TRANSFORMING FINANCIAL SERVICES

AURACHAIN

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Overview

The Development of Blockchain Technology will disrupt numerous sectors of the international commerce; none more significantly than the Banking Sector. Here, the technology is predicted to be transformational, streamlining complex processes, reducing processing costs and cutting time and cost associated with vast networks of middlemen.

This view is widely held, even by the banks themselves: the technology is safe, secure, decentralized and transparent, as well as cheaper.

Yet the real optimism lies in the sheer volume of applications for the technology, many of which will significantly impact long standing problems, specifically:

KYC and Identity Management

KYC is about to become a key competitive advantage for client acquisition: faster and simplified processes will emerge, rapidly antiquating banks who do not prepare. Current KYC infrastructure cases days, or even weeks of delays to transactions. There is substantial duplication of effort between banks and other third-party institutions, who each hold their own centralized version of the data. Blockchain will enable structured information to be recorded, assessed and shared across all parties in a secure and immutable state. There, the independent verification of each client and subsequent updates by any party would be immediately accessible for the others to use, so the KYC process doesn't start over again. This eliminates duplication of efforts, reduces costs and allows for faster realization of revenue.

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International Payments

For the last 50 years, international payments have been routed through banks; requiring a vast set of processes including anti-fraud checks, foreign exchange conversions, clearing and settlements. Through the creation of “interbank payments” across a shared ledger, blockchain accelerates the processing behind money transfers. In addition, blockchain can create a better, more efficient cross-border network for exchange of funds for international commerce hubs to developing regions, currently underserved by brick and mortar banks, Key areas for this transformation are SWIFT payment replacements and remittances.

Fraud Reduction

Approximately 45% of global financial institutions, including stock exchanges and money transfer service providers, are susceptible to financial crimes. The reason for this is tied to their use of centralized database systems for money management and operations, creating a singular target (or large “surface area”) for hackers to gain access to money. Blockchain eradicates this problem as data is stored on a shared distributed ledger in the form of blocks with a cryptographic mechanism, which is very difficult to corrupt. Furthermore, all blocks are linked to each other and therefore, if one block is breached, all the others immediately show the breach. This makes it easy and inexpensive to identify, while also allowing little time for the hacker to further penetrate the overall system.

1. The Value of Blockchain in Banking

To understand the potential value of blockchain technology in banking, we first need to understand the basics of blockchain technology and the notion of a smart contract.

Simply put, **blockchain technology is a distributed ledger, in which every transaction is immediately, automatically and permanently recorded**. It can be seen by the other users of that **blockchain** and **creates a chain of chronological data that no single party can alter, or control.** This system also has the ability to authenticate and track transactions in real time without the use of traditional third party organizations.

Smart Contracts, (-paramount to applications that run on a blockchain network), are automated self-executing contracts. They contain the terms of the agreement across the contract parties, written directly into lines of software code. The code and the agreements are then deployed on the blockchain network, and executed. Once the smart contract is launched, it will request periodic input from either contract participants, or other resident blockchain data sets, to ensure the step-by-step fulfilment of contract terms. If contract participants agree, it can include automated funds transfer, or officials changes of ownership of an asset, once all terms are met.

Each action, relevant data item, document and points of acceptance are recorded on the blockchain in a form that is traceable, transparent and irreversible. As a result, Smart Contracts permit trusted transactions and agreements to be carried out among disparate, anonymous parties, without the need for an expensive central authority and multiple duplicated external enforcement mechanism.

2. Trade Finance – The Problem and Opportunity

Trade finance, represents monetary activities related to commerce and international trade. It includes lending, the issuance of letters of credit, factoring, export credit and insurance and involves numerous parties: importers and exporters, banks and financiers, insurers and export credit agencies, and service providers.

The widespread use of trade finance has contributed to enormous international trade growth. In that regard, the World Trade Organization estimates that 80 to 90 percent of global trade relies on this financing method.

The problem is that this process, whose purpose is to reduce transaction payment risks, in fact creates a vast array of challenges. This is due to two factors; the first being the embedding of additional parties and the conflicts this naturally brings, driving up transaction costs for both buyer and seller as administrative hurdles multiply. Adding to the challenge is the paper centric nature of trade finance activities, such as bills of lading or letters of credit. This in turn creates innumerable opportunities for error, inherent costs of document generation and delays (for example, a typical letter of credit requiring 7 - 10 business days to complete). It also results in duplication of process and data sets and thus, the increased possibility of fraud.

