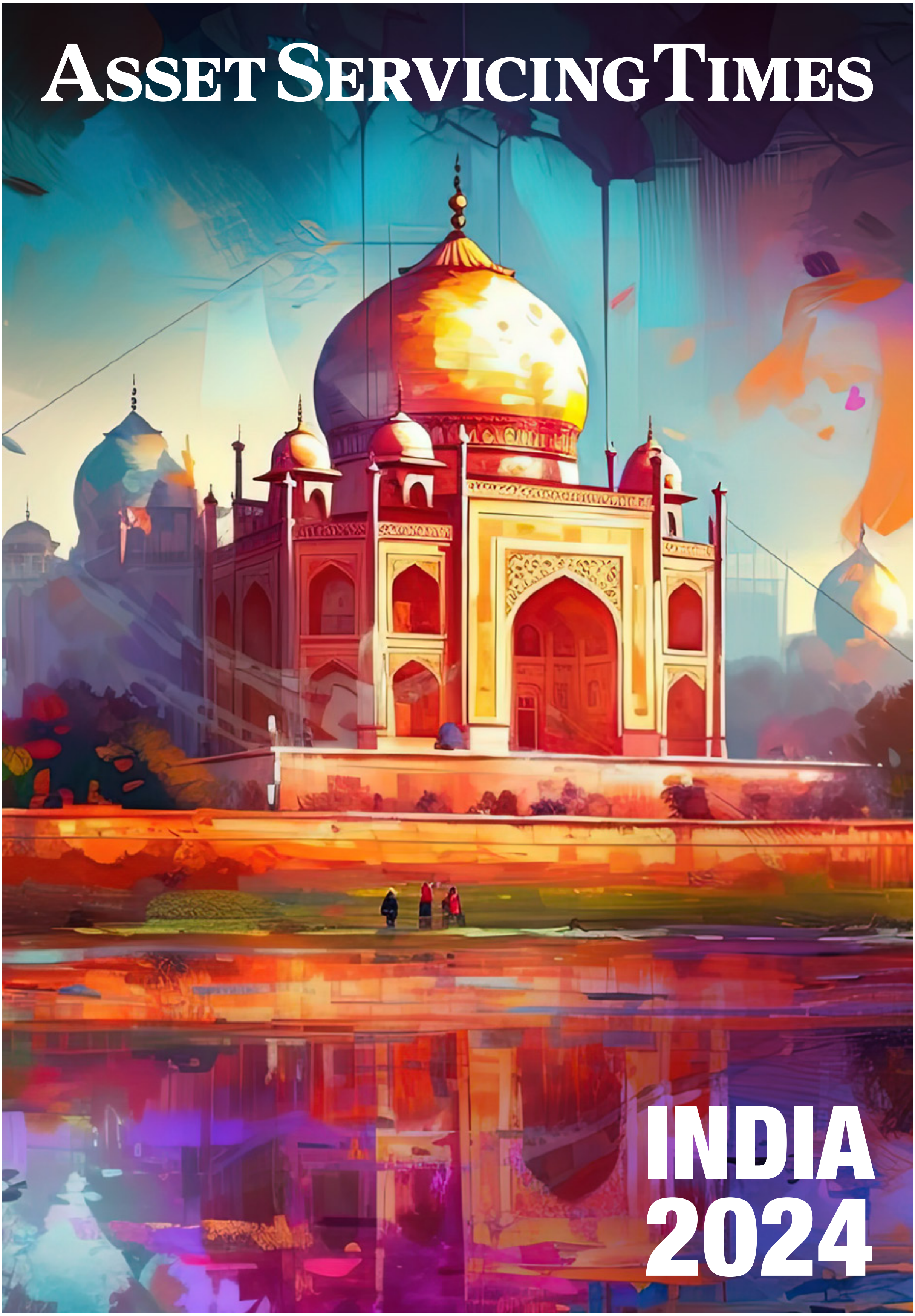
Asset Servicing Times



INDIA 2024

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Liminal extends its institutional digital custody solution to India

Singapore-based digital asset specialist Liminal Custody Solutions has launched an institutional custody service in India to meet the growing demand from institutional investors for secure and efficient digital asset services.

With this release, Liminal will extend its digital asset custody and wallet infrastructure into the Indian market, operating the service from its New Delhi office.

This employs a multi-layered approach, the company indicates, delivering security measures, encryption, multi-signature and multi-party computation technology, along with a proprietary firewall engine to automate policy enforcement security in the digital asset wallet ecosystem.

This represents the latest step in Liminal's strategy to extend its coverage to institutional investors in the Asia Pacific and MENA regions, including family offices, hedge funds, digital exchanges, corporate treasurers, OTC desks, private equity and venture capital funds.

Commenting on the release, Liminal senior vice-president for strategy and business operations Manan Vora says: "Traditional financial markets have long thrived on the principle of 'segregation of duties', ensuring market integrity through clear divisions of responsibility."

"With a large number of institutions expressing interest in digital assets, security and compliance remain paramount. With our Institutional Custody Offering at Liminal, we address these concerns head-on, providing a secure and compliant platform for institutions to confidently enter this innovative asset class."

ICMA releases ex-Japan APAC repo market survey

The International Capital Market Association's (ICMA's) Global Repo and Collateral Forum (GRCF) has released survey results on the ex-Japan APAC repo market.

Outstanding value of repos and reverse repos on 14 June 2023 on the books of the survey sample was US$269.1 billion. Average daily turnover between 9 June 2022 and 14 June 2023 was US$12 billion.

These numbers are down on the previous year, with 2022 generating US$310.0 billion in outstanding value of repos and reverse repos and US$43 billion in average daily turnover.

The size of the survey in June 2023 was lower than the previous year, which reflected changes in the composition of the survey sample; in particular, the loss of two international banks from the survey sample and changes in regional bank participation.

For the first time, the report includes a snapshot of the onshore repo markets in China and India. These two economies are the second and fourth largest economies in the world and the two most populous countries, says ICMA.

The survey does not measure the size of domestic repo markets in the APAC region, but captures cross-border business involving internationally active banks.

According to the June 2023 survey, there were approximately 231,700 transactions over the year, of which 53.0 per cent were reverse repo.

The survey suggested modest growth in the outstanding value of the ex-Japan APAC repo market but declining turnover, which ICMA says implies more longer-term transactions.

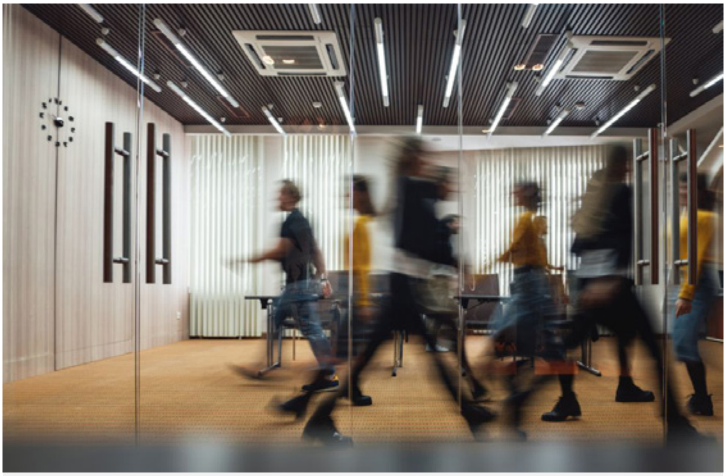
In addition, the report found that triparty and central counterparty (CCP)-clearing repos played a "small and diminishing role" as repos tended to be cleared on a CCP after having been negotiated bilaterally between counterparties.

Cross-border business with APAC and non-European counterparties increased its share of the survey, while there was a shift in the allocation of collateral into Japanese government bonds (JGBs) and other APAC securities.

The US dollar remained the dominant currency in this repo survey, with JPY moving into second place ahead of the AUD. This reflects a corresponding shift in collateral composition, the survey notes.

The survey was conducted alongside Asia Securities Industry and Financial Markets Association's (ASIFMA's) secured funding markets committee.

Commenting on the results, ICMA chief executive Bryan Pascoe says: "Since 2016, this survey has served as a valuable resource, providing insights into the dynamics of the Asia-Pacific cross-border repo markets.



IQ-EQ opens GIFT City office

Investor services group IQ-EQ has expanded its India operations with an office in India's Gujarat International Finance Tec-City (GIFT City).

Atul Muchala, managing director for India, will lead both the new location and the company's existing Mumbai office, which provides fund administration to domestic clients.

Having received a licence to operate in GIFT City, IQ-EQ can now deliver administration, compliance and corporate secretarial services to alternative investment funds and other structures domiciled in the city.

IQ-EQ has more than 30 years of experience in providing international support for India-based clients, and over300 employees based in the country.

Commenting on the expansion, Muchala says: "With GIFT City performing as India's international investment gateway, our new office presents an opportunity to service the Indian asset management and investment community for both their inbound and outbound investments, as well as for global entities to invest in India using GIFT structures. We hope to be a significant contributor to [GIFT City's] burgeoning ecosystem."

Sridhar Nagarajan, regional managing director for Africa, India and the Middle East, states: "The launch of our GIFT City business marks the continuation of an exciting growth journey in the AIME region, following the opening of our Dubai and Abu Dhabi offices last year.

"Our ambition now is to continue growing our presence in the buoyant Indian market, cementing IQ-EQ as a leading investor services provider in the world's fifth-largest and fastest-growing major economy."

ISDA publishes whitepaper for India's OTC derivatives market

India is forecast to become the world's third largest economy by 2030, yet the OTC derivatives market remains small.

According to the Bank for International Settlements, the average daily turnover of interest rate derivatives accounted for just 0.1 per cent of the overall global market in 2022.

Now, the International Swaps and Derivatives Association (ISDA) has published a whitepaper exploring the growth of India's financial market.

The report includes a series of market and policy recommendations to encourage the development of a safe and efficient over-the-counter (OTC) derivatives market.

The suggestions are centred on five key pillars, one of which is to broaden product development, innovation, and diversification.

ISLA recommends developing standardised term benchmarks to reduce basis risk, expanding the scope of the credit derivatives market and enabling onshore OTC commodity and equity derivatives markets.

The whitepaper also advocates for standardisation across regulations and international practices, to 'increase harmonisation and encourage international participation and investment'. This includes allowing full substituted compliance for Indian branches of foreign banks and expanding the list of eligible collateral.

"Derivatives are critical for healthy, competitive financial markets and help spur economic growth," contends Scott O'Malia, ISDA's chief executive. "They give companies the ability to raise financing at the best rate and manage their risks, enabling those firms to invest and grow."

"We hope that work such as this will continue to benefit our members, authorities and regulators and other market participants in the region."

Philippe Dirckx, managing director and head of fixed income at ASIFMA, adds: "The survey shows the growing importance of repo across the region and the dynamics of its structure and stakeholders.

"Parallel to the survey, this edition includes, for the first time, a snapshot of the onshore repo markets in China and India. We have also asked our members their priorities in markets they are operating in and the new APAC markets on their radar. This edition is therefore as much a state of play as a roadmap for the region's key stakeholders."

Harish Chidambaram named HSBC's new head of asset servicing for India

HSBC has named Harush Chidambaram as its new head of asset servicing for India. He is based in Bengaluru.

Chidambaram joins HSBC from Accenture India, where he spent over seven years as vice president and senior vice president of operations.

He was previously vice president at J.P. Morgan, BNY Mellon, Barclays Capital and Goldman Sachs, all based in India.

On leaving Accenture, Chidambaram commented via LinkedIn: "After a tenure of seven-and-a-half years, I have decided to embark on a new chapter in my career.

"I am grateful and touched by the wonderful farewell Accenture gave me. The heartwarming appreciations and kind words from each [person] will forever hold a special place in my heart."

