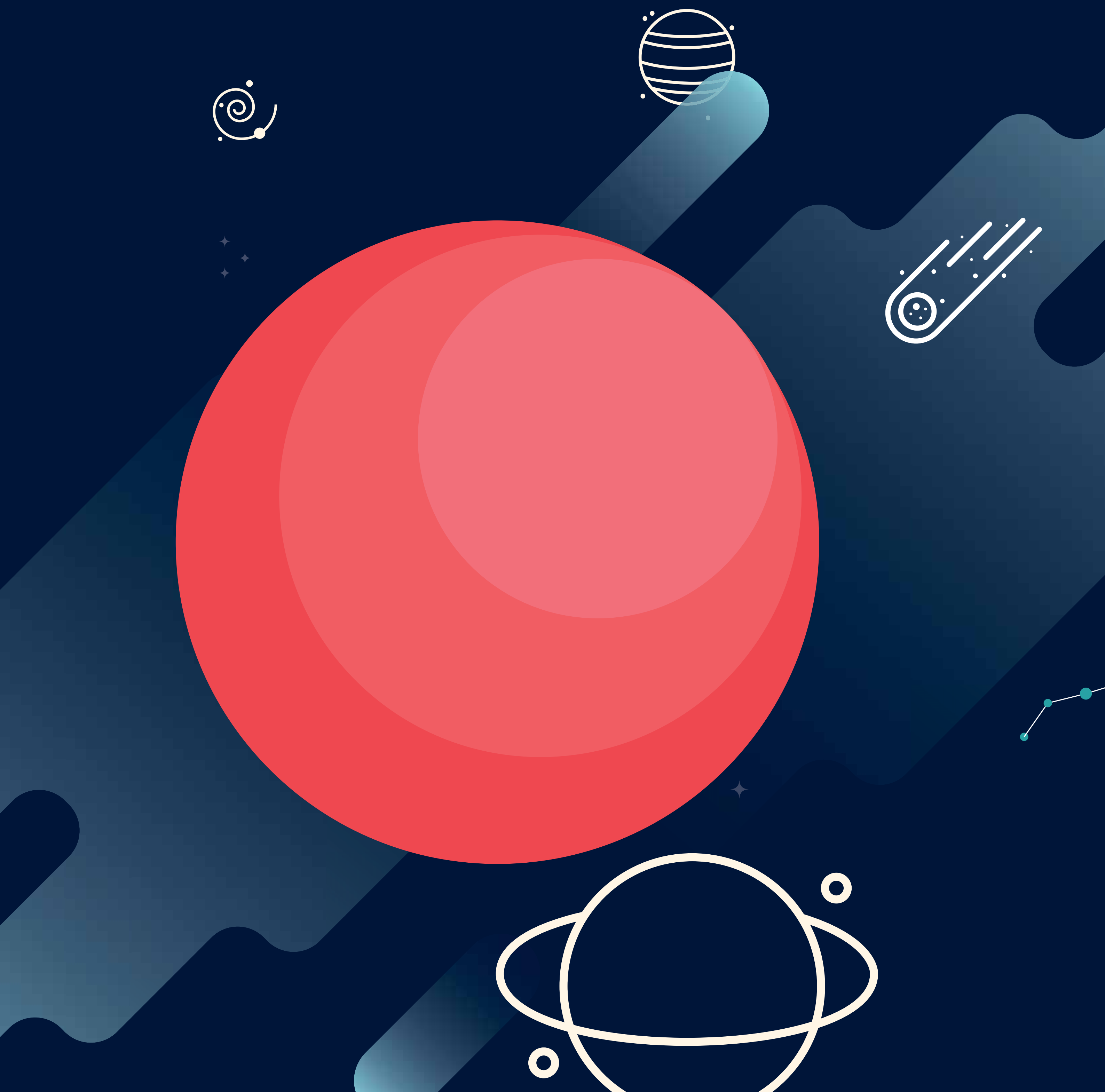

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Using RegTech to transform compliance and risk from support functions into business differentiators

Technological innovations continuously emerge, offering new risk and compliance solutions to help financial firms to comply and manage their risks at lower cost.

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The sheer volume and complexity of new and existing regulations have had the unintended consequence of encouraging financial service providers to focus on compliance rather than innovation. Regulations such as Packaged Retail and Insurance-based Investment Products (PRIIPs), the Payment Service Directive 2 (PSD2), the fifth Undertakings for Collective Investments in Transferable Securities Directive (UCITS V), the Markets in Financial Instruments Directive (MiFID), the fourth Anti Money Laundering Directive (AMLD IV), the Capital Requirements Directive and Capital Requirements Regulation (CRD and CRR), the European Market Infrastructure Regulation (EMIR), and the second Market Abuse Directive (MAD II) are just a few examples of the systemic shift in terms of compliance and risk, capital and liquidity requirements, and governance and supervision with which all investment management actors must comply.

