products are designed and sold[7]. Many tier 2/3 banks find it challenging to keep up with these demands using legacy systems. They struggle to generate compliant documents and manage large volumes of data for regulatory reports on a frequent basis.

Without automation, compliance tasks (e.g., assembling Key Information Documents (KIDs), filing with regulators, monitoring distribution practices) consume significant



[5] Grid Dynamics. Structured products: Harnessing AL-driven digitalization.

[6] Grid Dynamics. Structured products: Harnessing AL-driven digitalization.

[7] Delta Capita. Why digitise your structured product distribution.

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amounts of time and are prone to error. This regulatory burden can increase costs and slow down the issuance process if not addressed with technology.[8]

Distribution and client service limitations

On the client-facing end, structured products have traditionally been distributed through manual channels (sales teams communicating with investment advisors via phone/email). This model can limit the reach and responsiveness of issuers. Today's investors and distributors expect digital interfaces and real-time information. Clients want the ability to see product performance, barrier events, and other lifecycle information on demand[9].

If a bank lacks a user-friendly digital platform for its structured product offerings, it may fall behind competitors in servicing clients. Additionally, the market has seen growth in multi-issuer platforms where distributors can get quotes from multiple banks. Without connectivity to such platforms or an e-trading capability, smaller banks might be excluded from important distribution channels.

Legacy architecture and integration issues

Underpinning many of the above challenges is the fact that banks' technology stacks for structured products are often a patchwork of older systems. Front office pricing models might be in spreadsheets or proprietary code, trade booking might be in a separate system or multiple systems, and the back office may use different databases. These all require custom interfaces.

This lack of an integrated architecture means data is not consistent across the trade lifecycle. For example, a payoff formula might be described differently in a sales term sheet, the risk system, and the settlement system. The absence of a common data model leads to manual re-entry and errors[10].

Furthermore, legacy systems can be inflexible, making it hard to introduce new product types or accommodate new regulations. These integration issues are a significant barrier when trying to automate end-to-end processes.

In the face of these challenges, banks are turning to technology innovations to streamline their structured products business.

> "Banks are turning to technology innovations to streamline their structured products business."

3. The next wave of innovation: From automation to programmable manufacturing

Structured products are moving from being document-heavy instruments processed by disconnected systems to being digital products that can be created once, controlled continuously, and distributed through new channels. That changes the role of every function. The front office gains faster design, pricing and personalization; the middle office becomes a real-time orchestration layer for lifecycle events, risk,

[8] Tradegate AG. Case study: Entering the market as a new issuer of structured products.
[9] Societe Generale. Automating structured product portfolio management – SG markets life cycle, 24 May 2021.
[10] Taurus. Tokenization Use Cases: Trading & Settling Digital Securities with Tokenized Structured Products.

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collateral, P&L and controls; and the back office moves toward zero-touch issuance, settlement and reporting.

Evidence of this shift is already visible in real-time post-trade initiatives, digital issuance platforms and structured-note issuance automation across capital markets[11].

From PDFs to "payoff-as-code"

The most important architectural change is to stop treating a structured product as a bundle of PDFs, booking fields and manual interpretations. A structured product represents a machine-readable product object. In this model, the payoff logic, lifecycle rules, legal variables, settlement attributes and reporting fields are defined once and reused across the front, middle and back office.

For the middle office, this is a genuine step-change. The same digital object can drive trade validation, barrier monitoring, coupon logic, corporate-action handling, P&L explain, control evidence and exception management, rather than each team maintaining its own version of the truth. The enabling components are already emerging.

Issuance in minutes, not days

The next leap is digitally native issuance. Rather than drafting, approving, issuing and settling across fragmented systems, banks are starting to compress those steps into a single digital workflow. This is more than a settlement upgrade. It points to a world in which issuance, distribution and servicing are designed as one digital process, with the middle office seeing live positions and exceptions instead of waiting for batch handoffs[12].

From mass production to one-to-one manufacturing

Structured products have always promised customization, but the economics of manufacturing have often pushed desks toward semi-standardized flow. That is starting to change. Clifford Chance notes that providers now receive tens of thousands of structured-note RFQs daily, with auto-pricers reading RFQs and responding in seconds, usually within three minutes[13].