Liminal partners with Telos Network to elevate secure custody and asset management

Liminal has partnered with Telos Network in an effort to enhance the security and efficiency of asset management on the Telos blockchain.

The key features of Liminal's integration with Telos Network include secure and efficient treasury management, policy-driven automation for optimal efficiency, vigilant risk and compliance monitoring.

With the recognition of secure custody of digital assets being directly correlated with the strength of the underlying blockchain infrastructure, the demand for alternative blockchain ecosystems and community participation continues to grow and interoperability has become a core integration parameter for custody platforms, says Liminal.

Manhar Garegrat, country head at India and global partnerships at Liminal, says: "The addition of Telos into Liminal custody's multi-chain ecosystem is a significant step

Dino Siason to lead Deutsche Bank's Philippines outpost

Deutsche Bank has appointed Rodolfo (Dino) Siason as chief country officer and head of corporate bank for the Philippines, effective 1 April.

In the role, Siason will be responsible for the company's corporate and investment banks in the region and one of its APAC service hubs.

He will report to Burkhard Ziegenhorn, head of corporate bank for Southeast Asia and Australia, and Kaushik Shaparia, CEO of emerging Asia and chief country officer for India. He replaces Michael Chua, who has held the role for close to three decades.

Siason has more than 20 years of industry experience and joins Deutsche Bank from Citi, where he has spent the majority of his career. He currently serves as head of central Europe treasury and trade solutions at the firm, based in Prague.

Before this, he held directorial roles in Singapore, as an APAC regional account manager and senior credit officer, and the Philippines, where he was director of local corporates and the public sector.

Ziegenhorn comments: "[Siason's] global client coverage and product expertise, combined with his deep local market knowledge, will help further differentiate Deutsche Bank in the Philippines.

"We are thankful to Mike for his dedicated leadership with the bank; he hands over a strong platform poised for further success. We have built many trusted and valued relationships here over past decades, and I am confident that Dino will enhance and grow these over the years to come."

State Street to further consolidate their operating model in India

State Street is finalising plans to assume full ownership of its joint venture operations with HCLTech. These arrangements are expected to be completed in the first half of 2024.

Joint Venture operations (JV) Statestreet HCL Services was formed in 2012 to provide business operations services in India. By taking full ownership, State Street is aiming to streamline and simplify its global operations.

State Street claims that by bringing the services under one ownership, it will be able to provide its clients with a simplified model. The company says that this will facilitate faster and more informed decision making.

Mostapha Tahiri, executive vice president and incoming chief operating officer of State Street, says: "This integration is a natural evolution of our successful relationship with HCLTech, which remains a strategic technology partner. By creating additional scale, we remain committed to further advancing our operational model with client needs at the centre."

Srinivasan Seshadri, chief growth officer and global head financial services at HCLTech, adds: "State Street continues to be one of our strategic and top 15 clients in IT. We are proud of the collaboration over the past eleven years and look forward to our continued partnership across key priority areas of State Street."

towards growing the web3 ecosystem together.

"Telos' record of zero-downtime since launch, over 15,200 transactions per second with minimal fees, and focus on enabling Zero Knowledge technology for ultimate scalability and privacy for blockchain global adoption, make it a compelling platform for web3 adoption."

Sukesh Tedla, director of liquidity and exchanges at Telos Network comments: "By introducing Telos, a third-generation blockchain platform, into our custody and wallet infrastructure, Liminal is enabling secure custody, policy-led workflows, multi-party wallet governance, and comprehensive compliance monitoring for protocols and institutions operating on the Telos Network."

Mirae Asset Securities acquires Sharekhan

Mirae Asset Securities (MAS) has acquired Sharekhan Limited in a US$370 million deal.

MAS signed a shared purchase agreement with BNP Paribas SA for the acquisition of Sharekhan, one of India's major brokerages.

The acquisition is representative of the parent company, Mirae Asset Financial Group's, desire to expand into the country having launched MAS, its Indian subsidiary, in 2018.

An official from MAS said: "With the acquisition of Sharekhan Limited, Mirae Asset Securities has seized the opportunity to predominate the brokerage business in India, which will show long-term growth. We plan to create synergy with Mirae Asset Global Investments, the only foreign asset manager in India."

Padmaja Chunduru becomes NSDL's representative at ISSA

The International Securities Services Association (ISSA) has welcomed Padmaja Chunduru as the National Securities Depository Limited's (NSDL's) representative on its board.

Chunduru brings international knowledge and experience of the securities services industry. In a career spanning more than three decades, with postings in India and USA, Chunduru has gained experience in corporate lending, credit management, retail operations, digital banking and treasury and international operations.

Chunduru has been the managing director and CEO of NSDL since September 2021 after completing a 37-year tenure in the banking industry, with State Bank of India and Indian Bank.

Vicky Kyproglou, board chair at ISSA, states: "[Padmaja's] knowledge and ability to deliver for the market, be it T+1 or DLT solutions, will help ISSA maintain its relevance and grow the franchise. The ISSA board looks forward to working with her to shape the future of securities services."

SEBI introduce new guidelines for short selling transactions

The Securities and Exchange Board of India (SEBI) has released new guidelines for short selling in the Indian securities market.

These rules build on SEBI's 'Short-Selling and Securities Lending and Borrowing Scheme' that was implemented in October 2023.

Under the new guidelines, all classes of investors, including retail and institutional investors, are permitted to short sell.

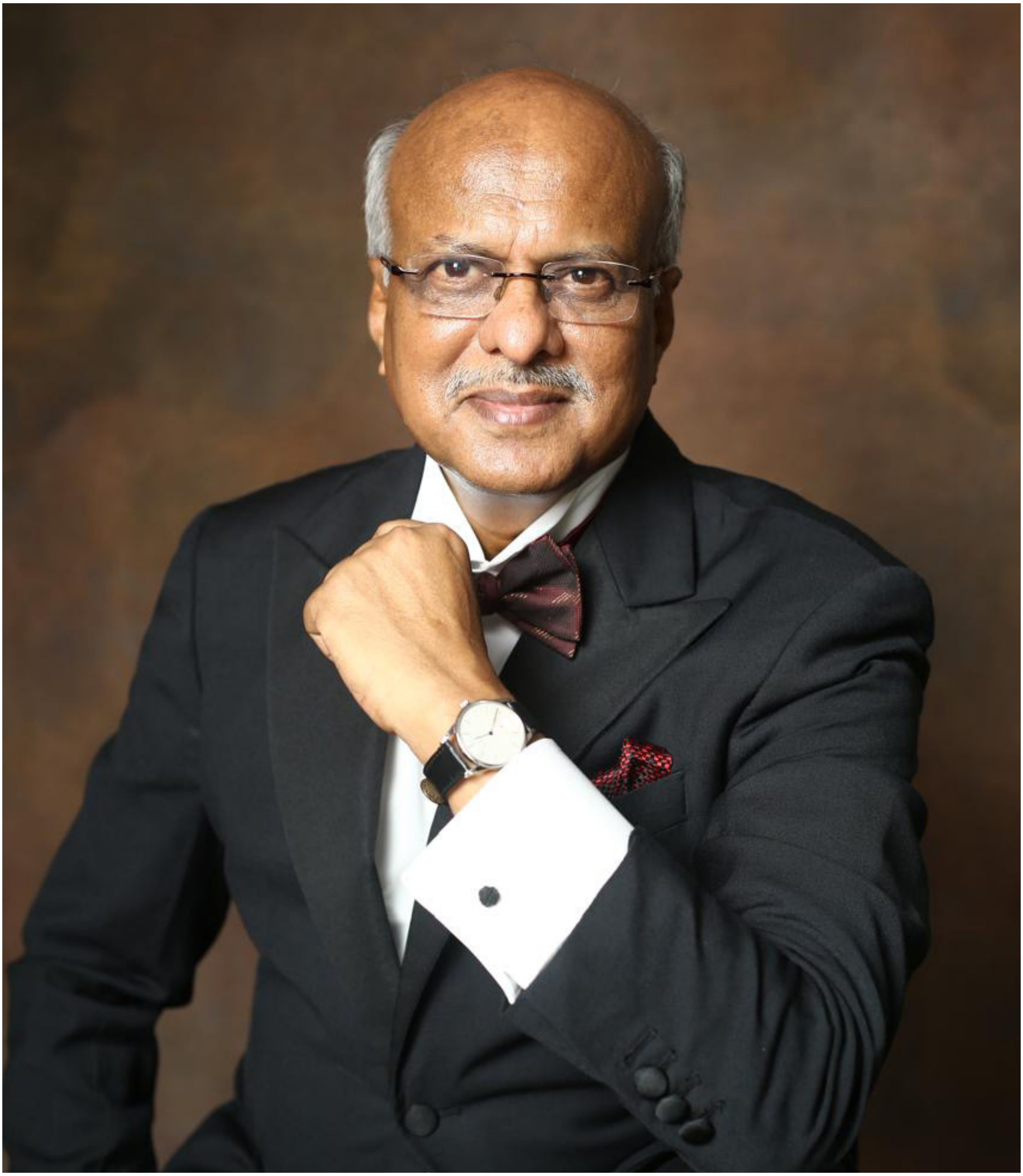
However, to ensure transparency and increase market credibility, the framework imposes stringent measures around disclosure practices.

Naked short selling is not permitted in the market, and all investors are required to deliver the securities at the time of settlement.

Institutional investors are required to disclose upfront whether the transaction is a short sale at the time of placing the trade order. Retail investors, however, are permitted to make a similar disclosure by the end of the trading hours on the transaction day.

SEBI indicates that failure to comply with the guidelines will result in 'appropriate action' from the stock exchanges, in a bid to mitigate risks associated with short selling.

Hruda Ranjan Sahoo, deputy general manager of SEBI, says that the guidelines are issued "to protect the interests of investors in securities and to promote the development of, and to regulate, the securities market."



Asset servicing in the Indian market

Justin Lawson speaks with Viraj Kulkarni, CEO and Founder of PIVOT Management Consulting, about collaborations, innovations, and the future of the Indian asset servicing industry

What services does PIVOT Management offer in the realm of asset servicing?

PIVOT Management offers a wide range of specialised advisory and non-advisory services in the realm of custodial advisory, fund administration, foreign portfolio investment (FPI), private equity (PE), private management service (PMS), and alternative investment fund (AIF). We focus on business transformations (including set up), operational efficiency, innovative products and services, as well as risk management, and more. A key ability is to reconstruct an entire custodial set for at least 30-40 per cent growth in emerging or advanced markets.

Could you provide examples of successful projects or clients you have worked with in the Indian asset servicing industry?

PIVOT Management has a strong track record of successful projects and collaborations in the Asset Servicing Industry. Some notable Indian clients and projects include pedigree institutions like ICICI Bank, DBS, Stock Holding, SBI-SG, SS&C, Nuvama, KPMG (Cyprus), and ISSL to name a few.

Besides, PIVOT Management has demonstrated wider capabilities in its engagement with industry-leading Market Infrastructure Institutions (MIIs). Our ability to address the differentiated requirements of our locally and cross-border clients is a strength.

Examples of some of our projects include when PIVOT assisted in developing a first of its kind penalty dashboard for a leading exchange; when we assisted a custodian to grow its assets under custody (AUC) nine-fold in a span of five years; and when PIVOT members were instrumental in developing custody business in advanced markets by a multiple of three, in two years.

What are some current trends or challenges you see in the Indian asset servicing industry?

A fast growing and diversifying Indian asset servicing industry has a potential to add US$1.5 trillion of assets (currently approximately US$3.2 trillion) in the next three years. Several trends and challenges that would provide opportunities, or on the flips side challenges (to those who are not nimble), would be: technology-driven, client-centric customised solutions for segments as FPI, AIF, mutual funds (MFs), PMS, insurance, wealth management, PE; and new asset classes, increased FPI inflows into debt segment. Gujarat International Finance Tec-City (GIFT City) enables expansion of services globally to serve cross border clients.

