

Kenya, the Republic of Korea and the United Kingdom are working on similar projects, and the Common Market for Eastern and Southern Africa (COMESA) announced in February 2018 a pilot project using Blockchain for its new digital free trade area to connect transacting parties in real time through a blockchain platform. The system will integrate an electronic certificate of origin (Mbogo, 2018).

An important point to note when it comes to certificates of origin is that authentication from chambers of commerce does not attest to the true origin of the product, only to the statement provided to the chambers of commerce by the exporter, leading some to argue that such authentication would, in reality, not be truly necessary. Blockchain would not change this state of affairs. Arguably, the benefits of a blockchain-based system when issuing certificates of origin would be limited to proving that the certificate is authentic – i.e. that it has been delivered by the pertinent authority – and has not been tampered with. However, if blockchain traceability uses become more widely implemented (see Section 4.2(a)), one could imagine a day when certification of origin would rely on blockchain data to be determined directly at the border, without the need for a certifying authority. The announcement by the US Customs and Border Protection in August 2018 that it would launch a live test to track information and help validate that products imported from partners of the North American Free Trade Agreement and the Central American Free Trade Agreement originate where they claim could be a first step in that direction (Baydakova, 2018).

### ***Release and customs clearance of goods***

Blockchain applications could enhance the efficiency of customs clearance processes and reduce the need for manual verification. In particular, it could be used to:

- Submit requests for advance rulings.<sup>18</sup> Rulings, once issued, would be securely stored on the blockchain, in a permissioned ledger, and remain accessible at all times by authorized stakeholders, including all customs offices located in the territory, throughout the validity period of the ruling, thereby facilitating the release and clearance process.
- Facilitate pre-arrival processing,<sup>19</sup> i.e. processing prior to the arrival of the goods, and expedited release of goods,<sup>20</sup> as required data can be shared on the ledger in real time.
- Optimize risk assessment.<sup>21</sup> As customs documents are submitted via the system, they would be immediately and automatically analysed and assessed on the basis of pre-determined selectivity criteria encoded in a smart contract. Consignments meeting the selectivity criteria would be automatically flagged.
- The potential of the technology in these various areas still has to be fully explored, but some initiatives are emerging. In May 2018, the Korean Customs Service, for example, announced the development of a blockchain-based customs platform to