

Bringing blockchain to Africa

Blockchain is much hyped around the world, but in Africa in particular the technology is proving to add real value to businesses trading across borders. Whether it's for tracking the movement of goods, making cross-border payments or administering microloans, blockchain has plenty of use-cases. **Sanne Wass** looks at four tech firms utilising the technology to help trade on the continent flourish.

Dorae

Under the tagline “the blockchain for raw materials”, Dorae is an Ethereum-based solution that tracks a mineral's journey from source to end-user. The aim is to make global supply chains for anything from smartphones to electric cars more responsible.

The company was founded by two entrepreneurs, Aba Schubert and Ricardo Santos Silva, who together also run Aethel Partners, an asset management and financial services firm.

Dorae's platform records information about the origin, transit and processing of raw materials into finished goods, so that companies, financiers and consumers will know exactly where a material comes from and what has happened to it along the way. The firm has started at the root of the challenge, in DR Congo, a hotspot for minerals mining, but also a country hugely troubled by armed conflict and a poor human rights record.

Its first pilot project is tracking cobalt and coltan from three mines in the Central African nation. Over time the project will

expand to more mines and countries, and other raw materials.

“The highest value of blockchain is addressing the disconnect in the information that's needed in one end of the supply chain and the information that exists at the other end,” Schubert tells **GTR**. “That's why we decided to start our project in DR Congo, because there is information on the ground that end-users need, particularly US manufacturers who have regulatory requirements to conduct diligence on their supply chains, but it gets lost along the way.”

The new information sharing system will not only save companies time and money spent conducting supply chain due diligence; the expectation is that firms will ultimately be rewarded by the end-consumer for observing proper standards. It could also give more comfort to trade financiers, who, because of high due diligence requirements and scrutiny, are increasingly risk-averse when it comes to financing minerals from countries like DR Congo.

IBM

IBM's new supply chain finance platform uses machine learning algorithms and blockchain technology to extend microloans to small businesses.

The initiative came out of a partnership in early 2018 between the tech giant's research lab in Kenya and Twiga Foods, a logistics company which helps farmers distribute bananas, tomatoes, onions and potatoes to 2,600 kiosks across Kenya.

Over an eight-week pilot period, Twiga executed working capital loans for 220 small food retailers via their mobile phones. When a retailer had an order delivered from Twiga, they would receive an SMS with options for financing that order. The retailer would then respond, confirming which loan option they preferred. The average loan was around US\$30, offered for four and eight days with an interest rate of one and two percent, respectively. The trial saw Twiga's customers increase their order size by 30%.

Speaking to **GTR**, Andrew Kinai, the lead research engineer on the project at IBM Research, says the platform is about “linking

SMEs, their suppliers and the banks” and using alternative data to give lenders the confidence they need to provide financial services.

This data, which includes information on purchase history as well as repayment, is crunched by the platform's machine learning algorithm to predict the creditworthiness of a vendor. Once the credit score is determined, the blockchain platform, powered by Hyperledger Fabric and executed through smart contracts, will manage the entire lending process, from application to receiving offers, to then accepting the terms and eventually repayment.

Connecting multiple parties, blockchain is an optimal technology to manage the loan process, as it becomes transparent to all permissioned parties involved, from the lending bank to the borrower's bank and the loan applicant themselves.

The platform is now ready to be rolled out across Africa – to new sectors and suppliers – by the end of the 2018. While the pilot didn't involve any banks, the next stage of the project will be to bring in lending partners.