For these reasons, Trade Finance is considered one of the most useful application of blockchain technology in the banking sector. Through its application you can link the activities of banks, importers, exporters, government entities, shipping companies, transport operators and insurers; sharing information across all parties on one distributed ledger. Transactions involving these entities can be orchestrated

with smart contracts; providing an immutable record of performance and an audit trail of actions performed for all parties to view.

Doesn't this present risk for the banking sector?

For people working in the banking sector, blockchain is perceived to be a double edge sword; presenting both an opportunity and threat. For that matter, the Harvard Business Review recently stated that blockchain will do to banks what the internet did to media; challenging operators to align their offerings, or risk replacement by alternatives such as fintechs, offering faster and cheaper blockchain-based services to clients.

Still, while blockchain applications in areas such as trade finance, could theoretically eliminate the need for risk-mitigating entities (such as a bank), the prevailing view is that buyers and sellers will still want trusted banking institution supporting Trade Finance activities. Therefore, thought leaders in the banking sector are trying to get ahead of this threat, by investing heavily in point applications across various areas of trade finance, to reduce internal processing costs, reduce the possibility of fraud and to reduce processing times for all transactions.

3. Bridging market potential and today's Smart Contract development

When assessing the benefits of blockchain to the banking sector, the question is not one of if, but when. With this in mind, the pace and quality of smart contract development is a key dependency to determine the speed of enterprise adoption by key market participants. The critical barriers are:

- Hard coding of smart contracts is time consuming, with a single application often taking months to develop and test before putting into production.

- Smart Contract development requires experienced coders – these resources are scarce and expensive.
- On and off chain processes are not linked. The first generation of smart contract applications lack an intuitive user interface for the users who are participating in the execution of the contract.
- Each blockchain network has its own proprietary code base, raising the question of which to choose when investing money and resources.

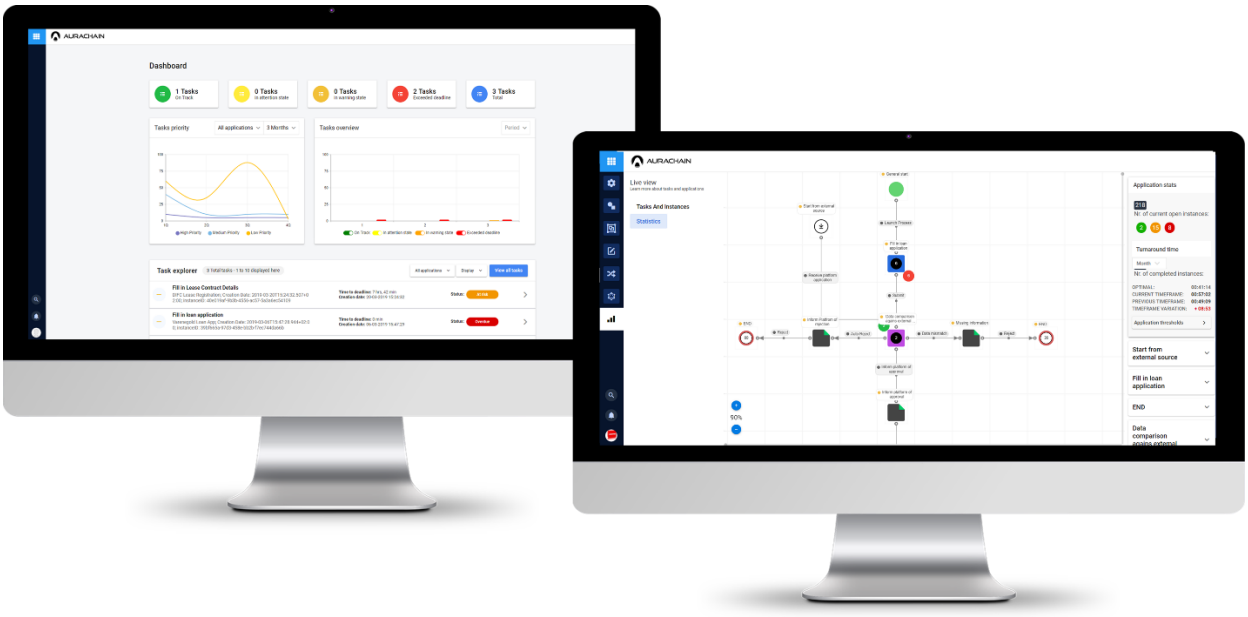
4. The Solution - Introducing Aurachain™

Aurachain™ is a no code, Smart Contract software platform, which empowers both business and technical users to rapidly create and deploy Smart Contracts.

