



An interesting [article](#) published on the International Trade Forum (quarterly magazine of the International Trade Centre), explores the use of the blockchain for managing all formalities, documents and forms related to trade operations (with the relevant payments), by drawing a parallelism between such a technique and the invention of containers .

The invention of the container, in the 1950s, has revolutionized international trade and the transport of goods, by making made the movement and storage of cargo faster, easier, cheaper and more efficient, because of the elimination of repeated handling operations.

The first shipping container was invented and patented in 1956 by an American named Malcolm McLean, who was the owner of one of the largest trucking fleets in the United States. Before containerization, all goods were usually handled manually as break bulk cargo, with an infinite combination of sizes and shapes of boxes, crates and parcels that were delivered by trucks and trailers to ports. This cargo was subject to numberless handling operations and needed to be stowed and secured in large cargo nets into the ship's hold, or onto its deck.

It is calculated that before containerization costs for loading a ship were about \$5.86 a ton and that the average time for loading and unloading a ship was 10 days. Thanks to the use of containers, today this same process takes from 24 to 48 hours, with lower export times and costs for shipping goods abroad. However, whilst containerization has drastically reduced freight and shipping costs, the completion of documents and forms related to these operations and the formalities for payments to the different actors in the supply chain are more or less still the same than in the 1950s.

To date international trade transactions continue to rely heavily on paper forms. Shipping a container of roses and avocados from Mombasa, Kenya, to Rotterdam, the Netherlands, can

produce a pile of paper 25 cm high and the cost of handling it can also exceed the cost of moving the container. More than 100 people and 200 information exchanges are involved in the process, leading to complex and often duplicative administrative procedures, which weigh most heavily on small businesses seeking to participate in international trade.

How the blockchain technology can help to streamline this process?

A blockchain is a decentralized system (which means that is a system made up of a cluster of computers neither owned, nor controlled by a single entity), where economic transactions occurring among a group of entities are recorded and accessible to all the participants to the system, so that each of them can verify and validate any information related to such transactions on a peer-to-peer basis. This technology allows participants to collaborate on an equal basis and in real time with the guarantee that the information on the blockchain has not been tampered with. Because of its unique characteristics, blockchain is a particularly interesting tool to accelerate the digitalization of trade and streamline trade processes.

In the blockchain, transactions are time-stamped and stored in a highly secure, verifiable and nearly permanent way, thanks to various cryptographic techniques. Smart contracts, i.e. computing programmes that automatically enforce themselves when specific conditions are met, can be used to automate transactions.

Although the use of blockchain for connecting all actors along the supply chain (including freight forwarders, ocean carriers and port and customs authorities) is still being explored, some solutions based on the use of such technology have been developed for offering trade finance services to the different actors of the international supply chain, especially to micro, small and medium-sized enterprises (MSMEs), which often struggle to access such services.

The reality, however, is that it is still unclear how blockchain can enhance the efficiency of various border procedures, including certification and licensing, customs clearance, revenue collection and post-clearance audit processes, being the exploration of such technology still in its early stages. What is certain is that the use of blockchain can have an effect on the completion of formalities, documents and forms related to trade operations and their payments of the same magnitude of that generated on freight and shipping costs by the introduction of containers.