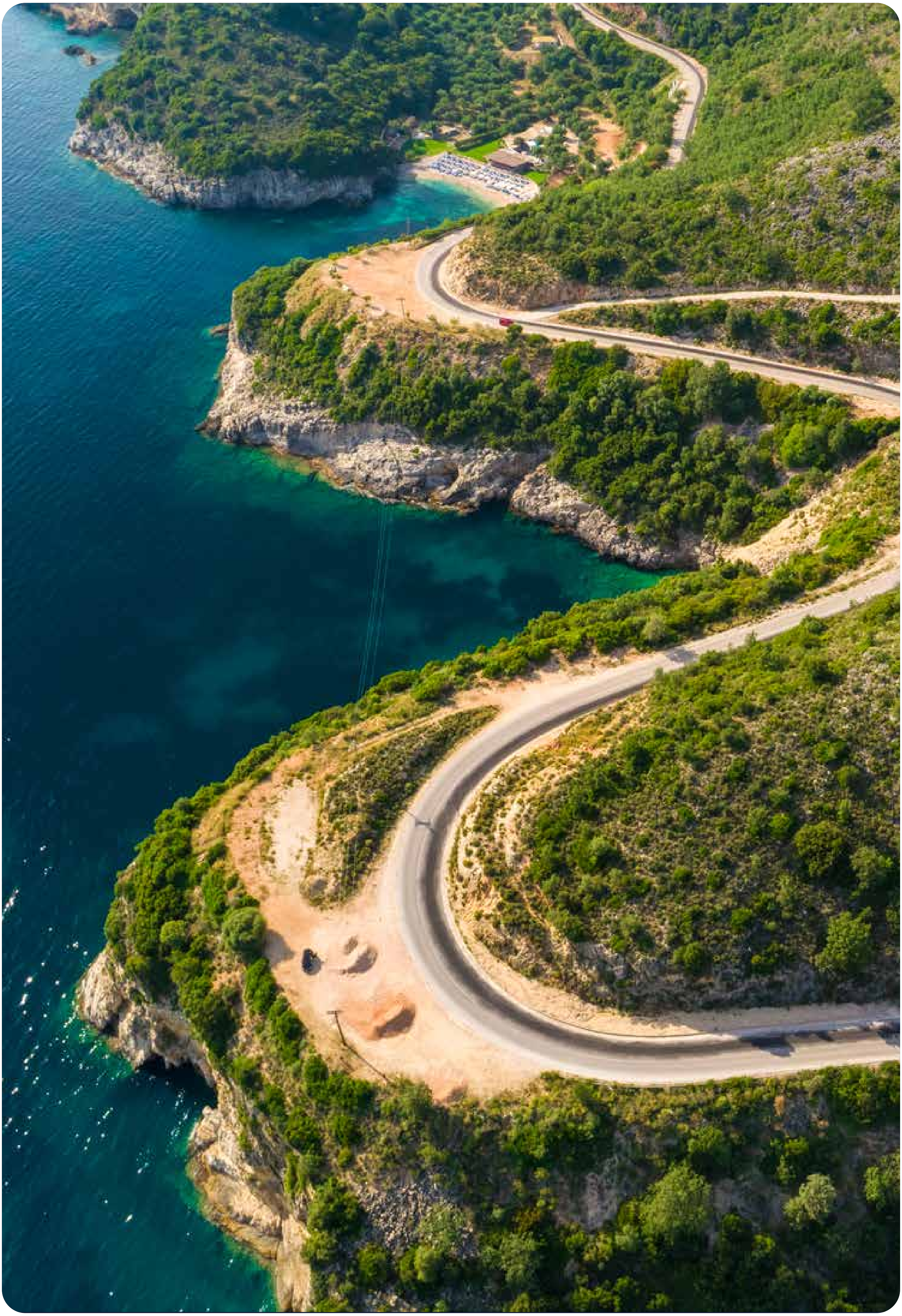
Securities Services *Evolution 2024*

Disruption and transformation in financial market infrastructures

Securities Services

Contents



Foreword

Okan Pekin
Head of Securities Services, Citi

Since the launch of this whitepaper in 2021, Citi Securities Services continues to be at the forefront of market infrastructure developments and how the industry is responding to these changes.

Each year, the collective insights of industry leaders across the world have shaped this whitepaper, enabling us to explore in greater depth what is most topical and relevant in the securities landscape.

For that, I extend our thanks to the 494 survey respondents and 14 financial markets infrastructures (FMIs) and industry participants that have contributed to our latest “Securities Services Evolution” whitepaper.

This year’s whitepaper counted the largest number of survey respondents and is the first of its kind to offer an early glimpse into how the global industry has managed the transition to T+1 settlement cycles in six markets across the Americas. After years of preparation, we are able to measure the true impacts of accelerated settlements on our post-trade infrastructures so that we can ascertain what gaps need to be bridged as more markets and regions follow suit.

Similarly, with the growing commercialization of distributed ledger technology and digital assets, we can map out more clearly than ever before, the platform and operating considerations that underpin the benefits from digitalization.

At the center of all of this activity is a fast-evolving community of FMIs, who are under increasing pressure to evidence value to their growing numbers of stakeholders — as the worlds of digital and traditional asset liquidity converge.

How organizations manage the balance of these core trends is a complex question. Add to that the varying speeds of industry development across the world and there is no single narrative that encompasses the direction of securities services in 2024.

In an effort to help organizations capture the nuances of regional narratives that are playing out globally, this paper includes a new component on the unique drivers that are driving businesses respectively in Asia Pacific, Europe and the Americas.

Supporting innovation while maximizing global consistency of the client experience remains core to the Citi Securities Services offering and we look forward to strengthening our partnerships with organizations across the globe as they seek to prepare for another significant year of change and transition ahead.

As always, we hope you find this year’s paper insightful and informative.

Executive summary

The Securities Services Evolution whitepaper series has been providing industry-led insights on the key themes that underpin our industry's development for the last four years and, in many ways, 2024 has proven to be the culminating year for many of the initiatives that have been underway since our first paper in 2021. This past year has not only seen 83%[1] of the settlement cycle removed from USD59 trillion-worth of market capitalization (through T+1 transitions in seven markets), it has also seen the volume of digital asset issuance exceed USD15 billion[2] (with multiples of that now being used as tokenized liquidity in the world's collateral markets).

With this execution comes experience. And with a number of key development milestones now behind us in 2024, securities services firms and financial market infrastructures (FMIs) are now finally able to understand the cost-benefit trade-offs that underpin their future development roadmaps, including a number of unintended consequences of change. As we reach "the end of the beginning" in T+1 market transitions and significant issuance volumes using distributed ledger technology (DLT), the future steps or our industry are now clearer than ever.

The FMI agenda

2023 saw the emergence of a new role for FMIs as "ecosystem managers" and facilitators. 2024 is seeing that role evolve from passive facilitation to active leadership. With India opening more than 70 million new investor accounts in the last year, there is a rapid shift underway in the make-up of the FMI's core ecosystem. Compelled by this shift, and by the competitive pressures that this introduces, FMIs are having to act with new urgency to deliver new value and efficiencies to their ecosystem members.

Whether that be through returning 30% of clearing house margins[3] (through T+1), offering new services (such as digital asset infrastructures, private market securities or clearing) or helping to realize new scale (through market and platform consolidation), the need for action and execution has never been stronger.

Settlement transformation

If you feel that you have spent most of the last year in execution mode on T+1, then you are not alone. Over the last 12 months, investment budgets have been diverted, non-critical projects delayed and essential resources borrowed, in order to complete a transition to T+1 that was, in the end, a major success.

From India to Mexico, market participants have come together as an industry to realize change on a truly global scale. While the immediate transition appears to have been smooth (with no immediate escalation in fail rates), our research highlights that 44% of our global survey respondents were significantly impacted by the T+1 transition, 16% more than a year ago. As over 30% of industry project work for T+1 continues (even after the transition date), the focus on balance sheet optimization and genuine automation is sharper than ever.

And there is still a long way to go. With 94% of respondents to our survey now expecting T+1 settlement cycles (or faster) in their own markets within the next five years, the need to apply the lessons of 2024 to future market transitions is clear. The role of affirmations is certain to grow, as is the critical vital leadership role of FMIs as facilitators of industry change as the industry begins to plan or the expected transitions in the UK, Europe and Australia.

Key takeaways

1.

New stakeholders and new competition are driving the FMI investment agenda
T+1 has been dominant, but growing retail participation and regulatory pressures are also driving an increase in competition from many sides. In response, FMIs are increasingly being compelled to act by accelerating their own investments into real-time processing, market standardization and digital infrastructures.

2.

Settlement acceleration has happened
The 2024 transitions went smoothly but it was harder than expected for firms across every part of the world. With new market transitions likely in 2027 and beyond, affirmations, market engagement and cash funding are all going to be core drivers of success

3.

DLT and digital assets are in commercialization mode
In an era of growing commercialization, the practical use of bond issuance and tokenization is delivering real benefits to both operations and treasury teams. In the near future, collateral mobilization and fund tokenization will continue to be transformed by DLT — with private markets coming soon.

DLT and digital assets

After years of experimentation, growing volumes of sovereign issuance are providing the bedrock of a digital ecosystem. With FMIs helping to “bridge” the digital and traditional markets, market participants are increasingly looking to FMIs as their partner of choice in mobilizing their digital securities in an environment that is secure, trusted and scalable.

As tokenization becomes the preferred path for over 55% of banks, trillions of dollars in tokenized collateral are now being exchanged every day and millions of dollars are accumulating in tokenized money market funds. With 12% of all our survey respondents in commercialization mode today with digital assets, the volumes of live DLT-based transactions continue to grow, driving a marked industry shift towards practical execution in blockchain choices and in digital cash.

Nowhere is the regional narrative more evident than in DLT, though, and, while Europe embraces collateral liquidity, North America is looking to the private markets, and Asia is looking to an eventual convergence of crypto and traditional markets.

Much lies ahead but there is a clear sense that 2024 marks the beginning of a new stage in the evolution of the global securities services industry.

Introduction

The central theme of this year's whitepaper is the transformation effect that new ecosystem dynamics are having on FMIs and market participants alike as they look to accelerate and automate much more than just their settlement processing. This transformation centers on three broad areas:

FMI transformation
New pressures from a fast-evolving ecosystem are driving investments and activity among global FMIs as they accommodate new competitive pressures and regulatory requirements.

Settlement transformation
The immediate impact of the transitions to T+1 in 2024 and their implications for global market participants, as they prepare for the continuing wave of accelerated settlement across future markets.

DLT and digital assets
The practical choices that firms are making in 2024 on their path to commercializing DLT and digital assets in collateral, fund distribution and private markets, including the implications on network choices and digital cash.

Methodology

In order to deliver global and highly relevant insights on the future of securities settlement across Asia Pacific, Europe, North America and Latin America, this whitepaper draws on two core sources of qualitative and quantitative expertise.

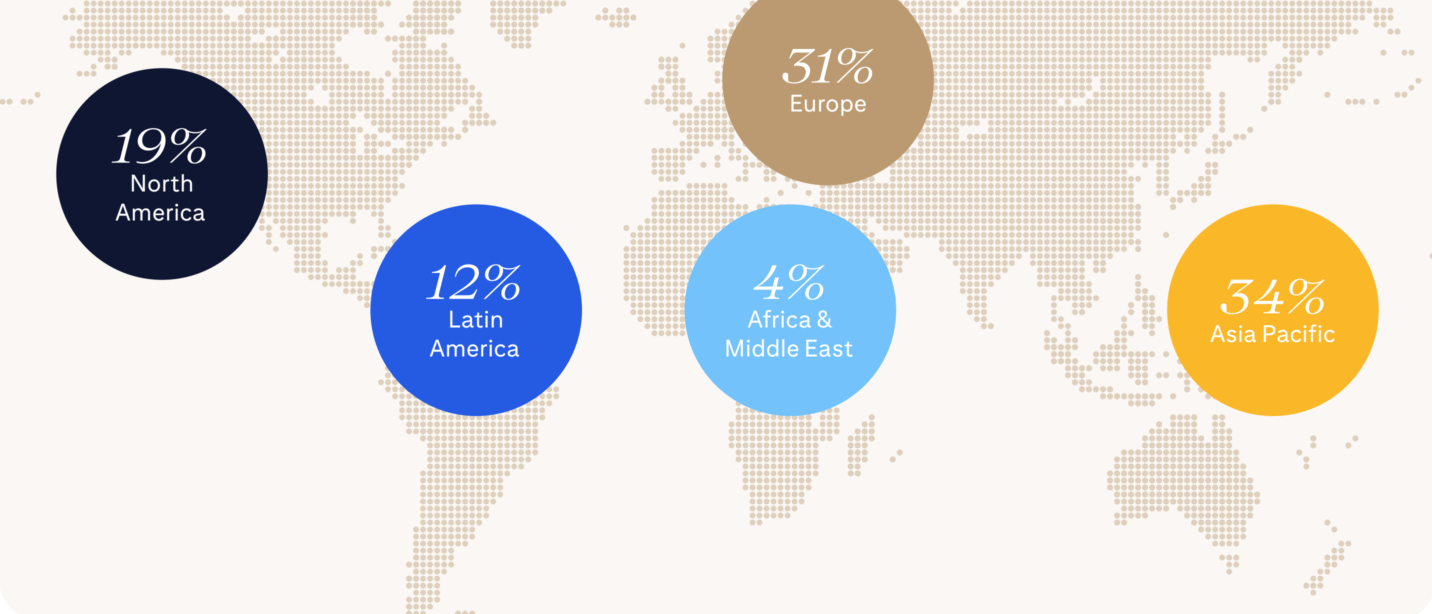
Quantitative
In June 2024, Citi Securities Services collaborated with The ValueExchange to run an online survey of 494 individuals around the globe, including FMIs, custodians, banks, broker-dealers, investment managers and institutional investors.

Qualitative
In June and July 2024, a total of 14 FMIs and industry participants (from all regions and profiles) participated in in-depth interviews, to share their specific insights and experiences. FMI representatives included exchange and depository leaders, while industry participants included industry associations and taskforce leadership.

Figure 1a. Market participant breakdown

43%	15%	14%	11%	10%	7%
Bank	Custodian	Asset manager	Broker-dealer	Institutional investor	Others

Figure 1b. Geographical breakdown



What is driving the FMI agenda today?

We contribute to the efficiency of the financial markets. Everything orbits that mandate — we are just nodes on a much wider network.

Marcus Harreus, Head of Commercials, SIX Securities Services

T+1: reshaping boundaries

For the seven markets that formed the "T+1 class of 2024" (namely Argentina, Canada, India, Jamaica, Mexico, Peru and the US), the last year has been an all-consuming effort to bring a global community of stakeholders into a new world of accelerated settlements. These FMIs have seen their market engagements shift radically from their traditional, local participants to a global community of investors and beneficial owners stretching across the globe. In these engagements, the FMIs have had to do far more than talk. They have had to provide levels of data, transparency and disclosure (on testing and market performance, for example) that far exceed anything done before — driving a meaningful shift in the breadth and substance of their ecosystem roles.

Our industry work used to be "us versus them" but we need to bring the ecosystem along with us. In a world where capital is global but regulation is local, we have to reach out further than ever to engage the ecosystem.

Yao Loong Ng, CFO, Head of Equities — Designate, SGX Group

Even for those FMIs not directly drawn into the 2024 transition, the last year has seen T+1 dominate industry conversations across the globe. In the UK, Europe and Australia, market consultations have advanced local T+1 discussions significantly, with growing expectations for a range of further transitions from 2027 onwards. Further afield, regulators and FMIs across Asia, Africa and Latin America watched the moves in May with great attention as they have begun to appreciate the complex impacts of time-zones on funding and lending from afar. With the successful transitions in May triggering a change from "if" to "when" in many markets, regulators and ecosystems will be watching global FMIs, to ensure that they are ready to repeat the experiences of the 2024 in driving a wider and more transparent industry conversation than ever.

Issuers and retail: new seats at the FMI table

Today we are very focused on custodians — but we have to focus on creating more value for issuers and retail investors. With our retail clients, I don't feel like I work for an FMI, but rather a fintech.

Vaisshali Babu, CEO, BSE Clearing House ICCL, India

But the FMI ecosystem is not just reshaping within the bounds of the traditional capital markets. Much has been written about the gradually increasing participation of retail investors in the world's capital markets and about the landmark shift that this drives in FMIs' stakeholder networks. In 2024, this change has been anything but gradual — with up to 19% of our survey respondents (in Latin America) citing growing retail participation as their major priority for 2024. In India, retail participation in the capital markets has exploded — from 115 million accounts in India in 2023 to 151 million accounts in 2024 according to Babu at the BSE Clearing House ICCL. The registered investor base has nearly tripled from March 2020 to March 2024 to 92 million as of 31 March 2024. In Brazil, B3's accounts have grown by a factor of 10 over the last seven years — changing the very nature and focus of the FMIs that serve them.

"With younger, retail investors along with institutional managers as core stakeholders, FMIs now need to be capable of handling twenty billion order messages in six hours," says Babu, which puts new pressures on the scalability and capacity of existing core systems. "We need to be able to provide data visibility and connectivity at levels that CCPs have never seen before," she continues.

With these changes happening at an unprecedented speed, the pressure on FMIs to adapt their entire infrastructures and market engagements almost literally overnight is extreme — and very real.

At the same time, opportunities in the private markets and increasing shareholder stewardship pressures have also brought FMIs much closer to corporate issuers in the last year.

FMIs are now the preferred organizations to remove cost and risk from their markets by dematerializing and digitizing private securities, with initiatives ongoing in the US, Canada, Singapore and Australia in this space. (Refer to DLT section below) Equally, with shareholder voting volumes growing by over 30%[4] each year, FMIs are also under heavy pressure to remove long-standing inefficiencies that stand between them and issuers. FMIs and issuers have never had more reason to cooperate.