The platform offers an end-to-end process, for building, negotiating, executing and monitoring smart contracts, without dependency on specialized software coding. Each smart contract will be easy to track throughout its lifecycle, providing visibility to all involved parties as to what has been done and what the next steps are.

During the contract creation stage, users will leverage our platform, outside of the blockchain. While building the contract they will decide what activities will be executed on-chain and what activities will be executed off-chain. This ultimately gives the participants flexibility to control the cost of execution. The users can also create and customize user interfaces with drag & drop components for each activity.

This is the revolutionary USP of Aurachain: users can now create a smart contract environment which looks and feels like any other daily high-value business application.



Aurachain was designed to overcome the current problems in smart contract development, accelerating adoption across a wide assortment of commercial and consumer applications. Aurachain platform benefits include:

- rapid development of smart contracts through an intuitive user experience
- and without the need to code
- code is automatically generated from the application, eliminating human error
- intuitive user experience for collaboratively, executing and managing contracts in flight
- users can easily configure on versus off chain activities, optimizing the cost of each smart contract
- a blockchain agnostic platform that will run on numerous platforms (such as Ethereum, HyperLedger and others) and promote interoperability

4.1. Aurachain in Trade Finance – A Client Use Case

Our client, a UAE banking institution, provides a broad range of Sharia compliant retail, corporate and investment banking services to customers. In a highly competitive regional market with low levels of customer loyalty, this institution strives to distinguish themselves through a series of guiding principles, including excellence in customer service, efficiency of operations and thought leadership. Over the years, these efforts have born dividends, illustrated by a steadily increasing customer base, continuous increases in profitability and numerous sector awards for economic performance, compliance innovation and customer satisfaction.

4.1.1. The Application – Trade Finance

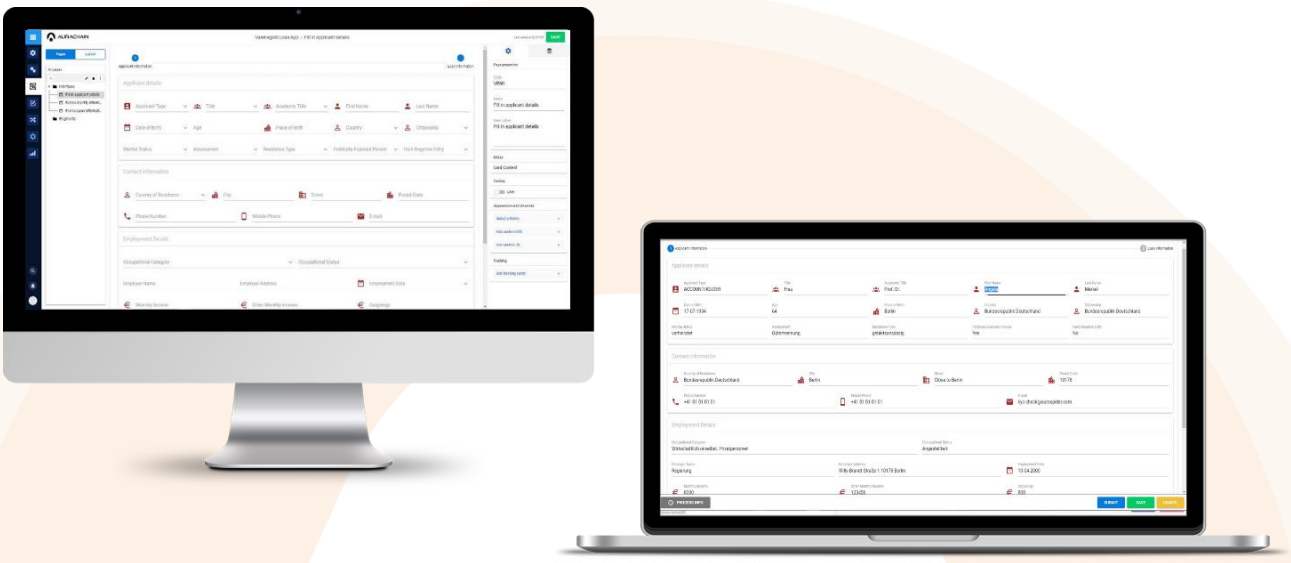
When looking to test how blockchain, could generate real value to their business, our client immediately chose Trade Finance as a priority. The main problems to solve were:

