Introduce yourself (name, job title, organization and country) in the chat section.

Only the presenter and facilitator will speak. Any comments or questions from attendees should be typed in the chat section.

Please kindly keep your microphone muted and cameras off during the discussion.

NOTE:
If you are having technical issues, please join the Chemicals in Products WhatsApp group, using this link, and we will assist you:

https://chat.whatsapp.com/DVwGix7x04d1Q9bSusaJcr

Discussion 2:

Topic: “Traceability tools across supply chains”

Date: 12 May 2022

■ Time: 14:00 – 15:30 (GMT+2)

■ Presenter: Virginia Cram-Martos (UNECE), Lorenzo Zullo (ChemChain) & Deborah Taylor (UNECE)

■ Facilitator: Andrea Rother, University of Cape Town
What type of organization do you represent? (Select all that apply)

- National Government: 0
- Local Government/authority: 0
- Academic institution: 3
- Health care institution: 0
- Poison centre: 0
- Professional association: 0
- Civil society non-profit organization: 1
- Intergovernmental organization (IGO): 0
- Industry: 0
- Laboratory (commercial or government): 0
- Laboratory accreditation organization: 0
- Other (please specify in chat): 0
Chemicals in Products Community of Practice

Discussion 2: “Traceability tools across supply chains”

Presenters:

Virginia Cram-Martos, UNECE Project Expert

Lorenzo Zullo, CEO & co-founder ChemChain

Deborah Taylor, UNECE Project Expert
Traceability tools across supply chains
Background to Question 1

Secretariat of the Strategic Approach to Chemicals Management (SAICM) and the University of Cape Town (UCT) - Community of Practice (CoP) on Chemicals in Products - 12th May 2022

Virginia Cram-Martos, UNECE Project Expert
Definitions
Enhancing Traceability and Transparency of Sustainable Value Chains in the Garment and Footwear Industry

Traceability
the ability to trace the history, application or location of an object
“...the conditions in which they were produced through the supply chain” (OECD, 2018)

Transparency
“...relevant information being made available for all elements of the value chain in a harmonized way.... which allows for common understanding, accessibility, clarity and comparison” (EU, 217)

UNECE Recommendation No. 46: Enhancing Traceability and Transparency of Sustainable Value Chains in the Garment and Footwear Sector:
https://unece.org/sites/default/files/2021-04/ECE_TRADE_C_CEFAC 2021_10E_Re c46-Textile_0.pdf

United for greater traceability, transparency and circularity in the garment and footwear sector
Drivers for Traceability and Transparency
Enhancing Traceability and Transparency of Sustainable Value Chains in the Garment and Footwear Industry

### Drivers, Actors, and Enablers

<table>
<thead>
<tr>
<th>Social forces</th>
<th>Market forces</th>
<th>Regulatory forces</th>
<th>Technological forces</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Plays an increasing role in demanding greater scrutiny of private sector actors and in driving demand for more sustainable products</td>
<td>• Ready to pay a premium for products with greater transparency</td>
<td>• Aware of reputational risk</td>
<td>• Increasingly shifting their portfolios towards ESG investments</td>
</tr>
<tr>
<td></td>
<td>• Will boycott/punish products and investors with opaque credentials</td>
<td>• Strive to be ahead of regulation to reduce compliance risk</td>
<td>• Wary of exposure to planetary boundaries and stranded assets</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Sees opportunity in demand growth for sustainable products</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5. Law makers</th>
<th>6. Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Responding to civil society demand for greater transparency and traceability</td>
<td>• New digital and physical technological innovation reduce barriers and costs</td>
</tr>
</tbody>
</table>

### UNECE toolbox
- Policy Model
- Business & Data Model
- Technology Model

United for greater traceability, transparency and circularity in the garment and footwear sector
The UNECE Framework Initiative - Toolbox

**Policy**
- Policy Recommendation No.46
- Call to Action – The Sustainability Pledge
- Policy Brief – The blockchain technology for due diligence and sustainability in cotton VCs

**Standard**
- Business Process Analysis for Leather & Textile
- Business Requirements Specification, Processes, Part I. Use cases, Part II

**Guidelines and Studies**
- Mapping of policies, regulations and guidelines
- Mapping of Sector Ecosystem

United for greater traceability, transparency and circularity in the garment and footwear sector
Creating Traceability and Transparency

Step 1: Identifiers (IDs)

IDs form the “chain” that links material flows across a supply chain in order to create traceability.