Competition is still a driving force — albeit in new forms

With new retail stakeholders come new competitors. As volumes of crypto-currency holdings grow in digital wallets across the world, there is a growing concern that traditional equities markets (which are opaque in data terms and which take days to settle) will become inferior to their digital peers and hence trigger an exit of liquidity towards digital asset markets.

As a result, market authorities in retail-centric markets from India to Brazil are beginning to take action to close the competitive gap between cryptocurrencies and traditional securities, in an attempt to preserve the liquidity of their traditional securities markets.

India's ongoing move to offer instantaneous settlements has been driven entirely by the need to offer domestic equities that perform at the same levels of speed, mobility and transparency as cryptocurrencies.

The rationale for T+0 comes from the fact that we're going to compete with crypto sooner or later. Crypto offers tokenization, transparency and instant transactions. So our traditional markets need to be able to compete on all counts, including in particular, instant transactions. Then we're possibly removing the distinction between crypto and traditional markets.

Sriram Krishnan, Chief Business Development Officer, NSE

Traditional markets are having to transform and up their game if they are to keep step with their digital peers. But the theme of competition driving FMI investment agendas is not unique to retail and crypto markets.

In Europe, it is increasingly clear that the continent's 39 distinct and non-competing market infrastructures are a core dependency to the realization of several key initiatives on the European agenda. With limited cross-border activity still in TARGET2-Securities (T2S), SRDII adoption ongoing, the European Collateral Management System (ECMS) delayed and now T+1 looming on the horizon, the pressure to realize meaningful infrastructural change at a regional level is growing fast — and with it, increasing scrutiny of the region's FMIs as agents of that change. Even the European Central Securities Depositories Association's (ESCDA's) recent report[5] stated that "further improvement of conditions for competition is necessary [in Europe] in issuance, custody and other CSD services. That will naturally lead to higher levels of efficiency for the stakeholders and European post-trade integration". European FMIs are under significant pressure from regulators, associations and participants not only to facilitate market transformation but also to lead it. And if they don't, the downside risk to them (of deregulation and new competition) appears to be growing increasingly likely.

"In the US, the SEC's requirements for expanded central clearing of US treasuries is a natural extension of the services we already provide to the Treasury market. For nearly 40 years, FICC has been providing value by maximizing liquidity and efficiency while maintaining robust risk management," according to Brian Steele, President, Clearing & Securities Services, DTCC. Following recent announcements by the CME Group and LCH Group to offer competing clearing services for US Treasuries, the world's largest CSD is also stepping into the competitive arena for the first time.

From crypto markets and regulators, FMIs are seeing competition rising and, with them, the pressure to deliver meaningful market value today.

Improving the post-trade environment in Europe through greater competition is a key pillar in enabling more user choice and value.

Peter Tomlinson, Director, Post Trade and Prime Services, AFME

The move to real-time: securities playing catch up

In the context of growing retail participation and competition from crypto assets, the move to T+1 (and beyond) is only a small part of a much wider acceleration of processing that stretches far beyond overnight trade processing. After years of innovation in payments, securities are now playing catch up to cash.

Historically, FMIs' ability to accelerate processing (for securities and derivatives) has been limited by the cash and banking infrastructures that they rely on. If payments stop at 4:30pm for example, then the ability to effect transactions after that point is limited. As a result, firms have had to put in place numerous workarounds in order to ensure access to funding outside of narrow operating windows, making any attempts to accelerate processing much harder.

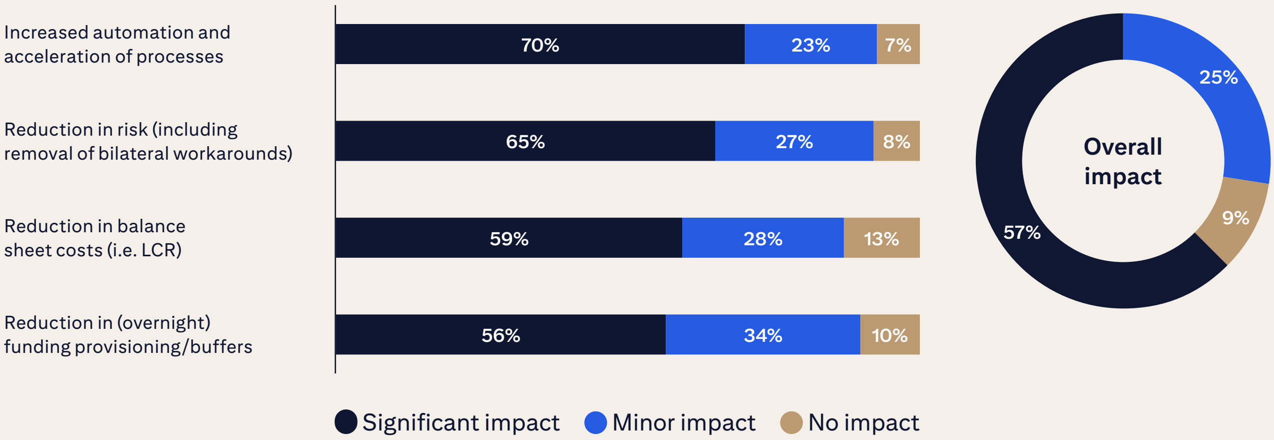
In the last decade, we have seen domestic payment infrastructures accelerate significantly. Local payments can now be made in real-time in multiple markets and with real-time cash comes the opportunity to reshape entire trade cycles.

India is now able to offer instantaneous equities settlements, building on the United Payment Interface (UPI) technology as a critical enabler to real-time processing. Similarly, leading derivatives markets are planning moves to 24/7, days per week margining, delivering participants massive efficiencies in reduced funding buffers.

These benefits are clearly impactful. 57% of respondents in our 2024 survey cite the impact of real-time processing on their business as significant — while 89% of institutional investors see real-time payments as impactful. Through accelerating their payments, firms clearly see immediate wins available in removing bilateral workarounds and in driving greater levels of automation as a result.

What is also clear is that getting to real-time payments would require building the infrastructure for real-time liquidity management, within each firm and between counterparties. With that done, a deeper restructuring of balance sheets and funding provisions would likely come as a secondary wave of benefits.

Figure 2. Impact that the industry expects from real-time payments



Question: How impactful are the following benefits of 24/7 payment availability for your margin and trade payments?
Expressed as: % of respondents citing each level of impact and area. % do not add up to 100 due to rounding.

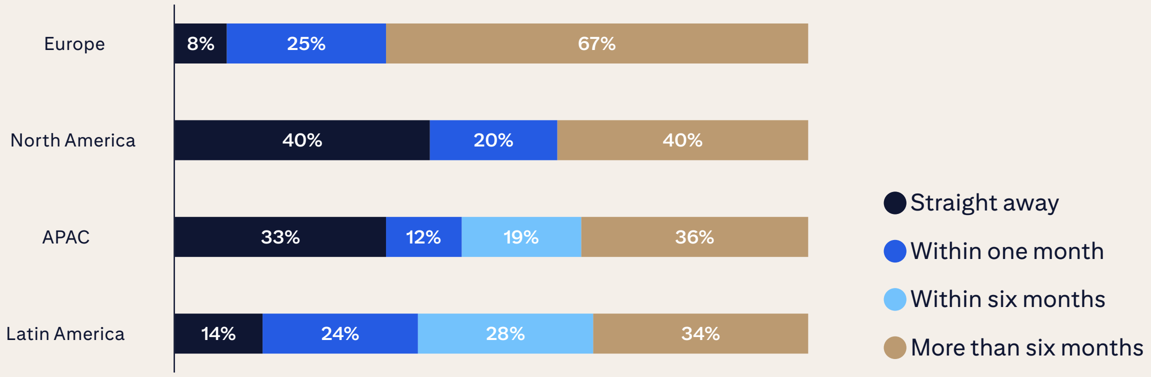
And the market seems ready to embrace these changes quickly. 64% of those in Asia Pacific would be able to begin processing real-time payments in their markets within up to six months, as would 60% in North America. Only in Europe would adoption take longer, with 33% of respondents in Europe likely to be ready quickly.

As the wider adoption of digital cash continues, the potential benefits available from instant and guaranteed cash movements are massive. If every bank or asset manager could change every free-of-payment collateral move into a delivery-versus-payment transaction and enable intraday repos (around the clock), entire balance sheets would be transformed.

Also to be noted is that DLT facilitates the tokenization of all assets, including firms' deposits held for cash settlement at commercial banks and custodians (for which customer deposits are their liabilities). Leading commercial banks and custodians are using DLT to tokenize deposits and provide the infrastructure to deliver the real-time liquidity management services that are the other side of the coin to real-time payments.

Competitive pressures are making this transition not only compelling but urgent. Whether they are ready today or will be ready in several months, banks are investing heavily today in the transition to real-time payments — as one of the areas with most significant change in 2024. The key question is how to accelerate it in 2024 and beyond.

Figure 3. Industry readiness to begin processing real-time payments 24/7



Question: How easily could you begin processing real-time payments (on a 24/7 basis) today — if it was available?
Expressed as: % of respondents citing their realization time frame, per region

FMIs and their participants are stuck in a chicken-and-egg situation with 24/7 payments. There is a general agreement among experts that a move to real-time payments would be useful, but FMIs are assessing cost for their participants versus immediate client benefits. While immediate benefits are already substantial, it is critical that, as an industry, we assess not only what existing business models would benefit from real-time settlement and liquidity but also how existing models would evolve once these capabilities are available and we look at end-state client benefits.

Dawid Janas, Head of Global Clearing & FI Payments, Treasury and Trade Solutions, Citi

Moving on from legacy

Where and how, then, are FMIs investing to demonstrate that value today?

This year, we have seen major market transitions continue in Argentina, Chile, Canada and the US, with new ones beginning in Australia and Mexico. While many ageing platforms remain, FMIs are gradually beginning to address the legacy burden.

Our core focus in system modernization is to always be leveraging market best practices — so that we can add value to clients and aim for zero impact to our direct participants.

Carlos Albuquerque, Managing Director, Depository and OTC Operations, B3

Many of these latest transitions share one key characteristic: they are based on standard versions. After years of extensive customization in FMI platforms (where millions of lines of bespoke coding have left FMIs effectively running their own versions of global software platforms), FMIs are now following a distinctly different blueprint. Often relying more heavily on cloud, FMIs are increasing the discipline with which they adhere to standardized versions of their platforms — following software providers' core versions and avoiding deviations and customizations at all costs. While this presents many new challenges in deployment (in that it requires all market participants to accept core changes to their market processing as part of a transition), evidence from 2024's transitions indicates that this discipline is significantly accelerating market transitions. Standardization is increasing resilience and reducing transfer risk.

Given the huge volume of market platform transitions that lie ahead, this is a core learning point in the industry transition journey to tomorrow's real-time processing platforms.

Standardization: time to get asset servicing right

There is not a significant perceived benefit between ISO15022 versus ISO20022 for corporate actions — but there definitely is for proxy voting. Proxy will be the draw for ISO20022.

Dirk Loscher, CEO, Clearstream Banking AG

In a world where retail investors are demanding real-time processing, the fact that a proxy notification can still take 13 days to reach an investor[6] is of major concern — and it is one where the industry is starting to act.

As global proxy and corporate action volumes grow by more than 30%[7], FMIs across the world (and their regulators) are more acutely aware than ever of the cost of corporate action inefficiencies on their market participants. Volume growth, talent shortages and high error costs are stubbornly keeping asset servicing automation on the FMI management agenda.

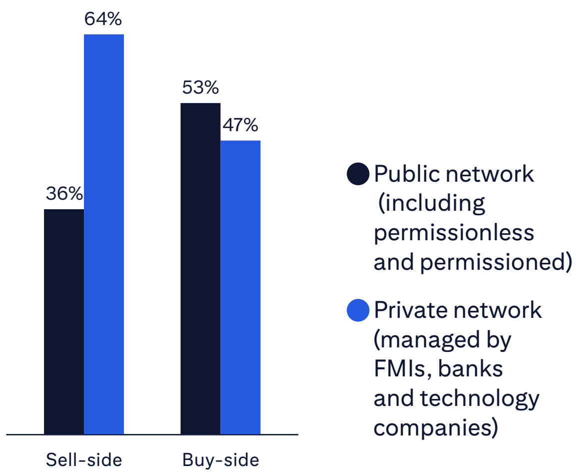
Since our last report, one solution has become increasingly clear. In the last year, ISO20022 payment messages have become mandatory on SWIFT[8], leading DTCC to transition its event notifications to ISO20022. The deadline for compliance with the European ECMS requirements (for ISO20022) has been confirmed for November 2024. By the end of 2024, banks across the world will be processing live XML-based messaging using ISO20022 formats — bringing the standard one step closer to widescale adoption.

While this may have little impact on the entrenched world of corporate action messaging, it is likely to be transformative for proxy voting. With no pre-existing standard, the incremental benefit of the ISO20022 format is large — especially when it is mandated by European regulators. With additional sanction and regulatory pressures towards this standard coming in Europe in the near future, many FMIs in other parts of the world are now actively scoping how to transition their own markets in 2024 and beyond.

The digital market infrastructure

FMIs have also started to assume a leadership role in the development of digital asset liquidity globally. Over USD1.8billion of digital, sovereign debt issuances[9] (including those by the Hong Kong Monetary Authority and the World Bank) have been done through various FMIs in the last year in Hong Kong, Belgium and Switzerland. As privacy concerns, extensive capital expenditure and liquidity (or interoperability) issues have dominated banks' digital asset project work in 2024, the role of FMIs in providing regulated, resilient, standardized and universal access to market liquidity has come to the fore. More importantly, their ability to provide a bridge between digital and traditional liquidity is increasingly key as investors look for greater mobility in their digital assets.

Figure 4. Preferred network type across all asset classes



Question: For the following asset classes, which type of networks do you expect to use?

Today, FMIs are the preferred blockchain operator for the sell-side across the world with 29% of respondents indicating as such. In addition to the ongoing efforts by Clearstream, DTCC and Euroclear to drive greater standardization in this space[10], continued launches in 2024 by SIX/SDX[11], Singapore's Fundnode[12], Chile's DCV[13], and the OCC[14] (in the US), have added momentum to the digital FMI narrative already in train globally. Instead of disrupted, FMIs look well placed to lead their new ecosystems into an era of further, digital transformation.

Old-school interoperability: connecting to deliver scale

While innovating to deliver new value, FMIs have also been investing to do more of what they do best — delivering greater efficiencies of scale. FMIs exist to deliver efficiencies of scale in liquidity and processing and, in 2024, we have seen markets across the world break down barriers to deliver greater benefits to their members.

The value of clearing and multilateral netting has increased disproportionately with new regulations and increasing funding, collateral and capital costs. Our multilateral ecosystem is more important than ever in providing funding efficiencies to the market.

Matthias Grauich, Chief Strategy Officer, Eurex

Talk of market cooperation and integration is not new but throughout 2024, FMIs have not only invested real money to deliver greater liquidity and lower unit costs to their participants — they are also beginning to deliver results.

In Latin America, the incorporation of nuam marks a major step towards the consolidation of three markets (Chile, Colombia and Peru) in 2025, creating a new pool of regional liquidity that offers unique benefits to issuers, intermediaries and investors.

In Asia, similar discussions continue in ASEAN with the objective of strengthening the already promising cross-border depository receipt programs[15] (currently between Singapore and Thailand) to deliver greater liquidity and scale to almost 80 million domestic investors.

In Africa, the Africa Exchange Linkage Project (AELP)[16] initiative is now connecting order-routing across six markets in an early step towards market integration.

In Europe, the same theme is apparent in the range of ongoing regional consolidation projects across key FMIs. In our interviews, Loscher explained that Clearstream is integrating its Germany and Luxembourg platforms[17] to "offer central bank settlements and ICSD services, all with the same experience". Similarly, Euronext is focused on internalizing flows through the expansion of its central counterparty clearing house (CCP) with greater efficiency in funding and margin benefits across all of its markets and diversification opportunities for clients. With the same benefits in mind, Eurex has a continued focus to deliver margin efficiencies via its cross-margining service across futures, swaps and repos, now that interest rates have returned the theme to the operating agenda. And SIX is continuing its integration of Spanish and Swiss CSDs, in order to "give the most value to participants in both markets."

Latin American market consolidation: coming soon in 2025

Where do we stand today?
On 14 November 2023, the consolidation of three Latin American markets into one became a legal reality with the legal formation of the nuam holding company.

With this key milestone now achieved, the regional project now enters a critical phase of execution as it prepares for live trading in just over one year.

Timeline

- 14 November 2023: holding company set up
- Seven IT projects running in parallel
- Mid-2025: testing
- H2 2025: live

Core workstreams for 2024 and 2025

1. IT and platforms

Seven projects are running in parallel across the trade execution, clearing and settlement layers in the three markets.

> This is an intense, complex, interdependent exercise. We're making a level of technology investment here that none of the three countries could have afforded to do on their own".

2. Regulatory approvals

Interoperability of CCPs means changes to membership categories across borders. Regulators have to approve not just a new rule book but the same rule book across all markets.

> We need 'enabling' regulation to harmonization across three different countries. Every country has to make adjustments to make a single market possible".

3. Market participants

Core change requirements need to be taken into account for day one (for example, accounting systems in each market are in local currency only). Critical importance of working with local banks and brokers to build ecosystems and capabilities that can serve global players.

> Local firms cant just be on board with the change — they have to be ready to build a sophisticated market ecosystem around nuam".

Juan Pablo Córdoba, CEO, nuam

T+1: smooth sailing, but harder than expected

T+1 in 2024: what happened?