[11] Citi Institute. Global Perspectives & Solutions. The Future of Post-Trade. Custody and Settlement in an Always-On World. September 2025

[12] Clearstream. Building the Digital Asset Ecosystem.

[13] Clifford Chance. Innovation Insights. Adopting Technology in Structured Notes Issuance. July 17 2025

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The more interesting frontier is what happens before and after pricing. For example, AI systems may start from a client objective, map that objective to exposures, propose a structure, populate final terms, and route approval packs automatically. That becomes even more powerful when combined with next-generation index construction. LLMs and agents can be utilized to map investment objectives to specific companies and build bespoke indices.

The implication is that the front office can move from selling a menu of familiar structures to industrialized one-to-one manufacturing, while the middle office applies standardized risk, suitability and control overlays to each bespoke payoff[14].

The middle office becomes a predictive control tower

Historically, the middle office in structured products has often acted as a control and reconciliation layer. The more radical model is a predictive control tower – an always-on intelligence layer that explains risk, flags barrier proximity, predicts call behavior, monitors liquidity and funding usage, validates hedges, and escalates anomalies before they become breaks.

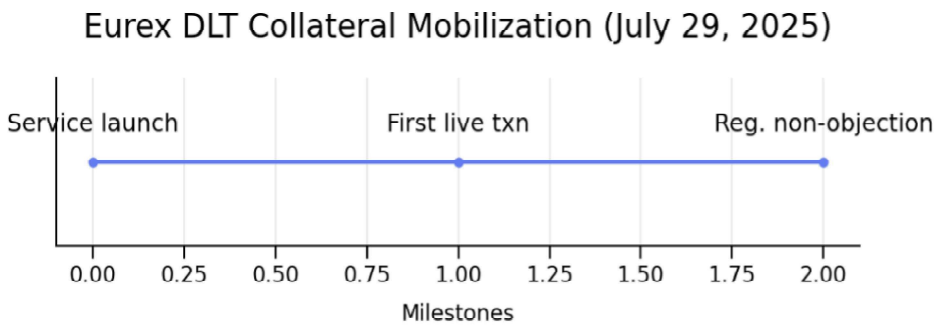
Generative AI tools would let risk teams ask plain language questions, replace hours or days of manual data gathering, rank the most salient portfolio changes, expose the supporting facts behind AI outputs, and standardize escalation, limits monitoring and structured-product analytics.

For structured products businesses, that is a major shift in identity. The middle office stops being the place where yesterday's trades are checked and becomes the place where today's risk is interpreted and tomorrow's exceptions are anticipated[15].

Collateral becomes mobile, not trapped

One of the least discussed but most consequential innovations sits beneath the product itself: collateral mobility. The profitability of a structured products desk is increasingly shaped by hedging, funding and margin consumption, especially in volatile markets. Eurex launched the first CCP globally to offer DLT-enabled collateral mobilization in July 2025, with J.P. Morgan executing the first live transaction for PGGM[16].

For structured-products issuers, that points to a much more dynamic future in which the middle office does not merely report collateral needs after the fact, but actively optimizes hedge capacity, funding usage and margin efficiency intraday. That is the kind of infrastructure innovation practitioners immediately recognize as commercially meaningful.



Source: Ripple and Boston Consulting Group

[14] Clifford Chance. Innovation Insights. Adopting Technology in Structured Notes Issuance. July 17 2025

[15] Citi Institute. Global Perspectives & Solutions. The Future of Post-Trade. Custody and Settlement in an Always-On World. September 2025

[16] Eurex. Eurex Clearing becomes first CCP globally to launch DLT-enabled collateral mobilization service

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Lifecycle events become autonomous

Autocalls, coupons, barriers, corporate actions, market disruption events affecting the underlying share, and Mark-to-Market or Mark-to-Model (MtM)[17] dissemination are where structured products often become operationally expensive. The next-wave model is autonomous lifecycle management: event engines that monitor terms continuously, interpret what has happened, generate decisions, push MtM, and trigger conditional cashflows.

