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Turning FX derivatives Ops into a source of capital and competitive advantage

STABLECOINS
Is the clock ticking on traditional cross-border payments?

DIGITAL ASSETS
Prime Brokerage has come a long way but still has some way to go

BEYOND THE ALGORITHM
Why human intelligence still matters in FX broker partnerships

THE TT FX PLATFORM
Bringing OTC FX and listed derivatives together



IN CONVERSATION
James Pearson, Head of FX, Markets and his colleagues at LSEG

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Welcome to

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transforming global foreign exchange markets



November 2026

Our feature on FX post-trade operations this month examines how an area traditionally regarded as a back-office function is becoming an increasingly important source of capital efficiency and competitive advantage. Regulatory pressures, tighter funding conditions and the approaching transition to T+1 settlement are encouraging financial institutions to rethink how they manage counterparty exposures, liquidity and settlement risk.

Automation, improved connectivity and more sophisticated portfolio optimisation techniques are helping firms reduce operational costs and make better use of their balance sheets. However, fragmented workflows and legacy infrastructure remain significant obstacles, while the potential application of AI offers new opportunities to anticipate and prevent settlement problems before they arise.

Capital efficiency is also central to our examination of the evolving digital asset prime brokerage market in this edition. Although institutional access to digital asset liquidity has improved considerably, the infrastructure supporting credit, collateral management and financing remains relatively immature. We explore how prime brokers are seeking to overcome these limitations and provide the integrated services, risk controls and operational flexibility that institutional investors have come to expect in traditional financial markets.

Elsewhere, we consider the growing role of stablecoins in cross-border payments and corporate treasury. Their potential to accelerate settlement, reduce FX costs and improve access to international liquidity is attracting considerable attention, particularly in markets where conventional payment infrastructure remains expensive or inefficient. Nevertheless, regulatory, operational and integration challenges suggest that stablecoins are more likely to complement established payment systems than replace them entirely.

Finally, we turn our attention to the changing white-label FX technology market. Once viewed primarily as a means of reducing development costs and accelerating time to market, modern white-label platforms are becoming increasingly sophisticated, offering banks and brokers greater flexibility to customise trading services, integrate new technologies and expand into additional asset classes. The challenge is to achieve these benefits without sacrificing control, resilience or the ability to differentiate their offerings.

As usual I hope you enjoy reading this edition of the magazine.
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November 2026

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Innovation selects smartTrade

Innovation Federal Credit Union (Innovation) and smartTrade Technologies have announced the successful transition of Innovation's Foreign Exchange (FX) business onto smartTrade's Commercial Banking & Payments (CBP) platform, following the transfer of operations from Concentra, Equitable Bank's subsidiary. As of July 13, 2026, Innovation is operating its FX business on smartTrade's CBP platform, providing a scalable technology foundation to support its direct and white-label clients and strengthen FX services for credit unions and their members across Canada. The transition was delivered through a carefully sequenced twelve-month implementation, completed on schedule. "We are proud to have supported Innovation at every stage of this transition bringing the platform, the people, and the project discipline to complete a complex change of ownership on schedule, with continuity of service for every client. Innovation's expanded FX offering now runs on our Commercial Banking & Payments platform, and we look forward to supporting its growth for many years to come," said David Vincent, CEO & Co-Founder of smartTrade Technologies.



David Vincent

StoneX launches Singapore FX booking center

StoneX Group Inc. has announced the launch of its Singapore FX booking center and SG1 connectivity, marking a significant expansion of its foreign exchange capabilities in the Asia-Pacific region. StoneX FX, the institutional FX division of StoneX, offers OTC trading solutions for institutional and corporate hedging. Its award-winning FX market access model enables clients to trade spot, forwards, NDFs, swaps, and options with efficiency and transparency. The new booking center enables StoneX FX to provide local pricing and execution from Singapore,



Gerard Melia

improving response times, enhancing regional expertise, and aligning client support with APAC market hours. Gerard Melia, Global Head of FX Sales, StoneX, commented: "The launch of our Singapore booking center is a meaningful step in strengthening our FX offering in Asia-Pacific. By aligning pricing and execution with regional market hours, we are able to deliver faster, more relevant support and help our clients navigate increasingly dynamic FX markets with greater precision."

Bloomberg introduces BQuant Assistant

Bloomberg has introduced BQuant Assistant, a domain-grounded conversational AI coding assistant which gives financial professionals who are Bloomberg Terminal subscribers the ability to use natural-language prompts to write code, build dynamic applications, and accelerate financial data analysis workflows. "Financial professionals are working with increasingly large and complex datasets, but turning an investment idea into a repeatable analysis can still require significant time and specialized coding knowledge," said Shawn Edwards, Bloomberg's Chief Technology Officer. "BQuant Assistant brings AI-driven coding that is informed by Bloomberg's understanding of financial data and quantitative workflows directly into the workflows our clients already use to build investment strategies. By helping every BQuant user — from a portfolio manager sketching out a first query to a quant engineering a multi-asset signal — easily move from a natural-language question to working code, data retrieval, and visualization, we are making it easier for clients to test ideas, refine analyses, and build investment strategies within BQuant."



Shawn Edwards

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iSAM Securities Apex integrates with Scope Prime

iSAM Securities Apex has integrated with Scope Prime, giving brokers access to Scope Prime's institutional liquidity including 24/7 gold, silver, oil and selected equities through Apex's ultra-low-latency execution platform. Apex clients can now add Scope Prime's pricing to their existing liquidity arrangements and use Apex to control how that liquidity is aggregated, routed and distributed to their clients. The integration gives brokers another option as they review pricing and respond to changing market conditions.

Dennis Weissert, Chief Commercial Officer, iSAM Securities Apex, commented: "In my view, one of Scope Prime's key strengths is its flexibility and ability to deliver customised liquidity solutions that meet the specific needs of brokers. I'm very pleased to have them connected to Apex, giving our mutual clients direct access to their offering. It's great to have Scope Prime as part of our growing liquidity ecosystem."



Dennis Weissert

ZeroVaR launches FX Maestro

ZeroVaR, the financial decision infrastructure company from Deaglo, has launched FX Maestro. It gives banks, payment firms and FX providers governed FX pricing and analysis inside the AI assistants their teams already use. FX Maestro is available now on Microsoft Marketplace for Microsoft 365 Copilot and works in Claude. Sales and dealing teams can pull indicative live pricing for forwards, options and structured products, compare hedge structures side by side and produce client-ready analysis in one conversation. Every result carries its sources, timestamp and method, so a control team can rerun it. With a client's profile, cash flows and existing trades next to live pricing, providers can design more bespoke solutions, and clients can see why a structure fits before they act.

Ashley Groves

"FX professionals and their clients will be leaving web-based platforms and moving into the AI application layer," said Ashley Groves, CEO and Co-Founder of Deaglo, ZeroVaR's parent company. "When a dealer has the client's exposures next to live pricing, they can build solutions around what that client actually needs. Ultimately the client wins."

TT integrates with Bitstamp

Trading Technologies International, Inc. (TT), has announced that institutional clients can now trade Bitstamp digital asset markets through the TT® platform. Through this connection, institutional market participants can access Bitstamp by Robinhood's crypto spot and derivatives markets alongside other asset classes, including futures, fixed income and foreign exchange within TT's multi-asset environment. TT also becomes the first major traditional-markets order/execution management system (O/EMS) to connect directly to Bitstamp by Robinhood, expanding Bitstamp's connectivity beyond predominantly crypto-native trading platforms and into established multi-asset trading workflows. Nicola White, VP of Institutional Crypto and GM of Bitstamp by Robinhood, said: "Connecting with Trading Technologies continues our rapid expansion of institutional distribution partners. As a leading multi-asset trading platform with deep roots in traditional markets, TT extends our venue to a global network of sophisticated institutional traders, proprietary desks and buy-side firms. Market participants, through Trading Technologies, can access Bitstamp by Robinhood's deep liquidity and institutional execution services within their primary daily workflow seamlessly."



Nicola White

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Winner FX·Markets e-FX Awards 2023 Best prime-of-prime broker Invast Global 2023

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The magic of post-trade alpha:

Turning FX derivatives operations into a source of capital efficiency and competitive advantage



Nicholas Pratt explores how technological innovation, evolving regulatory requirements and the approaching transition to T+1 settlement are transforming FX derivatives post-trade operations, with insights from Ben Lancaster, interim co-head of TradeNeXus® & head of BestX® product, State Street GlobalLINK™, on the opportunities to unlock capital efficiencies, reduce risk and deliver competitive advantage.

Images by Shutterstock



Nicholas Pratt

The FX post-trade process is moving from a largely operational function to a strategic source of capital efficiency, liquidity management and competitive advantage.

"Regulation, compressed settlement cycles, margin requirements and tighter funding conditions mean that decisions made after execution can now directly affect capital usage, liquidity, counterparty capacity and ultimately the cost of trading," says Ben Lancaster, interim co-head of TradeNeXus & head of BestX Product, part of State Street's GlobalLINK technology suite.

The move towards T+1 settlement is accelerating that change, says Lancaster. "Shorter processing windows leave less time to resolve mismatches, funding issues or exceptions, increasing the value of automation and straight-through processing. For clients, reducing manual intervention is therefore no longer simply about lowering operational cost. It is increasingly about reducing settlement risk and avoiding unnecessary funding and exception-management costs."

At the same time, regulation has strengthened the link between the front and back office, says Lancaster.

"Post-trade therefore becomes a mechanism for actively managing counterparty exposure, margin and balance-sheet consumption..."



Ben Lancaster

"Requirements such as SA-CCR and Uncleared Margin Rules mean firms increasingly need to consider how trades are distributed across counterparties and how portfolios can be compressed, rebalanced, novated or cleared. Post-trade therefore becomes a mechanism for actively managing counterparty exposure, margin and balance-sheet consumption, rather than simply processing trades that have already been executed."

AUTOMATION

Lancaster is also seeing an increased number of clients invest in automation and adopting API connectivity. "Technology can be leveraged to reduce exceptions and reduce time spent on historically manual processes such as novations, re-balancing and net present values (NPVs), it reduces manual risk and gives teams more time to focus on value-add initiatives. Removing manual touchpoint reduces operational risk and also results in time saving. Automation allows clients to scale and grow without increasing head count," he says.

Despite significant investment in automation and progress made over recent years, post-trade FX is still a fragmented market built on bespoke and legacy processes, says Lancaster. "No two asset managers have the same workflow which creates complexities and adds to the fragmentation. This is particularly visible with non-deliverable forwards (NDFs), which have a second layer of friction because the fixing leg needs to be agreed. The fixing source and date will impact the final cash amount. It's been almost 10 years since SWIFT mandated fields for settlement currency and fixing date, however challenges still remain on alignment and standardisation between parties. The lack of standardization in static data, such as fixing rate sources, means counterparties may represent the same rate source using different codes, creating additional mapping and normalization requirements."

Post-trade frictions arise where different instruments, counterparties, and infrastructures rely on separate processes and systems and create complexity. For example, FX derivatives involve multiple stages between execution and settlement, including trade matching and confirmation, clearing, calculation of payment obligations and settlement. Where these processes are not connected through standardized workflows, firms must reconcile data between systems or intervene when trades do not match, particularly for more complex transactions.

The Emerging Markets Traders Association (EMTA) currency-specific templates have aided standardisation, but different conventions and non-standard transactions can still create exceptions. The new 2026 FX Definitions should help further by consolidating International Swaps and Derivatives Association (ISDA) and EMTA documentation.

However, standardisation alone does not eliminate operational friction, says Lancaster. "FX Options introduce a different type of complexity. Vanilla products can increasingly be standardized, but exercise, expiry and particularly exotic options can involve product-specific terms and lifecycle events that require interpretation or discretionary action. That makes complete automation harder than for a straightforward deliverable forward or swap. Exotic options also contain various language that is specific to a counterparty, hence having an agreed template across the market will assist in automation."

Friction also remains with settlement of some emerging market (EM) currencies such as THB, BRL and MYR requiring manual intervention where there's local market requirements or the purpose of payment is required, says Lancaster. "The lack of the market standards can lead to bespoke solutions of how to determine, enrich, and consume these additional instructions which often results in use of free format fields. The migration of payment messaging to ISO 20022 is improving the structure and richness of settlement data, however the underlying challenge remains the same. The vast range of participants and workflows within the market makes it difficult to find a one approach fits all."

THE MOVE TO T+1

The EU's move to T+1 on 11 October 2027, alongside coordinated transitions planned in the UK, and Switzerland, will significantly compress the timeframe for the FX activity supporting securities transactions, says Lancaster. "That puts much greater pressure on allocation, confirmation, FX execution, funding and settlement. The FX requirement needs to be identified earlier, trades need to be executed and confirmed quickly, and funding needs to be in the right currency and location in time to meet settlement cut-offs. In particular, firms will need to ensure that accelerated FX execution does not push transactions outside established payment versus payment (PvP) mechanisms such as CLSSettlement, inadvertently increasing settlement risk. This is something which has been highlighted by the UK settlement taskforce."

In preparation for the transition, ESMA has established preparatory milestones for allocation and confirmation processes and is urging firms to test readiness across the entire trading and settlement chain.

Moving securities settlement from T+2 to T+1 compresses the time available to arrange and settle the FX required to fund a cross-border securities transaction. The FX trade itself may still settle on its usual timetable, but the processes that determine the required currency amount, execute the FX trade, and get it ready for settlement must happen sooner.

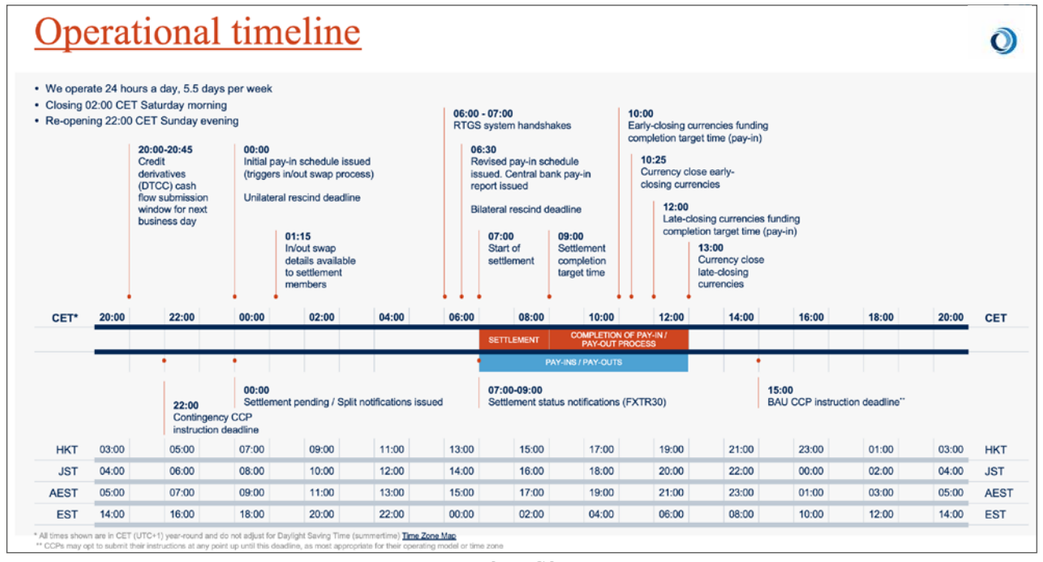
Allocation is important. An asset manager may execute a block securities trade and subsequently allocate it across multiple underlying funds or accounts. These allocations determine which accounts need to buy or sell currency and in what amounts. Delays in these processes leave less time to execute the corresponding FX trades, communicate settlement instructions to the custodian, and resolve exceptions before cut-off.

Asset managers tend to access CLSSettlement indirectly through CLS settlement members, with custodians handling the payment instructions and funding. Custodians set their own cut-off times so that instructions can be submitted ahead of the CLS initial pay-in deadline of midnight CET. CLS settlement members can continue to submit instructions until 06:30 CET on value date, but an asset manager must adhere to its custodian's earlier operational deadline.

European working hours align more closely with the CLSSettlement operational timeline, and CLS estimates that the proportion of CLSSettlement average daily value potentially affected by T+1 will probably not exceed 0.4% in the EU and 0.1% in the UK.[1]

There is therefore much less tolerance for manual intervention, late allocations or breaks, says Lancaster. "Firms will need to review their entire operating model, incorporating lessons learned from US T+1 migration in 2024. Firms that entered the US T+1 transition with higher levels of automation generally achieved better settlement performance and experienced a smaller increase in operating costs than firms reliant on more manual processes," he says.

"Ultimately, T+1 changes the operating model from having time to resolve exceptions to having to prevent them. For FX, that means earlier identification of funding requirements, greater straight-through processing and much better real-time visibility across the trade lifecycle. We have seen an increase in adoption of our CLSTradeMonitor partnership product to provide clients with more



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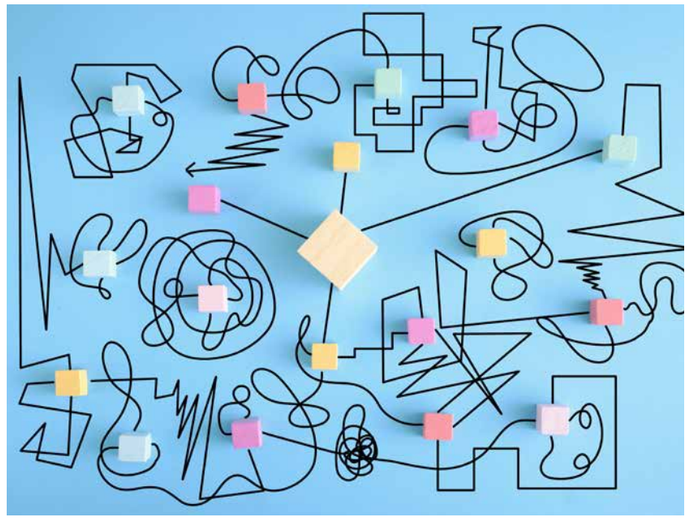


Post-trade frictions arise where different instruments, counterparties, and infrastructures rely on separate processes and systems and create complexity

transparency on the settlement process," states Lancaster.

