transforming global foreign exchange markets

e-FOREX

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E-FX OPTIONS
Maximising workflow efficiencies

RISK MANAGEMENT
E-platforms help to take it to the next level

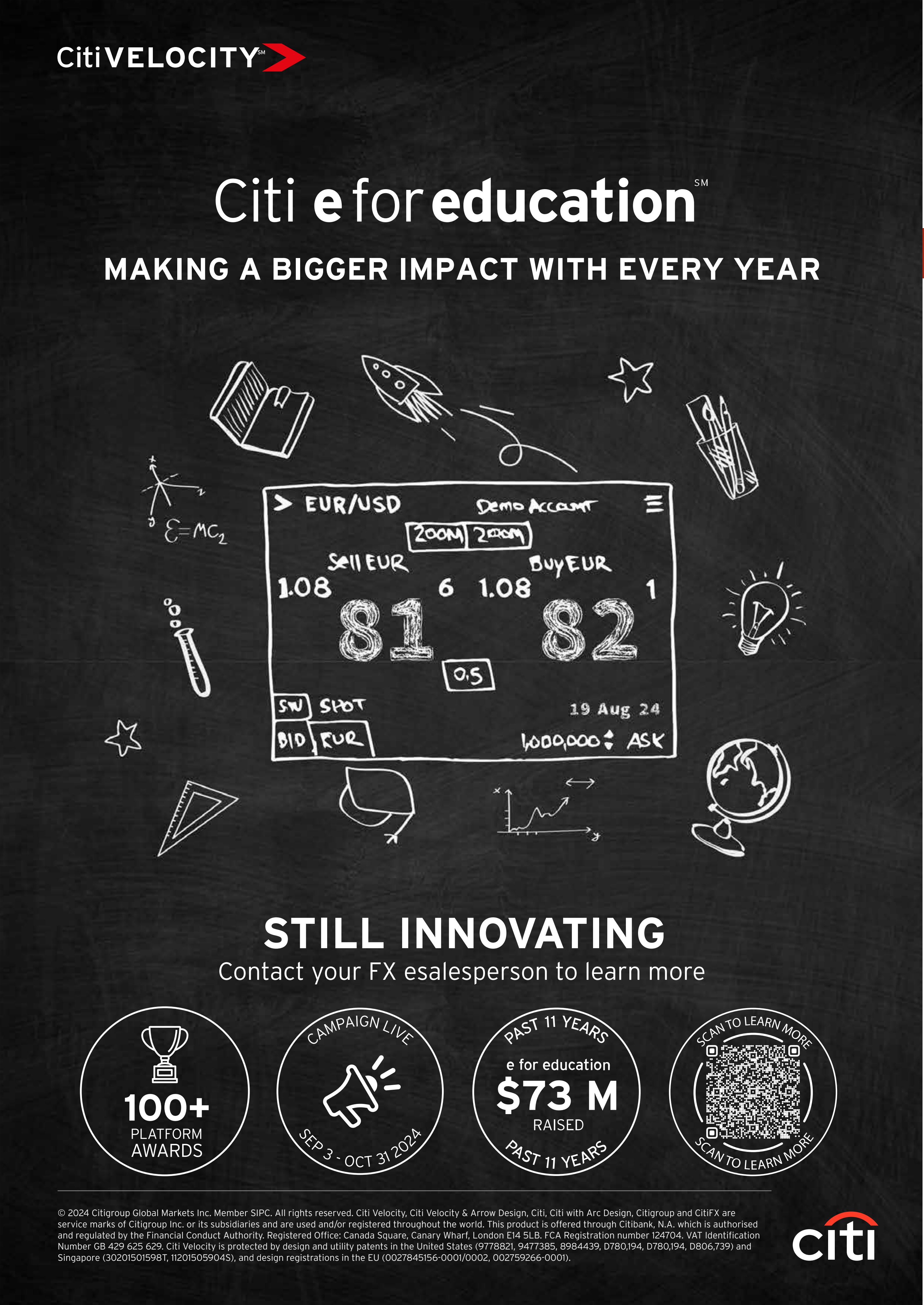
CLOUD COMPUTING
FX looks to exploit the scalability benefits

LATIN AMERICAN E-FX
What's driving the accelerating growth?

COVER INTERVIEW

REMONDA KIRKETERP-MØLLER
CEO OF MUINMOS

LIQUIDITY • RISK MANAGEMENT • STP • E-COMMERCE



Welcome to

e-FOREX

transforming global foreign exchange markets

September 2024

Our Special Report in this edition is focused on the electronification of the FX options market. Next year e-Forex will be celebrating 25 years of publication and we have come a long way since we first started talking about the development of electronic trading solutions for these instruments all those years ago. However, the number of platforms catering for users remains relatively small and more complex FX option structures continue to be voice-based as they have not yet become commoditised. Nevertheless this segment of the market is going to evolve further over the next few years and the product offering will broaden in terms of complexity, particularly in relation to some of the more esoteric products which currently don't trade electronically. The requirement for best execution by the buy-side will also continue the process of commoditisation of FX option structures, which in turn will lead to increased investor confidence and demand.

Our regional perspective feature this month is centred on the growth of both retail and institutional e-FX in Latin America. Over the past few years there has been a gradual improvement in high speed communication and technology infrastructures across the continent which has laid a strong foundation for the broader expansion of e-trading services. Regulatory developments are also playing a crucial role in shaping the e-FX market's growth trajectory. Regulatory frameworks are offering more clarity which is giving traders and investors more confidence in the legitimacy and security of the e-trading platforms they use. This increased trust and transparency is likely to encourage further e-FX participation from individuals and institutions across the region. Technology innovation has also enhanced liquidity in a number of ways in the fragmented FX markets across the globe including Latin America which is making the trading process more efficient and reducing the costs associated with trade execution. As a result of all these factors Latin America is likely to be one of the stand-out regional e-FX growth stories over the next few years.

Finally, we are publishing our latest supplement at the end of next month on how to manage the challenges of an increasingly complex post trade FX landscape. This and other supplements we have put together can be seen on the e-Forex website: https://e-forex.net/supplement/

As usual I hope you enjoy reading this edition of the magazine.
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COMPANIES IN THIS ISSUE

Digital Vega and CME Group launch new service

Digital Vega and CME Group have announced the launch of a new FX options block trading service. Currently available for client testing, buy-side firms will be able to use existing OTC workflows on Digital Vega's multi-bank platform Medusa to request quotes and trade blocks of FX options on futures.

"Enabling customers to negotiate and trade risk-transfer blocks via Digital Vega's Medusa platform is an exciting development in the electronification of the FX options market," said Chris Povey, Executive Director and Head of FX Options, CME Group. "This partnership lowers the barriers to entry for buy-side clients looking to gain the margin and operational benefits of our centrally cleared FX options by allowing them to use existing OTC workflows and lean on OTC relationships. In addition, clients could gain access to new liquidity given there is no requirement for bilateral credit relationships."


Chris Povey

FX HedgePool expands credit panel with Nomura

Nomura has joined FX HedgePool's peer-to-peer matching platform for institutional FX swap liquidity, X•Match™ which provides institutional buy-side firms with a fully transparent and reliable source of FX swaps liquidity, free from market impact, information leakage, and unpredictable spreads. This is achieved through FX HedgePool's innovative method of separating liquidity from credit, which allows buy-side firms to provide liquidity to each other while utilizing their existing sell-side credit relationships for trade booking and settlement.


Jay Moore

"Nomura's inclusion in the credit provider panel further expands our footprint in the APAC market and invites a broader range of offsetting members into the X•Match community," said Jay Moore, co-founder and CEO of FX HedgePool. "Banks are essential in making X•Match possible, and Nomura's extensive client network will enable new participants to enjoy the unique benefits of the world's leading peer-to-peer matching solution."

BlockFills forms a strategic partnership with New Change FX

BlockFills has announced a strategic partnership with New Change FX (NCFX), a distinguished provider of independent regulated FX benchmark data and crypto reference rate data. This collaboration will further cement BlockFills position as delivering a full range of best-in-class products and services designed to meet the sophisticated needs of institutional clients in the digital assets space. By integrating NCFX's market-neutral data and analytics into its offering, BlockFills is not only expanding its product suite but also reinforcing its commitment to providing the highest quality service at the exacting standards of traditional finance within crypto markets. Paul Lambert, CEO of New Change FX, added: "Collaborating with BlockFills allows us to extend the reach of our high-quality, independent data to a broader audience in the digital assets market. Together, we are enhancing the tools available to institutions, enabling them to make more informed decisions with the confidence that comes from using industry-leading benchmark data."


Paul Lambert

Baton introduces new treasury management tools

Baton Systems has introduced new treasury management tools designed to optimise intraday liquidity, reduce costly buffers and mitigate risk in real-time. The new tools provide treasury managers with a dedicated dashboard with real-time insight into how individual counterparties are impacting liquidity across all business lines. By providing real-time firm-wide visibility and control across all available liquidity sources, these tools enhance forecasting, allow for more informed decision-making and the swift adjustment of liquidity strategies. Arjun Jayaram, Founder and CEO of Baton Systems, highlighted the importance of these new tools: "Recent market events underscore the urgency for a significant shift towards real-time treasury management. With regulators more focused than ever on financial resilience, we've designed these tools to enable treasury managers to develop more robust liquidity strategies, to easily access the critical information needed to make informed decisions fast and rapidly adjust strategies to effectively respond to and proactively optimise resources as market conditions change."


Arjun Jayaram

Capitolis launches fast-track Novations technology

Capitolis has successfully launched its fast-track Novations technology with the execution of a same day tear-up. Reaching this milestone, the first of its kind in the foreign exchange (FX) options market, will significantly reduce the time and resources required by banks, prime brokers, and hedge funds in the approval process.

"Capitolis had already made tremendous progress in reducing risk in the market, allowing for more novations to be completed, increasing efficiency of balance sheets, and reducing gross notional for our participants. We've also seen massive volume growth, almost 50%, on the platform in the past year and have added many more FX prime brokers, executing banks, and major buy-side participants," said Gil Mandelzis, CEO & Founder, Capitolis. "We now look forward to taking our network to the next level by getting as close as possible to near real-time novation processing and completion."


Gil Mandelzis

Centroid Solutions completes integration of DXtrade

Centroid Solutions has announced a deeper collaboration with DXtrade to support the CFD white-label trading platform on Centroid Risk, Centroid's risk management system. The partnership between Centroid and DXtrade began in 2021 with the integration of the DXtrade platform into Centroid Bridge, Centroid's multi-asset connectivity bridge engine, providing broker clients of DXtrade with connectivity options to over 250 market makers. With the integration of DXtrade into Centroid Risk, brokers using the DXtrade platform can leverage the advanced risk management features available on the Centroid Risk system as well. Commenting on the integration and collaboration, Centroid Solutions CEO, Cristian Vlasceanu, said: "This integration of DXtrade into Centroid Risk marks a significant advancement in empowering brokers with tools that go beyond just liquidity access to include robust risk management capabilities. By seamlessly integrating DXtrade into our comprehensive risk management system, we enable brokers to gain deeper insights into their operations, optimize decision-making, and better manage risk."


Cristian Vlasceanu

NEWS

Societe Generale partners with Tradefeedr

Societe Generale will now deliver Tradefeedr trading analysis to clients via an API, while Societe Generale's FX algos will be featured in Tradefeedr's Pre-trade Algo Forecasting service.

"We are confident that we can leverage Tradefeedr's service to improve client outcomes across our algo and principal FX business lines", said John Estrada, global head of FX trading at Societe Generale. "As the FX market continues to become more data driven, we expect additional client interest in metrics to improve their trading."


John Estrada

"We are thrilled to welcome Societe Generale as our latest Liquidity Provider," said Balraj Bassi, co-founder and CEO of Tradefeedr. "This collaboration furthers our goal of standardising data metrics and analysis for FX trading teams globally. Furthermore, Societe Generale inclusion into our FX Pre-trade Algo Forecasting service will offer all clients enhanced insights and data, helping them make better and more informed decisions."

Standard Chartered launches digital asset custody service

Standard Chartered has announced the launch of its digital asset custody service in the UAE.
The service, which enables clients to safekeep their digital assets, has launched in the UAE due to its well-balanced approach to digital asset adoption and financial regulation.

Bill Winters, Group Chief Executive of Standard Chartered Bank said: "The launch of our digital asset custody offering represents a pivotal moment not just for Standard Chartered, but for the financial


Bill Winters

services industry. We firmly believe that digital assets are not merely a passing trend, but a fundamental shift in the fabric of finance. With this new service, we are strategically positioning ourselves at the forefront of this next evolution in the custody business. Our robust infrastructure, coupled with our expertise in the field allows us to provide a bridge between the world of financial services and the emerging digital asset ecosystem."

DeFinity Markets gains Jersey approval

DeFinity Markets has secured approval from the Jersey Financial Services Commission (JFSC) to launch an investment-grade digital assets matching and settlement platform. This initiative leverages Jersey's Virtual Asset Service Provider (VASP) framework to offer bank-backed credit intermediation to investment-grade clients.

"We are excited to expand our operations into the PB-backed institutional digital asset market," said Manu Choudhary, co-founder of DeFinity Markets. "Jersey's robust VASP framework and commitment to financial innovation make it the ideal location for our platform." Michael Siwek, co-founder and CRO, added: "We are beyond thrilled to utilise the Jersey VASP framework to help banks, funds and asset managers, as well as trust companies to buy, hold and sell digital assets and fiat, efficiently, eliminating the burden of over-collateralisation, ultimately easing counterparty risk and establishing a new and improved trading infrastructure for FIs globally wishing to trade digital assets in their own name or on behalf of clients."


Manu Choudhary

Electronic Platforms: Helping to take FX risk management to the next level

By Vivek Shankar

Vivek Shankar

The Bank of International Settlements' recent Triennial Survey revealed that daily FX daily volumes exceed $7.5 trillion. As volumes continue to scale, FX risk management becomes more critical than ever for firms operating in today's global economy.

