We will begin shortly
SID EVENT
Building back better post COVID: Unlocking the potential of advanced technologies for circular and sustainable value chains in the garment and footwear sector

PROGRAMME

12:15-12:20 Opening and welcome remarks
12:20-12:30 Setting the scene
12:30-13:00 Roundtable discussion
13:00-13:30 Deep dive: Cotton Blockchain Pilot
13:30-13:45 Q&A session, wrap-up and closing
Building back better post COVID: Unlocking the potential of advanced technologies for circular and sustainable value chains in the garment and footwear sector - 16th March 2021 (12:15-13:45 CET)
Guiding Questions

1. **Supporting instruments:** What role can innovation and new technologies play in transitioning to more sustainable and circular value chains as part of the industry’s post-COVID recovery?

2. **The role of policy makers:** How can policy makers help the industry to take action while ensuring inclusivity for SMEs and small-scale producers in emerging economies?

3. **The challenges for scalability and RBC/decent work in G&F:** What are the challenges to finding scalable solutions and how can they be addressed? How do we ensure solutions support responsible business conduct and decent work throughout the industry’s complex and fragmented value chains?
Garment value chains

A huge sector
• 80 billion garment pieces
• 3 trillion € annual revenue
• 60 to 75 million people (majority women) with direct jobs

Global, complex, and opaque value chains
• 85% of companies have limited visibility into their supplier certifications (Bain & Company, 2020)
• 34% of companies track and trace their value chain and majority of these only reach tier 1 (UNECE, 2019)
• 90% of the cotton marked as Egyptian cotton is not produced in Egypt (Cotton Egyptian Association, 2016)

Consumers
• Increasingly demand sustainable products that respect workers’ rights, the environment and that are safe especially in the EU - as shown by their purchasing patterns and consumer surveys

Civil Society
• Increasing number and strength of NGOs, standards organizations, demanding transparency, traceability, and decent work, e.g. Clean Clothes Campaign, Fashion Revolution Transparency Index, etc.

Environment, social and health risks
• CO2 emissions from textile similar to automobile industry (Ellen MacArthur, 2020)
• 9/10 women in garment factories earning less than a living wage (ILO, 2019)
• 20% of cotton traded comes from regions that exploit forced labor (Financial Times, 2020)
• 8% of dermatological diseases caused by chemicals in clothing (Tessile & Salute 2018)

Businesses
• Legal and compliance obligations across multiple jurisdiction
• Limit negative publicity coming from accidents and non-compliance
• Respond to consumer demand – “Sustainable Brand”
• Must contain costs and increase efficiencies to remain competitive in particular during current global economic downturn
• Business sector initiatives such as the Fashion Pact, Social and Labor Convergence Program, and the Initiative for Compliance and Sustainability, among others
Scalable solutions for advancing private sector development in emerging markets require a holistic intervention

**Government**: to create an enabling environment and incentives

**Sector & Civil Society**: to advance best practices; to catalyze and facilitate the “adoption curve”

**Companies**: to support individual investments and to create a demonstration effect

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**Challenges in the cotton / textile sector in Uzbekistan:**

Transitioning from a government-run cotton production and ginning system to creating opportunities for the private sector to bring in solutions and to invest in it

Strengthening and capacity building of industry associations. Bringing in international standards to support and incentivize the adoption of best practices along the value chain.

Creating a strong local civil society and worker-driven decent work improvement mechanisms to facilitate the adoption of socially responsible and environmentally sustainable practices

Identifying, localizing and implementing financially, socially and environmentally sustainable solutions.
How do we ensure solutions support responsible business conduct and decent work throughout the industry’s complex and fragmented value chains?

Inputs, Technology, Know-how

Key to increasing sustainability, efficiency, profitability and to improving working conditions.

Technology and digital solutions are becoming critical to scaling up the adoption of best practices, soil conservational practices, water saving technologies, to minimizing negative impacts on environments, encouraging better farm management practices, farmer access to finance and to making farming a better workplace.

Ginning, Textile and Garment Companies

Digital transformation in production, performance management, safety management, quality management, decent work improvements and standards implementation and in traceability systems.

Brands

Setting standards

Determining demand

Responsible supplier development / management systems

Digital solutions and advanced technologies

Inputs, Technology, Know-how

Training and capacity building

Documenting practices and implementing continuous performance improvement systems

Grievance mechanisms

Assurance & traceability systems

Measuring and monitoring environmental impact

Training and capacity building
Fashion industry: a complex and fragmented ecosystem

Pilot #1 - Implementing a blockchain technology for traceability and due diligence in the cotton value chain in support of a circular economy

SIMPLIFIED MODEL, CIRCULARITY NOT CONSIDERED
Transparency and traceability – challenges and benefits

Pilot #1 - Implementing a blockchain technology for traceability and due diligence in the cotton value chain in support of a circular economy

Challenges:
- Centralized database
- Data silos
- Fraud
- Uncertainty
- Paper record
- Unfair value

Benefits:
- Distributed
- Immutable
- Interoperability
- Encryption
- Tracking
- Automation & smart contracts
- Tokens ecosystem
- Security
- Proof
- Inclusion
- Transparency
- Traceability
- Disintermediation
- Ecosystem

Blockchain Ecosystem
The Pilot Project – The blockchain pilot’s main deliverables

1. Proof of Concept (PoC) for a transparency and traceability blockchain-based system
2. Solution to disclose sustainability claims of all supply chain partners for textile and leather products
3. Brands, manufacturers, farmers and certifiers to test a blockchain-based system

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**STAKEHOLDERS QUESTIONNAIRE**