"Additionally, TradeNeXus® has launched post-trade KPIs which allowed clients to identify bottle necks in their processes and inefficiencies, working with counterparties to proactively improve processes. The European transition is likely to reinforce many of the dynamics we observed in North America, but across a more fragmented market structure and a wider range of currencies, counterparties and settlement arrangements," he says.

SETTLEMENT RISK

While there has been a continued push to reduce settlement risk over recent years, there is still work to be done, says Lancaster. "The Bank for International Settlements analysis of the 2025 Triennial Survey found that only 36% of average daily FX settlement obligations, just over $5 trillion, were settled using payment-versus-payment (PvP), which eliminates principal settlement risk. A further 54% used approaches such as pre-settlement netting and other methods that mitigate, but do not necessarily eliminate, the risk. That still left 10%, or more than $1.4 trillion per day, settling gross bilaterally and fully exposed to FX settlement risk."



Regulation has strengthened the link between the front and back office

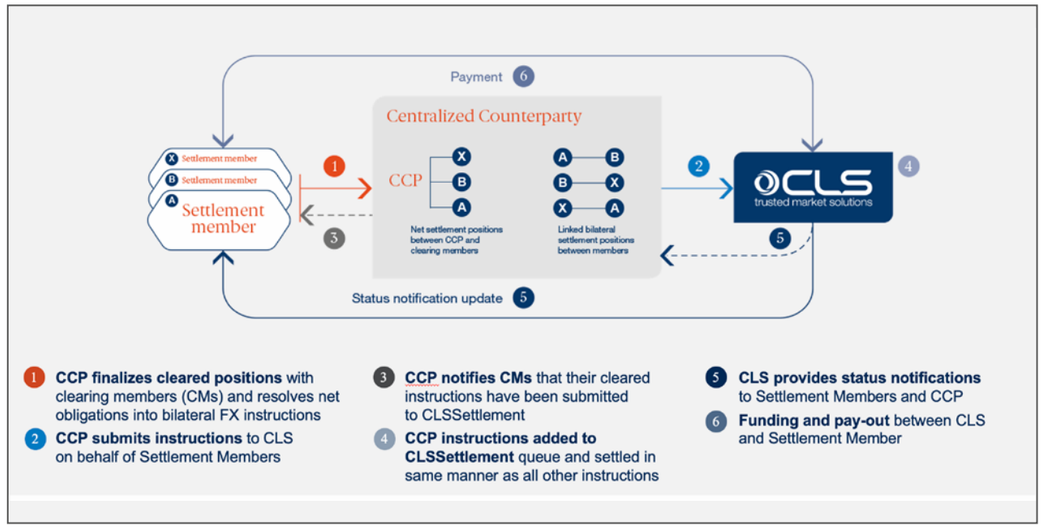
The updated FX Global Code reinforces that approach, says Lancaster. "Principle 35 places greater emphasis on using PvP where practicable and take measures to reduce settlement risk, while Principle 50 strengthens guidance around measuring, monitoring and controlling residual exposures. For clients, that means using PvP wherever possible, netting down the exposure where PvP is unavailable, and then tightly controlling and monitoring the residual settlement risk."

Some FX settlement risk remains within deliverable forwards and swaps, and physically settled options once exercised.

Clearing can reduce counterparty credit risk in FX derivatives, but where a cleared contract results in a physical exchange of currencies, settlement risk must still be managed.

Bringing the resulting payment obligations into PvP settlement addresses that final settlement exposure and for exposures outside traditional PvP arrangements these can be addressed by, netting and settlement orchestration.

"We've seen an increase in the adoption of our automated Netted functionality, allowing banks to automate the process of agreeing netting amounts. This automation is particularly important with compressed settlement cycles. This helps clients manage settlement risk when the trade falls outside of traditional PvP mechanisms," says Lancaster.



CLSClearedFX process flow
Source: CLS

SETTLEMENT AND LIQUIDITY

As FX volumes and funding pressures increase, the way financial institutions manage settlement has a material impact on their liquidity requirements. CLSSettlement provides a unique perspective on settlement risk and liquidity across the global FX market. More than 75 of the world's most important financial institutions are settlement members, with over 38,000 accessing the service indirectly through them. Each day, CLSSettlement settles an average of over USD8 trillion of payments across 18 of the most actively traded currencies.

A key benefit of CLSSettlement is its approach to multilateral netting, which calculates each settlement member's net funding requirement in each eligible currency, rather than requiring settlement members to fund their gross settlement obligations. This reduces funding requirements by over 96%, while the payment-versus-payment settlement mechanism mitigates the risk of one party paying out the currency it has sold without receiving the currency it has bought - settlement risk.
Reducing the amount of liquidity required to settle FX obligations means firms can deploy funds elsewhere in the business: funding trading or securities positions, meeting margin and collateral calls, or even reducing reliance on short-term borrowing and intraday credit. It also reduces the cost and operational burden of sourcing and moving liquidity across currencies and accounts, which is especially helpful during periods of high market activity.

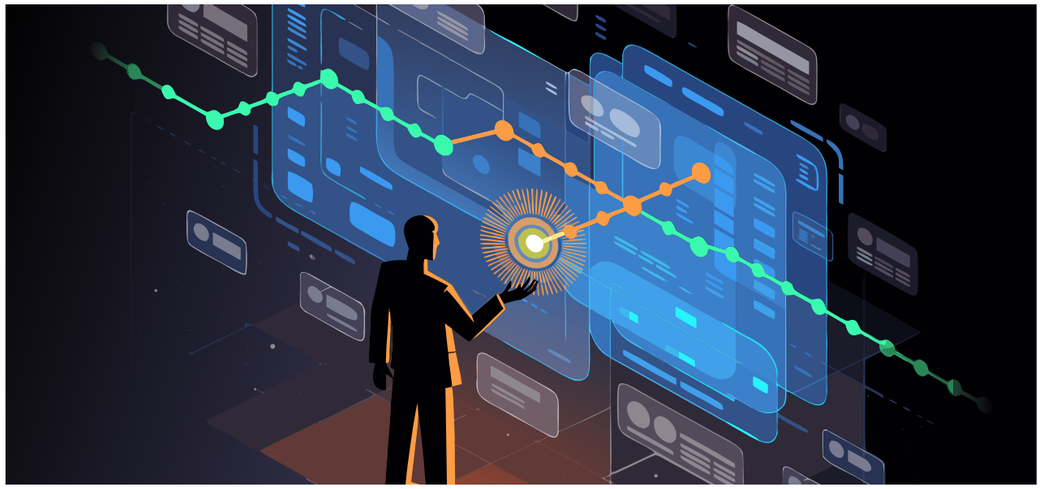
The separation of cleared and uncleared FX transactions have historically followed separate settlement workflows, requiring firms to manage the associated funding separately.

CLS has sought to address this through CLSClearedFX, a service that enables eligible cleared deliverable FX transactions from a central counterparty to settle through the main CLSSettlement session alongside uncleared transactions. Bringing these workflows together reduces operational complexity, improves liquidity efficiency and extends the benefits of PvP settlement to eligible cleared transactions.

IMPROVING EFFICIENCY

Compression, counterparty-risk optimisation, portfolio rebalancing, novation and basis-risk optimisation are all being used to reduce gross notional, rebalance counterparty exposures and improve the capital efficiency of FX derivatives portfolios, says Lancaster. "These techniques are increasingly being used not simply for portfolio housekeeping, but as active tools for managing capital, counterparty exposure, margin and funding costs across FX derivatives portfolios," he states.

"Compression addresses gross notional and portfolio complexity. Offsetting trades can be terminated or replaced with a smaller number of transactions while maintaining broadly the same underlying market risk. That reduces outstanding notional and line items, which can lower operational and settlement risk," says Lancaster.
Novations provide another mechanism for moving an existing position from one counterparty to another without changing the underlying economic exposure. This can free up credit capacity, rebalance counterparty



Before AI can be trusted in critical post-trade workflows, firms need explainability, auditability and human oversight

exposures and potentially reduce or optimise margin requirements for bilateral trading, says Lancaster.

"SA-CCR has led asset managers to ensure their portfolios' post-trade positions are as optimal as possible, and it continues to have an impact on buy-side clients through the need to actively manage portfolio exposures. Buy-side firms are starting to take more active steps in post-trade to manage their exposures through portfolio optimization by undertaking compression, rebalancing or clearing. Many of these processes remain highly manual and operationally intensive. As volumes have increased significantly, the ability to scale without automation becomes increasingly challenging, driving higher operational risk, greater resource requirements and increased potential for errors. The direction of travel is towards more frequent, automated portfolio optimization, using platforms such as Capitolis to identify opportunities and execute the resulting compression, rebalancing or novation workflows," says Lancaster.

The broader change is that post-trade is becoming an active portfolio-management discipline, says Lancaster. "Instead of asking only whether a derivative has been confirmed and settled correctly, firms are increasingly asking whether that trade is sitting with the optimal counterparty, consuming the right amount of capital and margin, and whether the same economic exposure could be maintained with fewer trades and a more efficient portfolio."

THE VALUE OF AI

Where can AI deliver genuine value in FX post-trade? According to Lancaster, one of the most compelling applications is predictive exception management. "By analysing historical matching behaviour, settlement failures, timing, counterparties, currencies and previous breaks, AI could identify transactions most likely to mismatch or fail and prioritize them for investigation before settlement," he says. "Similarly, AI can support reconciliation by identifying probable causes of differences between records, detect anomalous fees or settlement charges, and potentially help optimize decisions around collateral, funding and liquidity."

The prerequisite is high-quality, trusted data, says Lancaster. "The principle of "garbage in, garbage out" becomes particularly important when an AI model is making predictions based on historical post-trade events. But good data alone is not enough. Before AI can be trusted in critical post-trade workflows, firms need explainability, auditability and human oversight. A user should be able to understand why a transaction has been flagged and the data behind that decision. Models also need ongoing performance monitoring, controls over data and model changes, clear escalation paths and the ability to fall back to established processing if an AI service becomes unavailable."

Ultimately, Lancaster sees AI augmenting rather than replacing post-trade automation. "The real value is moving operations from reacting to breaks after they occur towards predicting problems, prioritizing exceptions and recommending the best course of action before they affect settlement, liquidity or the client. Complex disputes between front office, middle office, custodians and counterparties will still frequently require human judgement, particularly where the underlying cause cannot be established from structured data alone. That model is consistent with the direction of the wider financial industry, where AI is increasingly being deployed for decision support while firms remain cautious about allowing highly material decisions to become fully autonomous."

[1] https://www.cls-group.com/news/the-tplus1-journey-is-far-from-over/

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TT FX:
Bringing OTC FX and listed derivatives together on a unified execution platform

As institutional FX trading becomes increasingly sophisticated, demand is growing for technology platforms that can deliver seamless access to liquidity, advanced execution tools and integrated trading workflows across multiple markets. Trading Technologies (TT) is addressing these requirements through its TT FX platform, which brings OTC FX and listed derivatives trading together within a unified execution environment. e-Forex spoke with Tomo Tokuyama, EVP, Managing Director, FX at Trading Technologies, to explore the platform's key features and functionality, its target users and how TT is leveraging its expertise in trading technology to support the evolving needs of institutional FX market participants.



Tomo Tokuyama

Tomo, could you start by telling us about the thinking behind the development of TT FX and how it differs from many other FX trading platforms?

We built TT FX because trading desks are being asked to do more with less, and managing multiple platforms can make that harder. Our approach was to bring FX into the TT ecosystem and treat it like another market on the platform, rather than create a separate FX system. Clients sign in once and can trade FX in the same environment where they trade futures, using the TT tools and familiar workflow.

The same principle applies to our API. A client already using the TT API for derivatives can use that API for FX as well, rather than maintaining separate integrations for each asset class. That means one API for multi-asset trading, alongside a consolidated blotter and the same post-trade drop-copy framework clients use for futures. It makes it easier to manage FX as part of the broader trading operation.

Which types of financial institutions and trading firms are you primarily targeting with TT FX, and what particular trading requirements and operational challenges is the platform designed to address?

We're targeting a broad range of institutional firms: asset managers, hedge funds, banks, proprietary trading firms, commodity trading companies and brokers. Many already use TT for futures and want to bring FX into the same environment; brokers may also want to make their own liquidity available to their clients through TT.

Their requirements vary. Some need access to multiple banks, ECNs and non-bank liquidity providers; others need tools to automate execution or manage an FX hedge against a listed position. Across those firms, we hear a common operational challenge: FX is often handled on separate platforms, through separate APIs and workflows. TT FX lets clients bring that activity into their existing TT setup, using the same sign-on, tools, API, blotter and post-trade workflow.

One of the central propositions of TT FX is the ability to trade OTC FX alongside listed derivatives within a single execution management system. What are the main advantages of this integrated multi-asset approach, particularly for firms looking to consolidate their trading technology and workflows?

The main advantage is that traders can manage and execute across markets from one place. They can launch FX algorithms and listed-derivatives algorithms within the same environment, and use TT's Autospreader for strategies that combine different instruments. In precious metals, for example, they can trade an EFP between cash and futures in the same Autospreader workflow. The Dynamic FX Hedger can also manage cross-currency exposure in real time as a market spread is traded.

The integration continues through the trade lifecycle: activity appears in the same blotter and flows through the same post-trade drop copy. For firms consolidating their technology, that means fewer separate systems and APIs to manage. For traders, it creates a more connected and consistent workflow across OTC FX and listed derivatives.

What range of FX instruments, currency pairs and precious metals does the platform currently support, and how have you extended its functionality to accommodate the different trading characteristics and execution requirements of spot FX, forwards, swaps and NDFs?

TT FX supports spot, forwards, swaps and NDFs across all major currency pairs and emerging market pairs, both deliverable and non-deliverable. Traders can also access bank algorithms and TT native order types. In precious metals, the platform supports gold, silver, platinum and palladium, including cash-versus-futures EFP workflows. We've designed the platform to accommodate different execution requirements.



TT FX is built on the same global TT platform used across our markets

A treasury desk may primarily need RFQ or RFS functionality. A click trader may want to execute the full amount through our tile widget. A basis trader can use the Dynamic FX Hedger through Autospreader to manage cross-currency exposure in real time. And a systematic trader can access FX through the same TT API they already use for futures—all within one platform.

Access to diverse sources of liquidity is obviously critical for institutional FX traders. How does TT FX connect users to primary venues, ECNs, banks and non-bank liquidity providers, and what flexibility does it offer for accessing, viewing and interacting with that liquidity?

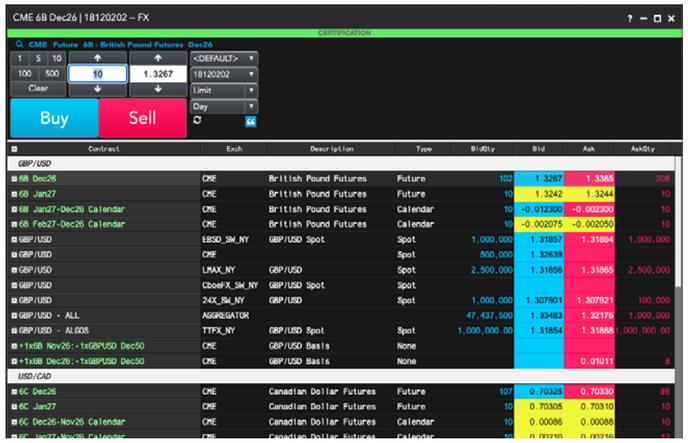
TT FX is not a venue or exchange. We provide direct market access to liquidity from primary venues and ECNs such as EBS Market, EBS Direct, Cboe FX and LMAX, as well as banks and non-bank liquidity providers. We continue to add liquidity sources across both FX and digital assets, giving clients more choice in where and how they trade.

Clients can view and interact with their available liquidity through TT tools such as ladders and tiles, and choose the execution method that fits the trade, including streaming, RFQ or RFS, bank algorithms, and TT order types. What a trader can see and access depends on their provider relationships, credit and permissions so each firm can configure its setup around its own liquidity access.

Different trading strategies require different execution methods. What functionality does TT FX provide for streaming prices, RFQ and RFS trading, and how does the platform help users select and manage the most appropriate execution approach for their requirements?

TT FX supports streaming prices as well as RFQ and RFS workflows because different trades and desks call

TT FX: Bringing OTC FX and listed derivatives together on a unified execution platform



Clients can trade FX in the same environment where they trade futures, using the TT tools and familiar workflow

for different execution approaches. A trader who wants to interact with continuous, executable prices can use streaming liquidity. A treasury desk, or a trade better suited to a quote-based process, can use RFQ or RFS.

Traders can choose the approach that fits the instrument, liquidity provider, trade size and their own requirements. Clients who already know TT's order types and algorithms can use those same tools to interact with FX liquidity, bringing consistency across markets.

We also work with clients who are evaluating their options. We can talk through the trade-offs between venue liquidity and direct liquidity-provider relationships, sweepable and full-amount execution, or anonymous and disclosed trading, and help them assess what best fits their workflow.