In the first weeks after the US and other markets transitioned to T+1, all appeared to have gone smoothly. Six markets representing nearly USD59 trillion of market capitalization[18] have transitioned to T+1. In addition, USD308 billion of market capitalization in the Philippines[19] has moved from T+3 to T+2. And shares in 25 Indian companies[20] are even settling on an instantaneous basis (mainly for domestic retail investors).

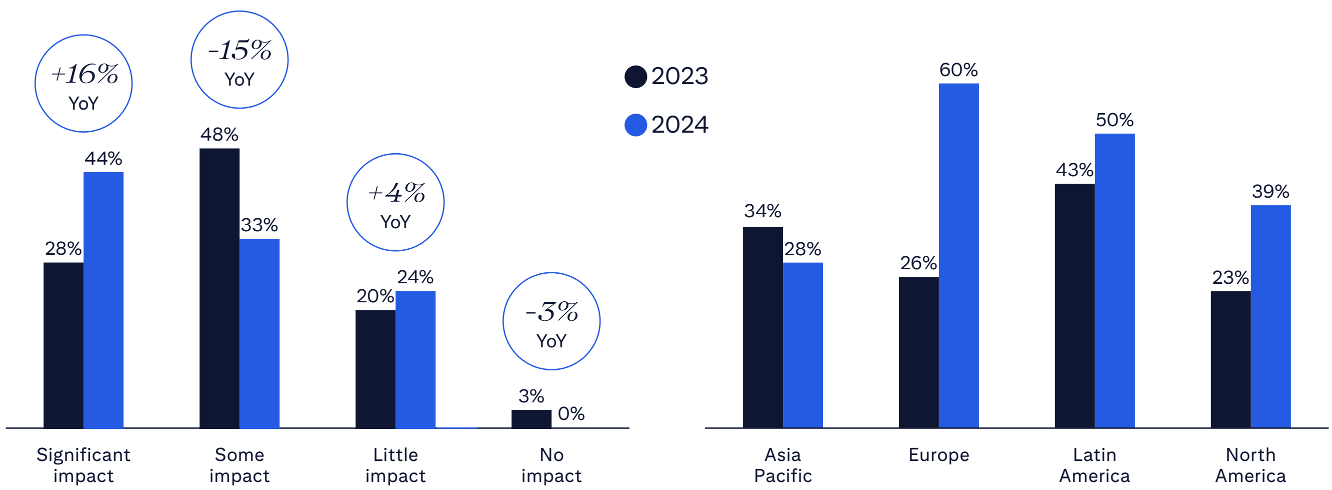
The US T+1 implementation with fail rates remaining consistent with T+1 has set the gold standard for other markets. It's definitely possible.

Valentino Wotton, Managing Director and General Manager of Institutional Trade Processing, DTCC

Throughout June 2024, Citi together with Global Custodian and The ValueExchange led an industry-wide initiative to track and discuss the impact of North America's T+1 move in the days and weeks following the transition. These discussions were overwhelmingly positive, with much less disturbance and a faster return to business-as-usual resourcing than originally projected.

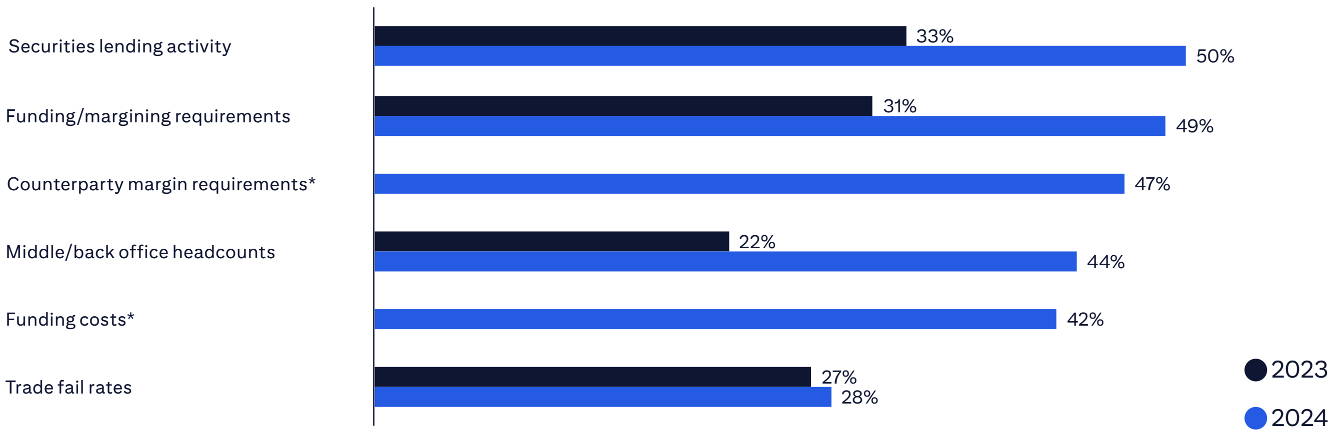
Within the first week of settlements, industry affirmation rates had risen to above 95% globally (ahead of target), trade fails had remained low and more than 30% of clearing funds had been returned to market participants.[21] Some firms even reported seeing a decrease in trade fails after the transition. But even though the transition itself passed without incident, the journey to prepare for and execute on T+1 over the last year appears to have been harder than expected. This year's survey which was run one month after the American transitions, 44% of respondents indicated that they were significantly impacted by T+1, up from 28% a year ago. Every area appears to have been more impacted than originally anticipated, from funding to headcounts, securities lending and fail rates.

Figure 5a. Impact of T+1 across the industry



Question: Based on your experience of T+1 being live (in Argentina, Canada, India, Jamaica, Mexico, Peru and the USA), what are the impacts of a shortened settlement cycle on your organization? **Expressed as:** % of respondents indicating a significant impact, by region.

Figure 5b. Impact of T+1 on key processes



Question: Based on your experience of T+1 being live (in Argentina, Canada, India, Jamaica, Mexico, Peru and the USA), what are the impacts of a shortened settlement cycle on your organization? **Expressed as**: % of respondents citing a significant impact for each activity due to T+1. *New category in 2024.

As we projected in our last whitepaper, securities lending remains one of the most strongly impacted activities across the organization — jumping from 33% to 50% this year. Funding has also been at the center of this impact — albeit with an imbalance across the sell-side and buy-sides. The single biggest impact of T+1 for brokers and custodians has been the 30% reduction in clearing margin, with 80% of the sell-side (all) seeing this development as strongly impactful to their businesses.

But while the sell-side has seen a notable funding improvement, asset managers have seen their funding costs worsen, as 46% of them have had to cover significant gaps in settlements between T+2 and T+1 markets and in their funds' subscription and redemption cycles. With many asset managers and institutional investors having paid relatively little attention to T+1 in the preparation stages, the depth and impact of these funding challenges seem to have caught many by surprise.

Yet the same sell-side houses that have benefited from new funding efficiencies have also seen two other core part of their businesses hit by T+1.

First is securities lending (and recalls), where 56% of sell-side respondents claim to have been "significantly impacted" since the move. Market concerns around lending recalls have figured at the top of the industry issues agenda for much of the last two years but early experience is showing that the true impacts of T+1 are being felt across the entire trade cycle, through reduced supply, increased buffering and greater conservatism between traders. More time is needed though before we can understand the true, deeper impact.

Secondly, 52% of banks and brokers have seen T+1 significantly impact their headcounts and staffing levels. In the lead up to T+1, concerns were already being raised around the industry's preference for hiring over automation — many of which appear to have materialized. After the transition, the sell-side has found themselves exposed to large volumes of manual processing and exception handling triggered by their clients.

From a time-zone perspective, T+1 is evidently harder to deal with from 6-7 hours away than it is from 12-16 hours away. Counter to earlier expectations, 60% of European respondents claim to be significantly impacted by T+1 in 2024, compared with only 28% in Asia Pacific (figure 5a). While this may also have much to do with Asian investors being protected from FX challenges due to their (often) holding USD as their base currency, the relative challenges of managing settlement and funding issues in the middle of the night (instead of first thing in the morning) is clear. While those in Asia have had the benefit of full clarity on funding requirements in their morning (with the full day to arrange funding as required), those in Europe have only a few hours to run from initial instruction to fully funded trades.

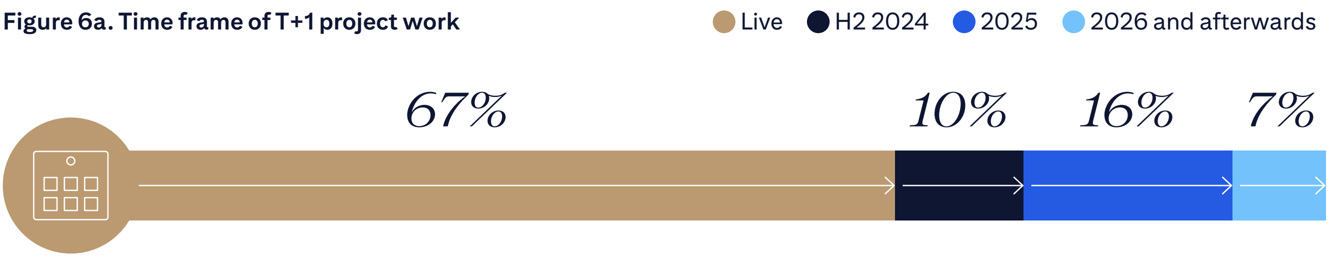
The transition is still ongoing

As all-consuming as the T+1 transition appears to have been over the last 12-24 months, the industry is still only two-thirds of its way through its North America T+1 project agenda. With 33% of project work still to be undertaken (mainly in 2025) in the form of further automation as well as additional hiring, the effort and focus on T+1 extends well beyond the transition date.

As we saw in 2023, almost every firm (90% of respondents) were heavily engaged in internal process automation over the last year. From institutional investors all the way through to their brokers, T+1 appears to have delivered on one of its core original objectives — of triggering a wave of internal rationalization and automation that would form the foundation for future growth across the industry.

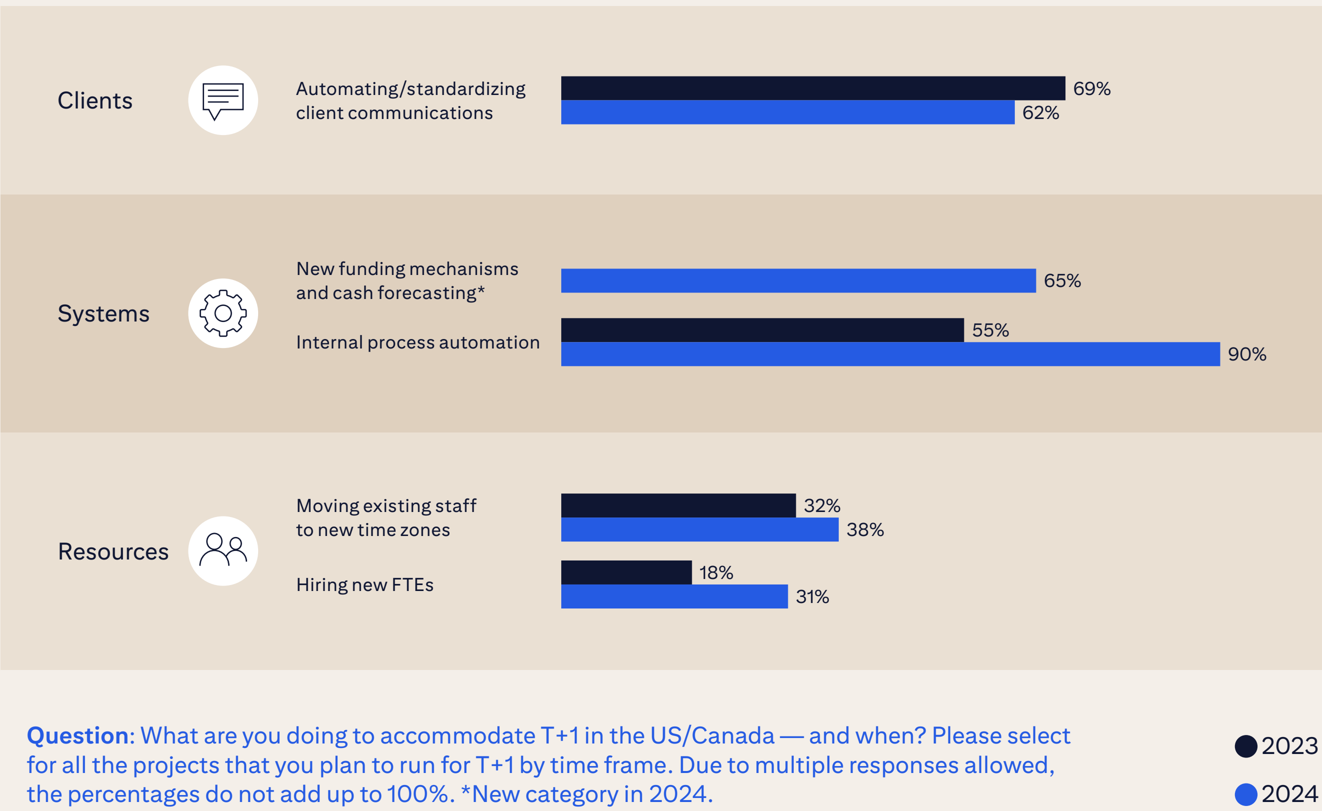
For brokers and custodians though, much of this internal automation work came to a close early in 2024. As these projects have reached completion, firms have then shifted their attention heavily towards client communications — as the final stage in their preparations for T+1. 20% more banks are focused on this in 2024 than in 2023, as final blockages were removed and manual client communications automated.

Figure 6a. Time frame of T+1 project work



Question: What are you doing to accommodate T+1 in the US/Canada — and when? Please select for all the projects that you plan to run for T+1 by time frame.

Figure 6b. Action taken to prepare for T+1 — a year on year comparison



Question: What are you doing to accommodate T+1 in the US/Canada — and when? Please select for all the projects that you plan to run for T+1 by time frame. Due to multiple responses allowed, the percentages do not add up to 100%. *New category in 2024.

What have we learnt from T+1?

While it will take several months still to know the true impacts of the North American T+1 transitions, early feedback is consistent on three areas that have helped to improve the smoothness of the transition.

The role of affirmations

Having spent much of the last two years trying to understand affirmations, the world is quickly acknowledging the pivotal role of this core process as an enabler to T+1. By providing a clear matching of asset manager's trade instructions on T+0 (and hence enabling automated, timely processing of settlements), affirmations and allocation-based models such as DTCC's CTM Match to Instruct workflow are now seen by 85% of respondents as the most critical enabling technologies for T+1 settlements. This rises to 94% among broker-dealers and 92% among asset managers.

Within an organization, the success of the T+1 transition has been enabled by a host of technologies all working together. While 2024 appears to have been the "year of the affirmation" and of the technologies that support it, the role of artificial intelligence (AI) and machine learning has also been significant with 25% of respondents singling it out as a core driver of success. In many ways, the need to accelerate a host of manual, fractionalized tasks across the trade cycle has been an excellent showcase for the potential benefits of artificial intelligence and machine learning.

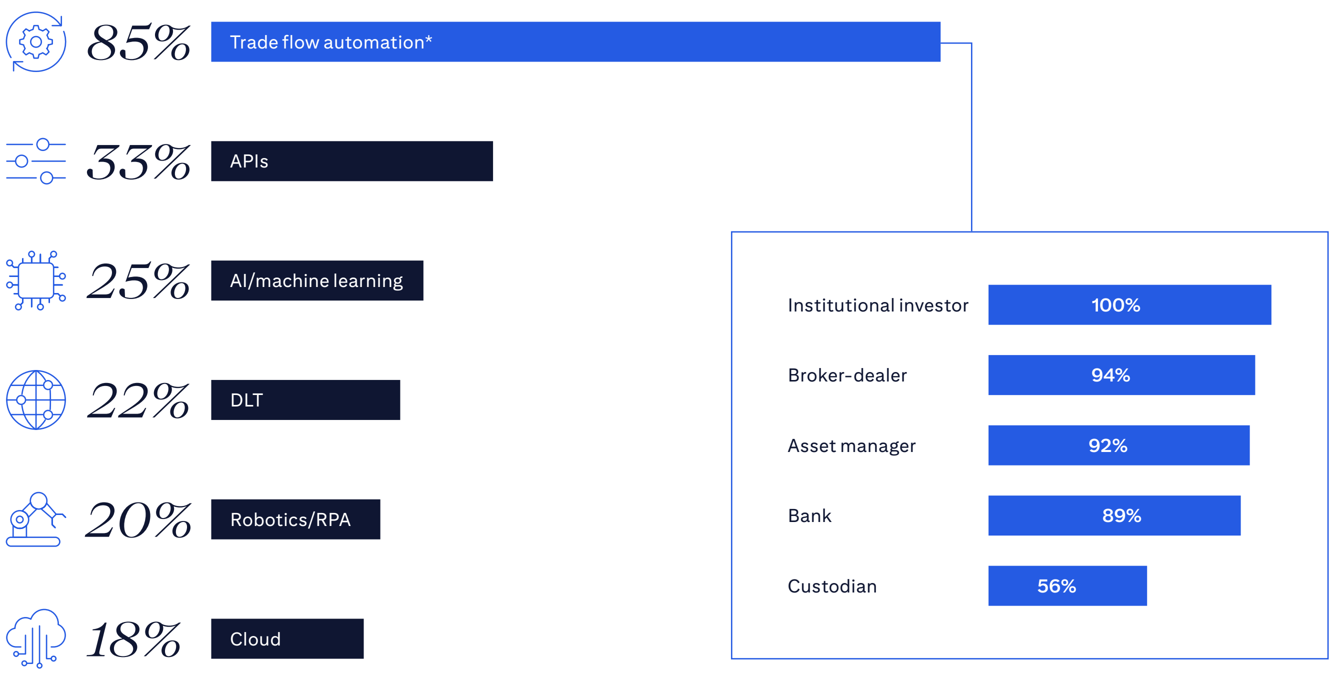
This is about changing the way that people think. If at 20:59 there must be a settlement instruction ready to go, why can't allocations happen earlier in the day? It's evolution, not revolution.