Integrated solutions, transfer agency (TA), fund administration (FA), strategy re-engineering, use of artificial intelligence (AI), standardisation of processes, greater straight-through processing (STP), and customised value-added reports, will be key asks. Challenges driven from the rapid yet successful transition to T+1 needing cross border providers and clients to adapt, evolve to manage newer complexities.

Asset servicing firms can proactively address industry shifts as above, leverage opportunities for growth, and enhance their capabilities.

How do you tailor your services to meet the specific needs of clients in the Indian market?

We place great emphasis on clients' requirements and understanding their unique needs, challenges, and aspirations. The Indian market demands a deep understanding of the industry nuances, regulatory environment, and client expectations. Valuing client inputs, the PIVOT team gains insights and devises two or three differentiated value propositions that are practical, scalable, adaptable, and aligned with clients' objectives. These aim to drive substantial growth in various areas, including business performance, efficiency, client satisfaction, and industry thought leadership.

We have more than 300 years of global experience collectively, with a deep understanding of the local market, giving us a solid foundation to address complex client requirements effectively.

We invest in resources, including cutting-edge systems and technologies, to support the delivery of high-quality services. We ensure that tailored solutions are thoroughly discussed with clients for feedback and alignment.

Over the years, clients have entrusted PIVOT with additional projects, demonstrating a strong level of trust and satisfaction.

What measures does PIVOT Management take to mitigate operational risks associated with asset servicing in India?

It is a thought-provoking question. We employ a structured and proactive approach to mitigate operational risks associated with asset servicing. After understanding clients' objectives and aspirations a SWOT analysis focused on assessing existing resources, capacity planning, business strategy and operational strategies is initiated. The PIVOT team activates its 140+ lines of risk grid to measure and assess potential exposures to varied risks. Using our expertise and technological capabilities, a comprehensive risk assessment framework that has measurements to identify, quantify, and prioritise risks, is activated. The outcome leads to informed decision making and proactive risk mitigation actions incorporating innovative solutions, automation and value-added training. Training the team is core.

This comprehensive approach enables PIVOT to demonstrate a commitment to risk management excellence and operational resilience. These measures help the client to proactively identify, assess, and address operational risks.

Can you elaborate on any partnerships or collaborations PIVOT Management has in the Indian asset servicing industry?

PIVOT's pioneering role in custody consulting showcases its adeptness in a niche sector. aim to deliver tailored solutions and insightful strategies. PIVOT's membership at TSSAG has broadened horizons, connecting it globally, enriching perspectives and unlocking new prospects. By partnering with esteemed firms like Asset Servicing Times and others, plus legal, taxation and secretarial firms, PIVOT integrates diverse expertise to enhance services and cultivate enduring relationships. This blend of global outreach, strategic collaborations, and expansion initiatives solidifies PIVOT's presence as a leading consulting company in securities services in Asia and the Middle East.

What are some key performance indicators (KPIs) you use to measure the success of your asset servicing solutions?

The four KPIs that drive us can be summarised as:

- Are we listening and able to understand client requirements?
- Are our disruptive solutions measurable and assist our clients significantly?
- Can we deliver a blend of long-term vision and short-term actions for success?
- Are we resourced well to have a good TAT with quality?

Clients entrust us with unique challenges and opportunities. Satisfaction is when our clients experience growth in revenue numbers, follow best practices, asset growth enrichment of resources, global and local recognition. These are the external KPIs.

Can you discuss any recent innovations or developments in your offerings tailored specifically for your clients?

Our core objective is to assist a client achieve at least 30-40 per cent growth. PIVOT's reliance on innovation, a disruptive model that is implementable, solidifies its role in advancing the industry and driving client prosperity. Some examples include:

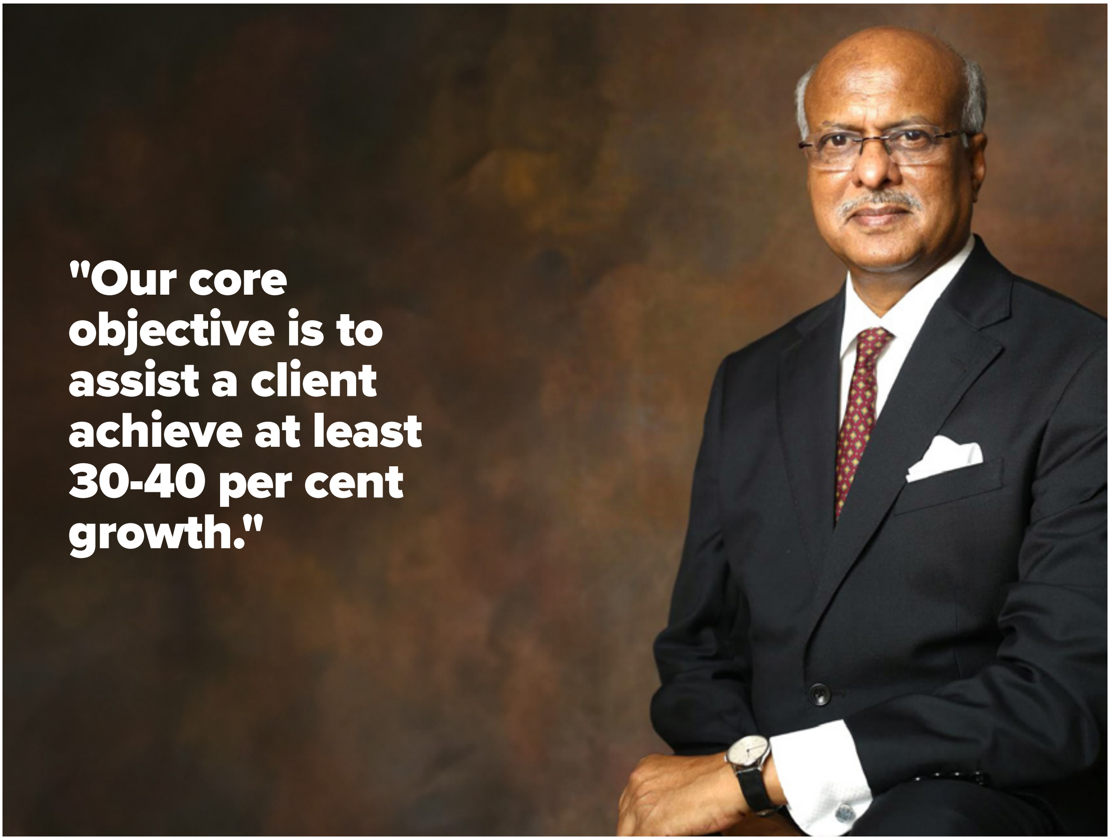
Case 1: A leading banking custodian tasked us to assist in growing its custody business. The farsighted management team at the client was willing to initiate a significant change. PIVOT, over the last four years, through a number of consultative recommendations, hundreds of process and strategy changes, strategic training and positioning, enhancing product texture, assisted the client as it registered nine-times growth in four years, to emerge as the third largest custodian in India by assets, besides being the fastest growing. It was globally recognised multiple times.

Case 2: A fast growing custodian retained us to grow and integrate its custody solution with its prime brokerage model. The solutioning involved developing a product-operations mix that would facilitate their unique model. We revitalised the operations model and restructured the business and product segments together with the client's highly energetic and young team. The combined effect was, it unlocked potential and in a span of three years they grew six-fold on the assets side.

Case 3: A non-bank prominent single country custodian aspired to be in the FPI space, dominated by the global names and single country custodian banks. The aspirational management adopted the multiple innovative solutions we proposed, including tie-ups with select banks. Soon they were competing with the above class of custodians, also winning global recognition as well as FPI clients.

How does PIVOT Management handle scalability and flexibility requirements for clients with diverse asset servicing needs in India?

We registered an almost 90 per cent growth in business year-over-year (YoY) in the last two years, while handling differentiated requirements from the pedigree institutional clients. As we touch 80-85 per cent capacity, we start looking at build. Quite often clients require urgent TATs, which we deliver. Together with clients, we prioritise rollouts and estimate the



timelines. Clear roles and responsibilities, as well as job definition, helps us.

The average tenure of service at PIVOT is five years. That adds consistency. The core of all our actions is — are we thinking and doing enough for the clients? By prioritising scalability planning, resource allocation, and building capacity, PIVOT anticipates and meets clients' future demands effectively. Timely rollouts, transparent communication, and relentless commitment to client excellence, play pivotal roles and underscore PIVOT's commitment to delivering exceptional asset servicing solutions.

What are the key factors you consider when assessing the feasibility of asset servicing projects in India?

In my view, deep local market expertise, knowledge of global best practices, thought leadership, market intelligence, depth in tech solutions and team capability, the ability to acknowledge limitations transparently to align client expectations effectively and maintain project integrity, are all core requisites. These factors collectively drive project success, ensuring client satisfaction and adherence to high-quality standards in the dynamic Indian market landscape. PIVOT Management assesses the feasibility of asset servicing projects in India comprehensively, aligns strategies with client objectives, and delivers tailored solutions that drive value and success. Success is in simplifying the complex.

How does PIVOT Management envision the future of the Indian asset servicing industry, and what role do you see your company playing in it?

PIVOT Management's proactive stance toward the future of the Indian asset servicing industry is rooted in a growth-oriented perspective. The Securities and Exchange Board of India (SEBI) will continue to drive the growth and change. India is tech-savvy, and its capital markets and banks are increasingly digitised. T+1 was a super success, with more than 140 million investors from 61 countries logging in. PIVOT foresees substantial growth, driven by digitisation, political stability, technological advancements, and progressive regulatory initiatives. PIVOT's role will expand in terms of new asset classes and investors, using newer technologies. Use of AI and DLT will grow.

Positioning as a transformative leader in the consulting space, we will continue reinvesting on multiple fronts including capitalisation, continued focus on innovative products and services, elevate service standards to surpass client expectations, and lead industry evolution effectively. The industry demands skilled and adaptable resources to navigate evolving market dynamics.

PIVOT will shortly rollout in-house developed software solutions for the custody segment. Initially it will be for the business and client servicing segment. We like being on the treadmill of change.

What plans does PIVOT Management have for the future?

We have been building the practice and this will continue. In July 2024, we made two major announcements. Firstly, development of software as a value-add service in the securities service space, through a strategic alliance with Techstalwarts. Secondly, the launch of a new vertical to be headed by an industry veteran.

Additionally, we have a number of areas we are focusing on, including training, in collaboration with leading institutions, active listening and collaboration to enhance service delivery, develop disruptive solutions with cutting-edge technologies, scale, successful innovations for tangible outcomes, and venture into new markets. PIVOT aspires to nurture specialised knowledge and fuel innovation. With a concentrated effort on DLT, AI, software development and securities services training, PIVOT aims to stay at the forefront of change. Together with TSSAG members, we will do more globally. We value the growing thought provoking association we have with Asset Servicing Times.

There is lots to do. Maybe we should have started 20 years ago.

