Garment Tech Talk

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

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Haelixa

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.

A PHYSICAL PROOF
of product **origin and integrity**

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

Michela Puddu, CEO and co-founder, Haelixa

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Haelixa

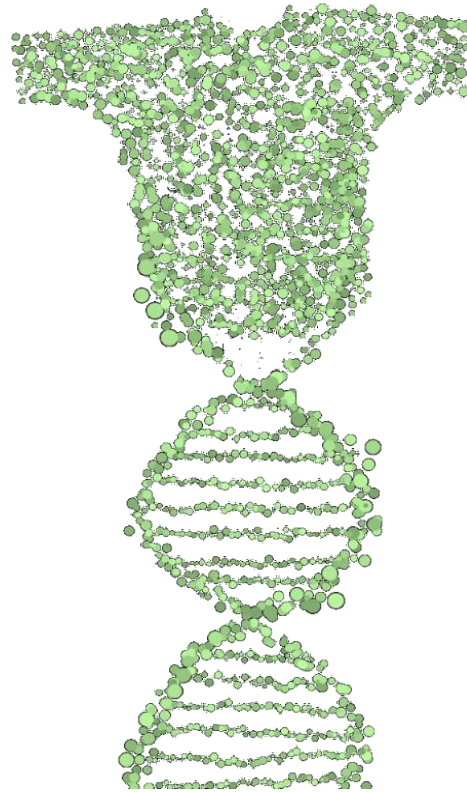# Products CAN have DNA. Here's why they SHOULD

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.

DETECT BLENDING

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

DIFFERENTIATE PRODUCTS

Each marker is a label of authenticity ensuring the identification and protection of products with value added through processing or performance.
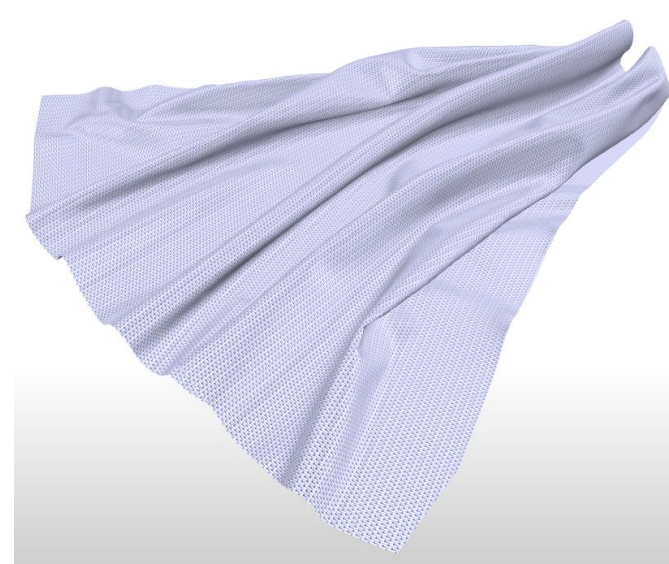
ANCHOR DATA TO THE PRODUCT

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

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Use case for organic Indian cotton

FROM SEED TO FABRIC TO SHIRT

FROM SEED TO FABRIC

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.
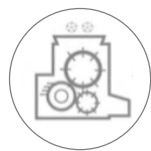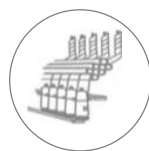
FARM
cotton cultivation

HARVEST
collection of cotton bales

GINNING
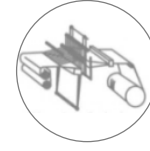seed and contaminations are removed

