Financial Services Data and Analytics Newsletter

July 2023

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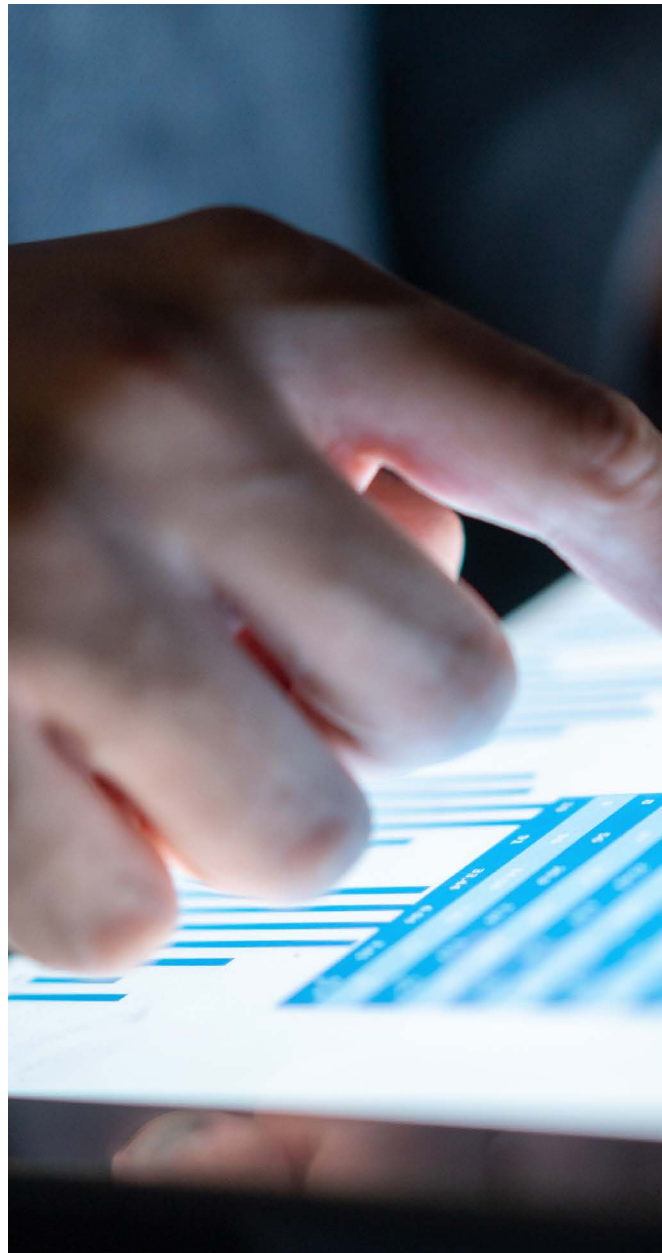
Introduction

Low code no code (LCNC) platforms are based on the foundations of model-driven design, drag and drop capability, automatic code generation and visual programming. These platforms aim to accelerate the application development process and are designed to target users who are familiar with workflows and processes within their business departments but do not possess extensive programming knowledge. These platforms help promote the collaboration between business users and IT teams, allowing faster development cycles and increased agility in deploying applications, while considering the limitations in terms of flexibility and scalability for highly complex or large-scale applications simultaneously.

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Introduction to LCNC platforms

Low-code platforms are appropriate for enterprise users as they require a moderate level understanding of coding. Low-code platforms have a scalable architecture that allows developers to add features and improvise or design complicated apps that would typically require professionals. These platforms are best suited to develop applications that are slightly complex and require at least some technical competency.

No-code platforms are appropriate for business professionals and require minimal to no coding. Most of the no-code platforms are cloud- and subscription-based and used for reporting applications that require frequent updates, with no technical background or expertise. They are best suited for applications with less complexity.

