Enhancing Transparency and Traceability for Sustainable Value Chains in the Garment and Footwear Industry



Traceability for Sustainable Garment and Footwear

Wednesday, 28 April 13:30-16:00 CET



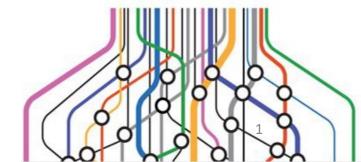
36th UN/CEFACT Forum

Agriculture, Fisheries and Agri-food Domain









Maria Teresa Pisani and project team

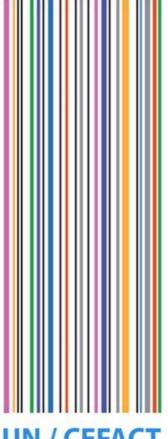


- I. Outcomes of the 27th session UN/CEFACT plenary and 69th ECE session 13:30-13:50
- **II.** Next steps 2021 and 2022 13:50 15:15
- a) Training plan, capacity-building
- b) The Sustainability pledge: communication actions, visual identity
- c) Business Process Analysis for textile and leather
- d) Business Requirement Specifications for textile and leather
 - Code Lists and Identifiers
 - XML messages
- e) Project's blockchain applications in cotton and leather
- IV. Q&A and wrap-up 15:15-15:30

Outcomes of the 27th session UN/CEFACT plenary and 69th ECE session

- Recommendation No. 46 Maria Teresa Pisani
- Call to Action Francesca Romana Rinaldi
- Executive Summary and Mapping Policy Developments on Traceability and Transparency – Claudia di Bernardino
- Policy Brief Harnessing the Potential of Blockchain Technology for Due Diligence and Sustainability in Cotton Value Chains - Olivia Chassot









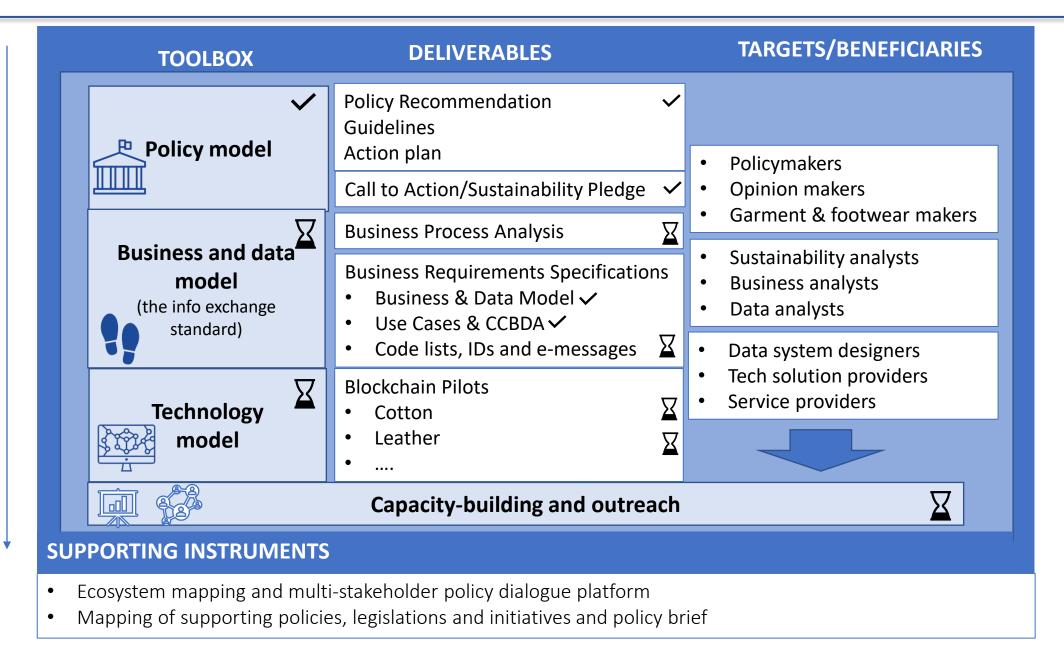


2019-2021

2020-2021

2020-2022

2021-2022





Outcomes of the 27th UN/CEFACT Plenary and 69th ECE Session



27th UN/CEFACT Plenary 19 April - 20 April 2021



69[™] SESSION OF THE COMMISSION

PROMOTING CIRCULAR ECONOMY AND SUSTAINABLE USE OF NATURAL RESOURCES IN THE UNECE REGION

20-21 APRIL 2021 | ROOM XVII | PALAIS DES NATIONS | GENEVA

UNECE 69th Commission Session 20 April - 21 April 2021

DOCUMENT TITLE AND DOCUMENT SYMBOL	Status
Recommendation No. 46: Enhancing Transparency and Traceability of Sustainable Value Chains in the Garment and Footwear Sector	Adopted*
Call to Action for Recommendation No. 46: Enhancing Transparency and Traceability of Sustainable Value Chains in the Garment and Footwear Sector	Endorsed*
Executive Summary for Policymakers : Enhancing Transparency and Traceability of Sustainable Value Chains in the Garment and Footwear Sector and Report on Policy Developments on Traceability and Transparency ECE/TRADE/C/CEFACT/2021/11 (EN) & ECE/TRADE/C/CEFACT/2021/INF.3 (EN)	For information
Policy Brief – Harnessing the Potential of Blockchain Technology for Due Diligence and Sustainability in Cotton Value Chains ECE/TRADE/C/CEFACT/2021/12 (EN)	For information



At the twenty-seventh UN/CEFACT Plenary UNECE Member States embraced a series of policy recommendations, implementation guidelines and an information exchange standard that together make it possible to assert and verify sustainability claims in the highly globalised garment and footwear sector.

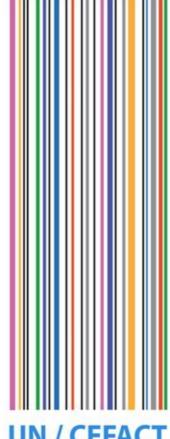
Olga Algayerova
Executive Secretary of UNECE

#UNECE4circularity UN/#CEFACT

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Invites all actors in the garment and footwear industry

Accelerates action for sustainable and circular value chains in garment and footwear

Establishes a mechanism to support the implementation of the measures laid out in the Recommendation No. 46



Private initiative

Public initiative

Public-private initiative

Civil society collaboration initiative

Foundation/ Association initiative



Call to Action: next steps

United Nations

ECE/TRADE/C/CEFACT/2020/6/Rev.1



Economic and Social Council

Distr.: General 11 March 2021 English

Original: English, French, Russian

Economic Commission for Europe

Executive Committee

Centre for Trade Facilitation and Electronic Business

Twenty-seventh session Geneva, 19-20 April 2021 Item 6 (b) of the provisional agenda Recommendations and standards: Deliverables in support of the circular economy

> Call to Action for Traceability, Transparency, Sustainability and Circularity of Value Chains in the Garment and Footwear Sector

Submitted by the UN/CEFACT Bureau

Summary

The sixty-ninth session of the United Nations Economic Commission for Europe (UNECE) will take place on 20-21 April 2021 at the Palais des Nations, in Geneva. The Executive Committee (EXCOM) has decided that the theme of the session will be: "Promoting circular economy and sustainable use of natural resources in the UNECE region" (EXCOM/CONCLU/109 and EXCOM Informal Document No. 2020/38). The United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT) and its secretariat have been requested to consider how to contribute to the cross-cutting theme of the UNECE session (ECE/TRADE/C/CEFACT/2020/INF.14 and ECE/TRADE/C/CEFACT/2020/INF.15). In light of this, and in connection with the ongoing UN/CEFACT project on traceability and transparency of sustainable value chains in the garment and footwear sector (ECE/TRADE/C/CEFACT/2020/INF.16), the twentysixth Plenary was asked to support a "Call to Action" (ECE/TRADE/C/CEFACT/2020/6) as a contribution of UN/CEFACT to the sixty-ninth session of UNECE (ECE/TRADE/C/CEFACT/2020/2 Plenary decision 20-07). This "Call to Action" invites all actors in the garment and footwear industry to take action for traceability and transparency in order to accelerate the sustainability and circularity of value chains in this industry, in line with the United Nations 2030 Agenda for Sustainable Development. The initiative aims to establish a mechanism to support the uptake of measures in the proposed UNECE Recommendation No. 46 (ECE/TRADE/C/CEFACT/2021/10 submitted for approval to the twenty-seventh session of the UN/CEFACT Plenary) as well as relevant UN/CEFACT standards, and to support the monitoring of their implementation.

Document ECE/TRADE/C/CEFACT/2020/6/Rev.1 is submitted by the UN/CEFACT Bureau and its secretariat to the twenty-seventh session of the UN/CEFACT Plenary for endorsement.

NEXT KEY DATES

By May 10th
Letter inviting
actors to submit
the Pledges

By September 10th Deadline to submit Pledges

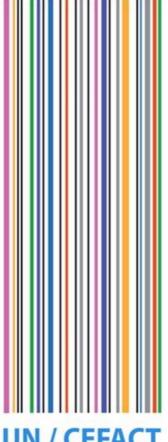
September 21st
Presentation of
Pledges



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Mapping of policies, regulations and guidelines – Desk research

From February 2020 **Until February 2021**

+ 100 Policies. Regulations, Guidelines Mapped



Publication of Mapping and Executive Summary for Policy Makers

Economic Commission for Europe Executive Committee

Centre for Trade Facilitati

Report – Enhancing Sustainability and Circularity of Value Chains in the Garment and Footwear Sector: Policy Developments on Traceability and Transparency

Document ECE/TRADE/C/CEFACT/2021/INF.3 is submitted by the secretariat to the twenty-seventh UNICEFACT Plenary for information.

ECE/TRADE/C/CEFACT/2021/11

English only

Economic Commission for Europe

Executive Committee

Centre for Trade Facilitation and Electronic Business

Twenty-seventh session Geneva, 19-20 April 2021 Item 6 (b) of the provisional agenda Recommendations and standards:

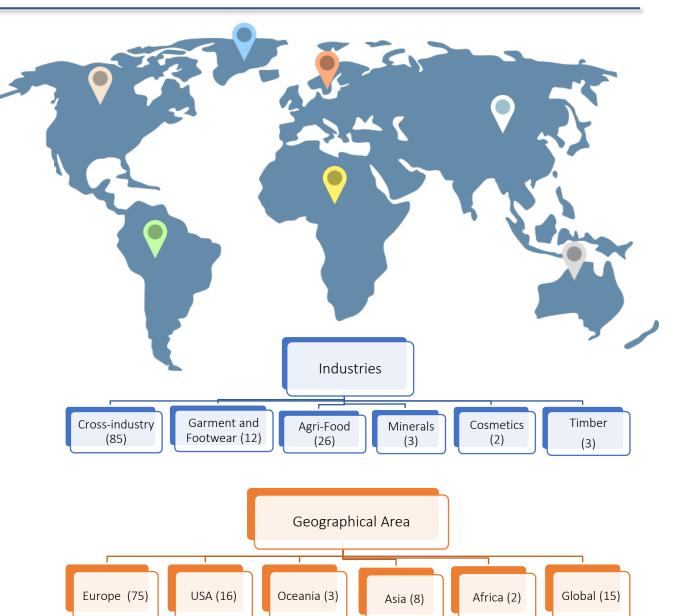
Executive Summary for Policy Makers – Enhancing Transparency and Traceability of Sustainable Value Chains

A mapping of policies, regulations and guidelines

consumption. They promote human rights, decent work and environmental sustainability as can help ensure health and wellbeing for all. In fact, the implementation of traceability at ransparence vsystems can efficiently address information asymmetry between producers as

guidelines for transparency and trace ECE/TRADE/C/CEFACT/2021/INF.3.

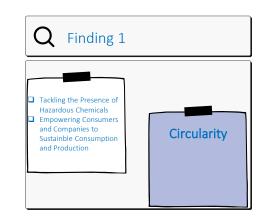
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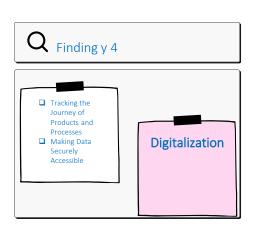




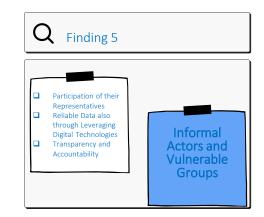
Mapping of policies, regulations and guidelines – Key findings

- 1 Circularity
- 2 Sustainability Claims
- 3 Due Diligence
- 4 Digitalization
- Informal Actors and Other Vulnerable Groups
- 6 Incentives

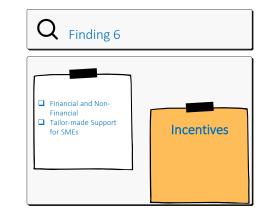










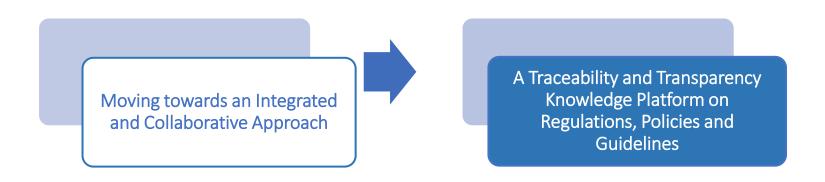


To Be Published

Report on Policy Developments on Traceability and Transparency



Mapping of policies, regulations and guidelines – Next steps



- Continuous Inputs from UNECE Experts
- ✓ Digital Mapping Update
- Open Stakeholders Forum
- Interactive Platform
- Reports on Policy and Regulatory Developments

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Policy Brief - Harnessing the Potential of Blockchain Technology for Due Diligence and Sustainability in Cotton Value Chains













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

- US cotton
- Egyptian cotton
- Recycled denim
-

PARTNER

- Producer
- Trader
- Supplier
- Retailer





HUGO BOSS



Services

- Blockchain-based solution
- Physical tracers
- Certification bodies
- Academia, Think-tanks

















Policy Brief - Harnessing the Potential of Blockchain Technology for Due Diligence and Sustainability in Cotton Value Chains