SPINNING
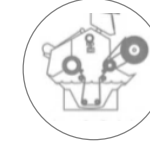fibres are spun into yarn

DYEING
yarn is dyed to obtain preferred colour

WEAVING
premium quality fabric is produced

FINISHING
treatment to smoothen and release fabric with desired properties

SEWING
putting the garment together

BRAND & RETAILER
retail in stores

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
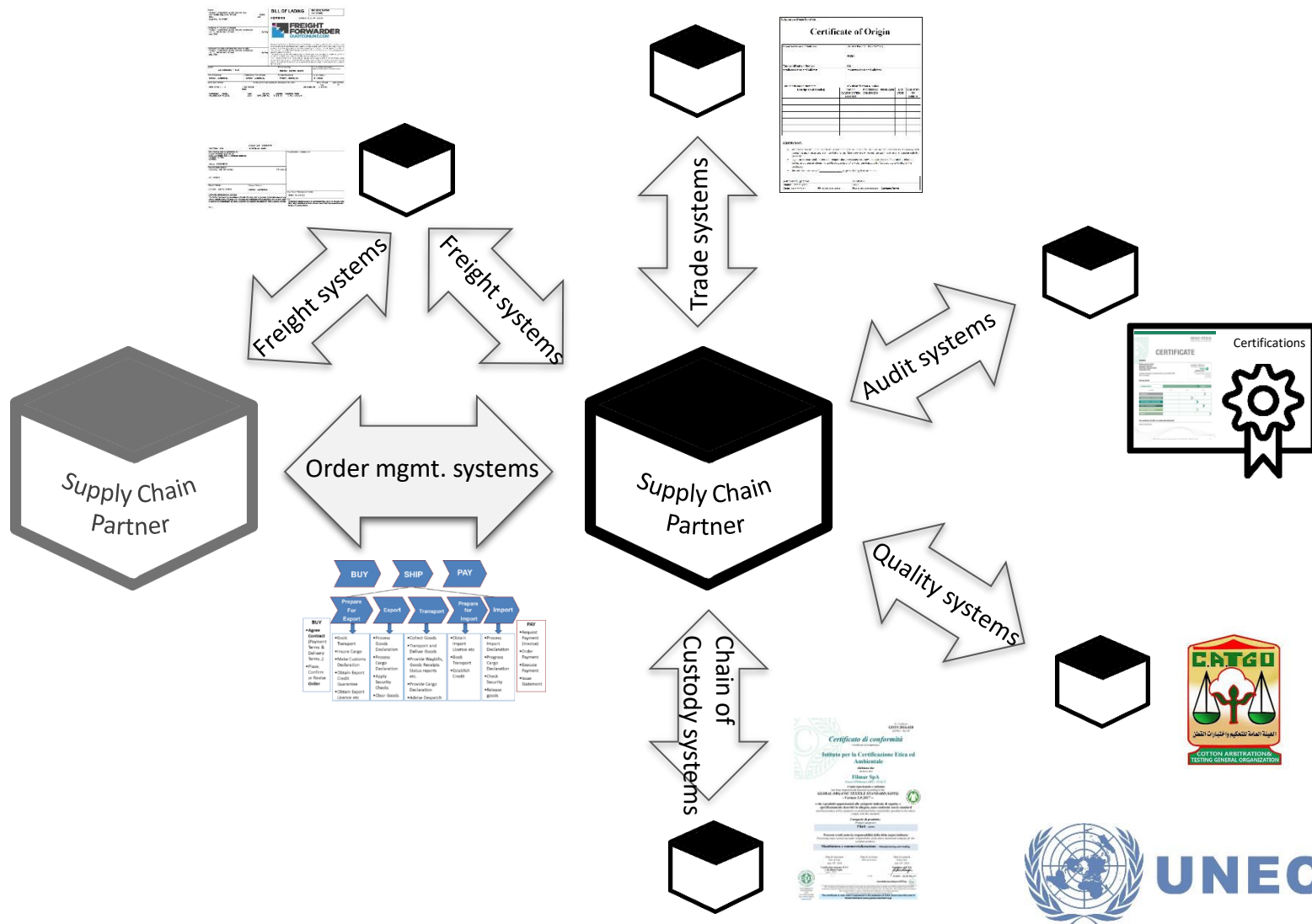
Procedures/Process according to ISO 9001 quality management system, ISO 14001 environmental management system and STeP by Oekotex

Benjamin Fuchs, Alba-Gruppe

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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 CEFACT, eBIZ, GS1, ….
☐ concept to minimize garbage in / garbage out
☐ designed as backbone system
☐ open source approach
☐ combination of various technologies