And the risks companies face are increasingly complex as Gerard Melia, Head of FX Sales at StoneX Group, observes, "The landscape of FX risk management has evolved significantly, driven by increased globalisation, market volatility, geopolitical events, and advancements and complexity of FX risk management technologies."

This evolution necessitates a multifaceted approach to risk management that goes beyond traditional methods. Treasury managers now grapple with various risks including transaction, translation, economic, contingent, credit, liquidity, and operational risks. Each of these categories presents unique challenges, requiring specialised knowledge and sophisticated tools to manage effectively.

Electronification has long been positioned as a solution to these challenges. But what role is it playing and how can firms implement these programs successfully?

THE ELECTRONIFICATION EFFECT

Traditional treasury management systems, while still valuable, often struggle to address the full spectrum of modern FX risks. Melia says, "Managing FX risk is only one part of the responsibilities of a modern treasurer and traditional treasury management systems, while useful, often fall short in addressing the full spectrum of FX risks."

Meanwhile John Stead, Director of Sales Enablement and Marketing at smartTrade, believes the way treasury systems are organised within firms is to blame for their shortcomings.

"Traditional treasury systems may not achieve their full potential because they are often siloed, handling either transaction processing or risk analysis, but rarely both," he says. "This creates significant gaps in the risk management process, leaving firms exposed to risks that are not fully identified or mitigated."

The silos treasury systems operate in mean they fail to capture the different kinds of FX risk firms face. For example, Eric Huttman, CEO of MilltechFX, highlights transaction, translation, and economic risk as the three major categories of FX risk.

"Managing these risks has become increasingly complex due to globalisation, market volatility and the intricate financial structures of modern businesses," he says. "Many treasury

Image by Shutterstock

> **"Electronic platforms have the potential to revolutionise how companies implement systematic hedging programs and improve the overall effectiveness of FX risk management"**

Gerard Melia

systems struggle to fully capture and address these risks, focusing on specific aspects like transaction or translation risk without integrating all risk factors."

Digital transformation in FX has gone a long way toward changing risk management, equipping treasury managers with sophisticated tools to navigate an increasingly complex market landscape.

Electronic platforms have become instrumental in enhancing FX risk management through real-time monitoring, predictive analytics, and comprehensive data normalisation, marking a significant departure from traditional methods.

Huttman paints a picture of these traditional methods, saying that 34% of European corporates still instruct financial transactions over the phone, while nearly a quarter (24%) use email. But the manual tasks don't end there.

"Finance professionals may have to get approval from different layers of seniority, wait for trade confirmations which usually arrive via email, process settlement, enter payment details and, in some instances, share trade information with third parties such as administrators or regulators," he says. "All this internal, manual and siloed communication can be extremely inefficient. And this is just for one, single trade."

All of this means firms are waking up to the need to move away from such inefficiency and embrace technology.

"Electronic platforms have fundamentally enhanced FX risk management through real-time monitoring of FX positions, market movement and transactional data," Melia notes. This real-time capability is helping firms quickly understand their risk exposure and response to market fluctuations—a dramatic improvement over traditional end-of-day risk assessments.

Digital transformation in FX has gone a long way toward changing risk management

The ability to track exposure in real-time also helps treasury managers make informed decisions promptly, crucial given the way market volatility has been recently.

Stead elaborates on the power of these new tools by offering an example. "smartTrade's advanced risk management tools leverage real-time market data and centralised positions to provide a holistic view of FX exposures," he says. This integration offers treasury managers a comprehensive view of their risk profile, enabling more informed and proactive decision-making.

The consolidation of data from multiple sources ensures a single, accurate view of risk exposures, which is vital for firms operating across multiple jurisdictions and currencies.

The benefits of electronification extend beyond just monitoring. Predictive analytics, powered by sophisticated algorithms and machine learning, are now at the forefront of risk quantification. "Electronic platforms enable treasury managers to leverage predictive analytics (algorithms and machine learning) to quantify the risks," Melia says.

Firms can now anticipate potential market movements and adjust their strategies accordingly, moving from reactive to proactive risk management.

Transparency and price discovery have also seen significant improvements, "Thanks to advancements in trading platforms and connectivity," explains Melia. For instance, he says StoneX Pro aggregates pricing from diverse liquidity providers, simplifying access to top-tier liquidity for small to mid-sized firms without requiring heavy investments in

"Consolidating data from various sources into a single platform is critical for treasurers to gain a comprehensive understanding of their risk exposures and take informed actions"

John Stead

technology and expertise. This democratisation of access to quality liquidity sources levels the playing field for smaller market participants.

Huttman cites price discovery as one of the benefits for corporates embracing electronification. "For many corporates, it is operationally inefficient to set-up and manage multi-bank relationships, meaning they often rely on a single bank or broker to meet their FX hedging requirements," he says. "Automated solutions enable firms to compare prices from multiple liquidity providers on a single marketplace. Not only does this bypass the often onerous phone calls and email exchanges, but it also enables firms to get the best available price and lock it in with the simple click of a button."

The efficiency gains from electronification are substantial. "Automation, from trade execution to settlement, has streamlined operations and minimised the likelihood of human error," Stead says. This automation, coupled with the integration of algo trading and EMS platforms, allows firms to achieve better pricing and improved execution quality.

The impact of these advancements is evident. The BIS Survey mentions the increasing adoption of electronic trading platforms and how they account for a large portion of daily FX turnover. This electronic shift is not just introducing more efficiency—it's reshaping the entire landscape of FX risk management.

However, it's crucial to recognize that while these electronic platforms provide powerful tools, they also require sophisticated skills to utilise effectively. As Melia cautions, "The skills to effectively hedge against these risks through complex FX structures are often beyond the capabilities of many treasury management teams."

Firms are recognising the value of a data-driven approach to risk management

DATA-DRIVEN APPROACHES TO HEDGING AND CURRENCY MANAGEMENT

Electronification is increasingly paving the way for more automation—particularly when speaking of systematic hedging programs. These systems are helping firms leverage data better and paving the way for more sophisticated, efficient, and effective risk management strategies.

"Electronic platforms have the potential to revolutionise how companies implement systematic hedging programs and improve the overall effectiveness of FX risk management. These platforms enable the automation of hedging strategies based on predefined risk parameters, ensuring consistent execution aligned with corporate risk policies," says Melia.

Stead elaborates on this point, noting that "smartTrade supports automated hedging strategies that can be customised to meet a firm's specific needs." This customization allows firms to tailor their hedging approaches to their unique risk profiles and objectives.

"Electronic platforms often integrate with other financial systems, enabling seamless data flow and consolidated reporting," Huttman adds. "This integration allows for a broad view of FX exposures across the organisation, ensuring that all risks are accounted for and managed effectively."

Moreover, the ability to automatically trigger hedges when certain risk thresholds are met provides a level of responsiveness that was previously unattainable with manual processes.

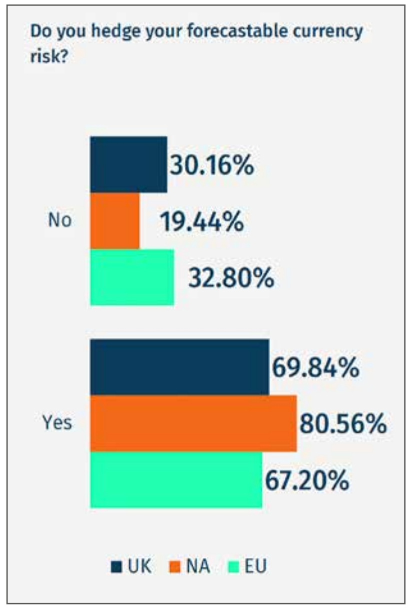
However, the successful implementation of these advanced

"TCA goes hand-in-hand with best execution and can be used as an ongoing audit of FX practices as well as to hold existing FX counterparties to account"

Eric Huttman

hedging programs is not without its challenges, Melia cautions. Success "depends on several factors, including the quality of the technology deployed, the configuration of hedging algorithms, the expertise within the treasury department, and the quality of the liquidity accessed," he says. This underscores the importance of not just having the right tools, but also the expertise to use them effectively.

The rise of electronification goes hand-in-hand with firms recognising the value of a data-driven approach to risk management. "Organisations began to take a strategic approach to data management in the mid-2000s," Melia explains. "The advent of cloud computing in the 2010s enabled companies to store and analyse vast amounts of data more efficiently." This shift towards data-centric decision-making has been further accelerated by the growing interconnectivity of modern companies and the evolution of FX risk management platforms.



Source: The MillTechFX European Corporate CFO FX Report 2024

Stead emphasises the importance of data consolidation. "Consolidating data from various sources into a single platform is critical for treasurers to gain a comprehensive understanding of their risk exposures and take informed actions," he says. "This unified approach to data management enables more accurate risk assessments and supports informed hedging decisions, whether executed manually or through automated systems."

Most importantly, data consolidation removes data silos—one of the biggest shortcomings in existing risk management systems. "A single platform also simplifies the management of FX risks by streamlining workflows, improving accuracy, and enhancing reporting capabilities. It enables treasurers to quickly assess their overall risk position, identify potential vulnerabilities, and adjust strategies proactively," Huttman says.

The combination of electronification and data-driven approaches to risk has led to the rise of Currency Management Automation (CMA) solutions. When asked about their effectiveness, Melia is quick to acknowledge their benefits. "... increased efficiency and speed, enhanced accuracy with reduced human error, optimised hedging strategies, and, ultimately, cost reduction," he says. The fact that these solutions leverage advanced technologies, including artificial intelligence and machine learning, further makes them an attractive proposition.

Stead notes that CMA solutions have "transformed FX risk management by automating the entire FX workflow, from trade execution to settlement and reporting." This automation not only reduces operational risk but also frees up treasury teams to focus on more strategic activities.

Also, Huttman notes, CMA solutions scale well, helping firms manage risk seamlessly as transaction volumes grow.

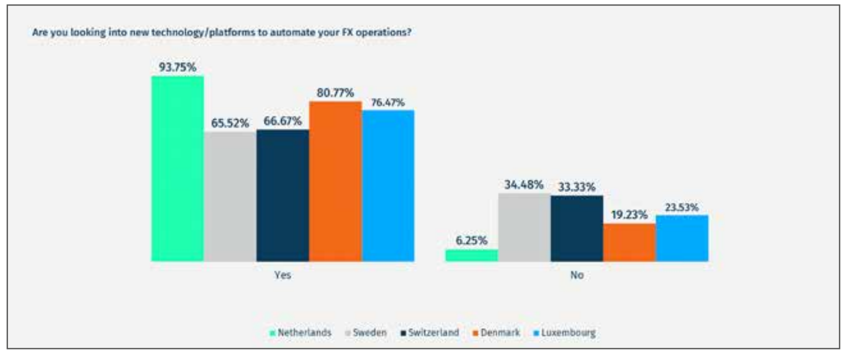
Despite these advancements, challenges remain, even if they are potentially short-term ones.

Melia points out that treasury managers still face issues such as fragmented and outdated data, the gap between near-real-time and real-time data, budget constraints, and the increasing complexity of FX risk management. Additionally, while large companies can directly access bank liquidity, smaller firms often lack such access. This makes firms like StoneX Pro crucial in helping these firms, he says, who can "...source the type of liquidity that matches their hedging needs in a cost-effective manner."

INTEGRATION WITH EXISTING PLATFORMS AND WORKING WITH A SERVICE PROVIDER

"The latest generation of FX risk management platforms is designed with interoperability in mind, ensuring seamless integration with existing systems like ERP and

Electronic Platforms: Helping to take FX risk management to the next level



Source: The MillTechFX European Corporate CFO FX Report 2024

treasury management systems (TMS)," Stead says.
This integration capability is not just a convenience—it's a crucial feature that maintains data consistency across all platforms, significantly reducing the risk of discrepancies that could lead to incorrect risk assessments.

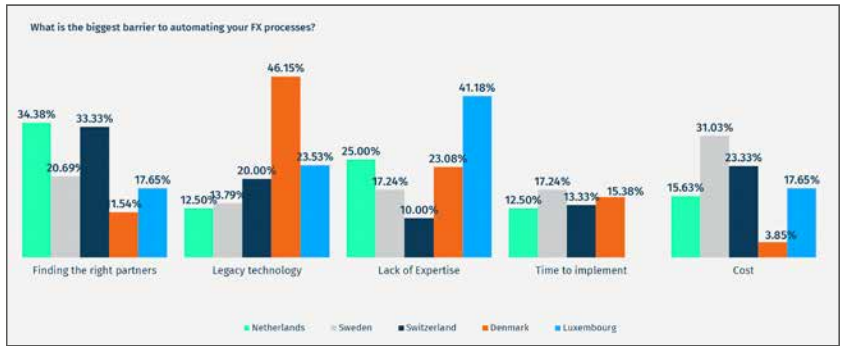
Stead highlights that "smartTrade provides flexible FIX and REST APIs, enabling its trading and payments platforms to work harmoniously with other systems with minimal integration effort."

This approach ensures that firms can leverage new FX risk management tools without disrupting their existing technology stack, promoting a more holistic and efficient approach to financial management.

Moreover, the ability to integrate easily with existing systems enhances the scalability of risk management solutions. When it comes to choosing a suitable FX risk management solutions provider, firms need to consider a range of factors beyond just the technical capabilities of the service provider's platform.
"Apart from financial stability, regulatory robustness, and scalability, firms should choose FX risk management solution providers that are aligned with their specific needs," Melia says. This alignment is crucial, as the most advanced technology may not always be the best fit for every organisation.

Stead emphasises the importance of comprehensive solutions, stating that "The provider should offer a platform that covers the entire spectrum of FX risk management, from transaction processing to risk analytics and reporting, and even other asset classes such as money markets and fixed income products."

