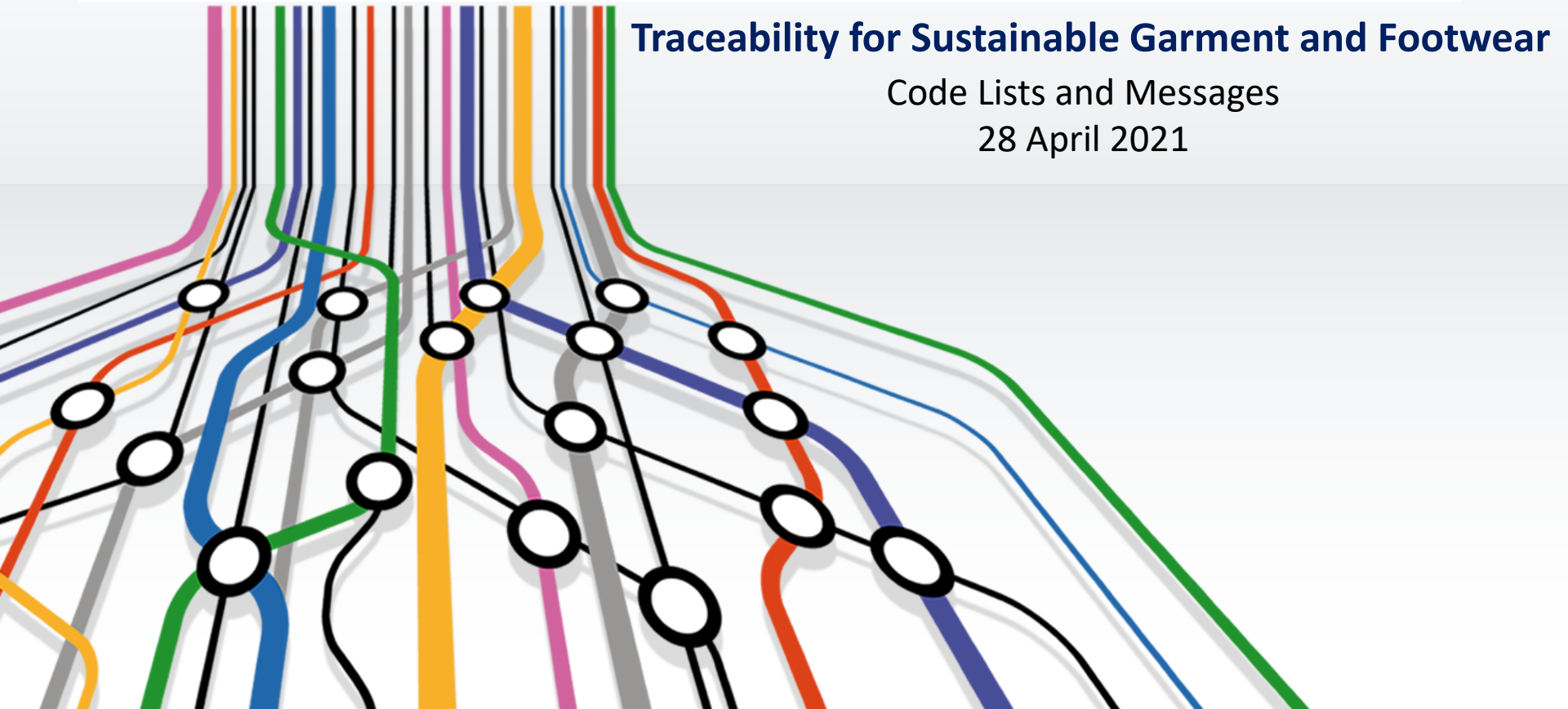


UN/CEFACT Standards

Traceability for Sustainable Garment and Footwear

Code Lists and Messages

28 April 2021



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

B
P
A



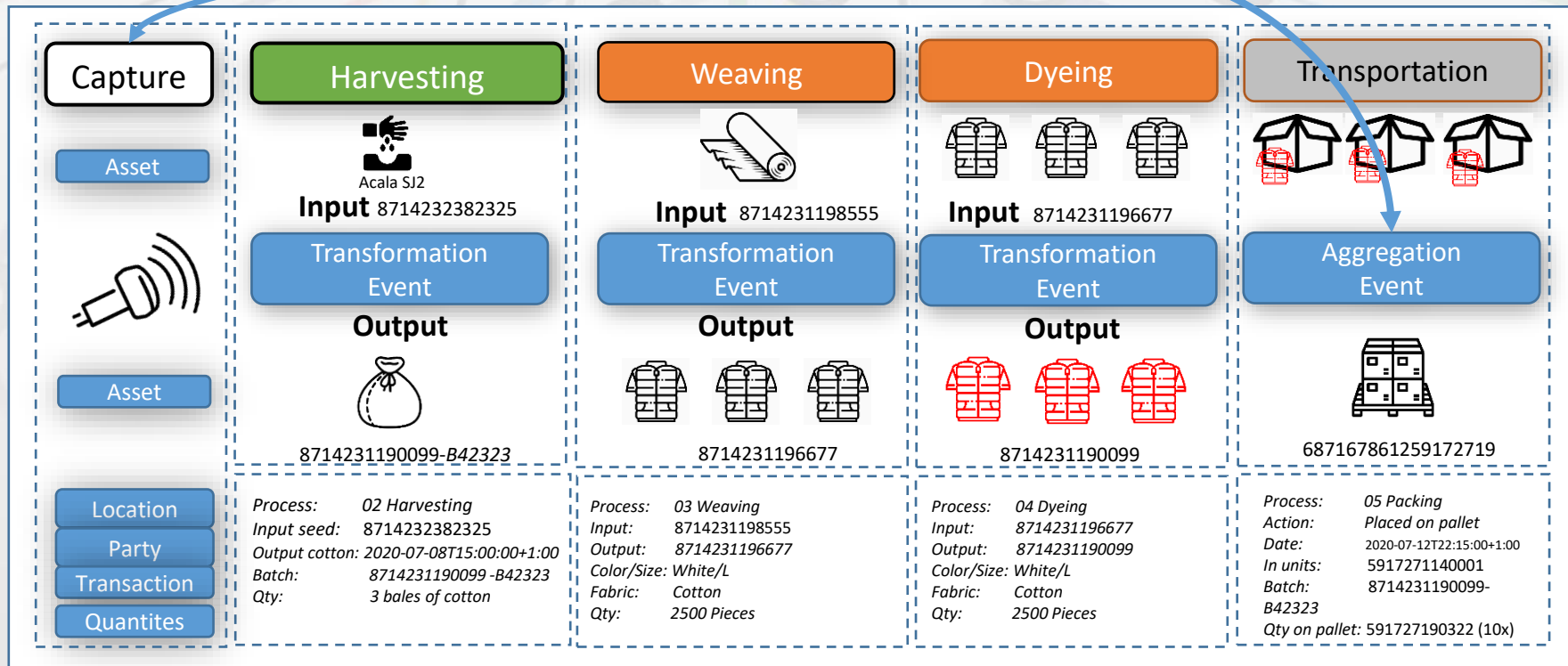
Input and criteria to enter/begin the process

The traceable asset has been packaged either alone or with other traceable assets into a logistical unit for transport. The logistical unit has a unique ID and the IDs of all of the traceable assets that it contains have been registered and linked to the logistical unit ID.