Andrew Douglas, UK Accelerated Settlements Task Force

Preparation, preparation, preparation

In parallel, the "39 months" of global industry preparation played an essential part in the success of the transition. First, the industry was given a clear deadline and a clear message that the date would not be moved. Market infrastructures, providers and associations then went to extraordinary lengths not only to coordinate their efforts onshore, but also to reach out to physically and functionally distant stakeholders. With research consistently highlighting the core role of offshore investors in the T+1 project, the hours of webinars and education sessions were essential. Market testing was then run transparently across the US and then Canadian markets, providing real and usable insights to the market around stress points and areas for improvement.

Figure 7. Critical technology that enabled a successful transition to T+1



Question: Based on your experience of T+1 so far, what technology is most critical to a successful transition to T+1/T+0? Please select all that apply. **Expressed as:** % of respondents in each segment selecting trade flow automation. Due to multiple responses allowed, the percentages do not add up to 100%.*New category in 2024.

On the people front, a key theme throughout T+1 preparations has been the redeployment of staff and activities to different time-zones to optimize coverage. Ahead of or as a result of the May 2024 transitions, 38% of overall respondents (evenly spread across the buy and sell-sides) appear to be moving their staff as a result of T+1 — as they move key delegations (usually on FX and funding) into the North American time-zones (figure 6b).

Global custodians: a critical choice for T+1
As providers of affirmations, FX liquidity, cash liquidity services funding, settlements and asset servicing support, global custodians have been central to firms' T+1 transition management. In providing both the processing infrastructure to support core tasks and the integration to draw the many steps of the trade cycle together, they have played a pivotal role in helping organizations simplify their T+1 operating models and enabling smooth transitions.

Custodians that can provide access to a global pool of instant liquidity will be critical so that parties can instantly settle in USD in New York, for example, ensuring that their capital is available where and when it is needed without the need for slow transfers or for extensive buffers to protect against failed movements. Historically the broker, custodian and cash management were all different discussions and decision points but there is increasing realization — and action by leading banks and custodians — to bring this all together now.

In a world of old systems and new settlement cycles, there simply hasn't been enough time to physically move funds to where they need to be, fast enough.

This has created a significant delta in the opportunities and threats presented by T+1. For those unable to accelerate their cash funding, the challenges of overnight funding costs and of funding gaps risked triggering a major drag on portfolio performance. But for those that can mobilize their cash, T+1 presents an opportunity to reap the benefits of an extra day of funding liquidity, deploying valuable investment cash faster and with greater agility than ever.

Other lessons

But there were of course other lessons to be drawn. A lack of clarity on the sanctions and penalties that would follow poor affirmation performance was cited throughout industry preparations as a challenge and potential obstacle to stakeholder engagement. Equally, the lack of market consensus on securities lending recall deadlines has often been held up as an example of the problems that can occur when the market fails to agree. Finally, the late confirmation of T+1 plans and cut-offs by some market infrastructures is said to have created unnecessary project risks at a critical time, although thankfully these risks did not materialize.

Looking ahead: changing expectations of T+1

The world's transition from T+3 to T+2 settlement cycles is estimated to have taken four years to realize (beginning with Europe's move in 2014 and concluding with the US's move in 2017). In our 2023 survey, we appeared set to match that schedule and in 2024 the outlook remains similarly positive: 95% of respondents expect to have moved away from T+2 settlement cycles within the next five years.

By 2027

But things may move slower than expected. Despite the success of the North American transitions in May 2024, 27% of respondents still expect to be running on T+2 cycles in their own markets by 2027 (see figure 8b), compared with only 8% last year. This rises to 32% in Europe. Overall, one in five respondents believe that T+1 will take longer to realize than a year ago.

This longer time frame is indicative of two core learning points from the last year. First, it was harder than expected to remove 83%[22] of processing time from the North American settlements.

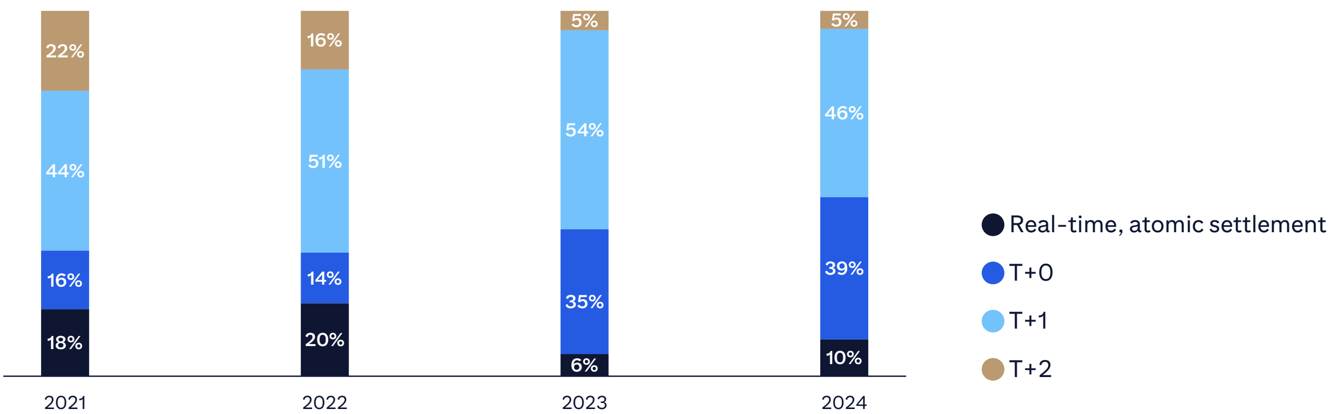
Second, the case for other markets to trigger their own transition to T+1 is still unclear. As we have seen in Australia's detailed consultation on T+1[23], there is a wide perception of value in T+1 at a high level, but few market participants appear to be pressing for it in the short term. The market appears to see the next wave of expected T+1 transitions in Europe (potentially in 2027) as the trigger for the next round of market moves.

While the buy-side and sell-sides seem to disagree on future timings (with asset managers increasingly bullish about T+1, in contrast to their sell-side service providers), it appears that many expect the (anticipated) transitions in the UK and Europe to be the global trigger points for more markets to initiate their own T+1 move.

We don't see the benefits outweighing the costs today based on feedback from stakeholders - and it is not obvious there is a first-mover advantage.

Yao Loong Ng, CFO, Head of Equities — Designate, SGX Group

Figure 8a. Expected settlement cycle in five years



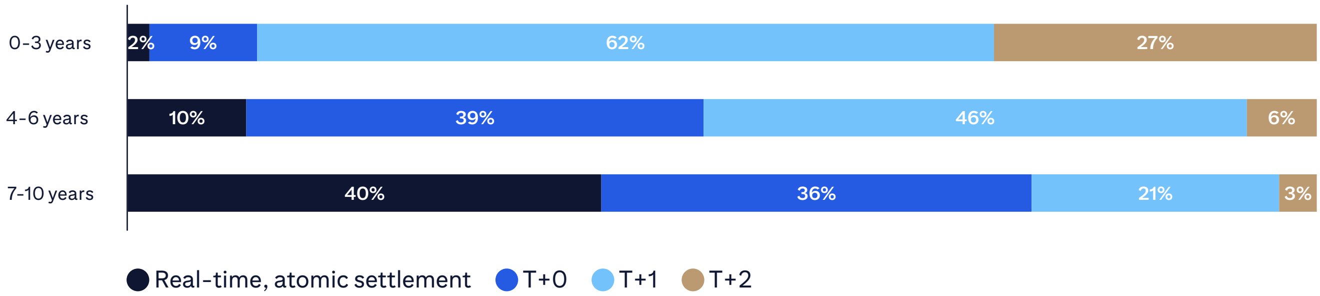
Question: Within the following time frames, what do you expect to be the prevailing settlement time frame for equities in your major markets? **Expressed as**: % of respondents selecting their expected settlement cycle within a five-year time frame. Due to multiple responses allowed, the percentages do not add up to 100%.

And in 10 years
And what happens after T+1? Not necessarily T+0. Over the last year, the number of people expecting to move to real-time, atomic settlements within a decade has risen from 13% to 40% of respondents. This is evident across all geographies, especially in Latin America (where expectations jumped 36% from 2023 to 2024).

Is real-time settlement about to supersede T+0 as the next milestone in our industry's transformation?

> *While we've seen low take up of T+0 settlements in India, it is because we are on beta mode, only for 25 stocks, and institutional participation has not yet been permitted. It seems that retail investors are not in a rush to get their money for now but the need for improved funding costs and liquidity are bound to set in.*
>
> Sriram Krishnan, Chief Business Development Officer, NSE

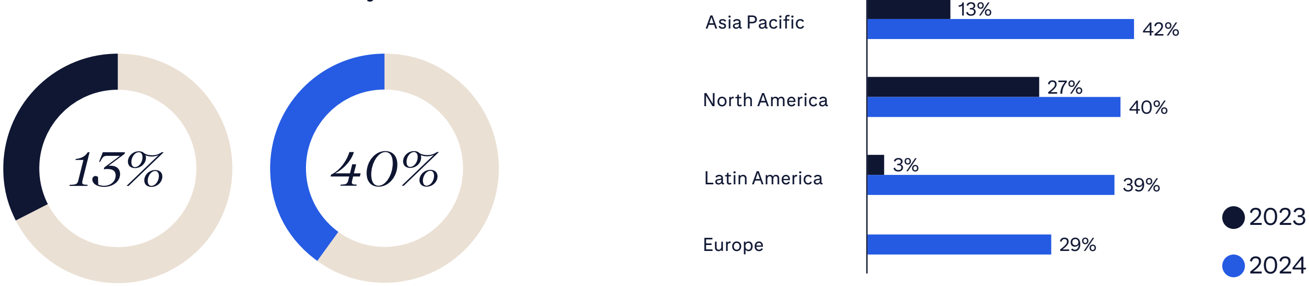
Figure 8b. Expectations of settlement cycles



Question: Within the following time frames, what do you expect to be the prevailing settlement time frame for equities in your major markets?

Figure 8c. Beyond T+1: instant settlements

Real-time settlements within 10 years



Question: Within the following time frames, what do you expect to be the prevailing settlement time frame for equities in your major markets? **Expressed as:** % of respondents expecting real-time settlements within 10 years and by geography.

Next stop: London?

Having published its guidelines for transition in 2027, the UK Accelerated Settlements Task Force appears to have put the UK next in line globally for a T+1 transition.

On timing for transition, there are two camps. The front-office see investment dislocation from the US as a central theme. The back-office see operational dislocation from Europe as a core issue. Both however are driven by the need to harmonize.

Andrew Douglas, UK Accelerated Settlements Task Force

But there is a long way to go before then. With 66% of respondents globally apparently in a low state of readiness for a UK T+1 transition, the industry is clearly back at the beginning of another long road ahead. As seen with the North America transitions, the buy-side is very much unprepared, with 55% indicating that they are not ready, as are 70% of overall respondents in Asia Pacific.

Interestingly, North American firms view themselves as most ready for a UK T+1, with 50% claiming to be in a good state of readiness today. Having been relatively unexposed to the funding and FX challenges involved in their own market transitions, are these market participants perhaps underestimating the size and complexity of adapting to a cross-border T+1 transition?

And where do firms expect to struggle?

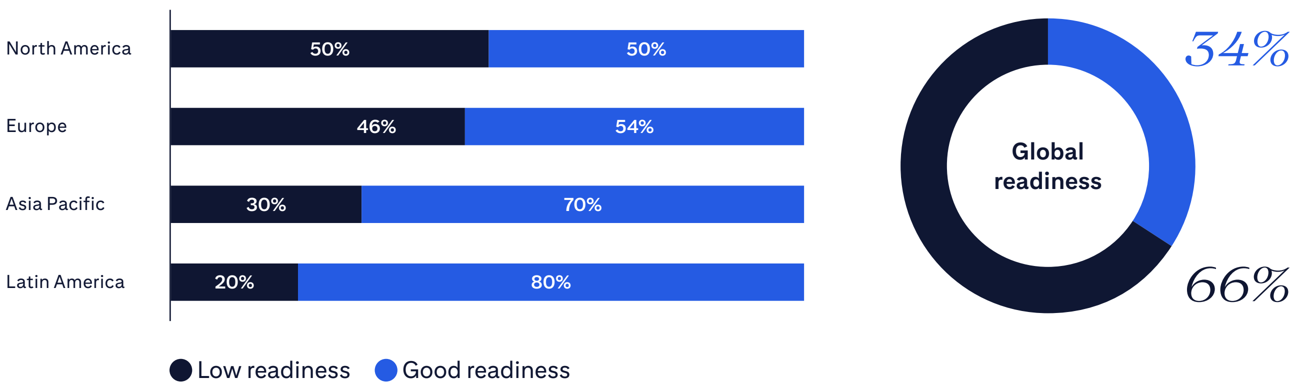
Looking ahead now to the potential UK and European transitions, the industry is learning from its recent experience. Cash, funding and liquidity management remain a top obstacle for both a UK (68%) and Europe transition (59%), with legacy technology in a close second place. Given the higher volumes of foreign investment into the UK than into the US, the funding and liquidity impact is likely to be even greater in this next transition (although the fact that the majority of this liquidity is to the West, not East, is a potential mitigant in timing terms).

But the technology question cannot be overlooked. While the core foundations of the UK market are similar to those of the US (i.e. government debt already settles on a T+1 basis; and the market infrastructures are capable of real-time settlement processing today), 51% of respondents consider existing market infrastructure technology (notably CREST) to be a critical obstacle to a T+1 transition in the UK. Despite the similarities with the US, the absence of any affirmation-like market practices in the UK (among other differences), will undoubtedly require additional focus as the British trade matching and settlement spaces come under scrutiny in 2024 and 2025.

The UK has a higher percentage of overseas investors than the US — so we are particularly sensitive to the need to communicate to a much wider, international audience.

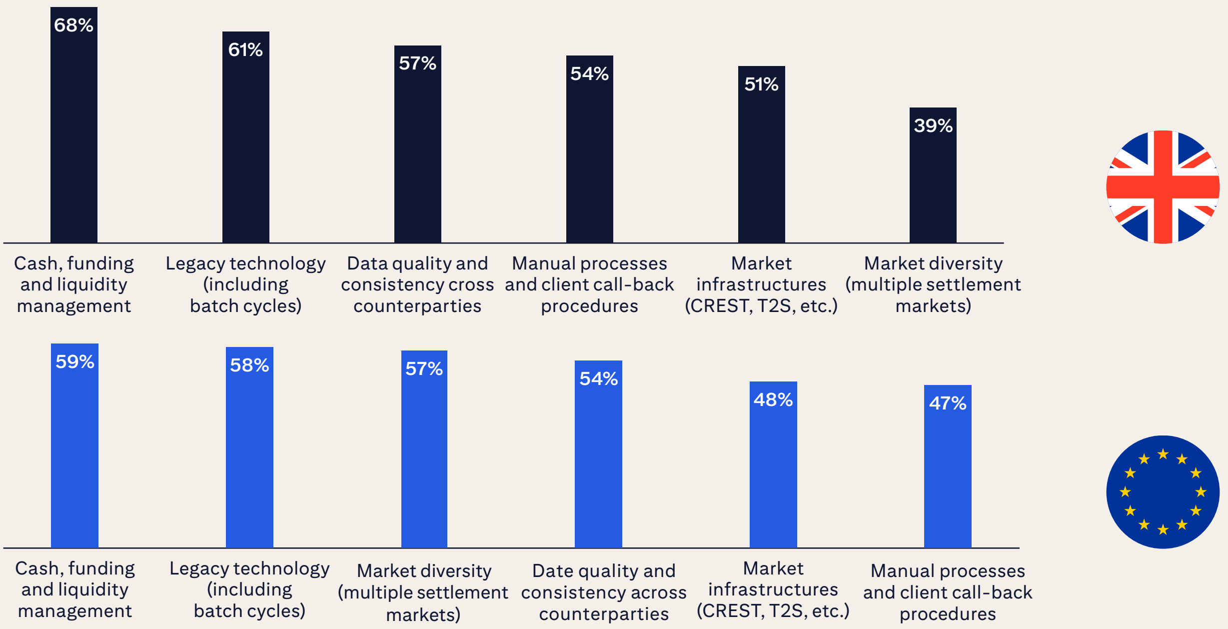
Andrew Douglas, UK Accelerated Settlements Task Force

Figure 9. Industry readiness for a UK T+1 transition by 2026



Question: How would you score your overall readiness for the transition to trade-date processing of all UK trades by 2026?
Expressed as: % of respondents by level of readiness and by region.

Figure 10. Top obstacles to achieving T+1 settlements in the UK and Europe



Question: In your opinion, what are the top three obstacles to achieving T+1 in the UK and in European markets?
Expressed as: % of respondents citing each area as top three.

Similar concerns are echoed for the prospect of a European transition to T+1, albeit with a multiplying effect of relying on nearly 40 different FMIs, rather than one in the UK. While 57% of respondents expect to struggle with their market infrastructures in a European transition, the same number again also expect market diversity in Europe (in terms of national laws, rules and practices) to be their core obstacle to a smooth transition. Even as people begin to prepare for a European T+1 transition, it is clear that Europe's diversity is its biggest challenge in a T+1 context, causing significant issues for the majority of respondents.

[Our Group European exchanges] all run on the same trading technology and have access to the same liquidity pool. We are contributing to a true capital market union, while keeping strong ties in local communities. Yet when you look at the post-trade side of the value chain in Europe, it's still extremely fragmented. We have several clearing houses supporting our markets, and over 30 national CSDs [Central Securities Depositories]. It's on a different scale in terms of complexity.

