

# RegChain Reaction

Revolutionary  
reg. reporting in  
the funds world



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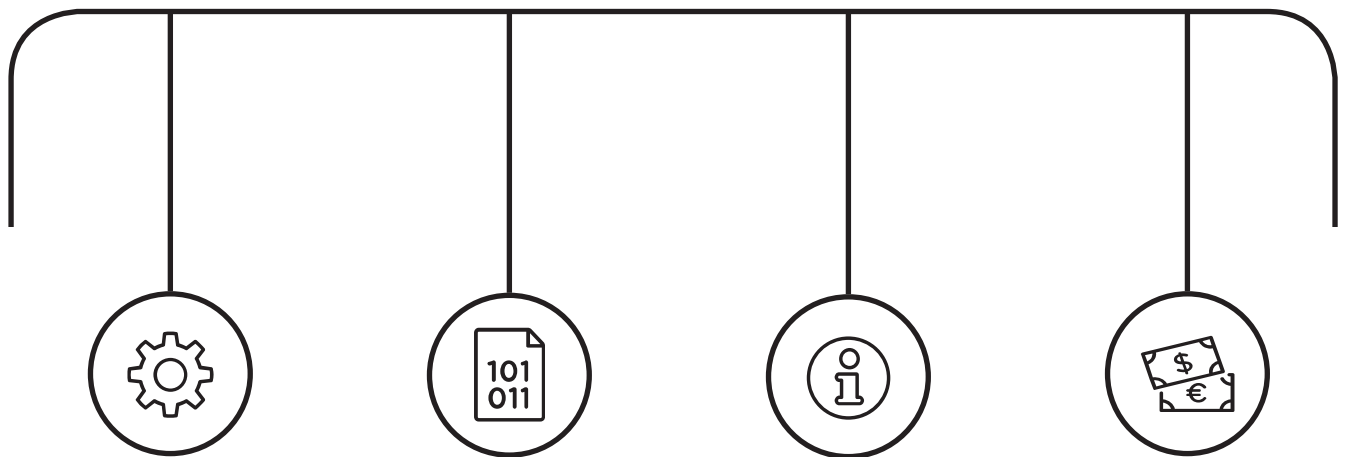
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Deloitte, in collaboration with Irish Funds and their members, advanced “Project Lighthouse” to assess blockchain technology’s ability to service regulatory reporting requirements. The project tested the ability for a platform to provide individual nodes for fund administrators to store and analyze fund data while coding regulatory reporting requirements into smart contracts for execution and data validation. A regulator node was also facilitated, allowing the safe and secure exchange of data between firms and the regulator, as well as to increase overall reporting efficiency and market transparency. In addition to technical design and development, a comparative business analysis was undertaken to review the cost-benefit analysis of the proposed blockchain solution. ➔



**Operational Inefficiency**

- Manual keying from core systems to reporting tools
- Reliance on MS Excel as reporting tool
- Quarterly and month-end workload pressures
- High cost, low value and non differentiating process

**Data Management**

- Questionable data quality
- Potential for data manipulations
- Data errors du to manual keying
- Time consuming extraction, reconciliation and report generation

**Complexity & Change**

- Increasing requirement for granularity with look through and advanced analytics
- Changing requirements of domestic and regional regulators
- High cost of change with legacy applications

**Cost Challenges**

- Increasing FTE cost burden on the fund administrators due to new regulations
- Large scale IT costs relating to improving existing legacy systems
- Adverse effect on the cost: income ratio

# Blockchain technology was utilised due to a number of its features and characteristics which can enhance the overall ability to meet reporting requirements.

## Why blockchain technology?

Blockchain technology was utilized due to a number of its features and characteristics, which can enhance the overall ability to meet reporting requirements. Benefits include:

### 1. Data integrity

Due to blockchain hashing capability, data that is entered into the blockchain is extremely difficult to alter. Once approved by consensus it is immutable. Any change to data can be tracked in the chain, reducing the possibility for fraud or malpractice.

### 2. Reliability

Blockchain does not have a central point of failure and is better able to withstand malicious attacks. Disaster recovery is inherently built into a blockchain as standard due to all parties having a copy of the ledger.

### 3. Storage & Speed

The blockchain provides for near-real-time updates of data across nodes. This facilitates speedier sharing and access to data with entities such as a regulator. Utilizing IPFS, a P2P hypermedia protocol sitting on top of blockchain, it allows for safe and immutable file sharing and facilitates large data transfer with high efficiency.

### 4. Analytics

By providing a single source of accurate and immutable data, the blockchain is a repository of transactional and fund data, which can be used to develop greater analytics. A singular view of each participant's position across all asset classes can be made available assisting in overall management efforts and MIS collation.