CDSL
Convenient • Dependable • Secure

CDSL - Your Convenient, Dependable and Secure Partner in India

- Asia's 1st and India's only listed depository, with 25 years of operational excellence
- India's leading depository with over 125 million demat accounts
- Trusted partner to over 570 Depository Participants
- Successfully rolled out T+1 and T+0 settlement
- Cutting edge technology and securities settlement system
- Fully integrated Market Infrastructure Institution (MII) in the Indian Capital Markets ecosystem
- Robust suite of APIs to ensure efficient and accurate transactions
- Pioneered innovations like eDIS (Electronic Delivery Instruction Slip), Two Factor Authentication for Transactions, and e-Voting

Central Depository Services (India) Limited

Email us at: institutionaldesk@cdslindia.com

www.cdslindia.com

The journey of enabling 1.4 billion dreams: NSE building a prosperous India

Providing backbone infrastructure to the financial markets, India's National Stock Exchange is a lichen for the equity markets, says Sriram Krishnan, Chief Business Development Officer at the National Stock Exchange of India

National Stock Exchange (NSE) was set up in 1992 and went live in 1994, with the objectives of facilitating capital formation, addressing the need to offer democratic and transparent access to stock trading and to help improve the financial well-being of the people. In this time, it has always aimed to embrace new technologies, platforms and products. With a technology-first focus, it was the first stock exchange in the country without a trading floor, with the orders getting executed from across the nation on an automated screen using the V-SAT network.

From a market capitalisation of US$120 billion in 1994, to the market capitalisation surpassing US$5 trillion, the journey for NSE has just begun. This journey of wealth creation was facilitated with the listing of over 2500 companies.

The role of the Securities and Exchange Board of India (SEBI) has also been instrumental in spearheading financial inclusion, ensuring a secure investment environment helping the overall development of the securities market. SEBI, as well as the ecosystem of the early 1990s, propelled the creation of NSE anchored by the values and purpose to contribute to the country's progress.

The World Federation of Exchanges (WFE) in 2024 recognised NSE as the largest derivatives exchange for the fifth consecutive year based on the number of trades, and the world's largest exchange by the number of orders and trades processed daily. It ranks as the third largest equity exchange globally.

NSE has many firsts to its credit:

- First demutualised stock exchange
- First exchange to commence automated screen based electronic trading
- First to offer dematerialisation of shares
- First to promote India's depository, National Securities Depository Limited (NSDL), as well as establishing the first clearinghouse, NSE Clearing.

NSE introduced APIs to enable its members to build their own platforms and expand their reach. NSE services over 1300 trading members covering 100 million unique registered investors across 99.85 per cent of the 19,300 pin codes in India. It continues to work towards achieving leadership built on trust, security and inclusiveness. It also facilitates participation of foreign portfolio investors from 61 countries. In 2024, fund mobilisation through NSE exceeded US$166Billion.

NSE's multidimensional nature, covering multiple asset classes and wide customer segments, serve the multiple roles of: being an exchange; a front-line regulator; index provider; technological solutions provider; educator; and market developer. Technology, innovation, and transparency and inclusion are key priorities within NSE's market ecosystem.

Service delivery and instrument coverage

Innovative solutions have expanded service delivery channels as well as the coverage of financial instruments. Introduction of internet and mobile platforms for government securities in the primary market addressed challenges related to product awareness while providing an efficient channel for trading members to deliver investment products to clients.

The launch of the Nifty CPSE index and the Nifty BHARAT Bond Index series, facilitated government disinvestment through exchange traded funds (ETFs), providing an additional channel for risk diversification. These initiatives attracted retail investors to ETFs while simultaneously addressing the government of India's need for efficient divestment strategies.

Growth of ETFs expanded the coverage of instruments. With over 175 ETFs listed on NSE, and a daily average turnover of around US$92 million, the exchange plays a pivotal role in developing and popularising innovative financial products, offering participants diverse and efficient investment options.

Subscribers to IPOs can start trading within three days of the closure of the issue. The exchange's clear-cut policies, processes and technology solutions, enable greater liquidity, and faster wealth creation.

Technology at its core

As technology leaders, the focus is always on availability, scalability and security. NSE's technology infrastructure focuses on:

Availability: Exchange's state-of-the-art infrastructure enables innovation and rapid deployment for capacity augmentation while achieving an 'always available, reliable, performant, and cyber resilient platform'. It operates on fault-tolerant systems ensuring uptime during trading hours allowing them to operate at five-9s or higher. For example – the DC uses four telecom links to stay connected.

Latency: NSE operates on near zero latency, processing transactions in microseconds, as opposed to other industries where it can be in milliseconds.

Resiliency: The exchange's infrastructure works on the principle of zero tolerance, ensuring continuous market operations. This includes resiliency with high availability, near disaster recovery site, remote disaster recovery site and more than one-and-a-half times capacity. A robust disaster recovery capabilities ensure seamless continuity and performance.

Scale: NSE's scalability accommodates fluctuating trade volumes, adapting infrastructure to peak loads with capacity management strategies.

NSE's in-house developed trading platform, is capable of processing over 10 billion messages daily, from over 4000 locations, over 1500 broking members without any lag. The platform's scalability ensures optimal resource utilisation, enhancing operational efficiency and providing a seamless trading experience for participants.

Commitment to innovation and transparency

Investment in IT-based intellectual property enhanced NSE's surveillance systems to deliver a strong customer experience while reinforcing market integrity. NSE also invested in the below to foster a trustworthy ecosystem:

Next generation surveillance system (NGS): A new platform for market surveillance providing features like configurable rule based real time alert engine, data analytics and regulatory reporting, enriched visualisation, and support for complex workflows.

Log application and monitoring application (LAMA): A continued focus on overall resiliency of the entire capital market ecosystem, in the form of a new monitoring platform, consisting of a metrics capture API and monitoring dashboards. This is an industry-wide platform for all exchanges and depositories operating in India, for monitoring their respective qualified stockbrokers.

Network resiliency and technology modernisation: NSE invested heavily to ensure the highest level of resilience for critical network links across all sites. NSE migrated to software-defined networking (SDN) based network using Cisco ACI solutions across DC and DR.

Client-level collateral segregation: NSE implemented collateral segregation at the client level. Collaterals placed by clients are tracked through the system. System-based alerts are generated in case of deficiency of adequate collaterals placed by the clients. The monitoring process is implemented for more than 80 million investors.

System for online dispute resolution (ODR): Investor grievances across market infrastructure intermediaries are enabled through a system for online dispute resolution. The mechanism is available to all investors, clients and market participants who register and lodge their dispute through SMART ODR Portal.

The settlement cycles from T+2 to T+1 to T+0

India pioneered T+1 settlement without requiring pre-funding across all sectors in February 2023, setting new standards in global capital markets. Improved funding and liquidity built confidence and transparency enhanced digitisation and standardisation, ultimately leading to wealth creation and attractiveness

NSE, as a market leader, was in a position to ensure the transition was seamless. T+1 settlement cycle was implemented in a phased manner, while T+2 was operative, without causing a glitch in either of the trading systems. All stocks were transitioned based on market capitalisation. This ensured least disruption amongst brokers and investors. Foreign institutional investors from over 60 countries welcomed and acclimatised to T+1.

In early 2024, India further innovated by introducing a same-day (T+0) settlement cycle for a select group of stocks. Starting 28 March 2024, NSE started the T+0 settlement with 25 stocks. This initiative of SEBI towards shortened settlement aims to enhance cost efficiency, transparency in charges for investors, and bolster risk management at clearing corporations and the overall securities market ecosystem.

Stakeholder management

Stakeholders are an integral part of NSE's success. An average 19.71 billion orders are executed per day, across diverse asset classes, in a cost-efficient manner. Technology and innovation form the backbone.

With SEBI's far-sighted vision for the growth of the Indian capital markets and the clear roadmap that was available from time to time, NSE has played a pivotal role in bringing various stakeholders together in helping the achievement of various milestones. On the one hand we have the issuers – the companies whose equities and bonds are listed on NSE's platform, and on the other the investors, who with the help of various intermediaries, trade on these products on the NSE platform.

NSE has developed distinct modes of interactions and has tailored engagement channels for each stakeholder group. Leadership heads and their teams in each of the segments, engage through working group committees, help desks, one-on-ones, webinars, query resolution, physical onsite meetings, collaterals, and participation in various industry forums and conferences.

These channels allow stakeholders to voice concerns, enable a robust governance structure, provide feedback, and collaborate on key issues ranging from policy-related matters, regulatory and compliance issues, service-related matters, and query resolution and assistance.

NSE IX

NSE has played an important role in the Gujarat International Finance Tech-City (GIFT City) project, by setting up NSE International Exchange, which now already offers several derivatives products, including the popular GIFT Nifty Futures. The NSE IX – SGX partnership, which helps international investors trade various products on NSE IX via the GIFT Connect, is playing its part in fostering cross-border connectivity. This project has strengthened ties between international and domestic participants as well as facilitated the 'onshoring' of NIFTY derivatives products, marking a significant milestone in cross-border collaboration.

The launch of GIFT Connect has seen an increase in participation, with GIFT Nifty witnessing a total cumulative volume of over 15 million contracts, comprising a total cumulative turnover of US$612 billion as of 31 March 2024. GIFT Nifty has reached multiple back-to-back single-day record peak volumes of 532,783 contracts, and notional turnover of US$22.88 billion on 23 January 2024. It achieved the highest open interest of more than 330,000 in terms of number of contracts, with its value of US$14.6 billion as of 26 March 2024.

NSE Emerge and Social Stock Exchange (SSE)

NSE has set up NSE Emerge and Social Stock Exchange (SSE) as a separate segment, in line with the vision of the regulators.

NSE Emerge platform, catering to micro, small and medium enterprises (MSMEs), has been instrumental in unlocking value and bringing good quality issues, leading to growth, employment generation and capital formation. Since 2019, 501 companies across multiple sectors have collectively raised over US$1.41 billion on NSE Emerge, with a resulting market capitalisation of US$21 billion. The average IPO size increased nearly three-fold to US$4.5 million in FY2024-25 (YTD).

The Social Stock Exchange segment provides a new avenue for social enterprises to finance social initiatives, provide visibility and increase transparency in fund mobilisation and utilisation by social enterprises. NSE's SSE exemplifies commitment to inclusive growth and sustainable development by demonstrating unparalleled commitment to stakeholder engagement. The proactive approach ensures that innovative solutions are co-created to drive the success of the SSE.

Within 15 months of its launch, SSE has witnessed over 70 NPOs registrations, with nine raising over US$1.5 million for their projects in education, skilling, agriculture, art and heritage, and many more.

In conclusion

As NSE celebrates its 30th anniversary in November 2024, it is very clear that the core NSE values of integrity, customer-focused culture, trust, respect & care for the individual, passion for excellence and teamwork have helped build an extraordinary institution of national importance, with fine international repute. Team NSE looks forward to continuing the journey of shaping India's capital markets in times to come.

CDSL: Facilitating the Indian market

Looking at its crucial role in the Indian market, Nehal Vora, managing director and CEO at Central Depository Services (India) Limited, sits down with Justin Lawson of Asset Servicing Times to talk about the company's comprehensive services

Can you elaborate on the services offered by CDSL and how these facilitate efficient and secure transactions in the Indian market? What are the key features and benefits of CDSL's CSD services for investors and market participants in India?

Central Depository Services (India) Limited (CDSL) offers a variety of services designed to facilitate efficient and secure holding and operations of demat accounts in the Indian capital market.

As Asia Pacific's only listed depository, managing over 125 million demat accounts, CDSL collaborates with more than 570 depository participants (DPs) to provide seamless services for a diverse range of securities across multiple asset classes.

Our services include:

Segregated demat accounts: CDSL enables investors to convert their physical securities into electronic format, ensuring the safe and easy transfer of shares. CDSL maintains segregated accounts for its investors, ensuring clear and distinct ownership of securities. This enhances security, transparency, and complete control to the investors.
Account maintenance: CDSL provides secure maintenance of demat accounts, providing real-time access to account information, transaction history, and market data through its mobile and web platforms. This ensures that investors manage their investments efficiently and make informed decisions.
Transaction services: We enable swift and secure transfer of securities through state-of-the-art, automated processes, ensuring fastest turnaround time (TAT) in transactions, pioneering India's T+1 settlement landscape and even introducing T+0 settlement for cash and securities in 2024 for select stocks.
Surveillance and compliance: CDSL's surveillance portal also provides bulk upload facilities, enabling DPs to promptly submit their remarks and due diligence confirmations. This ensures timely resolution of surveillance alerts and compliance with regulatory requirements.
Support infrastructure: Over 13 live branches and dedicated expert help desks, ensure that investors receive support, queries addressed and receive tailored solutions.