Integration capabilities are also a key consideration. "Seamless integration with existing systems like ERP and TMS is crucial for ensuring data integrity and operational efficiency," Stead explains, echoing his earlier points about the importance of interoperability in modern FX risk management platforms.



Source: The MillTechFX European Corporate CFO FX Report 2024

"Providers at the forefront of technological advancements, particularly in AI/ML, will offer more advanced tools for predictive analytics and automated risk management," he adds.

Experience and expertise also play a vital role. "A provider with a proven track record in the FX market and deep expertise in financial technology will be better positioned to deliver reliable and effective solutions," Stead says.

Finally, Stead highlights the significance of customization and support, noting that providers should offer a platform that can be tailored to the specific needs of the firm, along with robust customer support. This flexibility and support can be crucial for firms as they navigate the complexities of risk management.

Melia adds an important caveat to this selection process, noting that "The subset of organisations with the budgets and expertise to access the most advanced technology and execute complex risk management strategies isn't representative of the wider market."

He recommends firms choose a solutions provider carefully, considering not just the technical capabilities of the platform, but also its alignment with the firm's specific needs, resources, and expertise. In doing so, firms can ensure they select a solution that not only meets their current needs but also supports their future growth and evolving risk management strategies.

Huttman highlights transparency as a critical feature to evaluate, particularly when conducting TCA. "TCA goes hand-in-hand with best execution and can be used as an ongoing audit of FX practices as well as to hold existing FX counterparties to account," he says. "TCA can come with its own costs, so it is important that firms look to partner with a provider which already has TCA built into its offer."

Huttman also points to onboarding efficiency and strong governance as critical points to evaluate. "FX is one of the largest and most liquid markets in the world, but also one of the most complex," he says.

HOW RISK MANAGEMENT WILL LIKELY EVOLVE

No talk of the future of FX risk management platforms is complete without examining the state of next-generation technologies like AI and ML. These advances promise to reshape the landscape of FX risk management, offering enhanced capabilities and efficiencies.

"AI is clearly a huge trend currently but it's important that the FX market focuses on genuine use cases, rather than just the technology," Huttman says. "At MillTechFX, we have been exploring using generative AI to automate parts of the compliance process by enabling our team to find specific information within legal documents which accelerates onboarding."

He also notes that generative AI is playing a role in the development process at MilltechFX. "We feed parts of our code base to a generative AI model to allow developers to get answers on different parts of our code base without having to search through documentation, saving valuable time," he says.

"The integration of artificial intelligence and machine learning into FX Risk Management platforms is inevitable, promising enhanced decision-making, risk management, and task automation," Melia says. This integration is expected to dramatically improve the ability of firms to anticipate and mitigate risks, moving from reactive to proactive risk management strategies.

Stead dives into how these technologies are already being implemented and their potential future applications. He notes that "smartTrade has already integrated AI/ML elements into its eFX platform, providing sophisticated analytics and decision-making tools, including client segmentation, market analysis, and pattern recognition in trading behaviour." These advancements are not just theoretical possibilities but are already enhancing the capabilities of existing platforms.

Looking to the future, Stead says, "These technologies will enhance the predictive capabilities of risk management platforms by identifying patterns associated with both typical and atypical behaviour, allowing firms to anticipate and mitigate risks before they materialise."

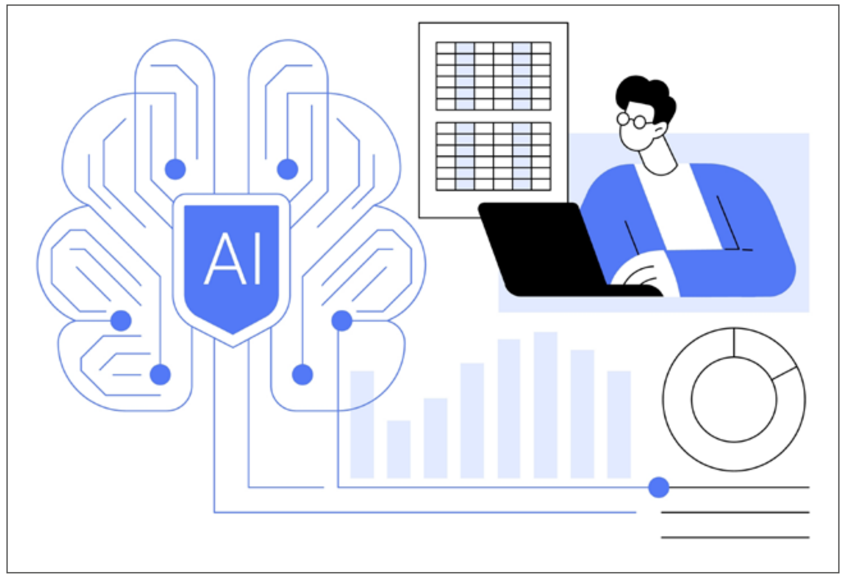
This predictive capability represents a significant leap forward in risk management, potentially allowing firms to avoid losses before they occur.

"In the future, we can expect greater automation in FX risk management, with AI-driven algorithms capable of executing trades and managing exposures autonomously, further reducing the operational burden on treasury teams and enhancing overall efficiency," Stead predicts.

Melia cautions that the adoption of these technologies may not be as rapid or straightforward as some might expect. He notes that "in the near term, the pace at which AI and ML will be adopted, and the extent to which they will replace existing manual treasury processes, remains uncertain." This reflects the complex nature of risk management and the potential challenges in implementing these advanced technologies.

Indeed, Melia highlights several significant challenges that treasury departments will face in adopting these technologies. These include "navigating complex regulatory and compliance requirements, addressing issues of data quality and accessibility, overcoming infrastructure limitations, and managing additional risks and costs."

While challenges remain, Melia, Stead and Huttman are all bullish on the role electronification and technological advances will play in risk management. Given increasingly complex market conditions and risk factors, a move to predictive risk assessment looks like the right one.



Next generation technology promises to reshape the landscape of FX risk management

EXPERT OPINION

The art of Liquidity Management: How Institutional FX brokers stay on top of their game

By Andrea Sanna, Head of Execution and Liquidity Management at Alp Financial Limited

In the fast-paced world of Institutional FX trading, being good at managing liquidity is crucial. It's what helps brokers to make sure they can guarantee competitive and stable liquidity to their clients and good flow to their liquidity providers. Let's delve into what it takes for Institutional brokers to excel at managing liquidity in ever-changing markets.

MARKET MICROSTRUCTURE KNOW-HOW

Understanding the intricacies of the FX market is paramount. Brokers need to constantly have an overview of what is happening with respect to the liquidity landscape. To dive deeper into which parameters brokers need to monitor, here are a few crucial points to succeed in this business.

The key drivers to evaluate clients' performance are:

- Fill ratios;
- Average response times (ms);
- Median spreads in top traded currency pairs;
- Hours of trading activity;
- Spread competitiveness duringpeak hours;
- Profitability profile (also called markouts).

Whilst the most important drivers to evaluate LPs' performance are:

- Spread competitiveness;
- Risk management capabilities (internalization rates);
- Fill ratios;
- Last look policy;
- Median response times (ms);
- Customers' markouts profile;
- Monitoring market impact.

ROBUST TECHNOLOGY FRAMEWORK

A robust technological infrastructure, including high-speed connectivity, guaranteeing smooth and stable fill ratios is essential.

At AlpFin, we use Lucera to offer top-notch, reliable electronic trading services and we leverage their tools to provide insightful analytics to our clients and LPs.

DIVERSE LIQUIDITY PROVIDER NETWORK

By establishing strong relationships with a selected pool of LPs, including banks, hedge funds, and family offices, brokers can obtain a high-quality liquidity stack. AlpFi for example, is connected with LPs in all key regions mitigating risks

Brokers should embrace fair execution policies that prioritize client interests in line with the FX Global Code of Conduct

associated with regional and sectorial liquidity concentration. Reliance on a distributed base of LPs enhances brokers' ability to offer tight spreads and execute large orders without significant market impact at all trading hours. At AlpFin, through liquidity diversification, we are committed to maintaining competitive liquidity even during off-peak trading hours.

EFFECTIVE RISK MANAGEMENT

Institutional FX brokers must implement comprehensive risk management strategies to safeguard against market volatility, credit risk, and operational risks. This involves setting appropriate risk limits, continuously monitoring positions employing advanced hedging mechanisms.

Here below are a few key drivers that could help towards shaping an efficient risk-management framework:

- Auto-hedging of open positions;
- An easy-to-read trading blotter;
- Ease of visualization of systems' status and position;
- Round-the-clock eFX technology support team;
- Professionally trained Operations Team.

TRANSPARENT AND FAIR EXECUTION POLICY

Transparency in execution and pricing is fundamental to maintaining clients' trust. Brokers should embrace fair execution policies that prioritize client interests in line with the FX Global Code of Conduct.

Transparency about brokers' liquidity sources and execution methods also contributes to building credibility and long-term client relationships. Therefore, it is crucial to have a rulebook collecting execution policies that covers any possible scenario.

Excellence in liquidity management is achieved through the deliberate and strategic alignment of market knowledge, effective sales and marketing, technology, risk management and client focus

CONTINUOUS MONITORING AND ADAPTATION

Continuous monitoring of both internal operations and external market conditions allows brokers to adapt their liquidity management and operations decisions in real time. Leveraging analytics and feedback mechanisms can aid in identifying areas of improvement and innovating to meet changing market conditions.

In our experience, brokers should structure their operations according to the following pillars to achieve efficiency and profitability:

- Standardized procedures;
- Transparent pricing policies;
- Clear risk management practices;
- Stable and reliable eFX tech environment;
- High level of coordination across Ops, LM and Sales;
- Excellent communication skillset encompassing internal and external interactions.

CLIENT-CENTRIC APPROACH

Institutional clients, such as hedge funds, banks, and other financial institutions, have varied requirements in terms of their execution style. A client-centric approach, combined with flexible liquidity solutions, enables brokers to meet these diverse needs effectively. Good communication is key to creating long-lasting relationships both from a sales and LM perspective.

To put it in a nutshell, excellence in liquidity management is not achieved by chance but through the deliberate and strategic alignment of market knowledge, effective sales and marketing, technology, risk management and client focus. Institutional FX brokers that master these components can navigate the complexities of the FX market with agility whilst securing a competitive advantage, driving their growth and success in an ever-competing financial landscape.

For more information about Alp Financial please contact: efxsales@alpfin.com

Muinmos:

What it takes to become the dream partner for financial institutions navigating today's regulatory landscape.

Muinmos is a market-leading RegTech firm with a revolutionary SaaS-based, AI powered client onboarding platform. e-Forex spoke to the firm's CEO, Remonda Kirketerp-Møller, to discover more about how Muinmos is easing the burden of regulatory compliance for financial institutions across the globe.

Remonda Kirketerp-Møller

Muinmos: What it takes to become the dream partner for financial institutions navigating today's regulatory landscape

Remonda, please give us a little background on Muinmos and why you decided to start the firm?

I set up Muinmos in 2012, having spotted a gap in the market to use technology to transform the compliance function. This was at a time when RegTech wasn't yet a known term and many people in the industry thought that digitizing compliance would never be accepted or even possible in the financial services sector.

From my roles as Director and Global Head of Legal & Market Data at Saxo and Co-Founder, Executive Director and Head of Legal & Compliance at CFH (now Finalto), I had first-hand experience of the complexities and frustrations involved in client onboarding across multiple jurisdictions – across Sales, Compliance, and Legal functions.

I set up Muinmos - which when spelled backwards, is the Latin word for dream – to create a dream onboarding platform. This was a platform that would simplify and automate highly complex legal and regulatory requirements and transform the onboarding process in financial services, cutting down the time of onboarding from weeks/days to a few minutes, and enabling the financial institutions to onboard any client, anytime within minutes.

Tell us more about your pioneering client onboarding platform and how it differentiates from competitor products.

Our SaaS platform offers complete end-to-end onboarding of any client type in under 3 minutes and enables financial institutions offering instruments including securities, commodities, FX, CFDs and cryptocurrencies to onboard clients faster, at lower costs – without compromising on customer experience or compliance. It is the only solution on the global market to automatically and instantly perform all parts of the onboarding chain, from AI-powered Client Categorisation, Suitability & Appropriateness (a market unique capability), through to all types of KYC/AML checks via built-in connectivity to multiple data-sources, to comprehensive client risk assessments. The platform also performs constant monitoring, keeping financial institutions up-to-date with changes in regulation, clients' details and risk profiles.

Muinmos' platform is modular and flexible. The financial institutions that don't require our entire ecosystem can pick and choose any set of components to enhance their existing onboarding capabilities. These can easily be integrated into their workflow.

What sort of challenges are financial institutions, including many in the FX trading industry, facing when it comes to regulatory compliance?

Keeping up-to-date with the constantly changing regulatory landscape while ensuring compliance is a huge challenge, even for larger financial institutions. In fact, according to a recent Muinmos survey amongst over 100 financial services professionals, 42% cited that this was their most significant onboarding challenge. This is where we can really help them, with a fully automated client onboarding platform which incorporates up-to-date regulatory requirements across all key jurisdictions. Our platform ensures that financial institutions stay abreast of regulatory changes and risk profiles with continuous monitoring.

Muinmos connects KYC checks, client classification and risk assessment (CRA), enabling the entire client onboarding process in less than 3 minutes

Our key team: Jesus E. Sanchez, CPO, Emil Kongelys, CTO, Remonda Kirketerp-Møller, CEO and Anders Kirketerp-Møller, Board Director

It's impossible for brokers to be compliant without using technology of this level of sophistication – and yet so many of them (63% according to our survey) are still using either manual onboarding tools or a combination of automated and manual onboarding tools. No wonder they are finding the complexities of regulation such a challenge!

What are the challenges you are seeing in KYC?