Trading Technologies has a strong reputation for sophisticated trading tools and automation. How have you incorporated some of those capabilities into TT FX, and what opportunities do they create for automating FX execution and developing more complex trading strategies?

We've treated FX as just another market in TT so clients can use the same native order types and trading tools they already know from futures to interact with FX liquidity. That includes Autospreader, ADL, and our Dynamic FX Hedger. This lets traders automate more than a standalone FX order.



Execution analytics and TCA are becoming increasingly important because institutional FX is a fragmented market

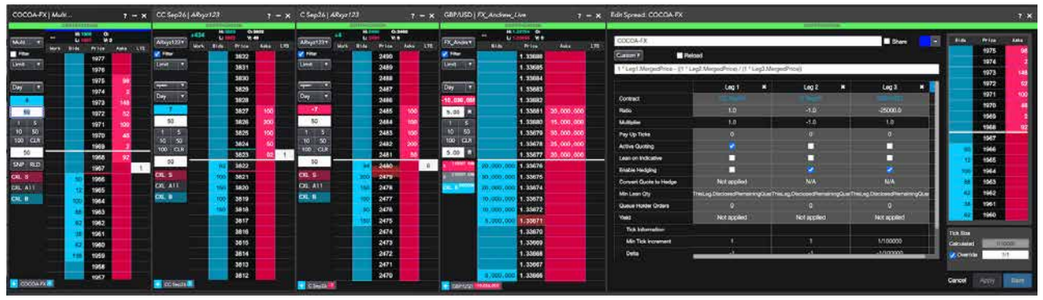
They can use Autospreader to manage a strategy with an FX leg, or use the Dynamic FX Hedger to hedge cross-currency exposure in real time as a spread is traded. With ADL and the TT API, firms can also build execution logic around their own strategies—all within the same environment they use for other markets.

Algorithmic execution has become an increasingly important part of institutional FX trading. How does TT FX support access to bank execution algorithms alongside its own order types and automation tools, and what benefits does this bring to traders managing execution across multiple markets?

TT FX gives traders access to bank execution algos alongside TT's native order types and automation tools, all within the same platform. They can use a bank algo or apply TT trading algos using their own FX liquidity for another execution option. Traders can launch futures and FX algos from the same dropdown and use tools such as Autospreader and ADL to manage orders and build workflows around their strategies.

That choice is valuable for traders working across multiple markets. They can select the execution method that fits each trade while staying in one familiar environment, with a consistent workflow across OTC FX and listed derivatives. For API users, FX is available through the same TT API they use for futures, helping them avoid separate integrations for each market.

One particularly interesting aspect of TT FX is its ability to support trading strategies involving both OTC and exchange-traded instruments. How are clients making use of this functionality, and could you give us some examples of the benefits it delivers?



We've designed the platform to accommodate different execution requirements

The value is being able to manage the relationship between a listed position and its OTC FX exposure in one workflow. For example, a commodity trader may trade a spread between two listed contracts while needing to hedge the currency exposure created by that spread. With the Dynamic FX Hedger, the FX leg can be managed in real time as the underlying spread is traded, rather than being handled separately afterward.

In precious metals, traders can use Autospreader to execute cash-versus-futures EFPs. These workflows can reduce manual steps and timing gaps between the listed and FX legs while giving traders a more controlled way to manage the combined strategy.

Performance, resilience and low-latency connectivity are especially critical for institutional trading platforms. Could you tell us a little about the underlying technology architecture of TT FX, including its infrastructure, APIs and integration capabilities, and how these support demanding trading environments and post-trade workflows?

TT FX is built on the same global TT platform used across our markets. The architecture combines colocated infrastructure for latency-sensitive trading with cloud services for functions such as the real-time order book and audit trail. The global network is designed with redundant paths, failover and disaster recovery to support demanding trading environments.

For integration, clients can use the same TT API for FX and listed derivatives, as well as FIX and other APIs to connect their own trading and operational systems. That allows systematic firms to build on an existing integration, while the single FIX Drop Copy carries order and fill activity across asset classes into post-trade workflows. The goal is to give clients performance and resilience at execution, with a consistent connection from trading through post-trade.

TT recently announced the integration of FairXchange Horizon into its FX offering. How important are execution analytics and TCA becoming for institutional FX traders, and what additional insights and benefits will this integration deliver to users of TT FX?

Execution analytics and TCA are becoming increasingly important because institutional FX is a fragmented market. Traders need an objective way to assess how they are executing across different liquidity providers and algorithms, and where they may be able to improve.

FairXchange Horizon gives TT FX users independent insight into their execution across spot, forwards, NDFs and swaps. They can analyze flow, liquidity-provider and algo performance, and measures such as wallet share, retained yield, reject ratios and execution benchmarks. That can help firms make more informed execution decisions, allocate flow more effectively, and have better-informed conversations with their liquidity providers. Bringing those analytics into the TT workflow also helps connect execution with the evaluation of its outcomes.

Finally, looking ahead, what are your main priorities for further developing TT FX, and where do you see the greatest opportunities to introduce additional functionality, automation and innovation as institutional FX trading continues to evolve?

One of our priorities is to keep expanding the FX venues and liquidity sources available through TT. As that network grows, our API becomes increasingly valuable: clients can use one API to access the FX venues they need, within TT's low-latency, trusted trading environment. That can be a more cost-effective and straightforward option than building and maintaining separate integrations for each venue.

We'll also continue developing cross-market workflows and automation, including tools such as the Dynamic FX Hedger and Autospreader, so clients can manage FX alongside futures and other markets. And by bringing execution analytics closer to the trading workflow, we can help clients evaluate outcomes and make more informed decisions. Our focus is to give clients more access, choice and automation through the platform and connectivity they already use.

LSEG FX: Connecting the future of FX trading

James Pearson

As global FX markets become increasingly electronic, automated and interconnected, the boundaries between market data, trading technology, execution and post-trade services are being steadily redrawn. e-Forex talks to James Pearson, Head of FX, Markets at LSEG, and six senior colleagues from across its FX business about the forces reshaping the global FX marketplace. Together, they explore the growing importance of integrated trading workflows, advances in FX swaps electronification, the practical applications of AI, and how innovations in clearing and post-trade optimisation are transforming the efficiency and economics of institutional FX trading.

JP: Before we explore the major trends reshaping FX markets, many readers may be familiar with individual brands such as FXall, ForexClear, Workspace or WMR, but less familiar with LSEG FX as a whole. How would you describe LSEG FX today, and what role does it play in supporting participants across the global FX marketplace?

LSEG FX is far more than any individual product; it provides a broad ecosystem spanning market data, analytics, workflow, execution, benchmarks, clearing and optimisation, helping connect participants across the entire FX lifecycle. Our portfolio combines leading execution venues such as FXall and Matching, workflow and desktop capabilities within Workspace, trusted benchmarks through WMR, risk management and capital efficiency via ForexClear, and Post Trade Solutions Optimisation Services (formerly Quantile).

LSEG FX supports a diverse global community including banks, asset managers, hedge funds, corporates, brokers and central banks, providing access to liquidity, market intelligence and operational infrastructure at scale.

Increasingly, clients are looking beyond standalone products toward connected workflows that link pre-trade analysis, execution, post-trade processing and risk management. LSEG's strategy is built around this interoperability, helping clients navigate growing market complexity, automation demands and regulatory requirements through a connected ecosystem rather than a collection of separate tools. A practical example is the integration of FXall into Workspace, bringing





Sally Francis-Cole

market monitoring, news, analytics, price discovery and execution into a single workflow, reducing friction and enabling better-informed decisions. At the same time, analytics capabilities such as Tradefeedr are being integrated closer to the point of execution, helping clients combine insight, decision-making and trading in one connected environment.

Client expectations continue to evolve rapidly. What are market participants asking for today, and how is the industry responding to demands for greater efficiency, transparency and workflow integration?

Sally Francis-Cole, Group Head of FX Sales and Account Management: Clients are asking for tools that solve specific workflow problems, not for more features. Across asset managers, hedge funds, corporates and banks, the common thread is removing manual effort while keeping control.

For asset managers, that means execution that supports their fiduciary responsibilities: fair, evidenced outcomes backed by execution analytics and benchmarking. They also want workflows such as Forward First Fixing, mixed dealts and order splitting that match how portfolios are managed. Hedge funds want programmatic execution, including auto-execution, rules-based RFQ and API connectivity, without giving up control. Corporates want hedging connected to their treasury systems, using multi-bank batch execution and Settlement Center to cut re-keying through straight-through processing. Banks are focused on broader liquidity access, firmer credit, and pricing automation.

The industry is responding by building these capabilities into a single workflow. At LSEG FX, that means making FXall increasingly available within Workspace, so market data, Tradefeedr analytics and execution sit in one place. It also means connectivity to the OMS and treasury platforms clients already use.

The measure of success is practical: fewer manual touchpoints, less operational friction, and more time spent on decisions that add value.

Why is the ability to connect data, workflow, execution and post-trade services becoming increasingly important for market participants?

SFC: Every handoff between data, execution and post-trade is a point where information is re-keyed, delayed or lost, and that is where cost and operational risk build up. Clients now judge providers on how well the whole workflow fits together, not on individual products.

Connected workflows change the economics. Pre-trade data and analytics inform the decision. Execution then flows straight into confirmation and settlement, through tools such as Settlement Center, without re-entry. Post-trade analytics feed back into the next decision. Over time, that loop helps clients evidence best execution and refine their approach, with consistent data throughout.

Crucially, connection must not mean replacement. Few firms can or want to rebuild their technology estate, so interoperability matters. That means open APIs and integration with the OMS, EMS and treasury systems clients already use, adopted at a pace that suits them.

That is where the breadth of LSEG FX matters: connecting data, analytics, execution and post-trade capabilities reduces fragmentation while still giving clients choice over how they construct their workflows.

FX swaps are the largest segment of the FX market, yet electronification remains uneven across products and tenors. What factors are accelerating adoption today?

Simon Jones, Group Head of FX Product & Liquidity: FX Swaps electronification is progressing at a strong pace, but perhaps not in the way we have seen other markets develop. The growth of RFS FX Swaps continues apace, and the fastest growing client segment in recent years has been the Bank-to-Bank space. This suggests that regional players are well serviced for liquidity, have extensive market data and have a range of execution options.

We are also seeing growth in the big-bank to big-bank area, albeit at a slower pace. Increasingly customers are beginning to post interest using API; credit distribution is becoming more sophisticated, and the tools available to traders from LSEG and innovative new providers are rapidly improving. With each participant moving at a different pace, it is expected that growth will be uneven, but we are encouraged by certain markets. India, as an example, is one market where over a third of activity now occurs beyond 1M. This suggests that as credit capabilities improve, there is market appetite to show interest here.

The onus remains on us as one of the leading infrastructure providers to keep overcoming the hurdles towards electronic progress. Our removal of the brokerage for 1-month and beyond has been well received and through Curve builder, clients now have the ability to put a curve, or part thereof, directly onto Matching.

Should the buyside care about progress in the FX Swap Interbank space?

SJ: Our observation is that the buyside is having a good experience in the FX Swap market today; a wide range of providers competing for business, a high level of available liquidity and a range of technology solutions that are continuing to innovate.

Having said that, the ability for the buyside to be anything but a Price Taker is curbed by the limited availability of a deep, electronic, visible market that is central to most other financial asset classes. As a result, passive orders, algorithmic execution and TCA have yet to make traction as everyday execution options for the buyside. Tools that are widely used in the Equity, Futures and FX Spot markets are absent in FX Swaps. Market data also remains somewhat opaque, as today's solutions are more representative than true reflections of market activity.



Simon Jones

It may well be that needs are being met for the buy-side, but if the tools used in other markets are of value, it will require continued engagement with the FX ecosystem to get the outcomes required.

How important are workflow integration, data and straight-through processing in supporting the next phase of FX swaps electronification, and what will it take to achieve a truly end-to-end automated FX workflow?





Bart Joris

Bart Joris, Head of FX Sell-Side Trading: I think the next phase of electronification is about looking beyond execution and connecting more of the workflow supporting the execution. You can have a very efficient electronic execution process, but if there are still manual steps around price discovery, market sentiment, risk management, booking, allocations, reporting or settlement, there is more value to unlock.

For FX Swaps, bringing pre-trade analysis, pricing, credit, execution and post-trade processing closer together is crucial to future success. Data should move through that workflow with the trade, rather than needing to be re-entered or reconciled at different stages.

There is also an opportunity to make much better use of the data the workflow generates. How did the trade execute? Where was the liquidity? What can we learn from that and bring into the next decision? The more connected the workflow becomes, the easier it is to put that information back in the hands of the trader. Data available on one place captured will drive AI and usage knowledge to be reused in the rest of the trade lifecycle.

Getting to a genuine end-to-end workflow will take greater interoperability, APIs and common standards. It won't happen overnight. For me, the opportunity is to steadily remove those breaks in the workflow, automate where it makes sense and give the trader better information at the point where their judgement adds the most value. As we automate more, maintaining the right controls and the ability to intervene when needed remains just as important.



The next phase of FX electronification will be about connecting the data, decisions and controls around the trade

Automation has become a strategic priority for many FX participants. What are the primary business drivers behind this trend, and where are clients seeing the greatest benefits?

BJ: Automation has become a natural part of how FX businesses are looking to scale. Markets are increasingly electronic, workflows are becoming more complex, and clients expect speed and consistency. You can't address all of that simply by adding more people, it is not a linear equation.

There is still a fair amount of manual work surrounding electronic trading. If you can automate some of the more repetitive activity around pricing, execution, hedging and trade capture, you can reduce that operational effort and create a more consistent process.



But I wouldn't look at automation simply in terms of how many processes you can automate. The more important question is what it allows your business and your people to do better – better use of Subject Matter Experts. If technology can take care of predictable, repeatable activity, traders have more time to focus on managing risk, understanding liquidity, reacting to changing markets and working with clients. Consistency of execution will increase efficiency.

And ultimately, you need to be able to measure benefit. Is it reducing processing time or operational cost? Is it increasing capacity? Is it improving execution quality or reducing exceptions? That's where I think the real benefit comes through.

Ultimately, the best automation should almost disappear into the workflow. It makes the business more scalable and consistent, while giving people more time to focus on the decisions and client outcomes that matter.

The next phase of FX electronification is not simply putting more trades onto electronic venues. It is connecting the data, decisions and controls around the trade so that information passes from pre-trade through execution and post-trade without being repeatedly recreated. Automation then handles the predictable path, analytics improve the next decision, and people remain focused on risk, exceptions and client outcomes.

AI is one of the most discussed topics across financial markets. Where are you seeing the greatest practical applications of AI within FX workflows today, and what separates genuinely valuable AI applications from the hype?

Akansha Goyal, Product Lead, Experience and AI for Workflows: AI is moving beyond experimentation into day-to-day FX workflows. The value lies less in the model than in reimagining the workflow around it. The most mature application is grounded synthesis, surfacing, comparing and





Akansha Goyal

summarising news, research and market data through natural language. The next layer is automation: a daily market brief built around your own portfolio and watchlist, telling you what to watch rather than leaving you to go looking.

That depends on clients bringing their data in. Once positions sit alongside our market data, the workflow inverts – the market moves and the system alerts you with context on what it means for your book. Trade cost analytics answers related questions: what will this pair cost to execute, and what did it cost against benchmark?

What excites me most is agentic workflows in chat networks. Our communities already carry enormous conversation. Pulling insight out of that and acting on it – such as drafting the email, recommending the adjustment, routing the trade – is where real value emerges.



And the separator from hype is deployment.

Four things matter: domain expertise, because alpha comes from understanding markets; data that is trusted, licensed and properly governed; full auditability, so any output traces back to source; and integration into where people already work, such as the chat communities and the trading workflow itself.

How do you see AI and automation augmenting human decision-making rather than replacing it, particularly in complex trading environments?

AG: AI augments rather than replaces because autonomy isn't binary, it's a spectrum, calibrated to the consequence of the task. Analysis sits at one end. There we find a cross-asset view that used to take an afternoon can largely run itself; a human reviews it, but the grind is gone. Execution sits at the other end: the risk is higher, so human involvement rises accordingly. That calibration is specific to each workflow.

In complex trading environments the variables that count most (risk appetite, client context, a market behaving in a way it hasn't before) are exactly the ones that need a person. AI widens how much a trader can interrogate before deciding; it doesn't take the decision.

The real power is as a thinking tool. A trader can ask what happens to their book if the BoJ moves and pressure-test their own reasoning in the time it takes to ask. Increasingly that adapts to the individual, because what a portfolio manager needs differs from a sales trader, and the system should learn the difference.

Will the balance shift? Plausibly, as agents learn how people work. But accountability stays with the human, which means users need to see not just where an insight came from, but why it was surfaced to them.

How is FX Clearing evolving and what role is clearing playing in helping firms optimise capital, reduce risk and improve operational efficiency?

Laura James, COO, ForexClear: The continued growth in OTC FX clearing is increasingly translating into a structural change in market behavior. ForexClear cleared ADV reached $271bn in October 2026, up 45% year on year, including $215bn of NDFs. This represents approximately 23% of the OTC NDF market and close to 50% of the Reporting Dealer segment, based on the 2025 BIS Triennial Survey.

More importantly, some of the largest global banks are now actively communicating a preference to transact with counterparties able to clear, indicating that clearing is moving from primarily a post-trade consideration to becoming increasingly relevant at the point of execution.

Momentum is also building in OTC FX Options, where $50bn ADV was cleared in October, up 69% year on year. Thirteen banks are now clearing across eight live currency pairs, with



Laura James

two further banks expected next year. The introduction of deliverable CNH products in June 2027 will broaden the proposition and support expansion in Asia.

