



RegTech – Gaining momentum Driving efficiency in risk and compliance

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The rise of RegTech

Technology has transformed the financial services industry. From the use of online banking and mobile payments to automated investment advisory services and algorithmic trading, it has enabled regulated entities to offer new products and services, enhance operational efficiency, and improve customer experience. The use of technology has also led to the emergence of new players in the financial sector, such as FinTech start-ups and digital banks, which are challenging traditional business models.

Simultaneously, the regulatory environment in which regulated entities operate has become increasingly complex and demanding. Compliance with regulations is essential to maintain the trust of customers and investors and avoid costly regulatory penalties and reputational damage. The dynamic nature of business models and the rapid emergence of risks and regulations warrant the adoption of agile solutions to swiftly address these issues.

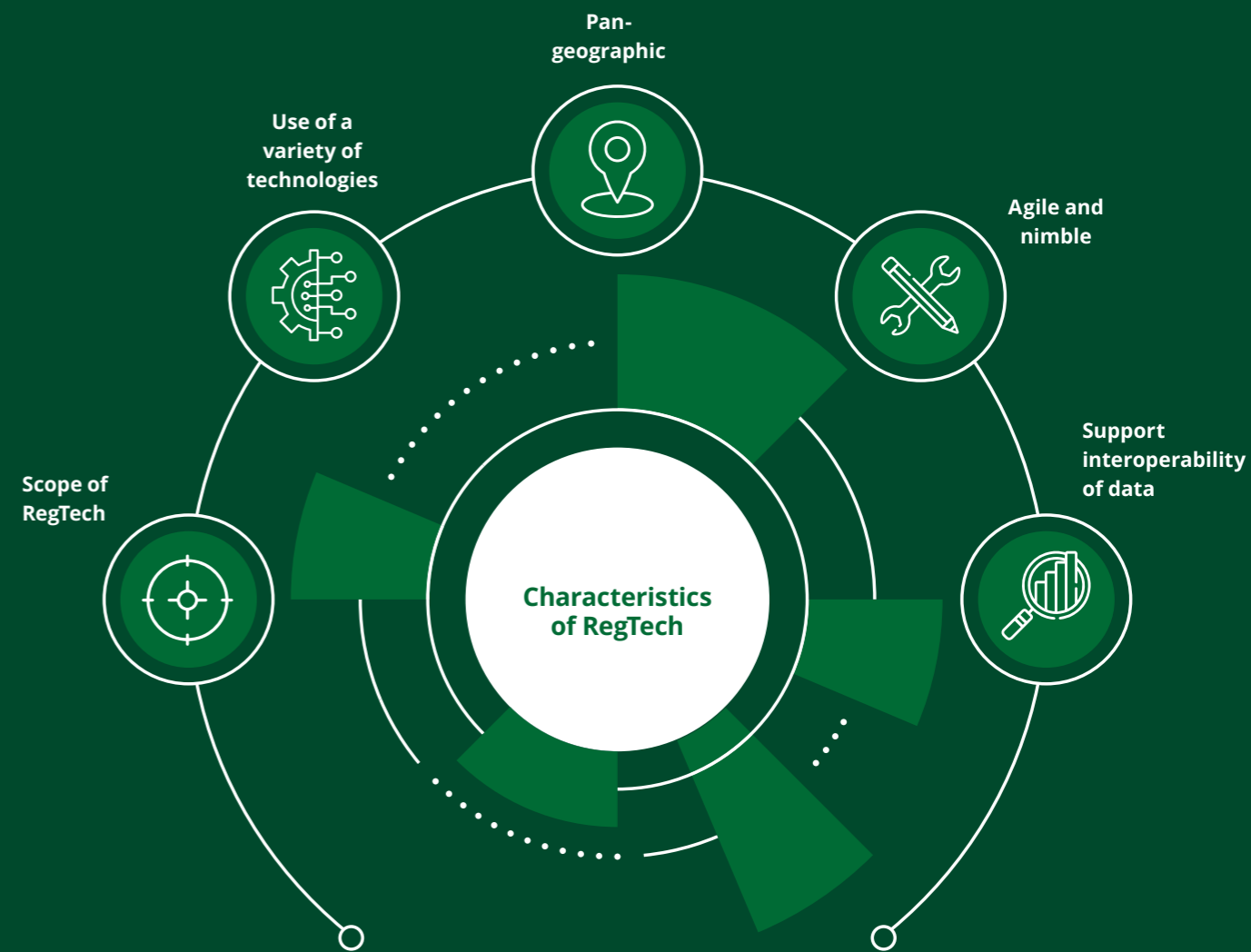
RegTech has become the buzzword in response to the demands on risk and compliance processes in regulated entities. While the phrase has been in use since 2015 [first used by the Financial Conduct

Authority (FCA)], RegTech has come to represent many dimensions, depending on the stakeholder lens. It is therefore important to baseline the understanding of RegTech.

Definitions are an expression of the collective views of people at a point in time. When we apply definitions to fledgling sectors, it can immensely affect the future of the sector. As definitions evolve, it is important to focus on the characteristics that can help us understand the potential and capabilities of RegTech.

The stack of technology solutions that help in matters of risk management and regulatory compliance is collectively called Regulatory Technology (RegTech). RegTech is industry agnostic, and in the financial services industry, these solutions are used by regulated entities. Solutions used by supervisory authorities are collectively called 'SupTech' and for the purpose of this paper, we are limiting the scope to RegTech. The primary purpose of implementing RegTech solutions is to reduce the costs of non-compliance with regulatory requirements, improve efficiency in the effectiveness of processes, and increase confidence in the accuracy of reporting.

Figure 1: Key characteristics of RegTech



Scope of RegTech

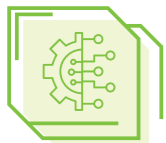


The scope and coverage of RegTech solutions varies across geographies and stakeholder viewpoints. Drawing up the contours of RegTech from regulatory sources may lead us to infer that RegTech extends to solutions deployed by the second line of defense of a regulated entity (the three lines of defense being business, risk and compliance, and audit). RegTech may be considered a subset of FinTech. However, there is a need to carve out its space to ensure that sufficient resources and budgets are channeled to support the adoption of RegTech.

FinTech refers to the use of technology-enabled solutions which significantly impact the delivery of financial services.

RegTech refers to the stack of technology solutions that help in matters of risk management and regulatory compliance.

Use of a variety of technologies



It is tempting to describe RegTech as an emerging technology that improves regulatory compliance and risk management. While the use of new technologies and advanced analytics may foster innovation, regulated entities may be more comfortable adopting mature/tested technologies, particularly in the area of regulatory compliance. The use of suitable technologies backed by a strong foundation of understanding of regulations will be the answer to the needs of regulated entities. Excessive focus on new technologies or leaning exclusively towards regulatory knowledge may prove unfit for solutioning regulatory compliance.

Pan-geographic



RegTech solutions can support regulated entities across multiple geographies. The technology, business model, and domain can be extended beyond multiple countries. For example, cyber security solutions, compliance repository solutions, and identity management solutions, can cater to different geographies and regulatory standards. Capabilities to operate across geographies can promote enhanced and cost-effective delivery. A prominent driver for the use of RegTech is the ability to operate across geographies.

Agile and nimble



Legacy technologies pose a serious limitation to the upgradation of the current solutions to comply with the frequent changes to regulations and their complexities in a timely manner. A characteristic of RegTech that has significantly amplified its growth is its agile architecture. RegTech solutions are typically designed with an agile framework, facilitate swift and smooth implementation, and counter integration challenges. For instance, identity management solutions are integrated with digital lending platforms to help increase the footprint of financial services in the underserved sectors.