Roberto Pecora, CEO, Euronext Clearing

As the UK Accelerated Settlement Taskforce, European Securities and Markets Authority (ESMA) and the Australian Securities Exchange (ASX) all conclude their own evaluations of T+1 for their respective markets, these factors will no doubt form part of expected decisions on transition dates, due before the end of 2024.

So who goes next?

In Asia, the relative ease of the transitions in May have triggered a wave of outreach across several markets including Hong Kong, Japan, Singapore, South Korea and Taiwan — as regulators have sought to quantify the impact of a transition in their own markets. In Latin America, working conversations continue in Brazil, while a T+1 transition in the nuam markets (Chile, Colombia and Peru) is still expected in 2025.[24]

Across all markets, the question of alignment (in the timing of a transition) is a critical concern. With fund gaps (between T+1 and T+2 markets) presenting themselves clearly as an outcome of recent transitions, many authorities are keen to avoid unnecessarily creating new additional costs to foreign investors. For this reason, authorities in the UK, the European Union and Switzerland will be following each other closely, as will those in Australia and New Zealand in their own move. Meanwhile in Asia, regulators have already begun discussions on a potential, coordinated, regional transition date.

DLT and digital assets

A year of focus and execution

In 2023, the industry witnessed DLT and digital assets on the verge of transition. In the immediate aftermath of significant issues in the crypto markets in 2022[25], momentum appearedto be sustained, with ever-higher numbers of (mainly financial institutions) continuing their DLT and digital asset investments in 2023.

This year, digital adoption is happening at different speeds around the world. Respondents in Europe (17%), Latin America (17%) and Asia Pacific (12%) indicated they are now live with commercial scale offerings as these regions continue to be the engine rooms of commercial DLT and digital asset activity, with strong growth across both digital assets and DLT (including tokenization). In North America, while digital assets have remained a core area of focus, levels of live activity have dropped significantly in North America, from 80% engaged in 2023 to only 40% in 2024 (albeit with the highest rate of proof of concepts of any region this year).

Digital assets: regulation can be an enabler to growth

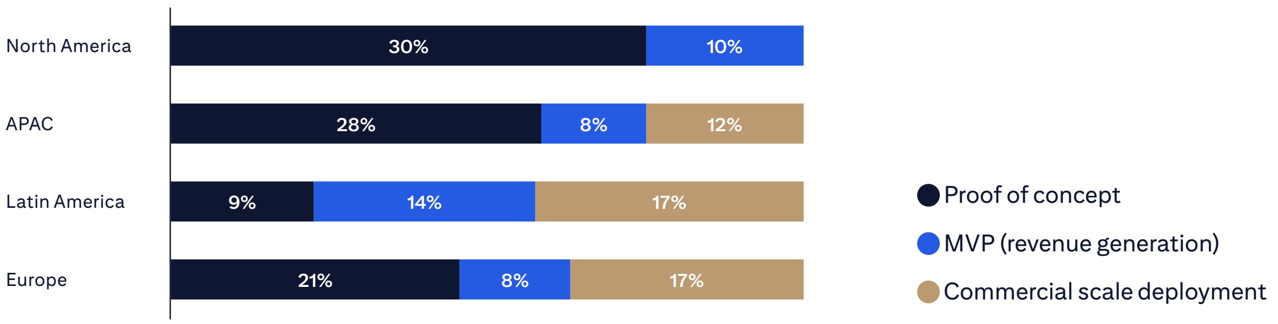
Nowhere is the duality of speeds clearer than in the digital asset space. Digital asset activity is thriving in markets where the preference is to regulate it rather than to prevent it. In Europe, regulatory clarity through Markets in Crypto Assets Regulation (MICA) and a range of national regulations has led to over 17% of respondents being live offering cryptocurrencies at a commercial scale today.

In Asia, 12% are live at commercial scale, with a further 36% investing in pilots and minimum-viable-product (MVP) deployments to explore more growth opportunities (figure 11). In both regions, cryptocurrencies are expected to be the fastest growing digital asset class, with up to a quarter of respondents singling it out as the core growth driver of digital assets in the future.

By contrast, significant regulatory headwinds in the US are continuing to cause challenges to the institutional adoption of digital assets (outside of a Bitcoin or Ethereum ETF structure), with the number of respondents working on cryptocurrency and digital asset initiatives declining sharply, from 81% in 2023 to 40% in 2024.

On the service provider side, 21% of custodians are now live with commercial solutions for digital assets and DLT, with almost two thirds of custodians working more broadly on the technology today. In particular, a growing number of these custodians are now live, offering digital asset custody (from 16% in 2023 to 23% in 2024), marking a major turning point in the market's ability to provide safe keeping for the world's digital securities. After years of building, advocacy and approvals, a key part of the digital asset ecosystem is falling into place.

Figure 11. Different objectives across geographies for digital assets and DLT initiative



Question: In 2024, what is your primary business objective for your digital asset/DLT initiatives? **Expressed as:** % of respondents per region, excluding those with no activity.

Meanwhile brokers appear to be investing in DLT as a technology, with the aim of simplifying workflows in collateral and lending spaces above all. 53% of brokers are continuing to run proof-of-concepts around DLT usage in 2024 (in a significant increase from 39% last year), with a further 7% already live with commercial deployments.

Sovereign bonds: laying the foundations of a digital economy

Supranational and municipal debt issuances are the standard bearer for DLT today. The World Bank seven-year bond settling in wholesales CBDC on SDX was a big statement to the market of long-term intent — building confidence in the market and in unlocking volumes.

David Newns, CEO, SDX

Since 2019, over USD15 billion dollars have been issued to date in institutional digital assets.[26] Of those assets, over USD8.5 billion have been bonds and, of those bonds, 54% have been issued by central banks and supranational institutions, such as the World Bank or European Investment Bank (EIB).

The leadership role that several of the world's sovereign institutions play in the issuance of digital securities should not be under-estimated, as it is laying the foundations for the entire digital economy. As we have seen in the past, high-profile, sovereign bond issuances have forced the banks and capital markets to operationalize their digital asset capabilities (in a real and live context), driving education and creating a point of execution for the industry. They have also added important credibility to the digital asset ecosystem by underlining their long-term commitment to digital debt raising. Finally, they have created new digital liquidity that can form the basis for future market trading and activity.

For all of these reasons, the continued issuances of bonds in 2024 by the Hong Kong Monetary Authority (HKMA), the World Bank, the EIB and the Cassa Depositi e Prestiti SpA (CDP) in Italy have strengthened the foundations of our digital capital markets in the last year. With recent ValueExchange research[27] highlighting that 70% of sell-side DLT and digital asset activity is now focused on fixed income, there is clear evidence that this leadership is having its desired effect.

Building digital liquidity: solving a USD15 billion problem

As successful as sovereign bond issuances have been in catalyzing the capital markets around DLT, the challenge is that the majority of the digital bonds issued today now remain in millions of digital wallets, held by asset managers and by individual investors across the world.

Without a robust and liquid marketplace for digital assets, one investor's digital bond can not easily be exchanged for digital cash or for other digital securities. They remain isolated. As a result, the bond is more expensive to hold. As the volume of these digital issuances grows (by USD3.8 billion in 2024[28]), the cost of this isolated and immobile liquidity is growing and is a core impediment today to the use of digital assets for 47% of respondents (up from 34% in 2023) (figure 16a).

The launch of the Canton network (bringing together 45 firms on a single blockchain network) and the increasing, bilateral compatibility of platforms (Fnality with HQLAx, etc.) are clear examples that digital liquidity is gradually converging to help make digital assets more mobile. But as long as this liquidity is managed separately from traditional market liquidity, the growth of digital assets will continue to create as many costs as it removes — given that it requires firms to run two parallel infrastructures at once. And with both types of assets due to exist for the foreseeable future, there is no point of consolidation on the horizon.

A more compelling solution is to avoid forcing investors to choose between traditional and digital liquidity. Neither profile of asset is cost-effective to issue, efficient to hold, liquid to transfer and then highly performing in terms of data-driven rules and management, and so the ideal answer is to connect and "bridge" these two worlds of liquidity.

For this reason, SIX and SDX have built out their market model based on the principle of duality and interoperability, where everything issued in the digital market can be made available in the traditional market and vice versa. Similarly, Clearstream are making their traditional CSD inventory digitally available in D7 and as tokens in the European Central Bank (ECB) trials. In these markets, natively issued digital bonds can be exchanged for other natively digital securities, for fiat cash, for other tokenized securities or even for digital cash (including Central Bank Digital Currencies, or CBDCs), creating a pool of interchangeable liquidity that delivers the best of traditional and digital assets to market participants, without imposing downside costs. What's more, it can be accessed using today's legacy platforms (as Clearstream's use of T2S and SDX's use of SIS and SIC demonstrate).

Leveraging these new market infrastructures, the USD15 billion in digital bond issuance can be both mobile and cost effective across the investment cycle. "So long as there is no downside versus traditional securities then there is no reason not to issue digitally. That's why a bridge into a parallel, traditional infrastructure is so critical. From there you can then add on new functionality like enriched securities data (for green bonds), automated lifecycle events, etc," shares Newns.

Tokenization is today's key to execution

From a practical perspective, tokenization is the key enabler in bridging the worlds of digital and traditional assets, offering traditional market liquidity and digital market mobility and programmability.

New global standards, such as the Bank for International Settlements' (BIS) prudential standard on banks' exposures to cryptoassets (SCO60: Cryptoasset exposures)[29], would likely provide some clarity on which issuers and tokenizers could build. For instance, by creating alignment in the balance sheet treatment of traditional and corresponding tokenized assets, BIS' prudential standard could potentially support the eventual convergence of tokenized and traditional liquidity.

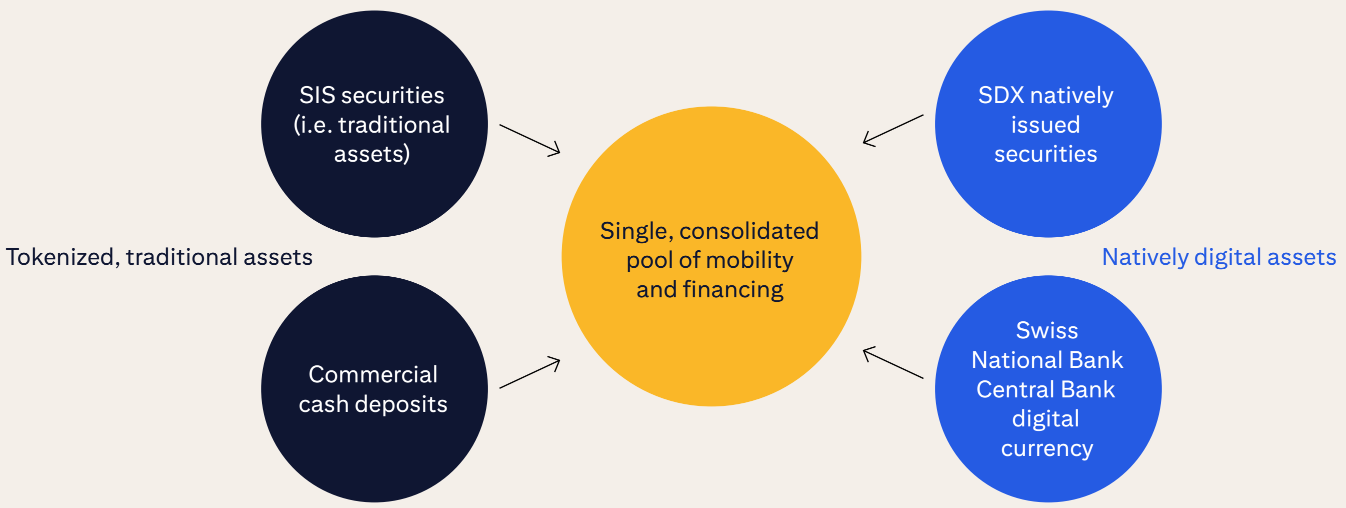
With growing regulatory clarity, industry focus is growing on the opportunity for tokenization in collateral mobility, fund distribution and private asset markets. In 2024, 62% of sell-side respondents are focusing their DLT and digital asset efforts on tokenization (of these and other asset classes), versus only 8% for natively digital security issuance.

Tokenization is ready for action, while native digital issuance will take more time.

"We need to be able to operate on a principle of same asset, same risk, same regulation."

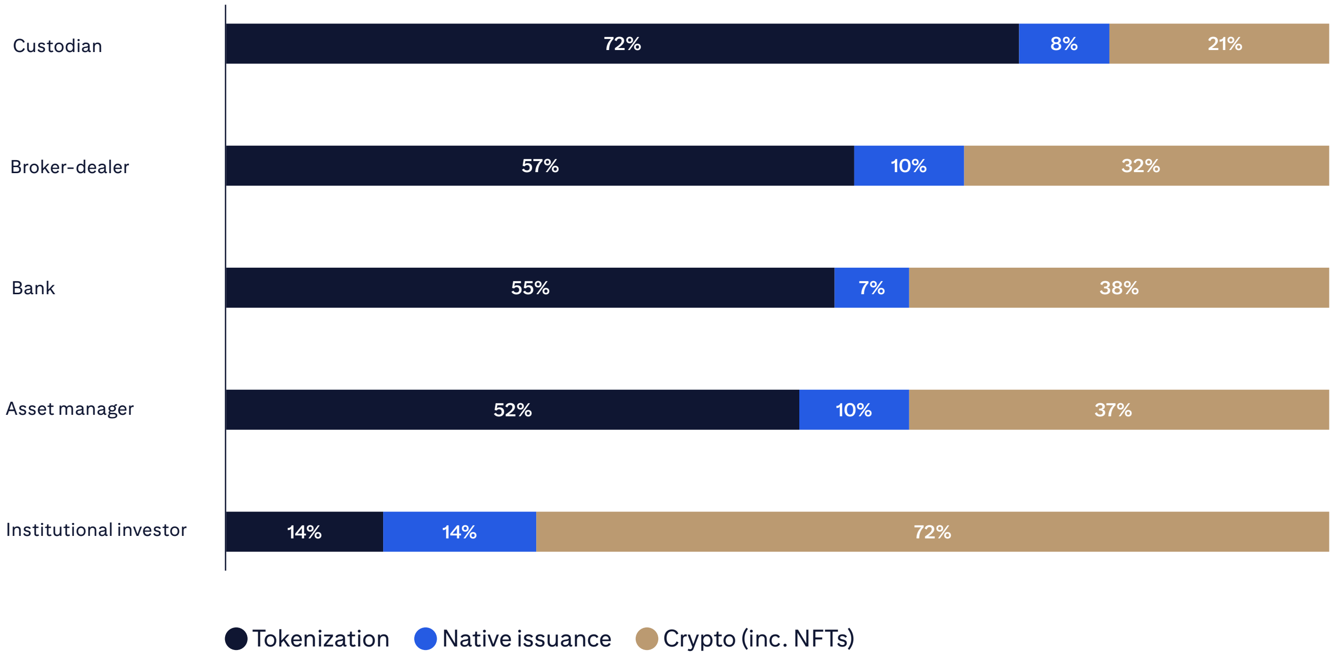
Nadine Chakar, Global Head of Digital Assets, DTCC

Tradable assets within the SIX group



From a legal perspective, "SIS securities" and "SDX digital natively issued securities" are the same, namely intermediated securities within the meaning of Art. 3 of the Swiss FISA regulation. In other words, the distinction in relation to the operational form does not exist nor matter legally. Source: SDX.

Figure 12. Digital asset and tokenization activity



Question: Looking at digital assets/tokenization of assets, where do you think the fastest growth is going to be? **Expressed as**: % of respondents working on initiatives to tokenize, natively issue or work with crypto-assets, per segment. % do not add up to 100 due to rounding.

Mobility: the growing value of DLT and digital assets

The more we tokenize, the more we begin to appreciate the benefits of DLT, which extend well beyond operational savings in the back office.

Numerous bond issuances have provided the industry with extensive evidence of the operational efficiencies that DLT can help to realize. We know now that DLT can enable faster documentation negotiations, that it can help to automate up to 2,000[30] tasks in the issuance process, that it can save 800 to 1,000 person-hours during issuance and that it can reduce book closing periods by over 50%.[31]

But as the industry leverages tokenization to mobilize securities (rather than just issue them), there is a growing awareness of DLT's additional benefits in a transactional, secondary market context.