CDSL's commitment to innovation, technology, and investor empowerment established it as a leader in the financial industry. Its services streamline processes, support regulatory oversight, and enhance the user experience, facilitating efficient and secure transactions while empowering financial inclusion in the Indian capital markets.

Can you provide insights into CDSL's role in enhancing market transparency and reducing settlement risks through its CSD services?

Innovative initiatives by depositories significantly enhance market transparency and reduce settlement risks. A key innovation is the Electronic Delivery Instruction Slip (eDIS), which enables investors to make secure and efficient electronic debit requests without the need for physical delivery instructions. This innovative model has revolutionised the landscape, as it operates as a distinctive B2B endeavour, facilitated by B2C authorisation, thus conferring ultimate control to investors.

Additionally, the introduction of two-factor authentication (2FA) on the Easi/Easiest portal adds an extra layer of security, protecting investors' demat accounts from unauthorised access. Depositories' e-Voting and e-AGM platforms facilitate wider shareholder participation by enabling remote voting and attendance at AGMs. Mutual Fund Central (MF Central) provides a comprehensive view of mutual fund holdings, simplifying the investment process. The introduction of Electronic Gold Receipts (EGR) promotes secure and transparent gold trading on exchanges, increasing market liquidity, and reducing settlement risks in the commodities market.

We provide a consolidated account statement (CAS) to all investors who have opted for this service. Investors can choose their regional language for the CAS, currently available in 23 Indian languages. Additionally, the 'CDSL Buddy Sahayta (Help) 24*7' chatbot on the website ensures inclusivity and makes demat information accessible to a broader audience.

What technological innovations has CDSL implemented to improve the efficiency and reliability of its CSD operations?

We have leveraged advanced technology to enhance the efficiency and reliability of central securities depository (CSD) operations.

Application programming interfaces (APIs) for depository participants: By enhancing digital access, depositories have established 'digital trust' through a robust suite of APIs that facilitate secure and seamless data processing between DPs and the depositories, ensuring efficient and accurate transactions. CDSL has been a favourite of DPs, especially fintechs, ensuring that its APIs deliver top-tier performance and security.

Electronic Margin Pledge: The electronic Margin Pledge system is a groundbreaking API interface provided to DPs, enabling investors to set up online margin pledges or margin funding requests effortlessly. This innovation also fortifies the overall security of financial operations, with CDSL at the forefront of implementing such secure systems.

> **"CDSL became the first depository to surpass the milestone of 125 million demat accounts, a phenomenal growth of nearly 100 million demat accounts in five years."**

Electronic system-driven disclosures (SDD): We have implemented system-driven disclosures (SDD) to ensure transparency and regulatory compliance in trading equity shares. This system-driven approach enhances market integrity and investor confidence.

T+0 rolling settlement cycle: In a significant step towards enhancing market efficiency, depositories introduced a beta version of the T+0 rolling settlement cycle in the equity cash markets for select stocks, effective March 2024. This optional system operates alongside the existing T+1 settlement cycle. This initiative contributes its commitment to advancing financial market infrastructure and reducing operational risks.

What are some notable milestones that CDSL has achieved in the Indian Asset Servicing industry?

CDSL's extraordinary milestones signify business success as well as a heartfelt commitment to investor education and empowerment over the last 25 years.

CDSL became the first depository to surpass the milestone of 125 million demat accounts, a phenomenal growth of nearly 100 million demat accounts in five years, which is a testament to the investors' trust in us.

The milestones that reflect our vision of empowering investors are embodied in our goal to be the 'Atmanirbhar Investor', ie a self-sufficient investor. This vision is deeply embedded in our ethos.

During our 25th anniversary year in 2024, we launched the Neev campaign, aimed at spreading financial literacy across 25 Indian cities through over 2,000 investor awareness programmes. This campaign, besides spreading financial literacy, reached out to diverse communities, including defence forces personnel and rural areas, ensuring that everyone, regardless of their location or background, has access to essential financial knowledge.

These milestones are a testament to CDSL's dual focus on achieving business success and making a heartfelt, meaningful impact on society and the economy.

Can you discuss any recent developments or initiatives undertaken by CDSL to address emerging needs and trends in the Indian market?

CDSL has undertaken several initiatives to increase accessibility to capital markets and empower investors. The reduction of the debit transaction tariff, eDIS, the introduction of the consolidated account statement in 23 Indian languages, and the 'CDSL Buddy Help 24*7' chatbot are some of these initiatives. Last year, CDSL successfully concluded 'Neev,' a comprehensive financial literacy campaign spanning 25 cities.

How does CDSL support diversification of investment products and services available to investors in India through its CSD infrastructure?

CDSL offers a comprehensive range of services that cater to the diverse investment needs of investors, corporations, and other market participants. These services promote seamless and secure solutions, enhancing ease of business, compliance, and investor participation through operational efficiency, high economies of scale, and innovative service implementation.

For beneficial owners and investors, CDSL provides the Easi and Easiest services for online account monitoring and transaction submissions, the Myeasi app and SMART message services for enhanced accessibility and timely alerts, and the electronic consolidated account statement (eCAS) in 23 languages for inclusivity.

For Depository Participants, CDSL offers various APIs for seamless data processing, including account opening, eDIS for electronic debit requests, and the Online Account Opening (OLAO) application for quick and accurate account setup.

Issuers and corporations benefit from CDSL's e-voting platform for improved corporate governance.

Other notable services include centralised KYC registration, Aadhaar-based eSign services, and support for the account aggregator (AA) ecosystem, enhancing transparency, data privacy, and financial inclusion.

How does CDSL collaborate with other market infrastructure institutions to streamline and optimise the asset servicing ecosystem in India?

As a Market Infrastructure Institution (MII), CDSL plays a pivotal role through active collaboration with a wide array of stakeholders as regulators, industry participants, custodians, market participants, investor associations, and transfer agent (TA) companies.

> **"CDSL extensively partners with banks and depository participants to enhance the reach and accessibility of its services."**

CDSL works in close partnership with other market infrastructure institutions such as stock exchanges and clearing corporations. This collaboration is crucial for ensuring seamless settlement processes, efficient clearing mechanisms, and timely reconciliation of transactions.

CDSL extensively partners with banks and depository participants to enhance the reach and accessibility of its services. CDSL can provide its services to a broader audience, ensuring that more investors can benefit from its secure and efficient asset servicing solutions.

CDSL's collaborative efforts extend to technological advancements. The implementation of robust APIs facilitate secure and seamless data processing between depository participants and CDSL, enhancing operational efficiency and reliability. Innovations such as the electronic margin pledge system and system-driven disclosures further streamline processes and improve market transparency.

These partnerships and innovations reflect CDSL's commitment to fostering a transparent, secure, and inclusive financial ecosystem, driving growth and confidence in the market.

Clear and away

Vikram Kothari, managing director and CEO of NSE Clearing, discusses the clearing corporation's objectives, approach to T+1 settlement and the transformational reforms undertaken by Indian capital markets

NSE Clearing Limited is the first clearing corporation (CCP) in India and the first of its kind to introduce settlement guarantee. The organisation clears approximately 95 per cent of equity cash and derivatives trades in India under the CCP interoperability framework. NSE Clearing, formerly known as the National Securities Clearing Corporation Limited (NSCCL), is a wholly-owned subsidiary of NSE which is among the largest equity cash and derivatives markets in the world.

NSE Clearing is recognised as a Qualified Central Counterparty (QCCP) by the Securities Exchange Board of India (SEBI). NSE Clearing has received reaffirmation of its corporate credit rating of 'CCR AAA/Stable' from CRISIL. The 'CCR AAA/Stable' rating indicates the highest degree of strength with regards to honouring debt obligations.

Objectives and services

NSE Clearing objective is to bring sustaining confidence in clearing and settlement services, promote and maintain short and consistent settlement cycles, provide counterparty risk guarantee, and create a tight risk containment system.

The CCP therefore becomes the counterparty to every trade by novation and successfully undertakes settlement obligations, regardless of member defaults.

NSE Clearing provides multiple clearing and settlement services for the National Stock Exchange (NSE), India's leading stock exchange in the Capital Market (CM) Segment, Futures and Options (FO) Segment, Currency Derivatives (CD) Segment, and the Debt Segment and Commodity Derivatives (CO) Segment.

As well as for the BSE Limited (BSE) and Metropolitan Stock Exchange of India Limited (MSEI) for the Capital Market (CM) Segment, Futures and Options (FO) Segment, Currency Derivatives (CD) Segment under interoperability arrangement.

Risk management

Sound risk management is the highest priority of NSE Clearing. Its risk management philosophy extends beyond its own protection from various risks, and places equal emphasis on minimising the infrastructure and intermediary risk for the investor community it serves.

Core Settlement Guarantee Fund

NSE Clearing ensures adequacy of financial resources, including the Core Settlement Guarantee Fund (SGF) at all times to ensure financial stability in all circumstances. The Corpus of Core SGF as on 30 June 2024 stands at approximately INR 9000 crores (US$1.1 billion).

NSE Clearing maintains Core SGF in each segment, based on the methodology prescribed by SEBI. The SGF corpus is not out of members' contributions. The minimum required corpus of the core SGF is determined using the stress test, which is designed to cover the worst-case loss in extreme but plausible scenarios in respect of the top two members causing highest credit exposure.

Collateral management

NSE Clearing has adopted the best practices laid down under the Principles for Financial Market Infrastructures (PFMI) guidelines and manages client collateral, segregated at client level — 100 million investors across various asset classes, to the tune of INR.7.2 Lakh Crores (US$85 billion).

Clearing and Settlement

While many major jurisdictions worldwide are considering shortening the settlement cycle in equity cash from T+2 to T+1, India is the first to successfully complete T+1 migration, in a phased manner. For migration to T+1 settlement, NSE Clearing adopted a unique approach of migrating securities phase wise, with some securities moving to T+1 every month starting with securities with least market capitalisation. This required NSE Clearing to operate two settlement cycles simultaneously, even as it was continuing settlement in the rest of the listed securities.

Technological changes were inducted to shorten the settlement cycles by a day without significantly changing the trade confirmation timings for custodians. NCL is the preferred CCP for custodians. The key challenge for overcoming the shortening settlement cycle is clearing and settlement operations for foreign investors, given time zone differences and currency conversions. NSE Clearing engaged with the intermediaries to develop processes and procedures to ensure a smooth transition.

After successful implementation across all segments, NSE Clearing shortened its settlement cycle to T+1.

While all executed trades cleared through its clearing members are electronically transferred to NSE Clearing for clearing and settlement and are settled on a T+1 basis in the cash market segment; for trades executed through its clearing members in securities eligible for optional T+0 settlement, NSE Clearing clears and settles on a T+0 basis in the cash market segment.

Other transformational improvements

NSE Clearing also undertook several other transformational reforms to improve the protection of customer assets, improve funding and market liquidity for investors, and ensure continuity of operations even under extreme operational risks.

NSE Clearing has implemented the following reforms and process improvements in the last 12 to 18 months. First, the individual segregation of collateral for all customer accounts. Second, validations to ensure that movement of customer securities in depository accounts by intermediaries are always backed by secondary market transactions. Third, trading supported by Blocked Amount in Secondary Market (UPI block facility). Finally, a unique SaaS portability model with other CCP to ensure business continuity.

Market protection

NSE Clearing engaged with depositories to initiate a unique system that ensures securities transfers do not exceed the customer and client obligations. Using customer-level data, NSE Clearing generates and provides customer level obligations to the CSDs, who restrict participants from transferring out from the customer accounts more securities than corresponding obligations.