Support interoperability of data



Interoperability of data and processes is the ability to efficiently exchange information across multiple sources (internal and external) and streamline access to data. Unifying data sets from multiple data sources and performing data validation reduces inconsistencies and improves accuracy. Enabling seamless data sharing reduces the cost and time associated with regulatory compliance while improving the accuracy and completeness of the information used to make critical decisions. Simultaneously, RegTech reporting solutions help establish traceability and auditability of data submissions that establishes confidence in the reported data for its downstream use. For example, under risk-based supervision reporting, the RBI issues ad-hoc data indents requiring quick turn-around time. The data submission may require the integration of data sets from multiple sources. This may be achieved by reporting solutions, which integrate with other databases through Application Programming Interfaces (APIs).



Technologies driving RegTech

Emerging technologies are increasingly being adopted in the financial sector, including RegTech. The underlying technologies that enable RegTech solutions are versatile and data-driven. These

solutions help drive innovation and cost-efficiency in risk and compliance functions. Increasingly we expect RegTech solutions to be developed using the following technologies.

Cloud computing

Cloud computing is a critical component of RegTech solutions as it enables regulated entities to store and process large amounts of data securely and efficiently, as well as to access solutions on the cloud. It allows regulated entities to scale their operations quickly and easily without having to invest in costly infrastructure. This is particularly useful for smaller regulated entities that may not have the resources to build their own data centres or invest in expensive hardware.

The pay-as-you-go model that allows access to solutions on a subscription basis, rather than having to pay upfront for software licenses and hardware is cost-effective for regulated entities, particularly with fluctuating or unpredictable compliance needs.

Cloud computing enables easy collaboration with external parties, such as regulators and other regulated entities. This is because cloud-based solutions can be accessed from anywhere with an internet connection, making it easier for multiple parties to share data and collaborate on compliance issues.

Artificial intelligence and machine learning

Artificial Intelligence (AI) and Machine Learning (ML) are powerful technologies that can automate business processes, detect patterns, and generate insights with speed and accuracy. By analysing large volumes of data, AI-based solutions can identify patterns and anomalies quickly and efficiently allowing regulated entities to prevent fraud before it occurs. Solutions continually evolve their rule-based parameters to ensure relevance with the changing environment. As the volume of financial transactions continues to increase, AI-powered solutions can provide regulated entities with effective means to gather, process, and analyse the data used in various regulatory reports.

Blockchain

Blockchain is a decentralised, distributed digital ledger used to record transactions securely and transparently. It has gained popularity in the RegTech industry, due to its ability to provide transparency, immutability, and security in record-keeping. It can be used to create a tamper-proof audit trail of regulatory reports, ensuring that the information submitted is accurate and verifiable. It is distributed across a network of systems, with each system maintaining a copy of the ledger. The absence of a central authority is a key feature of blockchain technology, which allows transactions to be validated and recorded without the need for a trusted third party. This makes the system more decentralised, secure, and transparent.

Blockchain has gained significant prominence in Know Your Customer (KYC) and Anti-money Laundering (AML) compliance by providing a decentralised database, where regulated entities can share customer and financial information in a secure manner.

Low-code/No-code

Low-code and No-code platforms are software development platforms that allow users to create applications without the need for extensive programming knowledge or expertise. The key advantage of such platforms is that they enable non-developers to build and test applications, making them especially attractive to entities who typically lack specialised technological capabilities.

Low-code platforms typically provide pre-built components and templates that can be customised to meet specific needs. This can help reduce the time and cost involved in developing new compliance applications, as developers do not need to start from scratch. In addition, Low-code platforms often have built-in features for testing, deployment, and maintenance, which can help to further streamline the development process.

No-code platforms are even simpler to use, as they require no coding at all. Instead, users can create applications using drag-and-drop interfaces and pre-built components. This makes it possible for non-technical users to create their own applications, without the need for extensive technical training.

In RegTech, these technologies are being used by solution providers to streamline compliance workflows and nimbly adapt to the changing regulatory requirements.

Big Data



Big Data refers to the large volumes of structured and unstructured data that companies generate and collect. In RegTech, Big Data is being used to help companies comply with regulations by providing insights into customer behaviour, risk assessments, and compliance monitoring.

One of the main benefits of using Big Data in RegTech is that it allows regulated entities to gain a more holistic view of their operations. By analysing large volumes of data, companies can identify patterns and trends that might otherwise go unnoticed. This can help to identify potential compliance issues and take action to address them before they become major problems.

Big Data is also being used in risk assessments and to identify compliance issues. By analysing customer data, regulated entities can gain insights into the risk of doing business with a particular customer. This can help to make more informed decisions about whether to accept or reject a particular customer.

Application programming interface



Application programming interface (API) is a set of protocols, routines, and tools used to build software applications. APIs define how software components should interact with each other, allowing different applications to exchange data and functionality in a standardised way. They can be used to facilitate communication between different software applications, whether they are hosted on the same system or different systems across the internet.

Regulatory compliance often involves collecting and processing data from multiple sources, including internal databases, third-party providers, and regulatory authorities. APIs can be used to streamline this process by allowing different systems to communicate with each other in a standardised and automated way. With the need for scalability and demand for specialised solution areas, API-based integrations offer a seamless exchange of data and instructions between applications and devices. In addition, given the complexity of legacy systems, API serves as a crucial technology for RegTech solutions to operate within a regulated entity's infrastructure.

Natural language processing



Natural Language Processing (NLP) is a subfield of AI that focusses on enabling machines to understand and interpret human language. NLP has become an increasingly important technology in RegTech because it allows businesses to automate and streamline regulatory compliance processes that involve the processing and analysis of large volumes of unstructured text data, such as regulatory texts, legal documents, news articles, and social media posts. It can be used to extract relevant information from unstructured text data and convert it into structured data that can be used for compliance purposes.



Application of RegTech

RegTech solutions enhance the ability of regulated entities to operate efficiently and adhere to regulatory requirements. Technological advancements are creating significant opportunities to implement RegTech solutions spanning several application areas,

including capital management, cyber security, risk management, operations, and regulatory reporting, amongst others. This section expands on three different categories.

Figure 2: Overview of the application of RegTech



Governance



Effective governance is essential to ensure that a regulated entity conducts its operations responsibly, ethically, and with transparency. It involves setting up policies, procedures, and controls that establish a framework for decision making, risk management, and accountability. Opportunities in RegTech solutions seek to evolve from the traditional governance practices and move towards providing support to senior management by facilitating more informed and collaborative decisions in a timely manner. For example, board management solutions aid in governance by offering a centralised platform that allows Board and senior management members to collaborate and communicate effectively, while keeping track of stakeholder responsibilities.

Risk management



The characteristics of risks faced by regulated entities are changing rapidly. Velocity and interdependencies of risks are triggering a non-linear impact on business. A risk management strategy involving RegTech mitigates and manages risks by applying innovative and data-driven solutions. The illustration on the right, provides an overview of areas where RegTech solutions are turning out to be the differential in managing risk functions.

Figure 3: Application of RegTech in risk management



Regulatory compliance

Regulatory compliance lies at the core of the issues that RegTech seeks to address. The three components of regulatory compliance in the Indian context are inventory of regulatory obligations, identity management, and regulatory reporting to ensure compliance within the regulatory landscape.



Inventory of regulatory obligations

Regulated entities are subject to a plethora of laws and statutes based on the nature of the business activity undertaken. In addition to the principal regulator, there are laws at the national, state, and local levels. If operations are spread across different countries, then rules and laws of multiple jurisdictions will have to be complied with.

