



Truck-tracking solution protects cargo with IoT and blockchain

June 23, 2017 | Written by Karen Lewis

One of the biggest challenges in the logistics and transportation industry is the protection of its assets and cargoes. Moving freight with multiple transport companies, and ensuring transparency and timely delivery creates the perfect conditions for a blockchain solution to thrive. Correctly monitoring and tracking all transactions involves many different charges and parties. To help organizations overcome the challenge AOS SAS (AOS) – a Bogotá company specializing in providing the business solution – are collaborating with IBM to enhance efficiency in the logistics and transport industry. The new truck-tracking solution integrates [IBM Blockchain](#) and [Watson IoT](#), leveraging the Internet of Things (IoT) services on IBM Cloud for trucks and loads mapping, and blockchain to manage transactions between carriers, local authorities, and clients.

A digitized transaction cycle minimizes error and risk

Traditionally, supply chain transactions are completed manually, creating delays and a higher risk for recording error, which can cause differences between what was recorded and what was actually loaded. By digitizing this process using blockchain and IoT, the relevant information is captured directly from the sensors placed on the trucks, and entered onto the blockchain, creating a single, shared repository that all authorized participants can access and which can only be altered with consensus from all parties.

Protecting assets and cargoes with the IoT and Blockchain

The truck-tracking solution is designed to monitor what is happening with the trucks, captures the input and output weight to define available capacity, in addition to identifying which silo and person will carry the load. The data is then correlated against external information, such as weather, humidity, temperature and the driver's data, providing customers with a much more accurate delivery time estimate.

Visibility, transparency, and security throughout the cycle

Once the truck leaves the distribution point, an automatic message is sent to the customer, informing them about the load, weight and estimated time of arrival. If part of the delivery is returned, the invoicing can be automated depending on the actual load delivered. Also, through the sensors located on the trucks, an information repository is generated using IoT and blockchain, which tracks all the exchanges, stops and transactions made by each truck and its respective load, from the distribution point to the final customer. This heightened level of transparency can help increase accountability between shippers and their customers, promoting the flow of business.

“The proper handling and use of information on transactions and exchanges related to cargoes is key to the logistics and transportation industry. Therefore, our main objective with this solution is to provide transparency and security throughout the transport cycle.”

– Ricardo Buitrago, Director of Innovation at AOS

The implementation of this type of blockchain and IoT solution in the cloud is an opportunity to access critical data on-demand and make more informed decisions for the benefit of business,” said Jorge Vergara, IBM Colombia CTO. For AOS, this project is of great relevance for the entire logistics industry in the country.

Digitizing supply and logistics for shipping

Shipping is another environment where any delays caused by manual errors can result in spoilage and lost profits. For example, Maersk found that just a single shipment of refrigerated goods from East Africa to Europe can go through nearly 30 people and organizations, including more than 200 different interactions and communications among them. If paperwork is misplaced or mixed up, a container of perishable foodstuffs could sit around for days.

In a similar bid to digitize the supply and logistics process for shipping, IBM and Maersk are collaborating with a network of shippers, freight forwarders, ocean carriers, ports and customs authorities to build a [new global trade digitization solution](#). The solution will help manage and track the paper trail of tens of millions of shipping containers across the world by digitizing the supply chain process from end-to-end to enhance transparency and the highly secure sharing of information among trading partners.

When adopted at scale, the solution has the potential to vastly reduce the cost and complexity of trading, saving the industry billions of dollars.

- Help reduce fraud and errors.
- Reduce the time products spend in the transit and shipping process.
- Improve inventory management and ultimately reduce waste and cost.

Learn more

- Explore [IBM Blockchain](#) and [Watson IoT](#).

- Discover how IoT is helping the [supply chain of the future](#) become more intelligent.
- Read the full AOS and IBM announcement [here](#).

One of the biggest challenges in the logistics and transportation industry is the protection of its assets and cargoes. In reality, moving freight with multiple transport companies, ensuring transparency and timely delivery creates the perfect conditions for a blockchain solution to thrive because correctly monitoring and tracking all transactions involves so many different charges and parties. To help organizations overcome the challenge, [AOS SAS](#) (AOS) – a Bogotá company specializing in providing business solution – and IBM are collaborating to enhance efficiency in the logistics and transport industry. The new truck-tracking solution integrates [IBM Blockchain](#) and [Watson IoT](#), leveraging the Internet of Things (IoT) services on IBM Cloud for trucks and loads mapping, and blockchain to manage transactions between carriers, local authorities and clients.

A digitized transaction cycle minimizes error and risk

Traditionally, [supply chain](#) transactions are completed manually, creating delays and a higher risk for recording error, which can cause differences between what was recorded and what was actually loaded. By digitizing this process using blockchain and IoT, the relevant information is captured directly from the sensors placed on the trucks, and entered onto the blockchain, creating a single, shared repository that all authorized participants can access and which can only be altered with consensus from all parties.

Protecting assets and cargoes with the IoT and Blockchain

The truck-tracking solution is designed to monitor what is happening with the trucks, captures the input and output weight to define available capacity, in addition to identifying which silo and person will carry the load. The data is then correlated against external information, such as weather, humidity, temperature and the driver's data, providing customers with a much more accurate delivery time estimate.

Visibility, transparency and security throughout the cycle

Once the truck leaves the distribution point, an automatic message is sent to the customer, informing them about the load, weight and estimated time of arrival. If part of the delivery is returned, the invoicing can be automated depending on the actual load delivered. Also, through the sensors located on the trucks, an information repository is generated using IoT and blockchain, which tracks all the exchanges, stops and transactions made by each truck and its respective load, from the distribution point to the final customer. This heightened level of transparency can help increase accountability between shippers and their customers, promoting the flow of business.

“The proper handling and use of information on transactions and exchanges related to cargoes is key to the logistics and transportation industry. Therefore, our main objective with this solution is to provide transparency and security throughout the transport cycle.”

– Ricardo Buitrago, Director of Innovation at AOS

The implementation of this type of blockchain and IoT solution in the cloud is an opportunity to access critical data on-demand and make more informed decisions for the benefit of business,” said Jorge Vergara, IBM Colombia CTO. For AOS, this project is of great relevance for the entire logistics industry in the country.

Digitizing supply and logistics for shipping

Shipping is another environment where any delays caused by manual errors can result in spoilage and lost profits. For example, Maersk found that just a simple shipment of refrigerated goods from East Africa to Europe can go through nearly 30 people and organizations, including more than 200 different interactions and communications among them. If paperwork is misplaced or mixed up, a container of perishable food stuffs could sit around for days.

In a similar bid to digitize the supply and logistics process for shipping, IBM and Maersk are collaborating with a network of shippers, freight forwarders, ocean carriers, ports and customs authorities to build a [new global trade digitization solution](#). The solution will help manage and track the paper trail of tens of millions of shipping containers across the world by digitizing the supply chain process from end-to-end to enhance transparency and the highly secure sharing of information among trading partners.

When adopted at scale, the solution has the potential to vastly reduce the cost and complexity of trading, saving the industry billions of dollars.

- Help reduce fraud and errors.
- Reduce the time products spend in the transit and shipping process.
- Improve inventory management and ultimately reduce waste and cost.

Learn more

- Explore [IBM Blockchain](#) and [Watson IoT](#).
- Discover how IoT is helping the [supply chain of the future](#) become more intelligent.
- Read the full AOS and IBM announcement [here](#).