Digital Innovations in Traceability

Webinar 1:
Blockchain: Myth vs. Relevance for the Textile Industry

20 July 2020

TextileExchange
Creating Material Change

Creating Transparent Supply Chain
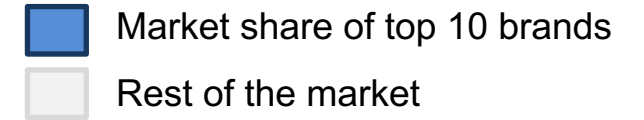
Amit Gautam

CEO & Founder
Textile Genesis

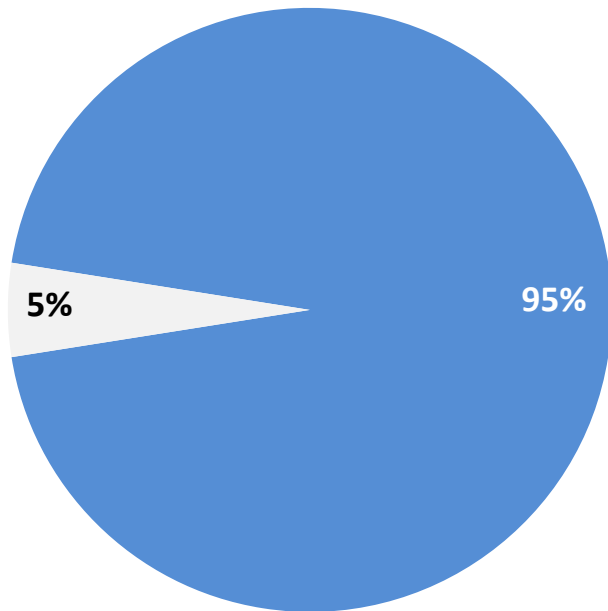# **Creating** transparent supply chains

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Blockchain basics and landscape

Industry fragmentation a key indicator of lack of transparency…

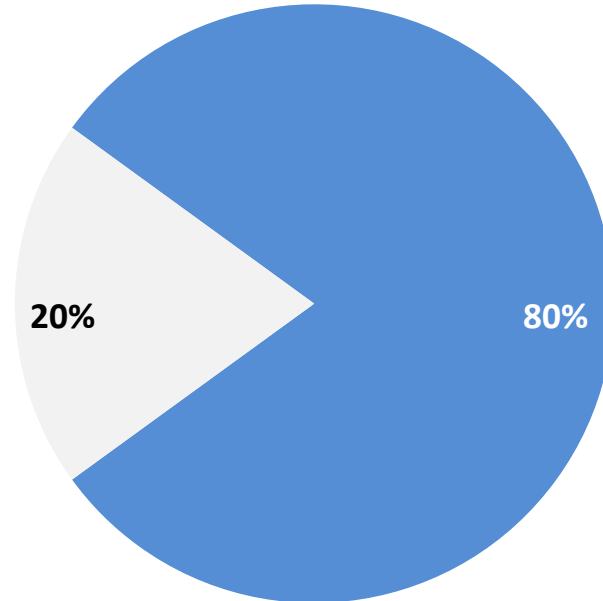**Global market share - top 10 brands vs. rest of the market**

■ Market share of top 10 brands
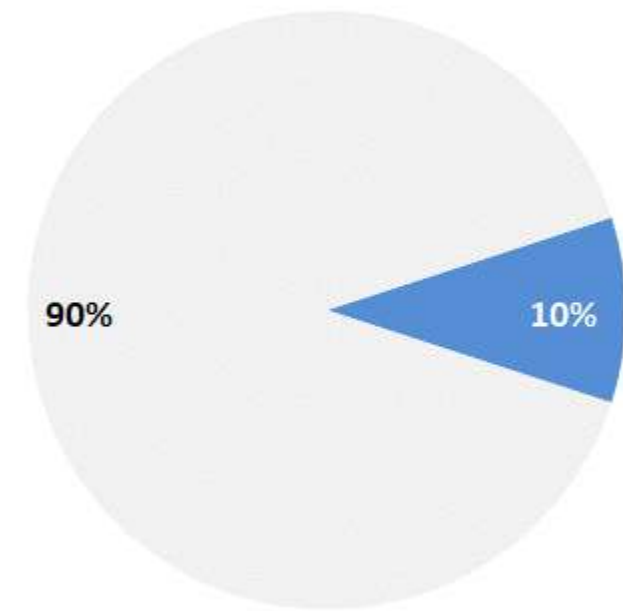□ Rest of the market