Preliminary considerations and recommendations on the way forward

Commitment and collaboration of all the stakeholders in the value chain is a requirement for traceability The benefits of digital technology can outweigh the costs for consumers, regulators, companies, investors

Ensuring interoperability with other evolving technologies (AI, IoT, machine learning, etc.) is key

Regulators and policy makers to spur a coordinated action for open source, inclusive solutions and capacity building for scaling up

Table 2

Benefits of a blockchain-based solution in support of traceability and due diligence

Stakeholders	Benefits	
Consumers	 Increased trust in sustainability claims for products and materials 	
Businesses	 Cost efficiency led by digital archiving, reduced auditing, facilitated documents sharing 	
	 Enhanced trust and communication with business partners and customers 	
	Immutable and trustworthy data storage with distributed access	
	 Interoperability with existing data management systems (based on APIs) 	
Investors, financial operators	Enhanced visibility and accountability for impact investment decisions	
Regulators	 Improved visibility/access to reliable information on compliance with policy and regulatory requirements for sustainability and due diligence 	



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Training plan, capacity-building



6 workshops 3 days duration each key beneficiaries in focus regions/countries



Garment and footwear makers



Policymakers

Module 4: Making TT work



Opinion makers

When and Where (tbc)

21-23 Sept 2021

W1 Europe/Milan

Nov 2021

W2 Africa/ Addis Ababa

Feb 2022

W3 Latin America/ Santiago

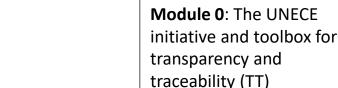
Mar 2022 W4 North America/ New York

Apr 2022

W5 South East Asia/ Bangkok

May 2022

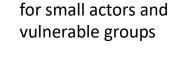
W6 SE Central Asia/ Tashkent



Module 1: Scaling-up: the Sustainability pledge and **Toolbox branding**

Module 2: Traceability and transparency as enablers of sustainability and circularity

Module 3: Principles and components of a traceability system



Module 5: Formulation and implementation of a traceability and transparency action plan



Module 6: The business process analysis (BPA) for sustainable and circular textile and leather value chains

Module 7: The business and data model (Part I) and the use cases and core components business data assembly (CCBDA) structures (Part II) for traceability and transparency of sustainable and circular value chains in textile and leather

Module 8: The Technology Model for TT and due diligence in textile and leather

- Blockchain systems
- Markers
- Data privacy and security

















Training plan, capacity-building

First workshop

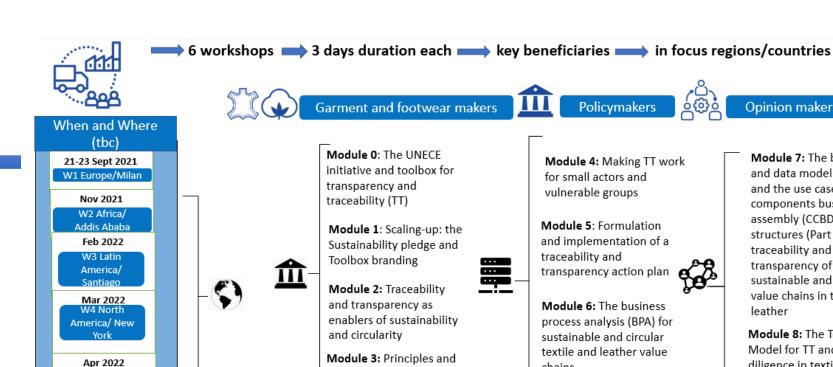
When: September 21-22-23

Where: SDA Bocconi School of Management,

Milan - Italy







International Trade Centre

W5 South East

Asia/ Bangkok

May 2022

W6 SE Central

Asia/ Tashkent

components of a

traceability system

Module 4: Making TT work for small actors and vulnerable groups

Policymakers

Module 5: Formulation and implementation of a traceability and transparency action plan

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Opinion makers

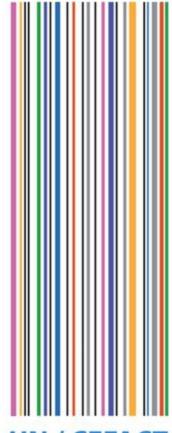
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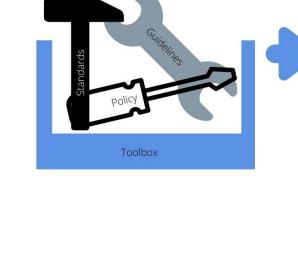


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Communication actions



The tools are ready it's time to implement



An industry where marketing and communication are prized



Tell a Story Track it,
Trace it,
Wear it!

United for greater transparency, circularity and sustainability in the garment and footwear sector

The Sustainability Pledge



Where are we now?

- Cittadellarte An Italian NGO with credentials in the sector contracted for creative input and design work, including website and logo
- Consultations with stakeholders on-going



















































What's next?

- A Press Release is currently scheduled for 11 May
 - Update on member State endorsement
 - Opening of Call to Action, and submissions
 - Consultation and launch of The Sustainability Pledge
- Commitments to be gathered ready for Multi-Stakeholder Dialogue
 21-23 September in Milan, Italy.
 - Coincides with Milan Fashion Week
 - Opportunity for Press Conference and outreach



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Business Process Analysis (BPA)s for textile and leather

Creating the Value Chain BPAs

- Both textile and leather BPAs use the same methodology, just applying it to different processes which use different materials:
 - 1. Identify the processes and actors
 - 2. Identify the risks
 - Identify the data and information exchanges required for traceability and transparency
- All 3 steps in the methodology look at what exists now and seek to identify gaps which need to be filled in order to fully support traceability and transparency

Textile Value Chains

Draft: https://unece.org/sites/default/files/2021-01/E320_BPA-SVC-textile.pdf

Leather Value Chains

Draft: https://unece.org/sites/default/files/2021-04/E320 BPA-SVC-leather.pdf

Enhancing Traccability and Transparency of Sustainable Value Chains in the Garment and Footwear Sector

UNECE

Business Process Analysis for Sustainabilit and Circularity in the Leather Value Chair



Business Process Analysis for Sustainability and Circularity in the Leather Value Chain

Leather Value Chain



Contents

Process Analysis for Sestainability in the Leather Value Chain

Process Analysis for Sestainability in the Leather Value Chain

- 1. What is a BPA?
- 2. BPA traceability and transparency objectives
- 3. The generic traceability and transparency BPA model
- 4. Using BPA to identify where and when to collect TT information

Part II. The Leather Value Chain BPA

- 1. Processes and actors
- 2. Sustainability risks and risk reduction
- 3. Data points for collection of traceability and transparency information

Enhancing Traceability and Transparency of Sustainable Value Chaim in the Garmont and Footness Section UNECE Business Process Analysis for Sustainability and Circularity in the Leather Value Chain

Draft: https://unece.org/sites/def ault/files/2021-04/E320_BPA-SVCleather.pdf



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11. Post consumption recycling













1. Farming of Livestock

2. Slaughter

3. Preservation

4. Tanning (raw to tanned)

5. Splitting, shaving and sorting

6. Retanning, fatliquoring and crusting













7. Dyeing, setting out and sammying

8. Drying, conditioning, softening and finishing

9. Product assembly

10. Fulfilment & retail

11. Post consumption













Sustainability risks

Deforestation



Biodiversity



Animal Welfare



Air Pollution



Water Pollution



Hazardous Chemistry / Salt



Solid Waste



Value Chain Processes – Textile or Leather

Energy Consumption



Greenhouse Gas Emissions



Health & Safety



Human Rights



Labour Risks

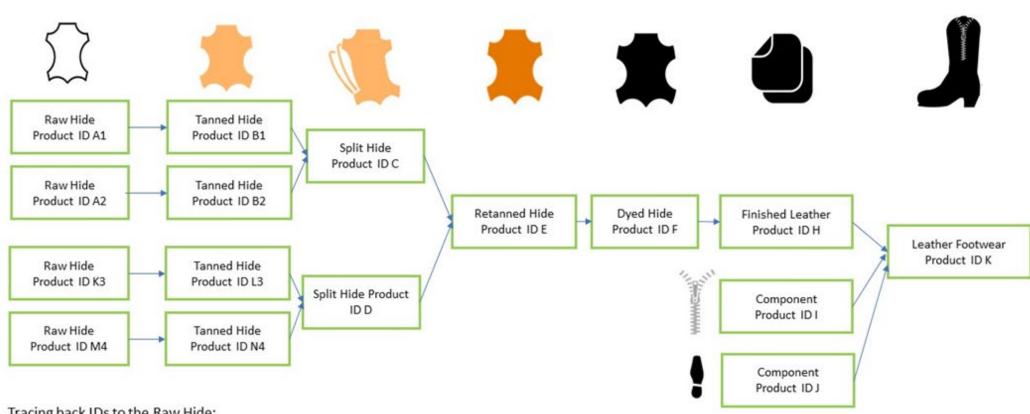


Water Use





Traceable Assets Transformations and IDs



Tracing back IDs to the Raw Hide:

K-H-F-E-C-B1-A1 or K-H-F-E-C-B2-A2 or K-H-F-E-D-L3-K3 or K-H-F-E-D-N4-M4



Later in the agenda, the connection of how the work of the BPAs is used practically
within the blockchain pilot system to create the traceability and transparency of
the value chain will be demonstrated.



Blockchain Pilot

Use the above within a system of traceability & transparency to provide a more sustainable value chain



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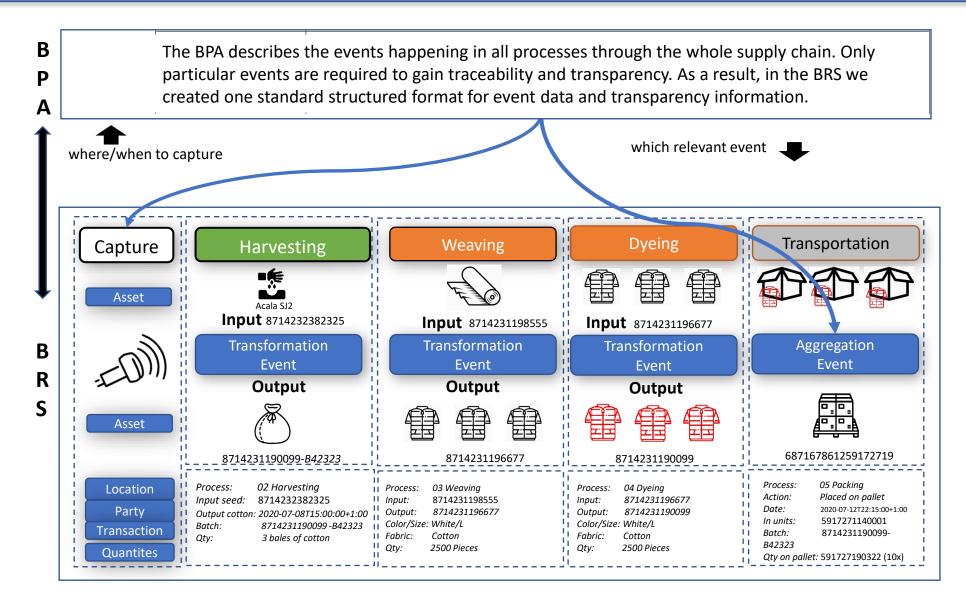


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The BPA report helps to identify the processes, conditions and data, which are reflected in the BRS



Benefits of having data, codes, messages

Able to exchange
what's in ERP

Shared what's in ERP

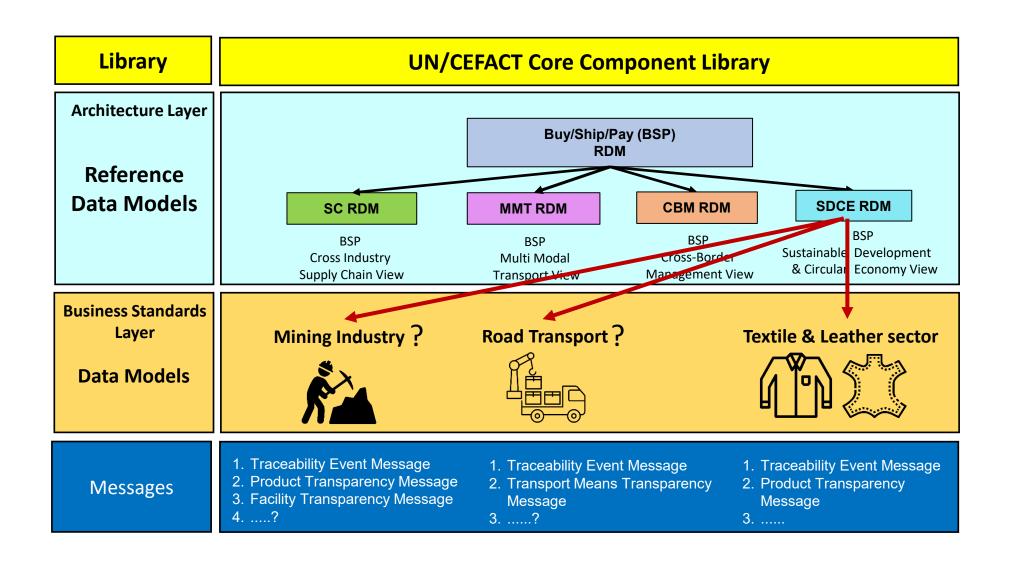
Reduce costs

BC Pilot shows need

Sector needs standards & tools

- information for traceability / transparancey and sustainability already exists and is stored in many different proprietary system in ERP's of the supply chain partners or in the many sustainability platforms and organisations
- due to missing data exchange standards and tools for automatized information exchange the data are not shared e.g. slaughterhouses pass all information to the meat industry but not to the leather sector due to high work for a low value product
- automated data exchange is required to reduce additional costs for transparency / traceability especially for a sector in which the high volumes of products are manufactored in low cost or developing countries. Enter the data once and use it multiple
- the pilot shows that especially the manufactoring part also in Europe cannot support a manual data input and document upload
- the pilot partners expressed clear concerns that the many systems for sustainability claims are already today too costly and no additional costs for transparency / traceability can be supported and therefore standards and toolboxes for the whole textile and leather sector need to put in place

