

Another feature of the technology that could be of interest when it comes to certification is the fact that blockchain transactions include a reference to previous transactions (a “hash pointer”). In the case of phytosanitary certificates, for example, shipments cannot be split and sent under a single certificate. Exporters wishing to split their shipment need to go back to the agency having issued the certificate and request a replacement certificate. With a blockchain-based system that links transactions to previous ones in a secure and trusted manner, one could imagine that requesting a replacement certificate would no longer be necessary if the goods are sent to the same destination¹⁶ – which would greatly facilitate the life of both traders and certifying agencies – provided, of course, that the regulatory framework can be adjusted to permit this.

Blockchain can also prove interesting to administer import and export licenses more efficiently. Such permits are normally delivered for a set period of time. Storing an import or export licence on the blockchain would save the importer or exporter the trouble of having to keep the permit in a safe place to avoid losing it and would allow customs authorities to easily check the authenticity and validity of the permit. Using fake permits would no longer be possible.¹⁷ The use of a smart contract could even allow the parties to go one step further by automatically rendering an import/export permit invalid upon expiration of its validity period, which could help fight fraud and avoid situations like that faced by the Philippines in 2016, when the Department of Agriculture cancelled and recalled all import permits on meat products to tackle meat import fraud, having found that old permits were being recycled to smuggle imports (Fortune, 2016).

Blockchain applications are also being explored in relation to certificates of origin. After having acquired eCertify and TradeCert, two of the leading electronic certificate of origin (eCO) providers, in May 2018, paperless trade platform provider essDOCS unveiled a new-generation eCO solution, essCert. Some of the new features that essCert will offer include blockchain/distributed ledger technology (DLT) options, enabling chambers of commerce to connect eCO data to blockchain platforms and Internet of Things (IoT) devices to improve origin verification (essDOCS, 2018).

That same month, the Singapore International Chamber of Commerce, which has authority to deliver certificates of origin, and fintech company vCargo Cloud unveiled a permissioned blockchain-platform for eCOs to improve efficiency, minimize the costs of verifying certificates of origin and prevent fraud. The system provides for a hybrid solution when the recipient is not ready to accept digital documents. In such cases, both a digital and a paper copy are issued, and a QR* code that contains the hash* of the digital copy that is on the blockchain is embedded in the paper copy. The QR code can be scanned with a smartphone to verify the eCO. These eCOs can be printed, but allowable prints are restricted to prevent unauthorized duplicates (IT News Africa, 2018).