Clearing is also reaching a more diverse range of market participants, with MEAG recently joining our network of 26 members and 107 clients, and growing interest from firms seeking to quantify benefits they could obtain – including reduced counterparty risk, multilateral netting, and margin and capital efficiencies. Over the next three years, we expect clearing to become increasingly integrated with execution. We are already working with platforms to integrate ForexClear, increase straight-through processing and broaden access to the service.

Beyond execution, where do you see opportunities for optimisation through automation and greater post-trade connectivity?

Esben Urbak, Head of Optimisation: Optimisation is already a well-established and highly effective part of the post-trade landscape. We see the





Esben Urbak

next wave of innovation as building on that success, extending optimisation into a continuous, automated service.

That means optimisation at the point of trade, helping firms put new risk where it is most efficient from the start. It means optimisation running continuously in the background, keeping portfolios efficient as markets move and positions change. And it means large periodic runs across the network, which will continue to deliver big reductions while becoming even simpler to take part in.

Automation, connectivity and standardisation are what make this possible. Once data flows seamlessly across the lifecycle, optimisation becomes largely hands-free, with firms setting their objectives and intents upfront and simply overseeing the outcomes rather than doing the work.

The result is a market where portfolios are always optimised, costs are lower, operational risk is reduced, and capital is freed-up for growth.

How are optimisation services, compression and post-trade workflow innovation reshaping the economics of FX trading, particularly across NDFs and options markets?

EU: In FX, the economics of a trade have traditionally been judged on the price at execution. What a position costs to hold over its life, in margin and capital, matters just as much. That is particularly true for NDFs and options, which, unlike FX spot and deliverable forwards, carry margin requirements as well as capital.

Optimisation and compression have become key levers for managing those costs. By reducing the size and risk of their portfolios, firms free up balance sheets, can support more clients, and



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The future will undoubtedly see the continued electronification of FX, automation and the convergence of data, analytics, execution and post-trade workflows

price more competitively. For NDFs and options, that means reducing margin and capital together, rather than managing each in isolation.

The economics improve further when optimisation works on several levels: multilaterally across a network, where participants together achieve reductions no single firm could alone, and bilaterally, where firms optimise with specific counterparties, moving risk into SwapAgent and/or LCH ForexClear when it is efficient to do so.

As post-trade workflows become more connected and automated, optimisation can happen more often and reach more firms. Post-trade efficiency is becoming a competitive advantage, shaping not just what firms pay to trade, but how much they can trade.

Circling back to you JP and looking ahead, what do you believe will be the most important forces shaping the future of FX markets, and how are automation, AI and evolving market structure changing the way participants trade and manage risk?

The future will undoubtedly see the continued electronification of FX, automation and the convergence of data, analytics, execution and post-trade workflows. Electronic trading has already transformed spot, and similar trends are accelerating across swaps, NDFs and options as market participants seek greater efficiency, transparency and scalability.

Concurrently, AI and automation are moving beyond standalone tools and are increasingly embedded throughout the trade lifecycle. Rather than supporting isolated decisions, they are increasingly helping participants analyse markets, optimise execution, manage liquidity, monitor risk and automate post-trade processes within connected workflows. The growing integration of analytics and execution, including initiatives linking Tradefeedr, FXall and LSEG Workspace, illustrates how decision-making and trading are becoming increasingly integrated.

Within the complex FX market, clients place great value on connectivity across pre-trade, execution and post-trade environments. Evolving technology architectures based on APIs, cloud-enabled services, open platforms and resilient infrastructure are making it easier to connect workflows, reduce operational friction and support innovation at scale.

Looking further ahead, advances in credit management, clearing and post-trade optimisation are likely to become increasingly important enablers of market efficiency. Combined with trusted data, strong governance and resilient market infrastructure, these developments should support the next phase of FX market evolution, where execution, analytics, risk management and workflow technology operate as a single integrated ecosystem.

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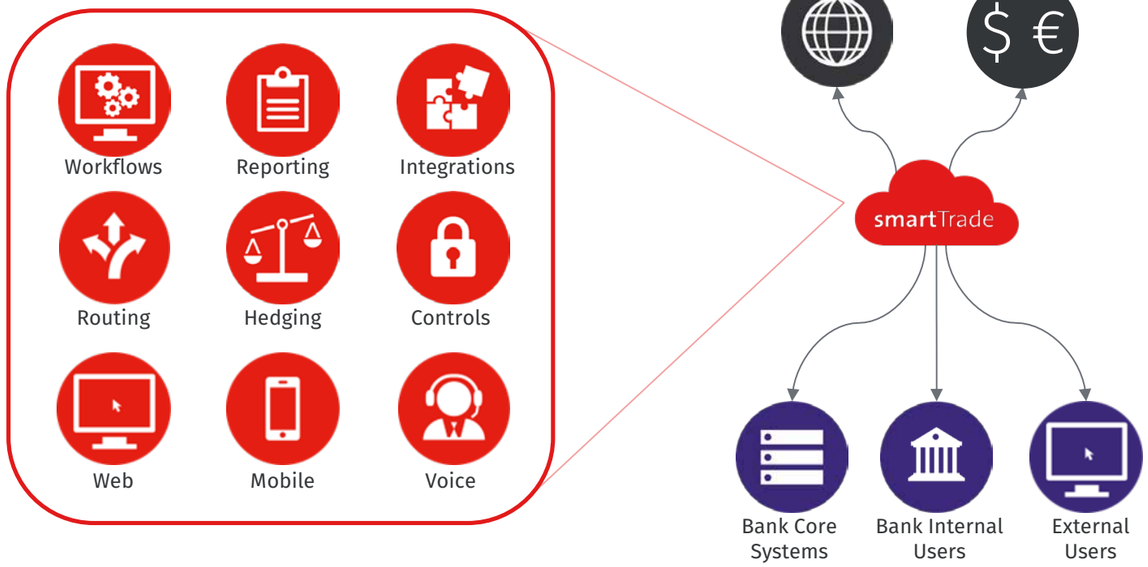

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How Platform-as-a-Service is reshaping the e-FX technology model

As financial institutions look to modernise their electronic FX operations, traditional approaches to building, buying and maintaining trading technology are coming under increasing scrutiny. Platform-as-a-Service (PaaS) models offer an alternative, enabling banks, brokers and other market participants to access sophisticated, scalable and increasingly modular FX infrastructure without the cost, complexity and time associated with developing and operating everything in-house. But the opportunity extends beyond reducing technology expenditure. This interview with Giles Chapman COO & Chief Product Officer of FinQor explores how PaaS is changing the economics, flexibility and operational capabilities of institutional FX technology, and whether it represents the next stage in the evolution of electronic trading infrastructure.



Giles Chapman

How is the traditional build-versus-buy approach to electronic FX technology evolving, and what factors are encouraging banks, brokers and other financial institutions to consider Platform-as-a-Service models?

There is and always will be that dilemma for institutions over the "Build vs Buy" argument and there are several factors at play here including, costs, infrastructure, IP etc. Each one has its own benefits and finding the right technology partner can bring several advantages. But finding that right partner is where the real challenge lies. The build model has significant upfront and ongoing costs but offers the institution greater control and ownership. Whereas the Buy has massive benefits of reducing the time to market, the software is proven and the costs are a relative known known. FinQor is a hybrid of both, providing an off the shelf product allowing institutions to centralise all FX traffic and workflows between their entire ecosystem including all line of business external client treasury systems.

Costs need to be judged over the entire lifecycle and not just at the initial build as the platform will continuously evolve. The PaaS approach offers significant tangible benefits for banks including shifting the cost of ownership away from an in-house team to us as a solution provider for maintenance, feature upgrades, support etc. They can lower costs through scalability, automation and other efficiencies. And they allow clients to connect to the Bank's internal systems and 3rd party tools.

How should we distinguish between SaaS, PaaS and traditional managed technology services in e-FX, and what additional flexibility and control can a genuine PaaS model offer institutions?

Making the choice between SaaS, PaaS and traditional managed technology services in eFX comes down to balancing convenience vs control. The fundamental difference between all 3 is with IP ownership, configuration management, and hosting. With the SaaS model, the vendor provides everything but also owns everything and is a fully finished vendor hosted, configured and supported system. The PaaS model is slightly different in that it would provide a modular based system but the ownership for support and infrastructure can be shared and allows the bank to build some core proprietary logic on top.

Traditional Managed Services are legacy core banking systems where the bank will licence the software, but any custom changes will potentially require long vendor release cycles. And hosting will be managed by a vendor team using dedicated physical or virtual servers.



FinQor allows institutions to centralise all FX traffic and workflows between their entire ecosystem

A genuine PaaS model bridges the gap between the speed of SaaS and the complete ownership of building an in-house platform from scratch providing distinct competitive advantages including IP ownership and control. The key difference between all 3 models is where the line sits in between what the provider and the client owns. Where SaaS provides a product, managed services provide the operation, and PaaS gives the foundation to build capability on.

The PaaS model can give you control over logic such as pricing and hedging rather than accepting a vendor's defaults. FinQor's modular based system allows the client to select components best suited to their requirements including PFE Credit, Dynamic Pricing and Order Book Management. Other advantages of the PaaS model would be faster iterations for developing new features, the capacity to scale, and sharing the infrastructure burden.

To what extent can PaaS enable financial institutions to modernise their FX infrastructure incrementally, rather than undertaking expensive and disruptive replacement programmes involving legacy technology?

A lot will depend on how tightly your legacy systems are coupled and how disciplined and complex the transition is. PaaS suits incremental change which helps to reduce disruption and minimise the risks associated with new system integrations. FinQor gives you the flexibility to run both systems in parallel which allows you to derisk and migrate old to new iteratively as opposed to a big bang 'all at once' approach. You can replace modular components one at a time rather than the entire stack, e.g. pricing, aggregation, credit risk. Once all is migrated the old platform can be run in parallel until the business is confident the migration is complete and the system is proven. This is a unique feature of FinQor which has helped clients migrate to new systems without any disruption to clients or the business. The flexibility of integrating to any API has given banks the confidence to proceed with complex migrations such as changing e-FX platforms and has also allowed them to consolidate their system architecture through us and subsequently expose their clients to other business lines resulting in increased profitability.

PaaS doesn't remove the underlying complexity of legacy integration and data migration, but it lets you manage the complexity in stages which helps turn the legacy migration from high-risk into a sequence of smaller steps helping to deliver value earlier.

How important are modular architecture, open APIs and interoperability in enabling PaaS solutions to integrate pricing, liquidity access, execution, risk management and post-trade workflows across an institution's existing technology estate?

They are all critically important for enabling PaaS solutions to effectively integrate complex systems and functions like pricing and execution, liquidity access, risk management and post trade workflows with the bank's existing technology architecture.

Modular architecture provides the flexibility to break down complex functions into independent interchangeable components allowing institutions to adopt or upgrade specific capabilities without overhauling the entire system. It allows them to scale based on demand and growth, and tailor functionality to specific workflows or regulatory requirements.

Open APIs offer multiple benefits including seamless integration



Open APIs offer multiple benefits

between PaaS components and existing systems enabling smooth data and process flow, real-time connectivity, and ecosystem expansion. Interoperability in enabling PaaS systems to integrate is incredibly important. Data consistency ensures data exchanged across diverse systems adheres to common standards and formats which reduces errors. It also allows for automated and streamlined processes across the system architecture. And it helps to prevent vendor lock-in by allowing multiple vendor solutions to work together effectively within the PaaS framework.

Collectively, Modular architecture, Open APIs and Interoperability allow institutions to integrate critical functions and systems efficiently. Without them integrations would be fragmented, inefficient and prone to delays. They enable institutions to leverage existing legacy systems while adopting innovative PaaS solutions to reduce complexity and increase agility and facilitate regulatory compliance through transparent and auditable workflows.

One of the attractions of PaaS is the ability to combine shared technology infrastructure with institution-specific functionality. How much scope is there for customisation, and how can firms preserve their competitive differentiation rather than becoming dependent on standardised vendor solutions?

The scope for customization in PaaS solutions is significant, allowing firms to combine shared technology infrastructure with institution-specific functionality while preserving their competitive differentiation. While PaaS offers standardization and scalability, the architecture, APIs, and configurability provide ample scope for firms to embed their unique capabilities, preserving competitive differentiation and avoiding dependence on generic vendor solutions. The key is to strategically balance shared infrastructure advantages with focused innovation and control over core differentiators.

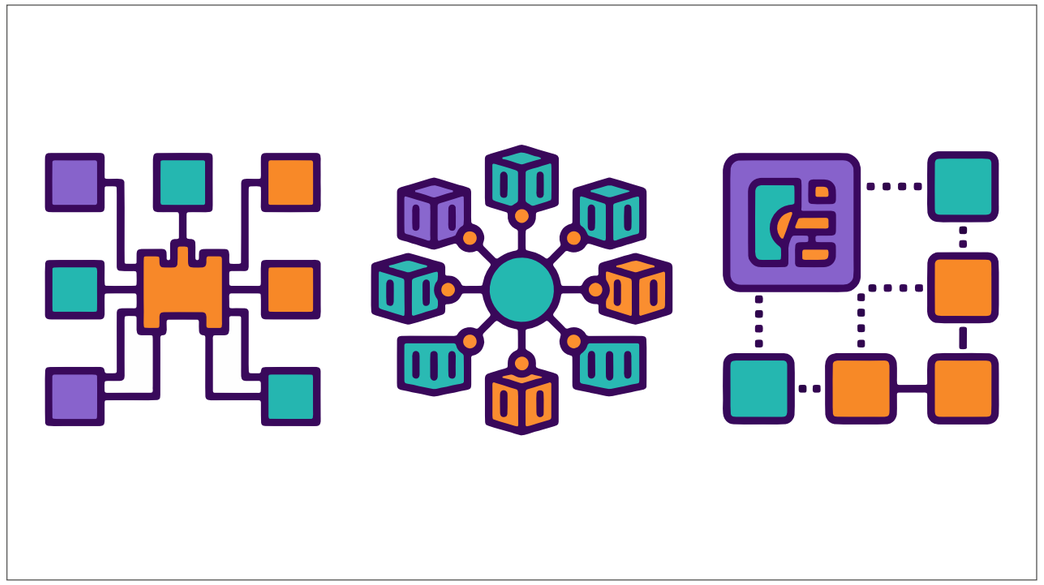
Customization works in multiple contexts allowing firms to maintain a unique edge. This includes Modular Components where PaaS platforms offer modular architectures allowing firms to customize specific modules related to their business processes.

When it comes to preserving competitive differentiation there are various distinguishing aspects, including building on common infrastructure like security, compliance etc, but then focusing investment on proprietary models, customer strategies for example, ensuring data ownership, proprietary models and IP remain under the institution's control.

How does adopting a PaaS model change the economics of running an electronic FX business, particularly in terms of development costs, speed to market, operational expenditure and the ability to scale without continually increasing technology resources?

Adopting a PaaS model significantly transforms the economics of running an eFX business in several key areas including a reduction in upfront investment costs, reusable components, a focus on differentiation where firms can allocate resources on features and innovations rather than building infrastructure from scratch. The combination of significant cost savings, faster innovation and release cycles, improved capital efficiency and enhanced and flexible scalability enables institutions to be more competitive, agile and efficient in a fast-moving marketplace.

FinQor's platform has added substantial value to our clients as we have integrated their Line of Business systems to the bank's global markets, payment engines etc allowing all FX pricing and execution to be centralised. This has encouraged other internal businesses within the bank to integrate into FinQor.



Modular architecture provides the flexibility to break down complex functions into independent interchangeable components

There is the added benefit of speed to market which is achieved through methods including rapid deployment with the ready-made frameworks and tools PaaS platforms provide. Modular and API-driven architectures enable agility and flexibility for quick iteration and integration with 3rd party services, reducing the software delivery timelines and speeding up time to market. And PaaS offers the ability to scale without increasing technology resources.

As more critical trading functions move onto externally provided platforms, what are the implications for operational resilience, data ownership, cybersecurity, regulatory compliance and the division of responsibility between financial institutions and their technology providers?

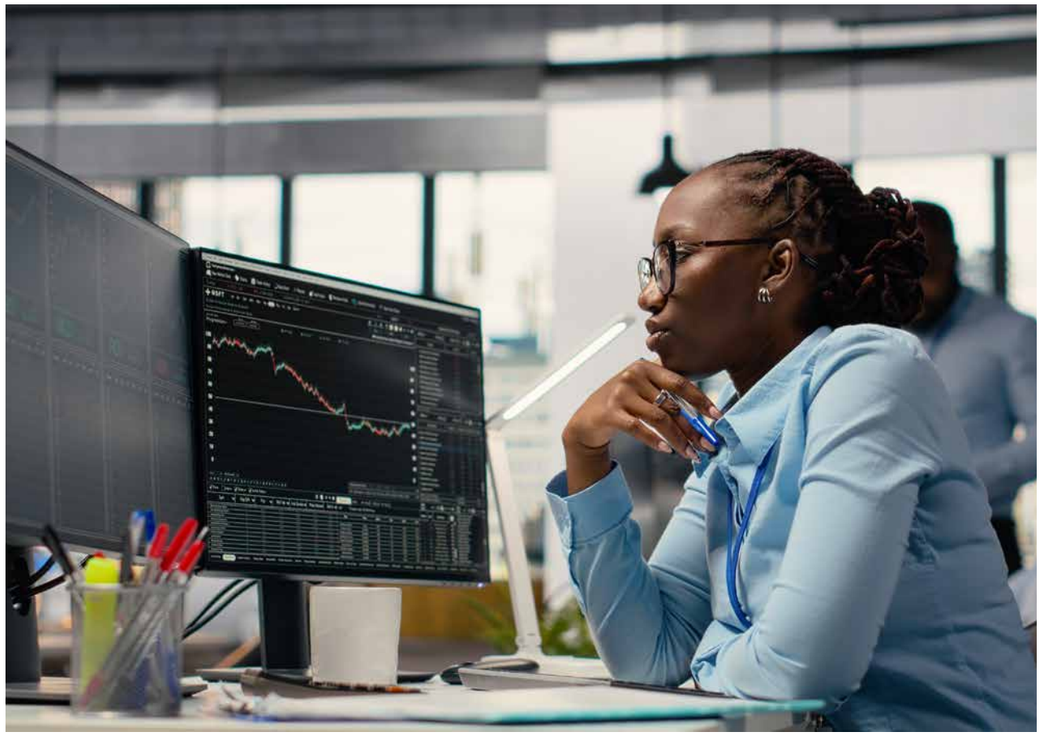
Moving critical trading functions externally requires a partnership mindset where financial institutions and technology providers share responsibility but with the institution retaining ultimate accountability. FinQor embraces this mindset, and our approach is to build the business together with our clients. We do not see them as a number and want to see them succeed.