- **SCOPE DEFINITION**
- **USER STORIES & “FIL ROUGE”**
- **SUSTAINABILITY CLAIMS**
- **BUSINESS & TECHNICAL REQUIREMENTS**
- **LEGAL VALIDATION**
- **SOLUTION DESIGN**

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**UNECE Policy Recommendation**
- Implementation guidelines
- Call to Action

**Business Process Analysis**
- Business Requirements Specifications and Data Model
- Information exchange standard

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Pilot Concept to be implemented
Milestones

Pilot #1 - Implementing a blockchain technology for traceability and due diligence in the cotton value chain in support of a circular economy

COTTON VALUE CHAIN PILOT

Timeline

2020

- Jan: Pilot Project Setup
- Mar: Requirements Business & Technical
- May: Procurement
- Mar: Alignment with 1. Egyptian Cotton Project 2. Other Value Chain

2021

- May: Pilot Run
- Apr: Trainings & Go Live
- Mar: Testing w. users
- Oct: Development & Infrastructure
- Mar: Capacity Building
Pilot #1 - Implementing a blockchain technology for traceability and due diligence in the cotton value chain in support of a circular economy

UNECE-UN/CEFACT & Partners
- 22 pilot experts
- 2 brands
- 4 manufacturers/1 farmers’ association
- 4 certification bodies
- 2 academia/think tank
- 1 DNA tracer

5 countries
- Egypt
- Germany
- Switzerland
- Italy
- UK
Blockchain features and functionalities

Pilot #1 - Implementing a blockchain technology for traceability and due diligence in the cotton value chain in support of a circular economy

Full transparency of the solution

Open-source methodologies

Ethereum Blockchain Platform
Public and permission-less

On- and Off-chain data and transaction

Manual data entry

Immutable blockchain

Privacy and Confidentiality by design

Scuola universitaria professionale della Svizzera italiana
Dipartimento tecnologie innovative
Istituto sistemi informativi e networking

SUPSI
Standard Cotton Value Chain and Scope

Pilot #1 - Implementing a blockchain technology for traceability and due diligence in the cotton value chain in support of a circular economy

1. Planting and cultivation of cotton
2. Cotton harvest identification & transfer from farmer to ginner
3. Ginning & transfer to spinner
4. Spinning & transfer to dyer, bleacher, washer
5. Dyeing, bleaching, washing & transfer to weaver
6. Weaving and transfer to fabric finisher
7. Garment or product production & transfer to enoblement
8. Product Enoblement & packaging and transfer to “retailer”
9. Placement of product in stores or on-line for sale
10. Consumption and disposal
11. Post consumption recycling

Material Value Chains
- American cotton
- Egyptian cotton
- Recycled denim

Set of claims
- Origin
- Fibre content
- Chemical use
- Due Diligence (Social/Environmental)

Services
- Blockchain-based solution
- Physical tracers
- Certification bodies
- Academia, Think-tanks
Blockchain technology in the Cotton Value Chain
Vivienne Westwood initial testing and outcomes

OVERALL AIM:
“FIELD-TO-SHELF” TRACING AND MAPPING

MAIN SUSTAINABILITY HOTSPOTS:
| ETHICAL/SOCIAL | MANUFACTURING |
| ENVIRONMENTAL | DYING WASTE |
| SUPPLY OF THE RAW MATERIAL | WATER USE |
| PHASES AND PROCESSES OF PRODUCTION | ENERGY EFFICIENCY OF EQUIPMENT/MACHINERY |
| TRANSPORT | HAZARDOUS CHEMICALS AND TOXICS |

SUPPLY CHAIN BREAKDOWN:
- TIER 1 MANUFACTURING & ASSEMBLING
- TIER 2 FABRIC MANUFACTURER
- TIER 3 RAW MATERIAL PROCESSING
- TIER 4 RAW MATERIAL FARMING & EXTRACTION

EXAMINED PARAMETERS:
- ROLE OF IDENTIFIED COMPANY
- MATERIAL COMPOSITION (Raw Material Type, Material Attributes Description)
- YARN/FIBER/FABRIC CHARACTERISTICS
- PRODUCT (Type, Purpose, Quantity, Quality, Identification)
- STANDARD
- CERTIFICATE
- SUSTAINABLE PRACTICES (Initiatives, Approaches, Methodologies)
- LOCATION OF COMPANY
- LOCATION OF PRODUCTION FACILITY
- TRANSPORT

SS21
5 FABRIC SUPPLY CHAINS COVERED UP TO TIER 4
- 1 DRY-RUN TEST WITH REAL CASE COMPLETED
- 1 ADDITIONAL COTTON PRODUCT EXAMPLE IN PROGRESS
Blockchain technology in the Cotton Value Chain

Vivienne Westwood initial testing and outcomes

- Higher level of supplier engagement
- Brand requests
- Claim identification
- Documents collection
  - Commercial docs
  - 3rd-party certificates
  - Supplier certificates
Tracing technology providing an undeniable proof of origin and integrity.
Forensic level detection to substantiate your product claims
Substantiating Sustainability Claims

Sustainability Information

Has to Be Supported by Data

To Verify the Claims

Initiative on Substantiating Green Claims

EU Circular Economy Action Plan

New Consumer Agenda

EU Green Deal

Companies

Need of Guidelines on Claims

Consumers

Need of Access to Information

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Need of Access to Information
Data Sharing along Value Chain Actors

What Data Are Shared

How Data Are Acquired

How Data Can Be Used

How Data Are Shared

Business Data

Personal Data

Trade Off Between Information Transparency and Data Privacy

Privacy by Design Solution
Informal Actors and Other Vulnerable Groups

Due Diligence Process

Inclusion of All Actors

Human Rights by Design Solution