NSE Clearing implemented maintenance of customer collateral in individual segregated accounts, for all investors, at no cost and without a need to opt in. NSE Clearing also provides a web portal available 24/7 to all customers to validate collateral amounts reported by members. NSE Clearing effectively protects customer collateral, including amount in excess of margin in case of member default. Customers are effectively protected from risk of default of participant, fellow customer, or misuse of collateral by the participant.

In order to provide further protection to the investors from the default of members — either ‘trading members’ (TM) or ‘clearing members’ (CM) — NSE Clearing introduced a supplementary process for trading in a secondary market based on blocked funds in investor’s bank account, instead of transferring them upfront to the trading member, thereby providing enhanced protection of cash collateral. This facility was provided by integrating Reserve Bank of India (RBI) approved Unified Payments Interface (UPI) mandate service of single block-and-multiple-debits with the secondary market trading and settlement process referred to as a UPI block facility. Investors have welcomed this across segments.

Technology footprints

The above-stated initiatives driven by internal and external factors require a continuous and consistent investment in several technological changes. Further in the said 18 months besides the above referred transformational changes, the scale of growth was unprecedented. As collateral accounts and settlement obligations grew from a few hundred thousands to double-digit millions, access and notifications to customers went from zero to over 100 million customers.

Software-as-a-service (SaaS)

NSE Clearing engaged in a unique software-as-a-service (SaaS) model with an interoperable CCP, to offer their systems as a redundancy to each other. In case of business disruptions, other CCPs' systems can be activated within the recovery time objective to continue operations and resume risk management and collateral management.

While CCPs achieve business resiliency through hardware redundancy and near and remote disaster sites, such measures can only guard against physical disruptions or hardware breakdowns but not software glitches.

Further, in order to test resiliency, the intraday switch over of operations were carried out in live trading day from the primary site to the disaster recovery site through graceful shutdown. This exercise ensured that the MIIs achieved readiness in managing significant disruptions or failures at the primary site, thereby ensuring robust contingency measures are in place. NSE Clearing successfully switched its operations from the primary site to the disaster recovery site while being compliant with SEBI prescribed Recovery Time Objective (RTO) limit of 45 minutes and Recovery Point Objective (RPO) limit of 15 minutes.

Industry engagement

NSE Clearing acts as a bridge between regulators and market participants to understand the needs and expectations and develop solutions that, as far as possible, meet demands from both. NSE Clearing is a member of international associations, including the International Securities Services Association (ISSA) and CCP12.

NSE Clearing shares best practices at such forums, as well as in its interactions with the industry associations — ANMI, BBF, and CPAI — and the custodians and other market intermediaries — CDSL and NSDL — from the ideation stage, ensuring timely implementation of the regulatory changes and launch of new products. The regulators in India typically form working groups with industry and regulatory participation to develop regulatory frameworks in a consultative manner. NSE Clearing acted as a nodal agency and spearheaded nearly all of the relevant working groups to assist the regulator in drawing up regulatory frameworks.

NSE Clearing has also worked with the industry, clearing members in particular, to ensure that the regulatory frameworks, while being in accordance with the spirit with which it is drawn up, also takes into consideration practical circumstances faced by the industry. While drawing up its own operational and compliance requirements for members, NSE Clearing ensures balance of purpose and practicality. NSE Clearing works with member associations and individual members to explain any new requirements and help in compliance.

All of these initiatives have led to increased efficiency and customer protection, reduced monitoring costs, and improved market operations.

For us at NCL, robustness, consistency, transparency in risk management, market resilience, and technology solution is on the forefront of satisfying the stated objectives.

Vikram Kothari
Managing director and CEO
NSE Clearing

Beyond the mattress: Safeguarding your crypto in the digital age

Amir Tadch looks at the importance of digital asset custody. He says crypto should not just be 'kept under a mattress'

Imagine the early days of the internet, where anyone could potentially strike gold but security was a Wild West shootout. That is where the cryptocurrency world is at right now. Bitcoin and other digital assets are rapidly gaining value and attracting more and more people, but there is a crucial missing piece — secure storage.

What is digital asset custody?

Consider a safety deposit box at the bank. That is essentially what digital asset custody provides. In the same way people would not stash a pile of cash under their mattress, cryptocurrencies should not be left 'lying around' on personal devices or unregulated exchanges. Hackers are constantly circling, and in the past three to five years alone, countless crypto institutions have been hit by scams and hacks, leading to millions in losses.

As per a report by Chainanalysis published in January 2024, 2022 was the biggest year ever for crypto theft, with US$3.7 billion stolen. In 2023 however, funds stolen decreased by approximately 54.3 per cent to US$1.7 billion, though the number of individual hacking incidents actually grew, from 219 in 2022 to 231 in 2023.

Similar to traditional financial assets like stocks and bonds, digital assets also require safekeeping. Digital asset custody providers act as custodians, holding and securing people's digital assets on their behalf. Just like a bank safeguards cash and valuables, a custodian offers a secure environment for crypto holdings.

Why is digital asset custody important?

Unlike traditional assets, cryptocurrencies exist on digital ledgers called blockchains. While blockchains offer a high degree of security, individual investors are still vulnerable to hacks and theft if they store their assets on personal devices or unregulated exchanges. In 2022, over US$2 billion worth of crypto was stolen, highlighting the vulnerability of using unregulated exchanges.

Digital asset custodians employ robust security measures, including multi-signature wallets, cold storage (keeping assets offline), and insurance coverage. These safeguards significantly reduce the risk of loss or theft compared to self-custody.

Benefits of using a digital asset custodian include:

Ironclad security — custodians leverage advanced security protocols and technologies to keep assets safe.

Regulatory compliance — for institutional investors, custodians can help ensure adherence to relevant regulations.

Insurance coverage — many custodians offer insurance policies to protect against losses due to theft or cyberattacks.

Convenience — custodians can streamline digital asset management, simplifying transactions and record keeping.

> **"Custodians leverage advanced security protocols and technologies to keep assets safe."**

Who uses digital asset custody?

Digital asset custody primarily caters to three types of investor — individual investors, institutional investors, and corporations.

For individual investors, custodians offer 'peace of mind' to those holding significant amounts of cryptocurrencies. Institutional Investors, such as hedge funds, investment firms, and traditional financial institutions, leverage custodians for secure storage and trade execution. With corporations, companies exploring blockchain technology and cryptocurrencies can also benefit from custodian services.

> **"Digital asset custody is like the backbone of the crypto ecosystem — it fosters trust and security, and paves the way for wider adoption of these revolutionary assets."**

Digital asset custody in India

India's crypto landscape is a fascinating one. While the initial Reserve Bank of India (RBI) ban in 2018 caused some jitters, the Supreme Court overturned it, paving the way for further developments. Although regulations are still evolving, the market is seeing a rise in digital asset custody solutions.

Despite the lack of clear regulations, the Indian market has seen a rise in digital asset custody solutions. In 2023, India's Central Bureau of Investigation (CBI) appointed Liminal as a custodian to manage seized digital assets during investigations, arguably once again highlighting the growing need for secure storage of digital assets in the country.

The Future of Digital Asset Custody

As the digital asset landscape matures, so too will digital asset custody solutions. We can expect to see:

Evolving regulatory landscape — regulations around digital asset custody are constantly evolving. Custodians will need to adapt to ensure compliance.

Technological advancements — new security measures and technologies will emerge, further enhancing the safety of digital assets.

Institutional boom — as major institutions enter the crypto space, the demand for secure custody solutions will rise.

Digital asset custody is like the backbone of the crypto ecosystem — it fosters trust and security, and paves the way for wider adoption of these revolutionary assets. An adage for all those considering venturing into the world of crypto: remember — a secure vault is just as important as the gold itself.

Deciphering the meteoric rise of India's capital markets

ION Markets' Sandeep Sabnani, head of equities product strategy and growth, and Chris Brown, thought leadership content specialist, question what lies ahead for the Indian capital markets

India is on the move and it is moving fast. That is what Prime Minister Narendra Modi said recently as he reiterated his aim to make the country the world's third largest economic power if he wins a third term in the upcoming elections.

The momentum and numbers appear to agree with his optimism.

With the IMF expecting India's economy to grow 6.5 per cent this year, an unprecedented wave of digital adoption could open up financial markets to millions. With US$130 billion in planned infrastructure spending, and a comparatively young population, there is an upbeat feeling about the world's most populous nation.

Foreigners and locals alike are buying into the country's growth story in increasing numbers.

The National Stock Exchange of India (NSE), which recently overtook Hong Kong as the fourth largest in the world, has doubled in value in four years, surpassing a market capitalisation of US$4 trillion at the end of 2023. And India is outpacing China in IPOs, according to ION Analytics and Dealogic data.

Brokerages have reaped the rewards of this exponential growth, generating FY2023 revenue of 382 Indian Rupees (US$4.6 billion), while shifting from a transaction-based trading model to a fee-based one, and expanding the services they offer.

But the heavy demand, increased competition from discount brokers, and regulatory changes have created challenges as well as opportunities.

Technology has addressed some of the obstacles and will continue to do so as the industry seeks to tap India's full potential.

The India Stack: Kicking off a retail revolution

A fast growing economy, higher disposable incomes, and a unique digital architecture called the India Stack, have made it easier for millions to invest in shares for the first time.

This infrastructure has been "revolutionising access to finance", according to the IMF. It has given swathes of the population digital IDs (Aadhaar) for the first time, thereby widening access to banking and digital wallets.

A fundamental component of this technological stack is the Unified Payment Interface (UPI).

This interoperable system on which banks and nonbanks can build apps, allows the fast, cheap, and seamless transfer of payment orders between individuals, companies, and government institutions. People with smartphones have the world at their fingertips.

The UPI has gone from strength to strength in services offered.

In 2022/23 alone, during a period of market volatility, people in India opened almost 25 million demat accounts, which are required to buy and sell shares. The number of demat accounts increased five-fold between 2014 and 2023, while the number of active NSE clients grew nine-fold.

For retail investors, the infrastructure already dominates IPO applications, and India's National Payments Corporation of India is taking it a step further. In collaboration with clearing houses and brokerages, it recently began pilot-testing a UPI for the secondary market.

Given how the India Stack is facilitating investment opportunities for retail investors, demand for equities is set to continue, adding to the pressure on intermediaries operating in India's capital markets.

Soaring passive investment pushes tech case

At the end of November 2023, the Indian ETF industry had 190 ETFs and assets of US$73 billion (versus US$36 billion four years earlier), according to London-based research organisation ETFI. Regulatory changes have helped the growth of ETFs in India, where the 10-year compound annual growth rate is 45.9 per cent.

Retail demand for shares, ETFs, and even derivatives has led brokers to invest in more low-touch trading software and integrated solutions. With retail customers expecting easy to use trading applications on their smartphones, operators must have systems in place to ensure their internal processes are automated as much as possible to handle increased traffic and trade orders efficiently.

Traditional full-service brokerages (FSBs) have had to adapt amid competition from innovative discount and Robo brokers. FSBs need to continue diversifying and offer a whole range of financial services, in addition to producing the traditional, human-intensive research that is important for institutional clients.

New entrants tend to charge zero, flat, or discounted brokerage fees. The new-aged platforms are efficient, algo-driven, and robust.

According to ICICI research: "In the past few years, the cost structure and operational efficiency of brokerages has improved amid higher utilisation of technology."

Evolving regulations, evolving risk

In addition to more intense competition and higher demand, market participants must be prepared for frequent regulatory changes. The scenario reinforces the need for a more holistic approach to technology and the role it can play in managing risk and compliance.

