



Blockchain 101 and Use Cases in Logistics

About



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BiTA is the world's largest blockchain standards organization with a specific focus on blockchain and technology applications in freight transportation. In less than six months, it is also the largest transportation organization (bigger than the ATA, TIA, and TCA combined).

Tier-1 Organizational Members









DAIMLER













































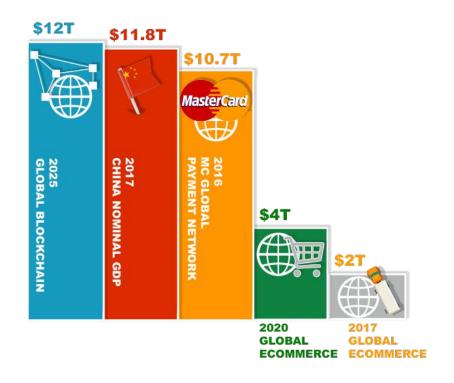






Blockchain Market Comparison





Rapid Industry Growth

In 2017, consulting firm Deloitte said that 10% of global GDP would be built on top of blockchain applications by 2025 -- approximately \$12 trillion dollars.

Morgan Stanley suggests that Blockchain in Transportation is a \$500 billion dollar opportunity in the U.S. alone.

What is Blockchain?



A decentralized and distributed digital ledger to record transactions across many computers so that the record cannot be altered retroactively without the alteration of all subsequent blocks and the collusion of the network.

Blockchain Market Comparison





For most transactions across industries, each participant currently records their own version of the truth.



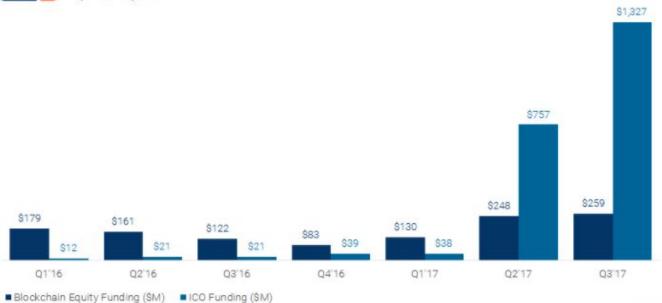
With multiple records of the same information across systems, the data is vulnerable to error, fraud and inefficiencies. Frequently, businesses rely on intermediaries and internal processes to mitigate these risks.



With blockchain, transactions agreed by consensus are added to a block, a unique cryptographic code is calculated of the block, and that code is added to the following block creating a unique chain of blocks containing all the transactions.



Blockchain equity funding vs. ICO funding

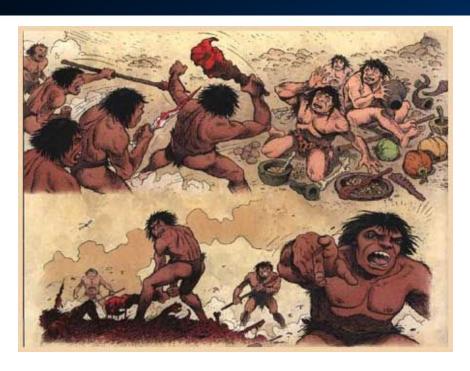


Sources: CB Insights, TokenData, CoinSchedule.

CBINSIGHTS

Evolution of Contracts





Agreements Enforced by Strongest Tribe

Evolution of Contracts

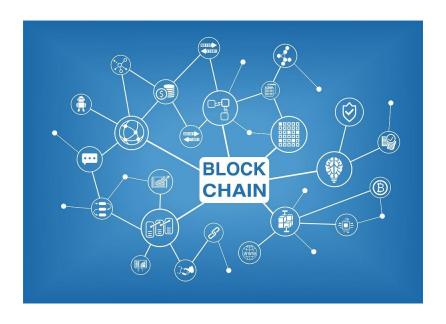




Agreements Enforced by Institutions

Evolution of Contracts





Agreements Enforced by Smart Contracts

Distributed Ledger





Those blocks of transactions create a distributed ledger.

A distributed ledger is a technological system that is an asset database that can be shared across a network on multiple sites, geographies, or institutions. All within the system can have access to the ledger via copy or connection to the larger database.

Smart Contracts



Computer code, attached to a blockchain transaction, which is executed under predetermined conditions.

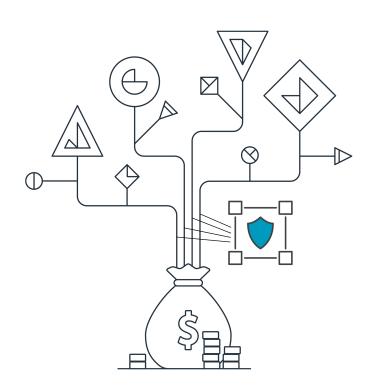
Intended to facilitate, verify, or enforce the negotiation or performance of a contract.



Opportunities



- Free up capital
- Lower transaction costs
- Speed up processes
- Provide security and trust



Challenges



Scalability

 Public blockchains are currently limited to 3-20 transactions per second. Visa is capable of approx 56,000 tps.