Freight systems

Trade systems

Audit systems

Quality systems

Chain of Custody systems

Order mgmt. systems

Supply Chain Partner

Supply Chain Partner

Certifications

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
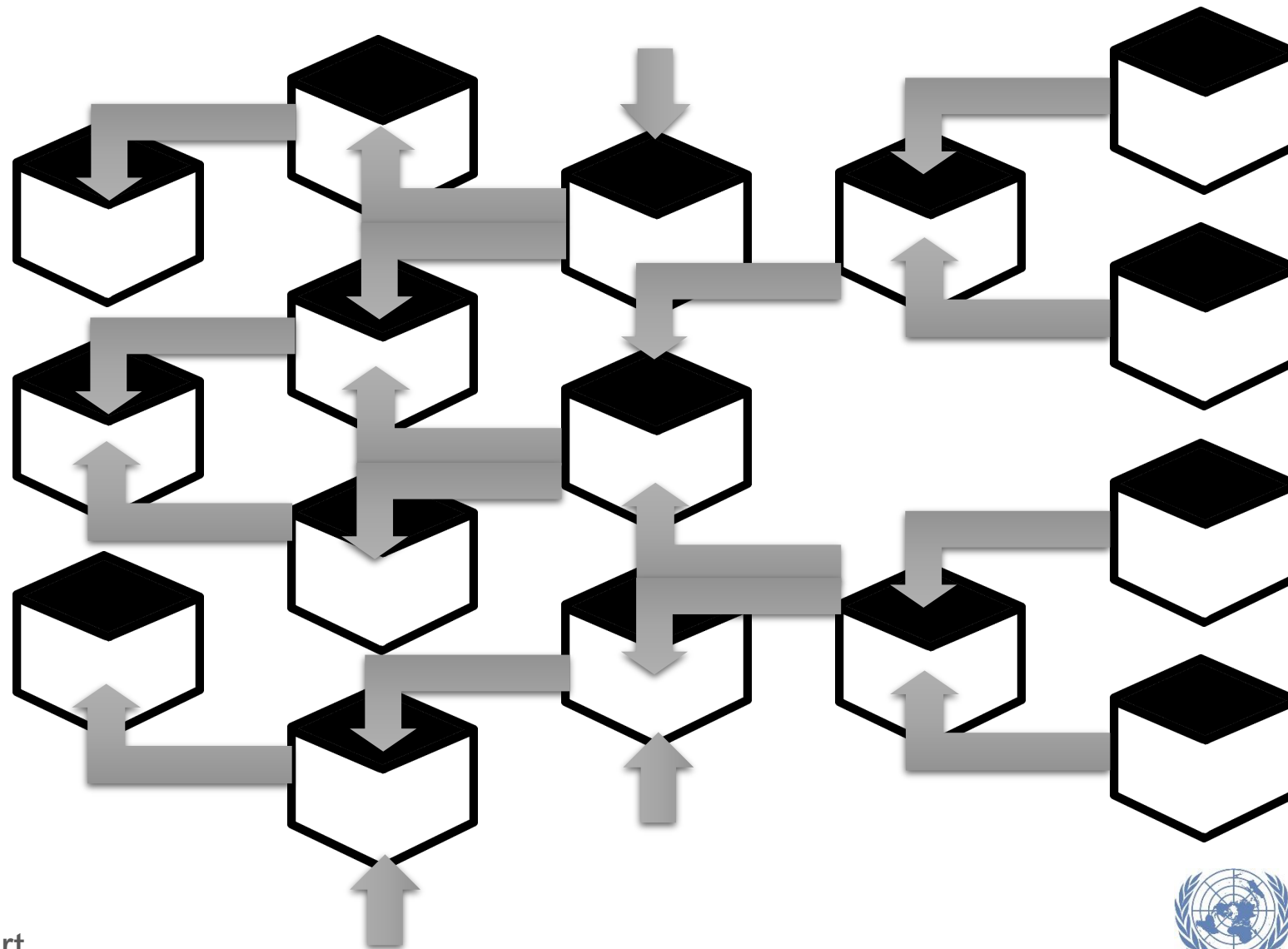
Blockchain concept part 2: dynamic supply chain execution
Smart contracts to trigger the correct supply chain visibility and automatize B2B information exchange

