

# SMART SUPPLY CHAIN

## blockchain



**Blockchain Technology** solution solidifies the fragmented supply chain and logistics industry, by eliminating the value leakages and increasing cost savings.

Our **Blockchain Smart Supply Chain** brings efficiency internally as well as externally among all partners, and makes it more accurate through its transparency enabling profitable growth.

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SUPPLY CHAIN MANAGEMENT  
USING BLOCKCHAIN

## Smart Supply Chain Blockchain

The Supply-Blockchain Technology uses real-time analytics that helps businesses to fulfill customer orders by deploying a transparent blockchain solution for global supply chains — to automate workflows, cut maintenance costs and securely store shipment data in a trusted environment without intermediaries.

Our Smart Supply Chain is simple, responsive and enables access to up-to-date data within a matter of seconds — it can identify threats and respond quickly in an efficient manner.

At its core, it is a trust-less ledger of transactions with distributed security and transparent verification, operated on Hyperledger Sawtooth Blockchain Technology to solve real-world supply chain problems.

The Smart Blockchain Supply Chain provides the foundation for disrupting current supply chains with its integrated real-time messenger chat, where suppliers, purchasers, manufacturers, and distribution companies can connect directly with each other in a secure ecosystem.

As such, participants are rewarded through a native currency that doesn't just serve as a method of payment for services delivered, but also has the potential of appreciating in value as the ecosystem grows.

Blockchain-based smart contracts and the immutable-storage system ensure temper-proof data system.

Our Blockchain Smart Supply Chain Ecosystem has integrated multi fiat currency fintech Wallet and supports most multi-chain cryptocurrencies.

The Smart Supply-BlockChain system has been built and tested to offer a cost-effective digital solution suited to a wide range of sectors.

The Supply Chain Blockchain has been designed so its able to be seamlessly modified for the needs of any size business and industry, from local mall manufacturing businesses to global distribution companies and major multinational corporations.



Audit Transparency



Track Responsibility



Accurate Costing Information



Better Shipping Data



Prevent Compliance Violations



Reduce Costs

## Product - Value Proposition

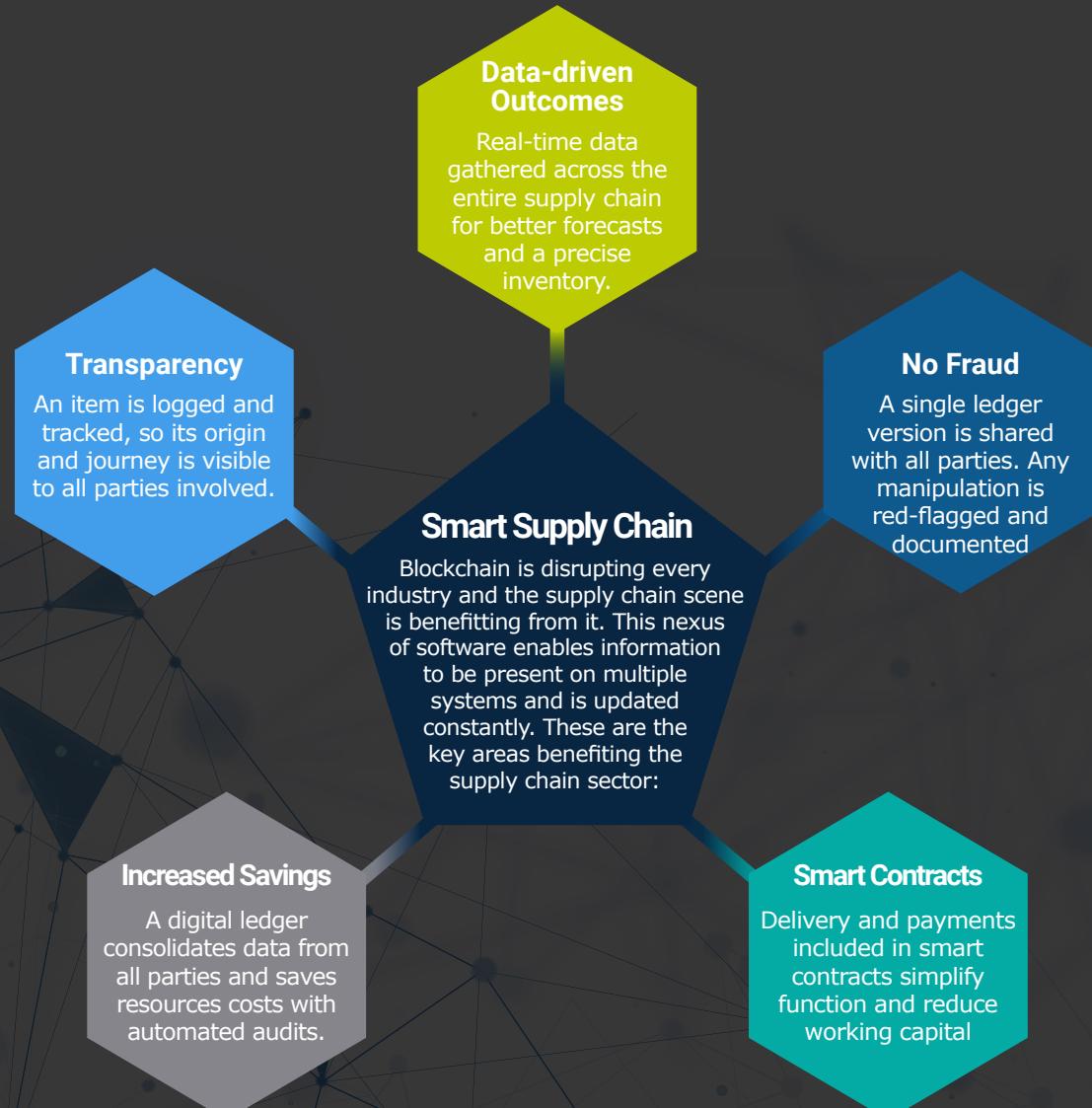
We have developed a decentralized Smart Supply-Blockchain Ecosystem that removes barriers to entry for smaller local businesses by making necessary services such as financial support more affordable, while streamlined low-cost processes make it possible for companies of all sizes to compete in the global market.