To keep track of regulations, RegTech solutions offer inventories and translate regulatory requirements into specific actionables and automate the compliance lifecycle into daily workflows. Regulatory horizon scanning tools are designed to track, identify, and monitor regulatory trends and changing regulations.

Using machine-readable regulations, Optical Character Recognition (OCR) and entity-oriented information, such technology can be used to predict changes in regulations and assess the potential impact on the regulated entity.



Identity management

Identity management and KYC solutions help determine the “true” identity and background of customers to protect regulated entities against financial crimes. Regulations, such as e-KYC have been designed to reduce the cost of compliance by enabling virtual identity verification. Remote digital channels and AI technologies enable remote onboarding of customers using several authentication protocols, such as biometric and Multi-factor Authentications (MFAs), facial and geo-location recognition, and liveness checks. ML solutions are used to authenticate digitally obtained customer documentation and signatures. These solutions are industry agnostic and are at present in use in the financial, telecom, and consumer goods sector.



Regulatory reporting

Regulated entities are obligated to submit numerous reports to regulators/supervisors at various frequencies. The reports provide supervisors with essential information to monitor a regulated entity’s risk profile and exposure. Regulated entities invest a considerable amount of time and effort to understand and report thematic information and fulfill cross-jurisdictional reporting requirements. Regulatory reporting solutions simplify the report generation process by standardising data requirements, streamlining data flow from various data sources, and enabling validation checks and controls. In addition, Low-code solutions are gaining popularity as an option for reporting since they enable user configuration. New reports may be automated through pre-configured data models, which may be accessed through user interfaces and with the limited involvement of IT specialists.



Benefits and challenges of adopting RegTech solutions

With an increase in the number of regulatory initiatives to promote RegTech and regulated entities expressing interest in deploying such technologies, the RegTech market in India has witnessed significant growth. RegTech solutions augment stability and efficiency in operations and provide flexibility to

develop capabilities to drive this growth. However, the adoption of RegTech solutions comes with multiple challenges, both for regulated entities that adopt the solutions and RegTech service providers, who develop them.

Benefits of adopting RegTech solutions

Standardised requirements

RegTech solutions help in standardising responses, workflows, and reporting data models. Standardised definitions and regulatory expectations using RegTech lead to greater consistency and improved comparability of data across market participants. For instance, the IRAC circular on 'Automation of income recognition, asset classification and provisioning processes' will result in a harmonised definition and reporting of non-performing assets (NPAs)¹. Implementation of solutions conforming to these guidelines will enable comparative analysis of asset quality across the industry.

Faster integration and implementation

RegTech solutions with agile and open architecture can be easily integrated with existing systems, reducing the need for expensive and time-consuming system upgrades. Modular solutions can improve regulated entities' ability to respond more quickly to regulatory changes, reducing the risk of non-compliance. Low-code / No-code platforms can help with the creation of user-configurable reports with minimal developmental time and expense. Overall, agile architecture can help regulated entities stay ahead of the curve in being able to respond to frequent data demands from regulators and timely risk insights for the management.

Increased transparency

RegTech solutions aim to minimise human intervention in regulatory and compliance obligations to reduce operational errors, resulting from manual processes. In-built features, such as an audit trail of transactions and activities improve overall transparency. These solutions also provide greater accountability for manual changes/data overrides, improving the quality of regulatory submissions.

Accurate reporting and efficient monitoring

RegTech solutions can significantly improve reporting accuracy in regulated entities by automating data collection and analysis, and thereby reducing the risk of errors, omissions, or fraud that can occur in manual reporting processes. In addition, RegTech solutions can standardise reporting formats, making it easier for regulated entities to comply with regulatory requirements and improve the comparability of data. Real-time monitoring of data can help regulated entities to identify and correct errors or discrepancies more quickly. By using advanced algorithms and analytics, RegTech solutions can help regulated entities to identify potential risks and anomalies more quickly and accurately, helping in the early mitigation of risks.

Data-centric risk management

By leveraging data across multiple systems, RegTech solutions can generate insights and provide a near real-time view to make more informed and risk-aware decisions. This enables regulated entities to proactively manage emerging risks and prioritise their risk management efforts. For example, liquidity risk management solutions play a crucial role in the forecasting of cashflows by collating and processing data to provide accurate updates in a timely manner, rather than relying on approximations.

Foster innovation and cost reduction

New problem statements brought to the fore by regulated entities are a key driver in fostering innovative RegTech solutions. The cross-section of stakeholders from solution providers and regulated entities assists in continually improving RegTech solutions. The extensive growth in the use of e-KYC solutions in the aftermath of COVID-19 is an excellent use case of innovation that has resulted in significant cost reduction in the acquisition of new customers.

Challenges in adopting RegTech solutions

Interpretation of regulations

A common problem statement presented by regulated entities and RegTech players is the ambiguity in regulations. The current regulations are more principal-oriented, resulting in varying interpretations across stakeholders. It is often cited that solution providers lack in-depth knowledge of regulations and rely on regulated entities for guidance, nullifying the benefit of standard RegTech solutions. Furthermore, for entities operating in multiple jurisdictions, varying interpretations can create the need to maintain duplicate data sets for reporting.

Integration with legacy systems

Integration of RegTech solutions with existing legacy systems continues to serve as one of the major barriers to the adoption of new solutions. Disparate system architectures result in increased reliance on customised off-the-shelf solutions hindering integration timelines. Furthermore, regulated entities prefer to make incremental changes to their existing systems rather than invest in newer technologies, due to the comfort of legacy systems and to avoid the costs associated with the replacement of such technologies.

Often, regulated entities choose established solution providers with limited domicile presence. In such cases, customisations for local requirements may find inadequate support and/or is a time-consuming and expensive change management issue.

¹Reserve Bank of India (2020) "Automation of Income Recognition, Asset Classification and Provisioning processes in banks" [<https://www.rbi.org.in/Scripts/NotificationUser.aspx?Id=11964&Mode=0>]

Budget constraints

Regulated entities tend to have a proclivity towards developing innovative business solutions than experimenting with emerging solutions in risk and compliance areas. This may be the case because of identifiable returns on investment in business solutions and risk sensitivities associated with regulatory matters, which translate into acquiring mature/tested solutions for risk and compliance. The absence of metrics to evaluate the efficacy of RegTech solutions hinders the ability to provide a realistic picture of the benefits achieved. As a result, many decision makers may remain unaware of the potential advantages that RegTech solutions can provide to their regulated entity. Innovation in RegTech is of little significance and hence, garners limited/no budgets.

Furthermore, RegTech's competitive edge lies in its ability to leverage cutting-edge technologies to enhance regulatory compliance. This requires RegTech solution providers to recruit highly specialised talent in areas such as deep tech, analytics, laws and regulations, and operations. However, the intense competition for such skilled professionals and their high recruitment costs can hamper the sustainability of business for RegTech.

Lack of mature solutions

RegTech solutions are an innovative approach to managing regulatory compliance. However, the evolutionary nature of several RegTech solutions poses a significant challenge to their adoption. The lack of real-world testing translates to difficulty in assessing the overall effectiveness of these solutions, creating uncertainty for regulated entities. In addition, scalability becomes a concern as business processes grow in complexity and volume, requiring solutions to adapt to the evolving needs of the entity.

Bias and lack of 'explainability'

The integration of AI in financial services has brought forth ethical concerns, such as black box issues including the potential for unintended biases. Due to the novelty of AI-driven technology, the unintentional consequences may not always be apparent. The output of ML algorithms may lead to discriminatory results. To detect and avert such biases it is vital to establish the standards of governance and use.

Data quality issues

RegTech solution providers face difficulties in integrating data from multiple systems, due to data quality issues. Concerns regarding data availability, quality, and consistency, potentially lead to inaccurate outputs, sub-optimal decisions, and regulatory non-compliance. The errors are routinely linked to RegTech solutions raising questions about their credibility.