In terms of KYC, the biggest issue is undoubtedly the data quality – at Muinmos, we go to great lengths to vet the data we use. Our KYC/AML solution screens against over 1,400 carefully selected databases, verifies identities globally, pinpoints ultimate beneficial owners and combats financial fraud.

To be effective, data has to be objective, properly sourced and in a format that is easy to review. We see far too many providers touting the large quantity of data they can provide, or the many sources they can pull from, but if the data isn't objective, sourced properly, and presented in the right way, you are introducing inefficiencies and inaccuracies which can result in significant onboarding failures, delays and potentially fines.

An increasing number of FX brokers globally are choosing to work with Muinmos. Why are people talking about it revolutionising compliance?

It's because we are the only RegTech firm to address all the pain points across the entire onboarding process. Muinmos connects KYC checks, client classification and risk assessment (CRA). The traditional client onboarding process is fraught

Remonda Kirketerp-Møller set up Muinmos to create a platform that would simplify and automate highly complex legal and regulatory requirements and transform the onboarding process in financial services.

with inefficiencies and fragmentation, and we use the latest technology, including cutting-edge, rule-based AI and robotic automation to simplify and streamline the onboarding process, providing an enhanced customer experience and significantly speeding up onboarding times for financial institutions. In this way, we do not only enable our clients to remain compliant, we also help them mitigate the churn many financial institutions experience in their onboarding process.

Our KYC/AML solution screens against over 1,400 carefully selected databases

Our proprietary AI engine which automatically classifies clients for product suitability and appropriateness on a cross-border basis is a game changer for compliance teams. It is truly innovative and has enabled us to stand out in the global market and gain recognition as a RegTech pioneer.

You have recently launched a new website and a strapline of 'Connect It'. What is the meaning behind the 'Connect It' message and why is it so central to Muinmos' strategy?

We are emphasising the 'Connect It' message to highlight the role we play in combatting fragmented processes, contradictory results, and superficial checks by seamlessly connecting and streamlining all steps of the client onboarding process.

A SPOTLIGHT ON MUINMOS' TECHNOLOGY WITH EMIL KONGELYS, CTO

Munimos is a pioneer in the use of advanced technologies including AI. Please give us some examples of how you are leveraging them and the benefits of doing so.

From the outset, we recognised that an AI system driven by data and knowledge, rather than coded logic, would be ideal, given that we are operating in an industry with new regulations, financial instruments and data sources emerging or evolving daily. By integrating AI into the core of our onboarding engine, we can now update the engine with new regulations and requirements without any software modifications. This allows us to adapt to new regulations, such as MICA, within hours, ensuring our clients remain compliant across all products, services and jurisdictions.

Additionally, our AI engine provides a highly adaptable solution tailored to meet all onboarding requirements. Muinmos' clients can select which components they want, and at any point configure more as required." This results in a streamlined onboarding journey that gathers all necessary data while minimizing the time required for completion. Incorporating AI decision-making into the onboarding process has allowed us to reduce onboarding time from weeks to minutes in some cases by STP'ing the process, allowing compliance personnel to focus on the cases that actually require extra attention.

How easy is it to integrate with Muinmos and what flexibility do you provide for clients who may require more customised solutions?

It is incredibly straightforward! Most clients can be fully operational within a few days, after all it's a SaaS platform. For those requiring more customised onboarding solutions, the system can accommodate nearly any requirement, from modifications to the onboarding process to the inclusion of specific data sources. Additionally, we offer a variety of APIs that facilitate seamless integration for any use case. The APIs are simple to use, and clients can choose the extent of their integration.

Another factor that simplifies the integration of Muinmo's services, whether via API or within an organisation, is our thorough data cleansing and mapping. This ensures

Emil Kongelys

that regardless of the data sources used, the generated compliance and risk reports are consistent and easy to review. In fact, partnering with Muinmos can almost feel like gaining time! Once integrated, no further integrations are necessary, eliminating the fragmentation and overheads associated with managing multiple partners.

Muinmos recently achieved the 'Gold Standard' ISO 27001 certification – an endorsement of the company's commitment to the highest standards of information security. Why was this such a major milestone for the business?

Achieving ISO 27001 certification is a major milestone for Muinmos because it demonstrates our commitment to the highest standards of information security. For our clients, this means enhanced security, increased trust and simplified compliance as it helps them meet their own regulatory requirements more easily; they can rely on our certified processes to align with global standards. It also gives us a competitive advantage, reassuring clients that we prioritise security and exceed industry standards.

'Connect It' reflects our commitment to seamlessly integrating KYC/AML checks and risk assessment solutions in a unified system

'Connect It' reflects our commitment to seamlessly integrating KYC/AML checks and risk assessment solutions in a unified system which also covers client categorisation, suitability and appropriateness. By connecting these essential components, we ensure that customer onboarding is secure, complete, compliant and fast.

Through our 'Connect It' message, we also want people to stop and think about the importance of connecting the different components in the onboarding chain. For example, many firms make separate agreements with each data source covering their KYC/AML requirements. This makes no sense, resulting in additional costs, fragmented data points, and the need to manage and integrate multiple providers. If you 'Connect It' all through one central platform, you can remove this huge layer of inefficiency, cut costs, mitigate risk, secure a higher level of compliance and provide the end client with a pleasant onboarding experience.

What opportunities do you see for Muinmos to set new standards for compliance in the fast-evolving digital asset marketplace?

Cryptos are becoming a credible asset class for financial institutions, with MiCA helping to drive further growth whilst also ensuring investor protection. We are already helping many clients who are offering digital assets, ensuring they have the data they need, whether it is related to wallets, the source of funds for

MEET JESUS E. SANCHEZ, CHIEF PRODUCT OFFICER

Jesus E. Sanchez

What are prospective clients most impressed about when you talk to them about Muinmos?

In addition to our unique client classification, suitability and appropriateness capabilities, clients are most impressed by how centralised Muinmos' entire onboarding process is. It solves the headache of fragmentation: having to use different sources to compile data (and review data in different platforms and different forms). It eliminates the need for requiring relationships with different sources and multiple platforms, and the data is compiled and presented in a manner that is easily accessible, reviewable and auditable. Add to that the ability to understand quickly if there are any potential issues or items that require further attention, and you don't need any other onboarding solution.

As our engine is rule based, and clients can configure the specific checks they want to conduct, and how they want to score those results in terms of risk, it's easy to STP clients who complete an assessment and require no further review. For those that do require some form of mitigation, it is all handled within Muinmos' platform, from reviewing results, adding notes, accepting/rejecting false positives, setting thresholds, assigning a client risk score, monitoring, and the generation of comprehensive pdf reports that details your analysis. It is the ease of use and streamlined approach that always impresses the industry.

What are the biggest challenges you come across when speaking to prospective clients about Muinmos and how do you address these?

One key challenge for clients is the 'after onboarding' phase of client onboarding: ensuring the client maintains that eligibility. We offer comprehensive ongoing monitoring for Corporates and Individuals, as well as document monitoring. The full client lifecycle is important. We are seeing increasing demand for pKYC, transaction monitoring, reputational risk, etc. Waiting for 'x' number of months or years to re-evaluate a client will become a thing of the past.

Muinmos has won a number of awards. How does you client onboarding solution stand out in our industry?

We are a recognised industry leader and we stand out because the entire purpose of Muinmos is to help clients answer: "Can we offer product X to client Y in country Z?" It seems like a simple question, but we all know it is not. We work hard daily to help make answering that question a process that is efficient, accurate, and compliant. We also stand out because we view everyone we work with as partners, from clients to data providers to the regulators we frequently communicate with.

We also place emphasis on supporting our clients and our support team are always available to help clients. As an individual consumer I place high value on a company not just because they sold me a product, but how I am treated after the transaction takes place. We strive to be there for our clients when they need us, and it builds trust in Muinmos as an onboarding solution.

We stand out because the entire purpose of Muinmos is to help clients answer: "Can we offer product X to client Y in country Z?"

MEET ANDERS KIRKETERP-MOLLER, THE NEWEST MUINMOS BOARD MEMBER

Anders Kirketerp-Møller

What experience are you bringing to Muinmos?

I joined the Muinmos Board from LEGO in May 2024 to play a major role in taking Muinmos to the next level. During my career I have advised owners and Boards of large global business on a wide range of matters including corporate structures, venture investments, expansion of activities and businesses, strategy and branding. I am leveraging this experience, working with Muinmos' Executive Team and Management Team to drive significant growth. Last year was Muinmos' most successful year to date - we are on a fast growth trajectory in a market with huge growth opportunities and my focus is on enabling Muinmos to seize these opportunities whilst also strengthening our brand worldwide.

It is both exciting and rewarding to join a Board comprised of industry leaders and business experts. Together with our truly exceptional Executive Team and talented teams across the organisation, I believe that we can make the dream come true for financial institutions worldwide. Muinmos can truly transform the onboarding experience in the global market!

those wallets or proof of a client's wallets. Our platform also enables clients to answer the questions 'Can I onboard that client? Can I offer them the crypto product that I'm about to offer? Can I offer it to them based on their classification? Can I offer it to them based on their jurisdiction?"

Bringing something previously unregulated under the umbrella of a regulatory framework is never easy but as digital assets become more mainstream, financial institutions will be required to abide by the regulations. Muinmos is ideally placed to facilitate compliant onboarding for clients offering digital assets so this is a huge growth opportunity for us.

Muinmos when read in reverse is Latin for "dream". How close do you think you've come to becoming the dream regulatory compliance solutions provider for financial institutions?

I am so proud of what we have achieved! Our platform is exactly what I envisioned when I drew my vision for the company on a napkin (which I still have!) 12 years ago. If I could have had access to a client onboarding platform with Muinmos' capabilities when I was heading up compliance functions in financial institutions, it would have been a game-changer! I'm not sure that firms were ready to digitize compliance when I first set up Muinmos, but automation is now widely considered to be the way forward and this is why we've been experiencing rapid growth in recent years.

Muinmos' platform is a cost-effective one-stop solution for a financial institution's complete client onboarding needs.

It helps to optimise processes, enhance decision making and improve overall efficiency, accelerating client onboarding, reducing manual errors and ensuring adherence to regulatory standards, throughout the client's lifecycle. It's a dream for financial institutions and end clients going through the onboarding process.

What plans do you have for the next stage of the business and growing your global footprint?

We are on a mission to empower financial institutions with a cutting-edge platform which onboards clients swiftly, ensuring utmost compliance and unparalleled efficiency. There is significant demand for this from financial institutions across the globe, so we are hugely excited about our ambitious growth plans. We plan to grow organically and non-organically, including through partnerships.

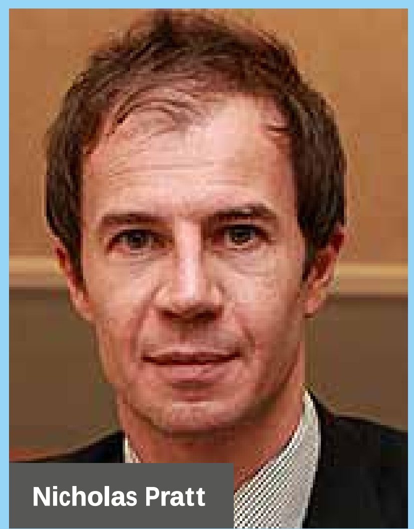
We continually invest in product development. This includes embracing the latest technology as well as keeping the platform updated when new regulations and financial instruments are introduced.

In terms of growing our footprint, we are planning to expand our global presence by opening offices in the UK and USA well as well as in the Middle East and Asia.

IT'S IMPOSSIBLE FOR BROKERS TO BE COMPLIANT WITHOUT USING TECHNOLOGY OF THIS LEVEL OF SOPHISTICATION

What's propelling the continued growth of Latin American e-FX?

Nicholas Pratt asks key players in Latin America why the exponential growth of both retail and institutional e-FX trading services is expected to continue.



The e-FX market in Latin America has long been considered ripe for further growth and expansion. This is partly because the region has lagged far behind other parts of the world in its adoption of technology and in the evolution of its capital markets.

Several factors are starting to accelerate this potential and the region's financial trading landscape is at long last witnessing some exciting transformations. The question now is whether this growth will continue at an exponential rate. The volatility of the local currency rates are tied somewhat to commodity markets and geopolitical trends, both of which are currently to the forefront but which may not remain so. Meanwhile, regulation and technology advancement will all have a role to play in ensuring the region's e-FX market continues to flourish.

RETAIL FX GROWTH

According to Ricardo Grados, e-Liquidity Institutional Sales LATAM for Finalto, who has a specialised knowledge of the LatAm region, one of the key drivers for retail FX trading has been the increasing penetration of internet and mobile devices across Latin America. "As more people gain access to these technologies, the potential user base for e-trading platforms expands, reaching individuals beyond the main population centres," says Grados.

The OTC market only really emerged 10 years ago in LatAm and this has created a lot of opportunities for e-FX trading channels, says Grados. "We now see many firms in Latin America promoting FX products on their institutional platforms. At the same time the appetite for retail e-FX trading across the emerging markets, including Latin America, is also rapidly growing much of it driven by the easy access to credit lines, technology innovation and regional economic growth." It's not surprising therefore that competition amongst retail brokers in LatAm countries is also getting more intense, says Grados. "We have seen many big FX brokers starting operations in Brazil, Mexico, Peru Chile, Colombia and elsewhere. Some are doing well and others are not. And new white label brokers and new local brokers are giving their retail clientele a range of options to trade the e-FX market in ways they have never had before so this competition amongst providers is only going to grow more."

Consequently, there is now an abundance of different options and ways for retail brokers and new traders to the enter the FX market. Furthermore, the gradual improvement of financial infrastructure, including payment systems and digital banking services, lays a strong foundation for the broader expansion of e-trading services, says Grados. "This progress

What's propelling the continued growth of Latin American e-FX?

> **"Emerging urban centers will become key hubs for e-trading growth, given their growing middle class and improved access to technology and financial services"**


Ricardo Grados

enables individuals from various regions, including smaller towns and emerging urban centers, to seamlessly access global markets and execute trades."