DLT-based collateral management and repo platforms are now transacting trillions of dollars a month in tokenized liquidity, saving treasurers and balance sheet managers millions of dollars, not on headcounts but on the costs of risk-weighted assets and the costs of overnight funding. Tokenized money market funds are giving asset managers access to millions of dollars in assets under management, without the high costs of processing or distribution.[32]

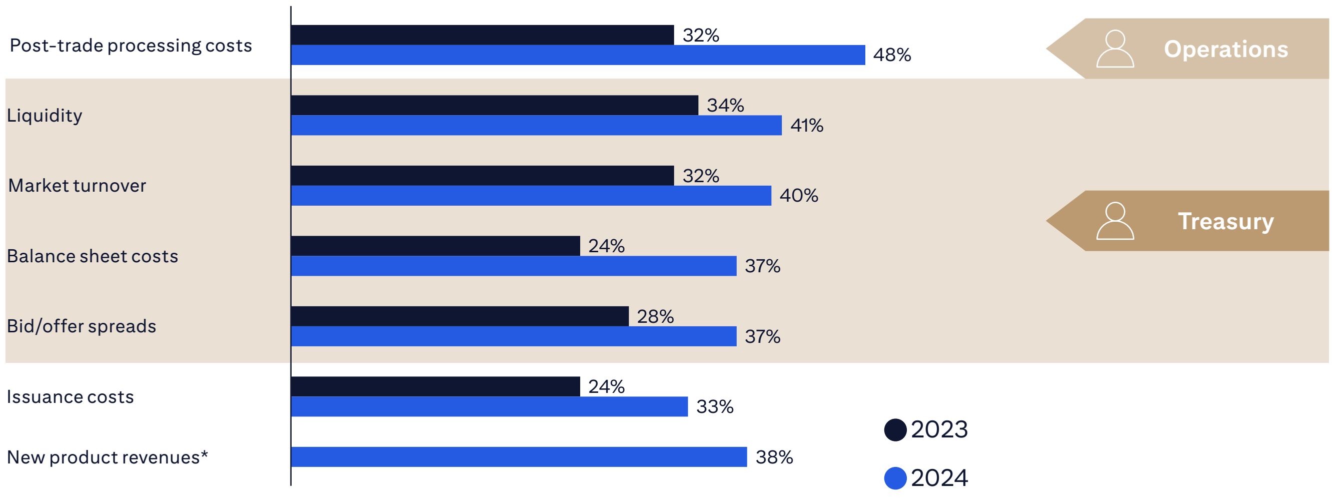
With these benefits increasingly evident, more people see DLT as significantly impacting market turnover in 2024 (by increasing secondary market and financing liquidity) than ever before. And with greater turnover, bid/offer spreads are ultimately reduced (figure 13a).

Not only is the case for DLT and tokenization shifting from operational savings to liquidity, it is also growing in its appeal to treasurers and sales teams across the industry. Balance sheet savings and new distribution revenues are the next stage of the tokenization business case.

"DLT's existing benefits are not as interesting as those which are presented to treasury — but all the foundational work in terms of building out the regulated blockchain network and bringing on a critical mass of participants onto that network else has to happen first. Now that we have achieved digital equivalence, we can move on to digital supremacy. That is the next phase," shared Newns.

While DLT's core impact in 2024 continues to be in post-trade processing costs, the benefit to treasurers is adding a significant new dimension to the business case.

Figure 13a. Growing value of a DLT-based market structure



Question: Please rate the extent to which you think a DLT-based market structure could impact the following variables.
Expressed as: % of respondents citing significant impact to each area, YoY change. *New category in 2024.

The buy-side's entry into DLT

Today, Blackrock's BUIDL (a tokenized money-market fund, backed by US Treasuries) has reached over USD520 million in assets under management[33] (in only five months). Fidelity, Franklin Templeton, WisdomTree and other leading asset managers have also issued their own tokenized money-market funds in the last year.

After years of relative inactivity on DLT and digital assets, the buy-side is now beginning to take significant, commercial steps in adopting this technology.

The application of DLT and tokenization to mutual fund subscriptions and redemptions is not a new idea. In the face of heavily manual, cost intensive and error prone transfers, the value of DLT and tokenization in enabling atomic and highly automated transaction processing is significant and has triggered pilots by many market technology providers (including Clearstream's FundsDLT, Allfunds and Calastone).

For asset managers today, leveraging tokenization to make order processing more cost and time-efficient is only a small part of the objective. The larger prize is the disruption that these funds can bring to the funds distribution industry. By targeting retail investors directly and by bypassing the heavily intermediated fund distribution ecosystem (that includes retail investment advisors, banks and others), asset managers can not only transact better but they can also radically transform their connectivity to end investors, removing further cost and inefficiencies in the process.

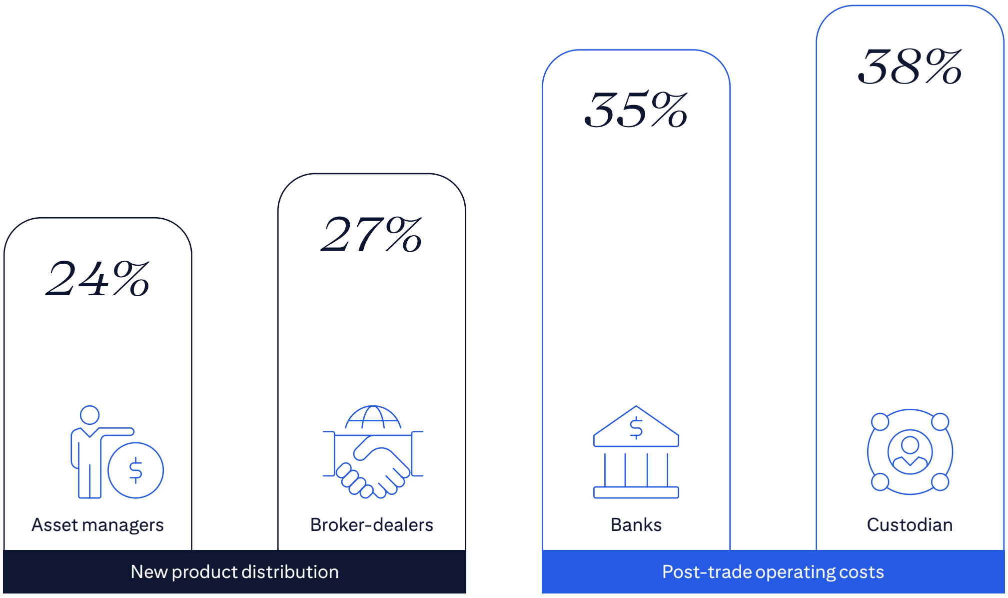
For this reason, the ability to distribute fund products more effectively is now perceived by (mainly US) asset managers as the single most impactful capability of DLT today.

Funds and collateral: unexpected convergence

As digital marketplaces have continued to evolve, the continuing absence of viable, central bank cash for DLT transactions (i.e. CBDCs) has become an increasingly pressing issue for many banks and DLT application providers. Without a usable cash solution, it is impossible to exchange digital securities in a true, delivery-versus-payment (DVP) mode — creating a growing appetite for tactical options that could potentially support digital DVP. While bank-issued stablecoins have provided some help in this space, their perceived benefit is limited to proprietary chains, which means they are not interoperable. Without a CBDC, how can we exchange value in a way that is transparent (from a structural and counterparty risk perspective) and is not tied to any one chain or application?

Enter the tokenized money market fund. Around 13% of banks and custodians surveyed are now looking to use tokenized money market funds as their cash mechanisms, making them the most desirable funding option after CBDCs for the world's largest users of institutional funding. By providing interchangeable, highly mobile and resilient tokens to support the exchange of value across chains, the story and potential value of tokenized (money market) funds continues to get better for the asset managers that are pressing ahead to issue them.

Figure 13b. Impact of a DLT-based market structure across segments



Question: Please rate the extent to which you think a DLT-based market structure could impact the following variables.
Expressed as: % of respondents by segment type selecting #1 factor, based on average impact.

Which kind of network will power this growth? Client location matters

On which blockchains can we expect to run this growing volume of tokenization? And where do permissioned versus permissionless chains play a role?

Not surprisingly, the industry is far from reaching a consensus on this point, driven as it is by differing business objectives and, ultimately, the network choice of their end-clients.

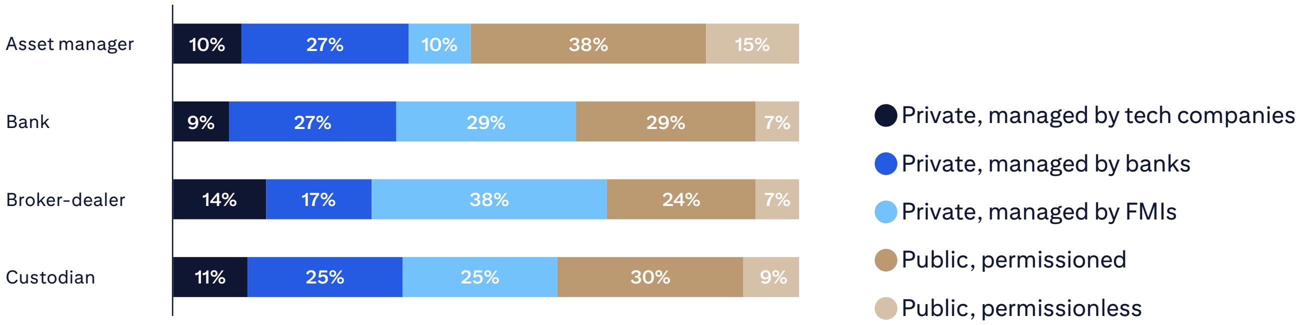
On the institutional side, the interconnected world of heavily regulated banks and brokers is and will remain on private blockchains for some time, with 64% of sell-side respondents opting for one form of private blockchain today (figure 4). While firms understand the inherent conflict that this choice creates with interoperability (i.e. that more private networks mean more “islands” of disconnected liquidity), they see this as an inevitable step in their journey. Given the industry’s stringent regulations around cyber-resilience, including the Digital Operational Resilience Act (DORA) in the European Union, the opportunity for risk-taking in one’s choice of networks has clearly passed. Security matters more than liquidity for now.

In this context of heightened security and resiliency concerns, it is perhaps not surprising that 29% of sell-side respondents (who are almost always FMI participants and members today) see FMIs as the natural provider of blockchain infrastructure to the industry, making it the preferred network option for this group today. If the established role of an FMI is to provide regulated, standardized and resilient infrastructures, the provision of blockchain platforms (and tokenization capabilities) appears to be highly consistent with these goals.

And if firms are already connected to FMIs today, then working with them to scale into digital assets is a comparatively easy step. Perhaps for this reason, the sell-side is especially enthusiastic about FMIs solving for private and alternative assets (especially in North America), with 39% of overall respondents wanting FMIs to manage their digital private assets.

But outside of the world of exchange members and clearing participants, there is a strong desire to explore the world of public networks more actively. While around one quarter of asset managers see bank-run blockchains as inevitable, 53% of them prefer public chains (with a split of 38% permissioned and 15% permissionless) (figure 14). With a focus on enabling distribution of mainly crypto-currency and fund products to the wider retail markets, asset managers (and wealth managers) are clearly looking to optimize the world’s open networks as much as possible as part of their disruption strategies.

Figure 14. Network preference by segment



Question: For the following asset classes, which type of networks do you expect to use? **Expressed as**: % of respondents by segment.

These network choices put the two sides of the capital markets on potentially divergent paths in the short term. With banks exchanging trillions of dollars in collateral with other banks over private networks, and funds taking millions in retail subscriptions to their tokenized funds over public networks this year, the need for solutions and providers to bridge these divides is growing.

Bridging this divide are custodians, whose activities span all of these functions, from collateral to fund distribution and crypto-custody. Faced with these divergent client requirements (based on their target end-investors), securities services providers appear strongly focused on ensuring safe, resilient and universal access to all client profiles as their priority. This sentiment is reflected in the 30% of custodians surveyed who see public, permissioned networks as their preferred network option today.

The cash leg: moving past CBDCs

Closely tied to the question of network choices is the question of how to provide a viable cash mechanism to support digital payments today.

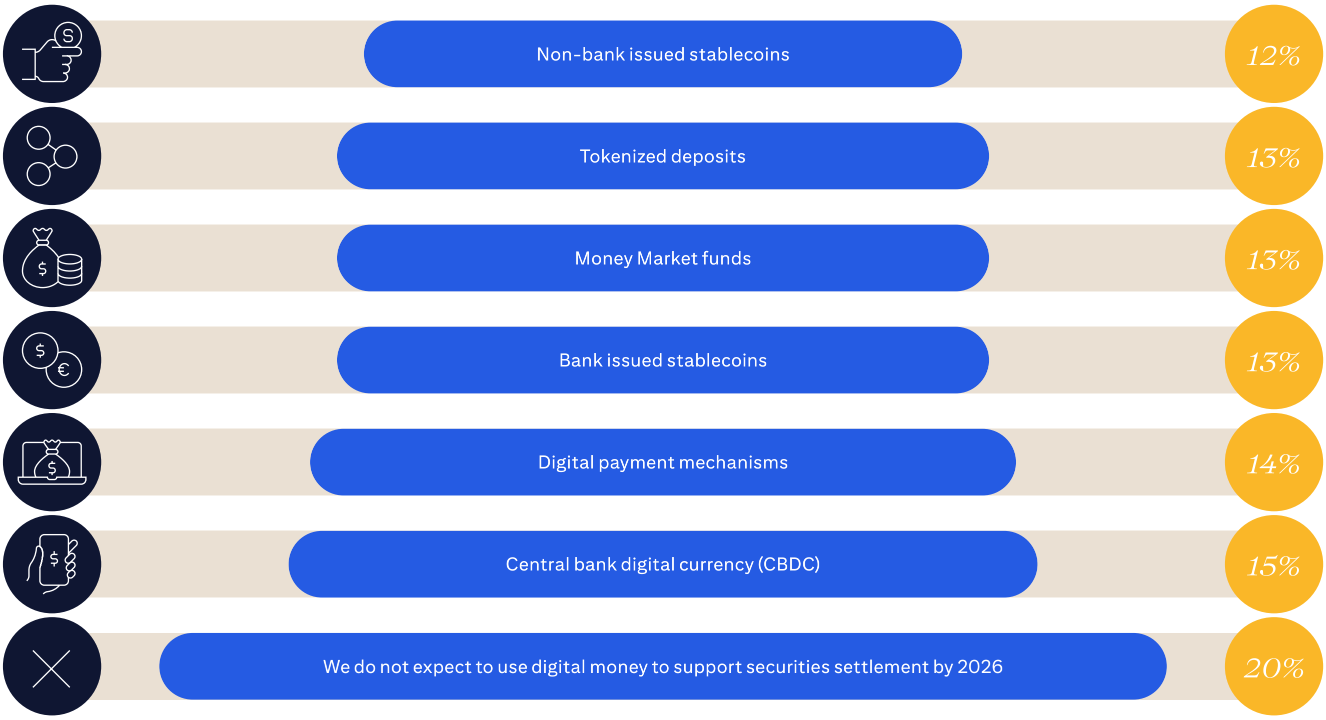
Since 2022, around half of the industry has consistently stated its preference for CBDCs as its form of digital cash (with 49% of respondents citing it as their chosen mechanism in 2022 and 52% in 2023). The balance sheet appeal of central bank cash, combined with its transparency (versus bank stablecoins) has made it the natural choice for many as they build out their digital asset roadmaps.

But while experimentation has continued across different markets, including the Bank of International Settlements' (BIS) Project mBridge[34], it is increasingly clear that a live, wholesale CBDC, capable of supporting cross-border payments, is not a short-term prospect. As the Swiss National Bank's Project Helvetia[35] underscored this year, CBDC development is more than just the management of a currency: it also raises new questions about how central banks can continue to fulfill their currency oversight responsibilities, when their currency settlement is being run through third party platforms (such as SDX). Equally what will happen to banks' balances when pension funds and asset owners are able to keep their cash investments in CBDC? How will that impact banking liquidity? The due diligence list for CBDC development is long.

In 2024, this reality appears to have combined with the practical need for progress in digital cash to drive a significant change in attitudes. From 52% in 2023, only 15% of respondents are now still relying on CBDCs as their digital cash option in 2024 (figure 15a). Instead of waiting, 65% are now progressing with other, more tactical options that are available today (including stablecoins, tokenized deposits, digital payment systems and tokenized money market funds).

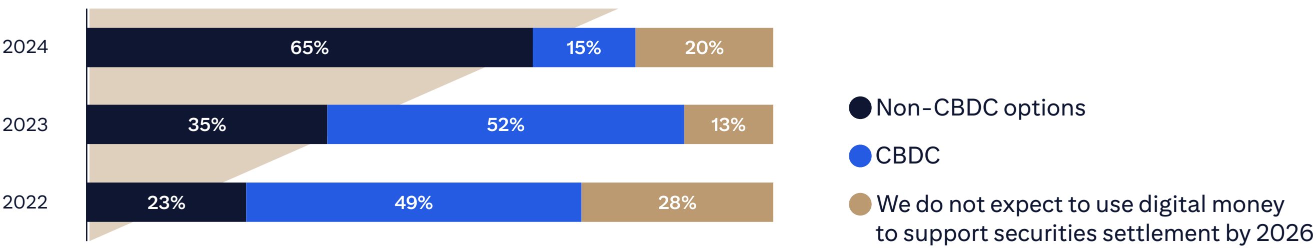
Outside CBDCs, there is no single, strongly preferred option — and today's digital payment engines will have to be comfortable using a multitude of mechanisms from digital infrastructures such as Fnality to tokenized money market funds, bank-issued stablecoins, tokenized deposits and non-bank-issued stablecoins (each of which is the preferred option for 12-15% of respondents).

Figure 15a. Preferred digital cash options for securities settlements



Question: How do you plan to support the cash leg of your (digital) securities settlements (in the majority of your markets) by 2026? **Expressed as**: % of respondents planning to use each option.

Figure 15b. The growth of non-CBDC cash



Question: How do you plan to support the cash leg of your (digital) securities settlements (in the majority of your markets) by 2026? **Expressed as**: % of respondents who selected cash options by survey year.

How to accelerate digital transformation?

Across the industry, three core dependencies are limiting further digital adoption today: regulatory clarity, interoperability and internal approvals.

The regulatory (and accounting) framework within which digital assets operate continues to consume vast resources for many digital leaders (particularly in nascent areas such as the definition of carbon credits [36]). But while clarity remains the top dependency for over half of respondents, the issue is less acute (falling from 77% to 59% of respondents citing it year on year). Both buy- and sell-side respondents agree that progress made across key jurisdictions in Europe (notably Luxembourg, the UK and Germany), in Asia (in Hong Kong and Singapore) and even in North America (in the case of the Bitcoin ETF ruling [37]) has given firms the clarity they need to move into more commercial use of DLT and digital assets.