Tracing back IDs to the Raw Cotton:
- H-F-E-C-B1-A1 or H-F-E-C-B2-A2
- H-F-E-D-L3-K3 or H-F-E-D-M4-N4

United for greater traceability, transparency and circularity in the garment and footwear sector.
Creating Traceability and Transparency

Step 2: Events

- Traceability is created around Events and their 5 questions (5Ws)
- Events are those activities where data are collected
- Traceability systems usually collect, for each event, data for the 5Ws
Creating Traceability and Transparency

Step 3: Linking Event IDs to Sustainability Data

So How Do Events and IDs Create Transparency?
The IDs for the 5Ws can have additional information saved, and requested, about them

For example:
- An organic cotton certificate linked to a cotton batch ID
- A factory audit or inspection report linked to a facility ID
- The chemical treatment of an agricultural area linked to a location ID

Events + IDs = Data about

Linked data about
- Certifications
- Processes
- Sustainability
- Facilities
- Inspections
1. Sustainability-related information

- Origin/Location
- Economic Operator
- Composition/Specification
- Input/Output

Environment
- Input
  - Chemical/Pesticides
  - Water
  - Energy
  - CO2
  - Soil
  - Air
  - Thermic
  - Noise
  - Biodiversity
  - Deforestation
  - Habitat
  - Waste/End-of-life
  - Animal Welfare

Social
- Child Labour
- Forced Labour
- Land Use
- Work & Social protection
- Trade Unions & Collective bargaining
- Sexual harassment
- Gender inequality
- Discrimination
- Homeworkers

Governance
- Permits
- Contracts
- Compliance to legislation/regulations

- Management
- Administration
- Quality
- Inspections/Certificates

- Health
- Safety

2. Scope covered

End-to-end value chain
- 1. Raw material production
- 2. Manufacturing
- 3. Branding
- 4. Consumption
- 5. Post-Consumption

United for greater traceability, transparency and circularity in the garment and footwear sector
Question 1:

What is the role of traceability to support sustainability in the production and use of chemicals in supply chains?

This question will be discussed for 20 minutes. Please use chat only, mute your microphone, and turn your video off. Thank you!

NOTE:
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Are there policies and legislations in place in your country that support traceability of chemicals in supply chains?

- Yes: 11
- No: 4
- Not sure: 5
Are you currently using any traceability systems / frameworks to verify claims about chemicals use in products?

<table>
<thead>
<tr>
<th>Response</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, which one?</td>
<td>7</td>
</tr>
<tr>
<td>No</td>
<td>1</td>
</tr>
<tr>
<td>Not sure</td>
<td>8</td>
</tr>
</tbody>
</table>
Digital Product Passport

An opportunity to improve and exploit information on chemicals in products

Lorenzo Zullo, CEO and co-founder ChemChain

12 May 2022
ChemChain: startup founded in 2020
50+ years of combined industry experience

- Regulatory / Industry outreach
- Supply chain management
- Deep Tech
- Enterprise IT Sales / EU funds

Lorenzo Zullo
CEO and co-founder

Luca Mohammadi
COO and co-founder

Francesco Vannini
CTO and co-founder

Sorina Iuga
CBD and co-founder

Supporter by

NIA
Eurometaux
Fecc
G4Nano
Information on chemicals in products enables sustainability and circularity

Valuable information:
- Raw materials sourcing
- Recycling opportunities
- Safe handling