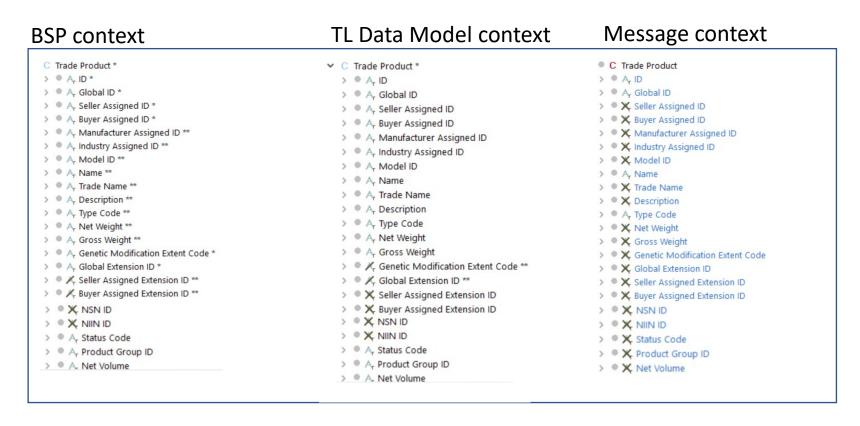
We added sustainability data based on requirements in the BRS





Moving towards a selective business message context – profiling to what is needed

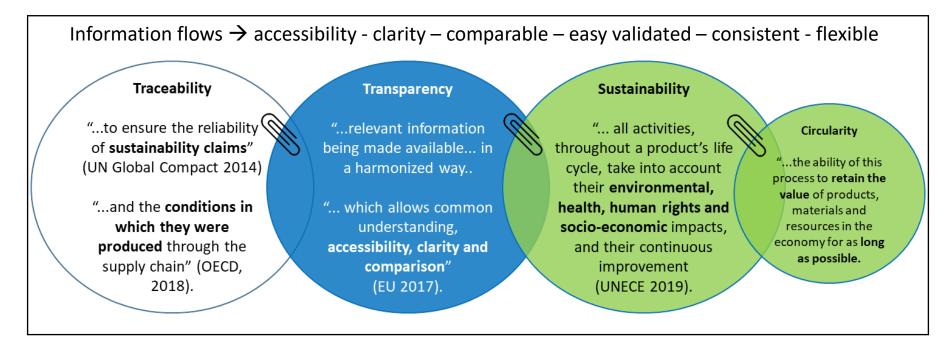
Generic content	Specific content
	specific content



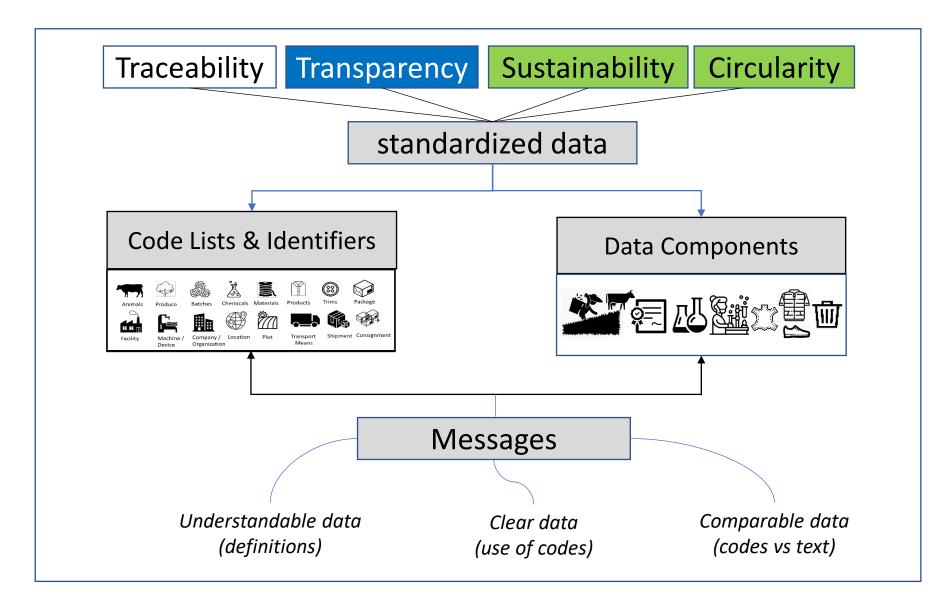
^{*} Same principle can be applied for code list values



Codes and identifiers are an essential component of any Machine-To-Machine information flow. They have been developed over time to facilitate the flow of standardized data that can be easily validated for correctness to ensure consistent semantics, being relieved from any ambiguity and inconsistency. It enhances accessability and findability of information much more efficient (data resources).









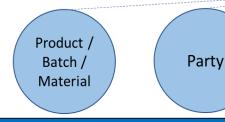
Recommended code lists and identifiers

April 2021 Recommendation on Code Lists and **Identifiers** for the **Textile and Leather Sector** DRAFT Approved: UN/CEFACT Bureau on Version: 1.0

- A reference guide to code lists and identifiers for the textile & leather sector
- Includes a reference to the information entities in the data model
- Is based on desk research and still needs to be reviewed, updated and completed
- The accessability, processability of codes and identifiers differs strongly. A hyperlink to the source in this document can be a webpage, pdf etc. or a reference.

Grouped on key information entities

Key Information Entities









Transpor -tation

Code Lists and Identifiers

Product Category Product Types Product Sub Types

Material Type Material Characteristic

Classification

Indicative crop classification

Product Characteristic

Product Characteristic Market Technical Characteristic Category

Technical Characteristic

Picture Resolution Picture Intended Use

Chemical

Colour

Colour Light Source (ISO) Gender (ISO)

Apparel Product Section

CITES Codes **Agricultutal Species**

Party Role Language (ISO) Gender (ISO)

Location Function

Country (ISO) UNLOCODE **Location Function Inventory Types** Hazardous Pesticides Process Fabric Fault Category Fabric Fault Machine Type Technology Method Parameter MRSL

Inventory Movement Reason Transport Equipment Category Transport Means Transport Mode Package Type Packaging Marking Type





































Status

Sustainability Standard Sustainability Criteria (metric characteristic)

Document Type Sustainability Themes (characteristic category) Sustainability Sub-Area (Sub-Chapter) (characteristic type)

Document Status Unit of Measure Date/Time Formats Code List Responsible Agency Assessment Types Inspection Types Action



Codes requested at UN/CEFACT

Party Role Code **Brand Owner**

Consumer

Farmer

Recycler

Retailer

Second Party

Trader

Waste Disposal Provider

Tanner

Service Provider

Ginner

Spinner

Weaver

Setting Out

Shaving (hides)

Shearing (animals)

Softening

Sorting

Spinning

Thermo Mech. Recycling

Warehousing

Location Function

Effluent Treatment Plant Farm

Manufacturing facility

Animal farm

Tannery Textile mill

Dyeing mill

Forrest Management Unit

Status Code

Defected Recycled Reused Registered

Returned

Assesment Type

Self Declared Self Asssessed Peer Reviewed Verified by second party Certified by third party

Inspection Type

Organizational Inspection **Process Inspection Product Batch Inspection Product Inspection Inventory Inspection** Labelling inspection Quality inspection **Animal Inspection** Packaging inspection

Process Type Code

......

Reeling (silk)

Splitting

Tanning (leather)

Weaving

Inventory Type Code

Finished goods

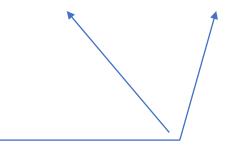
Maintenance, repair & operations (MRO)

Packing materials

Raw materials

Unfinished Products.

Work in progress (WIP)



These data maintenance requests will be processed during this forum



Grouped by organization/agency

Agency/Organization	Code List reference	Related Information Entity			
BCI Better Cotton www.bettercotton.org	Pesticides Classification	Toxicological Hazardous Material			
CAS" A DAYSON OF THE AMERICAN CHEMICAL SOCIETY	CAS Chemical Compound	Distinct Chemical			
CIES	CITES Endangered Species of Wild Fauna and Flora	Species			
1000	Agricultural Produce (plants)	Crop Produce Batch			
1.0	Agricultural Species	Species			
	Leather classification	Product Classification			
	(BZ 4.0				
	Raw Material Production				
	Fibre Types	Trade Product			
	Raw Material	Product Characteristic			
	Raw Material Process	Production Process			
	Yarn Production				
	Yarn Category	Trade Product Category			
	Yarn Characteristics	Product Characteristic			
	Yarn (kind)	Trade Product			
	Yarn (ply)	Product Characteristic			
	Yarn Process	Specified Production Process			
	Yarn Technology	Technology			
	Yarn Operation Parameters	Specified Parameter			
	Yarn Quality Parameters	Specified Parameter			
	Yarn Machine	Production Machine			
	Fabric Production				
	Fabric Category	Trade Product Category			
	Fabric Fault Type	Specified Fault			
	Fabric Faults Category	Specified Fault			
	Fabric Technical Category	Technical Characteristic			
	Fabric Technical Characteristic	Technical Characteristic			
	Fabric Process	Specified Production Process			
	Fabric Technology	Technology			
	<u>Fabric Operation Parameters</u>	Specified Parameter			
	Fabric Machine	Production Machine			
	Weave Type	Product Characteristic			
	Colour Type	Product Colour			



Pre/Finishing treatments & Dyeing	
Printing	
Chemical Elements	Distinct Chemical
Print Material	Specified Material
Print Process	Specified Production Process
Print Parameter	Specified Parameter
Printing Technology	Technology
Fast Test	Specified Method
Colour Test	Specified Method
Apparel Production, transportation	
Additional Attributes	Product Characteristics
Garment Attributes	Product Characteristics
Apparel Section	Product Characteristics
Market Segment	Target Market
Darning Process	Specified Product Process
Knitting/Clothing Process	Specified Product Process
Cnitting/clothing Machine	Production Machine
Value Base System (for size)	Product Characteristics
ntended Use Codes	Photographic Picture
Resolution Type	Photographic Picture
Reason for Transportation	Specified Inventory



Grouped by organization/agency





Food and Agriculture Organization of the United Nations	Indicative Crop	Product Classification		
GLOBAL	Product Classification	Product Classification		
TEXTILE SCHEME		- 1 -1 -0 -		
((GS)1	GPC Clothing (67), Footwear (63)	Product Classification		
A	Colour Fastness Test (yarn)	Specified Method		
120	Colour Light Source	Product Colour		
	Country Code/Identifier	Trade Country		
	Language Name Code (ISO 639-1)	Language ID		
	Leather Chemical Tests	Specified Method		
	Leather for Apparel (excluding furs)	Trade Products		
	Leather Tests (Quality Standards)	Specified Method		
	Man-made Fibre - Generic names	Trade Product		
	Natural Fibres - Generic names and	Trade Product		
	definitions			
	Representation of human sexes	Trade Product Consumer Gender		
	ISO 26000, Sustainability Standards	Sustainability Characteristics		
	Other			
	<u>Leather glossary</u>	Leather products		
** ITC	Sustainability Standards	Sustainability Characteristic		
XITC	Sustainability Criteria	Metric Characteristic		
• •	Sustainability Areas (Themes)	Sustainability Characteristic		
		Category		
	Sustainability Sub Areas (Sub Chapters)	Sustainability Characteristic Type		
MOECD.	Health Effects	Sustainability Inspection		
	Effects on Biotic Systems	Sustainability Inspection		
	Environmental Fate and Behaviour	Sustainability Inspection		
	<u>Textile process</u>	Specified Production Process		
	<u>Product</u>	Trade Product		
TextileExchange	Product Category	Trade Product Category		
rexureexchange	Raw Material	Specified Material		
	Final Product Technical Quality Parameter	Specified Parameter		

NECE	Assessment	Product/Process/Organizational
CEFACT		Certification Type
	Code List Responsible Agencies	Agency
	Contact Type	Trade Contact
	Date Time Format	Date Time
	Document Status	Status
	Document Type	Exchanged Document / Referenced
		Document
	Inspection Type	Specified/Sustainability Inspection
	Inventory Movement Reason	Specified Supply Chain Inventory
	Inventory Type	Specified Supply Chain Inventory
	Leather Glossary	Definitions
	Location Function	Referenced Location/
		Production Facility
	Note Subject	Specified Note
	Package Marking	Logistics Package
	Packages	Logistics Package
	Party Function (Role)	Trade Party
	Party Type	Trade Party
	Process Description Type	Specified Production Process
	Status	Status
	Transport Equipment	Logistics Transport Equipment
	Transport Means	Logistics Transport Means
	Transport Mode	Logistics Transport Mode
	UN Location Code (UNLOCODE)	Referenced Location
	Unit of Measure	Measure
)_	HS Codes Raw hides and skins, leather etc	Product Classification
	HS Codes Textiles and textiles articles	Product Classification
kes	Pesticides by Hazard	Toxicological Hazardous Material
World Health Organization		
ZDHC	Manufacturing Restricted Substance List	Specified Material

^{*} GRI and SASB standards could be added as additional indicators for sustainability data



Grouped by subject

4.4 Classification

4.4.1 Crop

Code List #1	13	Agency	Code List	URL		
Indicative Crop Classification		Food and Agriculture	FAO 1.1	PDF		
for the agricultural		Organization of the United Nations	(World Programme for the census of Agriculture 2020)			
Code TAG	Code Name					
9.02.01.01	Cotton					
9.02.01.02	Jute, kenaf, and other similar crops					
9.02.01.04	Flax					
9.02.01.05	Hemp					
9.02.01.90	Other temporary fibre crops					
	ETC					

Code List #2	22	Agency	Code List	URL		
Product (Category)		TextileExchange	Textile Exchange ASR-213- <u>V1.0</u>	PDF		
Code TAG	Code Name					
PC0001	Men's apparel					
PC0002	Women's apparel					
PC0003	Babies' apparel					
	ETC					