Foreign Portfolio Investors (FPIs), which "help deepen the Indian capital markets for listed securities, bonds, derivatives" according to PWC, face several challenges — from a complex and changeable regulatory framework governing their investments, to differing tax regimes depending on the security and FPI category.

In 2021/22, new SEBI rules on intraday trading came into full force after a phased approach, in what The Economic Times called a "tectonic shift". Rather than collecting minimum margins at the end of the day from clients for leveraged positions, brokers are obliged to collect them upfront. Moreover, clearing houses must ensure that minimum margins are maintained throughout the session, and brokers face penalties if leverage surpasses specified parameters.

Market participants also have to deal with shorter settlement periods for trades, which from 2023 in India must be wrapped within 24 hours (T+1). The US, is of course also moving to this compressed time regime in May. India is already planning to shift to same-day settlement (T+0) and then instant settlement.

For cross-border trades, the situation is more complicated, and T+1 and T+0 leads to more expensive pre-funding.

Making investment more attractive

Authorities have undertaken reforms to make investment easier. These include single-window clearances, simplified approvals, tax changes, broadening the parameters of what financial investors can put their money in, and recategorising FPIs.

Making the country a global financial centre, a technology superpower, and luring more foreign direct investment and money from wealthy non-resident Indians are government priorities.

One project that encapsulates this drive is GIFT City (Gujarat International Finance Tec-City) in Gandhinagar, western India. Its inception dates back to 2008 when Prime Minister Modi was chief minister of the state of Gujarat, and it aims to establish a technology and financial hub to compete with Singapore and Dubai.

To encourage funds and capital markets firms to open offices in GIFT City's International Financial Services Center (IFSC), the government established tax incentives and a unique financial authority (the IFSCA), which has a holistic, inter-regulatory vision.

The project is growing and last year an agreement was struck whereby US$7.5 billion in derivatives trading shifted from Singapore to GIFT City.

Tech is the answer

Nevertheless, GIFT City aside, regulatory pressures and changes can be immense for firms in capital markets, and any efficiencies in internal processes must be ironed out to save costs in the long term. More automation will reduce the risk of human error and trades falling through, which can be costly.

This is essential for market participants as momentum builds for equities and passive investment strategies such as ETFs among India's growing middle classes, and as the country continues its drive to lure more foreign investors.

Brokers who work with multiple systems or legacy infrastructure will struggle to manage the complexity of markets, both locally and abroad. Those who leverage integrated trading solutions to streamline workflows, from order and execution to settlement, and manage risk and compliance will have a competitive advantage.

As financial literacy and smartphone use expand, and if economic growth can bring prosperity to many more Indians, then capital markets need to be prepared to scale. Investment in cloud-based technology will be critical in order to tap this potential.

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Custodian to the nation

With shifts in regulation and the continuing move towards a faster settlement cycle, custodial services in India are growing increasingly important. StockHolding looks at how its offering supports clients

India based Stock Holding Corporation of India, popularly known as 'StockHolding', was incorporated as a public limited company in 1986. The company is promoted by leading financial institutions and insurance majors of India. Since inception, the company has evolved steadily to be a financial powerhouse, offering a basket of products and services that provides ease in financial planning needs of corporations and individuals.

StockHolding pioneered custody services in India, and with over three decades of experience, has brought an entire spectrum of financial products and services to the country, enabling wealth creation and the growth of its clients.

It initiated holding securities in electronic form, thereby setting the trend for the capital markets to follow. This eased the raising of capital by companies, reducing risk, protecting assets, managing documents, and imparting training.

On the back of this, the corporation has been a pioneer in various fields in the Indian capital markets.

As a pioneer, and as the first tech-driven custodian in India, StockHolding bring a wide range of services — including securities custody, clearing and settlement, and asset servicing — to a diverse set of institutional and non-institutional clients.

It manages assets under custody of over US$95 billion, across both domestic and foreign clients. Its role as a custodian is pivotal in ensuring the safekeeping and efficient management of financial assets on behalf

of its clients. StockHolding's robust infrastructure, coupled with its deep understanding of regulatory frameworks and market dynamics, its deep expertise and its tech-driven solutions, has established the company as a trusted partner for institutional investors, foreign portfolio investors (FPIs), foreign direct investors (FDIs), banks, asset management companies and other financial entities.

Having pioneered demat services in India since 1998, to all customers on both National Securities Depository Limited (NDSL) and Central Depository Securities Limited (CDSL), StockHolding is also empanelled as a repository participant enabling it to hold commodities in an electronic form.

It also offers services such as demat and broking, fixed income products, pension products, document management and insurance solutions.

StockHolding houses three subsidiary companies: StockHolding Services Limited (SSL), StockHolding Document Management Services (SDMS), and StockHolding Securities IFSC Limited (SSIL).

SSL offers broking services in cash, derivatives, currency, and commodity segments. It is acknowledged for providing speedy, safe and reliable broking services to its retail and institutional clients.

SDMS offers end-to-end document and data management solutions, both in physical and digital domains, across India for various corporate and government entities.

SSIL is a trading and clearing member of India International Exchange (INX), NSE IFSC and India International Bullion Exchange (IIBX) in IFSC.

A cornerstone of StockHolding's success is its client-centric approach, which is manifested through its dedicated client service team. This set the high standards for the custodians who subsequently set up business. This team plays a crucial and proactive role in providing personalised services and addressing client needs effectively. Key aspects include personalised support, proactive communication, customised reports, proprietary systems, problem resolution, efficient operations and enhanced transparency.

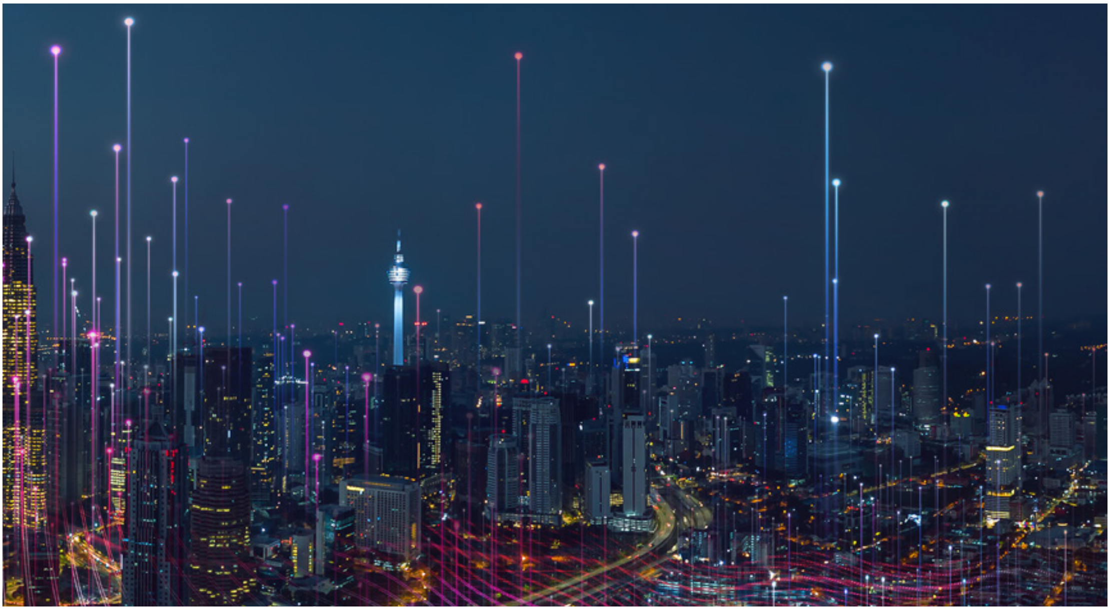
"As India moves to T+0 settlement, managing the overlap with the existing T+1 cycle presents unique challenges."

The Indian capital market witnessed a significant transformation with the shift from T+2 to T+1 and then to T+0 settlement cycle. This change enhances the efficiency, liquidity and overall attractiveness of the Indian financial market, improved liquidity, de-risked the market and more. As India moves to T+0 settlement, managing the overlap with the existing T+1 cycle presents unique challenges.

The role of custodians becomes crucial in managing both T+1 and T+0 settlement cycles concurrently. StockHolding, as a leading custodian, is adept at navigating these complexities due to its robust proprietary system capabilities, which are managed in-house with experienced and expert workforce. It is well acknowledged that most of the custodians are staffed by erstwhile employees of StockHolding custody. StockHolding has successfully managed both T+2 and T+1 settlements concurrently. This experience is testament to its ability to handle multiple settlement cycles efficiently.

The trained workforce at StockHolding are adept at providing support across different settlement timelines per the differentiated requirements. This expertise ensures that clients are able to navigate the intricacies of cross-border settlements and multifaceted financial instruments with precision. On average, StockHolding processes over three lakh transactions a year.

In recent regulatory shifts, the role of custodians has taken centre stage in the financial services industry. The requirement for alternative investment funds (AIFs) and portfolio management services (PMSs) to mandatorily appoint custodians has redefined



the operational landscape, emphasising the critical importance of custodians like StockHolding. This regulatory change aims to enhance oversight, safeguard assets and ensure transparency in financial operations.

As custodians are entrusted with the safe-keeping and management of assets their responsibilities have expanded to include:

Enhanced security – With assets under a custodian, safeguarding against fraud, loss, or mismanagement is paramount. StockHolding has invested heavily in state-of-the-art security measures and technology to ensure asset protection.

Operational efficiency – An effective custodian is required to maintain meticulous attention to detail in transaction processing and settlement with minimal failures. Towards this objective, StockHolding excels in streamlining these processes, thereby reducing the operational risks and enhancing efficiency.

Regulatory compliance – Navigating complex regulatory environments is a significant challenge for both domestic and cross-border investors. StockHolding's expertise in regulatory understanding and its relationship with the regulators ensures that the clients remain compliant with current legislation, avoiding potential legal pitfalls.

Transparency and reporting – The need for accurate and transparent reporting has never been more critical. StockHolding provides comprehensive and highly customised reporting, fostering trust and informed decision-making.

Client support – Beyond technical capabilities, effective custodianship involves exceptional round the clock client service. StockHolding is recognised for its responsive and supportive approach addressing client needs promptly and effectively.

In conclusion, StockHolding's comprehensive suite of services over the last four decades, positions it as the ideal custodian for cross-border investors looking to engage with the Indian domestic market and in IFSC.

As international investors seek a trusted custodian to facilitate their investments in India's dynamic market and the emerging opportunities within IFSC, StockHolding stands out as a comprehensive, secure and client-focused choice.

A smooth landing

The Indian custody market embraced last year's switch to T+1 and, according to three of the nation's leading custodians, there is cause for more optimism

On 27 January 2023, India's equities market made the move to a T+1 trade settlement cycle. A year on, the markets are set to celebrate its one-year anniversary after an impressive year of growth and buoyancy in the face of global market turmoil.

With North America and potentially Europe to follow, the Indian custody markets have set the standard for the transition to shorter settlement cycles. Anuj Rathi, HSBC's head of securities services for India, is keen to underline this fact.

"The Indian market moved ahead of others going into T+1. Now, the Indian markets are talking of T+0 settlements for retail in 2024 and instantaneous settlement coming into 2025," Rathi says.

"Market participants have worked very well aligning the requirements of the regulators with the investors. It's been more than 12 months that the markets have been on T+1 and been quite a smooth transition."

The T+1 cycle means that all equities trades, be it exchange traded funds (ETFs) or shares, must be completed within one day. The move from the previous T+2 cycle aimed to increase efficiency in the market and settle trades faster.

Preparing for the major shift posed a challenge for the Indian custody market. Chaitanya Joshi, Standard Chartered's head of securities services for India, explains his bank's preparations: "We made necessary changes in our local settlement system well before the market went live, and also introduced a night desk to process client instructions that are received overnight."