where/when to capture

which relevant event

B
R
S



Benefits of having data, codes, messages

Able to exchange
what's in ERP

Shared
what's in ERP

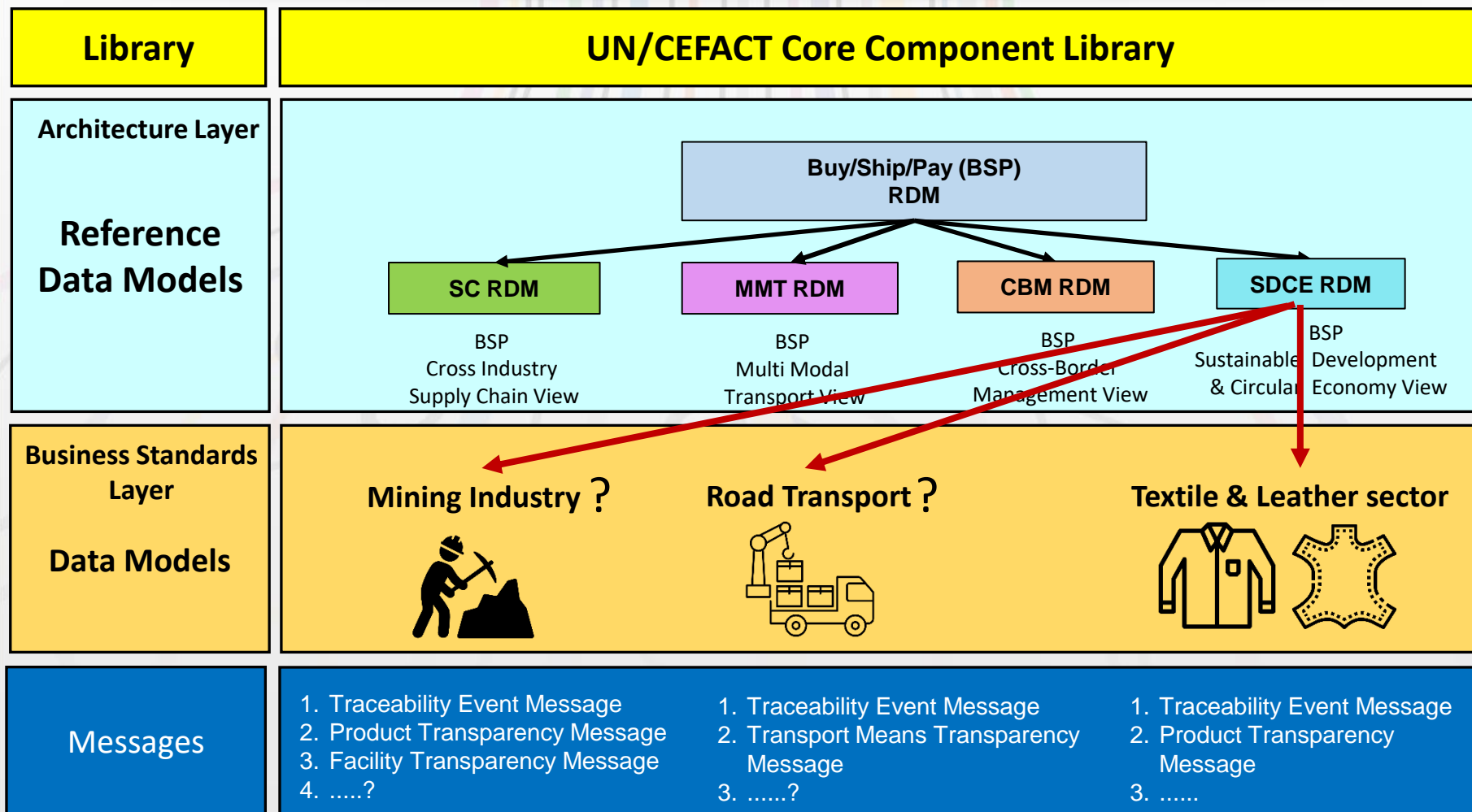
Reduce costs

BC Pilot
shows need

Sector needs
standards & tools

- information for traceability / transparency 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 manufactured in low cost or developing countries. Enter the data once and use it multiple
- the pilot shows that especially the manufacturing 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