Short implementation timelines

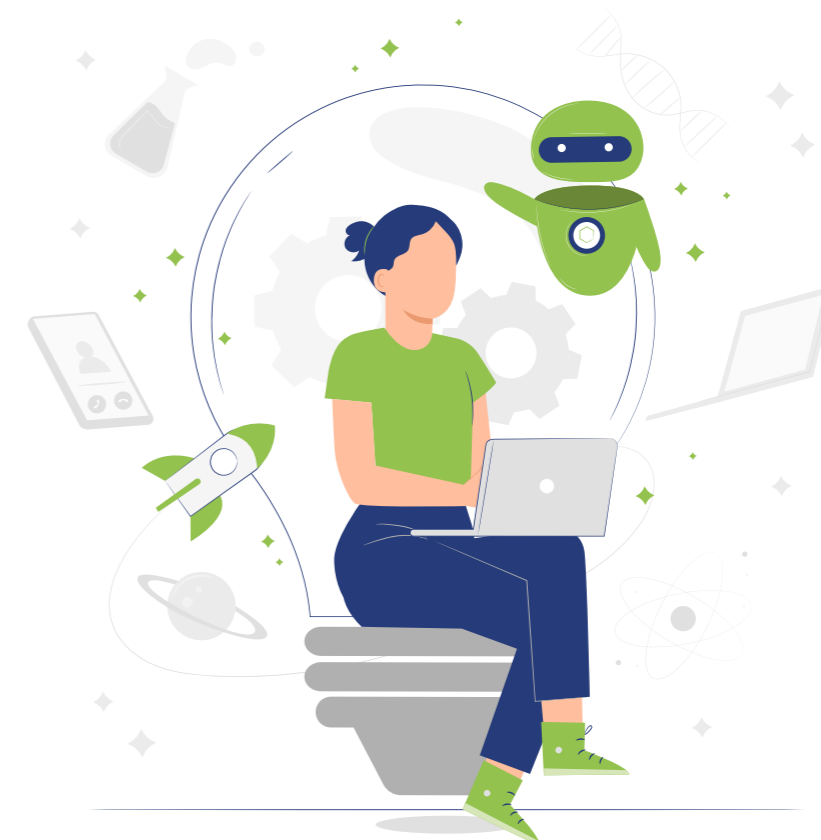
Short and rigid timelines for the implementation of new regulations are another critical challenge. In a bid to comply with new requirements within specified timelines to avoid non-compliance, quick-fix and incremental changes to legacy solutions are preferred over holistic strategic solutions.

Third-party dependency

The prevalent method of deploying RegTech solutions involves engaging external vendors and exposing regulated entities to significant third-party risks. This increased reliance on third parties poses a significant challenge as any disruption or security breach at the vendor's end can affect the entity's financial and reputational standing. Moreover, over-reliance on a specific vendor increases the likelihood of vendor lock-in. If a vendor underperforms, switching to a new provider becomes a challenging task, due to the costs associated with data migration to a new provider.

Insufficient domain expertise

RegTech firms are often founded by technology experts who may not possess a thorough understanding of the regulatory and compliance requirements for the industries they serve. This lack of domain expertise can undermine their credibility with potential customers, who may doubt their ability to comprehend the concerns they are seeking to address.





Global regulatory initiatives

Regulators are taking a proactive stance to educate the financial services industry on the role of regulatory technology, to improve efficiency and ease of regulatory compliance and risk management. This paradigm shift towards RegTech serves to

benefit both regulators and regulated entities. Globally, financial services regulators have adopted a variety of initiatives to raise awareness of RegTech developments, its benefits, and accelerate adoption within the industry.

Hong Kong Monetary Authority

The Hong Kong Monetary Authority (HKMA) has been at the forefront in ushering the adoption of RegTech within one's financial sphere. As part of its FinTech 2025 strategy, HKMA has been analysing the status of RegTech adoption in the Hong Kong financial space. To help promote adoption, a two-year roadmap was developed, which included the publishing of RegTech adoption practice guides², the launch of a RegTech knowledge hub³, the curation of a curriculum to cater towards skills fundamental to RegTech adoption⁴, and the launch of AML RegTech Labs (AMLabs)⁵ that use technology and network analytics to combat fraud risk and reduce losses from financial crimes⁶.

²Hong Kong Monetary Authority (2021) "The HKMA launches the Regtech Adoption Practice Guide series" [https://www.hkma.gov.hk/eng/news-and-media/press-releases/2021/06/20210617-5/]

³Hong Kong Monetary Authority (n.d.) "RegTech Knowledge Hub" [https://www.hkma.gov.hk/eng/key-functions/banking/regtech-knowledge-hub/]

⁴Hong Kong Monetary Authority (2021) "Enhanced Competency Framework on FinTech" [https://www.hkma.gov.hk/media/eng/doc/key-information/guidelines-and-circular/2021/20211203e1.pdf]

⁵Hong Kong Monetary Authority (2021) "HKMA launches AML Regtech Lab" [https://www.hkma.gov.hk/eng/news-and-media/press-releases/2021/11/20211105-6/]

⁶Hong Kong Monetary Authority (2020) "The HKMA developed a two-year roadmap to promote RegTech adoption" [https://www.hkma.gov.hk/eng/news-and-media/press-releases/2020/11/20201103-3/]

Monetary Authority of Singapore

The Monetary Authority of Singapore (MAS) uses RegTech strategies to advance Singapore's FinTech ecosystem, especially in digital identification, electronic-KYC (e-KYC), data governance, and platforms for innovation. The regulator is actively conducting regulatory sandboxes to catalyse financial innovation and FinTech adoption⁷. To aid regulated entities in the adoption of RegTech, MAS has also launched a Regulatory Technology Grant amounting to US\$35 million to develop solutions and test their feasibility⁸. In collaboration with Singapore Management University (SMU), MAS launched the advanced certificate in RegTech to bridge the information gap between technologists and domain experts by providing relevant training⁹.

Financial Conduct Authority

TechSprints are events that serve to highlight concerns and increase awareness about the available RegTech solutions. This initiative was the brainchild of the Financial Conduct Authority (FCA) with the main objective of bringing numerous RegTech firms together from around the world to co-create and ideate solutions for complex problems¹⁰. The FCA also hosts showcase days where they invite RegTech and FinTech firms, both small and large, to demonstrate their solutions to internal market experts¹¹.

Reserve Bank of India

The Reserve Bank of India (RBI), through the Regulatory Review Authority 2.0 (RRA)¹², sought to ease compliance, reduce regulatory burden, rationalise the reporting mechanism, and streamline regulatory instructions and communication. The recommendations of the RRA are at various stages of implementation. Further, the RBI has undertaken several initiatives to promote innovation in various fields of FinTech, including RegTech and address its associated challenges.

- The FinTech department was created (January 2022) within the RBI to facilitate innovation, identify challenges and opportunities associated within the FinTech sector and address them in a timely manner, keeping pace with the dynamic financial landscape¹³.
- The RBI has announced an enabling framework for their 'Regulatory Sandbox' with the objective of fostering responsible innovation in financial services, promoting efficiency, and benefiting consumers. It has announced a thematic cohort approach wherein participants are selected to spur innovation for the respective themes in a controlled environment. These cohorts include retail payments, cross-border payments, the Ministry of Micro, Small and Medium Enterprises (MSME) lending, prevention, and mitigation of financial frauds, and a newly announced theme-neutral cohort¹⁴.
- Reserve Bank Innovation Hub (RBIH), a subsidiary of RBI, has been set up to promote and facilitate an environment to accelerate product, policy, and process innovation in the financial sector¹⁵.
- Initiatives, such as Global hackathons 'HARBINGER 2023 - Innovation for Transformation'¹⁶ with the theme 'inclusive digital services' preceded by 'HARBINGER 2021'¹⁷ for 'smarter digital payments' provide participants with the opportunity to develop solutions and foster innovation.