Main problems:
- Scattered information
- Information access and trust over entire life
Digital Product Passport: an upcoming industry requirement

Initially targeted sector:
- Textile
- Furniture
- Construction
- Electronics

EU goal: Sustainability & Circularity
ChemChain Solution

Cross-industry platform to create and share digital product passports

PRODUCT PASSPORT

Product Name
Food container
Product Code
BHD001
Product ID
202011234567890123115991231

Product page
Public information
Composition
Sustainability
Maintenance & Repair
After Life
ChemChain solution (Digital Product Passports)
A company can create DPP of his product embedding DPPs of the materials/components received from the supplier.
Completed industry pilots

Enabling recovering of polyurethane from mattress

Enabling regeneration of power plants heat-transfer fluids

Enabling recycling of polyamide fibers in sportswear

Enabling palm oil traceability in hand dish products
Where we stand

- Concept
- Interviews chemical industry
- EU Commission 50k grant
- Prototype released
- Industry pilots
- Fit4Start Accelerator
- Definition of the commercial application
CHEMCHAIN

Contact us at: hello@chemcha.in
Question 2:

Do you think the use and transfer of information on chemicals in products along the value chain via Digital Product Passports is an opportunity to reach sustainability and circularity?

This question will be discussed for 20 minutes.
Please use chat only, mute your microphone, and turn your video off.
Thank you!

NOTE:
If you are having technical issues, please join the Chemicals in Products WhatsApp group, using this link, and we will assist you: https://chat.whatsapp.com/DVwGix7x04d1Q9b5usaJcr
Do you think every product in the future will have to come with its own digital product passport?

- Yes, all products should have a DPP: 13
- No, DPPs could be useful only for some products. Please specify which ones: 6
- No, digital product passports are not the solution to increase information on chemicals in products: 1
What is the main challenge in your view to implement digital product passports? (On a scale of 1 – 5)

- Standardization: 3.1
- Acceptance / additional burden by industry: 3.1
- Confidentiality: 3.1
- Infrastructure: 3.3
- Costs: 2.6
- Other (please specify in the chat): 1.5
Traceability tools across supply chains
Background to Question 3

Secretariat of the Strategic Approach to Chemicals Management (SAICM) and the University of Cape Town (UCT) - Community of Practice (CoP) on Chemicals in Products - 12\textsuperscript{th} May 2022

\textbf{Deborah Taylor, UNECE Project Expert – leather value chain}
**Blockchain Pilots**

**Cotton Pilot**
- Cooperatives/farms/traders: 2
- Manufacturers/suppliers: 4
- Brands/Retailers: 2
- Standard-setting bodies: 4
- Academia-think tanks/Plat.: 1
- DNA marker provider: 3

**UNECE Pilot Leadership**
- > 60 Pilot partners
- End-to-end VC traceability
- 18 Countries in Africa, Asia, Europe, North and South America

**Leather Pilot**
- Raw Material prov./traders: 4
- Manufacturers/suppliers: 4
- Brands/Retailers: 5
- Certification bodies: 2
- Industry associations: 4
- Ceramic marker provider: 1
- NGOs: 1
- IOs: 1
- R&D and testing centre: 1

**UNECE Traceability & Transparency Blockchain Pilot**
- Username: Username
- Password: Password
- Login

United for greater traceability, transparency and circularity in the garment and footwear sector
Cotton Value Chain: Scope

1. Selection of Sustainability Claims

- Origin
- Fibre content
- Use of chemicals
- Social and environmental performance

2. Type of evidences to substantiate the claims

<table>
<thead>
<tr>
<th>TRACEABILITY EVIDENCES</th>
<th>TRANSPARENCY EVIDENCES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shipping notes</td>
<td>Certificates</td>
</tr>
<tr>
<td>Commercial invoices</td>
<td>Audit/Inspection reports</td>
</tr>
<tr>
<td>Delivery notes</td>
<td>Laboratory test results reports</td>
</tr>
<tr>
<td>Packing lists</td>
<td>NGOs / Civil Society Attestations</td>
</tr>
<tr>
<td>Transportation documents</td>
<td>Declarations</td>
</tr>
</tbody>
</table>