The foundation of LCNC application development is backed by the idea of separating code from an application to offer the advantages of visual modelling. LCNC platforms can quickly and effectively establish digital omnichannel experiences. They possess features which allow them to easily integrate technologies like artificial intelligence (AI), machine learning (ML) and internet of things (IoT), which makes them more appealing to customers.

Potential advantages

1. **Rapid prototyping and iterations:** Rapid development of proof of concept, minimum viable products and prototypes allows users to realise the feasibility of their ideas and ensures that they work as intended. Traditional methods allow businesses to take decisions after the application launch. Using LCNC platforms, these decisions can be made at a much faster pace in comparison to the traditional approach. Moreover, users can quickly evaluate their ideas without significant investment, making this more cost effective.

2. **Increased productivity and collaboration:** Developers can build libraries of reusable assets that can be leveraged across multiple projects, saving time and effort in recreating the same functionality. These platforms allow a collaborative development environment, thus enabling teams to work parallelly. Such a platform enhances productivity as it fastens the application development cycles, streamlines processes and empowers citizen developers to build applications.

3. **Scalability and maintenance:** Many LCNC platforms are cloud based, thus allowing users to scale up or down based on demand, while ensuring optimal performance and usage. Elastic resource allocation ensures that the necessary computing power, storage and bandwidth are available as the application is scaled up further. Furthermore, the platform allows developers to monitor the application performance, track usage patterns and identify bottlenecks. The platforms are centralised and

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version-controlled by vendors who are responsible for adding new features, improving performance, addressing vulnerabilities and fixing bugs in order to optimise and maintain them.

4. **Integration and automation:** LCNC platform offers seamless integration with existing systems and databases, thus allowing companies to leverage their existing infrastructure and integrate with other applications, ensuring smooth data flow and interoperability. Some platforms can be integrated with AI and ML technologies, which can help integrate intelligent automation capabilities like predictive analysis and image recognition into applications.

Transformative impact

LCNC platforms have the potential to transform industries and domains across the globe. These platforms can reduce the pressure on software developers and turn rapidly changing business requirements into sustainable and continuous integration and delivery pipelines. We've highlighted the impact of using these platforms below:

1. **Customer experience:** Enhanced customer experience helps an organisation to stand out from its competitors. With the help of the LCNC platforms, departments like customer care, sales and marketing can develop applications to handle client complaints, provide a personalised selling experience and perform customer analysis to provide a seamless experience across all customer touchpoints.

2. **Faster time to market:** Enterprise application development can be accelerated with LCNC platforms. Web-based drag-and-drop features, reusable components, built-in libraries and templates speed up the development of applications. This enables organisations to launch their apps faster and make modifications swiftly, which results in an increased revenue and market share, enhanced customer satisfaction, improved agility, adaptability to market trends and cost saving. However, before choosing any LCNC platform, organisations should thoroughly assess its flexibility, extensibility, customisable features and options related to vendor lock-ins.

3. **Addressing resource scarcity:** Organisations are struggling to acquire and retain the right technological capabilities and talent pool. With LCNC platforms, citizen developers equipped with in-depth domain knowledge can now build IT applications like websites, apps and interactive dashboards. This saves time and also serves business requirements promptly, allowing the workforce to upskill and cross-skill with minimal effort, thereby resulting in fewer recruitments.

4. **Empowering citizen developers:** The drag and drop facility of LCNC platforms empowers citizen developers to create customer applications. This bridges the gap between business needs and IT capabilities, fostering innovation and reducing the backlog of development requests. As it enables the workforce to create its own solutions, this technology is expected to improve process efficiencies and fulfil stakeholders' expectations in time.

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5. **Democratising technology:** LCNC platforms democratise technology by making it available to a wider audience by removing entry barriers and enabling users to create their own applications and automate processes – without relying too much on developers and external vendors.

6. **Establishing of an LCNC community:** Many developers might not perceive supporting LCNC platforms as a wise career choice. Therefore, organisations should encourage the creation of LCNC communities where business users can receive training from IT professionals. As making the community self-reliant is necessary for sustaining the adoption of LCNC platforms, organisations will have to meticulously design programmes to encourage and upskill their citizen developers.