⁷Monetary Authority of Singapore, (n.d.) "Overview of Regulatory Sandbox" [https://www.mas.gov.sg/development/fintech/regulatory-sandbox]

⁸Monetary Authority of Singapore (n.d.) "Regulatory Technology Grant" [https://www.mas.gov.sg/development/fintech/regtech-grant]

⁹Singapore Management University (n.d.) "Advanced Certification in RegTech" [https://academy.smu.edu.sg/advanced-certificate-regtech-4156]

¹⁰Financial Conduct Authority (2023) "TechSprints" [https://www.fca.org.uk/firms/innovation/techsprints]

¹¹Financial Conduct Authority, RegTech (n.d.) [https://www.fca.org.uk/firms/innovation/regtech]

¹²Reserve Bank of India (2022) "Report of the Regulations Review Authority 2.0" [https://www.rbi.org.in/Scripts/PublicationReportDetails.aspx?UrlPage=&ID=1201]

¹³Reserve Bank of India (2022) "Fintech as a Force Multiplier" [https://www.rbi.org.in/Scripts/BS_SpeechesView.aspx?Id=1327]

¹⁴Reserve Bank of India (2021) "Enabling Framework for Regulatory Sandbox" [https://rbi.org.in/Scripts/PublicationReportDetails.aspx?UrlPage=&ID=1187#C1]

¹⁵Reserve Bank Innovation Hub - RBIH (2022) [https://rbihub.in/]

¹⁶Reserve Bank of India (2023) "Reserve Bank of India launches its Second Global Hackathon - HARBINGER 2023" [https://www.rbi.org.in/scripts/BS_PressReleaseDisplay.aspx?prid=55218]

¹⁷Reserve Bank of India (2022) "Fintech as a Force Multiplier" [https://www.rbi.org.in/Scripts/BS_SpeechesView.aspx?Id=1327]

International Financial Services Centres Authority

The International Financial Services Centres Authority (IFSCA) launched the “FinTech Incentive Scheme”¹⁸ in February 2022 to promote the establishment of a world class FinTech Hub by providing financial support to FinTech activities in the form of specific grant(s) as specified in the scheme, based on their eligibility and fulfilment of certain terms and conditions. The grants are offered under six categories namely, FinTech Startup grant, Proof of Concept grant, Sandbox grant, Green FinTech grant, Accelerator grant and, Listing Support at IFSC International Exchanges.

IFSCA has also issued a regulatory framework called the FinTech Entity (FE) framework in April 2022. It provides a controlled sandbox environment for testing the solution. The different types of sandboxes provided include:

- Innovation sandbox: This sandbox allows applicants to develop and test their FinTech Ideas or solutions in isolation from the live market.
- Regulatory sandbox: This sandbox allows applicants to test their FinTech Ideas or solutions in a live environment with real customers/investors.
- Inter-operable regulatory sandbox (IoRS): IoRS is a mechanism to facilitate testing of innovative hybrid financial products/services falling within the regulatory ambit of more than one financial sector regulator in India.
- Overseas Regulatory Referral sandbox: This sandbox shall be governed as per the provisions of the MoU or collaboration or special arrangement between IFSCA and corresponding overseas financial sector regulator(s).

RBI and IFSCA have partnered with Zone Startups India’s RegTech Accelerator Program with a focus on solving the challenges for the Indian BFSI industry.



Levers for accelerated adoption of RegTech

This section outlines the initiatives that could be taken to enhance RegTech in the country to overcome the key challenges to its adoption and build upon existing global regulatory initiatives.

These levers aim to support all stakeholders involved including regulated entities, RegTech firms, and the regulator.



¹⁸International Financial Services Centre Authority (2022) “IFSCA FinTech Incentive Scheme 2022” [https://ifsc.gov.in/viewer/index/289]

Considerations for regulated entities

Sponsorships and budgets

The risk and compliance functions frequently face budget and resource constraints, which may affect the entity's ability to adopt optimal strategies and use technology to streamline business operations. To overcome this challenge, it is imperative to establish sponsorship for the RegTech strategy. Sponsorship for employment of RegTech may lie solely with the Board of Directors. The Board may delegate authority to a specific committee to carry out the associated responsibilities, such as the Risk Management Committee of the Board (RMCB) and Audit Committee of the Board (ACB). A comprehensive 2-3 year RegTech implementation roadmap may be presented to the Board regarding areas of focus that warrant the adoption of RegTech. A periodic review may be presented to the RMCB and ACB, which may include the current state of solutions, utilisation of the allocated budget, implementation roadmap, and future areas of focus. In addition, the adoption and implementation of RegTech may form a part of the risk and compliance strategy meetings of the entity.

Confluence of skills

With the growing use of technology within regulatory compliance, adequately trained professionals, especially in the risk and compliance verticals of a regulated entity, are essential for the smooth implementation of RegTech. Entities must devise an appropriate change management strategy so that personnel are equipped with the necessary skill set to harness the benefits of RegTech solutions.

Regulated entities may consider developing a skills framework to identify the roles and skills required for different stakeholders to drive adoption. These entities may bridge the skills gap by finding the right talent with working knowledge of regulatory requirements, business processes, and technical skills for ease of operation and assessment of RegTech solutions. This may be achieved by upskilling and reskilling the existing talent and/or acquiring fresh talent. Entities may familiarise technology professionals with a working knowledge of regulatory requirements; and non-technical professionals with RegTech solutions and their usage.

Some of the popular upskilling and reskilling initiatives include mandatory learning hours/trainings (per financial year/quarter), enabling free access to online courses and certifications, hosting live trainings, seminars, technology demos, and workshops with subject matter experts, and offering graduate schemes that sponsor part-time master's degree courses in designated fields/areas.

Robust data management framework

Regulated entities often struggle to keep up with regulatory changes and the data requirements needed to comply with these changes. Therefore, regulated entities must develop a flexible data model that can accommodate future requirements. By implementing a robust data management strategy, they can maintain their data in a data warehouse that provides access to all relevant data from a single source. It is also recommended that they employ new technologies, such as data streaming services to ensure data validity and stay up to date with the latest advancements. By using deep learning techniques and reviewing patterns in real time, entities can enhance their monitoring practices and identify early warning signals to proactively manage potential risks.

Develop an innovation mindset

To foster innovation in the risk and compliance space, regulated entities need to develop an innovation mindset that prioritises customer needs, promotes a culture of innovation, embraces emerging technologies, and collaborates with solution providers. This approach can help regulated entities to stay ahead of the curve in a rapidly changing regulatory landscape, reduce compliance costs, and improve risk management outcomes.

FinTech may be described as the solutions used by the business functions, whereas RegTech refers to the solutions used by the second line of defense. FinTech is going through a period of swift growth and this new phase brings new difficulties for regulators, which requires the simultaneous adoption of RegTech solutions. Regulated entities must use innovation to develop and integrate RegTech solutions into the existing FinTech architecture. The business function needs to provide feedback on the usability and effectiveness of RegTech solutions, while the second line of defense needs to monitor and oversee the regulated entity's compliance with regulations. This feedback loop can help to improve the design and effectiveness of RegTech solutions, which can reduce compliance costs and improve risk management outcomes.