3. Phases tracked and traced with supporting documentary evidence

- Information not disclosed or entered in the blockchain platform
- Phases tracked
  - 1. Planting and cultivation of cotton
  - 2. Cotton harvest identification & transfer from farmer to ginner
  - 3. Ginning & transfer to spinner
  - 4. Spinning & transfer to dye, bleacher, waver
  - 5. Dyeing, bleaching, washing & transfer to weaver
  - 6. Weaving & transfer to fabric finisher
  - 7. Garment or product production & transfer to enabler
  - 8. Product enrolment & packaging and transfer to "retailer"
  - 9. Placement of product in stores or online for sale
  - 10. Consumption and disposal
  - 11. Post consumption recycling

Recycled denim
Organic cotton shirt

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SELECTION OF PRODUCTS AND CLAIMS TO BE TESTED

SLIM SHIRT
Season SS21

CLASSIC TAPERED JEANS
Season SS21

CLAIMS

- Traceability of Origin
- Organic Content
- Recycled Content
- Chemical Compliance
SELECTION OF PRODUCTS AND CLAIMS TO BE TESTED

**SLIM SHIRT**
Season SS21

“The material of this shirt is made of organic cotton sourced from USA and totally traceable in its value chain. This cotton yarn is organic, produced without the use of pesticides and harmful chemicals for health and the environment.”

**CLASSIC TAPERED JEANS**
Season SS21

“The fabric of this jeans is made of 65% regenerated cotton yarn coming from the pre-consumer waste of our Italian fabric supplier and 35% of virgin cotton sourced from Turkey. From the yarn up to the finishing of the denim material the processing steps avoid the use of harmful chemicals for the health and the environment.”
CASE 1: RECYCLED DENIM - CLAIM USE OF CHEMICALS

During the project, three OEKO-TEX Standard 100 Scope Certificates were collected to support the claim.

The green nodes of supply chain indicate the verification of upload and validity of certificates.
Recycled denim: use case overview

- 7 business partner
- 15 users
- From farmers (Turkey) to customers (UK)
Question 3:

Do we have case studies of proven technology solutions to support sustainability in the production and use of chemicals in supply chains?

This question will be discussed for 20 minutes. Please use chat only, mute your microphone, and turn your video off.

Thank you!

NOTE:
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Which technologies can support traceability of chemicals and chemical management?

- Blockchain
  - use of product ids that are unique and standardizes as well as classified

- Pollutant Release and Transfer Registers PRTR
  - Use of QR codes to be scanned with smartphones. The code should present a link which will eventually present substantial information

- Blockchain Technology
  - microdots

- Chemical Fact Sheet
Which technologies can support traceability of chemicals and chemical management?
What are the main challenges to adopting technology solutions for traceability? (Select all that apply)

1. Cost
2. Security of information
3. Standardization
4. Infrastructure
5. Other (please specify in the chat)
How will you use the information shared at this discussion?

- As food for additional discussion with members of our trade association.
- Share with colleagues
- Share with colleagues at work
- Guyana-to assist in raising awareness of traceability of chemicals in product in Guyana
- useful for policy making if the government have initiative
- I will the information to indicate new dimension leant...
THANK YOU
for attending the
Chemicals in Products CoP Discussion 2

SAVE THE DATE:
CiP CoP Discussion
Date: 15th June 2022
Topic: “Assessment of alternatives”

All resources and summaries of previous CiP CoP discussions are available at the following link:
https://saicmknowledge.org/topic/community-practice

This activity is supported by the Global Environment Facility (GEF) project ID: 9771 on Global Best Practices on Emerging Chemical Policy Issues of Concern under the Strategic Approach to International Chemicals Management (SAICM).