However, there are also some challenges that need to be overcome if LatAm's e-FX market is to reach its full potential. Many of these challenges are external – globalisation, geopolitical tension, international trade and macroeconomic volatility.

The electronic forex exchange market in LatAm has been somewhat resilient in the face of recent uncertainty, according to Grados. It has continued to grow at an exponential level despite the uncertainty caused by the pandemic and then more recent economic volatility and geopolitical changes in the post-pandemic period.

Grados says that the benefits of e-FX over traditional methods of trading continue to become more obvious, including the growing involvement of more sophisticated retail investors. "The appetite for e-FX retail trading has grown after the pandemic exponentially, jumping from being a market of 5.6T in 2020 to 7.5T as of 2022," he states.

REGULATORY DEVELOPMENTS

Regulatory developments are also playing a crucial role in shaping the e-FX market's growth trajectory, says Grados. "As regulatory frameworks evolve and provide more clarity, traders and investors are gaining more confidence in the legitimacy and security of e-trading platforms. This increased trust and transparency encourages participation from individuals and institutions across the region."

A cooling in global demand combined with volatility in commodity markets and tension in global trade, has helped to strengthen the case for more electronic trading. But there has not yet been the regulatory adaptation that would enable electronic trading to flourish in the LatAm FX market, according to Grados. "There has been some progress in new regulations for fintech companies but not much has done for e-FX/CFD retail brokers. In most of the countries such as Mexico, Paraguay, Peru, Colombia, Chile, Uruguay, Argentina and Ecuador there is no regulation for e-FX and CFD trading. Market commentators say that we may soon start to see progress with that for OTC FX and CFD players in the region but for now the focus is on regulating institutional entities in the local centralised markets such as securities trading firms, banks, pension funds, hedge funds, and other non-leveraged financial institutions," says Grados. "This is taking preference over creating a robust regulatory framework for decentralised markets which could offer some protection for the huge mass of retail forex traders and small investors from unscrupulous FX brokers."

At an institutional level, regulation in LatAm has been both positive and negative, says Grados. "The demand for institutional e-FX is still relatively low due to regulatory rules, culture and policy restraints. Nevertheless, changes in culture, regulation and technology innovation are putting pressure on market participants to adapt. For example, pension funds and asset managers are now under pressure to prove better transparency and best execution," he says.

Yet, many regulators in the region are wary of the greater adoption of e-platforms, citing potential job losses, jurisdictional issues over the location of data centres and pricing engines and the growing internationalization of FX leading to less control over local monetary policy, says Grados.

There are though, some regulatory and operational benefits that could arise from the greater adoption of e-FX platforms, says Grados, such as the demonstration of best execution pricing, better price transparency, and the implementation as well as greater cost efficiency in trade settlement and confirmation. So it remains to be seen whether greater adoption of e-FX platforms will be able to assuage regulators' concerns.

Overall, says Grados, retail investors should focus on working with providers than can deliver a safe and effective trading environment that meets their needs. "Investors should seek advanced trading technology with real-time pricing, sophisticated charting tools, and efficient order execution capabilities to gain a competitive edge in the market. Effective risk management tools, robust security measures, educational resources, and mobile trading

What's propelling the continued growth of Latin American e-FX?

> **"Traditional voice channels are no longer sufficient, and local participants without e-FX capabilities on a global scale will be left behind"**

Jose-Antonio Buenaño

capabilities are also emphasized. Furthermore, diversification through access to global markets and a strong focus on customer support and service are considered essential for a successful e-FX trading experience in Latin America."

Looking ahead, we can expect the penetration of e-platforms and e-trading to extend beyond the main population centres in various ways, says Grados. "Emerging urban centers will become key hubs for e-trading growth, given their growing middle class and improved access to technology and financial services. Moreover, e-trading will outreach to rural areas, facilitated by improved internet connectivity and mobile penetration, bridging the geographical gap and allowing individuals in remote regions to actively participate in forex trading."

Financial education initiatives will also play a pivotal role in expanding e-trading's reach, says Grados. "As more people gain insights into trading strategies and financial markets, individuals from non-traditional financial backgrounds will enter the trading arena, fostering a more inclusive trading environment.

Additionally, e-trading platforms have the potential to facilitate cross-border trading within the region. As regulatory frameworks evolve to support international trading, traders from one Latin American country can engage with markets in neighboring nations, broadening the scope of e-trading and promoting regional financial integration."

In essence, the e-FX market in Latin America, especially on the retail side holds immense growth potential beyond the main population centres, says Grados. "The confluence of technology, regulatory evolution, and the pursuit of financial inclusion is driving the market's expansion, creating a more diverse and vibrant e-trading landscape across the entire region."

DIGITAL FX SOLUTIONS

Latin America is primed for significant growth in digital FX services due to its expanding global exports, rapidly developing internet and mobile connectivity, coupled with a large, young, and tech-savvy population, says Jose-Antonio Buenaño, Latin America director for Edgewater Markets. "Many regions are still underserved by traditional banking, making them ideal for digital solutions that offer greater access and efficiency. While countries with large remittance flows such as Mexico and Brazil are fairly digitized, over the next few years, we can expect to see the greatest penetration from the Andean countries, where the need for faster, cheaper cross-border payments are growing."
Additionally, as more businesses in the region embrace e-commerce and international trade and funding, the demand for streamlined FX solutions will continue to rise further driving expansion in this space.

At the same time, the LatAm markets continue to evolve and develop their e-FX capabilities expanding their global reach by pricing new clients directly thanks to the use of tech firms that enable both large and mid-tier local onshore banks to access the global marketplace and to use technical development and credit intermediation services for clearing, says Buenaño. "This has implications beyond FX, also increasing the appetite for the LatAm fixed income products, as clients seek higher yields to counter the expected decrease in US fixed income yields, and overall equity market easing. With meaningful issuances scattered throughout 2024 and 2025, the global demand for local LatAm currencies will propel onshore local banks global importance for respective currency pairs. The regional hotspots that are emerging lie beyond Brazil, and now include the Andean region(Chile, Peru, Colombia), and perhaps Argentina will enter that mix by mid-2025," says Buenaño.

A progressive regulatory environment would help to increase the demand for e-FX further and, although other regions are further ahead in this respect, the regulatory bodies of various LatAm countries are easing their restrictions in order to attract required capital raising flows, says Buenaño.

"In order to facilitate these offshore activities, local banks need to position themselves globally with an established e-FX service. As we enter a period of time where LatAm nations are seeking to raise significant capital through bond issuances, the regulatory bodies are being accommodating to their local banks in order to make liquidity in LatAm currencies more accessible. Traditional

What's propelling the continued growth of Latin American e-FX?

> **"The value of electronic trading is becoming more apparent to the local FX community as the Latin American market continues to develop"**

Paul Hopkinson

voice channels are no longer sufficient, and local participants without e-FX capabilities on a global scale will be left behind."

The rapid digitalisation taking place across the continent coupled with increasing internet penetration is also having a positive effect on encouraging greater participation in e-FX trading, says Buenaño who agrees with Grados that the ongoing development of broadband access has had immediate impact on the LatAm community, providing the ability for traders and retail investors to reach the markets via mobile device and internet access.

Mobile trading technologies are also heavily used across the region, says Buenaño. "The increased accessibility provides price transparency, which is always going to contribute to higher volumes and trust between customers and market makers, improving the democratization of FX trading. This is ongoing in Latin America now and a trend we see continuing."

Cultural and demographic shifts
There are cultural and demographic shifts impacting the adoption of FX trading in the region. "As more and more of the LatAm nations seek funding from outside of the region, the more and more they need to be able to reach global participants. This has a dramatic effect, increasing their local currency volumes, forward exposure, and monetization of their existing inventory of currency holdings. In addition, regulators want these flows processed by local regulated banks. The expansion of currency volumes are the first steps to opening the currencies, which countries like Chile for example, are already working toward," states Buenaño.

To compete in today's markets requires local participants to scale their business through electronification, not only leveling the playing, but tilting it toward local banks, who have become the primary market makers for their currencies for the global community which has not always been the case, says Buenaño.

"Through one-stop shops like Edgewater, more and more local banks are able access technology, credit and distribution services to compete on a global scale. With more competition comes increased liquidity and spreads compressions and transparency, and with credit intermediaries, direct trading between participants can be achieved, further reducing traditional transaction cost," says Buenaño.

"These technologies are enhancing market transparency, speeding up execution, and reducing costs, while allowing our clients to participate on a global scale. Digital solutions are also making cross-border payments more efficient, driving financial inclusion, and fostering economic growth for the region. We're committed to leading in this evolving landscape, offering our clients the tools they need to succeed."

As the LatAm market adopts various technology and electronic platform offerings, they are becoming sophisticated, and have a real need to participate electronically themselves, says Buenaño. "However, as each market behaves differently, there is no one size fits all, therefore the technology employed needs the flexibility to conform to specific local requirements and needs. In addition, technology providers themselves need to be conflict free, and able providing clients a holistic offering and interface to all third-party channels and not have channel conflicts."

INSTITUTIONAL E-FX PERSPECTIVES

The marked increase in the use of electronic trading in the institutional LatAm FX market is down to a number of factors such as changes in demographics, regulation and technology. There is also a desire to keep up with international markets, says Paul Hopkinson, FXGO product manager, Bloomberg. "Latin America doesn't want to be left behind in the global digital transformation that is taking place. Furthermore, the value of electronic trading is becoming more apparent to the local FX community as the Latin American market continues to develop."

"Despite the recent impact on the Mexican peso and the Brazilian real due to the unwinding of carry trade positions in Japanese yen, one important driver in moving the local LatAm FX markets to electronic trading venues is the strengthening of the local currencies in the main countries in the region," says Hopkinson.

What's propelling the continued growth of Latin American e-FX?

Mobile trading technologies are heavily used across the region

"As a result, demand for FX has increased and local banks are investing more in electronic trading systems in order to compete with global FX dealers, and adhere to national and international regulatory standards. There is now a greater emphasis on the needs of the client throughout the trade lifecycle, along with a need to reduce costs and boost operational efficiency."

A number of factors are further influencing the development of the institutional FX market across Latin America albeit with differences amongst buy-side and sell-side participants, says Hopkinson. "When viewed from the buy-side, asset managers, hedge funds, and pension funds are under pressure to demonstrate best execution and increased transparency as well as wanting to gain access to offshore markets for hedging or investment purposes. When viewed from the sell-side, FX dealers look for ways to use pricing engines to create and distribute prices more efficiently, increase the number of FX instruments and currencies they offer to local clients, and apply hedging automation to manage risk more effectively," he says.

Technology innovation has enhanced market liquidity in a number of ways in the fragmented FX markets across the globe and LatAm isn't an outsider, says Hopkinson. "Electronic platforms, e-commerce or even the use of chats are enabling international traders and investors to access data and liquidity more easily across many venues making the trading process more efficient and reducing the costs associated with trade execution.

"With this increase in liquidity, more sophisticated investors are turning to algo execution to reduce transaction costs and minimise market impact. Notably, USDMXN is among the top dozen currency pairs of nearly 100 traded algorithmically on FXGO. In addition, the electronification of NDFs represents one of the most pivotal advancements in the LatAm FX markets, empowering local banks to reestablish their pivotal position in their domestic currencies with the global marketplace," says Hopkinson. When it comes to the appetite for digital assets in the region, the official policy responses of local authorities to cryptocurrencies and digital assets varies widely, from outright prohibition to the acceptance of Bitcoin as legal tender in El Salvador, says Hopkinson.

"As with many other countries, authorities are concerned about the impact of cryptocurrencies on financial instability, corruption, terror financing and money laundering. And while retail market adoption is relatively high in LatAm, institutional participants are very cautious with respect to trading digital assets, and, like many other jurisdictions, are looking for regulatory clarity and tangible operational efficiency before making substantial investment," says Hopkinson.

LOOKING TO THE FUTURE

In terms of the future expansion of LatAm's e-FX market, the adoption of electronic trading in several countries in the region is already significant and will continue to grow, says Hopkinson. "Outside of the main population centres, one of the key drivers of this expansion will be the availability of the technological infrastructure to support this. Implementation, growth and expansion in other 'new' countries will also begin as the macro-economic and political landscape provides stability for the development of the local FX markets in such countries. At Bloomberg, we are highlighting to clients in the region how our solutions can be utilised for both trading in the local markets with functionalities already available to support some of the specific needs of onshore communities, as well as providing access to the global trading community," says Hopkinson. "This allows clients to use a single solution for all their trading needs. Electronic FX trading is more than just finding best price; it is also about utilising a seamless, flexible, and intuitive platform to improve efficiency, reduce cost and mitigate risk."