7. **Fostering a culture of innovation:** It is important for organisations to foster a culture of innovation and agility that cuts across departmental silos. They must encourage experimentation by allowing citizen developers to test their ideas, learn from setbacks and improve their skills. Moreover, a growth mindset can be promoted by celebrating successes, rewarding innovation, providing constructive feedback and sharing best practices.

Overview of the LCNC architecture

1. **User interface (UI):** The LCNC architecture encompasses an intuitive UI which allows developers to visually create and customise their apps or workflows. Users may arrange components on a canvas and configure their characteristics, enabling the UI to provide an assortment of activities.

2. **Development of applications and workflow:** Users can establish data links to access and retrieve data from databases, APIs and other systems. The platform manages the data integration process and offers tools visually for data processing, modelling and mapping. In addition, users may create conditional statements, decision trees, business rules and processes. Actions, triggers and notifications may all be configured using visual tools.

3. **Vast library and customisation:** An LCNC platform comes with a collection of pre-configured components that users can choose from. These can include UI elements, data connectors, automation tools and analytics widgets. Once these components are on canvas, users can configure and customise according to their needs using a visual interface that allows them to set properties, data bindings, conditional behaviours and other parameters without writing any code.

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4. **Execution and deployment:** Users can easily design and configure applications workflow on the LCNC platform. Depending on the configuration, the platform will generate the necessary code or script. Applications can be easily deployed on web or mobile platforms, and workflow can be executed on a platform with the click of a button.

5. **Integration and extensibility:** An LCNC platform can be easily integrated with APIs, third-party applications and cloud service providers. It can easily be integrated with other systems or services, accelerating the flow of information and reducing huge operational costs.

Traditional approach vs LCNC platform

	Traditional approach	LCNC platform
Model	**1. Data cleaning:** One needs to write code to fix data inefficiencies – incorrect, corrupted, ill-formatted, redundant, or incomplete data within a dataset. Data manipulation library has to be manually imported. **2. Building model:** This requires a high-level of technical expertise in coding, statistics and data analysis. Developers need to understand and implement complex algorithms, optimisation techniques and statistical concepts. Libraries related to algorithms need to be imported manually. **3. Deployment:** Models are made available in real time via APIs. This requires the end-to-end development of the API before deploying the model.	**1. Data cleaning:** One can drag and configure components to clean the dataset. Necessary data manipulation libraries get imported automatically. **2. Building model:** In-depth understanding of algorithms, coding and statistical modelling is not required. In-built libraries get imported on the selection of the component itself. **3. Deployment:** Models are easily deployed via an API on cloud by a single click of a button.
Technical skills and expertise	This approach warrants significant investment in learning programming languages like Python, R and SQL, as well as statistical techniques and data manipulation libraries. It takes a considerable amount of time to acquire the necessary skills to build effective models.	It drastically reduces the learning curve by providing an intuitive interface and abstracting away technical complexities, which empowers users to effectively build technical models.
Infrastructure management	Coders can develop and deploy the models, but scalability, maintenance and other technical aspects have to be taken care of by their respective experts.	Deployment, scalability and maintenance of models can be done easily in a few clicks without relying on experts.
Customisation	It offers more flexibility and customisation options. Data scientists can fine-tune algorithms and design models to specific requirements.	Since algorithms are encapsulated in the form of drag and drop components, customisation is limited and would require advanced techniques.

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Role in financial services (FS) industry

The FS industry is highly regulated and any amendment in regulations needs to be incorporated by companies in a stipulated amount of time. The flexibility and ease of use offered by LCNC platforms has well served the need of FS industry, enabling it to build applications swiftly to meet customer expectations. Applications such as customer relationship management, loan originator system, expense management system, investment portfolio management, risk management system, claim processing system and payment processing system have been extensively implemented using LCNC platforms.

