

CASE STUDY: ENABLING END-TO-END FREIGHT VISIBILITY THROUGH BLOCKCHAIN



CLIENT PROFILE

iTrackFreight, a US-based logistics company, approached LeewayHertz for an innovative blockchain-enabled freight management solution to accelerate the shipping process.

CLIENT REQUIREMENTS

The client wanted to build a comprehensive solution for the management of shipments to provide freight visibility to every stakeholder, including customers/shippers, brokers, carriers, and drivers. They needed a blockchain-based solution to enable traceability by keeping every user informed of the critical time-stamped updates at the time of shipment. The company required a single dashboard from where stakeholders could access and modify the shipments with vital information.

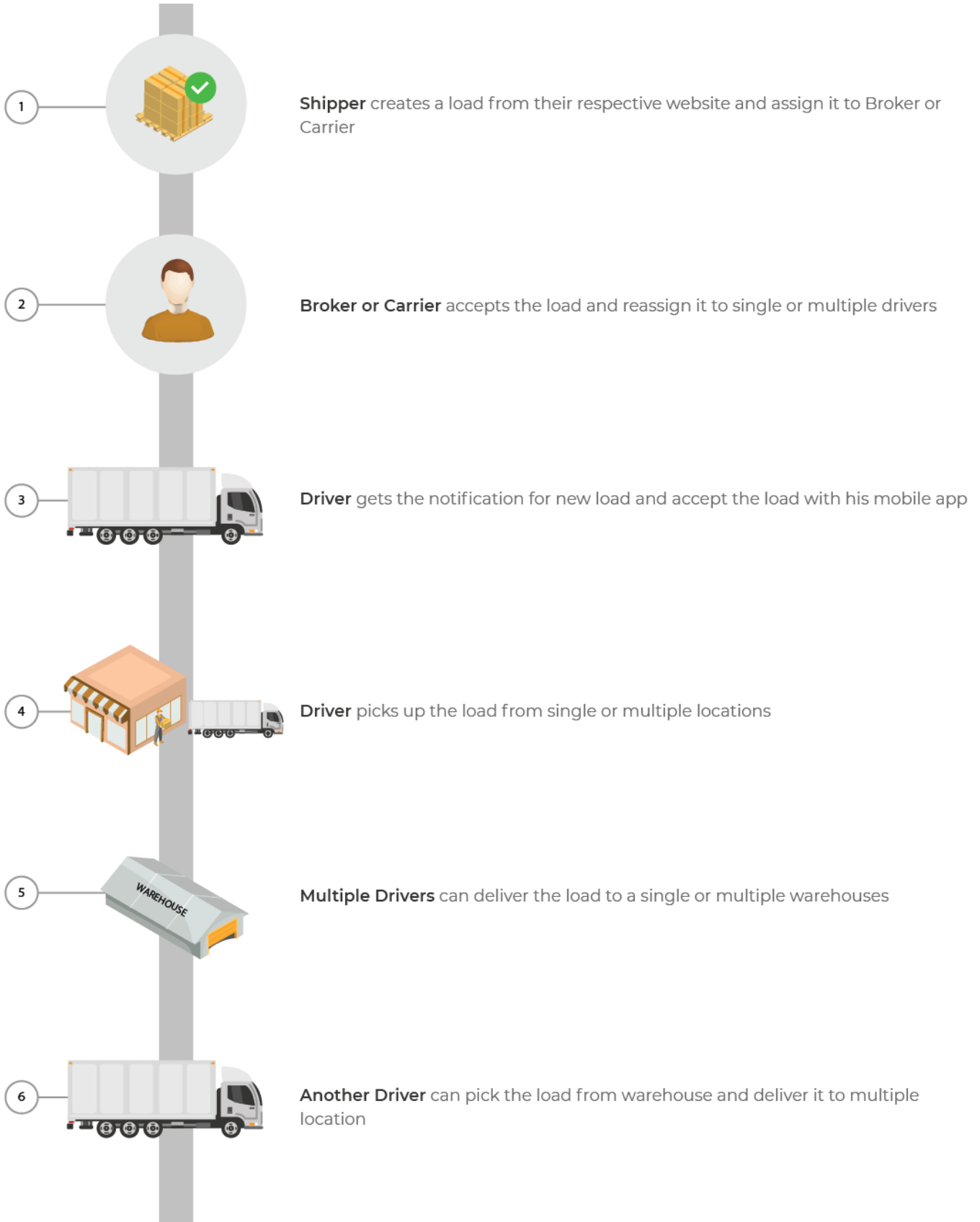
PROCESS

iTrackFreight selected LeewayHertz to begin their journey in 2016. In the project initiation discussion with the client, LeewayHertz identified the suitable blockchain platform, i.e., Hyperledger Sawtooth and roles of different stakeholders. The LeewayHertz team initiated the project with visual and technical designs to get feedback from the client. LeewayHertz provided iTrackFreight both a web solution and smartphone application with efficient user interfaces for BOL (Bill of Lading), OSD (Overage/Shortage/Damage) and POD (Proof of Delivery) upload capabilities and real-time updates.