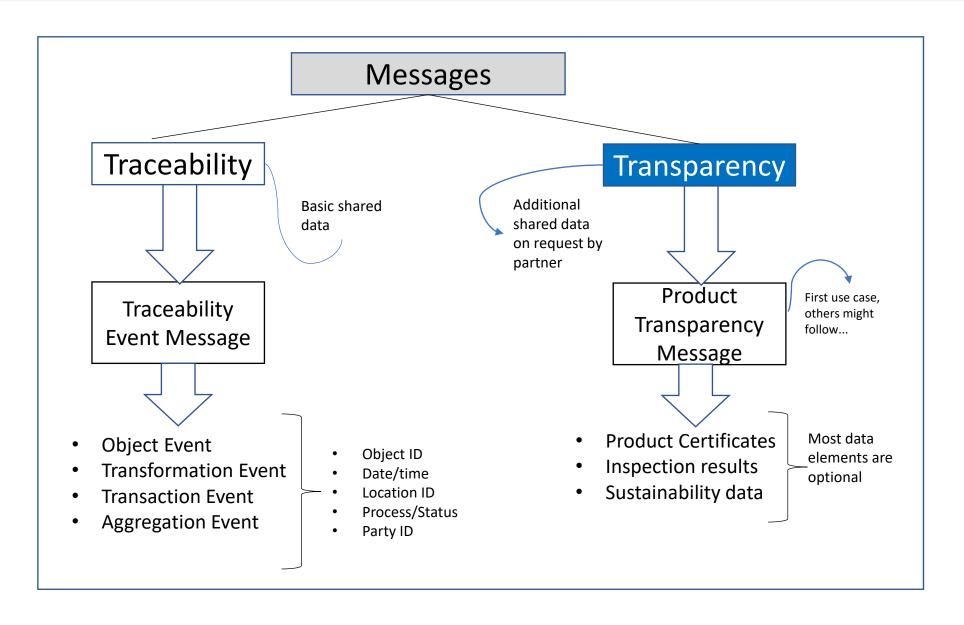


Key Identifiers

Identifier	#	Global Identification Schemes				
Animal ID	#1	- LCAR, NAIS (USDA)				
Product ID / Material ID	#2	- GTIN (Global Trade Item Number) The GSMP General Merchandise Work Team validated the original Global Trade Item Number (GTIN) allocation rules and concluded that they are applicable to the apparel and home fashions product category (GS1 General Specifications 21.0.1, Ratified, Jan 2021).			(G) (G) (G)	
Batch ID	#3	- GTIN + batch/lot no, serial no	Animals	Produce	Batches	Chemicals
Chemical ID	#4	- CASRN (CAS Registry Number)	$C_{\overline{a}}$	C-	■.	AD0
Consignment	#5	- WCO Unique Consignment Reference (UCR)		8 -		
Delivery (shipment)	#6	- GSIN (Global Shipment Reference Number)	••••			•
Device ID / Machine ID	#7	- GMN (Global Model Number)	Facility	Machine Device	/ Compar Organiz	, .
Location ID / Sub-Location ID / Production Unit / Plot ID / Facility	#8 #9	- GLN / SGLN (Global Location Number, Sub-GLN) - Global G.A.P. GLN		Device	Organiz	ation
ID	#10	- OAR ID (Open Apparel Registry ID for facility)	9	$\langle \nabla \rangle$		
Organization ID	#11	- LEI (Legal Entity Identifier)				
Logistics unit (logistics package)	#12	- SSCC (Serial Shipping Container Code)	Materials	Products	Trims	Package
Package ID (product package)	#13	- GIIN	M.		.	. ^
Party ID	#14 #15 #16	- GLN - OAR ID - VAT ID		0_0	TI (SI	
Produce ID	#17	- GTIN (IERS Product Identification – Fresh Produce)	Plot	Transport	Shipment	Consignment
Product Instance ID	#18	- SGTIN (Serialized GTIN)	1100	Means	•	
Raw Material ID	#19	- GIIN				
Transport Equipment ID	#20	- GIAI (Global Individual Asset Identifier)				
Transport Means ID	#21 #22	IMO (International Maritime Organization, SOLAS) VIN (vehicle identification number, ISO 3779)				

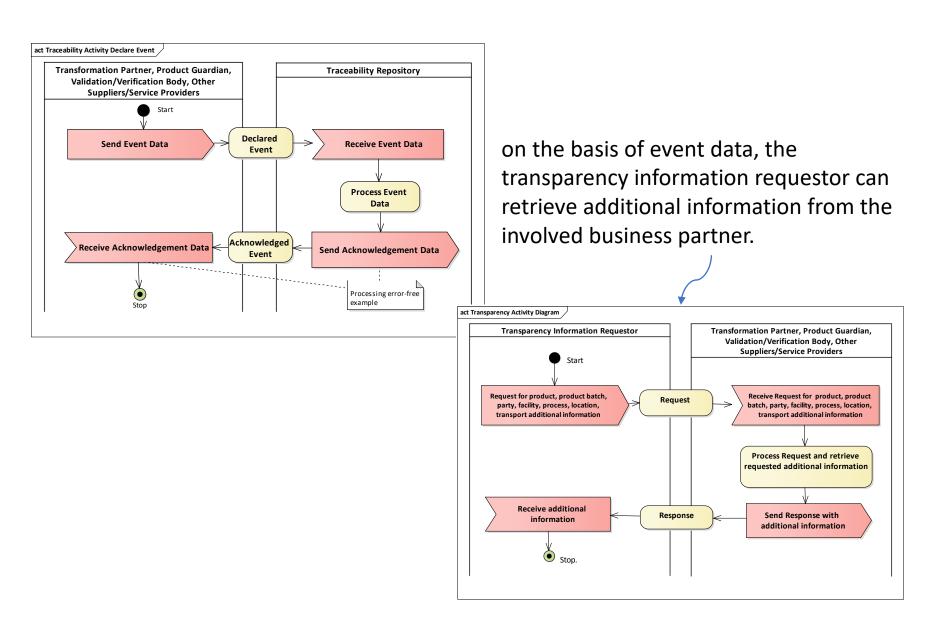






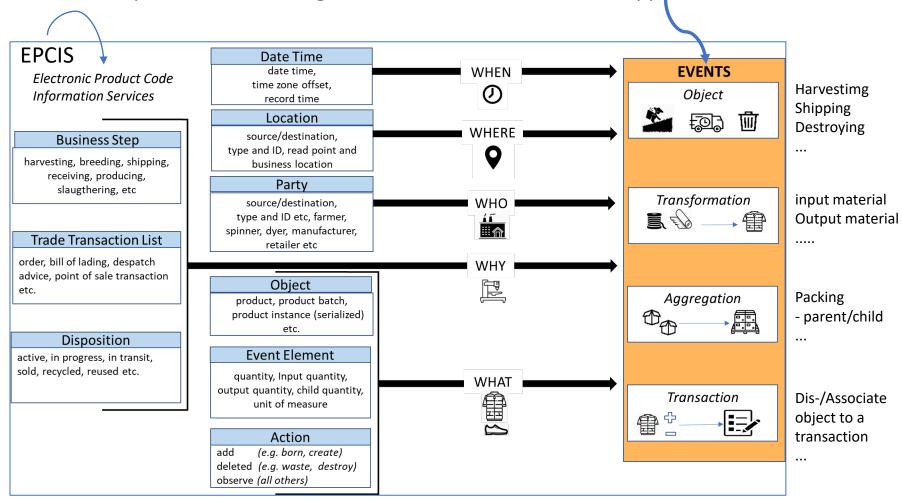


Declare an event, request for additional info





Traceability Event Message can contain different types of events





A small flow of events – shipping/receiving

	Data Element	Event 01		Data Element	Event 02		Data Element	Event 03
	Event Type	Object Event		Event Type	Object Event		Event Type	Object Event
	Action	OBSERVE		Action	OBSERVE		Action	OBSERVE
What	Object (asset)	Shipment Reference AB1	What	Object (asset)	Shipment Reference AB1	What	Object (asset)	Shipment Reference BC1
	(Content)	Product 1 / Batch 1		(Content)	Product 1 / Batch 1		(Content)	Product 1 / Batch 1
		10 PCS			10 PCS			3 PCS
When	Date Time	14-01-2021 12:00:00	When	Date Time	16-01-2021 12:00:00	When	Date Time	19-01-2021 12:00:00
Where	Read Point	Facility A - Loc 2	Where	Read Point	Facility B - Loc 3	Where	Read Point	Facility B - Loc 4
	Business Location	Facility A		Business Location	Facility B		Business Location	Facility B
Why	Business Step	Shipping	Why	Business Step	Receiving	Why	Business Step	Shipping
	Disposition	Active		Disposition	Active		Disposition	Active
	Business	Invoice Facility_A-01		Business	P.Order Facility_B-P0.01		Business	P.Order Facility_B-P0.01
	Transaction List			Transaction List			Transaction List	
					Invoice Facility_A-01			Invoice Facility_C-01
Who	Source List	Facility A	Who	Source List	Facility A	Who	Source List	Facility B
	Destination List	Facility B		Destination List	Facility B		Destination List	Facility C

^{*} Simplified view





- Certificate(s) details
- Certification details
- Sustainability characteristic(s)
 - Type Code
 - Value Text
 - Inspection results
 - Referenced Standard
- Sustainability Inspection details
 - Event details
 - Executing party
 - Status
 - Inspection results
 - Sustainability characteristic(s)
 - See above
 - Preventive Actions
 - Attachment
- Sustainability assertion (claim) details
- Related trade transaction(s)

Certificate

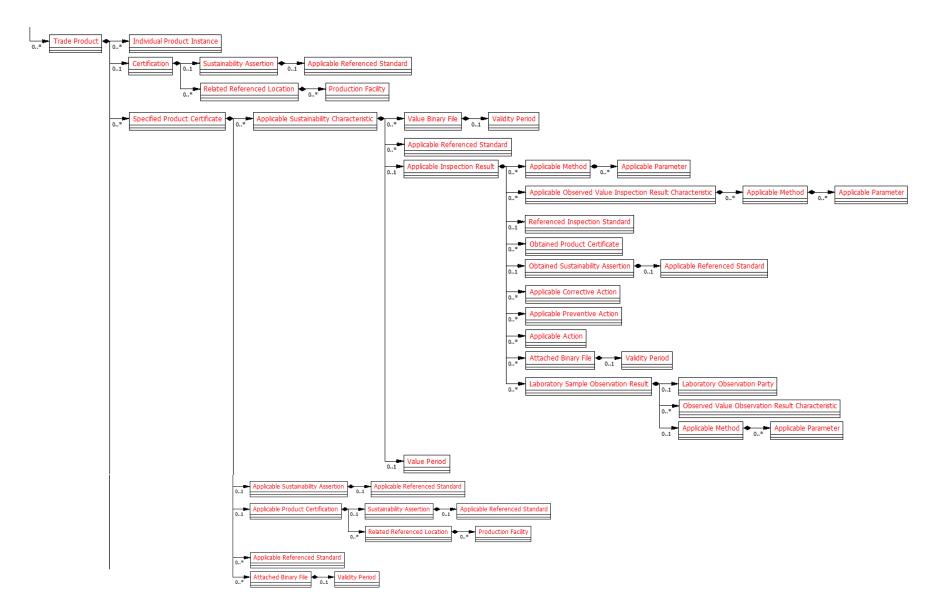
Sustainability Data

Inspection Results

Much is optional in the message by this supporting levels of complexity: from simple to complex



A part of its structure, high level presentation





The XML example, only exchanging certificate details

```
<?xml version="1.0" encoding="UTF-8"?>
     Certificate
       urn:un:unece:uncefact:data:standard:ReusableAggregateBusinessInformationEntity:21A" xsi:schemaLocation="urn:un:u
         <rsm:ExchangedDocument>
 4
            <ram:ID>289771982</ram:ID>
 5
            <ram:lssueDateTime>
 6
            <udt:DateTimeString>2021-04-11T12:37:38.7041375+01:00</udt:DateTimeString>
            </ram:IssueDateTime>
 8
           <ram:SenderTradeParty>
 9
              <ram:ID>12809831029</ram:ID>
10
            </ram:SenderTradeParty>
11
            <ram:RecipientTradeParty>
                                                                                    Envelope: sender/receiver
12
              <ram:ID>1</ram:ID>
13
            </ram:RecipientTradeParty>
         </rsm:ExchangedDocument>
14
                                                                                Product ID
15
         <rsm:TradeProduct>
16
         <ram:GlobalID>8735667213218789</ram:GlobalID>
17
           <ram:SpecifiedProductCertificate>
18
              <ram:ID>21312321321</ram:ID>
                                                                                   Certificate ID
19
              <ram:lssueDateTime>
            <udt:DateTimeString>>2021-04-11T12:37:38.7041375+01:00</udt:DateTimeString>
20
21
              </ram:IssueDateTime>
22
              <ram:ExpiryDateTime>
                                                                                         Standard Reference
            <udt:DateTimeString>2021-04-11T12:37:38.7041375+01:00</udt:DateTimeString>
23
24
              </ram:ExpiryDateTime>
25
              <ram:TypeCode>753</ram:TypeCode>
              <ram:Description>Certificate of sustainability</ram:Description>
26
              <ram:lssuingPartyID>2197983798</ram:lssuingPartyID>
27
              <ram:ApplicableReferencedStandard>
28
29
                <ram:VersionID>6.0</ram:VersionID>
                                                                                       Attachment
30
                <ram:Name>GOTS ORGANIC</ram:Name>
              </ram:ApplicableReferencedStandard>
31
              <ram:AttachedSpecifiedBinaryFile>
32
                <ram:FileName>MyCertificate.PDF</ram:FileName>
33
34
                <ram:URIID>https://Certificates/MyCertificate.PDF</ram:URIID>
35
                <ram:IncludedBinaryObject>UjBsR09EbGhjZ0dTQUxNQUFBUUNBRU1tQ1p0dU1GUXhEUzhi
36
              </ram:AttachedSpecifiedBinaryFile>
            </ram:SpecifiedProductCertificate>
37
            <ram:RelatedSupplyChainTradeTransaction>
38
39
              <ram:ID>2132132132</ram:ID>
40
              <ram:TypeCode>105</ram:TypeCode>
              <ram: Associated Referenced Document>
```

•••••

50





The Textile & Leather data model contains rich structures around key information entities:



Product

Product Batch

Party

Facility

Production Process

Location

Consignment

Shipment

Trade Transaction

Transport Movement

Resources of information Resources for new message profiles



II. Next steps 2021 and 2022

- a) Training plan, capacity-building Maria Teresa Pisani
- b) The Sustainability pledge: communication actions, visual identity Sarah Harris
- c) Business Process Analysis for textile and leather Virginia Cram Martos and Deborah Taylor
- d) Business Requirement Specifications for textile and leather *Gerhard Heemskerk*
 - Code Lists and Identifiers
 - XML messages
- e) Project's blockchain applications in cotton and leather Andrea Redaelli, Giacomo Poretti, Claudia di Bernardino, Deborah Taylor









e. Project's blockchain applications in cotton and leather

- Implementation status: dry run, pilot run and training, Andrea Redaelli
- Blockchain system update, Giacomo Poretti
- Overview and Next Steps on Sustainability Claims and Data Management and Disclosure, Claudia di Bernardino
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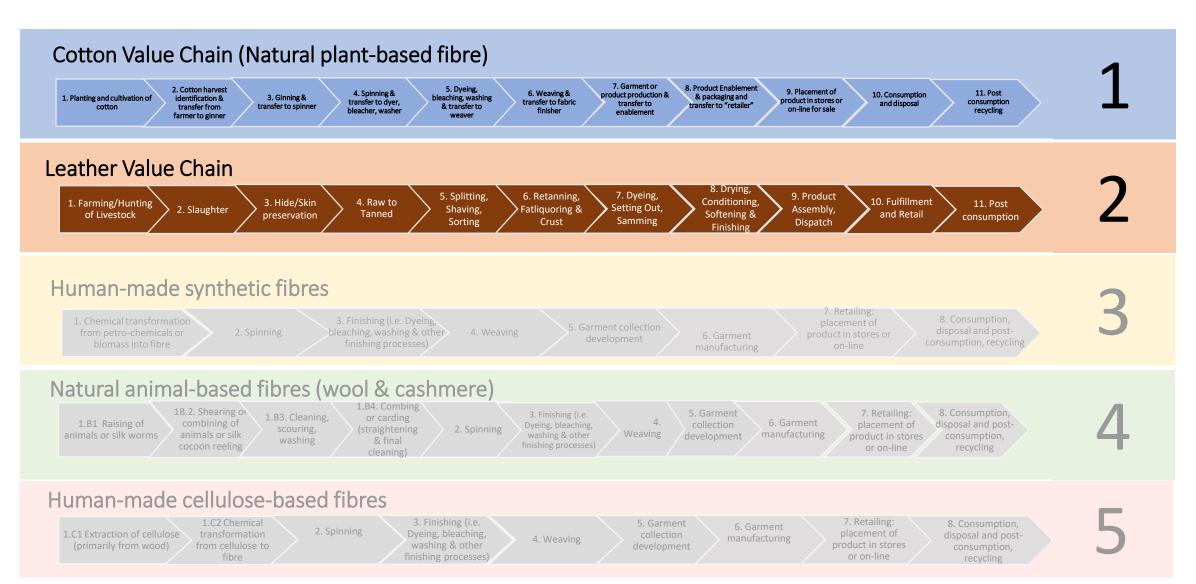
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Blockchain Pilots: background

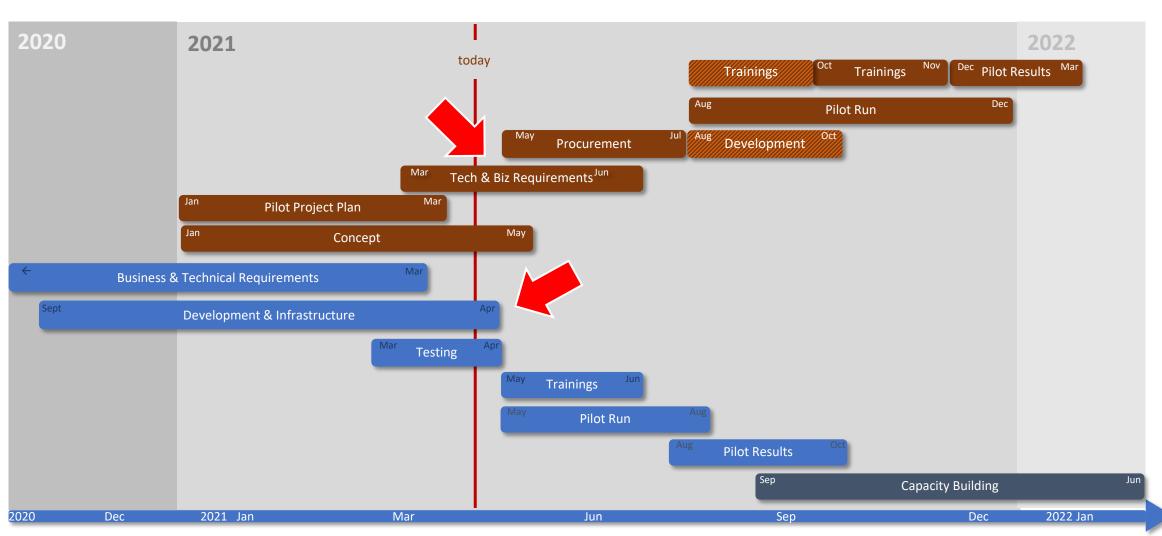
The Pilots - blockchain technology in the garment and leather value chain





Blockchain Pilots: timeline and milestones

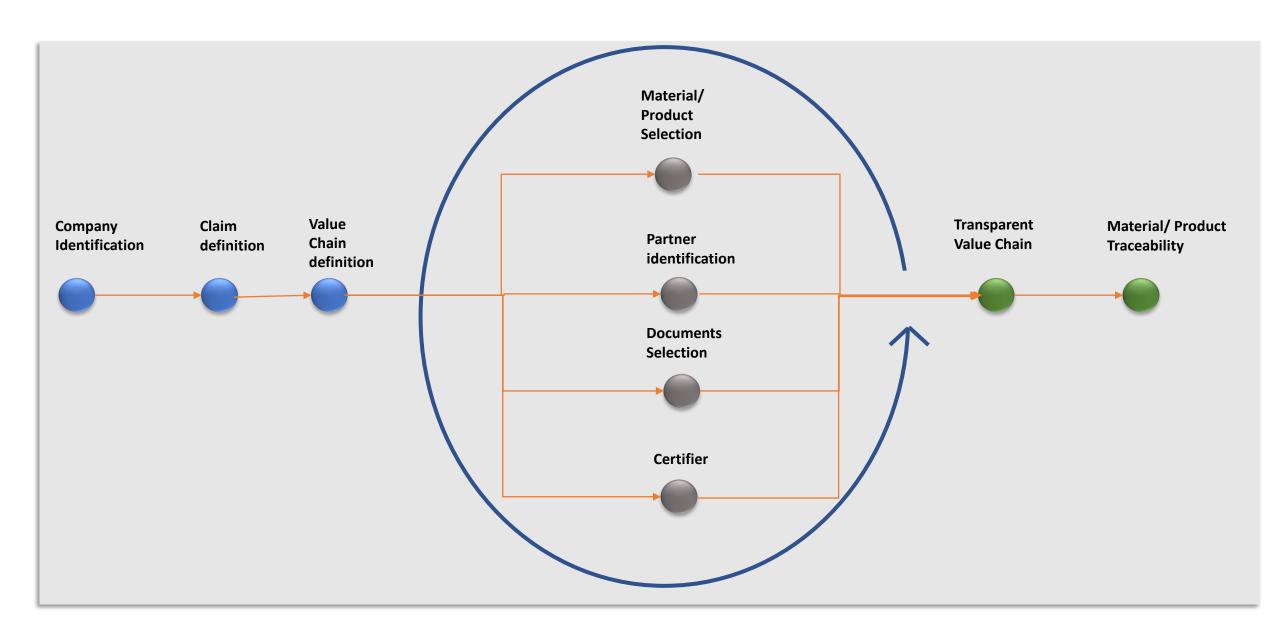
The Pilots - blockchain technology in the garment and leather value chain





Cotton blockchain pilot

The Pilots - blockchain technology in the garment and leather value chain





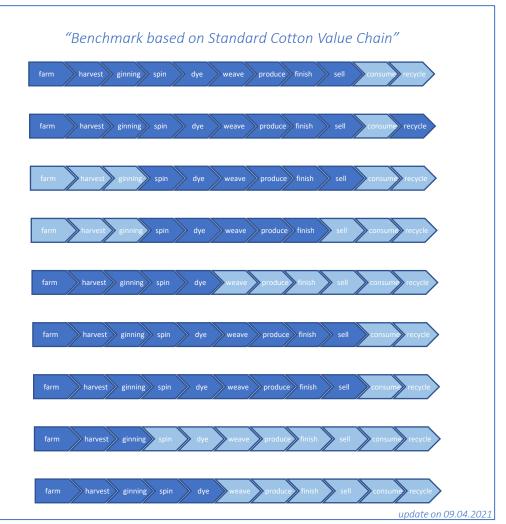
Cotton blockchain pilot

The Pilots - blockchain technology in the garment and leather value chain

Pilot Scenario(s) preparation: Working Groups

weekly update roundtable

Roundtable Organization WG 1 – US Cotton: from field to finished goods WG2 – Recycled Denim WG3 – Egyptian Cotton 1 WG4 – Egyptian Cotton 2 *WG5 – Egyptian Cotton 3* WG6 – Egyptian Cotton 4 WG7 – Cotton for Denim WG8 – LAM Cotton WG9 – Asian Cotton (tbc)

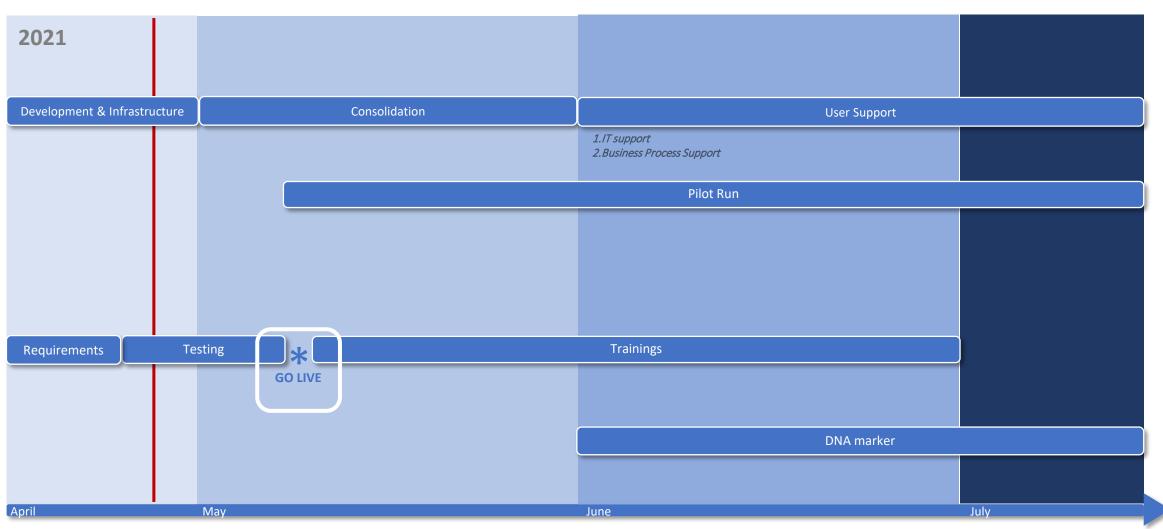




Cotton blockchain pilot

The Pilots - blockchain technology in the garment and leather value chain

Zoom in: ongoing activities





e. Project's blockchain applications in cotton and leather

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The BC pilot EPCIS 1.2

+ EPCIS 2.0 (not yet ratified)



EPC Information Services
(EPCIS) Standard enables
disparate applications to create
and share visibility event data,
both within and across
enterprises.

The BC pilot provides **a document based** product
traceability and transparency
using Blockchain technology