Consumer electronics

5% 95%

$ 1.2 trillion[1]

Automotive

20% 80%

$ 2.2 trillion[2]

Fashion/Textile

90% 10%

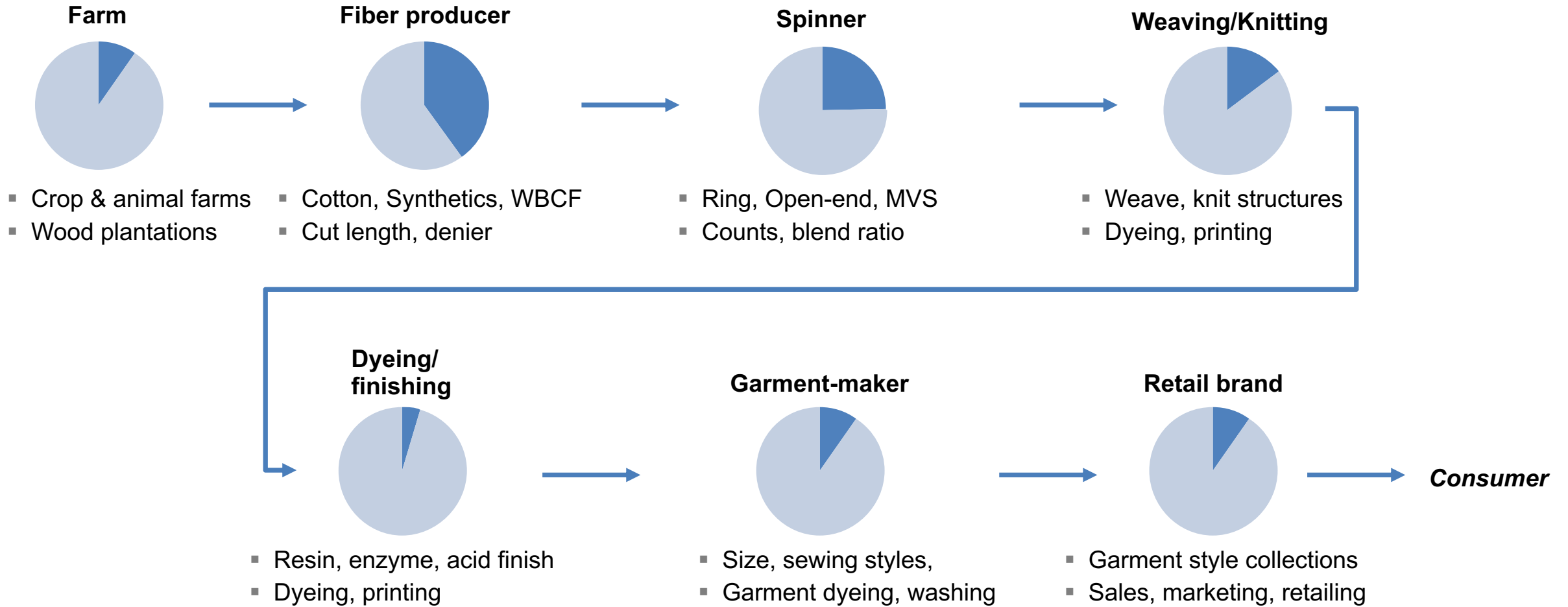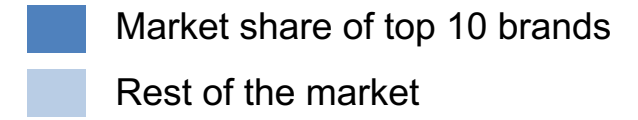**$ 2.4 trillion**[3]