From BRS to data, code lists and messages



Moving towards a business message context

BSP context

- ☐ Trade Product *
- > ● A_r ID *
- > ● A_r Global ID *
- > ● A_r Seller Assigned ID *
- > ● A_r Buyer Assigned ID *
- > ● A_r Manufacturer Assigned ID **
- > ● A_r Industry Assigned ID **
- > ● A_r Model ID **
- > ● A_r Name **
- > ● A_r Trade Name **
- > ● A_r Description **
- > ● A_r Type Code **
- > ● A_r Net Weight **
- > ● A_r Gross Weight **
- > ● A_r Genetic Modification Extent Code *
- > ● A_r Global Extension ID *
- > ● X_r Seller Assigned Extension ID **
- > ● X_r Buyer Assigned Extension ID **
- > ● X_r NSN ID
- > ● X_r NIIN ID
- > ● A_r Status Code
- > ● A_r Product Group ID
- > ● A_r Net Volume

TL Data Model context

- ☑ Trade Product *
- > ● A_r ID
- > ● A_r Global ID
- > ● A_r Seller Assigned ID
- > ● A_r Buyer Assigned ID
- > ● A_r Manufacturer Assigned ID
- > ● A_r Industry Assigned ID
- > ● A_r Model ID
- > ● A_r Name
- > ● A_r Trade Name
- > ● A_r Description
- > ● A_r Type Code
- > ● A_r Net Weight
- > ● A_r Gross Weight
- > ● X_r Genetic Modification Extent Code **
- > ● X_r Global Extension ID **
- > ● X_r Seller Assigned Extension ID
- > ● X_r Buyer Assigned Extension ID
- > ● X_r NSN ID
- > ● X_r NIIN ID
- > ● A_r Status Code
- > ● A_r Product Group ID
- > ● A_r Net Volume

Message context

- Trade Product
- > ● A_r ID
- > ● A_r Global ID
- > ● X_r Seller Assigned ID
- > ● X_r Buyer Assigned ID
- > ● X_r Manufacturer Assigned ID
- > ● X_r Industry Assigned ID
- > ● X_r Model ID
- > ● A_r Name
- > ● X_r Trade Name
- > ● X_r Description
- > ● A_r Type Code
- > ● X_r Net Weight
- > ● X_r Gross Weight
- > ● X_r Genetic Modification Extent Code
- > ● X_r Global Extension ID
- > ● X_r Seller Assigned Extension ID
- > ● X_r Buyer Assigned Extension ID
- > ● X_r NSN ID
- > ● X_r NIIN ID
- > ● X_r Status Code
- > ● X_r Product Group ID
- > ● X_r Net Volume

* Same principle can be applied for code list values

Why using codes and identifiers?

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 accessibility and findability of information much more efficient (data resources).

Information flows → accessibility - clarity – comparable – easy validated – consistent - flexible

Traceability

“...to ensure the reliability of **sustainability claims**” (UN Global Compact 2014)

“...and the **conditions in which they were produced** through the supply chain” (OECD, 2018).

Transparency

“...relevant information being made available... in a harmonized way..”

“... which allows common understanding, **accessibility, clarity and comparison**” (EU 2017).