We, therefore, make every effort to bridge the gap between a client and partner-based relationship. As these critical functions increasingly move onto externally provided platforms, several important implications arise across operational resilience, data ownership, cybersecurity, regulatory compliance, and responsibility division, including Operational Resilience, Data Ownership, Cybersecurity, Regulatory and Compliance, and Division of Responsibility.

Operational Resilience covers areas including increased complexity where reliance on third-party platforms adds layers of dependency. Data Ownership covers areas such as ensuring clearly defined ownership, usage rights and other obligations are all clearly agreed in the contractual terms. Cybersecurity includes ensuring eternal platforms introduce new protections for cyber threats. Regulatory compliance covers areas including due diligence where robust vendor management, ongoing oversight and compliance checks on providers are mandatory.
And finally, Division of responsibility covers areas like clear service level agreements including clearly defined emergency protocols to effectively manage system outages or breaches.

What opportunities do PaaS models create for smaller and regional financial institutions, particularly in emerging markets, to access institutional-grade pricing, liquidity, risk management and automation capabilities that might otherwise be prohibitively expensive to develop?

PaaS models create significant opportunities for smaller and regional financial institutions, especially in



PaaS models create significant opportunities for smaller and regional financial institutions, especially in emerging markets

emerging markets, by providing access to advanced institutional-grade capabilities that were traditionally costly and complex to develop in-house. For smaller and regional financial institutions in emerging markets, they provide a cost-effective, scalable, and competitive gateway to advanced trading and risk management capabilities.

Access to institutional-Grade tech allows smaller firms to leverage PaaS platforms to gain access to sophisticated e-FX technologies that were once exclusive to large institutions. This levels the playing field, allowing smaller players to compete. Cost-effective innovation allows PaaS to eliminate large upfront capital investment in infrastructure, software development and maintenance. Smaller institutions benefit from the shared expertise and best practices embedded in the PaaS without needing to build specialized teams.

Looking ahead, do you expect PaaS to become the dominant model for delivering electronic FX technology, and how might these platforms evolve to support an increasingly interconnected trading environment spanning FX, digital assets, payments and settlement?

PaaS is poised to become the foundational technology model for eFX, driven by its scalability, cost-effectiveness, and integration capabilities. Future platforms will evolve to be multi-asset, highly interoperable, and deeply automated, supporting seamless trading and settlement across traditional FX, digital assets, and payment systems enabling a truly interconnected global financial ecosystem. These platforms might evolve in an increasingly interconnected trading environment for several reasons as I have highlighted in earlier questions. First, PaaS enables scalability and adaptability; Second, the shift from CAPEX to OPEX aligns better with modern business models; Third, PaaS platforms accelerate innovation allowing seamless integration of new services; Fourth, PaaS providers can embed regulatory compliance and other mechanism like cybersecurity. And fifth, access to advanced capabilities such as analytics, real-time risk management and smart order routing help institutions to meet rising regulatory demands with less operational burden. Integration with real-time payments will shorten settlement cycles, reduce counterparty risk and enable instant cross-border transactions. Institutions will increasingly demand the ability to customize and extend platform capabilities to maintain competitive advantages resulting in PaaS platforms offering more developer friendly tools and API ecosystems. Finally, AI driven decision making combined with enhanced automation will be integrated throughout platforms to enhance efficiencies.

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Stablecoins: Is the clock ticking on traditional cross-border payments?

As stablecoins gain traction in international payments, Laurent Descout, CEO and co-founder at Neo, explores their potential to reduce FX costs, improve international collections and support a multi-rail future for corporate treasury.

Laurent Descout

The debate around stablecoins has moved beyond whether they have a role in cross-border payments. The more important question for corporate treasurers is where they deliver genuine value, and where existing infrastructure remains the more efficient option.

Once considered a niche crypto innovation, stablecoins have developed into a significant part of the global financial ecosystem.

The market was valued at less than $10 billion in 2020 and has since grown to more than $300 billion, according to the European Central Bank. McKinsey and Artemis estimate annual transaction volumes of up to $35 trillion. Of this, business-to-business payments are the most prominent use case, making up just under two-thirds of payment volumes.

For businesses operating internationally, particularly small and medium-sized enterprises (SMEs), their appeal is straightforward: faster settlement, lower costs and improved access to international currencies.

However, the real opportunity lies in reducing FX friction, improving access to liquidity and making international payments more efficient without introducing unnecessary complexity into treasury operations.

THE PROBLEM WITH TRADITIONAL CROSS-BORDER PAYMENTS

Despite significant innovation in financial services, international payments remain unnecessarily complex for many businesses.

SMEs often face high fees, slow execution speeds, limited payment



A key advantage of stablecoins is that their value is pegged to fiat currencies like the dollar or euro

visibility, multiple intermediaries and the risk of unexpected account closures when relying on traditional banking processes.

A survey of senior finance professionals at SMEs operating internationally across five European markets found that 94% experience some level of difficulty collecting international payments, while 36% typically wait at least two business days to receive funds.

The challenges extend beyond settlement speed. Almost a third (30%) identify high banking or payment costs as a source of friction, while 28% specifically highlight FX conversion costs.

For businesses collecting payments in different currencies, exchange-rate mark-ups, conversion fees, and intermediary charges can reduce the value ultimately received. Limited transparency can also make it difficult to calculate the true cost of a transaction.

For treasury teams, settlement speed is not simply a matter of convenience. Until a collection has cleared and become available, the funds cannot be confidently deployed to pay suppliers, meet payroll obligations, reduce borrowing or support investment.

Unpredictable settlement times can be as disruptive as consistently slow ones. When finance teams cannot predict whether a payment will arrive within hours or several days, they may need to maintain larger liquidity buffers and apply more conservative assumptions to cash-flow forecasts.

Payment Service Providers (PSPs) face similar difficulties, particularly around banking access, operational flexibility and the risk of account closures.

It is against this backdrop that stablecoins are attracting interest as an alternative means of transferring value internationally.

WHERE STABLECOINS CAN ADD VALUE

Stablecoins offer the potential for near-instant, low-cost cross-border settlement by reducing reliance on multiple intermediaries.

With respect to FX, stablecoins offer significant opportunity. Recent research highlights that 23% of senior finance professionals identify lower FX costs as a potential benefit of stablecoins, while 19% of existing stablecoin users cite lower FX costs as the reason for adoption.

However, their strongest commercial benefit is their ability to support international collection in markets where access to major currencies is limited, costly or unreliable.

In many emerging economies, businesses face difficulties accessing currencies such as the US dollar. Limited correspondent banking networks, foreign exchange restrictions, high conversion costs and inconsistent settlement times can create significant challenges for companies trading internationally.

Stablecoin-based payment infrastructure can offer an alternative route for collecting and transferring dollar-denominated value, potentially reducing some of these frictions.

Research into international payments highlights the appeal of these benefits. Faster access to liquidity (29%) and 24/7 settlement (22%) are among the advantages finance professionals associate with stablecoins.

This helps explain why adoption has been particularly strong across parts of Africa, Latin America and other emerging markets. Stablecoins are filling the gaps left by traditional financial infrastructure by giving businesses and individuals a practical way to collect, hold and transfer value. It's therefore unsurprising that Africa, the Middle East and Latin America lead in stablecoin volume relative to GDP.

Another key advantage of stablecoins is that their value is pegged to fiat currencies like the dollar or euro. This provides security, transparency, and reliability in financial transactions, which makes them a viable payment option for goods and services in the real economy.

THE WORKING CAPITAL DIMENSION

While the debate around stablecoins

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FX EUROMONEY FOREIGN EXCHANGE AWARDS 2025 GLOBAL BEST SOLUTION FOR FX NON-DELIVERABLE FORWARDS (NDFS)





The development of clearer regulatory frameworks is another important factor supporting the growing consideration of stablecoins

often focuses on transaction costs and settlement speed, their potential impact on working capital management is equally important.

For instance, an SME exporter operating in Nigeria might invoice a customer in Europe on 30-day terms. If this payment then spends three days passing through correspondent banks, then that is three days in which cash sits as receivable. Repeated across multiple invoices, this may force the Nigerian SME to push back supplier payments, stall the release of goods, draw on overdraft facilities or put growth plans on ice.

If stablecoins were used instead, faster and more predictable collections would shorten the time in which cash sits as receivables on the inbound side. On the outbound side, predictable settlement outside banking hours allows businesses to pay closer to the due date rather than having to pad timelines to reduce uncertainty. This is also significant where confirmation of payments triggers the next supply chain step or the release of goods.

REGULATION IS PROVIDING GREATER CERTAINTY

The development of clearer regulatory frameworks is another important factor supporting the growing consideration of stablecoins within mainstream financial services.

In the United States, the GENIUS Act – currently in the implementation and rulemaking phase before it comes into effect in January 2027 – establishes a federal regulatory framework for payment stablecoins. Under the new law, the Board of Governors of the Federal Reserve System (the Board), the Comptroller of the Currency (OCC), the National Credit Union Administration (NCUA) and State payment stablecoin regulators will become responsible for implementing rules regarding stablecoin issuers' capital, liquidity and risk management. The law also mandates reserve asset requirements, designed to ensure the redeemability of the payment stablecoins.

Elsewhere, the Payments Access and Consumer Efficiency Act (PACE) will provide stablecoin issuers such as Circle or Tether with direct access to federal payment rails, if passed. This act is currently in the initial stages of the legislative process.
In the EU, the Markets in Crypto-Assets (MiCA) regulation has established legal parameters for stablecoin payments, requiring issuers to partner with licensed financial institutions. Similarly, the UK government has set about introducing measures to support the use of stablecoins in payments. A single coherent framework for traditional and tokenised deposits, including stablecoins, will be established to support new payment innovations.

Alongside this, stablecoins will also be regulated for their use in payments in instances where these stablecoins have been issued under the forthcoming new regulated activity for stablecoin issuance in the UK.

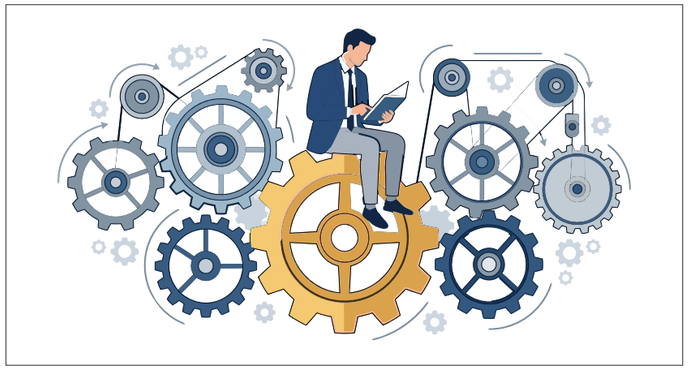
In July 2026, the UK and US signed a joint statement on stablecoins, recognising how regulated stablecoins can promote modernised market infrastructure, boost and improve cross-border payments and transactions.

BRINGING STABLECOINS INTO EXISTING TREASURY OPERATIONS

Despite considerable interest, operational complexity remains one of the main barriers to broader corporate adoption.

For many businesses, using stablecoins for payments requires opening an external wallet to hold these digital assets. This exposes them to the operational challenges associated with holding crypto, including volatility, wallet management, tax reporting, custody risk and integration with internal accounting systems. This complexity helps to explain the gap that remains between interest in stablecoins and actual adoption.

Our research highlights that while 88% believe that stablecoins could improve international B2B collections, only 27% actually use them for customer payments or collections and just 17% for supplier or counterparty payments. The issues associated with managing crypto wallets have prompted a growing need for innovative fintech solutions where businesses can accept stablecoin payments and immediately convert



Despite considerable interest, operational complexity remains one of the main barriers to broader corporate adoption

them into fiat currency, without ever having to hold the asset.

Demand for this simplicity is high, with 74% of senior finance leaders at SMEs trading internationally finding stablecoin-to-fiat conversion attractive. For businesses, this can provide a practical bridge between traditional payment systems and emerging digital infrastructure.

It also creates opportunities for payment providers to offer greater flexibility across international collection corridors while keeping the complexity of conversion, settlement and reconciliation in the background.

However, successful integration depends on more than connecting a blockchain network to a fiat account. Providers must also manage FX conversion, liquidity provision, compliance screening and the operational processes required to deliver usable funds to the recipient. Ultimately, businesses do not necessarily want to manage more payment technologies. They want simpler, more reliable ways to collect, hold and deploy money internationally.

THE FUTURE OF TREASURY IS MULTI-RAIL

Stablecoins, however, can't be viewed as a universal replacement for traditional cross-border payment infrastructure. In many regions, such as Western Europe and North America, large USD payments already move through existing banking infrastructure, and these processes are fast, reliable and settlement is cost-effective. In these payment instances, introducing a stablecoin leg may add unnecessary conversion and compliance steps.

This signals that while digital assets have a role to play in difficult collection corridors, they are not a replacement for fiat. Stablecoins, tokenised commercial-bank deposits, central bank money and established fiat infrastructure may increasingly coexist, but the value lies in being able to select the most appropriate route for each transaction, while keeping complexity in the background.

Choosing the right payment rail requires oversight of the complete transaction. A low blockchain transfer fee is only one component, and businesses should also assess currency conversion, provider charges and the cost of turning the proceeds into usable funds. Similarly, a payment recorded on a blockchain is not necessarily money immediately available in the recipient's bank account. A useful starting point is analysing which collection corridors cause recurring difficulties. Testing the alternatives against total cost, time to usable cash and reconciliation effort can give treasurers a practical basis for deciding where stablecoins add value and where established routes remain more effective.

CHOOSING THE RIGHT INFRASTRUCTURE FOR THE RIGHT TRANSACTION

Stablecoins have successfully lived up to their hype - they do have credible value where existing infrastructure is slow, difficult or costly to access, and business interest is high as a result.

For businesses operating internationally, they can offer faster collections, greater flexibility and opportunities to reduce FX and payment costs. Despite this, there are still operational concerns which act as barriers to adoption. Senior finance professionals do want faster settlement, greater flexibility and access to international payment rails, but not at the cost of the compliance and operational headaches that come with external crypto wallet management.

It is also worth noting that in some cases established fiat rails may well remain the most efficient route for payments, making the introduction of stablecoins a redundant exercise that just makes things more complicated. Therefore, it's likely that the future of treasury will be both technology agnostic and multi-rail.

Ultimately, businesses need to be able to accept and move money using the most appropriate infrastructure for a particular transaction while continuing to manage their liquidity through familiar accounts and processes.

Stablecoins have an important role to play as one rail within a broader global treasury infrastructure. As a result, the question is shifting from whether businesses should adopt stablecoins to where technology solves a genuine problem, and how they can access those benefits without introducing unnecessary complexity.

EXPERT OPINION

Beyond microseconds: Why FX Market Data needs observability, replay and control

By Ian Salmon, Head of Product Marketing at Adaptive


Ian Salmon

In electronic FX, being fast is no longer enough. Firms also need to know what happens when performance comes under pressure. When quote volumes surge, infrastructure is stretched or a component fails, an impressive average latency figure can hide the problems that affect pricing and trading. The real challenge is maintaining consistent performance when market conditions are anything but average. That requires firms to understand what is happening to their pricing in real time, identify the source of delays and recover quickly without disrupting clients or trading activity. The focus is shifting from measuring speed to controlling performance.

AVERAGE PERFORMANCE CAN HIDE THE REAL RISK

In FX, an impressive average can conceal the performance issues that have the greatest impact on trading. For the business, that gap could be the difference between delivering a price while it is still actionable and delivering it after the market has moved. At scale, inconsistent performance can affect pricing quality, execution and ultimately the experience delivered to clients.

In one example, a banking and financial services institution processed billions of eFX quotes daily, with acceptable average latencies, but with the slowest messages nearing a millisecond. Identifying the cause is not always straightforward. The company's existing environment offered limited visibility into where delays were occurring. The challenge was therefore not simply to make the system faster, but to give the firm a clearer view of how pricing behaved throughout its journey.

That visibility allows technology teams to move from identifying that performance has deteriorated to understanding why. For the business, the result is faster diagnosis, more predictable service and greater confidence that performance can be maintained as volumes grow.


The real challenge is maintaining consistent performance when market conditions are anything but average

REPLAY TURNS INCIDENTS INTO EVIDENCE

Visibility becomes even more valuable when firms can recreate what happened. In another example, Adaptive had been working on an approach designed to distribute pricing efficiently across different environments while retaining a record of the market-data stream. If a service is interrupted, it can resume from a known point rather than relying on an incomplete picture of what occurred. What's more, the business value of replay extends beyond recovery.