Engage with the ecosystem partners

Regulated entities can engage with RegTech providers to co-create bespoke solutions with a long-term development roadmap, rather than buying off-the-shelf products catering to specific needs. By understanding the entity's business processes, data sources, and systems, RegTech providers can develop integrated solutions that meet the specific requirements of the entity and anticipate future model enhancements (due to changes in regulations or business models). Collaborating also allows for user feedback and ensures the solution aligns with the entity's expectations. In addition, collaboration amongst industry players is increasingly important as the complexity and scope of regulatory requirements continue to grow. Knowledge sharing can help entities learn from each other's experiences, enabling them to collectively improve their compliance and risk management practices. It can also provide economies of scale and help them use the collective expertise and resources of the group to develop and implement more effective and efficient RegTech solutions.

Regulatory solution groups

A working committee may be formed with members from information technology, strategy, risk and compliance, and relevant business units to develop a strategy for the implementation of RegTech. Working committees are typically composed of representatives from different departments within the bank, such as compliance, risk management, IT, operations, and legal. The purpose of these committees is to develop and implement RegTech solutions that address specific compliance challenges faced by the regulated entities. The committee members work together to identify the areas of operations where RegTech solutions could be implemented to improve compliance efficiency and effectiveness. They may also include the review of existing regulatory compliance policies and procedures to identify areas for improvement or automation. Once the areas for improvement have been identified, the committee may research and evaluate different solutions that could be used to address the identified challenges. They may review vendor proposals, conduct pilot tests, and assess the effectiveness of the solutions. After selecting the most appropriate solutions, the committee may work with the vendor or the IT department to implement and integrate the solutions into the operations. They may also provide training to relevant employees on how to use the new technology and ensure that the solutions are fully compliant with regulatory requirements.

The working committee plays a critical role in the successful implementation of solutions in regulated entities. By bringing together representatives from different departments, the committee ensures that the RegTech solutions are aligned with the overall strategy and goals and that they are effectively integrated into the operations.

Considerations for RegTech firms

Industry associations

One of the key roadblocks that regulated entities face with the adoption of RegTech solutions is their inadequacy with respect to ensuring regulatory compliance. This is primarily due to non-standardisation or lack of expertise in interpreting regulations. RegTech firms can take the lead by collaborating to establish industry associations to obtain inputs from subject matter experts and key stakeholders. These associations can formulate policies and maintain a working relationship with the regulators. Ensuring that RegTech developers have a clear and consistent interpretation of the regulations will help boost the adoption of their solutions in the marketplace by increasing user confidence.

Focus on the ease of implementation and use of solutions

RegTech solution providers face the challenge of meeting the needs of a wide range of customers with varying levels of technical expertise. To ensure that their product is effectively utilised by their customers, it is essential for these providers to clearly articulate their product features and create manuals that will improve the ease of use and implementation. Targeted training sessions with relevant stakeholders will help familiarise the intended users with the solution's functionalities and mode of use. In addition, technology solution providers should strive to make their solutions easy to implement and use. This means minimising the effort required for customisations and reducing the dependence on IT teams. The rise of Low-code / No-code, script-less technology has been a game-changer in this regard. It allows for faster and more efficient customisation and configuration of solutions, even for users with limited technical expertise.

Availability of a comprehensive solution

RegTech firms typically offer solutions for specific use cases. However, there is a growing need for comprehensive end-to-end RegTech solutions that can address multiple challenges faced by regulated entities. A single one-stop RegTech solution will be highly value-accretive as it would require only a one-time integration with legacy systems, leading to lower implementation costs and greater efficiencies.

To achieve this, solution providers should focus on developing modular, easily configurable, and scalable architectures. This will enable them to offer comprehensive solutions that can accommodate any future changes mandated by regulators or the internal policies of regulated entities. By catering to the evolving needs of regulated entities, solution providers can further increase the adoption and satisfaction of their products, leading to greater success for both the provider and customer.



Through the looking glass

Technology is helping drive the creation of new business models, products, and delivery channels, leading to an exponential growth of regulated entities. Regulated entities are seeking innovative alternatives to meet the increase in frequency and complexity of regulations. Going forward, the

ecosystem is bound to witness mature technology solutions, the introduction of governance mechanisms and regulatory standards, the promotion of ethical AI, and increased acceptance within the financial services sector.

Strategic view on RegTech

Solutions used in risk and compliance will upgrade to new technologies with flexible and open architecture. Regulated entities will focus on consolidating the varied bespoke solutions supporting risk and compliance areas. There will be a concerted effort to move away from tactical to strategic solutions.



Consolidation

With an increase in the applications of RegTech, a wave of new players will enter the industry, fostering innovation and rapid development of new solutions. This wave will lead to consolidation in the industry as regulated entities gravitate towards fit-for-purpose, mature, and cost-effective solutions. In the future, we can expect to see technology partners with a full suite of RegTech solutions or the emergence of unified platforms, which may embed solutions from multiple RegTech firms.



Collaboration in the ecosystem

The growing use of technology within regulatory compliance will necessitate adequately trained professionals, especially in the risk and compliance verticals to support the implementation of RegTech. A confluence of skills within the second line of defense, where the risk and compliance professionals armed with a working knowledge of emerging technologies and analytics, will help catalyse faster adoption across the areas of RegTech.



Emphasis on data management

Supervisors are upgrading their analytics capabilities to ensure the timely monitoring of industry trends and the prediction of vulnerabilities. We can expect to see changes to reporting platforms, increased use of data-pull technology and validation of accuracy of information received from regulated entities. Regulated entities who have invested in digital transformation and data lake projects will expect to see granular data-driven insights. This will necessitate an active data management program to maintain data quality and traceability.



Skilled resources

Thus far, innovation in FinTech and business processes have been a matter of competitive advantage to regulated entities. However, we envisage substantial knowledge sharing and information transfer in the RegTech space through formal and informal platforms. A collective effort between regulated entities and solution providers to share success stories and accumulated experiences will lead to increased credibility of solutions.



The RegTech ecosystem is at an inflection point and poised to be highly value-accretive for solution providers and regulated entities alike. As regulated entities undertake digital transformation projects, primarily to improve business prospects and customer experience, this trend will continue in the risk and compliance areas as well. As risk and compliance teams are exposed to the potential of emerging technologies and power of analytics, there will be momentum towards upgrading the underlying tech stacks to agile and nimble architecture, to help fasten the pace of implementation. With support from industry and regulators, RegTech solution providers can comprehensively address complex requirements and transform the risk and regulatory compliance landscape.



Annexure I – Zone Startups RegTech Accelerator Program

About Zone Startups India

BSE's BIL Ryerson Technology Startup Incubator Foundation (BRTSIF) is a not-for-profit innovation ecosystem with a mandate to promote startups and support the Government of India's vision for entrepreneurship development and a culture of innovation. BRTSIF is a joint venture between BSE Institute, Mumbai, Toronto Metropolitan University (formerly Ryerson University), Toronto and Simon Fraser University, Vancouver.

Zone Startups India (a part of BRTSIF) is one of India's leading 'Incubator and Accelerator', with a legacy of over eight years.

Apart from its flagship ZSINurtery Incubator Program, it has several accelerator and innovation programs including empoWer (India's first and largest Tech Accelerator for Women Founders), Next BIG Idea (Canada market access program for Tech Startups) and BSEImpact (Nurturing Entrepreneurs who are impacting lives of citizens through sustainable solutions), Virtual Incubation Program for Women Entrepreneurs (Catalysing Women-led ventures), SAMRIDH AcceleratHER (Nurturing Women-led tech startups for scale and investments) and Capital Connexion (investor connections for growth stage startups).