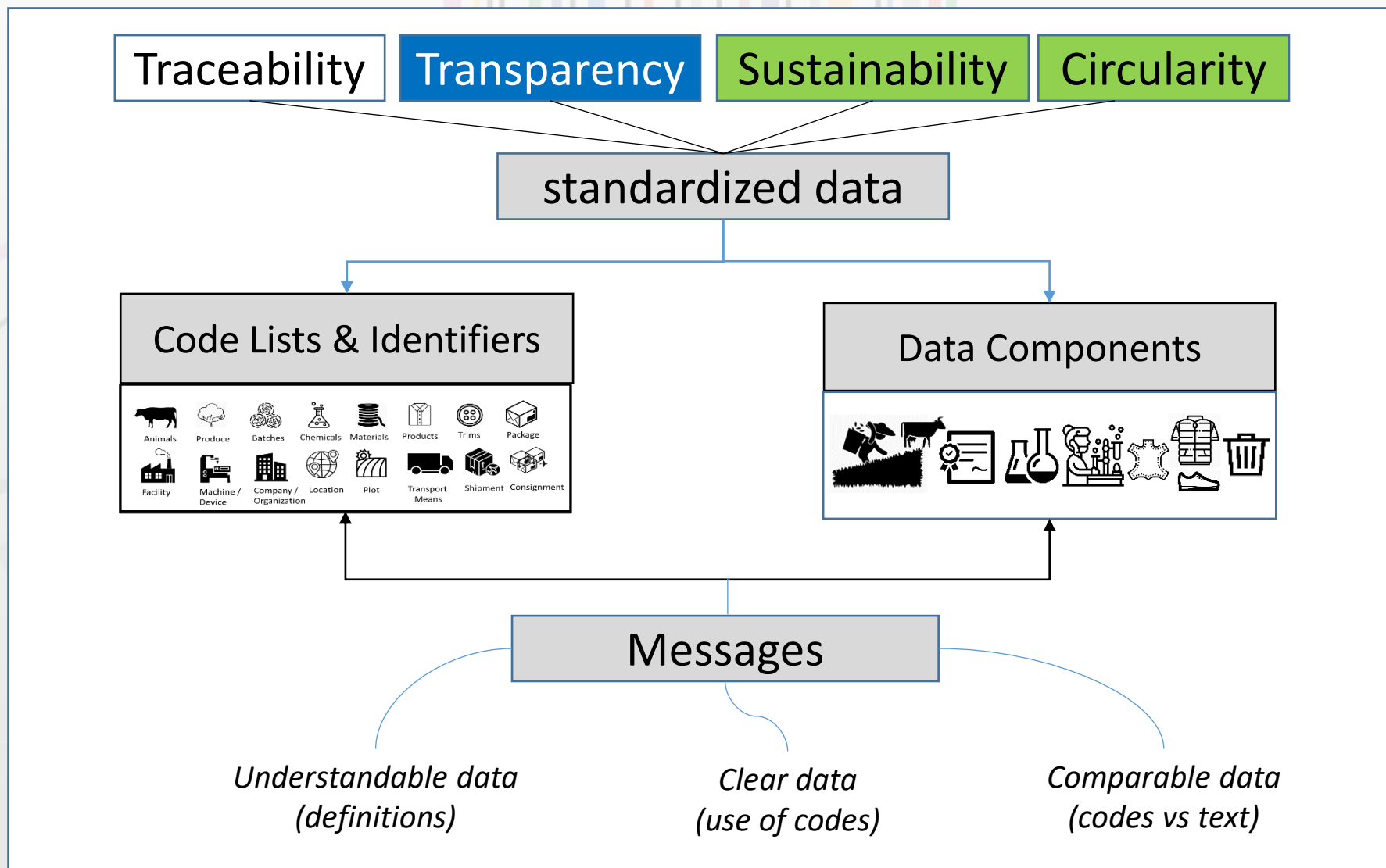
Sustainability

“... all activities, throughout a product’s life cycle, take into account their **environmental, health, human rights and socio-economic** impacts, and their continuous improvement (UNECE 2019).