In parallel, firms have been cautious to innovate due to the regulatory uncertainties underlying the development of new products and the deployment of pioneering technology. However, in the context of the ongoing digitalization of our day-to-day life and the consequential redefinition of the way we live and work being driven by technology, the last years have witnessed the emergence of promising and innovative companies targeting the regulatory environment to support efficient compliance management from an IT perspective—the so-called RegTech companies (RegTechs). Put simply, RegTechs offer solutions that use technology to solve compliance and regulatory issues.

Regulatory pressures require fast implementation, which often conflicts with financial firms' development and transformation calendars.

Financial firms must embrace innovative solutions to face the heightened risk and compliance challenges

Diving a little more into the regulatory requirements, financial institutions are currently managing ever-changing regulations while being increasingly exposed to complex multi-jurisdictional facets. In practice, regulators now demand much more transparency—meaning an increasing amount of data needs to be produced by financial institutions to improve their vision of systemic risk and the behavior of different agents involved in the financial ecosystem. To gather, analyze, and compute all the required data, institutions make use of a variety of technology systems, but the truth is that much of this work still heavily relies on manual processes and interventions. It goes without saying that these processes are the main cost drivers for firms. As such, the greater demand for transparency and rigor has brought the role of technology to the forefront, leading companies to simply ask themselves the following question: how should a financial institution address compliance in a more efficient and less resource-consuming manner while improving the quality of the data reported to regulatory supervisory authorities?

Historically, financial institutions have had the choice of using large, well-known vendor systems or building an in-house solution. In selecting and implementing such technologies, different challenges arise. Firstly, the chosen solution must fit into the often complex and heterogeneous internal architectural IT environment of the company. Secondly, reporting and visualization tools are typically used on a very local level within different departments, and not always governed centrally. Finally, regulatory pressures require fast implementation, which often conflicts with financial firms' development and transformation calendars, thereby creating additional operational challenges.

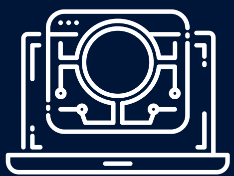
Once the technology has been selected, development and configuration needs to be done in a proprietary language while adapting the solution to dovetail into an already complex existing IT architecture, which in turn leads, among others, to high lead times. Add in high price tags and it is clear that an agile alternative is required.

Main technology supporting RegTech solutions

Cloud computing
Cloud, open platforms and networks for sharing data, format standards, and common processes.

Blockchain
Technology allowing the creation and verification of transactions on a network instantaneously without a central authority. Used to track and speed up the transaction life cycle and cut costs while lowering the risk of fraud.

Application program interface
Software solution that allows off-the-shelf RegTech tools to interact directly with regulatory reporting systems.



Machine learning
Technology that learns from data and allows automatic reassessment and refinement of processes in reaction to input from users.

Big Data
Real-time processing tools/ techniques of Big Data to create value out of the massive amount of available heterogeneous and textual data.

Data mining and analytics
Use of machine learning and behavioral analysis that offers the potential of powerful data mining and simulation techniques for enhanced decision making and artificial intelligence.

Predictive analysis
Solution that looks to identify patterns of activity, such as unusual use of communications, non-routine patterns of leaving the office, non-completion of training, or missing mandatory leave, which may flag potential conduct concerns.

Smart contracts
Computer programs to enforce the negotiation or performance of a contract. Smart contracts aim to provide security that is superior to traditional contract law and to reduce other transaction costs associated with contracting through automation.

Visualization solutions
New technical solutions for a user-friendly data presentation to make sense of and to speed up the understanding of complex, heterogeneous, and abundant data.

Technological innovations continuously emerge, offering new risk and compliance solutions to help financial firms to comply and manage their risks at lower cost. Stepping out from the shadows into the light, regulatory technology (RegTech) solutions present themselves as being able to tackle several of the aforementioned issues by providing agility, speed, and data-driven outputs. These attributes are enabled through multiple emerging technologies. Generally, such solutions tend to be cloud-based, meaning that data is remotely maintained, managed and backed up. This provides enhanced flexibility through the ability to customize control over not only the access to but also the sharing of the data. In addition, simplified addition and removal of service features provides for enhanced performance and scalability while end-to-end data encryption provides the necessary security. Cost-wise, the cloud is especially interesting as it provides the ability to offer pay-as-you-go pricing.