1. Consumer Electronics market, Zion market research
2. International Organization of Motor Vehicle Manufacturers (OICA)
3. State of Fashion 2017, McKinsey and Business of Fashion

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Textile value chain is opaque to brands & retailers due to extremely long and complex value-chain

Farm

- Crop & animal farms
- Wood plantations

Fiber producer

- Cotton, Synthetics, WBCF
- Cut length, denier

Spinner

- Ring, Open-end, MVS
- Counts, blend ratio

Weaving/Knitting

- Weave, knit structures
- Dyeing, printing

Dyeing/ finishing

- Resin, enzyme, acid finish
- Dyeing, printing

Garment-maker

- Size, sewing styles,
- Garment dyeing, washing

Retail brand

- Garment style collections
- Sales, marketing, retailing

Consumer

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Blockchain technology can be used to address transparency

Why blockchain?

Description

Immutable database

- Designed for immutability to any alteration
- Transact in a secure, verifiable and transparent manner
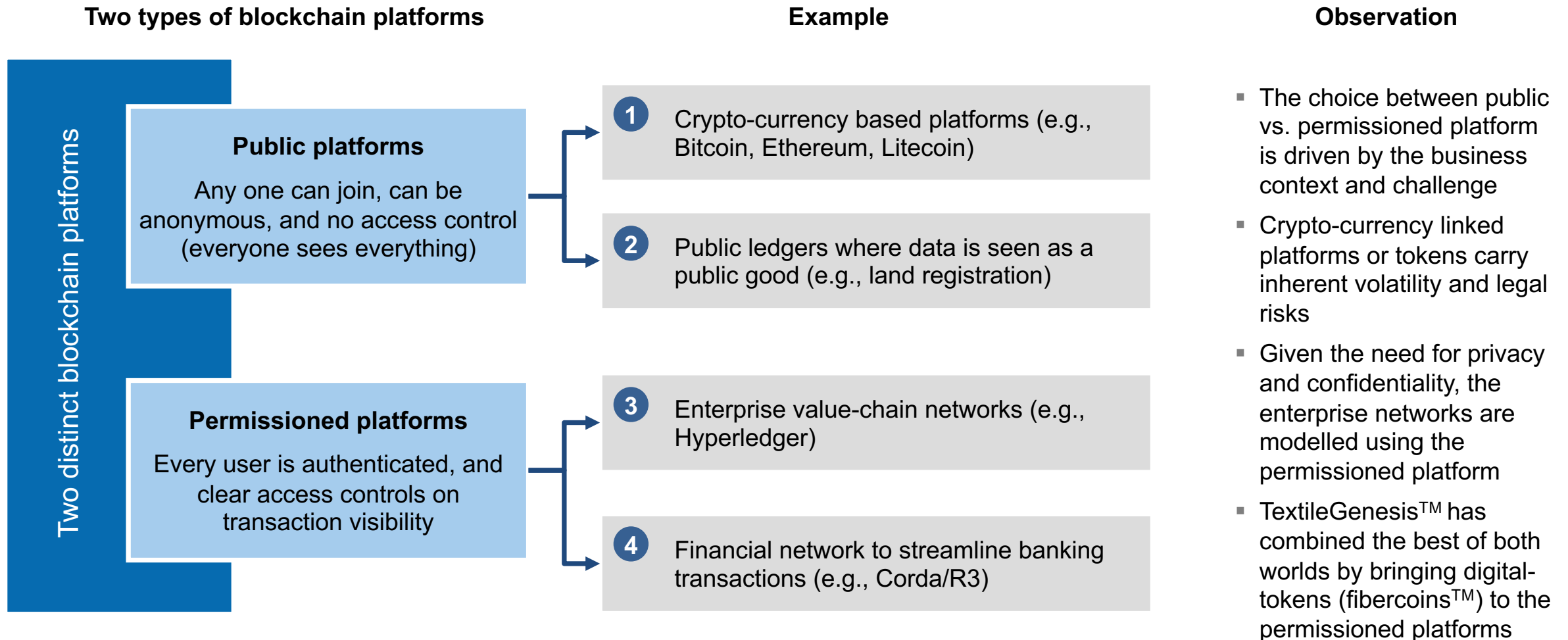
Designed for transactions mapping

