

Blockchain in RegTech

A proof of concept for regulatory reporting with distributed ledger technology



The requirements of regulatory reporting are extensive and the implementation of regulations like SFTR or EMIR is complex, costly and time-consuming. In fact, it even partially consists of manual processing of regulatory data and data reconciliation. Due to data quality issues, the process is also not sufficient from a regulatory point of view. Distributed ledger technology (DLT), often referred to as blockchain, can overcome these problems. It allows a reduction of reporting effort, real-time updates of regulatory data without the need of trading counterparties to manually interfere. It also provides real-time access to reporting relevant data for the regulator. Regnology's DLT team has shown that the use case of derivatives reporting that fulfills the EMIR requirements is feasible.

Challenges for banks and regulators

Post-trade processing is one of the main cost drivers for banks in the area of capital market-operations. The matching and verification of transactions incur costs and includes manual process steps. Especially the regulatory requirements for post-trade processing diminish margins and can even lead to a state where some banking business is not longer profitable.

Transaction-based regulatory reporting requires banks to report every single transaction to the authorities. With the go-live of EMIR and the upcoming SFTR, the regulatory burden for banks has been increased further. The fulfillment of both, new and existing regulatory requirements is a time-consuming, costly and often also complex process. Additionally, human error, form-based reporting and other problems lead to data quality issues.

Furthermore, for data reconciliation and aggregation, banks use various regulatory reporting software solutions. This further increases the complexity of transaction-based regulatory reporting.

Regulatory reporting with DLT

DLT and blockchain offer the potential to face up to challenges of post-trade processes and can support banks in meeting their regulatory requirements. By using the technical possibilities of programmable smart contracts, regulatory requirements can be programmed as pre-conditions for post-trade processing. Combined with the immutability and the transparency of shared facts between trading counterparties, it offers the advantage that data reconciliation is minimized and the process is subject to less manual interference.

Imagining a post-trade environment involving a network of banks for the purpose of processing regulatory reports, there would be no need to manually match transaction data. Filling forms that must be sent to trade repositories and checking for possible deviations would become obsolete.

If two banks executed a trade in such a network, the trading counterparties would always have identical, up-to-date, reporting-relevant data at the same point in time on their ledgers.

Moreover, the smart contract rules can prevent a mismatch of reporting data or the submission of data that does not meet regulatory requirements.

SFTR

The Securities Financing Transaction Regulation (SFTR) is implemented to reduce risks to financial stability from shadow banking. Parties to a securities financing transaction (SFT) will be obliged to report their SFTs and the related collateral to a trade repository.

EMIR

The European Market Infrastructure Regulation (EMIR) is aimed at the regulation of over the counter (OTC) derivatives. It requires the clearing of OTC derivatives by central counterparties, margin requirements for transactions that are not centrally cleared as well as the reporting of every derivative transaction.

Regnology assessed this innovative vision within a prototype project that implements the regulatory reporting of a plain-vanilla interest-rate swap fulfilling EMIR transaction-based reporting requirements through smart contracts.

A RegTech DLT proof of concept (PoC)

In the PoC, the counterparties of a trade share the reporting relevant information. Other participants in the network do not have access to data of those transactions in which they did not participate. Thus, information is shared on a need-to-know basis only.

After the validation of the trade, the ledgers of the counterparties are updated, so both parties share an identical copy of the information.

Because the regulator could become a participant in the DLT network, no additional reporting steps are needed. The regulator can see all validated transactions.

The implementation with the DLT environment Corda successfully proved that transaction reporting of a derivative is possible and that it serves the expected purpose of the PoC.

Benefits for banks and regulatory authorities

Besides proving technical feasibility of transaction-based reporting with DLT, the PoC also showed potential economic benefits. Because of the properties of smart contracts in the PoC, it is impossible to submit inconsistent data and every error is prevented in advance. This can lead to a tremendous decrease in reporting effort because the data collection and aggregation as well as subsequent examination and correction of reporting data could be eliminated.

Another benefit that arises with DLT is that double-reporting is avoided. Once the parties agree on a transaction report, it is submitted to the network and both ledgers are updated with the same data.

Consequently, the DLT environment generates a single point of truth so that no trading counterparty can have different information about transactions. Thus, the overall data quality in regulatory reporting increases.

From an analytical perspective, this means that both - the counterparties and the regulator - have data on the most granular basis, making data analysis more reliable.

These capabilities lead to a more efficient, less time-consuming regulatory reporting process.