LCNC platform providers

Platform	Application scalability	Integration capabilities	Security and compliance	AI/ ML capabilities
OutSystems	Supports load balancing, clustering and horizontal scaling	Offers pre-built connectors and seamless integration with enterprise systems, databases and web services	• Supports compliance with various and regulations industry standards – GDPR and ISO 270001 • Enables organisations to follow security best practices	• Provides AI/ML capabilities • Integrates with external AI/ ML services and platforms like Azure Cognitive Services and TensorFlow
Appian	Supports concurrent workflows, load balancing and horizontal scaling	Offers pre-built connectors, RESTful APIs, out-of-the box integrations and common enterprise systems	• Supports compliance with industry standards – GDPR, HIPPA and SOX • Enables organisations to follow security best practices	• Provides AI/ML capabilities • Integrates with external AI/ML services and platforms
Mendix	Supports horizontal scaling	Offers pre-built connectors, RESTful APIs and the ability to integrate with various data sources and third-party systems	• Supports compliance with industry standards – GDPR and HIPAA • Provides tools to enforce security policies and meet regulatory standards	• Provides AI/ML capabilities • Integrates with external AI/ ML services and platforms like IBM Watson, Azure Cognitive Services and Google cloud AI

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Our point of view

LCNC platforms, in many aspects, will soon become citizen developers' first choice to co-innovate and build dashboards, internal workflows and streamline processes. They will enable developers to swiftly build a proof of concept to validate their ideas and develop applications. Standalone applications with low-to-medium complexity can be easily developed and deployed by citizen developers. However, for building complex applications – such as ERP systems and 360 platforms – citizens would require assistance from IT personnel for integration, customisation, security and deployment. Application development time can be reduced from years to months/weeks, depending upon the complexity. The traditional way of building applications requires a steep learning curve and proficiency in programming. However, building

applications using the LCNC platform is intuitive and user-friendly. A thorough assessment of applications required by stakeholders and their usability is essential to select the most suitable platform for the decided requirements. FS companies should opt for a specialised BFSI LCNC platform as most of the essential features are available in the form of drag and drop components, while complying with the regulatory and security norms. The platform that allows developers to debug the code behind the visual interface, will help them understand the logic embedded inside the components, thus allowing them to customise, reuse and make the platform more accessible. Moreover, timely backup of data is required to avoid vendor lock-in crises in future. To promote use of LCNC platforms, organisations must foster the growth of the citizen developer community – enabling innovation, rapid application development and responsiveness in order to stay ahead in the market.