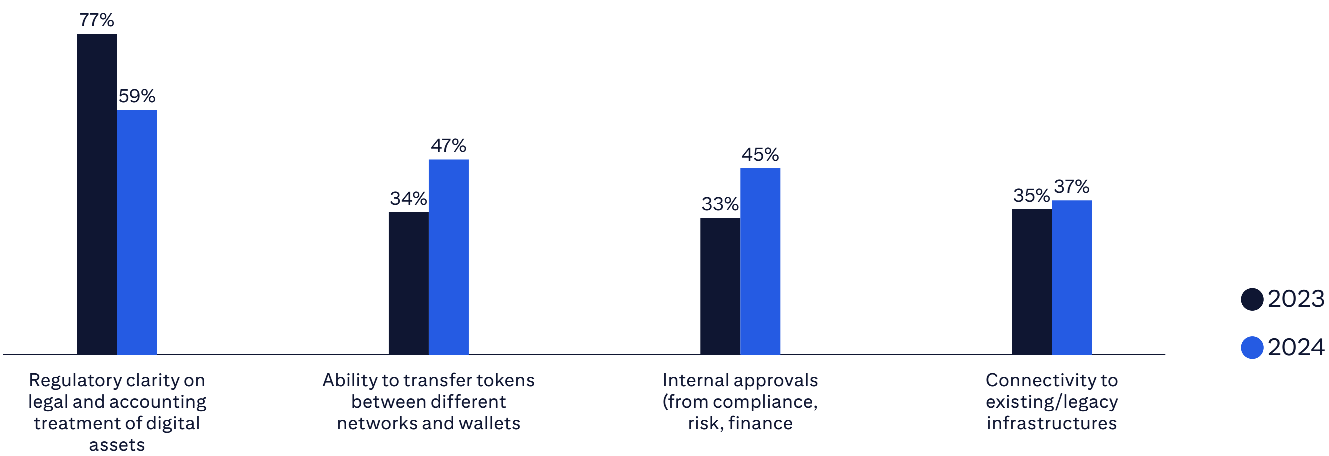
Once issued, the transferability and interoperability of digital assets continues to be a dominant concern, especially for the sell-side with 31% of respondents citing it in 2023 and 49% now seeing it as a core dependency for growth. As explained above, this growing pressure is partly explained by the conflicting trends of increasing digital issuance (and tokenization) and the growing use of private blockchains. In continuing to prioritize network security over interoperability, the industry is adding to the isolated pools of liquidity (almost) with each issuance. Meaningful progress on this issue is therefore contingent on the industry's ability to form a common view of how to balance security and liquidity concerns — whether that be through partnering with FMIs as network providers or through increased adoption of public networks.

Ensuring internal approvals continues to be a key dependency to enable the widespread use of digital assets, highlighting the need to continue engaging risk, legal and compliance teams. As the commercial intent behind DLT and digital assets grows in 2024 and beyond, the need to ensure complex initiatives are well understood across the enterprise is increasingly clear — driving a need for continued stakeholder education as a foundation to every digital asset initiative.

Technology implementation is not really the biggest lift. The most significant lift we see for an organization is represented by the extensive nature of the workshops our onboarding team run with a prospective member's risk, compliance and legal representatives all of whom need to integrate the various aspects of the technology into their control environment.

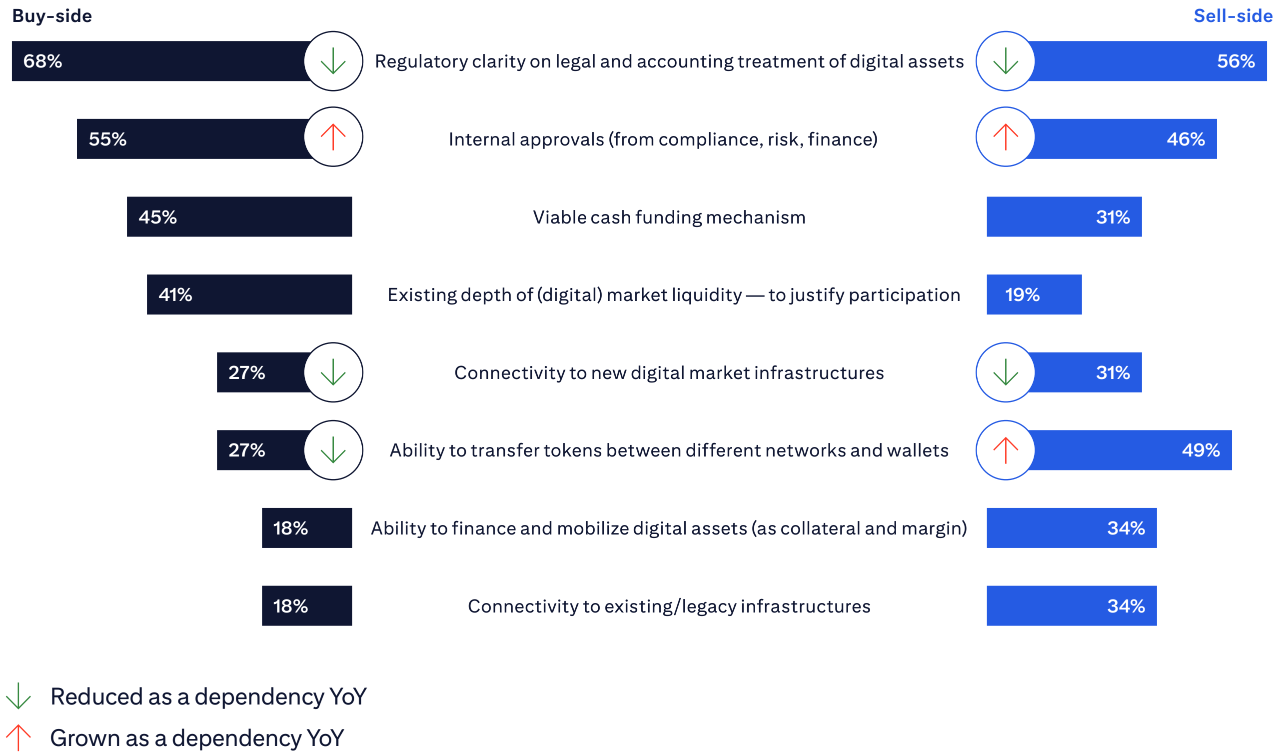
David Newns, CEO, SDX

Figure 16a. Enabling the widespread use of digital assets



Question: What are your top three dependencies in enabling the widespread use of digital assets in the next three years?
Expressed as: % of respondents citing each dependency as a top three.

Figure 16b. Key dependencies for the buy-side and sell-side in using digital assets



Question: What are your top three dependencies in enabling the widespread use of digital assets in the next three years?

2024 across the world: what does this all mean for your region?

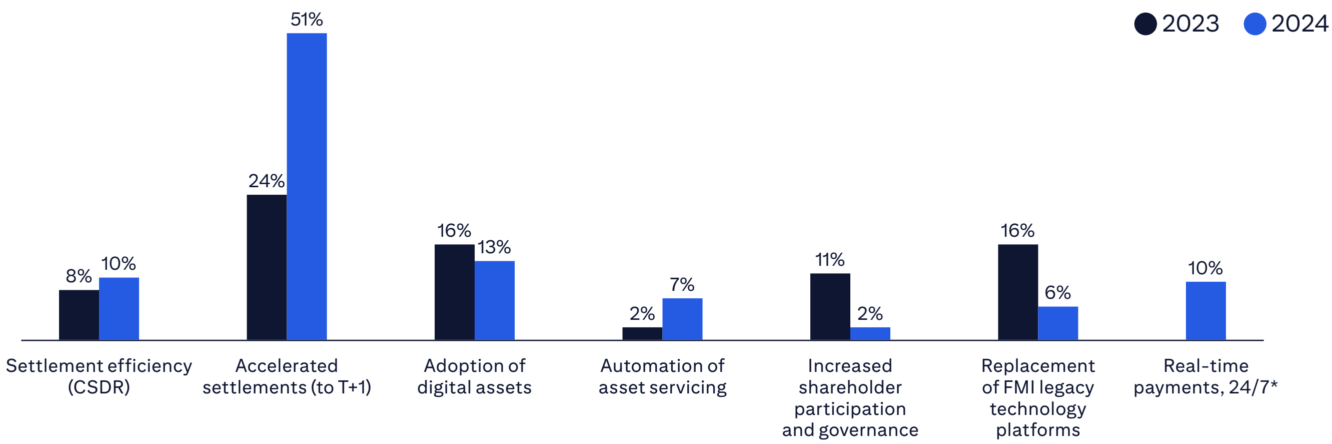
Europe: T+1 dominates

If there was any doubt about the close links between European investors and the North American markets, this year has made that relationship clear. No other region has been as preoccupied by T+1 in the last year as Europe — with 51% of respondents citing it as the most impactful post-trade priority in our survey. That this number is double the percentage from 2023 is indication of both how late many Europeans were to the T+1 project and of how profoundly it has impacted them.

Even now, having safely navigated the complexities of funding US trades and managing lending recalls in the middle of the night, European funds are grappling with the next pressing issue: how to do it again in their home markets? From London to Frankfurt, Paris and Brussels, industry engagement around UK and European transitions have quickly taken the place of North American preparations, leaving many with little pause for breath.

T+1's dominance has also overshadowed a number of home-grown initiatives in the last year, most notably the European Central Securities Depositories Regulation (CSDR), with 10% of respondents seeing the latter as the most impactful priority this year (up from 8% last year). As the settlement penalties introduced in 2022 have begun to take effect, firms have now begun to realize significant reductions in the volume of trade fails. The key question now is how to realize further efficiencies within the existing penalties structure — so that we avoid a collision course between settlement discipline and accelerated settlement.

Figure 17. Most significant changes in the European post-trade space today



Question: What do you consider to be the most significant changes in the post-trade space today — based on impact to your business? **Expressed as**: % of respondents in Europe citing each change, excluding others. *New category in 2024.

An intensified penalty regime combined with a shortened settlement cycle in T+1 is not a good idea.

Dirk Loscher, CEO, Clearstream Banking AG

Importantly, while European focus on asset servicing automation has tripled in 2024 (to 7% of respondents citing it as top priority), levels of engagement are still low in comparison with the level of regulatory attention that this area is receiving. As firms struggle to contend with the combination of new, regulatory deadlines (including the ECMS) and existing ones (notably SRD II), the potential workload in this space is significant. Yet without the same levels of penalty structures as we have seen in CSDR, for example, the case for industry action still appears unclear to many.

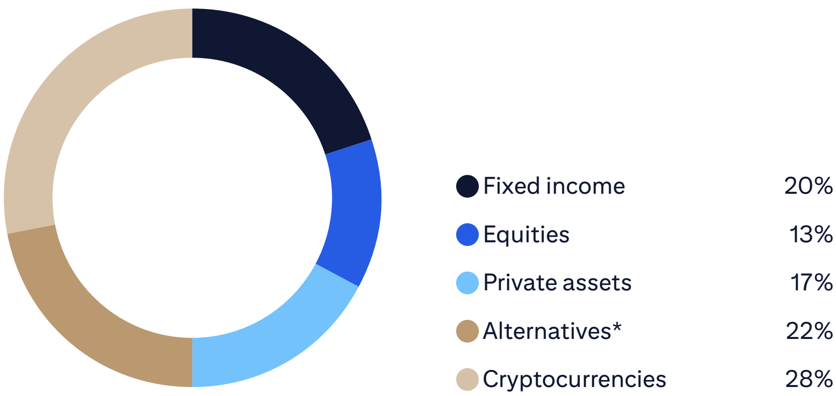
In the digital arena, the huge range of market and regulatory initiatives in European DLT and digital asset space is also commanding attention, with 13% of respondents citing it as their top priority (second only to T+1 and almost unchanged from 2023). With growing numbers of European firms now live on DLT and digital assets, domiciles such as Luxembourg and the UK, the perceived impact of DLT is higher in Europe than anywhere else in the world with 18% of European respondents seeing DLT and digital assets as having a significant impact on their businesses (up from 6% in 2023). Similarly, fewer respondents are waiting for CBDCs to be live in Europe than anywhere else in the world, with only 10% held up today by the absence of central bank cash on chain.

With development initiatives such the ECB's DLT trials drawing in 49 European banks and FMIs, it is no surprise that firms see this space as worthy of significant attention.

Looking ahead, the European digital narrative is mixed. In the retail and wealth spaces, crypto-assets (cryptocurrencies and NFTs) look set to continue their growth, alongside the tokenization of real estate and physical assets with 28% and 22% of European respondents singling out these asset classes as being fastest growing for them in our survey (figure 18). With several German and Swiss wealth managers and banks driving progress in tokenized, fractionalized real estate, these assets are increasingly likely to be showing up in wealth portfolios from 2025 onwards. In the European institutional space, the build out of the digital fixed income lifecycle across issuance, trading and financing will continue apace.

Alongside the ECB DLT trials and the continuing CBDC work by many of the region's central banks, we can expect more sovereign debt issuance (including a potential Digital Gilt, or UK government bond) to feed an increasingly mature collateral ecosystem (that includes HQLAx as providers), delivering increasing efficiencies to banks and investors across the region. Given the fact that 30% of Europeans today see limitations around digital market liquidity as one of their core impediments to adoption, this continuing growth in European digital liquidity looks set to create a virtuous circle effect in the near future.

Figure 18. Fastest growing digital assets in Europe



Question: Looking at digital assets/tokenization of assets, where do you think the fastest growth is going to be? **Expressed as**: % of European respondents selecting each asset class as fastest growing. *Including real estate and commodities.

North America: already moving beyond T+1

At the end of "39 months" of industry preparation, North American firms appear to have already moved beyond T+1 in their operating agendas. While around a quarter of respondents (22%) continue to see T+1 as their most impactful priority in 2024, this has declined by 7% since 2023. With T+1 behind them, North Americans are clearly moving onto other priorities.

So which priorities are now taking the lead?

North America's banks are significantly engaged on the digital asset opportunity — with 20% citing this as their most impactful priority today (figure 19). In a year where the SEC has issued its first authorization of a Bitcoin ETF, where the tokenization of collateral (and repos) has been proven to deliver million-dollar efficiencies to banks across the region[38], and where several of the world's leading asset managers have begun to offer digital share classes for their funds, the commercial opportunities for banks in the digital space have never been stronger, despite continuing concerns around regulatory support. Yet the cash leg remains a unique concern for North American respondents. Given regulatory challenges around stablecoin and crypto-currency adoption, it is perhaps no surprise that 38% of North American respondents cite the absence of viable cash funding mechanisms as one of their top three impediments to digital adoption today, higher than anywhere else globally.

Looking ahead, private markets are clearly emerging as the next major, digital asset class. With 60% of North American respondents citing alternative assets (such as real estate) and private assets as the fastest growing asset classes in 2024 (figure 20), the opportunity for DLT and tokenization to provide meaningful efficiencies in a highly paper-based and manually-driven market is clearly moving up the industry priority list. Citi's collaboration with Wellington and Wisdom Tree has provided new clarity around the potential industry operating model for this USD10 trillion a year market.[39] Importantly too, the region's FMIs are seen to be at the heart of this change. After DTCC's "DSM" initiative, TMX's "Revo" project is also exploring the potential benefits of tokenized private markets, with 70% of North American respondents looking to FMIs to provide their digital asset networks going forward. With many asset managers now citing private markets as a natural continuation of their tokenization work, the industry should expect significant progress in this space in the coming year.

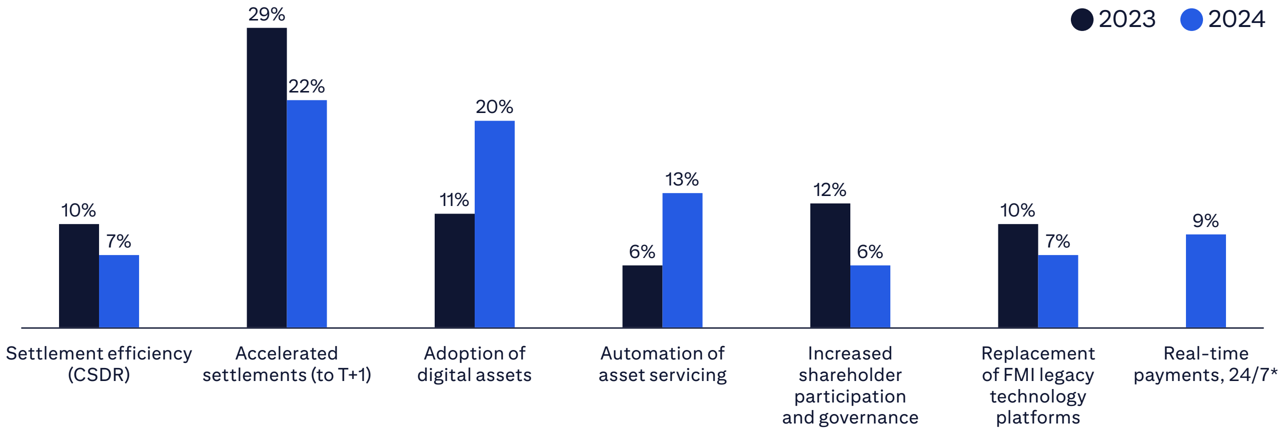
In the world of traditional securities, levels of asset servicing transformation in North America are higher than anywhere else in the world in 2024, with 13% of firms citing it as the most impactful priority (and a further 6% citing shareholder participation and proxy voting including as core). Recent research from the ValueExchange[40] singles out the North American buy-side as having more automation activity than any other parts of the capital markets in 2024. Across the trade cycle, firms are acting to finally invest to remove corporate action risk from their operations — leveraging the leadership of DTCC's issuer initiatives, SWIFT's 2023 work on data automation and the increased availability of systems to provide automation.