Another difficulty is gaining the flexibility and scalability of cloud without sacrificing the predictability expected from trading infrastructure

A recorded market data stream creates an evidence base that can be used to investigate incidents, test changes and understand how systems behave during periods of unusual market activity. Instead of trying to reconstruct an event after the fact, teams can reproduce the conditions and examine what happened.

That can materially improve the way firms manage change. New software can be tested against the same market conditions as an existing version. Periods of exceptional activity can be recreated before changes reach production. Problems that once appeared intermittent can be investigated using the actual sequence of events that produced them. The result is not simply better troubleshooting. It is lower operational risk and a stronger basis for making decisions about critical trading infrastructure.

SCALE CANNOT COME AT THE EXPENSE OF CONTROL

The same challenge becomes more pronounced as FX businesses expand across markets, venues and locations. A European-based fintech company provides a useful example. Its FX and digital-asset connectivity platform processes billions of messages per day across hundreds of venues and tens of thousands of instruments, with connectivity spanning data centres and cloud regions.

At that scale, performance is not simply about moving information quickly. Firms need to maintain consistent behaviour as market conditions change, isolate problems before they affect other services and understand what is happening across increasingly complex environments. This is particularly important as more market-data infrastructure moves into the cloud.

Traditional architectures were designed around highly controlled environments in which firms could make assumptions about hardware, network location and how data would be distributed. Public cloud changes many of those assumptions. Applications and clients may be spread across locations, while resilience requirements increasingly demand that services can continue even when part of the infrastructure becomes unavailable. The business challenge is therefore to gain the flexibility and scalability of cloud without sacrificing the predictability expected from trading infrastructure.

These considerations also shape how venues are built. Adaptive's Aeron Exchange Accelerator provides production-proven exchange and matching-engine capabilities—including order handling, risk controls, price-time-priority matching, market data and audit trails—without requiring firms to build every core component from scratch. Its modular architecture allows operators to add proprietary functionality while retaining control of their roadmap and intellectual property, supporting faster time to market without sacrificing the performance, reliability or deployment flexibility expected of critical trading infrastructure.

FROM LATENCY MEASUREMENT TO PERFORMANCE MANAGEMENT

None of this means that microseconds no longer matter. In electronic FX, they clearly do. But speed alone is becoming an incomplete measure of infrastructure quality. Firms also need to know whether performance remains consistent during market bursts, whether problems can be identified quickly, whether services can recover cleanly and whether teams can reproduce events when something goes wrong.

Each of these companies represents a different use case, but they point to the same underlying requirement: firms need greater visibility and control over the market data on which their trading businesses depend. That becomes increasingly important as volumes rise, trading becomes more distributed and infrastructure spans both traditional data centres and cloud environments.

The next stage of FX market-data performance is therefore not simply about being faster. It is about making performance observable, reproducible and controllable. For trading firms, that turns latency from a technology metric into something more valuable: a foundation for more predictable operations, better client service and greater confidence in the ability to scale.

The White Label advantage:
Powering the next generation of FX trading

Nicholas Pratt looks at the advantages of modern, white label solutions that now extend well beyond reducing technology costs and accelerating time to market.

White-label technology is evolving from a cost-effective alternative to proprietary development into an increasingly strategic tool for banks, brokers and other financial institutions seeking to compete more effectively in FX. Modern white-label solutions are enabling institutions to differentiate their trading services, strengthen client relationships, access new sources of liquidity, automate complex workflows and expand into new products and markets, all without the considerable investment and resources required to develop and maintain their own technology infrastructure.

The white-label FX paradigm has shifted from monolithic software to modular, workflow-centric digital architecture, says Steven Singh, head of product, Caplin Systems.

"Historically, financial institutions viewed build-versus-buy as a choice between total control and standardised functionality. Today, escalating maintenance costs and shortened innovation cycles render in-house builds economically unviable for all but global tier-1 firms. External adoption is driven by strategic resource reallocation: institutions recognise that core streaming protocols, cross-platform security, and UI orchestration are baseline infrastructure requirements. By leveraging specialist providers for this experience layer, firms redirect capital toward core differentiators: quantitative pricing, client execution tooling, risk modelling, and client relationships," he says.

Adopting a white-label FX solution shifts an institution's competitive advantage from maintaining software infrastructure to driving operational productivity, says Singh. "Leveraging a pre-integrated, componentised platform allows institutions to launch new services up to 80% faster - compressing time-to-market from years to months without incurring technical debt. Operationally, replacing fragmented legacy applications with a single, UX-driven workspace eliminates manual rekeying across the trade lifecycle and streamlines sales-trader workflows, delivering higher trade win rates. Furthermore, modular architecture enables institutions to expand into other asset classes and integrate AI tools seamlessly without disrupting existing operations. Additionally, modular solutions allow banks to choose best of breed solutions across the entirety of the

"Today, escalating maintenance costs and shortened innovation cycles render in-house builds economically unviable for all but global tier-1 firms"



Steven Singh

FX automation stack, be that with multiple vendors, or a mix of vendor and in-house builds," he states.

Modern platforms have evolved beyond execution venues into integrated operational ecosystems spanning the entire trade lifecycle, says Singh. "Rather than focusing solely on the trade screen, modern architecture prioritises workflow optimisation across buy-side clients and internal sell-side desks. Platforms now incorporate sophisticated sales-trader workflows, providing real-time visibility into client activity, margin utilisation, and order state. At the same time, scope has expanded beyond FX Spot, Forwards, Swaps, and NDFs to multi-asset capabilities, including Precious Metals, Commodities, and Digital Assets. Modern solutions also eliminate operational silos by embedding real-time post-trade processing, automated allocations, and self-service reporting directly into the workspace."

The ability to customise has become an essential part of white-label solutions, especially when the required flexibility does not introduce unnecessary complexity. At Caplin, customisation is achieved without technical debt through a declarative, no-code front-end framework, says Singh.

"Rather than creating bespoke code forks for each client, individual workflows, screens, and design systems are defined via structured configuration files overlaid on a supported core engine. This architecture allows institutions to tailor user journeys for specific client segments, such as corporate treasurers or institutional sales desks and region/jurisdiction specific nuances, without altering application code. Consequently, UI updates and feature enhancements deploy dynamically without requiring client re-logins or complex code merges, ensuring flexibility alongside seamless platform upgrades."



The white-label FX paradigm has shifted from monolithic software to modular, workflow-centric digital architecture

As FX becomes increasingly automated and data-driven, artificial intelligence, advanced analytics and intelligent workflow automation are being incorporated into white-label platforms. "The integration of artificial intelligence and advanced analytics in FX depends on the accessibility of underlying market data," says Singh.

"AI models cannot function effectively when data remains trapped in isolated back-end silos, such as separate pricing engines, trade blotters, and OMS feeds. Modern white-label technology addresses this by incorporating data intelligence that unifies live streaming feeds and historical archives into an operational framework able to be queried. As AI models evolve, maintaining this unified experience and data layer ensures financial institutions can deploy emerging machine learning and analytics tools seamlessly without disrupting daily operational workflows."

As traditional FX and digital asset markets become more closely connected, the convergence presents significant opportunities for white-label platforms to resolve sell-side operational fragmentation, says Singh. "While FX relies on automated workflows, digital asset trading frequently relies on manual quoting and disconnected exposure tracking. Modern white-label technology addresses this gap by uniting assets within a single workspace, enabling sales desks and institutional clients to manage liquidity, risk, and order flows through a unified interface."

When selecting a white-label provider, institutions must look beyond functional checklists to evaluate architectural elasticity, web-native engineering, and domain expertise, says Singh. "Conventional vendors supply turnkey, closed products that lock institutions into rigid feature roadmaps and standardised user journeys. Strategic technology partners like Caplin provide extensible, open-architecture foundations alongside deep domain expertise in UX and workflow design. A strategic partner collaborates with the institution to untangle complex operational bottlenecks, support technological adaptation (such as multi-asset expansion and AI integration), and preserve full ownership of strategic client relationships."

PROPRIETARY TECHNOLOGY

There is a growing interest among banks, brokers and other financial institutions in adopting externally developed trading platforms rather than building their own, says Jon Light, senior director of product management at Devexperts. "We're seeing increased interest in building proprietary technology, particularly as AI makes it easier and cheaper to develop software. However, there is an important distinction between building an interface and delivering a financial-grade trading platform. Firms that have experimented with AI-generated frontends have often encountered challenges around performance, scalability and the complexity of financial trading workflows. AI isn't yet a replacement for mature, proven trading technology," says Light.

The biggest advantage of adopting a white-label FX solution is avoiding the need to reinvent something that already exists and has been proven

"A consistent, high-quality experience across web, desktop, and mobile helps build engagement and encourages clients to remain within the broker's ecosystem."



Jon Light

in production, says Light. "A mature white-label platform provides an established trading experience that clients understand, alongside tested functionality, ongoing development, technical support, and operational expertise. This significantly reduces the time, investment, and risk associated with launching a trading business or expanding an existing one. It also allows institutions to focus their resources on their clients, distribution and commercial strategy rather than maintaining a complex technology stack."

Modern white-label platforms continue to expand well beyond the trading interface, increasingly covering the broader trading lifecycle and supporting more sophisticated business models, says Light. "Some providers have taken a vertically integrated approach, adding surrounding services such as liquidity and execution. At Devexperts, our strategic focus has been somewhat different. The demand we see is increasingly for multi-asset capabilities: helping brokers expand beyond traditional FX and CFDs into equities, futures, options, and other asset classes. We believe this offers institutions a greater opportunity for differentiation than simply adding another liquidity provider to an already competitive market."

White-label solutions can be customised to reflect the individual business models, client segments and strategic priorities of different institutions. Successful customization requires a balance between a strong core product, open APIs, and professional services, says Light. "The platform should provide a comprehensive set of capabilities out of the box, while APIs allow institutions to integrate third-party services and build around their specific business requirements. Professional services and bespoke development can then address requirements that genuinely differentiate the business. The important thing is to avoid turning every client implementation into a separate product. Customisation should extend the capabilities of a common platform, not create a collection of increasingly difficult-to-maintain bespoke solutions."

The relationship between banks and brokers can be strengthened by white-label solutions, as can the overall trading experience. "The trading platform is one of the most important touchpoints between a broker and its clients," says Light. "A consistent, high-quality experience across web, desktop, and mobile helps build engagement and encourages clients to remain within the broker's ecosystem. Personalisation, integrated account management, intuitive workflows, and self-service capabilities all contribute to this.

"However, the opportunity goes further than the interface itself. A

platform should allow brokers to build a more complete relationship with their clients, using data and analytics to understand client behaviour, identify changing needs, and deliver more relevant services. Ultimately, the technology should help brokers retain and grow their client base, rather than simply facilitate the execution of trades."

The market is moving towards increasingly sophisticated trading requirements, and platforms need to support a broader range of instruments, execution models, and market structures, says Light. "This is particularly important for institutions serving different client segments, from retail traders to professional and institutional clients. At Devexperts, our broader strategy is to provide a flexible, multi-asset technology foundation that allows brokers to expand their product offering without having to introduce entirely separate platforms for each new market or instrument. This also means providing the integration capabilities needed to connect specialist pricing, liquidity, execution and risk-management services where required."

When it comes to the application of new technology like AI, Light sees it developing across three areas - tools that help traders make better decisions; tools that help brokers retain and engage their clients; and AI agents that can interact directly with broker systems.

"In the near term, the most practical applications include AI-assisted client support, personalization, and churn prediction," says Light. "For example, through MCP (Model Context Protocol), brokers can allow their own AI tools to access relevant trading data, client interests, and churn-risk indicators, enabling them to build more intelligent client engagement workflows.

"Looking further ahead, we see opportunities around DXtrade MCP, Market Intelligence, and Market Anomaly Detection, eventually enabling more agentic brokerage models. Our objective is to use AI to drive adoption of our platforms and ensure DXtrade continues to evolve in line with industry developments."

There are challenges and risks that institutions need to consider when adopting white-label FX technology, particularly regarding vendor dependency, cybersecurity, regulatory compliance, system integration and retaining control over pricing, liquidity and client data.

"The most important consideration is understanding exactly where the institution retains control and where it becomes dependent on its technology provider," says Light. "This includes access to client data, pricing and execution arrangements, integration capabilities, infrastructure choices, and the ability to change providers or services in the future. Cybersecurity, resilience, regulatory requirements, and business continuity also need to be assessed carefully, with clear responsibilities between the institution and its technology provider.

"Vendor dependency is not necessarily a problem in itself, but it becomes one when the platform is inflexible or prevents the institution from developing its own business strategy. We believe open APIs, well-defined integration boundaries, and flexible deployment options are important safeguards. A white-label solution should give institutions access to sophisticated technology without taking away their control of the business," says Light.

Light also believes that multi-asset capability is becoming increasingly important. "Traders don't necessarily think in terms of separate technology platforms for FX, equities, futures, options, or digital assets. They expect to access the markets they are interested in from one place, with a consistent experience and a single user account. For brokers, this creates an opportunity to broaden their offering, increase client engagement, and retain more of their clients' trading activity within their own ecosystem. The technology challenge is bringing these different asset classes together while accommodating their distinct market structures, trading hours, liquidity models, and regulatory requirements. We see this convergence as a fundamental direction for the industry."

When it comes to the most important attributes for a potential white-label FX technology provider, institutions should look beyond the immediate functionality of the platform and consider the provider's ability to support their business over the long-term, says Light. "This means evaluating the technology's scalability, performance, reliability, multi-asset capabilities, API architecture, and ability to adapt as the institution grows and enters new markets. Equally important are the provider's financial markets expertise, implementation capabilities, and commitment to ongoing product investment.

"A conventional vendor delivers a platform to meet today's requirements. A strategic technology partner helps an institution anticipate tomorrow's requirements and provides the technology foundation to respond to them. In an industry evolving as quickly as financial services, that distinction is becoming increasingly important."

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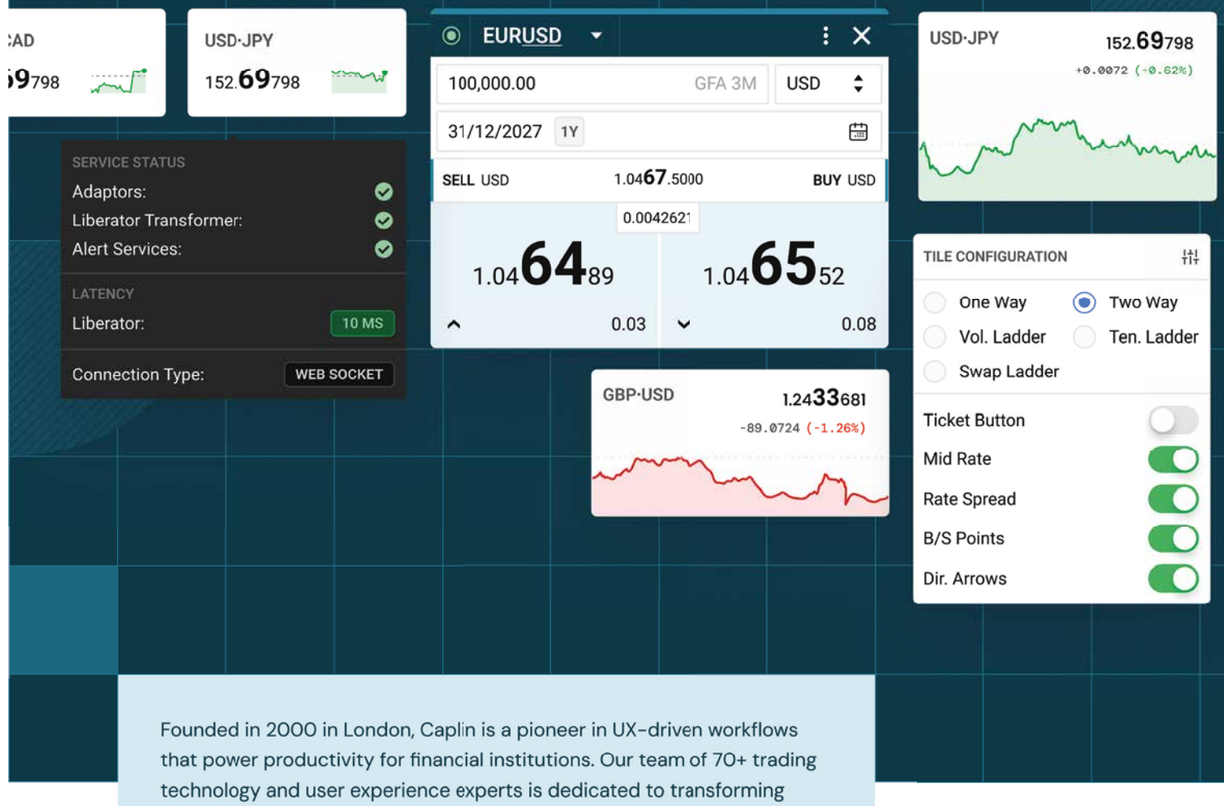