Our distributed ledger solution for supply chains creates a trusted environment. The Blockchain system is custom modified to the customers needs and then seamlessly deployed to automate workflows, securely store data and cut maintenance costs.

The Blockchain system is custom modified to your business operational supply chain needs and then seamlessly deployed to automate workflows, securely store data and cut maintenance costs.

With a diverse global supply chain, your company can stimulate growth by reducing costs and improving efficiency.

*We make supply chain your competitive advantage.*



## Development & Implementation

Our team is ready to modify our Smart Supply Chain Blockchain system or build and deploy a distributed ledger solution to resolve the existing supply chain challenges, that also increases profitability by reducing the over costs through a supply chain.

Disrupt your industry by transforming your supply chain business, our custom blockchain solutions not only solve the common supply chain problems but also open new opportunities.

The Blockchain Smart Supply Chain management system will be custom designed during the Analysis and Planning phase in accordance with the clarified project requirements.

We estimate the development and implementation phase duration to take 30 - 90 days depending on the project requirements in accordance to the clients individual business supply chain needs and industry.

The Blockchain architectural supply chain solution is flexible and allows easily scaling the application. We use Mongo DB for its large scale scaling performance ability.

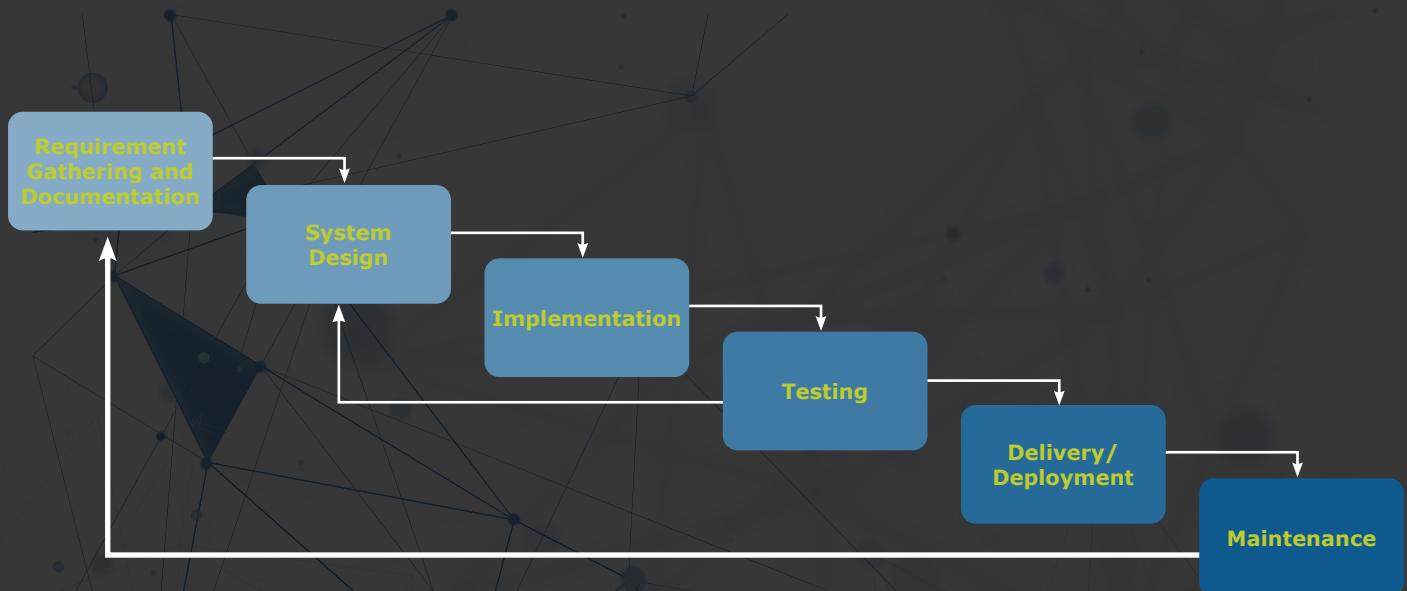
The Smart Supply Chain Blockchain is built on the Node Js Backend with both Android and iOS Applications.