About the RegTech Accelerator Program 2022

Zone Startups India launched India's first RegTech Accelerator for regulatory and supervisory technologies for the BFSI industry in association with GIFT City, Gujarat, and with the support of the Department of Science and Technology, Govt. of India, in August 2022. The program is being conducted under the guidance of Reserve Bank of India and International Financial Services Centres Authority, India. The accelerator has been supported by BSE Ltd., India International Exchange IFSC Ltd. (India INX), YES Bank Ltd., Bahwan CyberTek Pvt. Ltd. (BCT Digital), Qapita Fintech India Pvt. Ltd. and Sprinto Technology Pvt. Ltd. as program partners while Deloitte India is the knowledge partner.

The program marked the first collaborative effort to develop the financial services RegTech ecosystem in India by nurturing and catalysing startup/FinTech built solutions using cutting-edge technologies to solve for the BFSI industry's current challenges via live use-cases.

The objective was to deliver a cohort-based outcome-driven acceleration program for FinTechs/ technology startups and also provide them access to PoC opportunities and guidance from BFSI regulators/program partners enabling a proper product-market fit and enterprise readiness.

The 17 select startups (16 from India and 1 from Sweden) in the cohort were taken through various mentorship, training and hand-holding sessions by experts and specialists from the partner network as part of the acceleration process spread over 20 weeks.

This joint initiative of the participating regulators, partners, associates and mentors is the precursor to more concerted measures to build the RegTech ecosystem in India, and for the world. This will call for a larger participation from the BFSI industry players and across the sub-sectors.

Profiles of programme participants

Compliance management

1. Lawrbit

Lawrbit offers cloud-based RegTech solutions for enterprises and professionals. Their flagship product, Global Compliance Management integrates regulatory intelligence for more than 70 countries with technology to enhance regulatory awareness and compliance. They aim to present the necessary legal and regulatory information to all stakeholders in a manner, which can reduce knowledge gaps and promote enterprise-level compliance.

Their global legal partner network brings localised knowledge of laws and business nuances and helps in mapping the regulatory risk framework relevant to their client's business globally. Further, the compliance management solution establishes a universal compliance library and provides real-time updates, automated scheduling, and monitoring via analytical reports and dashboards. In addition, this solution can demonstrate how future regulations may affect business processes. It gives assurance to the Board on their regulatory adherence and helps avoid any unexpected risks.

- Year of establishment – 2018
- Team size – More than 50 members
- Underlying technology – Cloud computing and APIs
- Benefits – Risk management, regulatory awareness, process enhancement, improved governance
- Industries – Spans across industries
- Geographies – More than 70 countries

2. Compliance Easy

Compliance Easy, initially founded as a digital document workflow solution for financial institutions, has now evolved to offer an end-to-end no-code lending stack. Compliance Easy's plug-and-play features offer e-KYC, document management, digital stamping and signing, and fraud detection services. Their advanced fraud monitoring system continuously updates and refines its rules to minimise false positives and safeguard organisations against malicious actors. Using their solution, financial institutions of any size can build a customer onboarding and management system and can initiate digital lending within minutes.

- Year of establishment – 2022
- Team size – 6
- Underlying technology – AI, cloud computing, APIs, and low code/no code
- Benefits – Process enhancement and process acceleration
- Industries – Financial services, EdTech, gaming
- Geographies – India

3. Witnium

Witnium was founded to focus on using blockchain technology to safeguard musicians' intellectual property. However, as the company evolved, it discovered its importance in the legal industry by providing support to law firms in creating secure data trails. Witnium offers blockchain solutions using data source connectors and API integrations. 'Evitrace', a data source and blockchain agnostic platform, is designed to track changes across multiple data sources and trace interconnected events. By generating digital witnesses on the blockchain, Evitrace creates a tamper-proof trail that includes timestamps and other evidence of any modifications made to the data.

- Year of establishment – 2016
- Team size – 10
- Underlying technology – Blockchain, digital witness technologies, and APIs
- Benefits – Process enhancement and evidence creation
- Industries – Law firms/LegalTech, regulatory organisations/RegTech, and authorities
- Geographies – Europe and India

4. Bondbulls

Bondbulls aims to transform the bond platform landscape by providing innovative solutions that improve transparency and efficiency. Its integrated platform seamlessly integrates with broker platforms, offering a wealth of information, typically not available on traditional bond platforms. They provide specialised solutions for brokers, exchange traded funds, mutual funds, credit analysts, investors, and bond issuers. Using APIs, such solutions provide bond reference data and perform calculations, such as yield, duration, and spread. Bondbulls ensures that buyers are fully informed before making a purchase. Moreover, the platform offers tools to track the lifecycle of a bond and facilitates cash flow planning, providing organisations with greater visibility and control.

- Year of establishment – 2022
- Team size – 2
- Underlying technology – API and blockchain
- Benefits – Process enhancement
- Industries – Capital markets
- Geographies – India

5. IntelleWings

IntelleWings is a fully featured AML/CFT cum fraud solution that allows for customer risk profiling, customer screening, transaction screening, transaction monitoring, and fraud prevention. The USP of the screening module is a proprietary politically exposed person (PEP) and adverse media database, developed using deep tech. The database is highly expandable and checks patterns on money laundering, terrorism, smuggling, drug trafficking, fraud, and other user-chosen patterns. The suite is also built to scan transactions of banks, life insurance, general insurance, e-commerce, and designated non-financial business and professionals' transactions. An AI-based anomaly detector goes beyond fixed ruled conditions to predict outliers making IntelleWings an exceptionally powerful solution. IntelleWings' EYE, a data visualisation module (yet another breakthrough feature), provides a simplified but powerful view to show all relationships of transactions with related customers/entities and third parties to help in speeding up decision making. Built on micro-services, the solution is noted for its scalability and resiliency.

- Year of establishment – 2019
- Team size – 40
- Underlying technologies – AI, NLP, API, and cloud computing
- Benefits – Fool-proof AML/CFT compliance, fraud prevention to boost bottom lines
- Industries – Financial services, e-commerce, and designated non-financial businesses and professions
- Geographies – India and UAE

Identity management**6. Microkred**

Microkred seeks to promote financial inclusion by providing a range of solutions catered towards banking and microfinance institutions. Their cloud-based workflow automation platform enables banking and microfinance institutions to automate and digitise their employee, vendor, and customer onboarding journey while ensuring compliance with regulatory requirements. With its no-code and AI-driven approach, the platform enables organisations to create dynamic forms and workflows that align with their unique parameters, which can be easily deployed to capture, verify, and authenticate relevant inputs.

- Year of establishment – 2021
- Team size – 6
- Underlying technology – AI, cloud computing, Low-code / No-code, and APIs
- Benefits – Process enhancement and process acceleration
- Industries – Financial services
- Geographies – India

7. HyperVerge

HyperVerge specialises in providing AI-powered identity verification (KYC), business verification (KYB), and AML solutions to businesses in various industries, such as banks, financial services, FinTechs, insurance, lending, gaming, logistics, Ed-Tech, globally. Their comprehensive and configurable low-code workflow automation platform, HyperVerge One, helps organisations build digital journeys and automate their onboarding processes to verify customer identity in real time within milliseconds. Their comprehensive KYB solution enables instant verification of businesses, helping to mitigate financial risks by conducting thorough checks for adverse media, performing AML screening, and verifying documents.

- Year of establishment – 2013
- Team size – More than 150
- Underlying technology – AI
- Benefits – Process automation, reduce operational costs
- Industries – Spans across industries
- Geographies – More than 150 countries

8. IDfy

IDfy builds technology solutions to help companies accurately identify people, run background checks, conduct KYC, mitigate lending risks, and onboard associates. Their mission is to deliver these solutions with zero friction for end users. IDfy's APIs use AI/ML algorithms to extract information from documents, check for tampering, verify ID details against official databases, compare faces across pictures, and run checks on criminal records. Since its inception in 2011, IDfy has impacted more than 150 million lives. Today, it runs 25 million verifications for 600 clients across India, South East Asia, and the Middle East every month.