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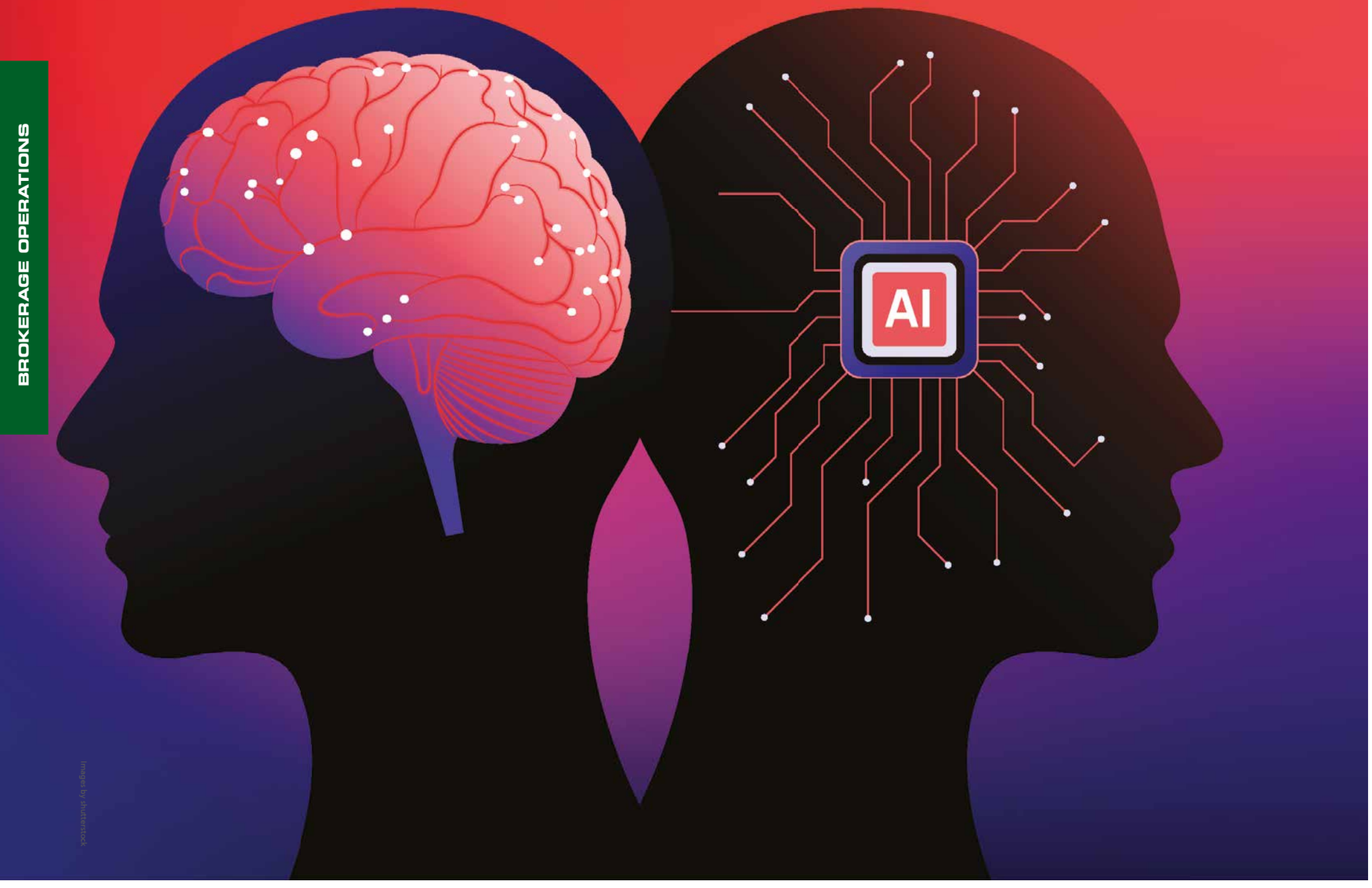
Beyond the algorithm:
Why human intelligence still matters in FX broker partnerships

By Huseyin Gursoz, Founder, Verified-IB



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Huseyin Gursoz

Over the past decade, the forex industry has undergone a significant transformation. Introducing brokers (IBs) and traders have placed increasing importance on trading technology, operational efficiency and trust-based relationships when choosing brokerage partners.

Digital infrastructure now plays an increasingly important role in managing broker–IB relationships. CRM platforms, performance analytics and automated reporting systems are helping brokers manage their partner networks more efficiently. Nevertheless, personal relationships remain central to how many brokers develop and maintain their partnerships.

Technology and human relationships are not necessarily competing priorities, but the balance between them is changing.

We are now approaching another turning point as brokers explore how artificial intelligence can be integrated into their operations. AI-powered partnership systems promise greater efficiency, better performance analysis and more informed commercial decisions. But can they genuinely understand what builds trust and lasting relationships with introducing brokers?

FROM TRADITIONAL PARTNERSHIPS TO DATA-DRIVEN DECISIONS

For many years, broker–IB relationships have been built around personal communication, commercial agreements, commission structures and the ability to attract and retain trading clients.

These elements remain important, but technology has changed how brokers evaluate their partnerships.

CRM platforms, trading systems and performance reporting tools allow business development managers to monitor IB activity in greater detail. Instead of relying entirely on personal impressions or occasional reports, brokers can review registrations, first-time deposits, trading volume, active clients and other measurable indicators.

This information can improve transparency and help both parties identify areas where a partnership is performing well or requires additional attention. However, access to more information does not automatically lead to better decisions.

A brokerage may have detailed performance reports and still misunderstand the reasons behind an IB's behaviour. Likewise, an IB may have access to sophisticated reporting tools without feeling that the broker understands their business.

The challenge is therefore not simply collecting more data, but understanding how that information should influence decisions and relationships.

HUMAN INTELLIGENCE, MACHINE INTELLIGENCE AND UNCERTAINTY

There is an important distinction between the analytical capabilities



The purpose of automation should be to make operational processes more efficient while giving people more time to build meaningful relationships

of artificial intelligence and the way humans understand relationships.

Providing an AI system with specific, predefined parameters may enable it to develop a roadmap for achieving an IB's stated goals. However, the challenge becomes more complicated when the IB is uncertain about those goals or when personal preferences, emotions and motivations influence their decisions.

AI systems are often designed to optimise measurable outcomes. Human relationships, however, involve circumstances that cannot always be reduced to predefined objectives or performance indicators.

Humans are accustomed to navigating uncertainty about other people's intentions and motivations. We constantly interpret behaviour, question assumptions and adjust our understanding as relationships develop. However, human intelligence is not without its limitations.

One example is the fundamental attribution error, a psychological bias that can lead us to overestimate personal characteristics and underestimate external circumstances when interpreting someone else's behaviour.

When we are uncertain about another person's intentions, our brains often rely on convenient psychological shortcuts.

For example, if someone cuts us off in traffic, we may immediately assume they are aggressive or deliberately inconsiderate. We rarely stop to consider that they might be rushing to a hospital because of an emergency.

The same problem can occur in broker–IB relationships.

When an introducing broker suddenly reduces trading volume, a brokerage may assume that the IB has become less committed or is moving clients to a competitor. Yet the explanation could involve technical difficulties, changing client circumstances or dissatisfaction with the broker's service.

This illustrates an important distinction: humans can navigate uncertainty, but they do not always interpret it correctly. Data and AI can help challenge some of these assumptions, but they cannot eliminate the need for human judgement.

THE ROLE OF DATA IN FX IB PARTNERSHIPS

A business development manager needs specific data when establishing and managing a relationship between an introducing broker and a brokerage. Monthly first-time deposits (FTDs), trading volume, the number of active clients, registrations, marketing support requests and social media engagement are all important performance indicators. However, the lifetime value of an IB cannot be determined with absolute certainty from these numbers alone.

One IB may generate high trading volume from a relatively small number of clients, while another may generate fewer FTDs despite having strong engagement across social media channels.

In my own experience, providing marketing support to a highly active forex influencer resulted in relatively few FTDs, while a smaller trading community generated significantly more first-time depositors.

Does this necessarily mean the smaller community represents a more valuable long-term partnership? Not always. The influencer may offer opportunities for future growth, while the smaller community may have different strengths. Understanding the potential of either partnership requires more than comparing a few performance indicators.

AI can analyse these figures, identify patterns and suggest a data-driven roadmap. However, even a sophisticated system may struggle

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Beyond the algorithm: Why human intelligence still matters in FX broker partnerships



Data analytics, automation and artificial intelligence have the potential to improve how brokerages manage their introducing broker networks

to understand the uncertainty surrounding an IB's goals, preferences and motivations. Performance data can help brokers understand what an IB has achieved. It does not necessarily explain what that IB wants to achieve next.

AUTOMATION SHOULD SUPPORT, NOT REPLACE, HUMAN RELATIONSHIPS

In my view, the operational processes of a brokerage should be automated according to the company's standard operating procedures (SOPs). IB onboarding, KYC checks, performance reporting, rebate calculations and administrative workflows can all benefit from automation. Automation can reduce repetitive work, improve consistency and help ensure that established procedures are followed.

It can also give business development teams more time to communicate with their partners. However, I believe human oversight and direct communication with the IB remain essential, particularly where decisions require an understanding of individual circumstances.

Consider a situation in which an automated onboarding system flags an applicant because of residency, documentation or regulatory eligibility requirements.

Should the system automatically reject the application without further consideration? Not necessarily. Where regulations and company policies permit further assessment, qualified compliance personnel should review the circumstances and communicate with the applicant.
Individual circumstances may require careful assessment rather than relying entirely on automated classifications. However, applicable sanctions, legal restrictions and the broker's own acceptance policies must always be respected. Human intervention should never be used to bypass compliance requirements. The purpose of human involvement is to understand circumstances properly and determine whether a compliant solution exists.

The same principle applies to rebate calculations. Rebates can be calculated automatically according to agreed commercial terms. However, brokers should also hold regular meetings with their IB partners to understand their motivations, business goals and changing circumstances.

These discussions may lead to revised commercial arrangements, additional marketing support or incentive payments, where appropriate and permitted under applicable agreements and regulatory requirements.

An automated system may calculate the correct commission while remaining unaware that an IB is dissatisfied with the relationship or considering a different business direction.

For me, every stage of an IB partnership should involve mutual evaluation, communication and business development. The purpose of automation should be to make operational processes more efficient while giving people more time to build meaningful relationships.

DATA DOES NOT ALWAYS REVEAL HUMAN INTENTIONS

AI-powered IB technologies can process large amounts of information,

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Observing human behaviour is not the same as understanding human intentions

identify patterns and support performance analysis. However, interpreting those patterns is not the same as understanding the human motivations behind them.

An introducing broker's activities may provide useful indicators of commercial interests and priorities, but these indicators can also be misleading. For example, an IB might frequently compare commission structures across different brokers. An automated system could interpret this behaviour as evidence that higher rebates are the IB's primary motivation.

Yet the IB may simply be researching the market while placing greater importance on reliable execution, transparent reporting, responsive support or long-term business stability. Similarly, an IB whose trading volumes have declined may not necessarily be dissatisfied with the broker. The change could reflect wider market conditions, changes in client activity or a shift in the IB's own business priorities.

Observing human behaviour is not the same as understanding human intentions.

This is a limitation that brokers should keep in mind when using data-driven systems to evaluate partnerships. Historical performance and behavioural indicators provide valuable information, but they should not be treated as a complete explanation of an IB's circumstances or future ambitions.

AI SHOULD PROVIDE ANALYSIS, NOT MAKE ASSUMPTIONS

AI can offer useful insights into IB performance, but these insights should support discussions rather than automatically determine the direction of a partnership.

When an AI system identifies a decline in an IB's performance, it should analyse the available data, present its findings and suggest possible actions. However, these findings should become the starting point for a discussion between the broker and the IB, rather than an automatic decision. Both parties need to understand the real human reasons behind the change in performance.

An IB may be facing personal difficulties, changing business priorities, client-related challenges or dissatisfaction with the broker's services. These circumstances may not be visible in the data. For example, an automated system might recommend increasing marketing support because an IB's FTD numbers have declined. But after speaking with the IB, the broker may discover that the real issue is delayed client support or a lack of confidence in operational processes. In such a situation, additional marketing expenditure may not solve the problem. AI-generated recommendations should therefore be treated as possibilities to investigate, not as unquestionable conclusions. AI can help identify what is happening, but the broker and IB must work together to understand why it is happening and decide what should happen next.

THE FUTURE OF BROKER–IB PARTNERSHIPS

Data analytics, automation and artificial intelligence have the potential to improve how brokerages manage their introducing broker networks. They can help organise information, reduce administrative work, identify performance changes and support more informed decisions.

But the future of broker–IB partnerships should not be defined by a choice between human intelligence and artificial intelligence. Technology should be designed to serve IBs' preferences while remaining open to uncertainty about what those preferences truly are.

An IB's priorities may change over time. Some may not have clearly defined goals, while others may discover new opportunities or concerns through their interactions with a broker. For this reason, technology should support ongoing communication rather than assume that past behaviour provides a complete picture of future intentions. I believe the strongest broker–IB relationships will combine efficient operational systems with regular human interaction, mutual evaluation and a willingness to reconsider assumptions.

Trust-based partnerships, human judgement and meaningful human oversight must remain at the centre of introducing broker relationships.

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The data battleground starts inside the firm

By Sachin Pawar, Cloud Database Engineer


Sachin Pawar

In the December issue of e-Forex, John McGrath's Expert Opinion, 'Why Data is the New Hidden Battleground in e-FX', argued that venues now compete on data rather than execution. From where I sit, building the platforms underneath, the harder fight comes earlier: getting a firm's own data into one place.

On the customer side, the data was in several disparate locations. Orders were in one system, executions in another. Market data came from a particular set of APIs, and there was another set of files that were created on a daily basis.

Identifying how best to get all of that into object storage was the first conversation we had, because we had to agree on a format. We settled on CSV after considering the tooling, the skill set, and the project team's preference for supporting the system in the long run. Then came the storage for processing and presentation. Everyone agreed on an open source data store, mainly to avoid vendor lock-in. For those reasons and more, Postgres was declared the winner.

THE QUESTION THE TRADERS KEPT ASKING

The question the traders kept asking was simple: give us real-time market insights, with up-to-date market information and analysis. In practice that meant questions like "how did a client's executions sit against the market at the time?" and "show me this client's activity alongside the market, today, not tomorrow."

Answering those means joining two very different kinds of data: a few thousand client orders a day, every one of them important, against millions of market rows a day. This is where the join between market data and actual orders and executions comes into the picture. If the final output is slow or wrong, traders are working with yesterday's data. It is also the join that nearly sank the platform, and it is where this story goes next.

WHY A POSTGRES-COMPATIBLE MANAGED DATABASE

Before we get there, a word about the default assumption in this market: that trading data needs a specialist store. We chose a managed PostgreSQL-compatible database. Postgres is one of the most popular databases among developers anywhere, it is open source, it has a huge library of extensions and phenomenal community support.

Obviously you do not stop there. You start thinking about what the business needs to keep the database running all the time without the maintenance overhead. Critical systems usually opt for managed services that also offer analytical capability, such as AlloyDB, Aurora or Timescale.

Beyond that, you want a solution that scales storage, offers high availability and reliability, and is prepared for human mistakes, power outages and environmental disasters like flooding. And you want low latency. Read latency of a few milliseconds or less, and write latency to match, decide whether ingestion jobs finish on time. Low latency also saves developers from spending their days waiting on slow infrastructure, and slow infrastructure has a strong correlation with rising project costs.

One note on scope: nothing here touches order matching or routing. This is the system that receives the trades, not the one that makes them.

THE SHAPE OF THE PLATFORM

We began with the sources. One was live customer trades, the other was market daily data. Both land in object storage. From there, live customer trades are streamed using a Spark streaming engine (Dataproc or equivalent), and the market daily data is processed through Spark batch. Both sources are then loaded into a schema in Postgres we called Ingestion.

Ingestion schema. Live streaming data, trades and market daily data sit in separate tables. Stored procedures do the complex calculations, transform the data and make it ready for the Transform schema. These procedures are scheduled with pg_cron, the database's built-in scheduler, in a sequence designed for efficient execution.

Transform schema. Two sets of tables: one holding live streaming data plus trades, the other holding consolidated daily market data plus trades. A different set of stored procedures waits for this data to arrive and processes it on its own schedule, again through pg_cron. The ready data is then inserted into the Presentation layer.

Presentation schema. These tables hold everything needed to serve both the application and the traders.

The transformations are where the work is. The stored procedures calculate metrics by joining live customer trades with market daily data, and market daily data is joined to customer daily data every minute, so the presentation layer always holds the freshest data for end users to act on.

We chose pg_cron for this scheduling rather than an external scheduler for one main reason: keeping the scheduler close to the data. Having a managed Postgres service with analytical processing capability also made the bigger joins run significantly faster.

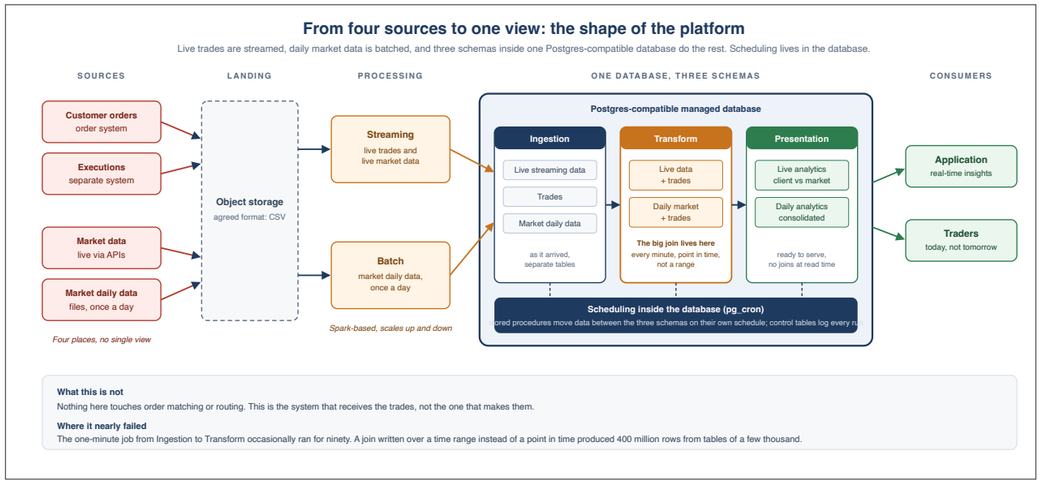
THE JOIN THAT COULD HAVE SUNK IT

Between the Ingestion and Transform schemas we had a cron job that populated rows every minute, with the next run triggering after the current one finished. Occasionally that one-minute run went much, much longer: thirty minutes, sometimes an hour and a half. We began investigating and it was not clear why. We checked the source data, the target data, the requirement documents, the data model. Nothing looked out of the ordinary.