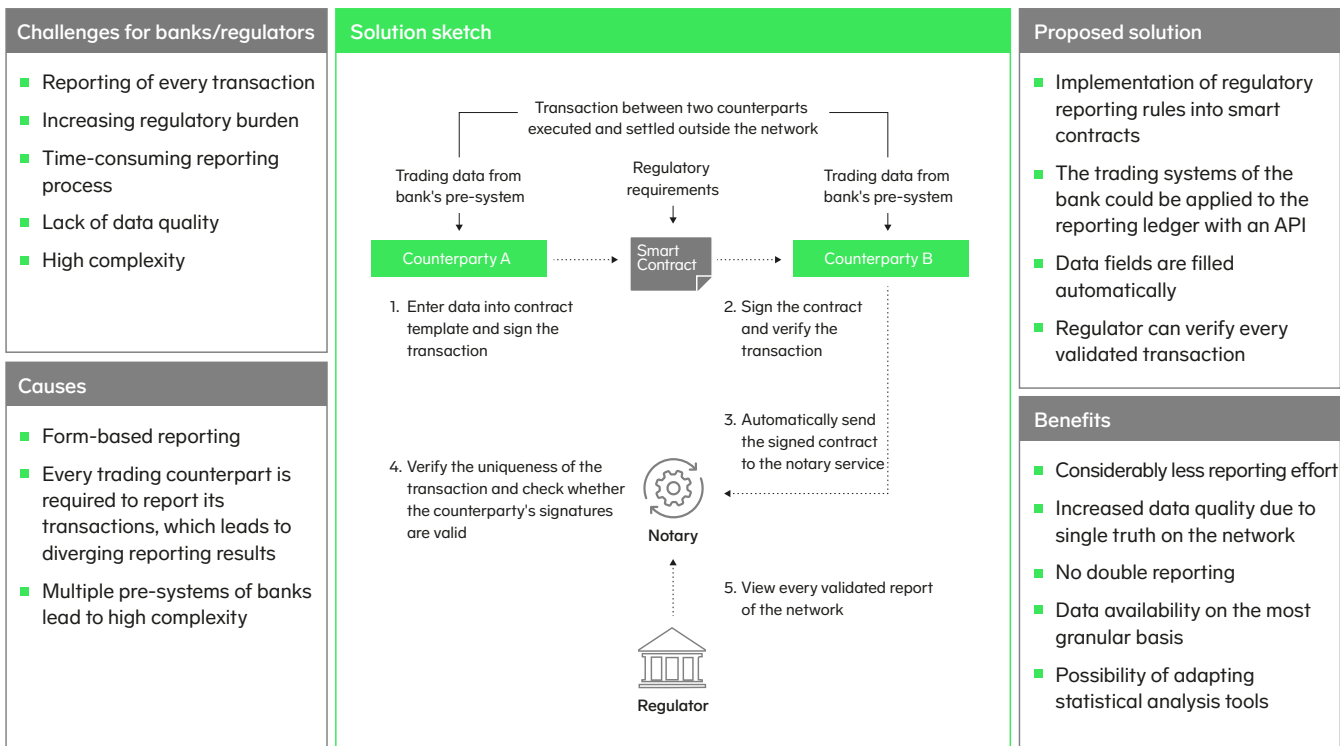
Distributed Ledger Technology

A distributed ledger is a decentralized database that is consensually shared between participants of a network. There are six properties that make DLT to an interesting technology:

- Decentralized data storage
- Transparency of shared facts
- Immutable data storage
- Global source of trust
- Programmable smart contracts
- Cryptography

Smart contract

A smart contract is a piece of code that can automatically execute agreements. It enables the depiction of rights and obligations and can also design them in a way that they are legally enforceable.