Pulling it altogether: Maximising workflow efficiencies with e-FX option trading

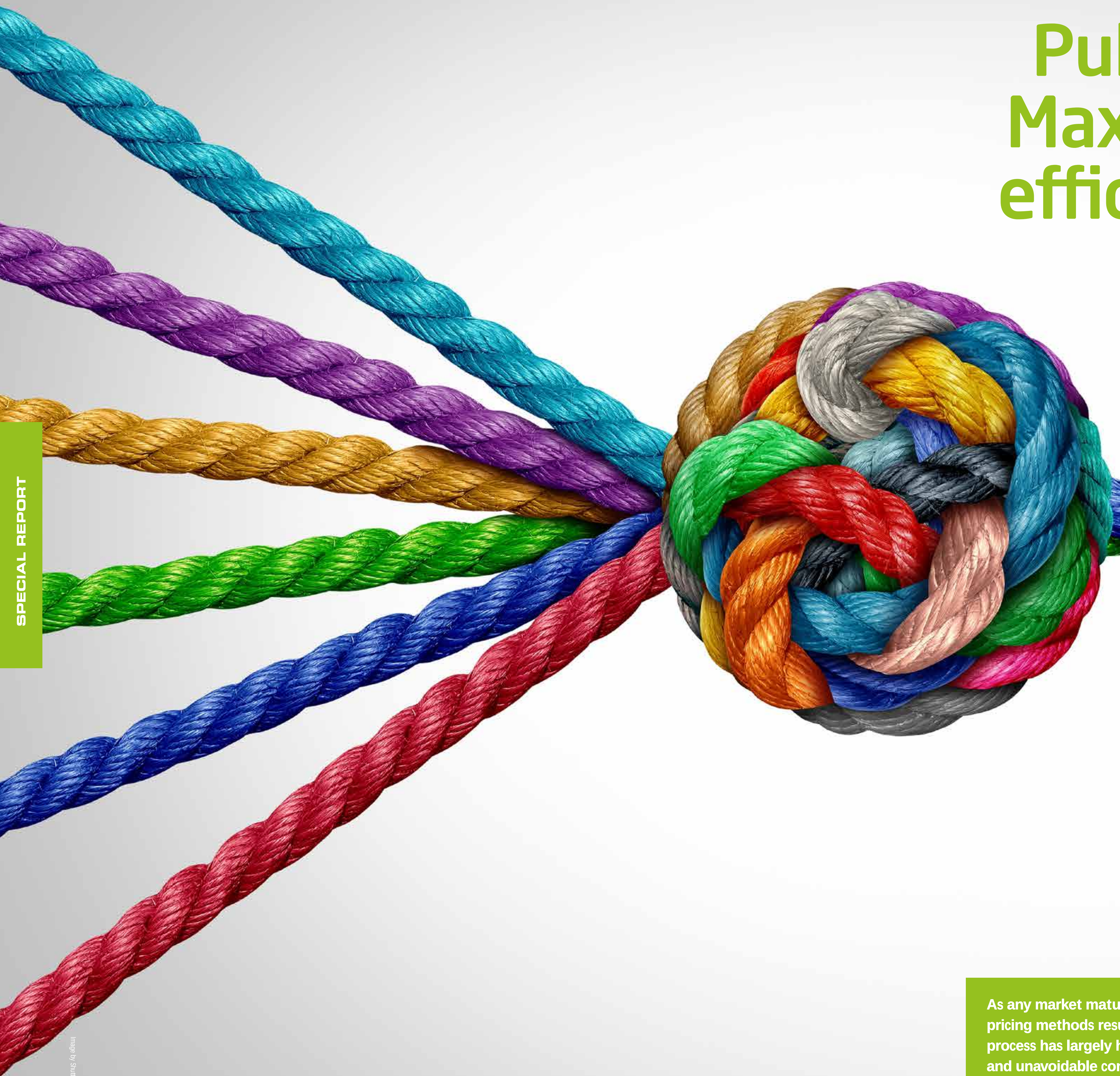


Image by Shutterstock

Paul Golden

As any market matures, the outcome is a commoditisation process where standard structures and pricing methods result in a marketplace allowing comparison and best execution to flourish. This process has largely happened in vanilla FX options and therefore electronification is the inevitable and unavoidable conclusion writes Paul Golden.

SPECIAL REPORT

“Truly market leading platforms bring together cash FX, NDF and FX options in a single offering”


Alan Dweck

FX options have become increasingly commoditised. What was once very bespoke are now standard, well-understood vanilla structures that are easily comparable across different liquidity providers. Best execution demands from institutions make it difficult for voice and/or single relationship environments to continue to dominate and therefore multi-dealer EMS environments are now coming to the fore.

SGX FX reacted to rising demand from institutional clients by building FX option functionality into its FX cash EMS, giving clients access to high levels of automation across both cash and derivative FX products in a single offering. Chief Operating Officer, Buyside Solutions, of the firm Alan Dweck notes though that more complex FX option structures continue to be voice-based as they have not yet become commoditised. “The evolutionary direction is the same but the bespoke nature of such products make automation and electronification harder and therefore the demand is currently not as pressing,” he explains.

The rising importance of automation can be attributed to a combination of increased efficiencies for both the sell- and buy-side, cost reduction, and increasingly onerous regulatory reporting requirements suggests Mark Suter, executive chairman Digital Vega FX.

“We have had increasing success in building internal white label solutions; workflow management tools and processes for banks as there are much stricter requirements in terms of reporting, audit trails and timestamps,” he says. “As for automation, we are following the way the cash markets have gone, albeit with much greater levels of complexity.”

KEY DRIVERS

One of the key drivers for electronic FX options over the last few years has been the requirement for best execution. The buy-side are much more sensitive to the fact that they need to be able to prove best execution on transactions they do on behalf of their clients or funds.

“For some of the big systematic funds we have automated the entire lifecycle of a trade, from importing orders, executing them automatically, breaking large orders into smaller child orders, automatically selecting providers based off pre-trade TCA and finally fully automating the expiry process,” says Suter.

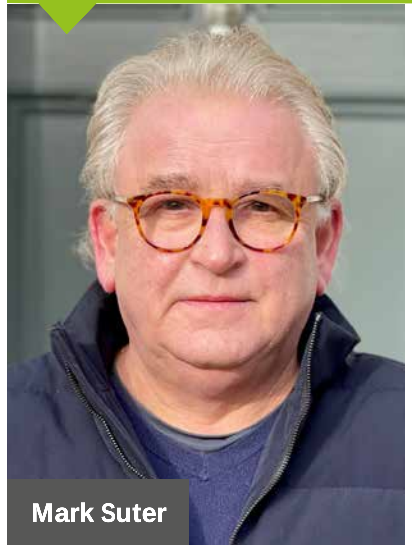
The next phase of development via DV’s Hydra platform focuses on structured products such as target profit forwards, accumulators and pivots as well as first generation options, which are a little bit more complicated as there is currently less product standardisation across bank pricing engines.

For this reason, Digital Vega FX has tried to create a standard so when pricing a particular target profit forward, everybody is speaking the same language and knows what they are pricing.

Meanwhile Audra Scharf, head of FXall notes that electronification of options is still in its early stages but at the beginnings of rapid evolution with growing regulatory and reporting demands with FXall offering several regulated platforms allowing customers to trade in a compliant framework.

SPECIAL REPORT

"Liquidity in the options market is not the same as in the cash market so there are a finite amount of liquidity providers and amount of risk that they can manage"



Mark Suter

"Trading electronically also allows clients to maintain best execution and maintain the same or similar workflows used for executing their cash trades," she says.

LIQUIDITY CHALLENGE

When asked how the challenges of electronifying the FX options market - such as the operational complexities and high-touch processes of trading options, credit considerations, liquidity fragmentation – have been overcome, she suggests that the biggest challenge to drive flows from voice to digital is liquidity across automated pricing engines.

"There is still a sense that the best liquidity and pricing is achieved by negotiation," adds Scharf. "However, if you can digitally capture flow at the point of negotiation it will set the stage for the next phases of growth."

Suter observes that there are relatively few platforms operating in this space and that his firm's focus has been on differentiating itself by focusing on advanced products and the workflow that goes around these products, such as automated expiries and provider selection.

"We have always tried to preserve the balance between buy- and sell-side," he says. "Liquidity in the options market is not the same as in the cash market so there are a finite amount of liquidity providers and amount of risk that they can manage. This creates variations across different platforms driven by market segments that they cover."

As for how challenges to FX options market electronification have been overcome, Dweck refers to the commoditisation of vanilla structures and pricing methods and observes that such commoditisation is the natural evolution of most OTC markets. "FX options are not unique insurance policies - they are financial tools operating in a market environment that provide both risk management and speculative opportunities," he says. "Like any other market tool, it is essential that their structures are well understood by participants and that their pricing and execution are not so opaque as to make their use questionable to downstream investors."

STANDALONE LIMITATIONS

Dweck notes that there are a number of FX options platforms that have traditionally worked on a standalone basis, which he describes as ultimately limiting to the long-term future of FX options trading.

"I do not believe that systems should decouple FX options from the underlying cash markets that drive them - truly market leading platforms bring together cash FX, NDF and FX options in a single offering," he says. "Furthermore, staging workflows, order shaping, credit and risk controls all need to underpin the market leading FX option platforms on top of the transparency and pricing/data capture and STP that are fundamental to all systems." Suter agrees; "Standalone solutions work for a majority of clients, however, in forging strategic partnerships and close integration with major cash liquidity platforms, we are able to deliver a best-in-class holistic solution across all products," he states.

On the question of what specific attributes FX buy-side and asset managers are looking for from e-FX option platforms to help them to optimise their workflows, Dweck says attributes vary according to particular client needs.

"In general, I would say that the key drivers for asset managers are staging workflows fully integrated with their OMS, pricing transparency, best execution, allocations, credit and risk controls, and STP into their order management systems and liquidity management tools," he says. One of the most interesting aspects of this market is the extent to which electronic access to competitive pricing and independent pre-trade FX option analytics is being widened with the arrival of new solutions and platforms from non-banks.

BANK 'AWAKENING'

According to Dweck, just as we saw with cash FX the arrival of non-bank liquidity is serving to 'wake up' banks who now have to compete with new sources of liquidity.

"For a long while, investment banks have offered electronic access to FX options exclusively through their single-dealer portals and this has allowed them a large degree of exclusivity and effectively limited clients' ability to shop around for the best possible prices," he says.

"Non-bank liquidity cannot utilise similar strategies and needs to offer aggressive

"Trading electronically also allows clients to maintain best execution and maintain the same or similar workflows used for executing their cash trades"

Audra Scharf

FX options pricing in multi-dealer environments in order to win business. This will ultimately provide a better outcome to buy-side investors and a more level playing field for all parties." While Dweck acknowledges the potential attraction of new FX option trading models such as central limit order book, he is sceptical that such trading models would work for FX options as there are too many variables for each option.

"We could potentially see some centralised derivative trading of underlying volatilities, but I doubt that FX options could directly trade on a CLOB," he suggests. "FX options are driven by the world's largest OTC markets and though there is room for some CLOB in FX the vast majority of the $7 trillion traded every day is OTC. I doubt that is going to change in my lifetime as the bottleneck that would create is unthinkable. FX options are too closely tied to the underlying cash markets for them to trade in any significantly different way.

ENTRY BARRIERS

Suter is also doubtful that there is much scope for new players to emerge, suggesting that anyone entering the market would need deep pockets. "It's a relatively small market compared to spot with a much smaller number of active users." he adds. "It is complicated to build and manage these platforms and people with the right skill set are at a premium in terms of specific market and product knowledge."

However, this does not mean that there is no scope for new models to gain traction (see the last page of this article). Digital Vega FX was approached by a number of the big banks about four years ago to build them a fully electronic inter-dealer order book. These banks were tired of paying very high brokerage to voice brokers and were concerned about transparency and regulation.

"That is a completely different model in the sense that it is a true and - I think - the first full electronic OTC order book," says Suter. "It will be going live very soon. It has taken a little longer than expected because just getting a new GUI on a big bank trading floor now takes two to three years given the regulations, surveillance, legal processes and hoops you have to jump through."

In addition, the company is working on a joint venture with CME to support large order liquidity into CME blocks with the objective of giving buyers easy access to OTC or listed and enabling them to easily jump between the two.

In terms of how this segment of the market is going to evolve over the next few years, Suter reckons it may continue to broaden the product offering in terms of complexity, particularly in relation to some of the more esoteric products which currently don't trade electronically.
Dweck reckons best execution and buy-side demand will continue the process of commoditisation of FX option structures, which in turn will lead to better end investor confidence and increased demand.

"This will deepen the requirement for best execution and in so doing will drive further electronification," he says. "I would end with the following message to those who are concerned about such changes: a rising tide floats all ships."

Electronic access to competitive pricing and independent pre-trade FX option analytics is being widened with new solutions from non-banks

A NEW PLATFORM INITIATIVE

In July, SpectrAxe announced a partnership with OSTTRA to offer an end-to-end service from price discovery through to execution, booking and risk management in the FX options market.

The partnership combines SpectrAxe's price discovery and execution CLOB with OSTTRA's post-trade network, enabling seamless automation of the entire trading process. The companies state that booking of trades can now be completed in as little as 60 seconds.

SpectrAxe's electronic CLOB trading platform facilitates all-to-all trading for OTC FX options, allowing hedge funds, proprietary trading firms, regional banks and market makers to trade anonymously via their FX prime broker relationships on a lit marketplace, offering transparency into the liquidity available for bid/offer quotes for all trading participants.

This initiative will enable the industry to move away from its reliance on voice- and chat-based execution or single dealer platforms.

By connecting to the OSTTRA FX trade processing network, traders on SpectrAxe's platform will benefit from real time trade notifications booked directly into their risk systems, addressing the critical need for automating the post-trade FX workflow as market participants continue to seek greater cost reductions and transparency.

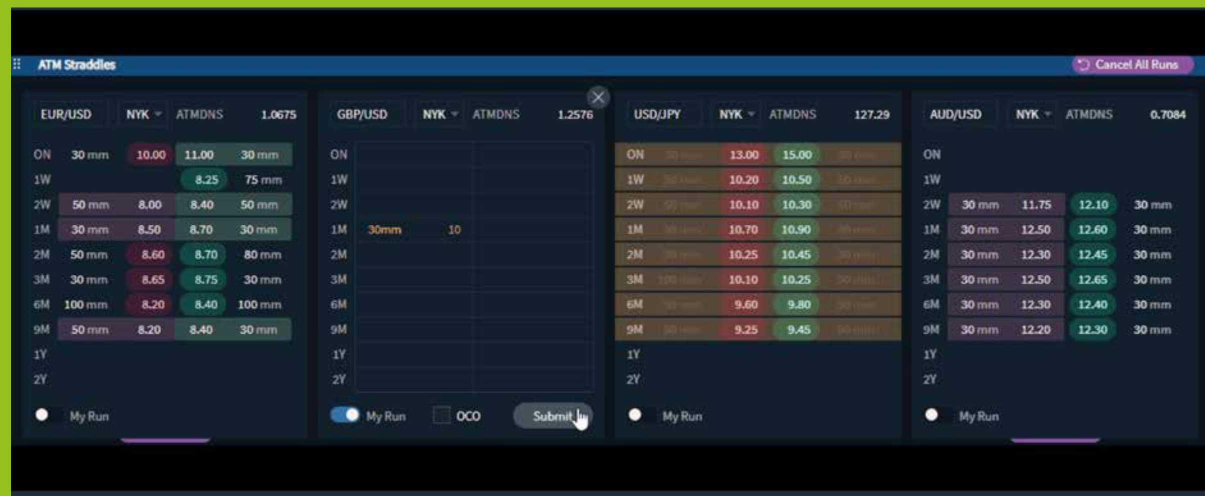
SpectrAxe has integrated FIX protocol with OSTTRA to ensure seamless connectivity and efficiency.