- Year of establishment – 2011
- Team size – 600
- Underlying technology – APIs, Video Solutions, Artificial Intelligence
- Benefits – Digital Transformation
- Industries – Financial services, online gaming, shared economy, recruitment and hiring
- Geographies – India, Middle East and South-East Asia

Trade-based surveillance**9. Nerve solutions**

Nerve solutions provide real-time risk management and surveillance platforms for financial markets to identify anomalies in trades within milliseconds and take corrective action in a timely manner. Their product 'n.Prime', operates as a Software as a service (SaaS) platform, and is capable of handling more than 5 million transactions per day in a single instance. In addition to the previously mentioned solution, they offer a low latency API n.Image, which helps in the calculation of margin requirements for trading accounts, by exchange guidelines. Their n.Feed API manages market data and provides a big data solution that can be used for back-testing and strategy development. In addition, the company also offers plug-and-play APIs, which enable users to create their own options trading products for various platforms.

- Year of establishment – 2018
- Team size – 24
- Underlying technology – APIs, low latency algorithms, and Big Data
- Benefits – Product enhancement, process transformation, and innovation
- Industries – Capital markets
- Geographies – India and the Middle East

Risk management**10. eGyanamTech**

eGyanamTech was founded with the primary goal of assisting organisations to evaluate their cyber vulnerabilities and provide appropriate risk remediation. After achieving success with their Vulnerability Lifecycle Management solution, they launched eGyanam Advance Systems, which utilises cutting-edge technologies, such as AI, deep tech, and Internet of Things (IoT) to create a comprehensive platform for automating cyber and ESG risk management and reporting. Their solution enables organisations to obtain detailed insights into risk exposure throughout the entire business process lifecycle, using advanced analytics and consolidating data from multiple sources within the organisation. Further, they are at present in the development phase of a blockchain-based compliance management platform dedicated towards cyber and ESG risks.

- Year of establishment – 2017
- Team size – 12
- Underlying technology – AI
- Benefits – Process enhancement and process transformation
- Industries – Financial services
- Geographies – India

11. Drona Pay

Drona Pay is a comprehensive risk-scoring platform to mitigate frauds, laundering, delinquency, and scams for financial institutions. The solution uses transaction data, behavioral biometrics, and alternative data along with advanced automation and ML techniques to deliver enhanced supervision. The fraud and scam prevention platform enables organisations to accurately identify fraudulent behavior using customised rule-based parameters to reduce the risk of false positives. The solution consolidates data from various sources for real-time transaction monitoring and customer profiling to analyse user patterns and identify behavioral deviations.

- Year of establishment – 2021
- Team size – 20
- Underlying technology – AI, cloud computing, APIs, and Big Data
- Benefits – Loss reduction, regulatory compliance, process transformation
- Industries – Financial services
- Geographies – India, the Middle East, and the USA

12. Infomine Solutions

Infomine Solutions specialise in automating workflows for organisations, mainly financial services and manufacturing, with a focus on digital transformation solutions and information and cybersecurity consulting services. Their loan reporting process is streamlined with the use of a DSA automation tool, which generates a reporting template and inputs the necessary data for submission. In addition, their cybersecurity incident management solution ensures that security breaches are reported to the regulator within six hours of the incident along with a detailed analysis. Besides, they have also developed a framework for automating regulatory reporting.

- Year of establishment – 2017
- Team size – 14
- Underlying technology – AI and cloud computing
- Benefits – Process enhancement and process acceleration
- Industries – Manufacturing and financial services
- Geographies – India

13. Signzy

Signzy is transforming digital onboarding for the financial services industry by offering a comprehensive suite of APIs that can be seamlessly integrated into workflows through simple widgets. They offer low-code/no-code AI platforms primarily catering to the KYC/KYB, fraud control, and lending needs of organisations. Their AI-assisted KYC solution provides end-to-end customer verification using features, such as video-based identification and analysis of data from credible external sources for real-time due diligence.

- Year of establishment – 2015
- Team size – More than 200
- Underlying technology – AI, API, and low code/no code
- Benefits – Process enhancement and process acceleration
- Industries – Financial services
- Geographies – India, Middle East, and North America

14. Divsight Intelligence

Divsight Intelligence is a comprehensive platform that enables organisations to gain insights into potential threats associated with new customers. Their advanced algorithms scour multiple online sources to gather relevant information about individuals and generate reports. These reports also detail any past or potential instances of fraud, money laundering, or terrorist financing. Their powerful ML models conduct comprehensive forensic audits, making compliance cost-effective and efficient.

- Year of establishment – 2021
- Team size – 40
- Underlying technology – AI
- Benefits – Process enhancement and risk mitigation
- Industries – Financial services
- Geographies – India

15. AY Taskk Consulting LLP

Exclusive financial research reports tailored to the needs of regulators are prepared by AY Taskk Consulting LLP, a financial research and consulting firm that specialises in obtaining data and information from around the globe. AY Taskk has a staff of seasoned experts with knowledge of financial reporting and regulations. Their core strength lies in the timely detection of practices that may lead to loss of revenue to the exchequer and the acquisition of information about businesses (financials, promoters, and directors) from over 70 nations. Through this project, AY TASKK is getting ready to offer ARCANE 360, a new solution that can help banks and other financial institutions keep an eye on how well borrowers are utilising the credit line extended to them. Through the pre-designed ARCANE 360, lenders can get a comprehensive understanding of the entity receiving payments from any borrower. With this information, the lender can monitor the credit facility's usage in near real time and respond appropriately to any warning signs of potential bad debt.

- Year of establishment – 2021
- Team size – 40
- Underlying technology – AI
- Benefits – Process enhancement
- Industries – Financial services
- Geographies – India and 70 other countries

Cybersecurity**16. CyberNexa**

CyberNexa was founded with the primary objective of delivering cutting-edge security solutions to organisations, aimed at achieving compliance with cybersecurity regulations. 'CyLock - Identity & Authentication Platform for Devices, Application & Transactions', by CyberNexa Infotech, is an out-of-band MFA platform designed to safeguard organisations from unauthorised access and phishing while adhering to compliance requirements. This solution uses the capabilities of smart devices to offer user-friendly and secure MFA services for both online and offline authentication via several modes, such as PIN, challenge-response, push notifications, geofencing, and biometrics.

- Year of establishment – 2018
- Team size – 25
- Underlying technology – AI, cloud computing, and blockchain
- Benefits – Digital asset protection and process enhancement
- Industries – Spans across industries
- Geographies – India

17. DeepCytes

DeepCytes is a cyber forensic intelligence provider utilised by both law enforcement agencies and corporations to detect, investigate, and resolve cybercrime incidents. With a combination of technical and human expertise, their solution analyses large volumes of data and identifies anomalies during cyber investigations. The primary goal is to identify and preserve digital evidence for use in legal proceedings. In addition to aiding investigations, DeepCytes helps organisations develop resilient system frameworks to protect against cyber threats by implementing appropriate security measures.

In addition, they have been successful in setting a national-level helpline with the zeal of cyber conditioning a populace of 1.3 billion masses in India. On a broader landscape, this helpline can help the global audience with various threats caused, due to cybercrimes and the ways to combat them.

- Year of establishment – 2021
- Team size – 66
- Underlying technology – AI
- Benefits – Process enhancement and cyber insurance
- Industries – Spans across industries
- Geographies – India, UK, Canada, South Korea, UAE

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