Not all work is entirely discretionary however. With TMX on the verge of completing its Post Trade Modernization program (PTM), DTCC continuing its own technology refresh and the expanded US Treasury clearing rules on the horizon, it is no surprise that 7% of survey respondents cite ongoing legacy plaform replacement by FMIs as their core priority this year.

The T+1 transition was a relative non-event — which is exactly what we wanted thanks to all the extensive preparation efforts of many across the industry. Now, having come off a successful move to T+1, our next focus is US treasury clearing.

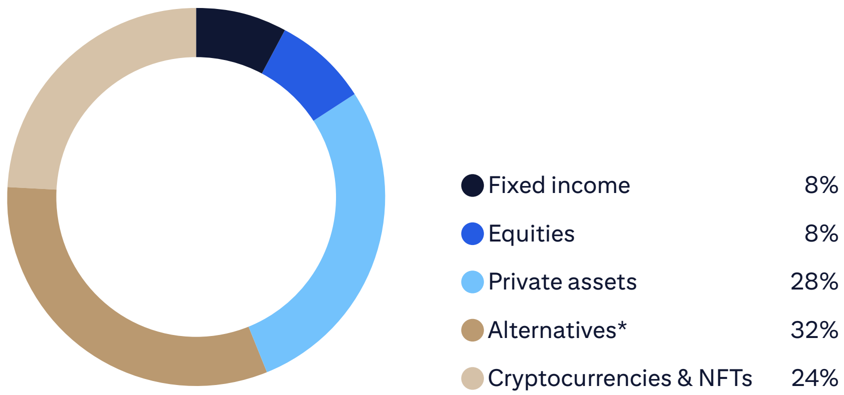
Brian Steele, President, Clearing & Securities Services, DTCC

Figure 19. Most significant changes in the North American post-trade space today



Question: What do you consider to be the most significant changes in the post-trade space today — based on impact to your business? **Expressed as**: % of respondents in North America citing each change, excluding others. *New category in 2024.

Figure 20. Fastest growing digital assets in North America



Question: Looking at digital assets/tokenization of assets, where do you think the fastest growth is going to be? **Expressed as**: % of North American respondents selecting each asset class as fastest growing. *Including real estate and commodities.

Asia Pacific: a unique T+1 impact, while digital assets prosper

While much global attention has focused on the North American T+1, it is easy to overlook the fact that China has been operating on a T+0 basis for more than a decade, that India has removed two days (not one) from its settlement cycles in the last 18 months[41] and that some Asian markets (such as the Philippines and Sri Lanka) have also been busy reducing their settlement cycles in the year (albeit from T+3 to T+2). With North American investments making up a large percentage of Asian outbound flows and with most Asian markets functioning on a no-fails (or mandatory buy-in and penalty basis), this has left back offices across Asia Pacific preparing to transition more markets to T+1 than any region in the last year, with less room for error.

It is no surprise then that this has driven an increase in focus (from 21% to 28% of respondents citing T+1 as their most impacted priority in 2023 and 2024, respectively).

It would make sense to have a coordinated approach for Asia. If regulators believe that it can help (domestic) participants then let's do it together as a region.

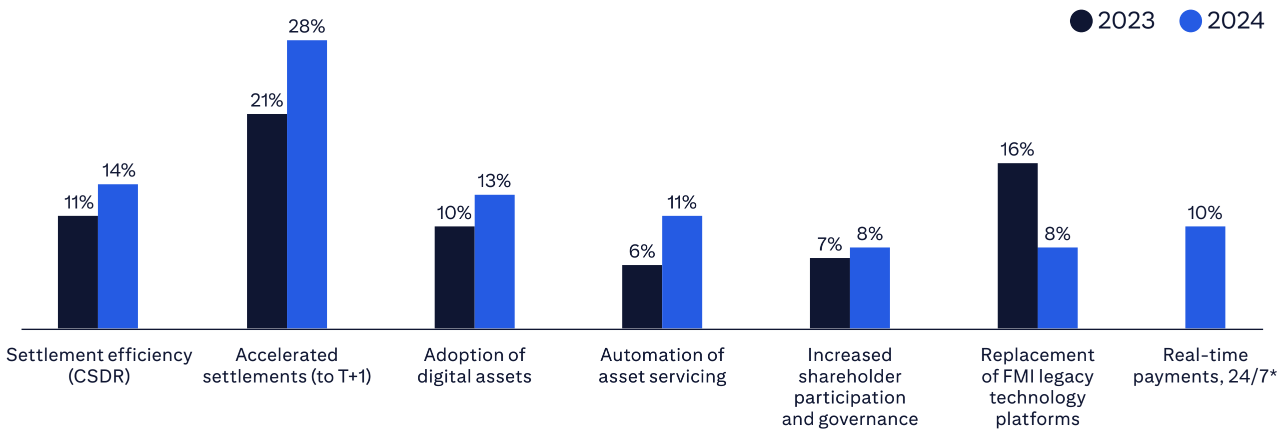
Ng Yao Loong, CFO, Head of Equities — Designate, SGX Group

In the traditional assets space, the trend towards enabling greater shareholder participation in company governance stands out as unique in Asia Pacific with 8% of asset managers seeing this as their most impactful priority in 2024. Regulatory pressures and greater retail participation are clearly putting pressure on the institutional capital markets to enable faster and more transparent voting participation in Asia Pacific, more urgently than anywhere else in the world.

It also appears that the capacity to support many of these developments is coming indirectly from the region's FMIs. Recently deferred FMI platform transitions at CHESS in Australia have returned valuable capacity back to the industry, with half as many firms in Asia Pacific compelled to be resourcing FMI platform transitions as a priority in 2024 (8% in 2024, down from 16% in 2023). Without the intensity of an imminent, market-wide transition, firms in Asia Pacific appear to have a new window for increased focus on settlement efficiency, digital assets and asset servicing automation.

In addition to its leadership on accelerated settlements, Asia Pacific has also led the digital asset issuance space with 41% of total digital security issuance coming from the region in the last five years.[42] The last year has seen the HKMA's HKD 6 billion Evergreen bond issuance[43], one of the largest of its kind so far globally, the successful launch of FundNode[44] in Singapore, as well as the tokenization of Schroders' Variable Capital Company (VCC) fund structure[45], all constituting global "firsts" as the region continues to build its digital asset ecosystem at pace.

Figure 21. Most significant changes in the Asia Pacific post-trade space today



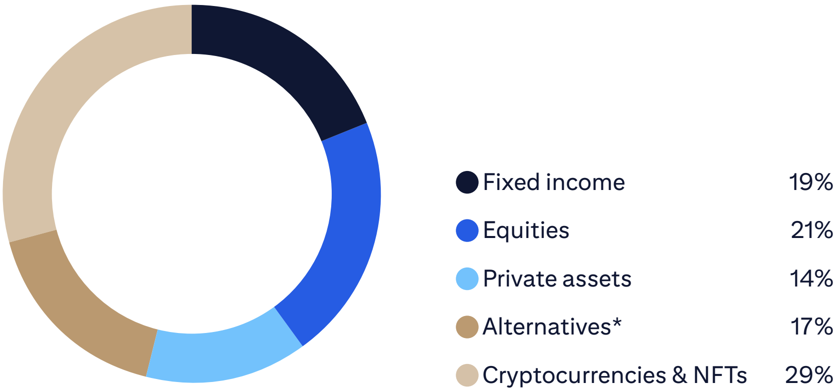
Question: What do you consider to be the most significant changes in the post-trade space today — based on impact to your business? **Expressed as:** % of respondents in Asia Pacific citing each change, excluding others. *New category in 2024.

With 13% of respondents in Asia Pacific now identifying digital assets as their most impactful priority (up from 10% in 2023), these initiatives are clearly driving momentum.

Looking ahead, the competition between traditional (equity) and digital asset markets is expected to take center stage. With crypto-assets seen to be the fastest growing form of digital asset for 29% of respondents in Asia Pacific (figure 22), the region's operators will continue their efforts to close the functional gap with crypto-assets by offering greater integration of crypto-assets in traditional markets (through derivative and ETF structures, for example) and through continued innovation in market processes and platforms. Perhaps for this reason, respondents in Asia Pacific are the most bullish of any region on the role of public, permissioned networks in the future, with 39% of respondents citing this as their core preference, well ahead of any individual type of privately managed network. With greater use of these public chains, the hope is clearly that Asian respondents will see their core concerns around transferability of digital assets between wallets (a core challenge for 46% of respondents in Asia Pacific) addressed.

With several major market platform transitions looming in the coming decade (i.e. HKEX's Central Clearing and Settlement System (CCASS) platform), the opportunities and design challenges for those servicing the Asian listed securities markets seem significant.

Figure 22. Fastest growing digital assets in Asia Pacific



Question: Looking at digital assets/tokenization of assets, where do you think the fastest growth is going to be? **Expressed as:** % of Asia Pacific respondents selecting each asset class as fastest growing. *Including real estate and commodities.

Latin America: a cradle of change

It is sometimes easy to underestimate the impact of Argentina and Peru's transitions to T+1 in 2024 (in addition to those in North America) — particularly from a local market impact perspective. Drawn into T+1 due to the large volumes of cross-border activity with the US (not unlike Mexico), both markets have successfully engineered the acceleration of their settlement cycles this year with little fanfare or disturbance, making it the center of attention for 25% of respondents in Latin America.

But this is just a fraction of the activity going on in the last year across Latin America.

With major FMI platform transitions in Argentina, Chile, Mexico and Peru taking the attention of 14% of respondents, large parts of the region's clearing and settlements infrastructure have been successfully updated in the last year, opening up the possibility of increased standardization and automation in many of these markets in the near future.

Most importantly though, the region also took its next step towards creating a unified, regional marketplace with the formal incorporation of the nuam holding company in November 2023. With a legal structure now in place, the project activity is now underway in earnest across Chile, Colombia and Peru as the intended launch date looms in 2025.

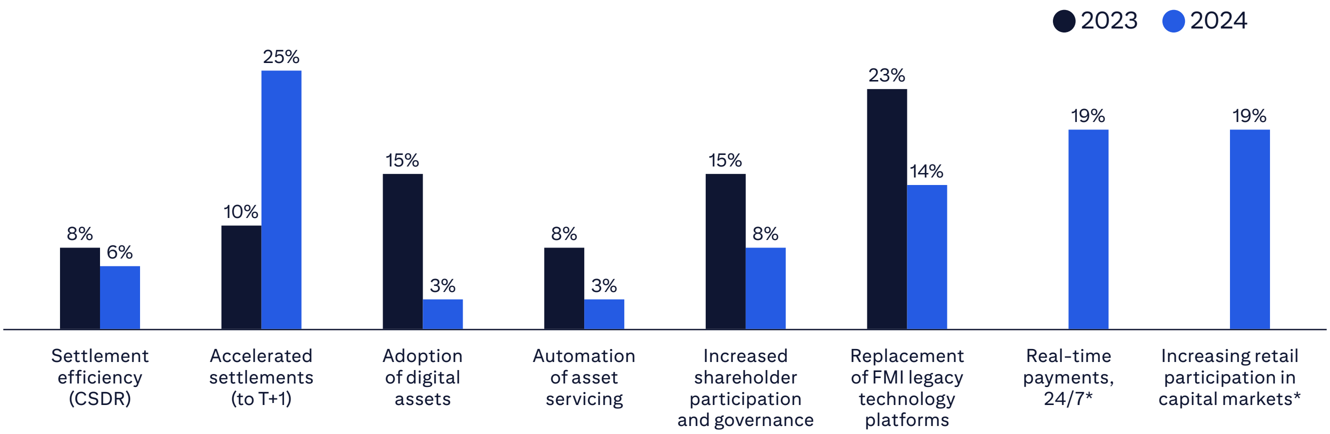
Meanwhile, Latin America's largest market, Brazil, has been busily laying the foundations of a real-time funding market. In the traditional market, the unique government commission (including the securities regulator, Ministry of Finance and Central Bank) is giving the market a single voice in answering many of pressing questions around where and how more value can be delivered to investors.

In the digital securities market, with the DREX (or Digital Real) initiative[46] due to offer a live Central Bank Digital Currency in Brazil before the end of 2024, the region looks set to be pressing ahead into the (retail) digital asset era ahead of many of other parts of the world. Behind Brazil, the DCV in Chile's recent announcement of plans to offer a DLT-enabled depository platform[35] is further evidence of the accelerating levels of digital asset ambition across Latin American markets. Building on this momentum, Latin American firms are clearly in execution mode, with only 8% of respondents still held up by concerns around digital cash payments (the lowest of any region).[47]

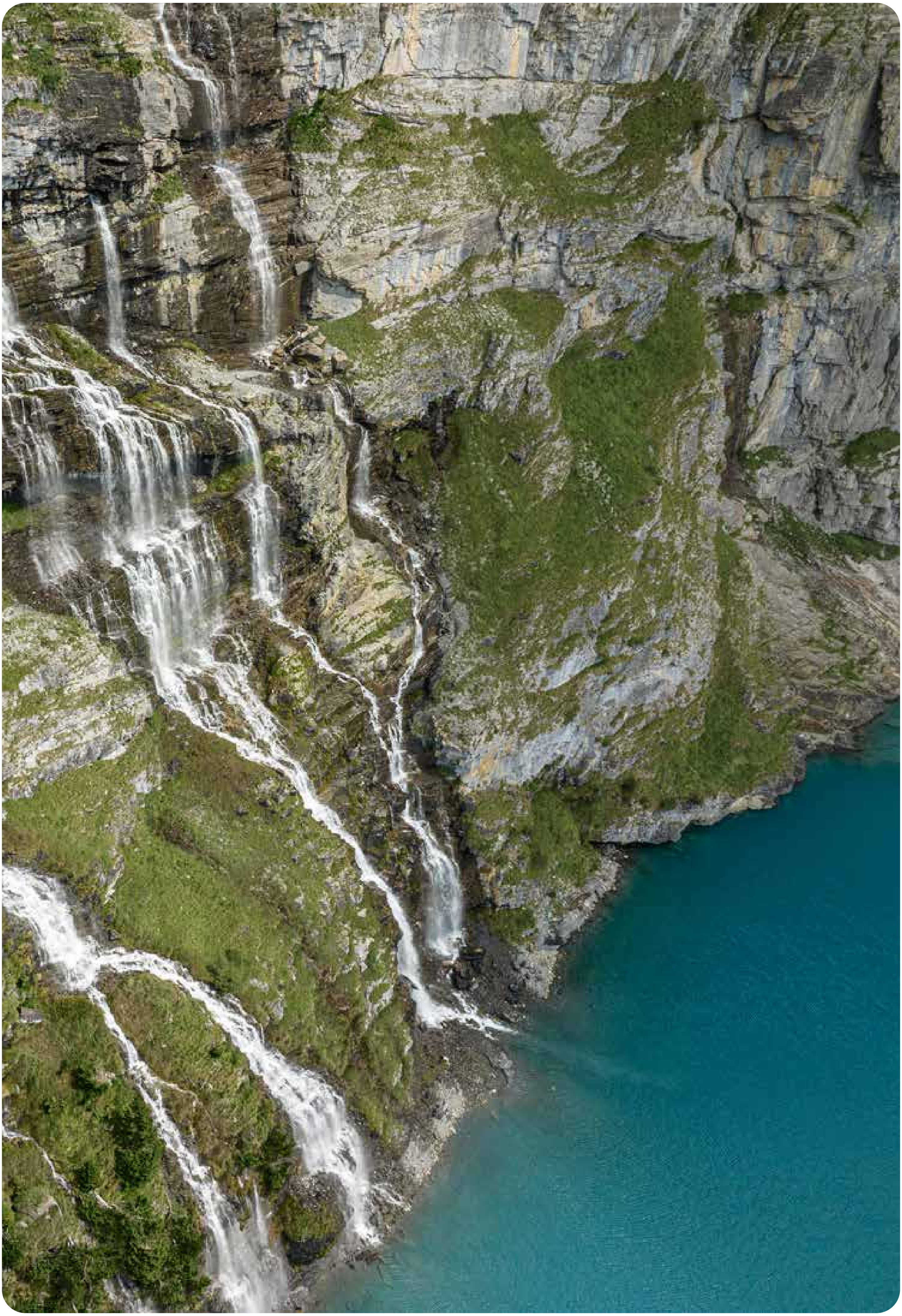
nuam is similar to the European post-MIFID market integration — albeit a bit more complex as we have different regulators, different central banks and different currencies.

Juan Pablo Córdoba, CEO, nuam

Figure 23. Most significant changes in the Latin American post-trade space today



Question: What do you consider to be the most significant changes in the post-trade space today — based on impact to your business? **Expressed as**: % of respondents in Latin America citing each change, excluding others. *New category in 2024.



Conclusion

This last year has seen unprecedented levels of execution and delivery across all parts of the world, driven by major advances in the T+1 and DLT agendas. The more they have delivered, the more that the industry has learned about where and how they must continue to invest, if they are to achieve the benefits that the world's retail and institutional investors expect.

In this context, we look set to see continuing waves of change across the industry in the coming years, including:

- Continued automation and replatforming to accommodate the accelerated settlement cycles across the Americas.
- New waves of deeper benefits from accelerated settlements, to be felt by all participants in the trade-cycle as the longer-term impacts of T+1 become clearer.
- A domino effect as the UK, Europe and Australia announce their plans for their own market transitions to T+1 settlements.
- An increasing focus on what lies beyond T+1, including the values and enablers of instantaneous settlements to keep traditional markets in step with crypto markets.
- Continued and expanded digital bond issuances by sovereign issuers (including central banks and development institutions).
- Growing use of tokenization to help realize a growing range of benefits in operational processing, treasury management and distribution — particularly in securities financing, fund distribution and private markets.
- Increased reliance on FMIs to provide the digital infrastructures that support industry-wide adoption of digital assets and tokens.

The era of global transformation that began in our 2021 whitepaper looks set to move into its next phase.

Acknowledgments

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