RegTech: A magical entity from the
FinTech ecosystem

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Following the financial crisis of 2008–09, regulators across the globe have introduced a raft of new regulations that have radically increased the challenges for financial institutions (FIs). Today, FIs are required to swiftly meet the ever-evolving requirements from multiple regulatory agencies.

Current regulatory compliance challenges of FIs

Increased complexity

- **Heavy regulatory flux,** as new or revised regulations add to the pressure on FIs to produce and manage huge amounts of compliance data
- Regulators expect FIs to **track and analyze their data from a vast array of internal and external sources;** both structured and unstructured. They are also demanding access to FIs' detailed data
- **Increasing trend towards risk-based regulation** – Necessitating FIs to manage and furnish more granular data across all aspects of their businesses

High costs

- Today, a significant portion (sometimes more than half) of FIs' IT budget is spent on regulatory compliance and maintenance. Consequently, they are **unable to invest much in their IT systems' development and innovation**
- **Heavy fine for regulatory non-compliance** – In 2015, five of the world's largest banks were asked to pay fines of US$5.7 billion in total for foreign exchange market manipulation and other charges
- Increasing compliance staff entails **high expenditures**

Stringent timelines

- Stringent timelines result in **tactical rather than strategic responses** towards regulatory compliance
- The half-baked tactical responses **increase the complexity and operational risks of FIs' IT systems, and introduce technical debt**

Legacy system constraints

- Numerous **siloed legacy systems** make it difficult to manage, consolidate, extract, and report data on a timely basis to regulators
- Reliance on **manual data management processes** leads to data inefficiency and quality issues
- Suboptimal reporting due to **data inconsistency, inaccuracy, and lack of traceability and auditability**
- **Lack of common data definitions and format**

Incumbent compliance solution constraints

- Over the previous decades, FIs have invested in a number of **tactical, regulatory compliance-related IT solutions.** As a result, many FIs' traditional compliance solutions are unable to cope with the fast-evolving regulatory expectations
- Traditionally, for FIs, the best bet for compliance-related IT systems was large, established vendor solutions, or in-house development of proprietary solutions
- These solutions **lacked agility / flexibility.** They were built for specific 'locked down' regulatory requirements and enhancement requires development / configuration in proprietary languages
- The benefits of most of the traditional IT vendors' solutions are realized only when an FI adopts multiple solution modules from the same vendor. These solutions are also **expensive and require a long implementation time**

With the above challenges, an increasing number of FIs are looking for new approaches and solutions for regulatory compliance management. **This is where regulatory technology (RegTech) companies begin to play a game-changing role.**

Introduction to RegTech

Recent years have seen immense growth of new financial services platforms across all domains, including payments, lending, trading, personal financial management, and more. A majority of these innovative solutions are being enabled by new-age financial technology (FinTech) firms. The emergence of the FinTech ecosystem has truly disrupted the traditional finance service models. Many FinTech companies such as OnDeck Capital, LendingClub, Moven, and iZettle are already enabling immense business value to customers.

Further, recent times have witnessed the emergence of a new breed of FinTech firms under an umbrella concept called RegTech (regulatory technology). These RegTechs enable FIs to comply with the regulatory requirements more effectively and efficiently. RegTechs interweave innovative and robust technology capabilities and regulatory know-how to address the FIs' compliance management needs. They enable automation of manual compliance processes, enhance compliance reporting

capabilities, improve data quality, facilitate holistic data view, and automate data analysis. Their solutions are configurable, nimble, easy to integrate, secure, reliable, and cost-effective. RegTechs are proactive in making sense of new / evolving regulations and understanding 'what-if' situations, enabling robust solutions. Markets in Financial Instruments Directive (MiFID) II, Anti-Money Laundering (AML), Know Your Customer (KYC), and trade regulations are just a few examples wherein RegTechs are already providing immense value to FIs.