Alvin Chopra

"The unique feature of our FX options trading model is that SpectrAxe is the first and only all-to-all CLOB for OTC FX options," explains Alvin Chopra, chief operating officer. "All other electronic venues are RFQ-based and limited by credit relationships. SpectrAxe is the first to offer exchange-like functionality for OTC FX options, allowing for a dramatic increase in transparency and liquidity."

When asked why SpectrAxe decided to partner with OSTTRA, Chopra notes that OSTTRA provides a range of services across a large base of institutional clients, many of whom are also SpectrAxe clients. "Partnering with them to create a seamless end-to-end experience for our mutual clients was an easy decision," he adds.

The service is already live for participants that have a relationship with both SpectrAxe and OSTTRA. "Our partnership with OSTTRA marks a significant milestone in the FX options market," concludes Chopra. "By combining our price discovery and execution capabilities with OSTTRA's robust post-trade solutions, we are setting a new standard for efficiency and transparency. This end-to-end service reduces the complexity and time traditionally associated with trade booking and risk management, offering unparalleled benefits to our clients."



Users can trade with every other participant on the SpectrAxe platform, no longer limited to only direct credit relationships.

FX looks to exploit the scalability benefits of cloud computing

Institutional FX has always stood ready to adopt innovative technology. However, the complex nature of the market and its instruments have usually posed significant challenges for firms to overcome. The cloud is no exception. Vivek Shankar investigates.

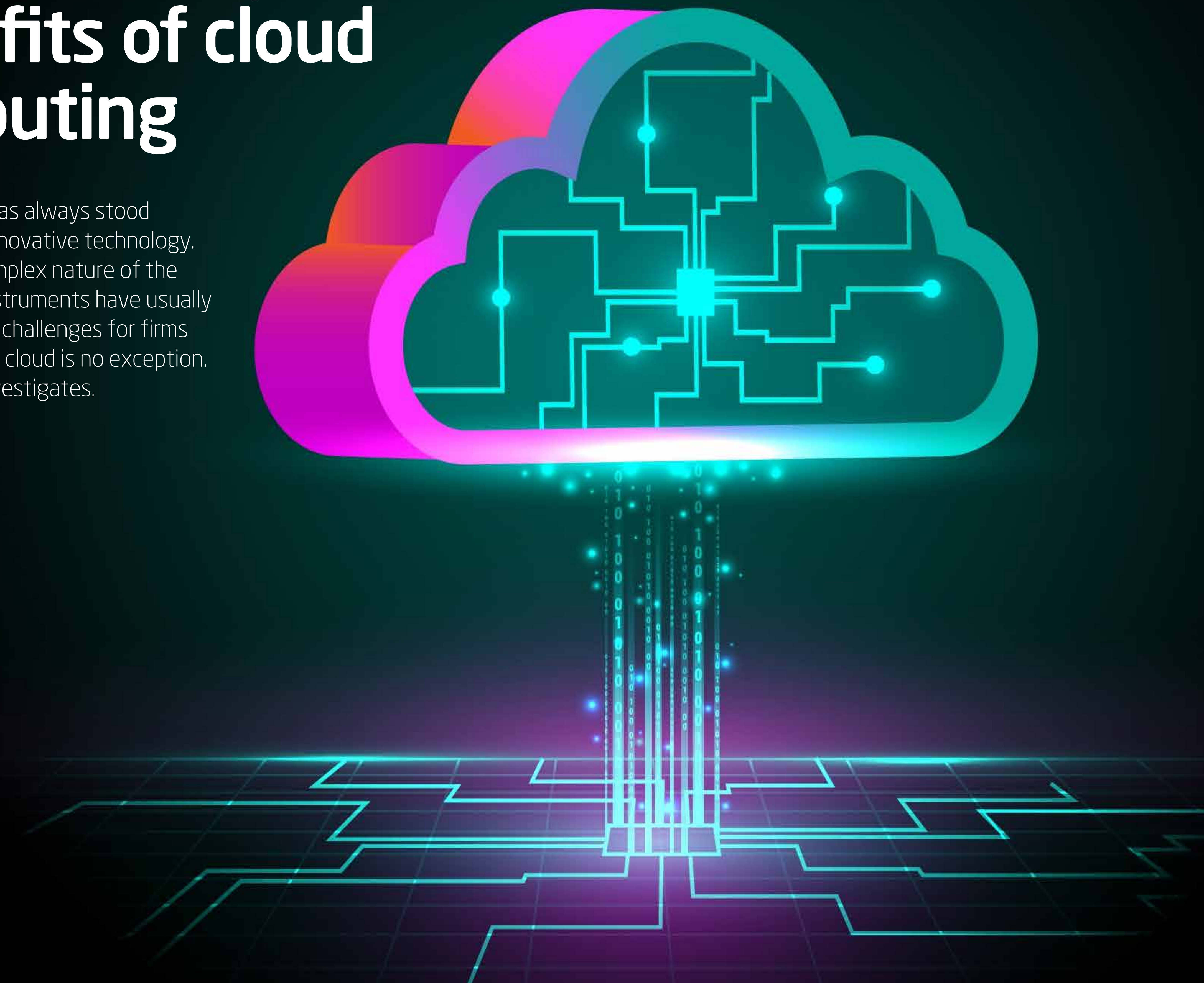


Image by Shutterstock

A survey by McKinsey in 2022 revealed that just 13% of financial services firms had moved more than half of their IT footprints to the cloud. While this survey wasn't specific to FX, it's not hard to imagine a similar pattern playing out.

Some challenges like the prevalence of voice trading and security concerns come to mind. However, cloud technology has progressed to the point where not adopting it will likely put firms behind the curve.

"At its core, cloud computing delivers a more flexible and scalable computing resource capability, particularly if accessed through an on-demand, pay-as-you-go, 'as a service' model," says Tim Carmody, Chief Technology Officer, IPC Systems. "Unquestionably, the flexibility and elasticity of cloud-based computing deliver benefits in terms of scaling, reduced CapEx, and faster go-to-market times for many workflows."

So how has cloud computing evolved recently and how does it tie into most firms' FX needs?

CLOUD ADOPTION HOLDS SEVERAL ADVANTAGES FOR FX

"Financial institutions are having to cope with more regulations, limited resources, rising complexity, and increasing data volumes," says Udai Abburi, Senior Director and Head of enterprise solutions and technology at ION Markets (FX). "Cloud computing offers a strategic solution for FX firms, enabling greater innovation, automation, and compliance."

He explains that the cloud's maturity as a technology makes it an ideal fit for several FX use cases. "As AWS calls it, the cloud takes away "undifferentiated heavy lifting", and allows firms to focus on core business needs and value generation," he says.

"The flexibility and elasticity of cloud-based computing deliver benefits in terms of scaling, reduced CapEx, and faster go-to-market times for many workflows"

Tim Carmody

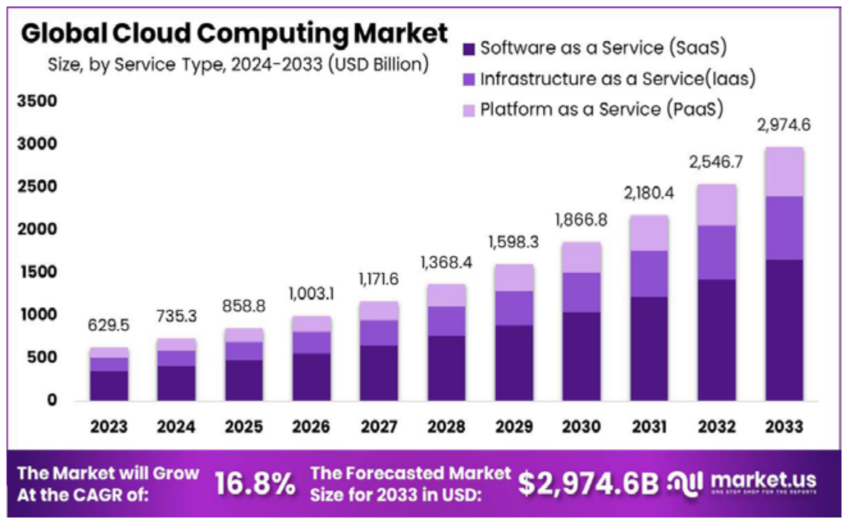
"It democratises the playing field, lowers barriers to entry, and allows all firms to make use of sophisticated and scalable infrastructure across compute, storage, and networking."

Vikas Srivastava, Chief Revenue Officer at Integral, says that the cloud offers significant workflow automation which gives rise to efficient processes and a reduction in errors and delays. "The ability to scale up and down based on specific needs at a certain time makes cloud computing an essential tool for modern FX trading operations," he says. "For those who provide technology to the FX industry, making solutions available on the cloud allows firms to go to market quicker with new solutions, and for banks it is the fastest means of distributing FX liquidity electronically, either through a multi- or a single-dealer platform or via an API."

Despite these advantages, Carmody concedes that the cloud may not present itself as a primary option for some FX trading firms. "FX firms might not necessarily want elastic computing on demand for core trading requirements, where a more deterministic and guaranteed strategy is crucial in times of market volatility," he says.

However, firms might benefit from the cloud's flexibility and elasticity in on-demand services that feed into trade execution. "FX may be the poster child for hybrid computing since the data used to inform trade execution is broad and deep, far beyond just financial markets and embracing political, economic, weather, and all sorts of other information from vast numbers of sources," Carmody says. "Elastic computing and AI can certainly help to garner and manage all this data."

Source: Market.us



Abburi echoes the point about elasticity and says cloud computing infrastructure readily allows for on-demand provisioning, elasticity, availability, scalability, reliability, security, compliance, and reduced total cost of ownership.

"Hybrid cloud options and cloud-agnostic platforms that can be incorporated into cloud-native applications are readily available," he explains. "The cloud delivers fit-for-purpose compute capabilities, large-scale clusters, and low-latency network architecture."

Srivastava points to scaling as a particular benefit—especially given its impact on costs.

"Scaling isn't just about the number of transactions or throughput, scaling is also about growing a firm's footprint across customer segments, geographies, and product offerings," he says. "A trading firm can create a new product and easily expand infrastructure, and products can be differentiated to meet regional needs and easily expanded up or down on a case-by-case basis across geographies. Whereas, on-premise solutions require additional hardware, network, and staff to run operations."

Despite architectural complexity, the advantages firms gain when speaking of scaling are enormous. Once again, Carmody cautions that the cloud won't solve bad data issues despite all the advances the technology has made.

"It doesn't matter how much data can be consumed and processed in the cloud if it's bad data," he says. This makes the choice of cloud services provider critical. Carmody points to IPC's partnership with Celoxica as an example of a collaboration that adds value to firms.

FX looks to exploit the scalability benefits of cloud computing

"Cloud computing offers a strategic solution for FX firms, enabling greater innovation, automation, and compliance"


Udai Abburi

"We collaborate with specialist data businesses like Celoxica to deliver ultra-low latency, normalised market data solutions to market participants, accessible to all users within our extensive global trading network," he says. "Any third-party business has to pass our due diligence standards to qualify as an IPC partner or collaborator. It's the old adage, we do this work so you don't have to."

Customizability is another advantage that stands out when speaking of the cloud—something Abburi stresses. "Cloud solutions allow for globally distributed infrastructure and related platform capabilities, not only providing global reach and distribution but also catering to multi-region high-availability (HA) and disaster recovery (DR)," he says.

"The infrastructure is on-demand, where you need it, when you need it," he continues. "This allows for rapid innovation, experimentation, and fail-fast strategies." The cost savings are also significant. Abburi points out that firms don't have to build expensive data centres or hire expertise to manage complex infrastructure.

"The cloud provides a plethora of managed services, inclusive of making available open-source technologies across various types of databases, container orchestration, web and API gateways, and messaging services, providing key foundational building blocks upon which modern applications can be designed and deployed," he says.

THE CLOUD POWERS BUSINESS GROWTH

Cost savings and efficiency are one part of the ROI equation. Revenue and growth are the other. Carmody stresses that the cloud holds plenty of potential for firms to grow operations and serve new clients.

"As your trading strategies evolve, if you want to test a new market or spin up a new product capability, a hybrid model, with some element based on public cloud, is definitely a fast and cost-effective option," he says. "You may want to change the mix of public cloud resources and more deterministic, guaranteed, and low latency delivery elements."

He cautions against the use of a public cloud for competitive reasons. "It's fair to say that your competitors will come after a trading strategy once they see you're making money from it," he says. "As such, elastic computing, on a public cloud, utilising shared resources, may not be the best model for maintaining a competitive edge."

He cites the example of algo traders in this regard. "There's a whole group who focus on reverse engineering trading strategies, or using AI and LLM to infer how they work," Carmody says. "Being able to access and

Cloud technology paired with AI tool will allow firms to make data-driven decisions using predictive analytics

> **"The ability to scale up and down based on specific needs at a certain time makes cloud computing an essential tool for modern FX trading operations"**

Vikas Srivastava

model data is one thing; inferring the thought process behind the strategy takes it to a whole new level. The minute too many other people can see what and how your algos are doing, your competitors also know what you're doing."