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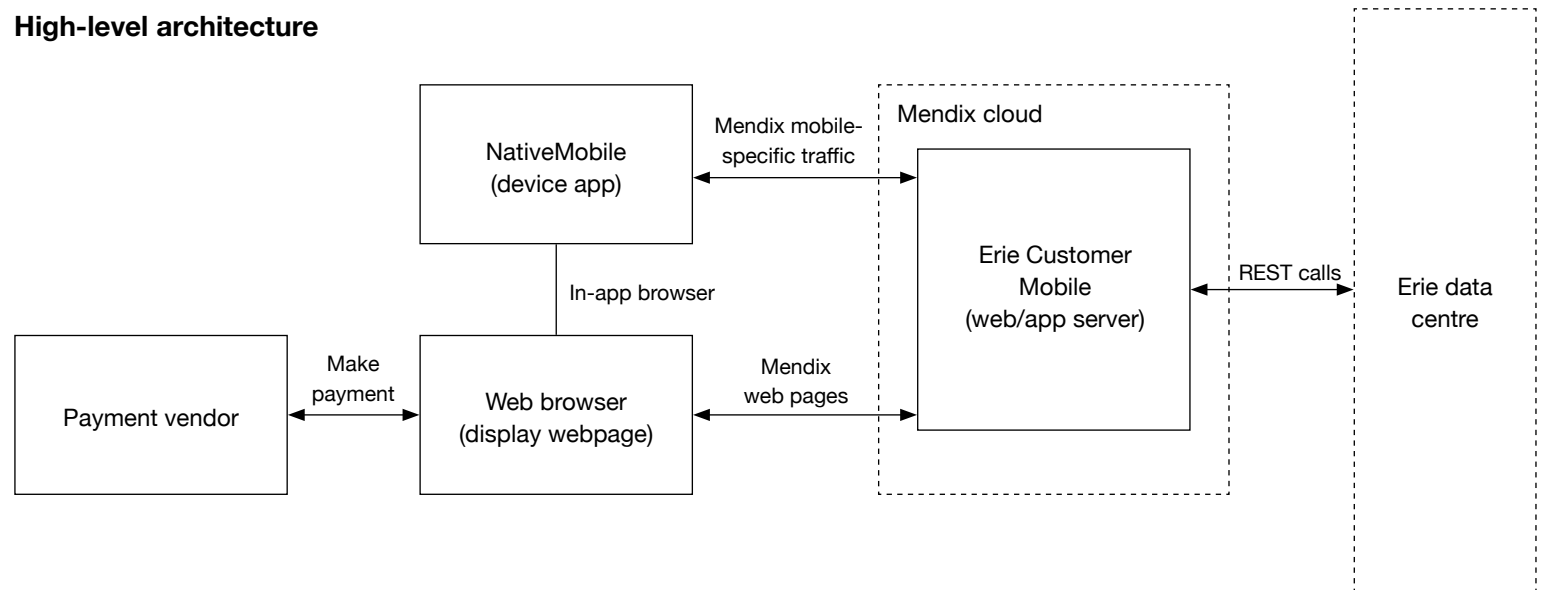
Use case

Erie Insurance is a leading Fortune 500 insurance company in the US. Their existing customer portal had been mobile-responsive for a long time. However, recently the team had identified the need to build native iOS and Android applications to fulfil the requirements and improve the digital customer experience. The company has not employed any mobile-specific developers. Hence, they found a solution to quickly execute their requirements using existing resources and build a native application via the Mendix platform. This allowed the company to focus on offering their consumers with functionalities like making payments or viewing ID cards. Using the platform, the quoting cycle for commercial accounts was reduced from two days to about ten minutes, and the quote/bind cycle was reduced from 3–5 days to less than an hour.

High-level architecture

Source: https://www.mendix.com/customer-stories/in-case-you-missed-it-creating-a-native-mobile-app-without-mobile-developers-with-erie-insurance/

Industry news

1. Credit card portability 2023: Reserve Bank of India (RBI) proposal for card users to choose their preferred choice of network

As an exception to the current practice of limiting card options by the pre-existing restraining agreements between issuers and networks, the central bank has proposed to provide the flexibility to customers to choose their preferred card network in a draft circular. Broadening financial choices to customers, this move might also induce competition among credit card networks. While RuPay is evidently dominating the debit space, post this move, the RuPay variant might become a strong contender in the credit side as well and compete with Visa and Mastercard, who are the current leaders in this space.

2. Indian Bank has launched two new digital services under 'Project Wave'

Public sector lender Indian Bank, in collaboration with National e-Governance Services (NESL) has rolled out two digital offerings under its digital transformation programme 'Project Wave'. The first offering, electronic bank guarantee (eBG) will supposedly cut down the turnaround time of the bank guarantee issuance and delivery to the

beneficiary from 3–4 days to a few minutes and also replace the traditional paper-based processes with digital systems. The second offering will provide seamless end-to-end digital processing of a vehicle loan product to eligible customers and firms.

3. State Bank of India (SBI) partnered with IIT Bombay for advance banking AI

SBI's CSR department has granted INR 22.5 crore on the 68th Bank Day to establish a banking data and analytics hub in IIT Bombay. This initiative will leverage SBI's banking experience and IIT Bombay's research expertise to address challenges and advance its data analytics and AI capabilities in the BFSI sector. The aim is to strengthen SBI's AI capabilities, foster industry–academia collaboration and benefit the entire BFSI sector.