RegTech examples

IdentityMind Global (US)	Tradle (US)	Trulioo (US)
• On-demand platform providing next-generation anti-fraud and risk management services for the e-commerce ecosystem	• Uses blockchain for bridging the internal / external financial networks to accomplish user-controlled KYC portability	• A global leader in identity verification • It enables instant electronic address and identity verification for 4 billion plus people in over 40 countries
FundApps (UK)	AlgoDynamix (UK)	Suade (UK)
• Offers a cloud-based managed compliance service for hedge funds, asset managers, and institutional investors • It automates shareholding disclosures for short-selling, major shareholding, and takeover panel regulations • It also offers tools to enable compliance with trade regulations (e.g., with AIFMD, UCITS, monitoring issuer, etc.)	• Offers a unique trade fraud solution that helps customers trace irregular / suspicious activity during large financial instrument shifts (e.g., stock selling just before an M&A announcement) • The solution can detect disruptive events in the global financial markets; and can anticipate price movements hours / days in advance	• Its regulation-as-a-service BCBS-239 compliant platform enables banks to continually comply with the prudential regulations. It allows for flexible management of information tools for internal / external reporting requirements • Helps banks source and sort data, generate business intelligence, and submit regulatory reports without disruption to the banks' current system architecture
KYC Exchange (Switzerland)	OSIS (Netherlands)	Athena Portfolio Solutions (Israel)
• Allows the easy exchange of KYC / CDD data between the FIs and clients	• Offers an alternative way for the banks / investors to analyze their credit risk – by coherently combining the statistical analysis of data with the subjective opinions on forward-looking risk distributions	• Uses predictive analytics and machine learning to find actionable news in cases where the asset is not overtly mentioned in the content

Exhibit 1: RegTech examples

RegTechs can help in FIs' business functions

For FIs, regulatory compliance is required in every business area. Hence, each business area becomes a potential candidate for RegTechs' engagement. Following are a few examples of business functions where RegTechs can be engaged:

Illustrative FIs' business functions where RegTechs can help			
International tax regulations enforcement	International accounting standards enforcement	Liquidity Risk Management	Anti-Money Laundering / Countering Financing of Terrorism (AML / CFT)
KYC / CDD *(Automated data and document collection / verification / storage, electronic identity and address verification, etc.)*	Fraud management *(Payments, online, trade, behavioral profiling, etc.)*	Payments compliance *(Authentication and verification, PSD, etc.)*	Capital and capital assessment procedures *(Vis-a-vis CRD IV, Basel III, Dodd-Frank, Fed's CCAR, etc.)*
Trading *(Data tracking, risk management, trade regulations (e.g., UCITS, AIFMD) compliance, etc.)*	Asset management *(Reconciliation processes, etc.)*	Trade surveillance *(For AML, financial crime risk monitoring, customer profiling, etc.)*	Integrated risk and compliance management and reporting *(Customer, credit, counterparty, operational, etc.)*
Firm-wide risk management *(Aggregation, risk data management, scenario analysis, etc.)*	Compliance monitoring / Compliance validation services	Information security assurance	Cloud-based managed compliance service *(For hedge funds, asset managers, institutional investors, etc.)*

Exhibit 2: Examples of FIs' business functions where RegTechs can help

Salient features of RegTech solutions

Advanced analytics usage

- **Advanced modeling, deep learning, and real-time analytics** capabilities
- **Machine learning** to support accelerated assessment of new / emerging regulation
- **Predictive analytic 'sniffers'** for in-built automated compliance assurance
- **Big data capabilities** for real-time information processing and integration from diverse data sources
- **Robust tools such as Tableau, Hadoop, and Pentaho are integrated with virtual data lakes** to enable bespoke, flexible, and scalable reporting capabilities

Robust technology architecture

- **Open network and platforms** that enable data sharing, format standardization, and common processes
- **Robust application programming interface (API) and gateways** that allow legacy systems to communicate with newer systems and among each other
- **Data-driven dynamic compliance problems prediction** using advanced pattern / anomaly response systems and automated surveillance
- **Cloud-based solution** that is flexible and cost-effective (pay-per-use model); and enables remote and secure data management and backup
- **Robust risk data warehouses and enterprise-wide risk aggregation** that perform risk data management and scenario analysis
- **Automated due-diligence processes** that can be tailored according to FIs' risk-based approaches
- **Accurate, timely, and secure data extraction** capabilities
- **Standardized data presentation** (global / regional) that enables data to be sliced and diced in multiple formats

Effective tools

- **Robust risk / compliance management tools include** regulation gap analysis tools, compliance health check and management information system (MIS) tools, activity monitoring tools, regulatory reporting tools, case management tools, customer / counter-party risk management tools, compliance validation tools, audit tools, etc.
- System embedded **compliance / risk evaluation tools** enable real-time analysis in financial crime risk monitoring, trade surveillance, AML, and customer profiling
- Powerful tools aid **visualization, understanding, and reporting** of / from numerous heterogeneous data sources
- **Biometrics and social media analysis tools** for combating the financing of terrorism (CFT) and for KYC / AML compliance
- **Innovative accounting / compliance tools** that interact directly with regulatory reporting systems
- **Robo-advice tools** for providing regulated and bespoke advice

Agility and flexibility

- Short implementation time frames
- **Flexible, timely, reliable, and efficient harnessing of data and existing systems** for compliance; obviating the need to replace legacy systems
- New service features can be easily added / customized / removed
- Quick configuration and generation of regulatory reports
- Customizable data control

The table below highlights a couple of examples of RegTech solutions and their key capabilities.