Then I looked at that particular minute's query and its execution plan. One of the merge joins was processing 400 million records. 400 million! The source tables had a few thousand rows up to about 149,000. Something was not adding up. It had the symptoms of a Cartesian join, even though the plan did not say so and there was a join condition between the tables.

The reason turned out to be slightly complex. The documents we had been given described a metric at a point in time. Because of the complexities of the implementation, the code we wrote was working on a range instead. So rather than joining one row of a table with 140,000 rows of another, we were joining around 3,000 rows covering that range with 140,000 rows. That is how you get to 400 million.

For reading the execution plans I used an open source tool called pev2, which visualises the plan and let me go deep enough to see the Cartesian behaviour for what it was. After rereading the documentation we changed the code to capture the metric from the smaller table at a point in time rather than over a range. The one-minute queries finished in under a minute again, and the ingestion jobs met their timing expectations without building a backlog.



The data battleground starts inside the firm



Trading data needs a specialist store

The lesson for anyone running a platform like this: the hard part is not storing the data, it is getting the big join right. Get it wrong and no database will save you. Get it right and a standard one is plenty.

SIX DECISIONS THAT SET THE BILL

When it comes to the running cost of a managed database, there are a few decisions worth making deliberately:

- **Instance size.** Is the database sized for the day we expect or the day we fear? Oversize and we pay for idle capacity. Undersize and CPU or other resource pressure means the presentation layer gets its data later, or not at all.
- **Storage.** Do we pay for storage we might consume in future, or only for what we consume today?
- **Read replicas.** Are the people and processes reading the data competing with the processes writing it?
- **High availability.** Are we fine with ten minutes of downtime? If not, how much are we planning for?
- **Cost anomaly detection.** How would we know if a bad query doubled our bill overnight?
- **Committed-use discounts.** We stayed on demand for the first year on purpose. Once the project has proved itself, that is the time to commit.

The two that mattered most were sizing and cost monitoring, and the join in the previous section is the reason for both.

RUNNING IT AFTER GO-LIVE

We used pg_cron to schedule and automate the data flow into the Transform and Presentation layers. It kept the business logic as close to the data as possible; we never had to leave the database to do complex processing. It gave us atomic operations and direct SQL execution to turn business requirements into a working codebase.

With a few control tables and some code to populate them, we also built logging that let developers and the operations team see what was going on, and troubleshoot faster alongside the monitoring tools the managed service provides out of the box. It worked well enough that in-database scheduling became the customer's default for later Postgres projects.

FOUR QUESTIONS, THEN CLOSE

If you run a trading business and have never looked at the data platform underneath it, four questions will tell you where you stand:

1. Can you see a client's orders against the market they traded into, without raising a data request?
2. How many systems does that answer come from?
3. Where does the big join happen, and how was it designed?
4. Who owns the platform the day after go-live?

I write this as a database engineer, not a trader, so I will end where engineers end. The data business everyone is now describing rests on a handful of decisions about where data lives and how the sources are joined to match what the business actually needs. Get those right and a database will do wonders. Get them wrong and no strategy will save you.

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The prime brokerage challenge: Bringing capital efficiency to digital assets

Paul Golden explores the remaining obstacles preventing digital assets from fitting comfortably into institutional trading workflows, and how prime brokerage is helping to overcome them.



Images by shutterstock



Paul Golden

Capital is still scattered across venues, custodians and counterparties, forcing institutions to pre-fund accounts, maintain additional liquidity buffers and reconcile disconnected positions. While execution technology has moved quickly, the surrounding credit, legal and post-trade infrastructure has taken longer to catch up.

"The market has moved beyond basic custody and aggregated execution, but progress is uneven," says Adam Sporn, head of global markets and institutional sales at BitGo, adding that the separation of execution, custody, settlement and credit has become fundamental to reducing counterparty risk and strengthening institutional confidence.

"A problem at an execution venue should not automatically put the client's underlying assets at risk. Several of the most significant failures in digital assets in recent years involved exchanges becoming insolvent or being compromised. But that does not mean asking the client to operate completely disconnected systems - the functions can remain legally and operationally separate while the workflow is integrated."

Sporn notes that a true single collateral pool spanning every venue is still some way off, noting that each venue has its own collateral rules, haircuts, legal agreements and default procedures. He suggests the first step is giving institutions one view of their collateral and a controlled way to deploy it where it is needed.

He adds that a consolidated dashboard is not the same as cross-margining or a legally enforceable netting arrangement.

"For many institutions, off-exchange settlement is moving from a nice-to-have to an important part of how they evaluate a venue," he says. "It will not work for every position or strategy, particularly where margin has to remain at the venue, and it does not eliminate settlement or default risk. What it can do is reduce the concentration and duration of that exposure. We continue to see institutions take a closer look at where risk sits within their operating models and how off-exchange settlement can help manage that exposure."

ACCESS A DIFFERENTIATOR

Prime brokerage is a key component for institutions in traditional markets and Sporn believes the same will be true in digital assets. Access to financing and balance sheet can reduce the need to pre-position capital and will be an important differentiator between providers.

Collateral is becoming more portable. BitGo supports clients seeking to separate collateral from counterparties through its triparty collateral management offering. Tokenised securities and money market funds can be useful forms of collateral because they may be easier to transfer, can remain income generating and have more flexibility to move 24/7.

The 24/7 market also creates a real funding gap, which means

"Institutions should understand who their counterparty is, where collateral is held, whether it can be rehypothecated and how exposures are margined."



Adam Sporn

prime brokers need continuous risk monitoring, clear margin processes, sufficient liquidity buffers and the ability to move eligible collateral at any time.

Sporn explains that stablecoins and tokenised cash can help but do not completely solve the problem, since redemptions, conversion into bank money and access to fiat liquidity may still depend on traditional banking hours.

A prime broker can consolidate positions, collateral, and counterparty exposures, but a single view does not mean those exposures are legally netted. DeFi also introduces smart contract, oracle, liquidation, governance and bridge risk.

When asked to assess the main structural obstacles preventing institutional traders from managing digital asset positions with the same capital efficiency, credit flexibility and operational simplicity they expect in FX, equities and other established markets, Chris Knight, managing director LMAX Digital suggests the biggest challenge is fragmentation.

He notes that liquidity, collateral and credit are still spread across multiple venues, requiring institutions to pre-fund accounts and manage risk venue by venue.

"Traditional markets benefit from mature netting and credit frameworks built over decades; digital assets are still developing that infrastructure," says Knight. "Until capital and collateral can move more freely across the ecosystem, capital efficiency will remain constrained."



The 24/7 market also creates a real funding gap

MARKET STILL EVOLVING

Digital asset prime brokerage may have moved beyond simple aggregation of liquidity and custody but the market is still early in its evolution. The next phase is about balance sheet, credit and financing, which are ultimately what drive capital efficiency for institutions.

Knight observes that institutions want access to liquidity without having to pre-fund multiple venues or leave large balances sitting on exchanges.

"We are starting to see more interest in models that improve capital efficiency and allow collateral to be held away from the execution venue," he says. "The industry is still evolving and different firms will take different approaches but the direction of travel is clear - better access to liquidity with less capital tied up."

Prime broker-provided credit, financing and leverage remains vital for reducing the need for institutions to pre-position capital. Credit and financing reduce the need to scatter capital across venues and allow institutions to deploy balance sheets more efficiently and as the market matures, access to credit and financing will become a major differentiator between providers.

"Liquidity alone is no longer sufficient," adds Knight. "What matters is how efficiently firms can access that liquidity, manage capital and optimise financing. The winners will be those that provide flexible, interoperable access models that support a broad range of participants without fragmenting liquidity."

He refers to the challenge of managing risk in a market that never closes while much of the underlying financial infrastructure still operates on traditional schedules and suggests

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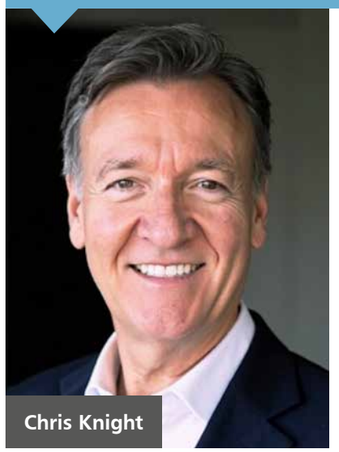
"Traditional markets benefit from mature netting and credit frameworks built over decades; digital assets are still developing that infrastructure."



Chris Knight

institutions need continuous visibility over collateral, margin and liquidity, including during periods when banking rails are unavailable.

That places far greater demands on treasury and risk management functions than in traditional markets. Digital asset prime brokerage has come a long way in two years. The access layer is mature - multi-venue execution, custody and consolidated reporting from a single relationship - although it still has a way to go.

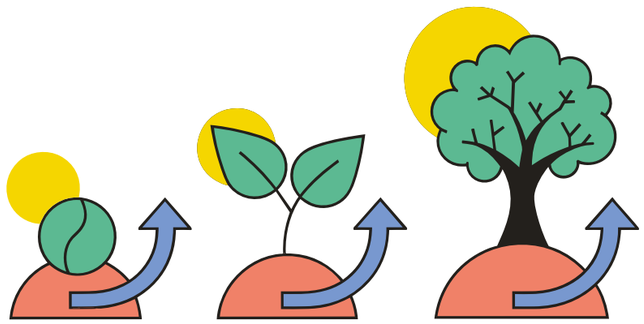
CREDIT GAPS REMAIN

That is the view of Emily Sutherland, head of prime services at Talos, who says that although 2026 has seen primes deliver genuine cross-margining between spot and derivatives, credit is where the gap remains.

"Lending is still heavily manual, much of it negotiated in private chats and tracked in spreadsheets," she says. "Since the crypto lending collapse of 2022, the market has remained credit-constrained and big balance sheets are still mostly crypto-native."

What remains largely unsolved is leverage against a diversified portfolio, risk-based and netted across venues and instrument types, although Sutherland takes encouragement from tokenised collateral and better on-chain data making standardised valuation and price discovery more achievable.

DIGITAL ASSET PRIME BROKERAGE MAY HAVE MOVED BEYOND SIMPLE AGGREGATION OF LIQUIDITY AND CUSTODY BUT THE MARKET IS STILL EARLY IN ITS EVOLUTION



She describes off-exchange settlement as one of several models a serious trading operation runs at the same time.

"A single desk might clear futures through an FCM, settle OTC trades bilaterally at end of day through a custodian, send wallet-to-wallet transfers only to whitelisted addresses, use an off-exchange network for some venues and still pre-fund others," says Sutherland. "None of these models removes risk; it just moves it around."

She refers to the emergence of 24/7 treasury management in response to the challenge of margining, liquidity management and credit provision created by digital assets trading around the clock.

"Regulators are starting to move," adds Sutherland. "CFTC staff guidance confirmed that US Treasuries and qualifying money market fund shares can retain their eligibility as futures and swaps collateral when tokenised. Other industry groups are looking into tokenised forms of eligible clearinghouse collateral to help firms respond faster to margin calls. The direction is encouraging but eligibility alone does not deliver 24/7 liquidity. Firms still need enforceable rights, reliable custody and the ability to turn collateral into usable funding as needed."

Sutherland says it is possible to provide a single view of liquidity and risk across centralised venues and OTC counterparties and the technology to do it exists today.

"You normalise positions, balances and counterparty exposures into one real-time book and value them consistently," she says. "The prime's view is only part of the picture, though, because most institutions use several primes and still trade bilaterally, so the single view often has to sit

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"Bank capital treatment must evolve or credit will stay capped by the size of crypto-native balance sheets."



Emily Sutherland

within the client's own portfolio and risk system."

DECENTRALISATION INCREASES CHALLENGES

DeFi adds complexity. Because counterparties are often pseudonymous, firms need wallet screening to confirm they are dealing with addresses that clear their AML and sanctions checks. DeFi risk extends to smart contracts, oracles, bridges and governance - risks that sit outside standard credit models.

Positions such as liquidity pool shares or lending receipts need their own valuation methods and transactions settle on-chain, so accounting and reconciliation must read the chain directly, explains Sutherland. "Execution quality isn't just about price on-chain; network fees can swing a lot in stressed market conditions and that has to be part of the cost you're measuring." Institutional-grade algorithms, smart order routers, and TCA are central to how firms meet their execution obligations in digital assets. With no consolidated tape, the best price for size has to be assembled across exchanges, market makers and block liquidity.

Sutherland says smart order routing should weigh more than the top of book, adding that algorithms manage the trade-off between urgency and market impact while TCA closes the loop, both while the order is being worked and afterwards, so traders can see which venues and liquidity providers actually performed.

She makes a number of recommendations for what still needs to change, starting with the need for eligible collateral to move at any time, which means tokenised cash, Treasuries and fund shares carrying the same legal rights as the underlying, held in structures that clearing houses, exchanges and lenders accept.

"The same digital asset can be held natively, wrapped or tokenised and each venue may value and haircut it differently. Until that's standardized, netting across venues will continue to break down," says Sutherland. "Bank capital treatment must evolve or credit will stay capped by the size of crypto-native balance sheets. The market also lacks an independent liquidation agent, as you would expect in traditional markets, someone needs to step up to take on the role of unwinding large positions across venues."

In addition, tokenised collateral has to plug into the risk and collateral systems institutions already run, so firms are not forced to rebuild their stack.

"Access was the problem two years ago and that's largely solved. The next two years are about credit, standardisation and infrastructure builds. The firms that get collateral moving 24/7 will set the pace."

SINGLE VIEW OBJECTIVE

Knight says the goal of every prime broker is to give institutions a single view of liquidity and risk across centralised exchanges, OTC counterparties and on-chain venues but acknowledges that it is easier said than done.

"Aggregating liquidity is relatively straightforward; aggregating risk, collateral and exposures across centralised and decentralised venues is much more complex. DeFi introduces additional considerations around smart contract, protocol and operational risk. The challenge is delivering a unified view without compromising risk controls."



DeFi adds complexity

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The prime brokerage challenge: Bringing capital efficiency to digital assets

Smart order routing, algorithmic execution and transaction cost analysis have become essential in determining where and how orders are executed.

"In fragmented markets, execution quality depends on how effectively liquidity is sourced and orders are routed, not simply where they are executed," explains Knight. "Institutions increasingly rely on algorithms and transaction cost analysis to minimise market impact, reduce information leakage and achieve optimal execution outcomes."



There is greater collaboration between traditional financial institutions and digital asset market infrastructure providers

As for what still needs to change before digital asset prime brokerage can provide institutions with true portability of collateral, cross-venue netting, scalable credit and the same degree of capital efficiency they expect from traditional prime brokerage, he suggests the industry needs better interoperability between venues, custodians and credit providers, alongside more mature risk and legal frameworks.

"Institutions want collateral portability, cross-venue netting and scalable access to credit, all of which remain works in progress," says Knight. "Encouragingly, we are seeing greater collaboration between traditional financial institutions and digital asset market infrastructure providers, which should help accelerate that evolution."

He recommends institutions prioritise risk management, balance sheet strength, access to credit, secure custody and high quality execution when selecting a digital asset prime broker.

"Just as importantly, they should look for a provider that can simplify operational complexity and deliver a consolidated view of liquidity and exposure. Ultimately, the strongest prime brokerage relationships are built on trust, resilience and capital efficiency."

FRAGMENTED MARKET REQUIREMENTS

A single screen or dashboard does not create a single risk perimeter, says Sporn. He agrees that smart order routing, algorithmic execution and transaction cost analysis are essential in a fragmented market, as the best displayed price may not be the best trade once depth, fill probability, fees, market impact, credit usage and settlement costs are considered.

"Institutions may be able to view digital assets, FX, derivatives, and securities through a single risk and reporting interface but those positions can still sit in different legal entities under different documentation, capital rules and default regimes," he says. "Technology can connect those markets faster than their legal and balance sheet frameworks can converge."

For digital asset prime brokerage to deliver true collateral portability, cross-venue netting, scalable credit and the capital efficiency institutions expect from traditional markets, Sporn says the market needs consistent documentation, enforceable close-out netting, clearer collateral standards, reliable settlement infrastructure and deeper sources of credit.

"An API cannot create cross-venue netting," he says. "That requires enforceable agreements and either a credit intermediary to which trades are novated or a clearing structure with established margin, settlement and default management processes."

When choosing a digital asset prime broker partner, Sporn recommends looking closely at the experience of the people responsible for credit and risk.

"The failures of 2022 showed what can happen when lending books are operated without mature underwriting, collateral and risk management controls," he says. "Institutions should understand who their counterparty is, where collateral is held, whether it can be rehypothecated and how exposures are margined. They should also assess financing capacity, liquidity quality, settlement infrastructure, regulatory status and the provider's performance during periods of market stress."

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