1. BC client - Web App for manual data entry

2. BC client backend

Google Cloud Mys

MySQL off chain

Database MS

3. Blockchain architecture Ethereum public - permission less Testnet

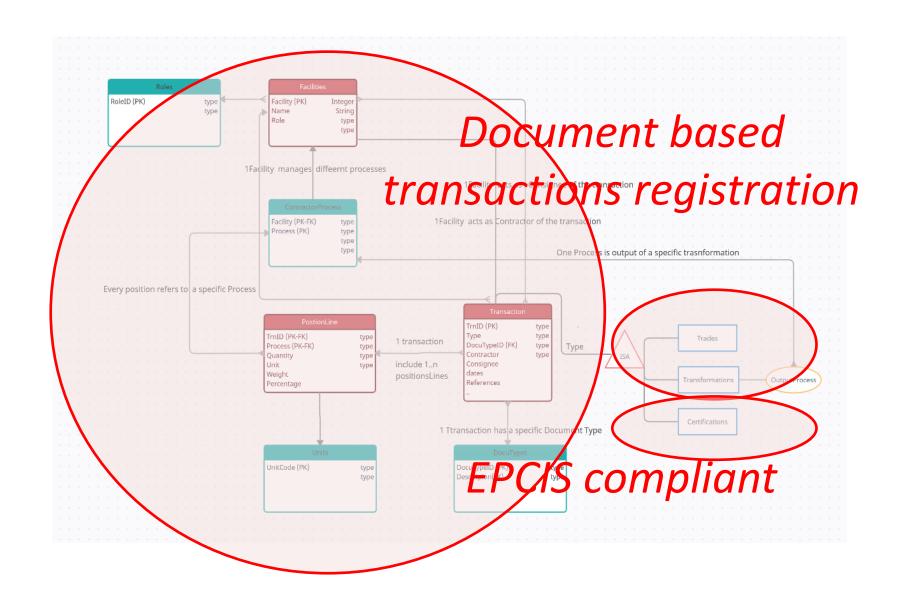
Smart contracts

data structures

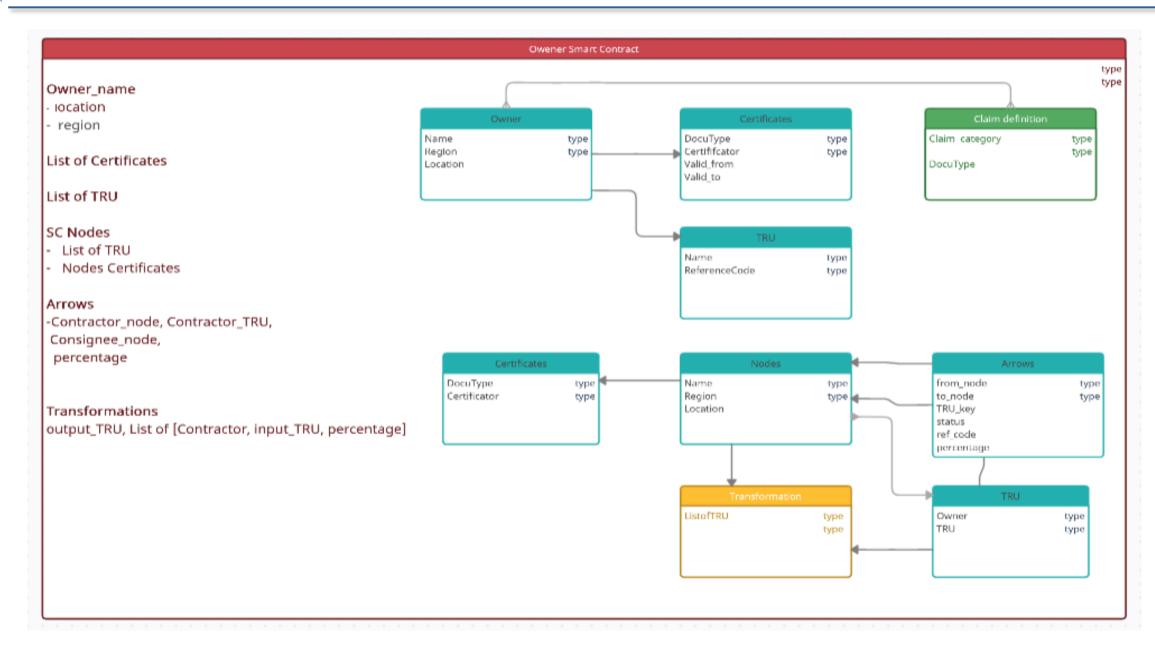
and automations

public-private key cryptography
protected privacy & confidentiality



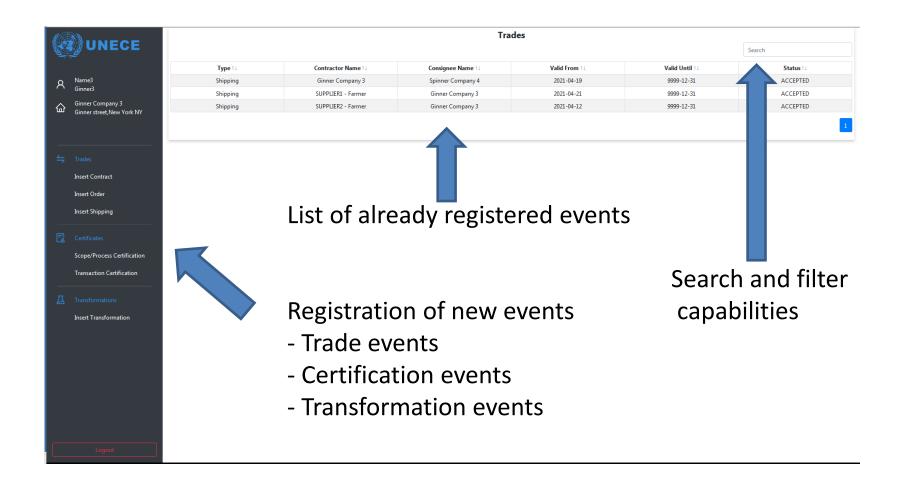


On-chain Data Model



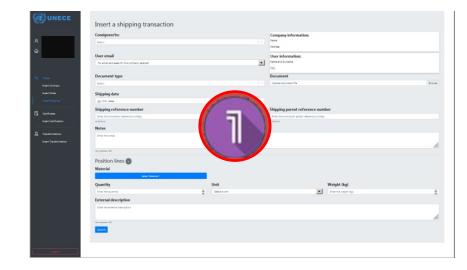


BC Pilot Home Page





ContractorInsert trade transaction (shipping)



Confirmation / Rejection



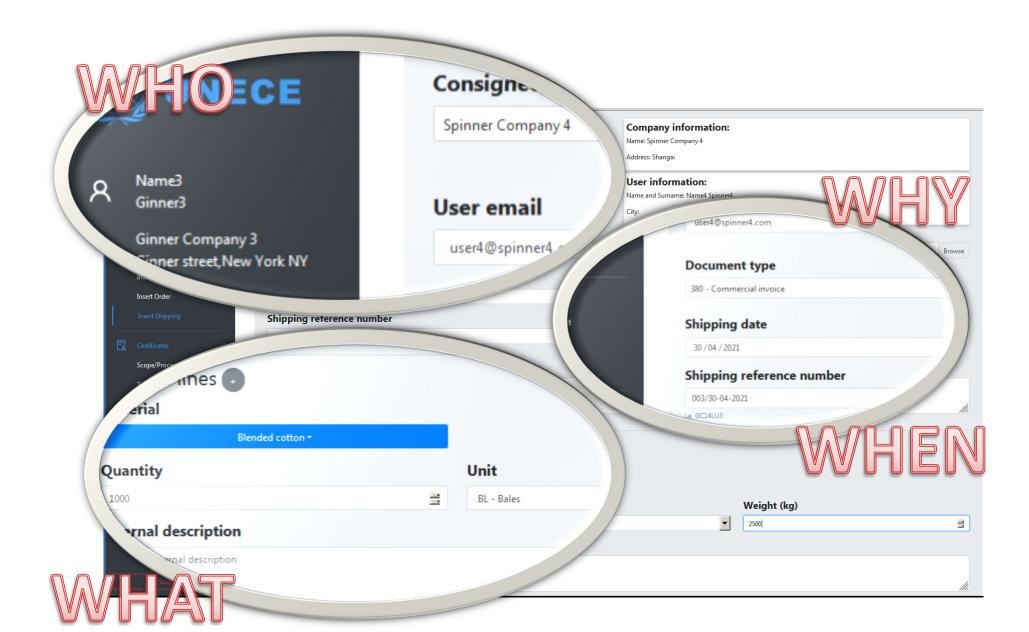
Consignee



Transaction verification /rejection



Shipping trade registration





1. Contractor insert information

Consignee, Document Type, Upload document Shipping date, material and quantities

- 2. Email sent to Consignee
- 3. Consignee confirm / reject registered event
- 4. If confirm data are sent to the blockchain

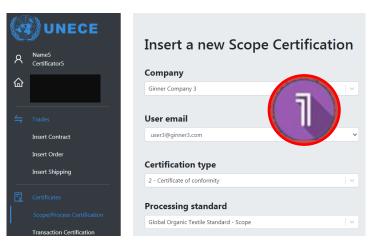
Certification (EPCIS 2.0 verification event)

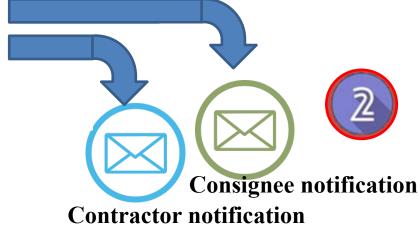
Certifier

Contractor

Offline: The company send to the certifier the list of transaction he wants to certificate

The certifier insert the certificate with the list of transactions



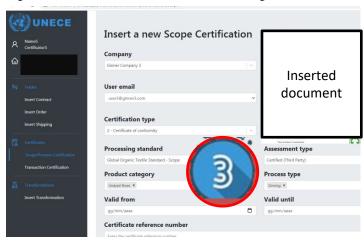


Certificate visualization / verification

Confirmation / Rejection









1. Certification party insert information

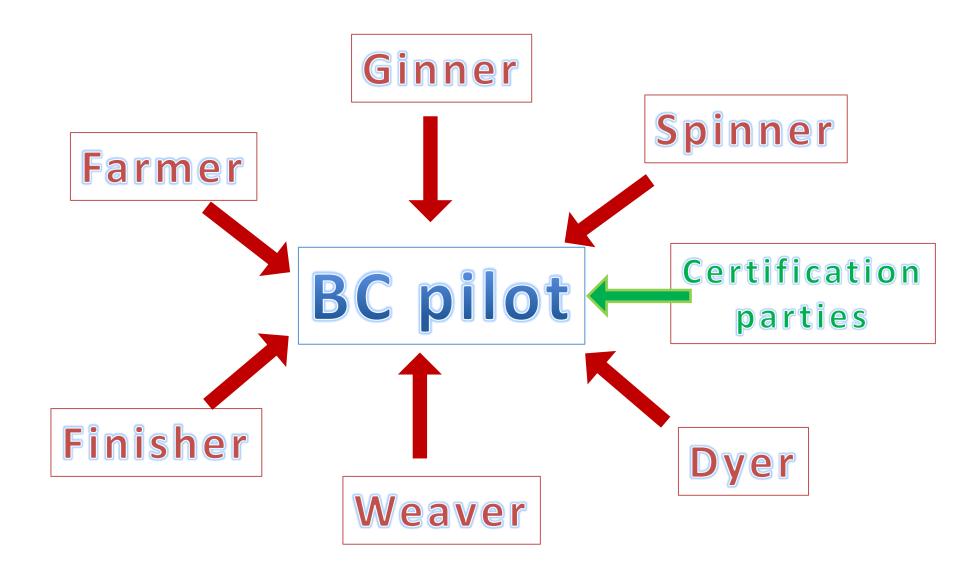
Company, Document Type, Upload certificate
Issue date, processing standard, assessment mode

Certification reference object : company, process, transaction

- 2. Email sent to Company
- 3. Company confirm / reject reception
- 4. Data are sent to the blockchain