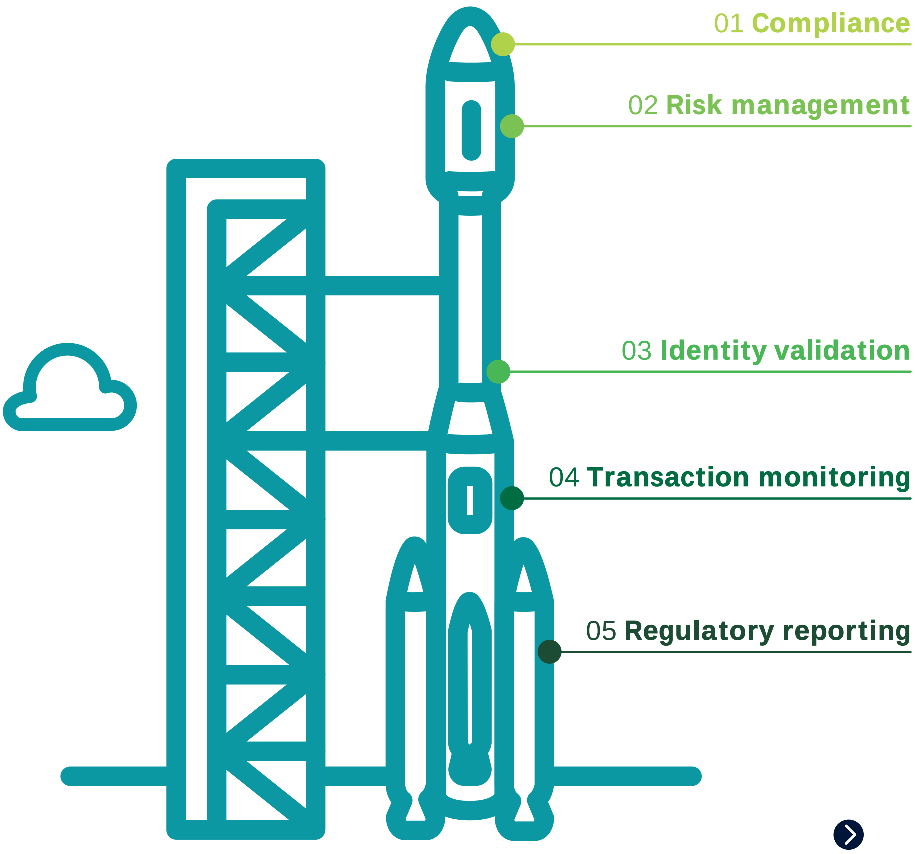
Besides cloud features, a variety of RegTech solutions have advanced analytical and machine learning/artificial intelligence capabilities. Evidently, data is meaningless unless it is organized in a way that enables people to understand it, analyze it and ultimately make decisions and act upon them. As such, analytics is beginning to help the industry rapidly and automatically understand not just the explicit meaning of the regulation but also the implicit meaning or "nuance" that is so often the greatest challenge to digest and assess. Advanced analytics and assessment techniques can start to "learn" and support by accelerating the review of new and emerging regulation based on what has been seen previously and how that has been interpreted in the same way that neural networks have helped predict fraud or customer behavior. Intertwined with analytics is the use of artificial intelligence. This technology combined with in-depth learning capabilities may be used as a continuous monitoring capacity, providing close to real-time insights into the functioning of global markets, and identifying problems in advance rather than simply taking action after the fact.

Lastly, some RegTech solutions use Blockchain – a record or ledger, of digital events distributed between many different parties that collectively guarantee the scalability and integrity of the said ledger. It can only be updated by a majority consensus of the participants in the system. Once entered, the information can never be erased, only amended. Blockchain contain different types of information such as transactions but also smart contracts. Through the Blockchain's near real-time settlement capability achieved through automation and global consensus, RegTech solutions can automate compliance aspects in cases such as identity management and transaction processing, settlement, and reporting.

