B2G and national inter-agency coordination

The highly secure, decentralized and distributed nature of Blockchain could support and enhance the exchange of information between government agencies at the national level and open new opportunities for them to cooperate more effectively (WCO, 2017). Blockchain is particularly suited to situations that involve multiple actors. In a traditional system, most stakeholders act in silo and in a sequential manner, records (e.g. shipper, export broker, import customs, bank and transportation records) are kept separately, and any party can add to or alter them, making these records vulnerable to fraud; while in a blockchain-based system, all information is shared on a common platform and is nearly impossible to modify. All parties involved act in full transparency and in real time, and all actions can be easily tracked. In cases where multiple authorizations are required to export a product, the exporter would be required to enter the information only once. The data would then be used by the respective agencies connected to the platform to validate the transaction or issue the relevant documents.

A proof of concept developed by IBM to ship flowers from Mombasa, Kenya, to Royal Flora in the Netherlands illustrates well the advantages that the technology can bring.[15] Exporting flowers from the port of Mombasa requires signatures from three different agencies and six documents that describe the origin, chemical treatment, and quality of the goods, and customs duties. The Kenyan farmer, using his mobile, submits a packing list that becomes visible to all participants in the permissioned ledger. This action initiates a smart contract that enforces an export approval workflow among the three agencies that must approve the export. As each agency gives its consent, the status of export is updated in real time, and for all to see. Simultaneously, information about the inspection of the flowers, the sealing of the refrigerated container, the collection by the trucker and the approval from customs is communicated to the port of Mombasa, allowing it to prepare for the shipping of the container. At all times throughout the process, all actions relating to the documents and the goods are captured and shared on the permissioned ledger and are visible to all authorized participants in real time: which documents were submitted, when and by whom; where the flowers are and who is in possession of them; and the next steps.

Certification and licensing

As the Royal Flora example shows, the use of Blockchain can help to streamline the approval workflow of certificates. Sanitary and phytosanitary certificates, certificates of origin and conformity assessment certificates delivered by trusted authorities are commonly required to provide assurance to the importer or the competent authorities in the country of importation that the goods being exported meet certain requirements.

CHAPTER 3