Clifford Chance notes that post-issuance platforms already monitor coupon payments, autocall events and corporate actions, while providers use technology to calculate and publish MtMs on venues such as Bloomberg and Reuters. Citi argues that digital assets point toward truly instant settlement and continuous real-time processing of securities and cash transactions, and DBS says its Token Services platform enables instant 24/7 payment settlement and programmable logic via smart contracts[18].

Put together, these developments point to a structured product lifecycle that is monitored, adjudicated and serviced almost continuously, with the middle office supervising exceptions and governance rather than manually shepherding routine events through batch processes.

Compliance moves from interpretation to execution

A genuinely novel innovation is regulatory logic becoming machine-executable. That matters most in the middle office and back office, where reporting, control evidence and traceability often consume disproportionate effort. ISDA says its Digital Regulatory Reporting framework uses the Common Domain Model to convert industry interpretations of new or amended reporting rules into machine-executable code, and in 2025 it expanded or planned coverage across revised Canadian rules, Hong Kong's revised reporting rules, and MiFID/MiFIR reporting.

In structured products, the long-term implication is powerful even if adoption is still early. Compliance stops being a manual afterthought layered onto trade capture and instead becomes part of the product's digital build, with clearer traceability from product design to booking, controls and reporting[19].

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Tokenization: distribution breaks out of captive channels

Tokenization is not only a post-trade story – it rewires distribution. DBS is explicitly using tokenization to split a structured note into smaller, fungible units and distribute those notes through third-party digital platforms[20]. UBS Tokenize similarly positions tokenized structured products as accessible through a single

[17] Calculations used to assess the price of structured products under current market conditions (Mark-to-Market) or using specific model assumptions when observable market prices are not available (Mark-to-Model).

[18] Clifford Chance. Innovation Insights. Adopting Technology in Structured Notes Issuance. July 17 2025

[19] ISDA. Challenges and Opportunities of Digital Transformation: Scott O'Malia Opening Remarks. January 29 2025

[20] DBS. DBS expands blockchain capabilities by tokenising and distributing structured notes. August 21 2025.

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digital channel and emphasizes fractionalization and access to new investor bases[21].

That creates a different business model: the front office manufactures once, the middle office maintains a live control and servicing view, and the same product can reach multiple external channels without recreating the workflow every time. For tier 2 and tier 3 banks in particular, that could become a strategic equalizer, allowing them to access wider distribution without having to replicate the full captive infrastructure of the largest global houses.

The real next wave of innovation in structured products will come not from automating isolated tasks, but from rebuilding the business around digital product objects, real-time middle office control, programmable cashflows, mobile collateral and new distribution rails.

In that future state, structured products are no longer processed as paperwork-heavy transactions. They are manufactured, monitored and serviced as programmable financial software.



4. Driving forces behind technological innovation

Several key drivers are propelling technological innovation in structured products. Understanding these driving forces helps clarify why banks (including tier 2 and 3 players) must pay attention to tech modernization.

Regulatory pressure

Regulatory changes have been an important catalyst for innovation. Rules like MiFID II, PRIIPs, Dodd-Frank, and others have imposed strict requirements on disclosure, reporting, and risk management for structured products. Regulators are pushing for greater transparency and investor protection. For example, regulators demand detailed cost disclosures and risk metrics in the EU's PRIIPs KIDs, or best execution and suitability obligations under MiFID II[22]. To comply, banks have little choice but to invest in systems that can generate the necessary data and documents quickly and accurately.

The introduction of accelerated trade reporting (e.g.,

[21] UBS. UBS Tokenize. Your gateway to decentralized financial markets.

[22] Delta Capital. Why digitise your structured product distribution?

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FINRA 6730 one-minute rule in the US) and the move to T+1 settlement in many markets forces banks to adopt real-time processing capabilities[23]. Essentially, regulations and settlement acceleration raise the bar to a point where manual processes will break, thus driving automation and data integration. Furthermore, regulators themselves have encouraged standardization (for instance, the US SEC promoting electronic reporting, European regulators encouraging ISIN usage for structured notes), indirectly fostering innovation like data standard models and RegTech (regulatory technology) solutions.

> "The introduction of accelerated trade reporting (e.g., FINRA 6730 one-minute rule in the US) and the move to T+1 settlement in many markets forces banks to adopt real-time processing capabilities."

