Mining for ethical mines

Alt Credit talks to credit specialist Aba Schubert about her new venture, Dorae, which aims to tackle problems in the supply chain of rare earth materials

Alt Credit readers may know Aba Schubert and Ricardo Santos Silva from Aethel Partners, a special situations and distressed debt hedge fund manager,. Now the pair are aiming to harness blockchain technology to track the transmission of materials from the ground to end products such as smart phones and electric vehicles.

Dorae uses distributed ledger technology to create an immutable record of a materials journey from mine to mobile. The system aims to provide a powerful tool for industry and governments to tackle child labour, regional conflict and environmental abuse, by providing a truly trustworthy stamp of approval on materials which have been extracted by approved mines.

The duo have already begun work on three trial sites in the Democratic Republic of Congo initially focusing on Cobalt, Coltan and Diamonds.

Aba Schubert

Alt Credit (AC): How does the system work for those on the ground in mines, plants and factories?

Aba Schubert (AS): The Dorae system can be used for any raw material. In mining, the system users are miners, traders, processors and manufacturers. Each time the material changes hands, key information is logged on the blockchain – like the place of origin, inspection, changes in the quality and processing, buyer and seller details, etc, creating a tamper proof audit trail.

AC: What inspired you to take on the rare materials supply line?

AS: The value. For most raw materials, a mechanism to securely transmit information and the generation of robust audit trails is useful. It creates value. It enables finance, it facilitates suitable matches between buyers and sellers.

We decided to start in the area where we thought this mechanism creates the most value – with materials that are very contentious because of a lack of information. There are huge potential liabilities for manufacturers from the use of improperly sourced "conflict minerals" and serious brand and reputational risks from materials like cobalt (because of child labour, etc.). So, by solving these issues, we create tremendous value.

We chose the DRC because it is a fantastically wealthy country in terms of its resources. Some of these resources are extracted in a proper way, and some are not. Right now, many "good" producers have no way to distinguish themselves from the bad producers. The data about their compliance measures and results never leaves the local area. The value of the information is lost. Dorae captures this information and preserves its value.

Right now in DRC, there is a patchwork of oversight mechanisms, including government agencies and private firms. These generate useful data. But that information rarely gets to end users.

AC: How have your backgrounds helped in getting the project off the ground?

AS: We know that to bring innovation to the real economy, you have to know how to deal with governments. And, having operated within a highly regulated sector for our whole careers, we know how to comply with rules and the value of audit trails. Also, we have a proprietary business in diamond mining, so we understand the Kimberly Process very well.

AC: Why blockchain? And what's your experience in the area?

AS: Blockchain solves the issue of "lack of trust" between far-flung participants on either end of global supply chains. They do not transact directly, so there is no opportunity for direct transmission of information. A true central counterparty does not exist, and the closest proxies – traders – are difficult to trust. Once the relevant data sets are logged on the Dorae blockchain, they are tamper-proof and maintained by open-source consensus.

We have been watching the evolution and growing adoption of blockchain for several years. The development work is led by our CTO, who has worked for many years with emerging technologies and in particular with novel data systems.

AC: What are the incentives for coin miners, and for companies to use the system?

AS: For many materials, primary producers have razor-thin margins and intermediaries capture the bulk of the value. Primary producers who use the Dorae system will get some of this value back, because of the accompanying information. They will no longer be subject to "lowest common denominator" pricing.

For coin miners and holders, they can benefit from potential increase in the fiat currency equivalent value of the DAE coins. This appreciation arises as the number of users and transactions on the Dorae system increases – each entry on the Dorae blockchain can be paid for by users with DAE coins or with fiat currency.

AC: What standards will Dorae ensure, and how will it ensure them on the ground?

AS: Dorae aggregates and validates information that relates to the satisfaction of OECD guidelines and SEC requirements for the use of conflict minerals, and information relating to compliance with applicable law and proper labour standards, and the quality and state of the material. The exact parameters vary from material to material, and the information is gathered from reliable sources, such as private certification firms, government agencies and where possible, automated processes (such as satellite verification of location coordinates). ◘