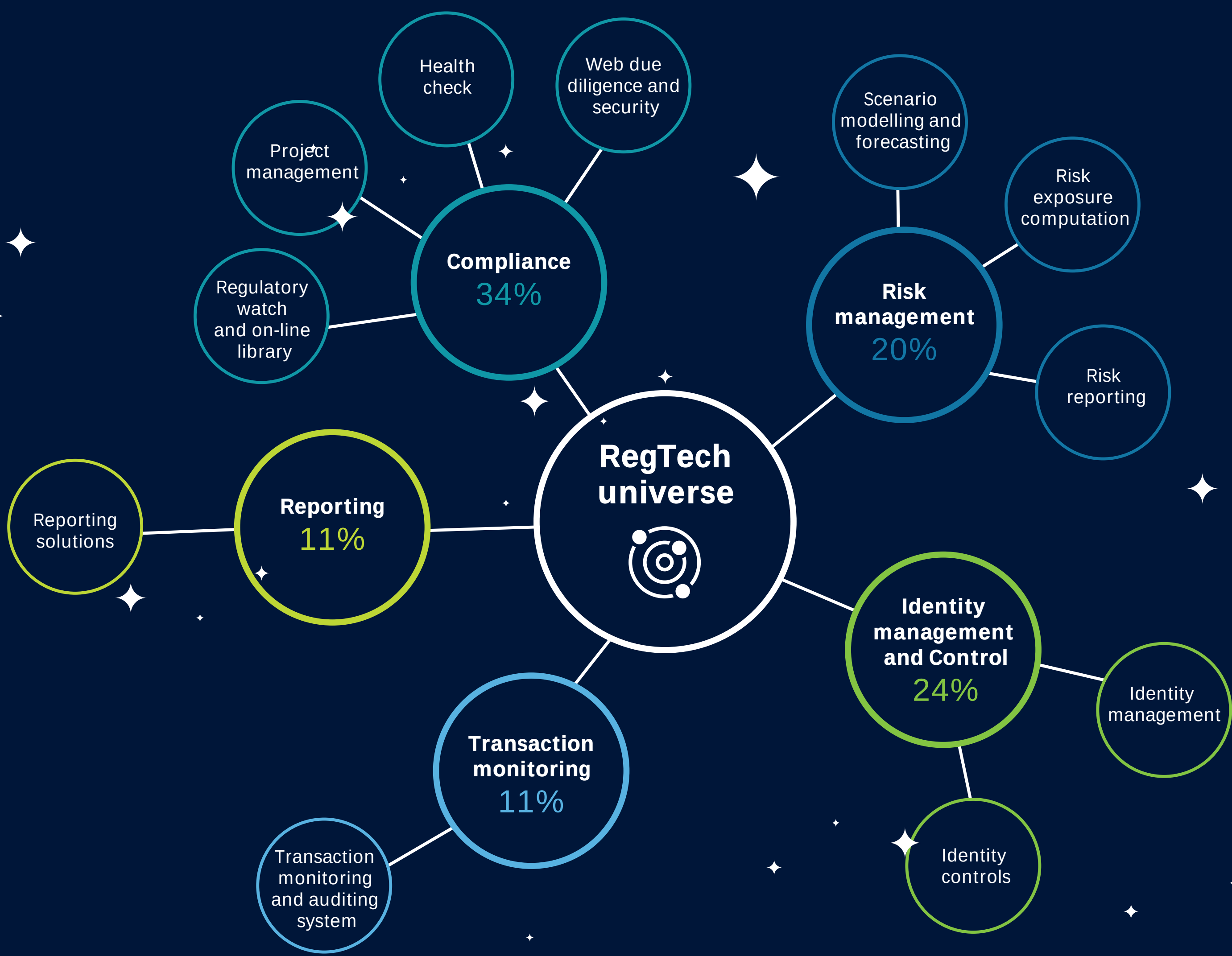
What to expect from RegTech

Activities and processes covered by RegTech solutions are much broader than regulatory reporting and present themselves in many forms. Yet, they all have one thing in common: the targeting of a very specific niche.

Deloitte has mapped more than 200 RegTech companies offering various solutions that we have attributed to five main categories, these being:



From business needs to RegTech features



Each category encapsulates various subgroups. For instance, "identity validation" encompasses both identity management and various controls, whereby tools target customer or counterparty onboarding. Based on biometrics and access to a multitude of information databases at the same time, Know-Your-Customer (KYC) processes can be facilitated. Identity controls form a key ongoing part of the relationship with a client and may include Anti-Money Laundering checks based on big data reports. In risk management, several tools provide scenario modelling and forecasting for regulatory requirements such as stress testing by computing future data and allowing automatic reassessment and refinement of processes in reaction to input from users.

The essential role of regulators for supporting innovations While we anticipate a very strong interest by financial firms in RegTech solutions due to the resultant competitive advantage, the adoption of RegTech solutions is currently slow due to a variety of underlying challenges. As such, the legitimization of these innovative products by enforcement authorities and regulators is a key driver to stimulate their adoption.