Market competition and client expectations

The competitive landscape is another strong driver. Structured products can be a lucrative business, and many banks (including smaller ones) have entered the market or expanded offerings. This competition means that speed and efficiency are competitive advantages. The bank that can turn around a custom quote in minutes or launch a new payoff idea first often wins the mandate. Technology is the enabler of such speed.

Likewise, clients (both intermediaries like private banks, and end investors) have developed higher expectations due to digital experiences in other areas. A wealth manager using a multi-issuer platform can now compare quotes side-by-side, so issuers must integrate with the platform to avoid being left out. Investors used to real-time access in online brokerage now expect similar instant information for their structured investments.

A survey of market sentiment in 2025 noted the industry's resilience but highlighted investors' demand for timely information and digital access as shaping how banks deliver products[24]. To meet these expectations, banks are motivated to innovate – delivering user-friendly digital portals, real-time data feeds on product performance, and even mobile app access for structured products. In short, client-centric innovation (better UX, faster service) is driven by the need to attract and retain business in a competitive market.

Cost and efficiency imperatives

Profit margins in structured products can be healthy, but the cost of running the business (especially for complex bespoke deals) can also be high if done inefficiently. Tier 2 and 3 banks often have tighter resource constraints than tier 1 banks, so improving operational efficiency is critical. Automation and technology offer ways to reduce unit costs per trade.

For example, digitizing the due diligence and distributor onboarding process can save significant time for the legal and compliance teams Delta Capita estimates that using a mutualized digital service for tasks like Know-Your-Distributor (KYD) and document exchange can be 50 times cheaper for an issuer than doing it manually in-house[25]. Additionally, by automating routine tasks, banks free up their human experts (structurers, quants) to focus on higher value activities (like innovation and client interaction) rather than paperwork.

[23] Grid Dynamics. Structured products: Harnessing AL-driven digitalization, Suresh Nageswaran, Anindya Gupta & Jeremy Brecevic.
[24] Societe Generale. Automating structured product portfolio management – SG markets life cycle.
[25] Delta Capita. Why digitise your structured product distribution?

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The drive to "do more with less" in banking operations has been a powerful force behind adopting modern Software as a Service (SaaS) platforms and cloud solutions. It converts fixed costs to variable costs and improves scalability. In many cases, smaller banks see technology as a means to punch above their weight. For instance, a lean team can issue a high volume of products if they have a robust automation platform, whereas previously that scale would require much larger teams.

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Technological maturity and ecosystem

Another reason we see these innovations now is that the technology itself has matured and become more accessible. Cloud computing has reached a level of security and reliability that convinces bank CIOs to move critical workloads to the cloud. AI capabilities have improved thanks to better algorithms and the availability of big data to train models.

Importantly, an ecosystem of fintech vendors specializing in structured products has emerged (e.g., firms offering turnkey platforms for issuance, or data providers for analytics). This means banks do not have to invent or build everything internally. They can partner or purchase solutions for quicker wins. Industry collaboration, such as consortium-led platforms and common data standards, has lowered the barrier for individual banks to adopt innovative solutions. Essentially, the availability of proven technology solutions and third-party support has been a driving factor enabling tier 2 and 3 banks to innovate at a reasonable cost and risk.

In combination, these drivers create a strong case for continuous technology innovation. Regulatory and client pressures make it necessary, while cost and technology maturity make it feasible. For many banks, the question is no longer if to modernize, but how quickly can they do so to keep up with the market.

5. Conclusion

Technology is reshaping the structured products business across the globe. The top technology challenges – from manual processes and siloed systems to computational complexity and stringent regulations – are being addressed through a wave of innovation. Tier 2 and 3 banks, despite smaller IT budgets, are positioned to benefit greatly from these trends by adopting agile and cost-effective solutions.

Technology has become the linchpin for success in the structured products business. A firm that adeptly harnesses innovation can offer more compelling products, manage risks more robustly, operate more efficiently, and ultimately deliver greater value to its clients – and profits to its shareholders.

As the structured products landscape evolves, staying agile and tech-forward will be essential for all players, big and small.

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