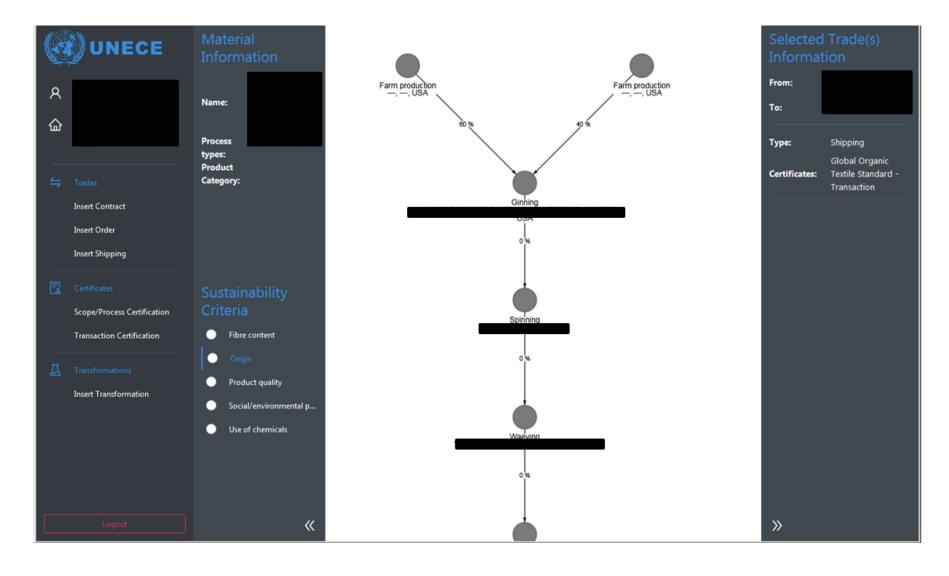






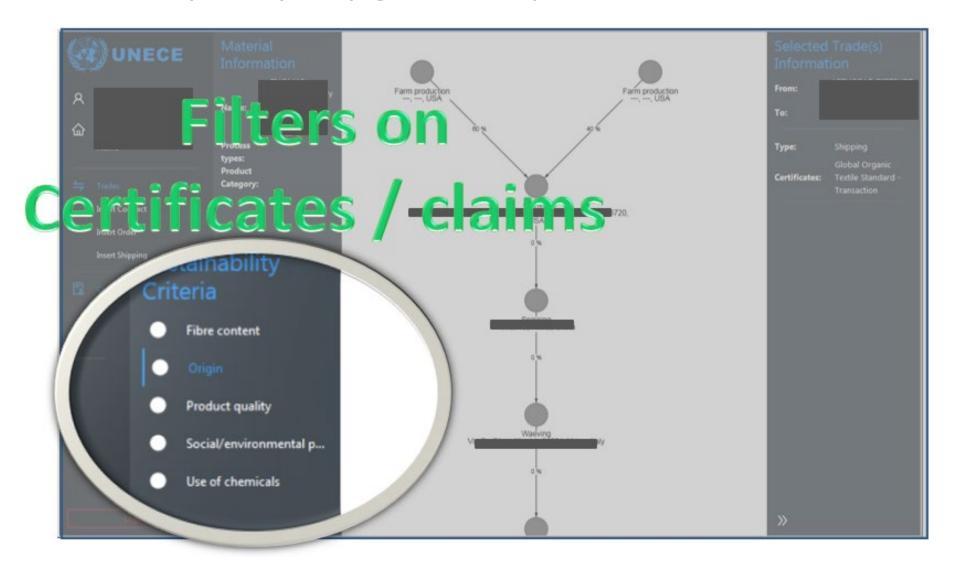


Traceability & Transparency against different predefined claims

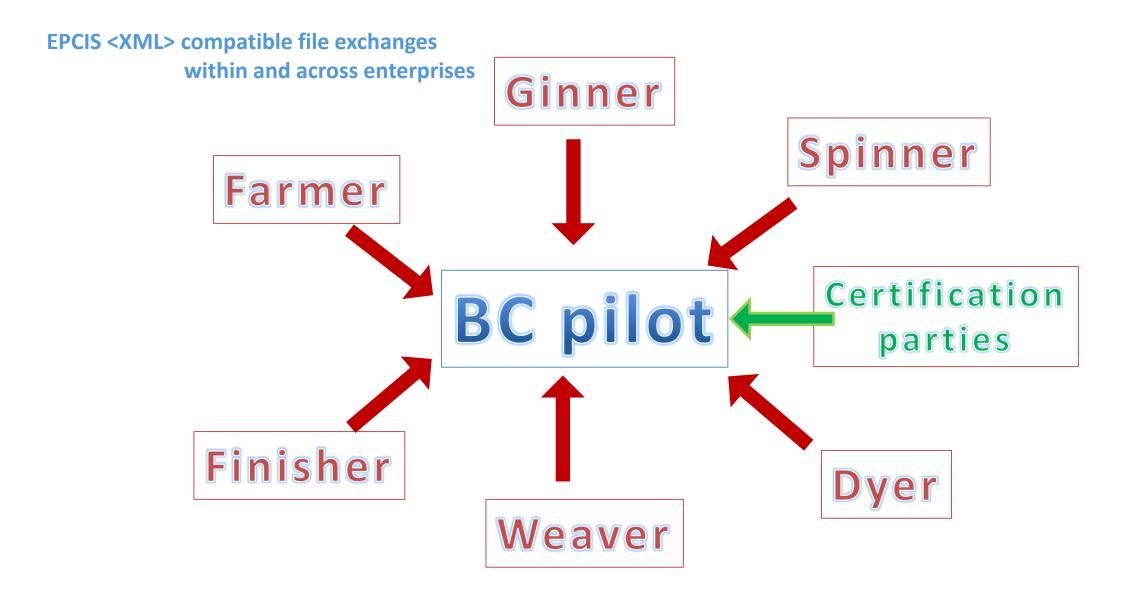




Traceability & Transparency against different predefined claims









e. Project's blockchain applications in cotton and leather

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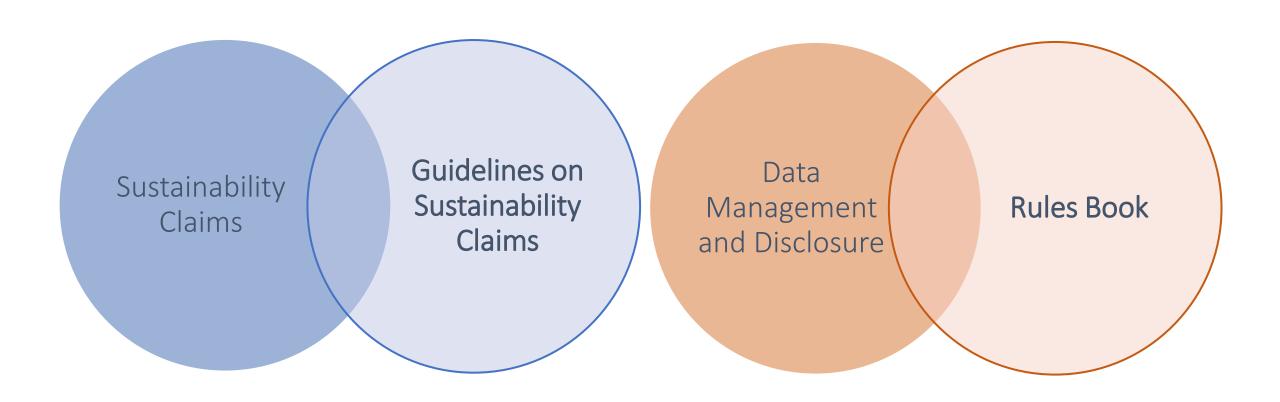
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The Pilots - blockchain technology in the garment and leather value chain

Overview and Next Steps on Sustainability Claims and Data Management and Disclosure

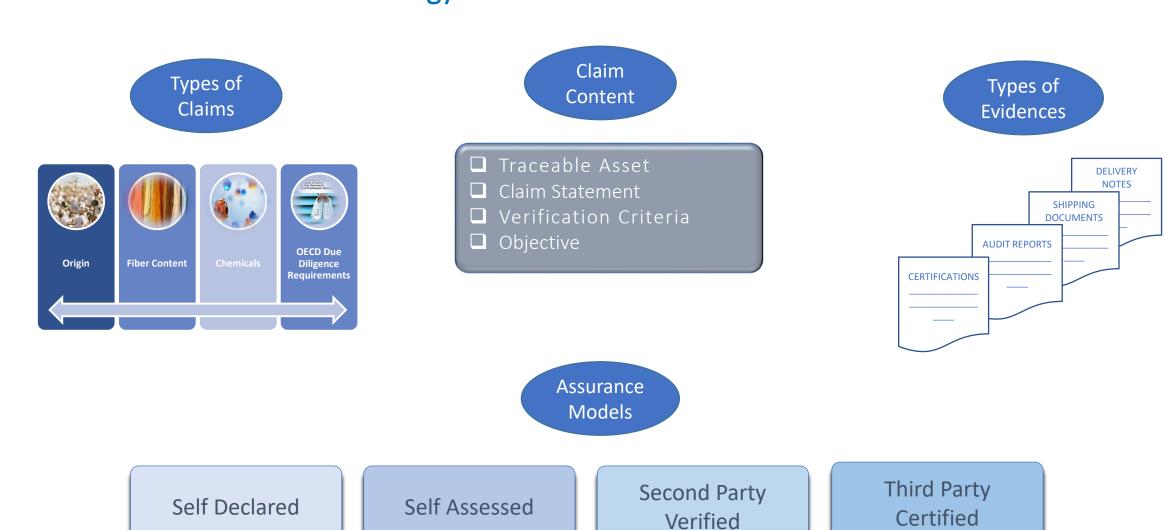




The Pilot(s) – Sustainability claims

The Pilots - blockchain technology in the garment and leather value chain

What Has Been Done: Methodology for the Partners' Use Cases

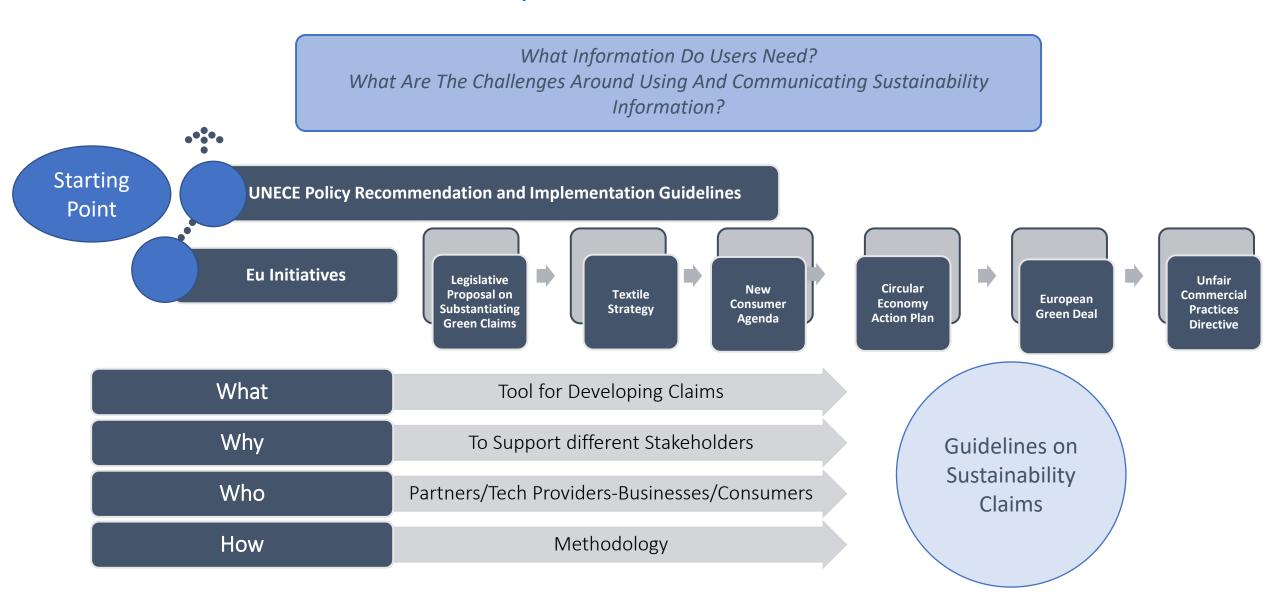




The Pilot(s) – Sustainability claims

The Pilots - blockchain technology in the garment and leather value chain

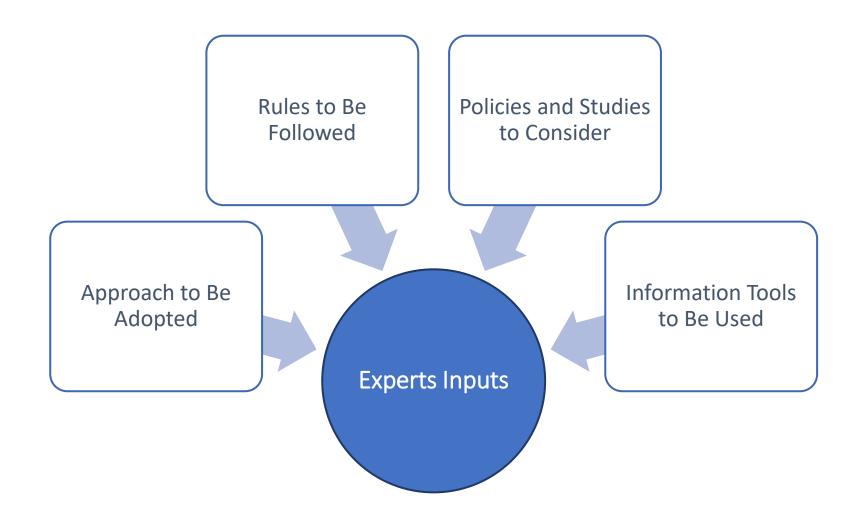
What Next: Guidelines on Sustainability Claims



The Pilot(s) – Sustainability claims

The Pilots - blockchain technology in the garment and leather value chain

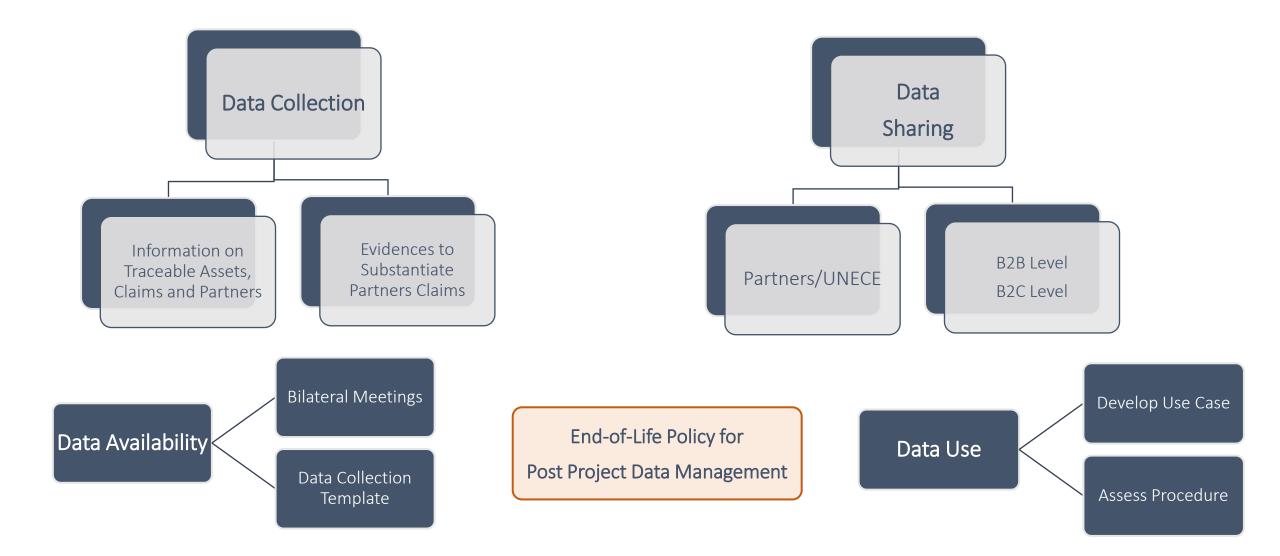
What We Need From You





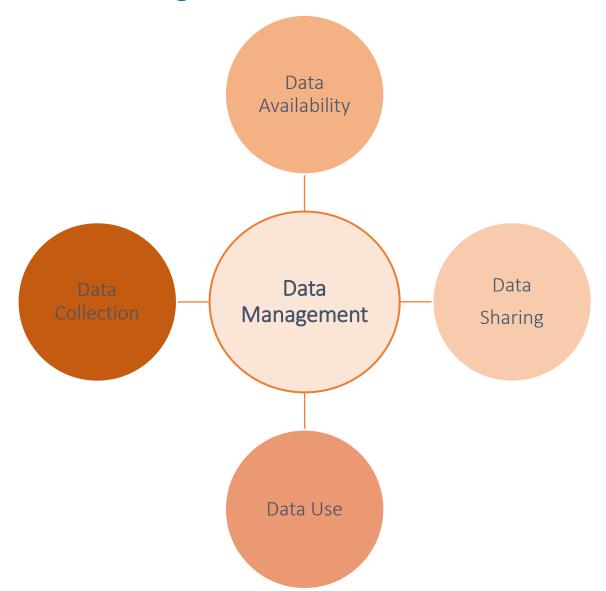
The Pilots - blockchain technology in the garment and leather value chain

What Has Been Done: Methodology for the Collection, Sharing, Availability and Use of Data



The Pilots - blockchain technology in the garment and leather value chain

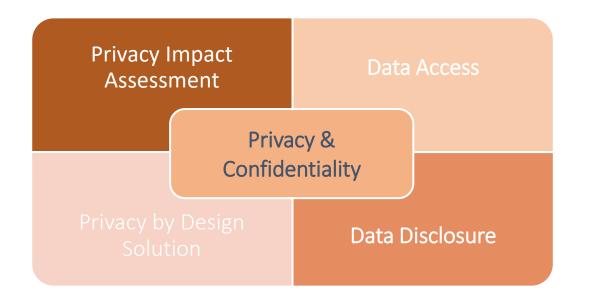
What Next: Rules Book on Data Management and Disclosure