Data Privacy

 By definition, all data is held by all participants, careful protocols have to be agreed to encrypt commercially sensitive data in any ecosystem.

Collaboration

 Many applications of blockchain require agreement of protocols within industries.

Commercialization

 Blockchain applications code are generally open source and can be utilised anonymously, so IP is difficult to protect.

Use Cases





FUEL PAYMENTS
AND REPRICING
WITHOUT THE NEED
FOR A PROCESSOR

RECORDING RFPs AND TRANSACTIONS

Immutable record of agreed economics

PAYMENT AND
SETTLEMENT SOLUTIONS
Quicker, cheaper payments

INTERNET OF THINGS

Odometer recordings, parts warranties & vehicle servicing

EDI COMMUNICATIONS

Use Cases II

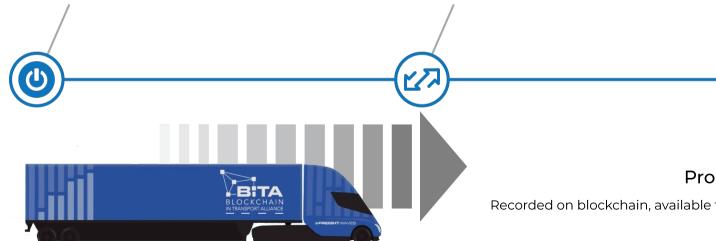


Self executing Smart Load Contracts

Contracts executed and arbitrated using blockchain, lowering risk and costs for both carriers and shippers.

Proof of Provenance (chain of custody/bread crumbs)

Verifiable provenance with long supply chains.





Recorded on blockchain, available to relevant parties.

Adoption and Implementation Forecast



2018-2020 - Education, Case Studies, and Early Adoption

- Industry-wide education on use cases outside of crypto-currency
- Develop industry-wide standards and apply to case studies
- Early adoption within innovative startups and pilot programs at large corporations with extensive resources (ex: IBM, Daimler)
- Regulatory authorities develop auditing and compliance practices

2021-2025 - Growth

 Early adopters and standards activity provide greater clarity and minimize uncertainty, driving widespread adoption

2026 and beyond - Maturity

 Blockchain is widely adopted and considered an integral part of the supply chain ecosystem

Disruptive Impact



As blockchain digitizes, decentralizes, secures and incentivizes the validation of transactions, it will fundamentally change the industry.

- Eliminates need for intermediaries
- Expedites payments and settlements
- Automates proof of delivery
- Provides immutable record of agreed economics

Winners and Losers



WINNERS

Factoring Companies

Brokers Not Compliant or Transparent

OEMs and Tier-1 suppliers

Attorneys that focus on smart contract concepts

Asset-backed fleets

(small and large)

Data providers and warehouses

End consumers

Sim chip manufacturers

Trailer leasing

companies

Large 3PLs and 4PLs with a quantitative business model

Non-Compliant Shippers and Carriers

Technology providers that

enable the proliferation of

technology, payment, and IOT

Blockchain technology startups, specialists, and

consultants

Engineers and Smart-

Contract Analysts

Voice Freight Brokers

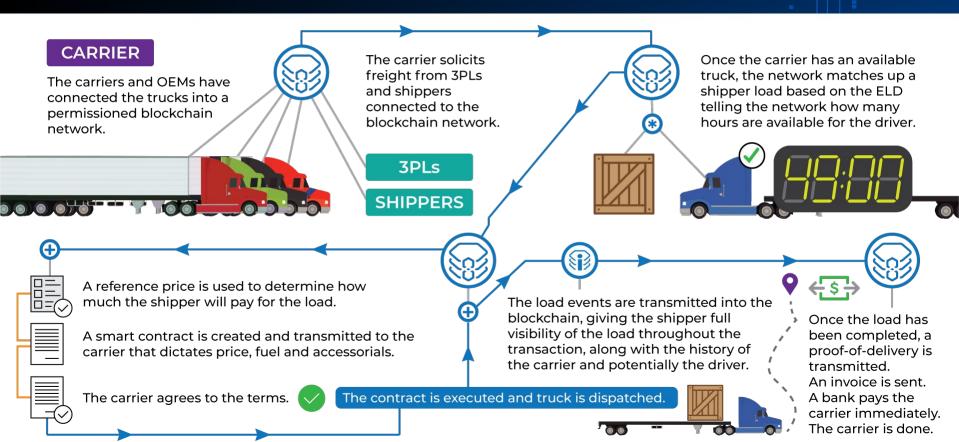
Paralegals

I OSEDS

LOSERS

End-to-end Implementation Snapshot





Learn More...



Blockchain in Transport Alliance (BiTA) is a common forum for Manufacturers, Retailers, Shippers, 3PLs, Technology Developers, and anyone interested in SCM blockchain, data standards, and the future of moving goods. Learn More and join the alliance: http://bita.studio

<u>FreightWaves.com</u> is the #1 SCM and freight news site by readership, founder of BiTA, leading freight data/analytics provider, and headline sponsor of the Transparency18 event.

Transparency 18 is a conference featuring exchange of ideas among SCM and freight thought leaders. https://transparency18.com/