A growing market

Vivek Gupta, Axis Bank's president and head of wholesale banking products for India, credits the strength of the Indian market for the seamless transition to T+1. He suggests that the markets have capitalised and successfully seized the advantage of China Plus One (C+1) policies, which discouraged investment in Chinese production in order to diversify markets and prevent an over-reliance on one nation — a chasm India has more than filled.

Gupta explains with gusto, "Positively, there has been a shift on a C+1 basis towards India. We are seeing [in action] what customers are telling us: that India is a leading investment destination. This is also the case in the capital markets. Whether it's liberalisation on the bond front or interests from overseas investors into India, we see strength across the board."

"We have seen significant growth in assets under custody, due to the market increasing in size and the market cap crossing US$4 trillion."

Anuj Rathi
HSBC

HSBC's Rathi shares Gupta's enthusiasm, explaining that the strength of the market will enable further growth. "A lot of positive developments have taken place. India has been included in the J.P. Morgan Global Bond Emerging Markets Index (GBI-EM), so that will be a big focus area for 2024."

The induction into the GBI-EM will begin in June 2024 and is set to allow for several billion dollars of foreign investment into Indian government bonds. The admission has been long sought by both the Indian government and regulators as the Indian bond market expands to allow vast investment and boost an already buoyant market.

Strong and stable makes a trickle

The Indian government, headed by Prime Minister Narendra Modi, has been in power since 2014 and has vowed to make India the world's third-largest economic power. It is widely expected that in this year's general election, Modi will win a third term as Prime Minister.

> **"Positively, there has been a shift on a C+1 basis towards India. We are seeing [in action] what customers are telling us: that India is a leading investment destination."**
>
> **Vivek Gupta**
> Axis Bank

Axis' Gupta explains that the strength of the Indian markets can be attributed to the stability in the nation's parliament. He says, "There's a lot of promise. We've recently had domestic political elections that have gone favourably with the ruling party, so stability issues have been addressed. We have one of the few economies that is chugging along quite well.

"There is a genuinely strong belief that [India is a promising market], led by and centred around a strong, stable government with strong, stable policies. With many foreign direct investments coming in as the C+1 strategy plays out, clients I speak to have a strategic plan with an India aspect to it."

Yet, while the Indian markets are growing, it has to be acknowledged that wealth inequality is also increasing across the country. A 2023 Oxfam report on inequality in India revealed that the richest one per cent in India own over 40 per cent of the entire nation's wealth. The country also remains the nation with the highest number (228.9 million) of people living in poverty in the world — over double the next highest, Nigeria's, 96.7 million. Oxfam says this inequality is only set to increase.

The previous year's report on inequality in India from the charity was critical of the government's economic policies, stating: "the stark wealth inequality in India is a result of an economic system rigged in favour of the super-rich over the poor and marginalised."

Questioned whether such inequalities will affect the custodian market, Gupta rebutted the suggestion. He claims, with real emphasis, that "the country is in a good space and a lot of good work is being done. I think progressively. I'm very confident that that will lead to trickle-down benefits that will help the masses in multiple ways. I'm very confident [about India's future]."

Questioned again on if there really are any merits of a trickle-down economic system, Gupta insists: "The amount of [infrastructural] work happening is heartening to see. All that work means there is a trickle-down effect to the supply chain, employment, et cetera. The leading indicators, from what I observe around the country and from clients, are full of optimism."

Looking to the future: The mask is off

The Indian markets have had to shift to adjust to the implementation of T+1 and, with the market growing further and wider, custodians have to remain on top of all developments.

HSBC's Rathi reflects on the growth of custodial assets. He says: "We have seen significant growth in assets under custody, due to the market increasing in size and the market cap crossing US$4 trillion."

The growth of the Indian markets is epitomised by the expansion of retail investment in the country, with an unprecedented 10 million depository accounts reportedly opened with the Indian Central Depository Services since April 2023.

"Retail investors have grown significantly," Rathi says, "which helps indirectly as they will potentially be investing in domestic mutual funds and insurance. Retail investor growth contributes to the widening growth of the mutual fund and insurance industry. Foreign portfolio investors bought Indian equities, which includes both primary and secondary markets, worth US$21.23 billion in 2023 — a target segment for us."

But, with markets expanding, how will HSBC adapt?

"Technology investment becomes the key for all custodian banks." Ruthi explains plainly. "There is a big focus on application programming interfaces (APIs), flexible micro services-based tech architecture and a progressive move to batch-less systems to ensure that the connectivity between the offshore clients and the custodians in India improves significantly."

Similarly, Standard Chartered are also looking to invest in technological advancements. Joshi explains: "We will explore use cases for robotics and automation to reduce manual processes, increase efficiency and assurance, and provide more efficient solutions to our clients in both custody and fund accounting."

For all three custodians, the shift to T+1 dominated our discussions on regulation in the industry. All three participants agreed that the transition had been successful, and credited the regulator for the achievement.

Joshi suggests that there will be further regulatory pressure as regulators look to protect investors and the market. "This will result in additional requirements in line with those recently seen, including greater disclosure requirements and ownership verification. The regulators and the infrastructure will continue to push India to be a ground-breaking jurisdiction," he says.
Axis's Gupta echoes the sentiment and heaps praise on the regulator's drive.

He says: "One thing I'd like to point out is the intent of the regulator to make sure that India is in-line with best-in-class practices globally. T+1, and potentially T+0, are very visible manifestations of a very strong intent from the regulator."

Closing in on T+0?

The successful transition to T+1 across the Indian markets has given hope that the same feat can be repeated with T+0. However, making yet another transition to settle trade cycles on the same day will be difficult.

Joshi reveals the way in which Standard Chartered would deal with another shortening trade cycle.

He says: "To meet T+0 settlement timelines, we would need to make further changes to our operating model and local settlement system.

"While we enhanced the equity trade matching process through internal automation to make it near real-time, we would look to further enhance internal automations and explore API use cases for a T+0 settlement scenario."

HSBC's Rathi dismisses the notion that adapting to a shortened cycle would pose any difficulty. He retorts: "There are regulatory aspects which one has to keep abreast of, and we must work closely with policymakers and investors to ensure that the transition is in the best interest for both parties."

Rathi argues that his bank would be more than capable of adapting and rules out any uncertainties that it would pose too much of a change, too quickly.

"The regulators in India will allow for a consultative process and adequate time to ensure all views are well understood before rolling out any changes." Rathi ends with a final flourish. "Infrastructure changes are not really a challenge."

Gary King
Associate director and Asia Pacific specialist
Thomas Murray

T+1 settlement cycles: Lessons from India and Asia Pacific

Gary King, associate director and Asia Pacific specialist for Thomas Murray, reflects on India's transition to a T+1 settlement cycle and assesses the rest of the region's approaches to the shifting settlement cycles across the globe

A phased transition, rather than a big bang

When the US equities market transitions to T+1 in late May 2024, India will have been operating a T+1 settlement cycle for almost 18 months.

In contrast to the "big bang" approach, as to be adopted by the US, India opted for a phased transition, lasting from February 2022 until January 2023.

In this method, securities were grouped into tranches, which moved to T+1 on a monthly basis; starting with the smallest stocks by market capitalisation and gradually working up to the largest in the final tranche.

The idea was to give the market time to acclimatise to the new cycles and time frames with the relatively illiquid securities and ensure full preparedness by the time the most liquid stocks transitioned.

This was considered preferable because of India's adoption of a relatively short time frame from commencing the T+1 project to going live with the transition — at least.

The Indian market simply would not have been ready for a big bang approach.

On the other hand, a phased approach creates the simultaneous running of two, operationally burdensome, separate settlement cycles during the period.

Comparing the Indian and US approaches will be an interesting exercise for any markets looking to move to T+1 in future.

There were signs that the main driver for a move to T+1 in India was to increase liquidity for the nation's extremely large domestic and retail markets. The initial T+1 roadmap indicated this line of thinking; with plans to set participant instruction deadlines at 19.30 on SD-1 (ie TD), while also recommending trade pre-funding as the norm.

These proved to be points of contention, however, and following feedback from market participants, specifically on behalf of foreign portfolio investors (FPIs), the market agreed to move the confirmation deadline to 07.30 on the day of T+1. This allowed investors more time to provide their instructions, while also removing any official pre-funding requirements.

Adapting to the change

FPIs welcomed these changes. But, this change increased pressure on the local market participants and infrastructures to deal with any late or mismatched instructions, while ensuring cash and securities are in place for the 10.30 pay-in deadline.

Although the majority of the 24-hour reduction was absorbed by the FMIs operationally, custodians have largely had to adopt increased working hours and adapted their shift patterns to ensure round-the-clock coverage and processing capabilities.

Initial feedback from the market was very positive, with the only minor issue relating to some early increases in FX fees as demand was squeezed into a tighter window on the morning of T+1. This led to larger spreads, but no actual Indian rupee (INR) liquidity shortages.

Certain other measures have been used to ensure the smooth functioning of settlement while the market and investors were acclimatising to the shorter time frames.

These measures included; earlier submissions of client FX booking instructions, arranging FX settlement on a T+1 basis, holding long balances from sales proceeds and an increase in funding solutions from custodians.

However, holding long balances could also inadvertently hinder market liquidity, while the use of credit facilities may also increase operational and liquidity pressures on custodians.

Yet, it has been noted that some of these mechanisms are being used less, as investors and participants become more comfortable with T+1 as the norm.

Drawing conclusions, one year on

One year on from the final securities transitioning, what conclusions can be drawn from the Indian experience?

Overall, the market views the move to T+1 as a success, with early concerns gradually easing over time due to consistent performance with little impact on fails.

Confidence in the market increased following the Morgan Stanley Capital Index (MSCI) rebalancing in late Q2. This led to spikes in activity, but no subsequent increases in fails, technical issues or deadline extensions.

Following some initial and expected foreign investor trepidation, foreign investor volumes have returned to pre-T+1 levels and have stabilised.

Clock ticking on Pakistan's tentative dates for pilot run

The only other market in the region that has made clear, public moves towards T+1 is Pakistan, where the National Clearing Company of Pakistan Ltd (NCCPL) created a working group of key stakeholders in September 2023.

The group's purpose is to discuss and evaluate key considerations for the impact of a proposed transition to T+1. NCCPL announced in January 2023 that a pilot run of a T+1 settlement cycle is tentatively set for Q2 of 2024 — subject to the working group addressing some remaining operational challenges. Following this, a T+1 roadmap is expected in due course.

Asia Pacific: A case of 'wait and see'?

But what about the rest of the Asia Pacific region?

In general, owing to the fact that a number of markets have only transitioned from T+3 to T+2 relatively recently, including the Philippines, Japan and Malaysia, there has been very little noise from the Asian markets about moving to T+1. They do not seem to be in a hurry to take the next step.

Other markets are adopting a 'wait and see' approach, and will be closely monitoring the US transition which may bring more concrete discussion following that move.

There are also significant time zone differences between Asian markets and the US, which would need to be considered before any future moves are committed to.

Additionally, FX issues associated with a move to T+1 are likely to be prevalent in many countries, as the US dollar is a reserve currency that other markets do not have the luxury of relying on.

The US, of course, does not have that problem. So, it's fair to say, foreign investors are unlikely to be holding significant, regular balances in most Asian currencies, which they may have in US dollars.

Yet, one potential transitional advantage held by Asian markets is the comparative lack of integration and alignment between markets, meaning that countries have the relative freedom to pursue any changes as and when they see fit.

In contrast, in the European Union, which has significant operational and regulatory integration across almost all markets, a more measured and consultative approach is required for a move to T+1.

Therefore, as we have already seen with India, and are beginning to see with Pakistan, should any more markets wish to move to T+1, there are fewer cross-border interdependencies to account for, and this could result in faster preparation and implementation going forward.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