4. RBI revoked United India Cooperative Bank's registration over capital deficiency and risk to depositors

RBI has revoked the United India Cooperative Bank in Bijnor, Uttar Pradesh due to insufficient capital and low revenue prospects, preventing the bank from conducting banking operations. The decision comes after the bank's failure to comply with regulatory requirements, posing risks to depositors' interests.

Industry news

In case of liquidation, depositors will be eligible for deposit insurance claims up to INR 5 lakh from the Deposit Insurance and Credit Guarantee Corporation (DICGC), with almost all depositors entitled to receive their full deposit amount.

5. RBI implemented regulatory measures: Cancelled registration of four NBFCs, four others voluntarily surrendered certificates

To streamline the NBFC landscape, RBI has taken significant actions in the NBFC sector, including the cancelling of the registration of four companies in Telangana, Kerala and Uttar Pradesh, prohibiting them from conducting shadow banking business. Additionally, four NBFCs have voluntarily surrendered their registration certificates due to exiting the non-banking finance business or meeting the criteria for an unregistered core investment company (CIC). Furthermore, three NBFCs have surrendered their registration certificates due to corporate actions such as amalgamation, merger, dissolution or voluntary strike-off.

6. Renewal of insurance policies to be linked to traffic-violation challans

The Minister of Transport of Kerala, Antony Raju, is in discussions with insurance companies to follow a rule wherein yearly renewal of vehicle insurance will be possible only after the traffic-violation challans have been cleared. This move has been made possible because of AI-enabled cameras which can easily detect traffic violations. easily. However, out of INR 25.81 crore, challans worth only INR 3.37 crore have been paid by the violators.

7. Liberty General Insurance will be the lead insurer for Delhi

The IRDAI has appointed Liberty General Insurance as the lead Insurer for Delhi. This move is in response to the IRDAI's initiative to spread financial awareness and importance of insurance via its state insurance plan in the country. The mission of 'Insurance for all by 2047' will be taken care of by Liberty General Insurance for Delhi.

Industry news

8. Aditya Birla Sun Life Insurance becomes the first to join the metaverse

InsureVerse by Aditya Birla Sun Life Insurance is a metaverse platform. Some of the features of this platform includes a 3D virtual lounge to display and interact with the products and schemes, personalised assistance, financial education support.

9. Jio Financial Services to soon apply for an insurance licence

Jio Financial Services is set to apply for an insurance licence in order to sell both general and life insurance services in the country from 2024 onwards. It has also gotten into a 50:50 venture with BlackRock to enter into the asset management space.

10. HDFC Ergo's centre of excellence

HDFC Ergo has set up a centre of excellence for generative AI to solve their business problems. Moreover, it has also partnered with Google Cloud for assistance and upskilling the workforce.

11. PayTM joins Shriram Finance to offer FS to users

This partnership will bring credit distribution and other FS digitally through PayTM's platform. Being the largest retail NBFC in India, Shriram Finance can further extend its credit ecosystem to rural areas with a technology-led lending process. Additionally, merchants can now avail consumer loans from Shriram Finance through PayTM's platform.