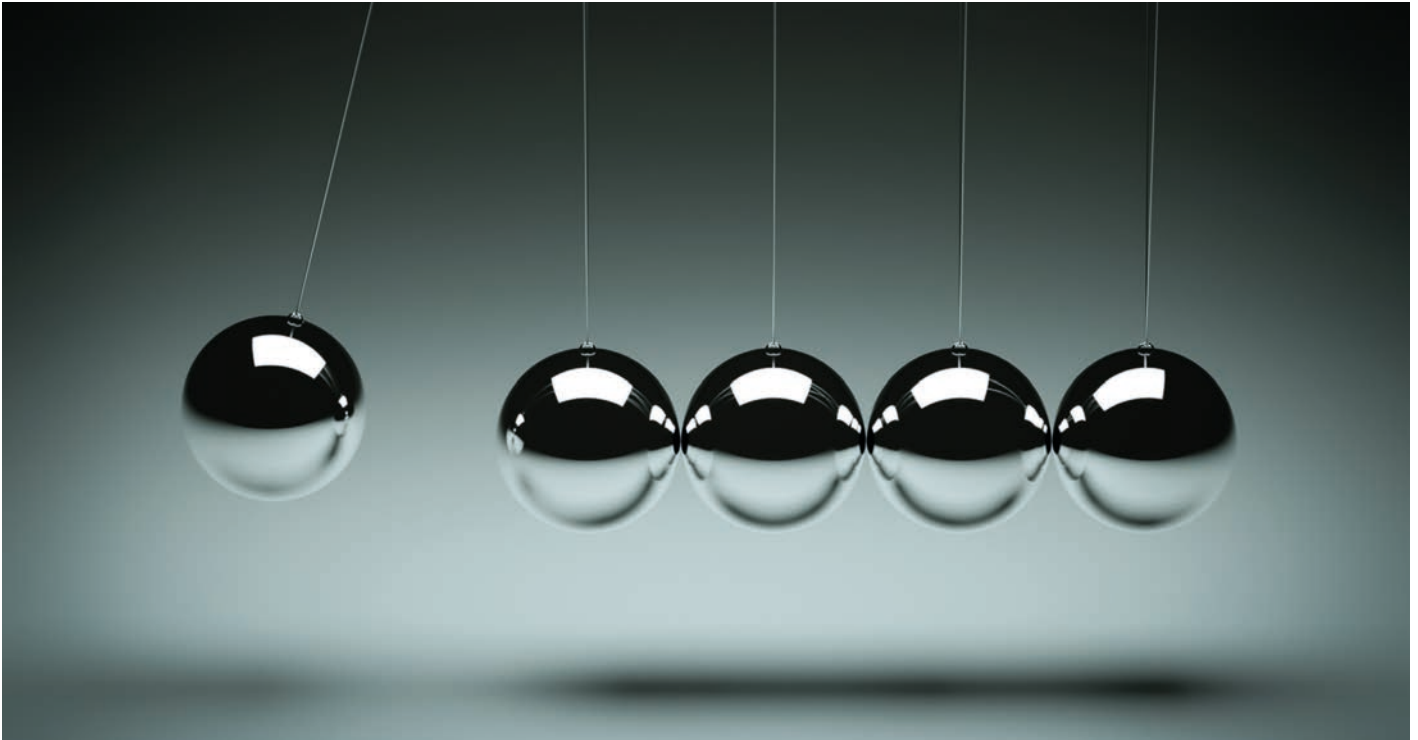
### PoC parameters

- This Proof of Concept (PoC) is focused on assessing the application of blockchain technology to meet regulatory reporting requirements within the fund industry, in a more efficient and effective manner than existing technologies and processes
- The development of the PoC ran for a 10-week period, commencing December 2016
- Money Market and Investment Funds Reporting (MMIF) return, applicable to all Irish domiciled funds, was selected as an applicable test case
- The purpose was to ease the transition of the outcome of the MMIF PoC for other regulatory reports, e.g., AIFMD Annex IV
- We also could determine the cost-benefit impact of blockchain
- We concluded with identifying the critical success factors to take a solution forward to production

### A RegChain with smart contracts

The PoC created "RegChain," a blockchain-based platform that streamlines the traditional regulatory reporting processes by acting as a central repository for the safe storage and review of large volumes of regulatory data.

RegChain enables the logging and recording of transactional and positional data securely using blockchain technology. It ensures data integrity with smart contracts, executing reporting requirements and auditing any changes made to the data by authorized parties. Internal control and regulatory checks (e.g., beta checks) are performed within the platform to ensure the participant is compliant. This solves many of today's operational challenges while ensuring the integrity of data and removing post submission engagement by the CBI. Additionally, it creates a single source of truth, which any authorized party can use as a basis for statistical analysis and to provide actionable insights. The technologies chosen for RegChain were Ethereum and IPFS (InterPlanetary File System).



### Approach and development

RegChain was developed using Deloitte's rapid prototyping process, which uses an experiment-driven agile methodology. Key phases included solution visioning, definition of design and test parameters, development sprints, and on-going reviews with an industry sub-committee with participants from across the fund administrator and fund management world.

A key consideration and cornerstone for this project was to ensure collaboration among technologists and industry representatives from operations, regulatory teams, and senior management. This was deemed critical in order to have a comprehensive PoC design, and moreover, to help define how a future production solution could be realized. ●

### To the point:

- Blockchain can act as a secure storage of data, improve data quality and integrity, and increase efficiency surrounding the regulatory reporting process through the application of smart contract capabilities.
- Blockchain can help in the overall management of regulatory change requests and the addition of new reporting requirements, in that a change is coded once and then progressed across the network to all participants.
- Ancillary benefits of blockchain technology include the provision of a safe network for data sharing and transmission, the creation of a rich and trusted data set to which analytics can be applied, built-in disaster recovery, and the ability to develop new capabilities such as automated compliance.
- The MMIF PoC solution can be adopted to incorporate other regulatory reports, e.g., AIFMD Annex IV.
- Blockchain projects require a multi-disciplinary approach. If new solutions are to be successful they must be cognizant of existing industry requirements and built for varying needs across the operational world. Such an approach is needed for solutions to advance to pilots and production in the short to medium term.
- Next steps: Having demonstrated what is possible, there is genuine excitement among the group about moving this forward to develop a pilot.