

What is blockchain?

Blockchain, or “distributed ledger technology,” is a digital record (or ledger) of transactions. Unlike a traditional ledger, each participant holds a record of the ledger collectively. Each transaction carried out over the network is stored with others in a unit of data called a “block”. These blocks securely (cryptographically) link to one another, forming a “chain” of records going back to the beginning of the ledger.

Benefits of blockchain in transportation

We are at the beginning of unlocking the potential of blockchain in the transportation industry. Participants across the supply chain are starting to incorporate blockchain technology to drive efficiencies and progress within their business. From “Shipchain” to smart contracts, blockchain is enabling the landscape of the transportation industry to change.

Legal concerns



Security

Any information stored on the blockchain can be accessed by participants included in the blockchain. In line with current regulations, some information included on the blockchain, particularly personal data, may need to stay confidential and secure, leading to concerns about compliance with regulations such as GDPR.



Enforceability

Once all participants in the transportation industry start incorporating blockchain in their operations (for instance, through smart contracts), the question of enforceability and certainty of contract conclusion become legal concerns. Enforceability of blockchain is especially important when goods are transported across international borders and through multiple jurisdictions.



Regulation

As the use of blockchain across the transportation industry is in its infancy, the regulation of blockchain is not as established as the traditional systems that blockchain has the potential to replace. As some jurisdictions have more regulation than others, it is important that your business understands the blockchain regulations in the jurisdictions through which you are transporting goods.

Blockchain in **transportation**



Enforceability

Renault has collaborated with **Microsoft** and **VISEO** to create a blockchain that is twinned to the component parts of transportation vehicles (such as engines), to ensure a truthful, digital maintenance history book.

[Read more here](#)



Container Tracking

Up to 50% of all containers cannot be tracked by the financing bank or leasing company after a bankruptcy. A blockchain would eliminate this issue by placing a sensor in each container, linking the container to the blockchain, and providing details of ownership, mortgage information and the location of the container.

[Read more here](#)



Logistics

Alibaba has filed for over 10% of the world's blockchain patents indicating the promising future for blockchain in the logistics industry.

[Read more here](#)



Shipping

Maersk and **IBM** have embarked on a joint venture for end-to-end shipment tracking. This enables stakeholders to see real-time updates of shipments alongside bills of lading and other data.

[Read more here](#)



Unmanned Aircraft

Boeing has announced that it has started to use blockchain to track unmanned aircraft and the cargo they are carrying.

[Read more here](#)



Replacing Paper

The use of blockchain could eradicate **up to 80%** of the paper documents currently used during the shipment of goods – 70% of current paper-based shipment documents can be falsely replicated.

[Read more here](#)



Transparency

Unilever and **Walmart** are exploring the use of blockchain to improve supply chain transparency and to track provenance.

[Read more here](#)



Preparedness

Our recent survey indicated that **only 5%** of the participants were very prepared for blockchain technologies.

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