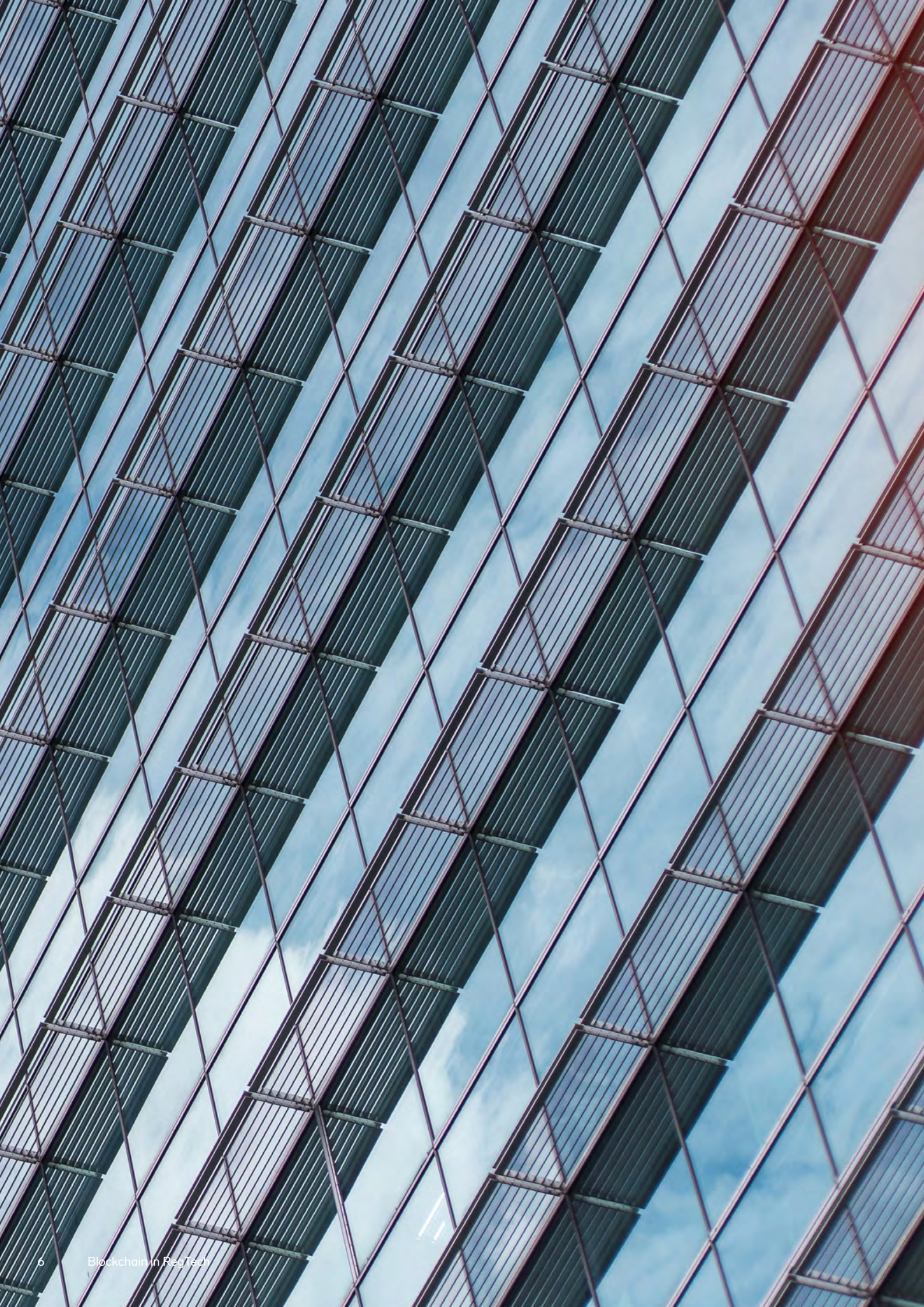
Solution sketch for regulatory reporting of an interest-rate swap with Corda technology

Implications

To sum it up, the PoC shows that regulatory reporting of a derivative with DLT is feasible and valuable. As the structure of other transaction-based regulatory requirements is very similar, the PoC indicates that DLT is a valuable technology for transaction-based reporting in general. Therefore, it could also be a viable option to implement a DLT solution for upcoming regulatory challenges like the upcoming go-live of the Securities Financing Transactions Regulation (SFTR). Utilizing DLT, offers the opportunity to meet regulatory requirements, and tackles data quality issues. Moreover, authorities could be provided with a live access to reporting relevant transactions.

This, in turn, requires at least a partial unification of the data models of banks to leverage the benefits of smart contract-based reporting. While this could be an obstacle to an early adoption, the case of the Austrian regulatory reporting (AuRep) as well as the Italian approach or the Banks' Integrated Reporting Dictionary (BIRD) initiative by the European System of Central Banks show that the benefits can outweigh the costs and that regulatory authorities seem to aim at increasing standardization.

Furthermore, banks can benefit from the reduction in operational reporting effort, especially regarding reconciliation and error corrections. Moreover, besides increasing efficiency in regulatory reporting, DLT can also be applied to other post-trade processing activities, leading with similar effects. For this reason, we are convinced that the capabilities of distributed ledger technology can transform regulatory reporting and post-trade processing as we know it.





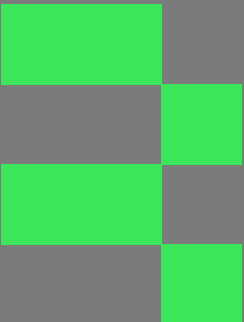
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About Regnology

Regnology is a leading international provider of innovative regulatory and supervisory technology solutions (RegTech and SupTech), of AEOI and tax reporting products, as well as of services along the Regulatory Value Chain for financial services. Regnology has been a partner for banks and regulators for 25 years. Until the end of 2020, the company was part of BearingPoint group and operated under the name BearingPoint RegTech. Since the sale of the RegTech business to private equity firm Nordic Capital, the company has been independent. In June 2021, the company joined forces with Vizor Software and recently changed its name to Regnology. In total, Regnology serves more than 7,000 financial services firms with reporting solutions. At the same time, the company enables more than 50 regulators and tax authorities on five continents to collect data from 34,000 firms in 60 countries. Regnology has a total workforce of over 770 employees at 17 office locations in 12 countries.

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