As the RegTech space is in its infancy and is developing rapidly, it is difficult for financial firms to identify and commit to a particular technology or solution. In addition, several constraints remain, such as those related to the sharing, storing, processing of, and access to data. A general wariness of banks and other financial actors to implement.

RegTech solutions mainly originates from the need for enforcement authorities and supervisors to approve the use of such innovative products and services as well as apprehensions resulting from such solutions being as yet unproven. For instance, as the financial ecosystem moves toward increased data utilization, the relevant regulatory framework to perform analyses through the use of advanced algorithms will need to be assessed.

Indeed, how data will be handled in terms of ownership, analysis, maintenance, and security will be a non-negligible aspect of the evolution of RegTech.

Recently, a progressive approach has been adopted by regulators such as the Financial Conduct Authority in the UK (FCA), the Monetary Authority of Singapore (MAS) and the Australian Securities and Investments Commission (ASIC). Being the first worldwide to offer a "regulatory sandbox," the FCA aims at providing a safe place where businesses can test new services and business models in a live environment alongside the regulators who are tasked with assisting these innovators. The FCA has established a framework of application as well as relevant safeguards for the operation of its sandbox. The FCA's stated market objectives for the sandbox are to reduce time to market at a potentially lower cost, provide better access to finance, and foster more innovative products reaching the market. Essentially, for the RegTech ecosystem to grow, the need for collaboration is required from key industry stakeholders.

Currently, RegTech solutions are in the process of understanding business and regulatory engagements to allow them to align their solutions with current regulatory frameworks, while some financial institutions are working on the development of their RegTech strategy and roadmap. On the educational front, we see professional services firms which can, in the future, become a dynamic center of the ecosystem through their wide-ranging relationships and business understanding across industries, start-ups and—rather critically— regulators.

As such, regulators play a contributory role in fostering innovation, create common integrated standards and proactively drive efficiencies in the RegTech ecosystem. With such development and further innovation in the RegTech space, both regulators and financial institutions would be able to monitor and analyze real-time financial information from all parts of the global financial services sector thereby facilitating a more efficient and safer financial system. The FCA is one of the regulators spearheading innovative initiatives, e.g., through their regulatory sandbox, which provides a unique opportunity to pilot this novel kind of regulatory architecture and eventually make it viable. Looking ahead, the challenges for regulators on a global level will be to conceptualize and assist the industry in implementing the far-reaching possibilities of RegTech to further develop the ecosystem into a foundational base underpinning the financial services sector.

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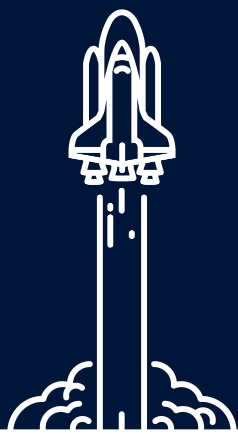

IN SUMMARY: MANAGING REGULATORY RISKS HAS RISEN TO BECOME AN ESSENTIAL BUSINESS MANAGEMENT PRACTICE

RegTech can no longer be labelled as a buzzword as it is most certainly reality now. On the one hand, there is a need from financial institutions to drive compliance programs with greater efficiency, while on the other hand, new technologies foster the creation of innovative solutions.

The importance of regulatory risk management, always a critical challenge for the financial industry, has reached new levels of importance in the aftermath of the financial crisis. Financial stability is the new motto, and deficiencies identified in regulatory compliance gave rise to enhanced frameworks, obligations, and risks. 492 percent is the rate by which regulatory change volume has increased between 2008 and 2015.[3] Across the world, a variety of financial blue chip companies have been subject to heavy fines and penalties for failing to be compliant. According to Reuters, 20 of the world's biggest banks have paid out more than US$235bn (£151.71bn) in fines and compensation between 2008 and 2015 for breaching various financial regulations.

To put this number in perspective, it is roughly equivalent to the current gross national product of Ireland. The preventive steps taken by many firms encompass shifting resources to mitigate regulatory risks, i.e. allocating of up to 15 percent of their workforce to governance, risk management and compliance departments and spending an extra €1 billion on controls in 2013 alone.

The fact is that there is no sign of this trend slowing down; the financial industry must live with the fact that regulation will continue to expand and deepen.
A consequence is the changing focus of the classic business model, which now needs to integrate regulatory risk management as a key enabling business practice together with product profitability and meeting customer needs. In this context, RegTech solutions will certainly be instrumental in helping investment firms to cope with such change.