- Transactions link through a chain of data blocks, resulting in chain-of-custody
- Secured multi-party platform across an industry value-chain

Digitizing assets

- Ability to digitize assets, using tokens/coins
- Creates new opportunities to unlock value (e.g., less counterfeiting, loyalty incentives)

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At the most fundamental level, blockchain platforms can be classified as public or permissioned networks

Two types of blockchain platforms

Example

Observation

Two distinct blockchain platforms

Public platforms

Any one can join, can be anonymous, and no access control (everyone sees everything)

1 Crypto-currency based platforms (e.g., Bitcoin, Ethereum, Litecoin)

2 Public ledgers where data is seen as a public good (e.g., land registration)

Permissioned platforms

Every user is authenticated, and clear access controls on transaction visibility

3 Enterprise value-chain networks (e.g., Hyperledger)

4 Financial network to streamline banking transactions (e.g., Corda/R3)

- The choice between public vs. permissioned platform is driven by the business context and challenge

- Crypto-currency linked platforms or tokens carry inherent volatility and legal risks

- Given the need for privacy and confidentiality, the enterprise networks are modelled using the permissioned platform

- TextileGenesis^{TM} has combined the best of both worlds by bringing digital-tokens (fibercoins^{TM}) to the permissioned platforms

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Two key traceability challenges that require urgent attention

Authentication of the finished apparel product itself

Digital chain of custody for sustainable fibers in the finished product

Focus of TextileGenesis™ technology

- 10-15% of branded fashion products are counterfeited (e.g., apparel, shoes, leather bag)

- Up to 30% of all sustainable textile fibers (e.g., organic or recycled fibers) could be fake

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A smart, blockchain-based, digital chain of custody should focus on five key design principles

Five metrics to measure success of a 'digital' chain of custody

① **Industry-wide engagement** with leading brands, fiber producers, certification standards, and textile suppliers is fundamental to success of any traceability system

② **High system integrity by linking digital with physical** through "tokenization" of fibers at the source of origin, integration with fiber verification technologies & random audits

③ **Easy to use & deploy** on two dimensions: low training & IT requirements to on-board supply chain partners, and B2B transactions through data upload (instead of manual inputs)

④ **Inter-operability**: ability of the platform to listen & communicate with other external systems such as fabric certification systems, CDS of Textile Exchange

⑤ **Flexibility to model broad supply chains** such as cellulosic fibers, recycled polyester, and wool; and **ability to offer transparency layer** (mobile) for consumer engagement
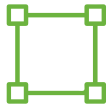
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Role of Sustainability Standards