- Long lead time of up to 2 weeks to complete a letter of credit.
- Time wasted for back-and-forth communications between bank and beneficiary to provide additional detail and documentation
- Time lag in coordinating required documentation with member banks and other related entities (insurers, freight forwarders, etc.)
- Heavy reliance on manual paper generation and coordination across the entire process, resulting in time, errors and excess cost.

Leveraging the Aurachain platform, we implemented a blockchain enabled Trade Finance smart contract application that generates a letter of credit through the alignment of activities between importers, exporters, their respective financial institutions and insurance companies when required.

This covers the full lifecycle of events underlying the generation of the LOC, including:

- Application process by importer
- Approval by importer bank
- Negotiation on LOC between importer and importer bank
- Automated generation and submittal of draft agreement for exporter banks.
- Approval by exporter bank
- Consensus by exporter
- Automated generation of final LOC
- Electronic signature by importer and exporter and distribution to all entities.



Importantly, the solution allows the configuration and integration of on, versus off blockchain activities. This is where most blockchain solutions fail. For example, negotiation across the many stakeholders and banks should be managed off chain and not embedded in Smart Contracts. While the Blockchain stamped activities include:

- Application by beneficiary
- Credit approval by the issuing bank
- The Letter of Credit draft
- Any rejections by either financial entity
- Approval by exporter
- Signed Letter of Credit documents by importer and exporter.

This is a key competitive advantage of Aurachain: the legacy processes which the Smart Contract depends upon for execution and modification, are linked to the Smart Contracts, assuring integrated performance.

In summary, Aurachain solution functionality will serve to deliver numerous functional, operational and economic advantages in the client's Trade Finance process, including:

- Acceleration of the end to end process, from 2 weeks to as short as 2 days.
- Streamline communication on back and forth negotiations between entities
- Create an immutable record of all agreements and associated documents between parties
- Remove large amounts of paper generation and resulting errors from the process.

4.2. Aurachain for Process Optimization in Banking

Beyond its ability to enable "collaborative trust" models, through smart contracts deployed on blockchain, Aurachain also uniquely serves the numerous process automation opportunities that help rapidly streamline, or in many cases reengineer operational capabilities for the benefit of the bank.

As a low code process development platform, Aurachain allows a customer to rapidly automate cross functional business processes, without having to allocate significant time from their high value specialized development teams and at a cost that is a fraction of native custom development projects.

4.2.1. Aurachain for Process Automation – A Client Use Case

Our client, a German banking institution founded in 1995 specializes in the areas of Marketplace Banking and Transaction Banking/Commercial Banking.

In the area of marketplace banking, the bank is leveraging growth through relationships with online marketplaces around the world that deal with the financing of companies and consumers (peer-to-peer Fintech platforms). These Fintechs offer customers significantly faster, easier and therefore more agreeable loan processing than established banks. In addition, due to more efficient processes, these Fintechs can also facilitate financing for customers who fall outside the bank's target grid. For this they need financial resources, which our client is providing.

In transaction banking (or commercial banking) they work successfully for foreign trade-oriented clients in niche markets. Here they provide our customers with basic products such as account relationships and international payment transactions and products for trade finance through, for example, credit orders or guarantees.