LeewayHertz created a robust freight management platform backed by the blockchain and the following user interfaces:

- Web Portal for Shippers/Customers, Brokers, and Carriers.
- iOS and Android App for drivers.

Also, the solution provided by the team of LeewayHertz eradicated the prolonged efforts to make calls or send emails by automating business operations through smart contracts.



CHALLENGE

Before LeewayHertz provided them a blockchain-based solution, the client used to manage the shipments with third-party tools which costed them high maintenance costs.

When a person has to transfer goods or items from one place to another, the sender, as well as receivers, require traceability to ensure that the items reach the people on time. Due to lack of traceability, and infrastructure limitations, it is difficult to maintain the comprehensive freight visibility. Before the blockchain came into existence, logistics companies had to face a lot of challenges, including single point of failure due to data stored at single location, delivery delays, lack of communication between users, and lack of transparency in the system. Customers did not have real-time traceability of the location of transferred goods.

SOLUTION

Since every involved stakeholder can track the shipment at every step of the process, time to deliver the loads dramatically reduced. It brought auditability to the system with real-time and time-stamped notifications about pick-up and delivery times. Every user engaged in the shipment of goods can view updates on tracking information by sharing the unique itrack number. With complete and controlled freight visibility through the smart contracts, the company experienced the improvement in the delivery rate of goods. The developed solution has customized dashboards for each user persona involved in the process of shipment and delivery.

Here are the roles assigned to different users and how the proposed platform follows hierarchy:

- **Shippers/ Customers**

Customers sign up to create a new account. After the account is created successfully, they select brokers and carriers through the iTrack system. Once the carriers and brokers are selected, customers can monitor their performances while managing the shipments. As soon as a shipper updates the pick-up or delivery times, brokers and carriers receive notifications instantly via email.

- **Brokers**

Brokers sign up after getting an invite from the customers. They select the transportation service

providers, i.e., carriers to transport their customer's freight. Having the ability to accept, assign, and view loads in transit, brokers can track the performance of carriers. Since the shipment process might have multiple drops and pick-ups, brokers are notified whenever goods are kept in or picked up from warehouses.

- **Carriers**

Carriers accept the loads assigned to them by brokers and further allocate tasks to the drivers. They can manage the shipments and monitor driver's performance at every step of the delivery process.

- **Drivers**

Drivers receive an invitation to sign up on a mobile app from transportation service providers to provide the real-time updates on shipments. From accepting shipments, viewing the loads, sending updates on the pickup or deliveries and in-transit delays due to some unfortunate situations, drivers can manage their tasks with a mobile app.

The client believed that the blockchain-based platform could reconstruct the way the shipments are tracked. From shippers to brokers, carriers, and drivers, every user in the network can securely share real-time updates to notify on pick-up and delivery times with the help of smart contracts. The innovative solution reduced the burden on a single entity by increasing the visibility on all shipments.

IMPACT

With a single convenient dashboard built on the blockchain, the client and their customers experienced enhancement in the shipment processes between different parties. The digital transformation journey reduced turnaround times, brought efficiency, and accuracy.

Here's how the solution impacted client and their customers:

- Reduced the cost for maintenance of third-party tools.
- Reduced the time to manage the shipments by bringing transparency.
- Management of BOL/OSD through smart contracts.

ABOUT ITRACKFREIGHT

Founded in 2016, iTrackFreight is a leading logistics company based in the United States of America, providing the best-in-class logistics services across different states of the USA.

ABOUT LEEWAYHERTZ

Established in 2007 and headquartered in San Francisco, we are one of the first organizations to deliver a commercial app for the iPhone. Our team of Certified User Experience experts has designed and produced over 100 digital platforms for startups and enterprises.

Being an award-winning custom software development company, we have an expertise in delivering digital platforms within timely deadlines and fixed cost.

Having a team of experienced blockchain developers, we develop blockchain-based applications on Ethereum, Hyperledger, and Hashgraph.

For additional information, contact info@leewayhertz.com and, visit www.leewayhertz.com.