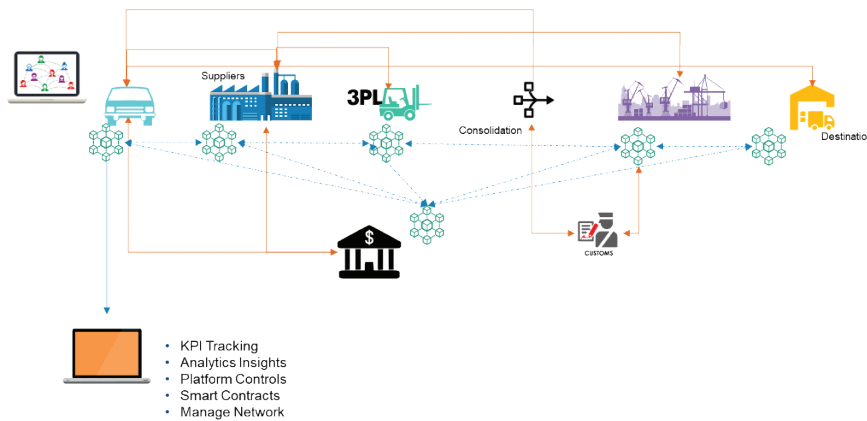


CASE STUDY: Automotive Ecosystem Integration: Blockchain Procure to Pay

Tech Mahindra

Tech Mahindra Provides Integrated Supply Chain Pilot for Automotive Global Operations Team



Problem


The supply chain for automotive production parts is often a complex network of suppliers, banks, shipping liners, customs brokers, manufacturing plants, receiving docks, warehouses, assembly lines, along with internal and external stakeholders such as operations, logistics, accounts payable and treasury.

Tech Mahindra recently provided an integrated supply chain pilot for an American automotive global operations team. The pilot focused on the inbound supply chain for

production parts procurement, deployed on a Private Blockchain network.

Some of the pressing challenges related to procurement and payables conveyed by key business users and teams during the study phase were:

- Lack of automation and visibility on engineering changes leading to high cycle time and non-productive tasks
- The requirement of physical invoices at the time of receipts causing delays and cost ramifications
- Illegible invoice images and Bill of Entry (BoE), invoice mismatches, and unavailable proof of receipt in systems leading to repeated follow-ups and reconciliation among stakeholders
- Lack of transaction traceability resulting in disputes and write-offs
- Manually processing printed payment letters, authorizing physical signatures and attaching paper invoices by multiple scanning teams consuming productive man-hours and increasing headcount



The key business impact areas the study concluded were:

- Operator productivity, process efficiency (long cycle times), operational cost (substantial due to inventory holds), supplier relations (decline due to delayed payments), and data quality (shortage due to a substantial amount of silo systems).
- The manual submissions of BoE, insufficient BoE information to the manufacturer, human-error corrections, and low visibility of document ownership increased safety inventory stock by 20%.
- Similar challenges were present in other supply chain value streams including Shipment Tracking, Tooling Procurement, and Service Parts procurement.

Solution

On the supply chain front, the investments in digital enhancements provided business growth differentiation for the manufacturer. Blockchain technology provided the business with procurement visibility and processing efficiency by harnessing the distributed data from the blockchain ledger. This allowed for accurate and inclusive decision making by the manufacturer and its multiple ecosystem participants.

The in-depth study of the manufacturer's environment

provided an opportunity to implement a holistic solution consisting of:

- Creating a Peer to Peer infrastructure that provides a single source of truth among internal and external stakeholders on a distributed database
- Disintermediating and democratizing the business operations, increasing Transparency and reducing Dependency
- Accelerating transaction processing to near real-time, resulting in reduced cycle time
- Encrypting transactions for secured data and transmission insights
- Digitizing and automating business processes through smart contracts, resulting in increased efficiencies and reduced operational cost

Implementation

As a first step in the implementation, Tech Mahindra established a private blockchain network for asset tracking among the OEM's ecosystem participants. The network operated as an in-sync distributed ledger, integrating the core systems of the OEM, its suppliers, third-party logistic providers, customs handling agencies, banks and other participants for the inbound production parts. Tech Mahindra then built a payments network targeting pain points in account receivables and account payables

for procure-to-pay and order-to-cash instances of production parts and tools.

Outcomes

The OEM saw a cost reduction in administrative and operational activities by implementing real-time audit trails and self-executing smart contracts. A 40% reduction in processing cycle time was captured by eliminating redundant manual processing. The improvements in the digital process augmented the manufacturer and its vendor's employee satisfaction scores. The optimized accounts receivable and accounts payable released working cash flow for the manufacturer and were allocated to network growth incentives.

The distributed blockchain system provided an increase in the business process transparency and procurement transaction speed for this manufacturer, increased assurance between multiple stakeholders during business-critical operations, protected intellectual property data through encryptions, and improved the governance (data and operational) process when compared to the manufacturer's previous centralized system. Tech Mahindra recommends a distributed system or architecture for Automotive Original Equipment Manufacturers partly due to the distributed system's design being complementary to that of the automotive manufacturing value chain.



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