The basic costs to run the Blockchain supply chain management system is estimated to be the Server costs of around \$100 - \$200 per month for each Server -> Minimum Server requirement will be 8GB Ram - x2 Nos.

To ensure the highest cyber security standards in developing this blockchain system and so for this reason we suggest, using AES encryption for every supply chain system request.

On the server side, we use both server level ufw firewall on Ubuntu servers. For file storage we recommend to use Amazon s3 bucket.

We use the waterfall model for project development, as shown in below diagram.



## Supply Chain Problem

Markets across the world struggle to cope with the Corona virus disruptions, supply chain issues are emerging affecting virtually all countries and all sectors from supermarkets to tech companies.

Despite numerous past supply-chain upheavals inflicted by disasters — including the Thailand floods, the Japanese earthquake and tsunami and the eruption of a volcano in Iceland and — most governments and private companies still found themselves unprepared for the Corona pandemic.

Businesses have been trying to keep up with global response measures, working diligently to secure raw materials and components and protect their supply lines.

However, their response to the disruption has been reactive and uncoordinated, and vital information is often not available or accessible across their global teams.



Smart Supply Blockchain runs on Hyperledger Sawtooth Blockchain to solve various real-world problems that currently are disrupting global supply chains and supports payments via digital fintech.

Companies that invest in mapping their supply networks will emerge better prepared to manage unforeseen crisis, they will have the information needed at their fingertips within minutes of a potential disruption.

They will have better visibility into the structure of their supply chains, instead of scrambling at the last minute.

And they will know exactly which suppliers, sites, parts, and/or products are at risk, and swiftly put themselves first in line to secure constrained inventory.

## Use Cases

### Applying Blockchain to Agriculture

Pilot studies indicate that [blockchain technology enables food to be traced from farm to grocery store](#) in just a few seconds. Blockchain also helps to keep tabs on abundant commodities and reduce cases of illegal harvesting and shipping frauds.

There are approximately 450–500 million smallholder farmers worldwide. It is estimated that these farmers make up [85% of the world's farms](#), and they are the primary example of why better payment systems are needed for small-time farmers in hyper-rural areas making little to no profit.

Small-time farmers' financial hardships and rural life are exacerbated by yield uncertainty due to unpredictable changes in weather and pest infestations. Various studies have shown that these conditions put unsustainable levels of stress on the rural farming populations worldwide.

Depending on the country, farmers are twice as likely to commit suicide as non-farmers. In the US, statistics suggest that male farmers took their lives at a rate two times higher than the general population.

The US farmer suicide crisis echoes a much larger farmer [suicide crisis happening globally](#): an Australian farmer dies by suicide every four days; in the UK, one farmer a week takes his or her own life; in France, one farmer dies by suicide every two days; in India, more than 270,000 farmers have died by suicide since 1995.

These figures cannot be separated from economic insecurity, and are the compelling reason why establishing more consistent, faster payment for small farmers across the globe is critical.

### Applying Blockchain to Manufacturing

The Blockchain technology provides a [new way of tracking a product's journey](#) from the production line, to the retailer – until it reaches the end consumer. Blockchain lowers the barriers to entry for small local businesses and innovators to manufacturing – one of the biggest drivers of global economies.

Furthermore, the technology enables [transparent manufacturing supply chains](#), and this will create trust from the sourcing to the distribution of goods.

According to a World Economic Forum report and Bridget van Kralingen the Senior Vice President of Global Industry Platforms and Blockchain at [IBM](#), reducing supply chain barriers to trade could increase the global GDP by almost 5% and actual total trade volume by almost 15%. The current global supply chains are plagued with inefficiencies, and are long overdue for improvement.