12. DBS launches e-CNY merchant collection solution in China, embracing central bank digital currency (CBDC) trend

Singapore's leading bank DBS has launched an e-CNY merchant collection solution that enables mainland Chinese businesses to accept payments in CBDC. The solution offers benefits such as streamlining the payment process, especially in regions with limited digital connectivity, and provides easy reconciliation through integrated merchant reports. DBS was one of the first foreign banks to introduce an e-CNY solution in China – a significant step towards the digital currency trend.
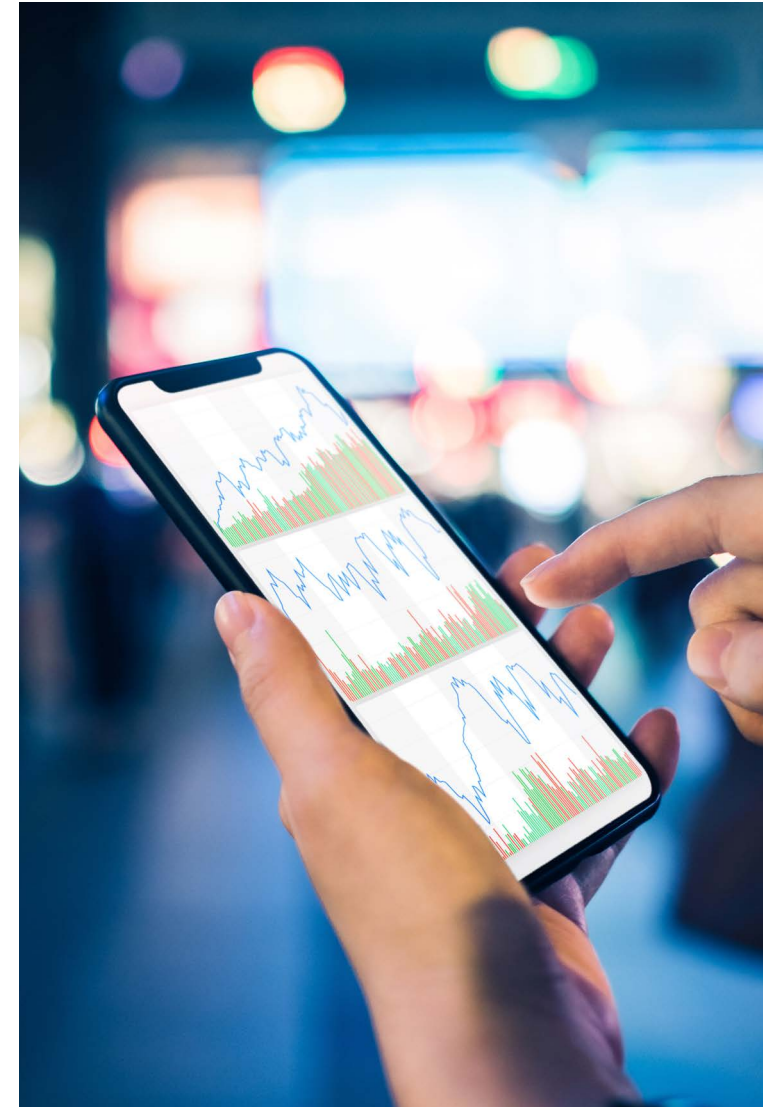
Industry news

13. Financial Stability Board (FSB) published global crypto asset regulatory framework, focusing on safeguarding and cross-border cooperation

A year after calling for international regulation in the crypto industry, the FSB has released a regulatory framework for crypto assets. The framework recommends supervising crypto asset activities and global stablecoin arrangements, safeguarding client assets, addressing conflicts of interest and strengthening cross-border cooperation. However, the framework does not cover CBDCs. The FSB plans to work with standard-setting bodies to promote globally consistent regulation through a work plan for 2023 and beyond.

14. Shriram General Insurance to enter other domains such as health, cybersecurity and travel

Shriram General Insurance is planning to reduce the current 90% of premium that it receives from motor insurance to 85%, and enter domains like health, cybersecurity and travel. The company is also expecting a 30% growth this year and the next year. To support this, it is also planning to hire around 700 people.

Contact us

Mukesh Deshpande
Partner, Technology Consulting
mukesh.deshpande@pwc.com

Hetal Shah
Partner, Technology Consulting
hetal.d.shah@pwc.com

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This newsletter has been researched and authored by Arpita Shrivastava, Antima Garg, Bhavika Tahiliani, Garima Yadav, Khushdeep Gupta, Pooja Sharma, Raghav Sharma, Samarth Narula, Smruti Garg and Sneha Sinha.

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