RegTech Name	Solution	Key capabilities
Cappitech	European Market Infrastructure Regulation (EMIR) Dashboard	• **Dashboard powers the analysis of Cappitech's reporting tools** for FIs that report exchange-traded derivatives (ETD) and over-the-counter (OTC) derivatives using the **Capptivate platform** • **Cappitech's Capptivate platform connects clients to trade data.** It maps to the required fields for European regulatory reporting, and validates data during reporting to the trade repositories • Dashboard allows risk / compliance officers to **gain timely and valuable insights on their EMIR regulation reporting** with easy drill-down capabilities • **Enhanced user experience** through a web-based and mobile-friendly dashboard. It enables **visual reports,** provides capability to search orders using unique trade identifiers, and categorizes trades according to asset class and counterparty source
NextAngles	Basel III – Liquidity coverage compliance solution	• **Process encoding** to convert data to **machine-intelligible data; process modeling** to define the organization and the relationship between its transaction, departments, and people • **Computer comprehensible models** that encompass business knowledge, regulatory requirements, and policies • Flexible solution that is **scalable across business lines and asset classes**. It enables efficient and **near real-time intraday liquidity, cash flow projection, and asset classification** • **Timely identification of counterparty risk** through the cross-examination of asset data and knowledge models with public data sources • **Centralized dashboard** to aid in creating liquidity buffers and impacts assessment across lines of business (LoBs), geographies, and asset classes. It provides an integrated view of market data and portfolio updates • **Data quality reports that can be sent to regulators**

RegTech adoption: The proof is in the pudding

Success stories of RegTechs abound. Today, new RegTech startups are coming up at various FinTech hubs (New York, Singapore, Dublin, Hong Kong, Sydney, Berlin, Warsaw, etc.) across the globe. With their immense potential, RegTechs are gaining significant interest among governments, regulators, proactive FIs, traditional consultants, and other ecosystem players alike.

Support from governments and regulators

- As per UK Trade and Investment Report **2014, over GBP342 million was invested in UK FinTechs** (including RegTechs). In November 2015, the **UK Financial Conduct Authority (FCA) launched a dedicated workgroup to focus on RegTechs.** FCA sought views on how it could support the development and adoption of new RegTech solutions.

- The Singapore government is focused on promoting a **smart nation.** The Monetary Authority of Singapore is **concentrating on shifting towards an API-driven architecture for RegTechs.**

- **In Australia, the federal government has made FinTech a national priority.** A FinTech Advisory Group has been created and **several FinTech-related measures have been included in the federal budget.**

Enthusiastic FIs

- In May 2016, Banco Bilbao Vizcaya Argentaria's (BBVA's) **Innovation Center in Madrid hosted the first global RegTech event.** It was organized by the Institute of International Finance (IIF) and was **attended by important RegTech startups,** such as Global Blockchain Labs Engagement, Ayasdi, Onfido, Suade, Silicon Valley Bank, Sybenetix, and **key FIs that include HSBC, UBS, Deutsche Bank, and BIS.**

- In May 2016, Germany's GFT Technologies launched a new RegTech solution called Regulatory Change Management Service (RCMS). **GFT successfully implemented RCMS in Royal Bank of Scotland's (RBS's) trade and transaction reporting department.**

RegTech success stories

- Silverfinch's secure fund data utility enables connectivity between asset managers and insurers to meet Solvency II requirements. In October 2015, **Silverfinch announced that it handles €2.5 trillion of look-through assets for its clients globally. It now runs insurer look-through data for more than 20 percent of the top 50 global, cross-border, asset managers.**

- In December 2015, Trulioo — provider of identity verification services to businesses worldwide — **raised US$15 million in financing from American Express** and other existing investors. This was the **first time that American Express invested in a Canadian startup.** It was also **Canada's largest FinTech funding in 2015.** In 2014, Deloitte Canada had **selected Trulioo in its annual 'Companies-to-Watch' award as a part of its 'Technology Fast 50' program.**