Competition is not the only shortcoming of public cloud services currently. Most clouds lack a critical mass of liquidity at low latency—a function of relatively few venues making themselves available on public cloud infrastructure. However, this trend is changing, and one expects this issue to resolve itself.

Even if low liquidity levels are a hurdle to executing trading strategies, other portions of the FX execution chain are not affected by this shortcoming. As such, nothing prevents firms from migrating those functions to the cloud.

Carmody believes scaling into the cloud is best carried out with a core trading strategy based on deterministic, guaranteed, ultra-low latency technology and connectivity. "Data from myriad sources already lives in the cloud, and elastic computing to inform trading decisions is great, but trade execution is still going to need to be on guaranteed hardware or via guaranteed 'remote' capabilities," he says.

These cautions notwithstanding, Abburi points out that expansion is built into the cloud, thanks to service providers obtaining all necessary licences and compliance norms from local authorities when launching a service. These moves make scaling seamless, helping firms quickly deploy and test strategies.

He points to AI and ML advances as an example of how firms can quickly test viability and move forward. "Public cloud services allow for rapid experimentation and fail-fast strategies, without large upfront cap-ex costs," Abburi says.

When put together, the benefits for firms span from risk management and post-trade processing to trade surveillance and fraud detection. In essence, the cloud helps firms advance their digital transformation programs,

FINTECH

Having a robust disaster recovery plan is still critical

turning data into a critical asset that firms can leverage.

"Cloud technology serves as a levelling force for firms operating in FX and capital markets globally," Srivastava says. "The reduced costs and access to high-quality tech from trusted partners empower businesses to remain competitive in an increasingly difficult market environment."

Abburi says the cloud can simplify new trading desk priorities and offers an example. "There has been increased emphasis on liquidity aggregation and the need for real-time insight into various trading metrics on the trading desk," he says. "These metrics include volumes across venues, fill ratios, price variations, and determining market impact."

With applications deployed on the cloud, firms can quickly access real-time dashboards that visually represent data across customer channels and execution venues. When asked about the different data architecture options the cloud offers, Abburi reels off a list of features.

"A wide range of SQL and NoSQL databases, including time series databases, various configurable tools to create and maintain a unified data architecture, efficient compute and storage capabilities that can efficiently be managed and scaled, sophisticated tools such as search and analytics capabilities for processing large volumes of data across both batch and real-time solutions, etc."

This list doesn't include interoperability options that get different systems talking to each other and the ability to deploy the latest technology quickly.

COMPLIANCE AND DISASTER RECOVERY

Cybersecurity has become a major point of regulatory focus over the past few years. With incident disclosures now being treated as material information, financial firms face more scrutiny over their technological infrastructure than ever.

This focus has led to the rise of security certifications and standards like ISO 27001, ISO 22301, SOC 1, 2, and 3, NIST 800-171, GDPR, PCI-DSS, and Reg SCI. These certifications effectively act as a trust label for firms when evaluating a cloud services partner.

Abburi says that the scale of the average cloud services provider's infrastructure delivers a significant benefit that individual firms cannot match. "Investments made by the cloud providers and economies of scale there in realised are far more extensive than what any one institution can achieve independently," he says. "Strong authentication, authorization, secure data-in-motion and at rest, web security, network security, and monitoring are provided as built-in services."

Tier 1 banks are not the only entities adopting the cloud as trust in security certifications grows. There are also specific NYSE and NASDAQ solutions that operate almost entirely in the cloud while adhering to the most stringent compliance requirements in the market.

And this security goes beyond borders, Abburi says. "Cloud solutions offer tried, tested, and proven security solutions that can be leveraged, ensuring the highest level of security and compliance. Compliance across geographies and jurisdictions is available."

While a services provider can build applications per stringent compliance needs, firms will still have to adopt best practices and install sound data governance checks. For instance, having a robust disaster recovery plan is critical.

The recent CrowdStrike outage highlighted the folly of not installing a tested disaster management plan, inadvertently offering FX firms an example of what not to do. Carmody says one way of mitigating risk is to avoid overly relying on the public cloud.

"Putting everything in a public cloud, although it offers cost and scale benefits, isn't necessarily a great business plan for mission-critical trade execution," he says. "The hybrid model is really what unlocks a lot of advantages for FX trading—reaching the point where one can hyperscale cloud computing in the right way without jeopardising business activity, ensuring that data archived in the cloud is safe and accessible."

Service providers typically build redundancy into their architecture to ensure local outages do not spread across the network. For instance, data centres connect via networks offering real time data replication. Add the presence of timely backups and firms can expect high availability times.

"Managed services provided by the cloud providers have some of the highest availability ratings, and services are self-healing and redundant," Abburi says. "Cloud providers cater to holistic observability and monitoring of all aspects of the solution—across infrastructure, platform, and software."

AI, ML, AND THE FUTURE OF THE CLOUD

As with every technological application out there, AI and ML are changing the way firms can interact with their data in the cloud. AI is already a significant part of FX trading strategies, with the proportion of algo-driven trades only increasing.

Integral's Srivastava says that LLMs have changed the way firms approach large datasets. He cautions that despite their advantages, LLMs and

Cloud solutions offer tried, tested, and proven security solutions

Generative AI are still in their early stages of development.

"Cloud technology—paired with new AI tools—will allow firms to tailor customer experiences even further, and make more advanced data-driven decisions using predictive analytics," he says. "This will allow businesses of all sizes to innovate and streamline operations in a competitive global market. While foundation models have laid the groundwork, the future of AI lies in the innovative applications built upon them—and there is certainly much more to be seen when pairing these with the cloud."

While firms can develop in-house LLMs to power trading strategies, deploying these in the cloud comes with a few risks. Carmody identifies two in particular.

"There is risk here in terms of potentially unintended outcomes like a flash crash situation and risk in exposing your trade secret trading strategy," he says. "There are of course ways to use AI to produce reliable results, but essentially you should still be careful about keeping the underlying data private."

He gives an example of how IPC mitigates this risk. "IPC's Unigy platform enables real-time trader voice transcription capture and processing through an AI/NLP engine to provide trading insights to market participants." He says that inter-dealer brokers are incredibly sensitive about proprietary trading conversations and hosting data in a private cloud works well for them.

"It's their IP and special sauce, so they might not want to risk running that data through a public AWS Type II or LLM," Carmody says. "It would be giving away their treasure."

When asked how he sees the cloud developing for FX use cases, Abburi is positive about the future. "AI and ML will ensure the availability and distribution of applications, in line with increased customer expectations and demands," he says. "It will also enable alternative channels such as APIs and mobile applications, leveraging cloud platform services to reduce time to market."

The cloud industry is generally trending towards increased agility and greater innovation. As development accelerates, FX market stakeholders will undoubtedly find plenty of value in deploying to the cloud.

Mastering e-FX:
How infrastructure and analytics are shaping the future of trading

The foreign exchange market has been transformed beyond recognition thanks to unprecedented technological advances in financial trading, against a backdrop of global economic shifts, regulatory change and sporadic extreme market volatility. Gone are the days of one-to-one relationships navigated by savvy, intuitive traders. Now trading activity is predominantly driven by algorithms, with market reference pricing sourced from a number of global bank and non-bank institutions.

VIEWPOINT

SECTOR CHALLENGES

In the old days many regional banks took their own price making risks. Today, even though the sources of reference pricing have become more concentrated, the volume of price updates, usually consumed as streams, has increased significantly.

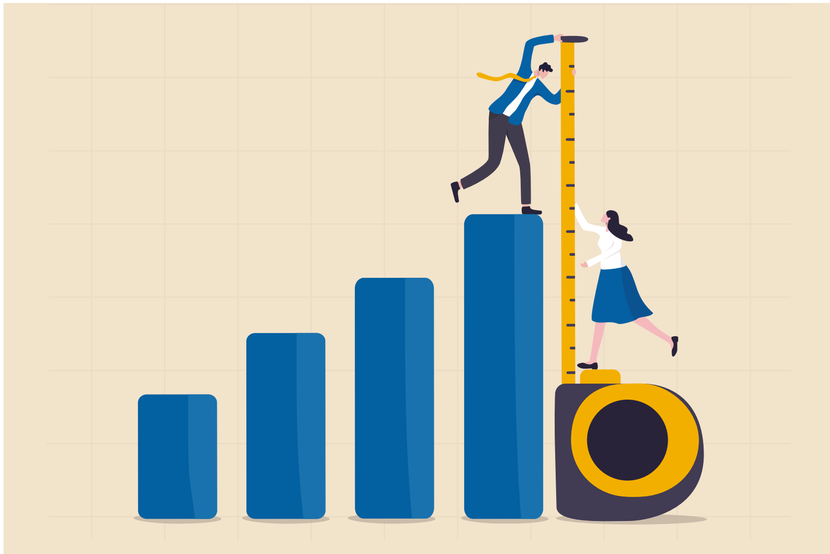
Along with liquidity concentration, banks face increasing competition to ensure the high quality and profitability of their own client pricing, of which the foundational measure is performance. If a bank's pricing system cannot keep up with the volume of prices it is transacting, this will detrimentally impact all other measures.

Whilst the largest global banks and non-banks may be able to develop and maintain their own pricing engines, most regional, local and specialist banks rely in some part on third-party software to power their electronic trading. Although cheaper in terms of employees, the lifespan of these systems is decreasing. Instead of swapping out their trading system every 7-10 years, most platforms now undergo significant updates within a 3–4-year cycle. Regardless of whether a bank's technology platform is developed in-house or out-sourced, performance measurement is a key requirement to ensure the system is fit for purpose in all market conditions.

Where problems arise, how do firms determine what has gone wrong? How can issues such as bottleneck locations and surges in network latency be pin-pointed and resolved? And how do firms draw correct conclusions about how their technology is contributing to or detracting from their performance - thus running the risk of inappropriate and unnecessary system overhauls?

THE SOLUTION

Technology has e-FX trading in a triple bind, where the need for speed, cost efficiency and client relationships compete for priority. Making the



Performance measurement is a key requirement to ensure the system is fit for purpose in all market conditions

Gordon McArthur, Beeks CEO

wrong decisions about your e-FX platform will undermine all of these. But where can a time-starved e-FX manager find the data to support their decision making? The answer lies in the sometimes-overlooked infrastructure their trading systems operate on.

Modern computer networks operate through a series of interconnected devices (routers, switches, and endpoints) which communicate by breaking data into packets. Technologies like optical taps or port mirroring can reflect these packets to another system without any latency impact on the live traffic.

Mirroring technology ensures you have a record of the inputs and outputs from your trading system, and it allows you to monitor your client and liquidity provider connections as close to the destination as possible: typically, you can monitor the specific port where the cross-connect terminates. So, when you measure the performance of your trading system you are including your network, operating system and network cards – all of which can have a significant impact on your profitability.

THE KNOWLEDGE

Working with a knowledgeable and experienced service provider who understands Capital Markets and e-FX trading environments ensures you have both the monitoring and the underlying high performing infrastructure in place. Since 2011 Capital Markets Infrastructure as a Service specialist Beeks Group has honed the technology to support and monitor market data and trading performance metrics. Beeks CEO Gordon McArthur says: "We've spent over a decade listening to nobody else but traders and financial companies, so we know their concerns, challenges and ambitions.

With this expertise, we take care of the heavy lifting, delivery, build, and maintenance,—so financial firms can stay focused on driving their business forward.

For example, our analytics tools and services can be plugged into any new or existing e-FX trading environment and help boost liquidity and profit by making your whole end-to-end pricing workflow visible – including the underlying infrastructure and your delivery networks."

BEEKS ANALYTICS

Beeks Analytics offers advanced tools for capturing, decoding, and streaming data, empowering financial institutions with real-time insights. Not only can it monitor Beeks-hosted trading systems, it can also be deployed in clients' own environments to provide equivalent monitoring wherever the trading system is hosted.

Competitive edge is achieved with the following Analytics capabilities:

Data packet distributor capture

This involves recording high-frequency data as it travels over a network, and adding high precision nanosecond timestamping for each packet received. e-FX managers can gather crucial real-time information on latency and traffic volumes from this data without adding any extra processing burden to the trading system.

Financial data decoding

Once the data packets are captured, the next step is translating the binary data and extracting meaningful information into an easy to analyse format. This breaks the packet data into specific fields for performing calculations. For example, you may choose only to analyse trading requests and ignore the performance of session traffic or historic trade requests, or you may choose to monitor performance of specific currency pairs. Decoding also means reporting performance in business terms. So you can combine and compare real network data with hit ratio and pricing information per client, against nanosecond-accurate volume and latency information about your pricing from liquidity providers.

Data streaming analytics

All this information can be displayed within the Beeks Analytics tool itself. However, some clients may wish to combine the decoded messages or network information with other data. Beeks Analytics facilitates this by streaming the output of the messages, which clients can process in big data systems or tick repositories for further quantitative analysis.

A NEW STANDARD FOR E-FX PERFORMANCE

"Beeks Analytics allows an e-FX manager to continually hold providers accountable for their performance promises," asserts McArthur. "With Beeks Analytics, financial firms can see under the hood of their trading systems, ensuring every piece of the system (and all their liquidity providers) are operating at peak efficiency. So you're no longer reacting to unexpected performance issues – you're proactively steering your systems towards profitability. In today's market, that level of insight isn't just an advantage; it's a necessity."

IPC *Connecting* opportunities

Elevate your trading experience with IPC's high-speed *CONNECTIVITY SOLUTIONS*

- Low Latency connectivity service provider connecting key FX Sites LD4, NY4, TY3 and CH2
- Trust in our award-winning managed colocation and hosting service available in all key FX Liquidity centers
- A thriving community with 7000+ on net end points, including FX Traders, FX Liquidity Providers and FX ECN's
- Enjoy peace of mind with our proactive monitoring and support

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