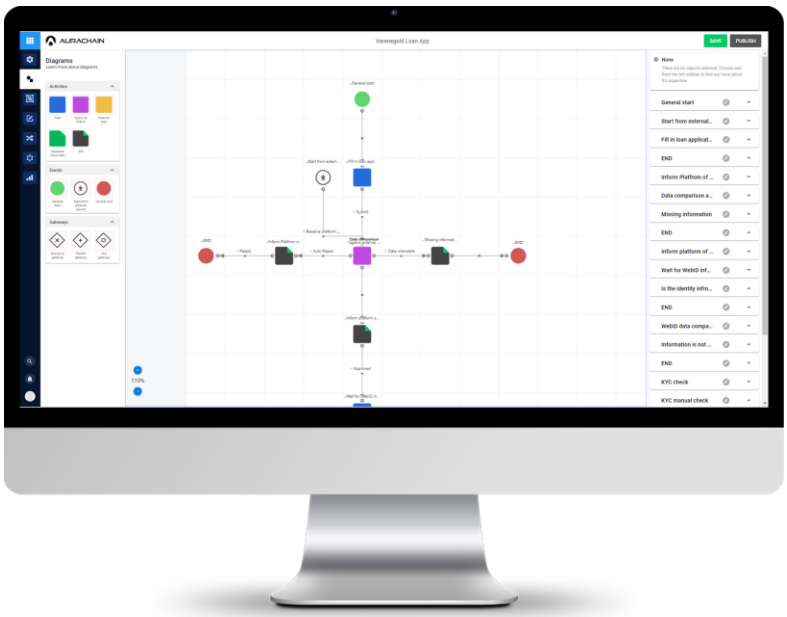
With the goal of driving significant revenue growth over the next 3 years in both areas, our client is required to engage each market differently with a view to highly leveraged use of automation.

4.2.2. The Application – Volume Loan Processing with Aurachain

To accelerate revenue growth in their marketplace banking practice, our client wants to add a half dozen more Fintech partnerships in the next 2 years; bringing an infusion of literally thousands of new loans that they can fund and service. With this in mind, there have been several overriding constraints to their model:

- Fintech partners deliver "approved loans", based on their own specific scoring and credit models. These scoring and credit models are necessarily aligned with our client's model, which generates a level of enhanced risk across the entire portfolio. To this point, the bank has been able to factor a predictable level of risk across their existing partner platform, but believes the model to be not scalable across numerous new partners.
- The client also utilizes third party identity and KYC partners as part of the loan process. While this serves valuable in screening out problem loans, it takes the subjective view of the bank out of the equation. Therefore, the bank has no way of knowing if a specific KYC screening criteria is unnecessarily eliminating a loan that the client may want to take a chance on approving.
- At the intended volume, the bank will not have the staff capacity to look at every loan to do their own analysis.

Leveraging the Aurachain platform, we implemented an automated process that takes raw data from the Fintech platform and identifies risk and opportunity against volume loan requests from Fintech Partners.



The application which was built in 2 weeks, performs the following:

- Extracts key case data from Fintech partner loan approval requests and cross references against our client's pre-defined screening rules, configured within the Aurachain platform. These identify red flag areas pertaining to things such as higher risk employment status, criminal record, high value loan requests and questionable credit scores, to name some.
- When case indicates an absolute decline, or absolute approval, provides straight through processing and immediate acceptance or rejection. (Short of KYC screening)
- When there is a case for a subjective review, the platform will trigger an automatic task that is sent to the appropriate client representative, or stakeholder for review.
- Depending on the case element, can trigger additional tasks to different stakeholders for higher levels of approval.

- When approved cases arrive at KYC stage they can experience the normal decline (Depending on all case factors), or be forwarded to a qualified client representative for further review and possible inclusion.
- Full integration with partner Fintech, Identity and KYC and Core Banking platforms providing seamless end to end processing.

In summary, this Aurachain Loan Application directly enables our client's growth strategy.

By enabling true "management by exception", It provides the ability to handle significantly increased volumes of loan requests triggered by Fintech partner platforms, while keeping risk under control and potentially revealing new loan opportunities. **The client will shortly be running 100,000 requests per month through the platform.**

Our client will also be utilizing the platform to facilitate "direct market engagement" trade finance applications to rapidly engage in emerging market opportunities. These will further leverage the platforms capabilities in producing collaborative trust applications on blockchain.

4.3. Summarizing the Value of Aurachain in Banking

In terms of impact, Aurachain delivers true cross functional business value. For senior management, Aurachain will eliminate many of the bottlenecks associated with delivering broad operational improvements and therefore, help to more rapidly streamline internal operations, launch new client facing product offerings, reduce costs and enhance compliance. More so, it delivers these benefits at a lower

cost than historical options and with process centric pricing, can be operationalized against specific business value.

For IT, Aurachain will help to increase the volume and speed of delivery to their business users and customers, while maintaining platform control over IT governance related areas such as integration, testing, and the like. Last, but not least, for line of business stakeholders, Aurachain represents a way to automate rapidly for operational value.