- In October 2016, software giant I**BM launched a RegTech subsidiary** - Watson Financial Services - to help financial services clients manage their regulatory compliance. In November 2016, **IBM acquired Promontory Financial Group - a global market-leading regulatory compliance and risk management consulting firm.** Promontory, in alignment with IBM's deep expertise and Watson's cognitive capabilities would help **address the massive manual costs and operational effort involved in the ever-evolving risk and compliance domain.**
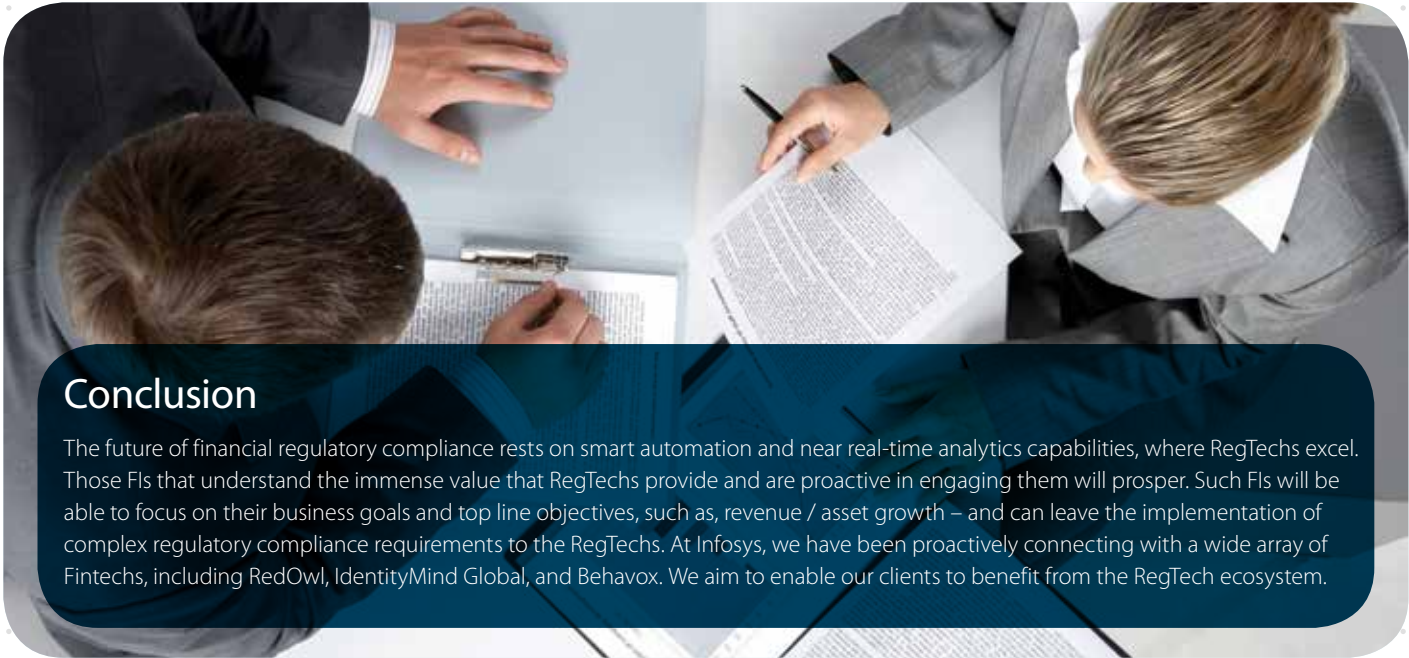
Conclusion

The future of financial regulatory compliance rests on smart automation and near real-time analytics capabilities, where RegTechs excel. Those FIs that understand the immense value that RegTechs provide and are proactive in engaging them will prosper. Such FIs will be able to focus on their business goals and top line objectives, such as, revenue / asset growth – and can leave the implementation of complex regulatory compliance requirements to the RegTechs. At Infosys, we have been proactively connecting with a wide array of Fintechs, including RedOwl, IdentityMind Global, and Behavox. We aim to enable our clients to benefit from the RegTech ecosystem.

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Venkatesha has over 20 years of industry experience leading several large and complex IT consulting, process re-engineering, system integration, and business transformation programs across marquee clients globally. Over the years he has built teams and multiple COEs to address business needs across industry domains.

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