Garment Tech Talk

Can blockchain advance traceability and due diligence in garment and footwear value chains?

Maria Teresa Pisani, UNECE Secretariat
Benjamin Fuchs, Alba-Gruppe, CEO
Michela Puddu, CEO and co-founder, Haelixa
Heinz Zeller, UN/CEFACT expert
Bridging the gap between digital product data and physical products

1. MARK & TRACE
Haelixa DNA tracers are sprayed on textile fibres at any step of garment production. The tracers survive even harsh processing.

2. VERIFY
At any stage, the product is identified with an easy, quick and portable paternity test solution.

A PHYSICAL PROOF of product origin and integrity

Michela Puddu, CEO and co-founder, Haelixa
Products CAN have DNA. Here’s why they SHOULD

PROVE ORIGIN
A unique identifier is assigned to each producer, manufacturer, lot etc. to trace back the product origin and the individual locations it has gone through.

DIFFERENTIATE PRODUCTS
Each marker is a label of authenticity ensuring the identification and protection of products with value added through processing or performance.

DETECT BLENDING
Our technology enables the mixing of different materials and lots (e.g. certified/non-certified) during garment production.

ANCHOR DATA TO THE PRODUCT
The product information is coupled to the product, physically linked to material throughout the whole supply chain to prevent and detect false product claims.

Michela Puddu, CEO and co-founder, Haelixa
Use case for organic Indian cotton
FROM SEED TO FABRIC TO SHIRT
We grow GIZA 45 and 96 in Damietta and GIZA 86 in Alexandria. Its organic cultivation complies with the guidelines of the EU-Eco-regulation.

Seed non-GMO by Egyptian Cotton Research Institute. Cultivation complies with the guidelines of the EU-Eco-regulation, reviewed and verified by the inspection company ECERT and by Ministry of Agriculture. Cotton bales with CATCO-registration.

Procedures/Process according to ISO 9001 quality management system, ISO 14001 environmental management system and STeP by Oekotex.
Blockchain concept part 1: mass data storage

Efficient DLT system enabling a secured exchange of documents between partners in mass markets

Transparency as a result of an information exchange between existing systems:

- certified business process from farm to product
- secured exchange of any type of document
- supports different level of details (organizational structures, processing, order exchange)
- supply chain and not product oriented
- use of existing standards like CEFACIT, eBIZ, GS1, ....
- concept to minimize garbage in / garbage out
- designed as backbone system
- open source approach
- combination of various technologies

Heinz Zeller, UN/CEFACT expert
Blockchain concept part 2: dynamic supply chain execution

Smart contracts to trigger the correct supply chain visibility and automatize B2B information exchange

Heinz Zeller, UN/CEFACT expert
Specifically triggered update for a dynamic supply chain view valid for a set of products:

- Smart contracts forward a defined set of information
- Smart contracts feed secondary system (e.g. GOTS transaction or the creation of a bill of lading)
- Well defined information at different levels of details can be disclosed
- Different versions of supply chains can exist (history or specific settings)
- Information is always up-to-date without performance issues for its visualization

Blockchain concept part 2: dynamic supply chain execution

Smart contracts to trigger the correct supply chain visibility and automatize B2B information exchange

Heinz Zeller, UN/CEFACT expert
Implementing a blockchain technology for traceability and due diligence in the cotton value chain in support of a circular economy

Maria Teresa Pisani, UNECE Secretariat