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 level of details can be disclosed
- ❑ Different versions of supply chains can exists (history or specific settings)
- ❑ Information is always up-to-date without performance issues for its visualization

Ø ZDHC

Haelixa

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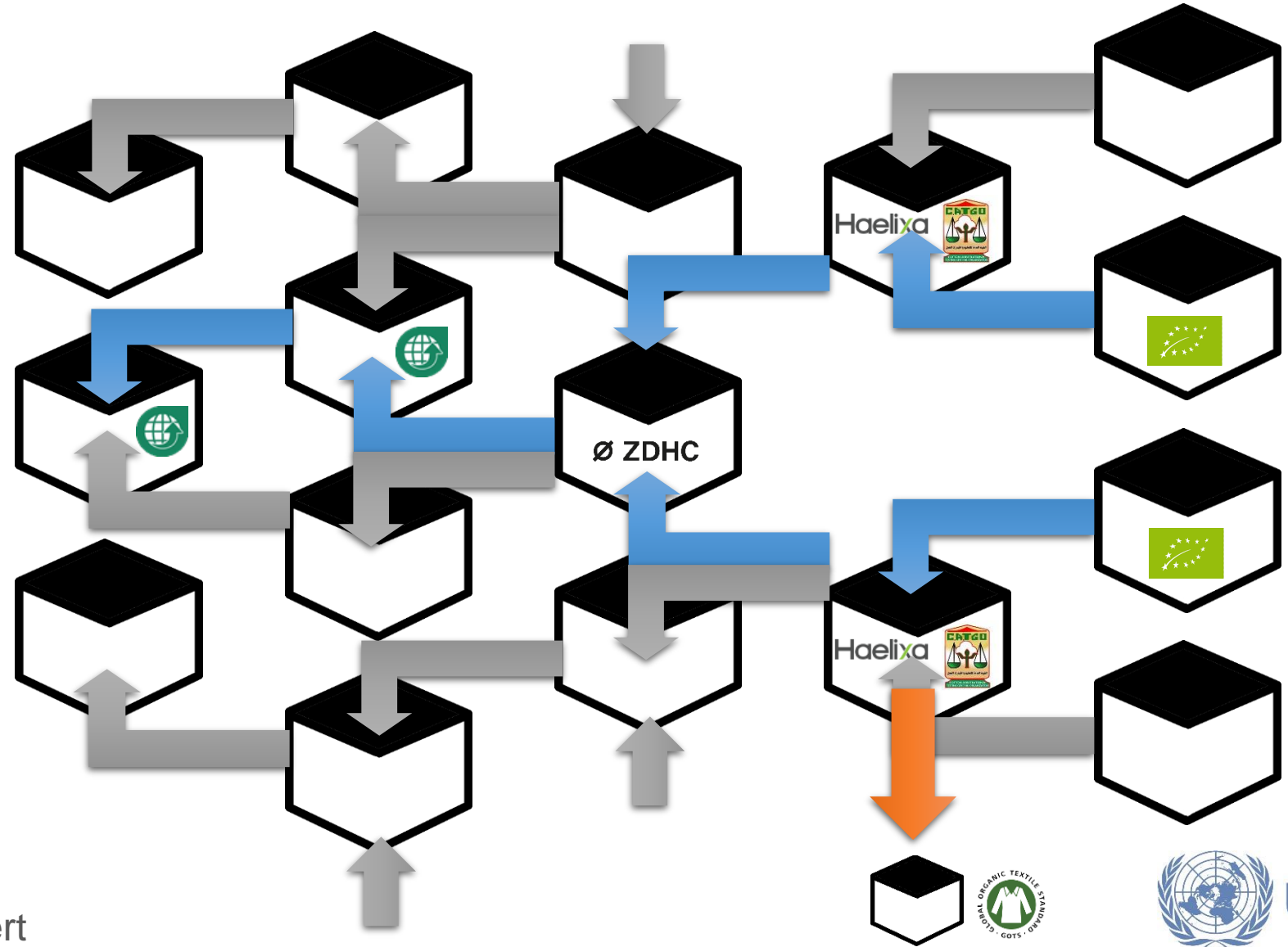
Implementing a blockchain technology for traceability and due diligence in the cotton value chain in support of a circular economy