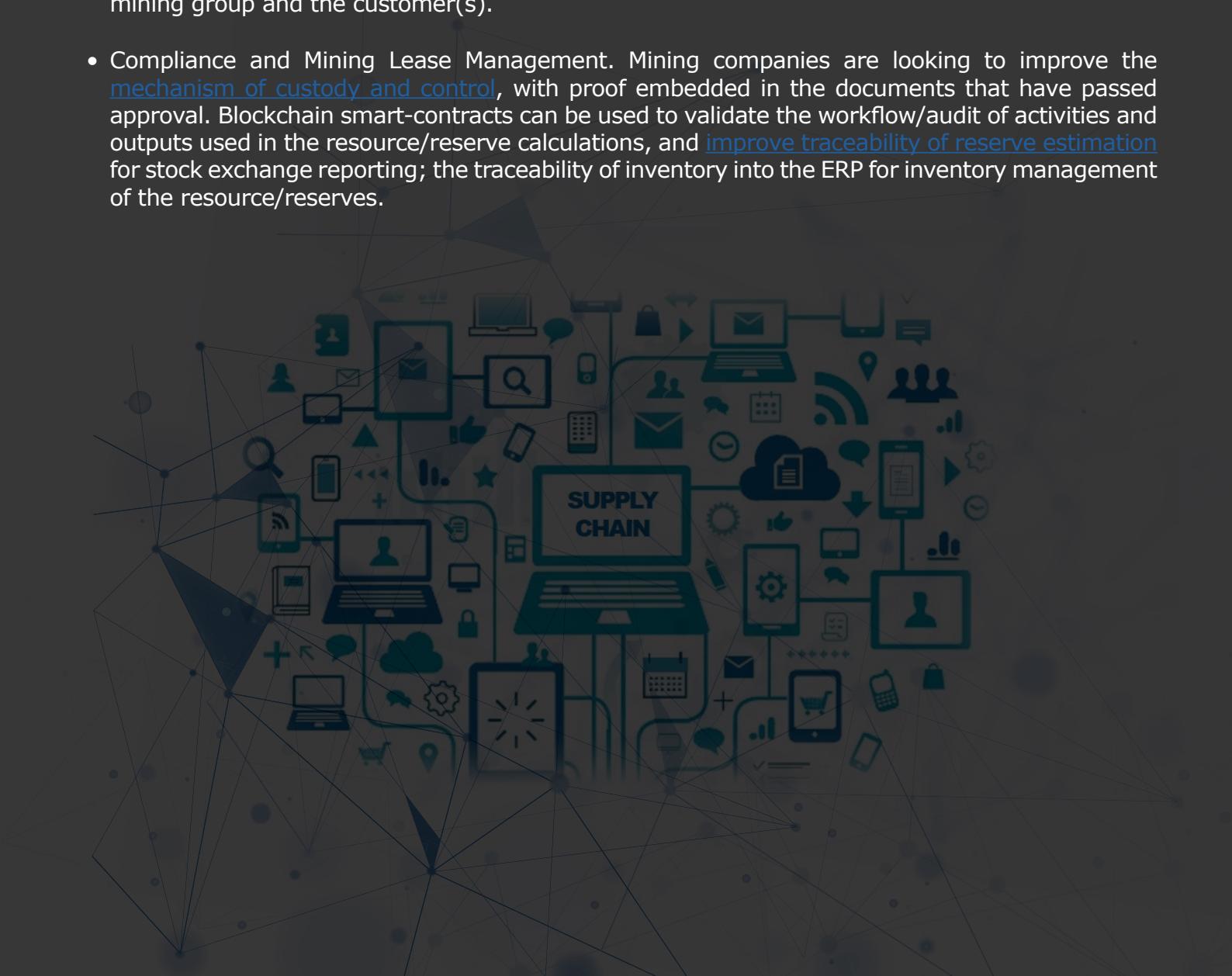
# Use Cases

## Applying Blockchain to Mining

The aspects of [Blockchain technology make it useful and relevant to the mining industry](#) by providing security and transparency in mining business transactions.

Blockchain will have a huge impact in all areas of mining, from the exploration stage, to the resources supply to customers. Below are some of the key areas Blockchain can be used in the mining sector:

- Engineering, Construction and Handover of the Mine Site. Managing and maintaining the accuracy of this extensive volume of information increases costs, and if not accounted for correctly, adds additional costs that can delay the business run-rate and [mining enterprise goals](#). Blockchain makes mining transactions traceable during the complex processes of managing regulations and standards, ensuring trust and work compliance.
- Supply Chain. Most mining companies have JV partners and the value chain is fragmented with transactions spread across multiple parties in different jurisdictions. Blockchain provides transparency that can be used to [track materials in the mining chain](#) for all parties involved – the mining group and the customer(s).
- Compliance and Mining Lease Management. Mining companies are looking to improve the [mechanism of custody and control](#), with proof embedded in the documents that have passed approval. Blockchain smart-contracts can be used to validate the workflow/audit of activities and outputs used in the resource/reserve calculations, and [improve traceability of reserve estimation](#) for stock exchange reporting; the traceability of inventory into the ERP for inventory management of the resource/reserves.





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