Evonne Tan

Data Management & China Strategy Director
Textile Exchange

The Role of Sustainability Standards
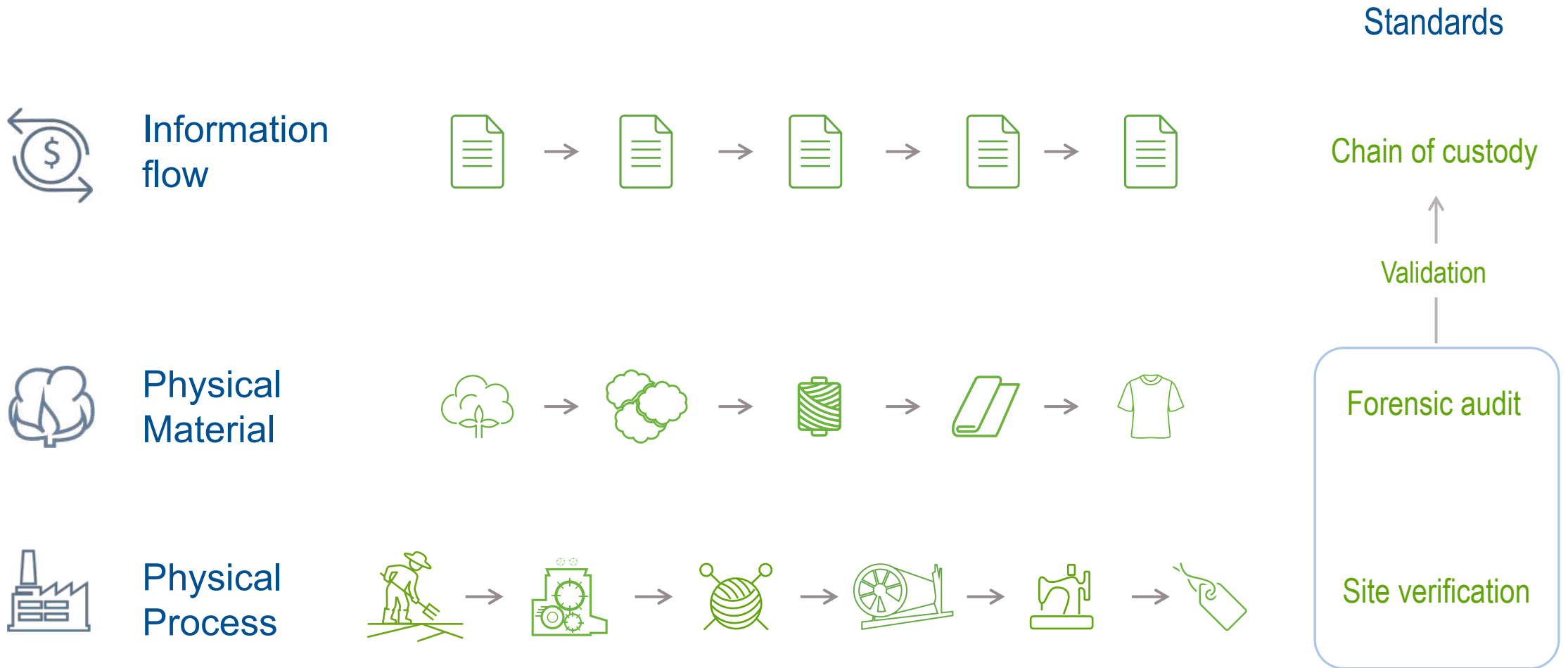
TC vs Digital Chain of Custody

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	TC Chain of Custody	Digital Chain of Custody
Scope	TC → Shipment→ Product → Certified Weight	Product → Certified Weight
Evidence	Transaction certificate	Digital asset
Checking	CB manual	System
Verification	CB manual	CB risk based
Data flow	CE → CB → TE	CE → TE → CB

Expect:

✓ Faster

✓ More accurate

✓ Cheaper

Question:

Fit with our standards?

Is it scalable?

Textile Exchange - Textile Genesis Collaboration

In October 2019, Textile Exchange and Textile Genesis entered a collaborative arrangement to explore the use of Textile Exchange's chain of custody on Textile Genesis' traceability platform. The objectives of this project are to:

- Pilot the use of Textile Exchange's standards on TextileGenesis' traceability platform.

- Assess the fit of a digital traceability solution for Textile Exchange's chain of custody.

- Develop a white paper on the gaps and opportunities Textile Exchange's standards.

Coming Next

Transparency: How it is Re-shaping the Textile Value Chain

August 5 @ 10AM EST | 4PM CEST

Textile Exchange and TextileGenesis® Collaboration

September 2 @ 10AM EST | 4PM CEST

Thank you

TextileExchange.org