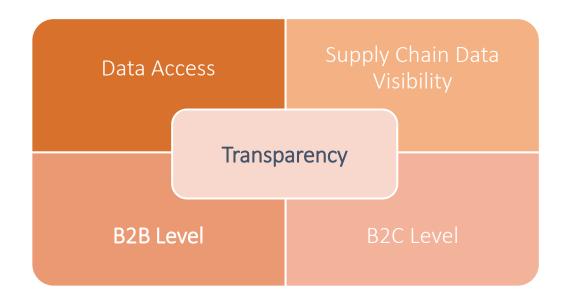




The Pilots - blockchain technology in the garment and leather value chain

What Has Been Done: Analysis of Privacy & Confidentiality and Transparency Issues





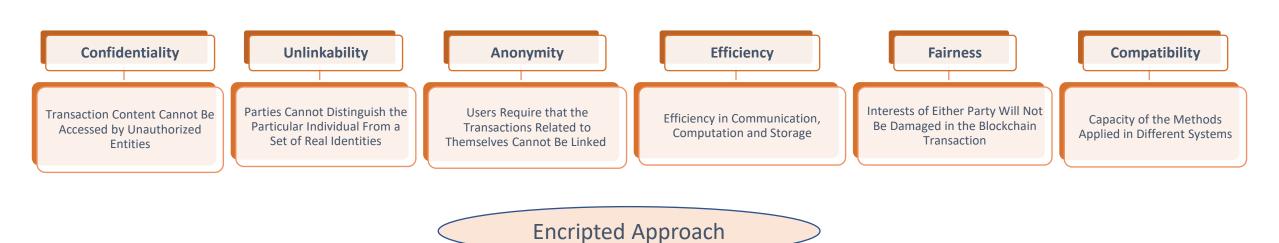
Trade-Off between
Privacy & Confidentiality and Transparency



The Pilots - blockchain technology in the garment and leather value chain

What Next: Implementation of the Privacy by Design Solution

Requirements of Blockchain Privacy Preservation



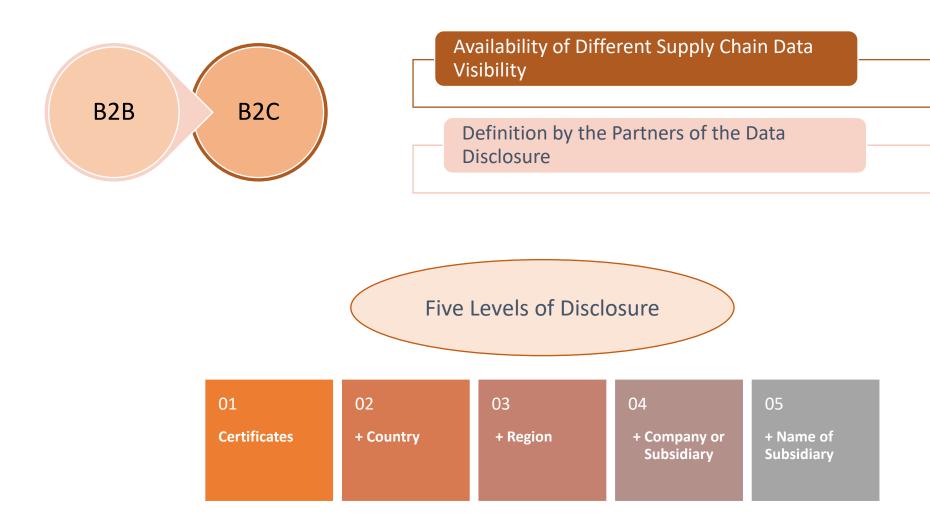
Only information Encrypted for a Specific Party Are Stored in the Blockchain

Encrypted Information Can Be Seen by Everyone but Understood Only by the Permitted Party

Permissions Are Enforced through Encryption

The Pilots - blockchain technology in the garment and leather value chain

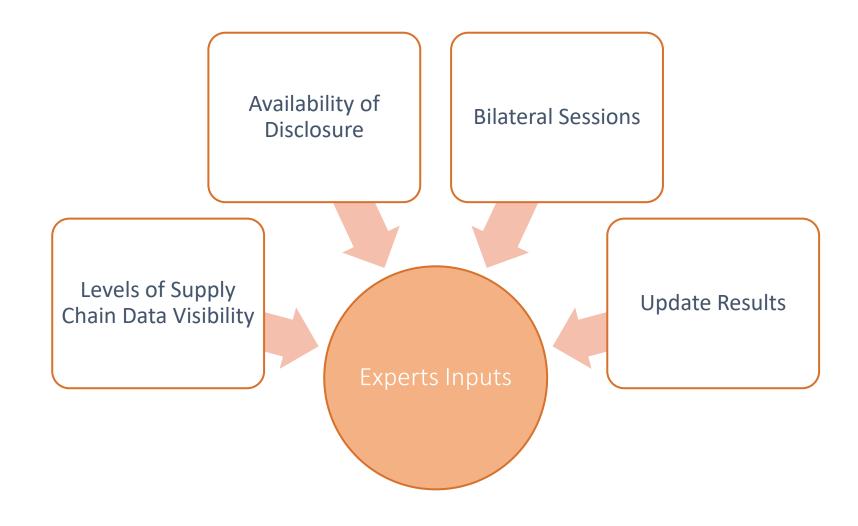
What Next: Identification of Transparency Layers





The Pilots - blockchain technology in the garment and leather value chain

What We Need From You





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Leather Blockchain Pilot

- Early stages of development
- Benefit of learning from the Cotton Blockchain Pilot
- Participating in the dry runs / testing of the cotton to aid understanding and progress for the leather pilot
- Established a group of project partners and held a welcome meeting



Step 1: Value Chain(s) Selection: Materials, Partners and Processes

Standard Leather value Chain



VALUE CHAIN

- Farms
- Tanneries
- Traders
- Product Manufacturers

MATERIAL

- Leather
- Components
- Finished Goods

PARTNER

- Farmers
- Manufacturers
- Retailers

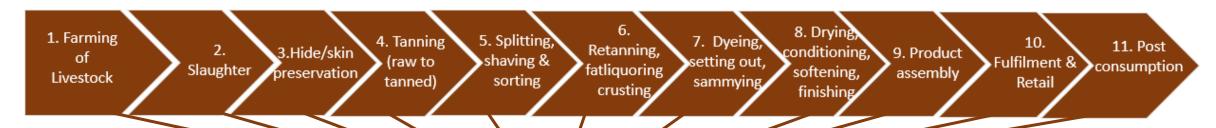
PROCESS (VC STEP)

- Farming
- Tanning
- Production (incl. transformation phases)



Step 2: Identify the information exchanges / data within the Value Chain(s) Selection

Standard Leather Value Chain

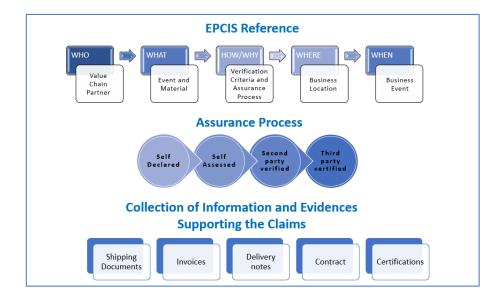


STANDARD DATA COLLECTION TEMPLATE

available to be used in all the business steps of the value chain - for all type of sustainability claims



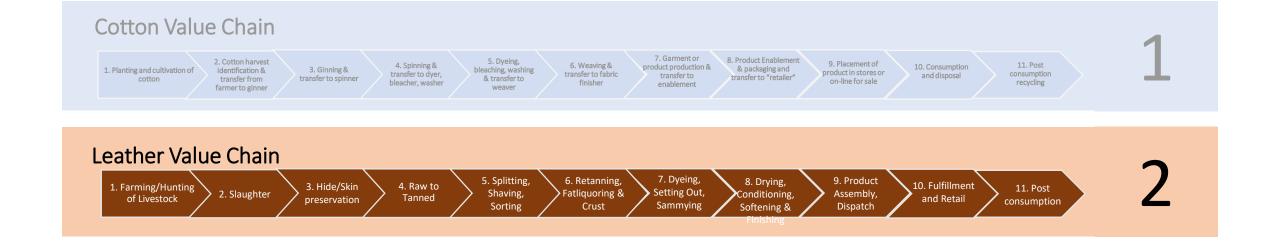
5 Ws	Definition
WHO	Value Chain Partner
WHAT	Event Type Material
WHY HOW	Verification Criteria & Validation Process
WHERE	Business Location
WHEN	Business Event TIme



Pilot process

Step 3: Identify the User Story – What do you want to achieve?

Pilot #1 - blockchain technology in the cotton value chain



What is your core business?
How does it impact the leather value chain?

Where do you position your user story in the leather value chain?

Who are the most relevant business partners in your value chain?

Pilot process

How to build the User Story - Example

Pilot #1 - blockchain technology in the cotton value chain

test reports will be uploaded to the blockchain

platform in order to create transparency.

User story #10 –					
AS A		I WANT TO		SO THAT	
Spinning mill		Upload the organic cotton certificates I receive from agricultural partners and certification entities		I can show the traceable origin of the cotton fibers I use	
Spinner		Upload the GOTS Transaction certificate issued by the certification body in the blockchain		I can demonstrate that the fabric maker receives GOTS certified yarns matching with GOTS certificate approved on-site by the third-party certification body.	
User Story LVC: Complete					
AS A		I WANT TO		SO THAT	
Leather Manufacturer		Ensure that leather manufactured in my tannery does not contain hazardous chemistry by buying chemicals from suppliers who are compliant with REACH regulations		No adverse health effects are suffered by people who use or wear products manufactured with leather produced at my tannery. Testing of the leather will be conducted by 3rd party verificompanies to demonstrate this cor	_

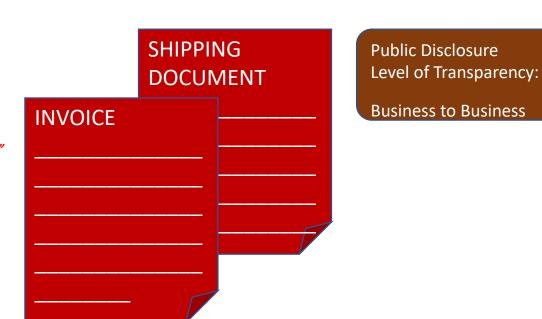


Piloting UNECE traceability framework in a blockchain environment

Step 5. To enable your user story – select your claim and validation method (this example is origin) Leather Value Chain



- Value Chain Step: Tanning
- User Story: In order to prove the transfer of ownership of the wet-blue tannery to the finishing tannery, the wet-blue tannery issues an invoice and a shipping list that confirms the transaction. Assurance Process: Second Party verified.
- *WHO:*
 - From **Tannery Name "ABC"**
 - To Tannery Name "XYZ"
- WHAT:
 - Event (transformation): Tanning
 - Material: Bovine Wet-Blue "A" grade, full substance
 - Verification Criteria (Evidence/Standard): Invoice from Tannery "ABC" to Tannery "XYZ"
- WHERE
 - Operation Location Tannery Location "ABC" address
- WHEN
 - Event Date and Time: **Date and Time**
- *WHY*
 - Business Operation: Continuation of process to complete leather manufacture





Participation structure

Piloting UNECE traceability framework in a blockchain environment

Pilot Scenario(s) preparation: Working Groups

Roundtable Organization: a phased-in expanding series of working groups as the pilot develops

Gap Analysis

Working group to undertake a gap analysis for cotton vs leather, and investigation on physical markers (PRO and CONs analysis, tender(?):

Team to be determined from cotton and leather pilots

Pilot Scoping

Working Group for scoping the pilot objectives and desired outcomes:

Made up of Direct
Project Partners plus
Secretariat and
Consultant Team

Support

Working Group to assist with gaps in value chains and expert input

Made up of Direct
Project Partners,
Support Project
Partners, plus
Secretariat and
Consultant Team

Validation

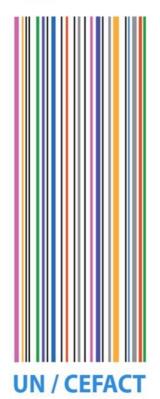
Working Group to provide physical pilot run and validation

Direct Project
Partners, Support
Project Partners,
Validation Partners,
plus Secretariat and
Consultant Team



Enhancing Transparency and Traceability for Sustainable Value Chains in the Garment and Footwear Industry



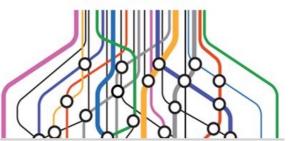


- Consultation: training plan, communication strategy, outreach plan
- **Press Release 11 May**
 - Update on member State endorsement
 - Opening of Call to Action, and submissions
 - Launch of The Sustainability Pledge
- Multi-Stakeholder Dialogue 21-23 September, Milan (hybrid format)





















IV. Q&A and wrap-up

Maria Teresa Pisani





UN / CEFACT







POLICY

<u>UNECE Policy Recommendation and implementation Guidelines N°46</u> (April 2021) The Call to Action / Sustainability Pledge - FR version — RU version (April 2021)

STANDARD

The Business Requirements Specifications (BRSs) for Traceability and Transparency for Textile and Leather (April 2021)

Part I High Level Process and Data Model

Part II Use cases and CCBDA

<u>The Business Process Analysis for Textile (ongoing)</u>

Business Process Analysis for Sustainability and Circularity in the Leather Value Chain

Code Lists and Identifiers Recommendation for Leather and Textile (ongoing)

PILOT

<u>Policy brief – Harnessing the potential of blockchain technology for due diligence and sustainability in cotton value chains</u> (April 2021)

GUIDELINES AND STUDIES

Mapping of policies, regulations and guidelines: Report, Policy developments on traceability and transparency and its Executive summary for policymakers (April 2021)

Webpage CUE SPACE

https://unece.org/trade/traceability-sustainable-garment-and-footwear Connexion - UN/CEFACT Collaboration Environment (unece.org)