Move your transportation operations ahead with IBM Blockchain solutions

Change the way your company works with partners and meets customer demand

Travel and transportation environments have millions of moving parts. Blockchain technologies can help each one move in the safe, secure, efficient and frictionless ways necessary for business success and customer satisfaction.

Consider the airline industry's practice of interlining. Multiple business-to-business transactions occur between booking agents, air carriers, credit card companies and airports.

The results often lead to complexity, errors or transactions disputes. But when all parties use the same data in a blockchain environment, common information visibility and sharing can eliminate inconsistencies.

Used on land, sea or air, IBM Blockchain speeds transactions, eliminates fraud and helps streamline transportation operations with an immutable, trustworthy, secure system that builds trust among parties.

16%
The average cost of transferring funds — including credit card fees, exchange rate fees, bank transfer fees and more — in complex transportation ecosystems.

Using blockchain to eliminate "middle man" fees can mean huge savings inside trillion-dollar industries.

Current challenges in travel and transportation — and how IBM Blockchain can help:

Passengers

Challenges

Handling identification, tickets and boarding passes can create a frustrating logistical bottleneck for passengers and carriers alike, sometimes requiring multiple checks even in a single transport facility. And while passenger loyalty programs can be a significant business differentiator, these loyalty programs also require rigorous per-passenger record keeping.

Opportunities

A blockchain system that establishes a single token of identification — stored and validated throughout the trip — can streamline boarding, reduce congestion in terminals and reduce the need for multiple travel documents. Companies can offer loyalty-program members not only services such as automated point redemption, but also frustration-free connections with blockchain connected partners like hotels and restaurants.

Personnel

Challenges

Passenger and cargo safety are paramount in every form of transportation, but crew training and certification can involve multiple agencies over long periods of time. Every transport terminal is a hive of activity as well, with personnel employed by a wide range of companies with duties including fuel delivery, ticket taking, catering, shuttle-cart driving, cleaning and more. Each requires vetting for security, and their activities must be coordinated.

Opportunities

With its shared, immutable ledger that prevent entries from being changed or falsified, blockchain can provide the verification and insight that transportation companies need. Certificates and licenses can be stored for each crew member, verified and updated as additional training occurs. Blockchain provides a central management mechanism, with visibility into common information necessary for settling disputes over pay, work status or other issues that may arise.

Assets

Challenges

Done right and done on schedule — that's the key to airplane, ship and train maintenance. Where did that part come from? How old is it? Is it new or refurbished? Has it been recalled? Each question is critical — and in fast-changing inventories, each can be difficult to answer. The challenges of spotting and rejecting counterfeit parts or tracing a part's life history (including usage cycles, maintenance events and operational conditions) persist across all modes of transportation.

Opportunities

Blockchain can help by consolidating details such as manufacturer, production date and batch to establish each part's provenance. Immutable records create a trustworthy environment for scheduling maintenance, providing word order documentation and guarding against fraud. Multiparty data provides insight into both preventive and predictive maintenance, conditions that affect maintenance such as facility availability, and weather conditions that may have affected equipment.

Cargo

Challenges

Shipping goods involves multiple parties including senders, receivers, carriers and regulators. With so many entities involved — each often with a different records system — blockchain can help keep track of the location and condition of cargo. Using shared records of ownership, location and movement, carriers can improve their load utilization, while senders and receivers can speed delivery by clearing customs in transit instead of waiting at the terminal.

Opportunities

dnata, a global provider of ground handling, cargo, travel and flight catering services for more than 400 airlines, teamed with IBM to eliminate redundant data and improve visibility and transparency for cargo services using blockchain. The result streamlines and simplifies processes from point of origin to final destination. The blockchain solution achieves this by digitizing the supply chain and using a peer-to-peer network to manage and track each cargo container's path.

The time is now to transform transportation with blockchain

Whether by airplane, ship or train, today's travel and transportation requires a trustworthy method of keeping track of a host of activities, assets, goods and people. Verifiable, authenticated data is necessary to support business operations such as ticketing and billing, and to support customer satisfaction with on-time service and reliable baggage handling. But verifiable data is also necessary to support compliance with transportation regulations, manage warranties, liability claims and accident investigations, and more.

IBM Blockchain solutions digitize transactions and store information on a shared ledger, enabling participating companies to share information in a climate of trust and transparency.

Companies led by Maersk, a global leader in container logistics, have streamlined shipping with an efficient, secure global trade digitization platform based on IBM Blockchain. The proposed joint venture between Maersk and IBM addresses needs for transparency, simplicity and open standards as goods move across borders and between trading zones.

Visit **ibm.com/blockchain/services** to learn more about how blockchain can help improve business operations in your organization

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