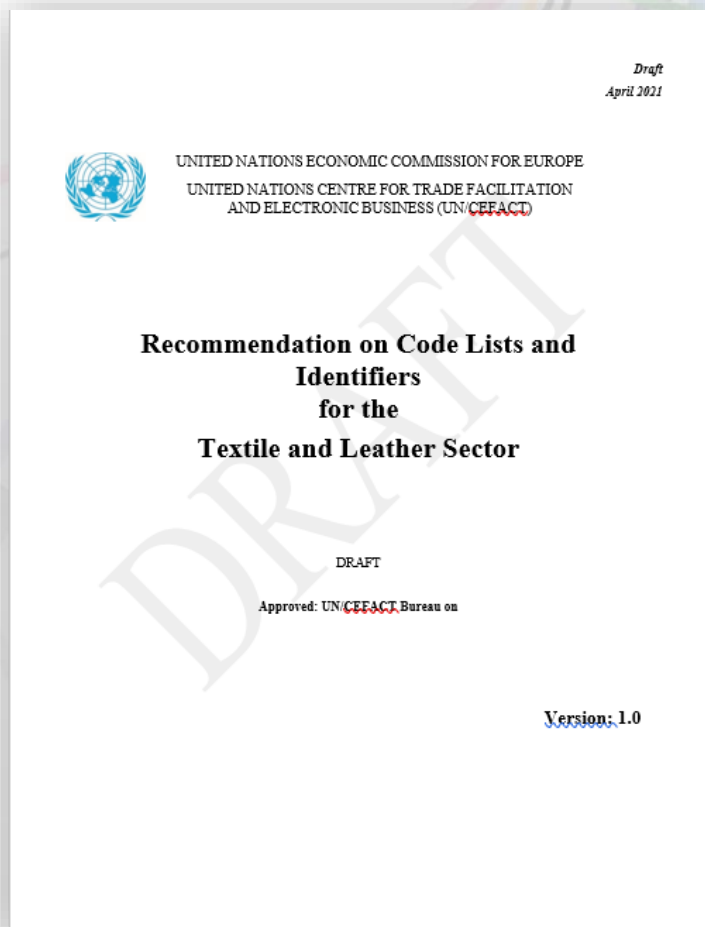
Circularity

“...the ability of this process to **retain the value** of products, materials and resources in the economy for as **long as possible**.”

Harmonized data, code lists and identifiers



Recommended code lists and identifiers

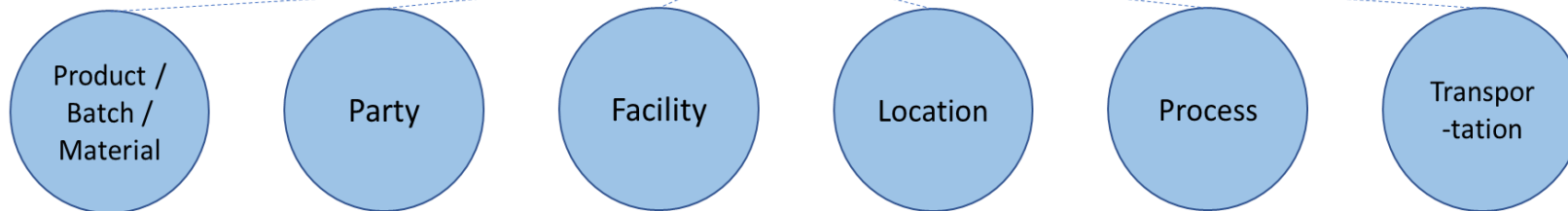


- A reference guide to code lists and identifiers for the textile & leather sector
- Includes a reference to the information entities in the data model
- Is based on desk research and still needs to be reviewed and updated
- The accessibility, processability of codes and identifiers differs strongly.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

Code lists and Identifiers

Grouped on key information entities

Key Information Entities



Code Lists and Identifiers

<ul style="list-style-type: none"> 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 Agricultural Species 	<ul style="list-style-type: none"> Party Role Language (ISO) Gender (ISO) 	<ul style="list-style-type: none"> Location Function 	<ul style="list-style-type: none"> Country (ISO) UNLOCODE Location Function Inventory Types Hazardous Pesticides 	<ul style="list-style-type: none"> Process Fabric Fault Category Fabric Fault Machine Type Technology Method Parameter MRSL 	<ul style="list-style-type: none"> 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	Location Function	Status Code	Assesment Type	Inspection Type
Brand Owner	Effluent Treatment Plant	Defected	Self Declared	Organizational Inspection
Consumer	Farm	Recycled	Self Assessed	Process Inspection
Farmer	Manufacturing facility	Reused	Peer Reviewed	Product Batch Inspection
Recycler	Animal farm	Registered	Verified by second party	Product Inspection
Retailer	Tannery	Returned	Certified by third party	Inventory Inspection
Second Party	Textile mill			Labelling inspection
Trader	Dyeing mill			Quality inspection
Waste Disposal Provider	Forrest Management Unit			Animal Inspection
Tanner				Packaging inspection
Service Provider				
Ginner				
Spinner				
Weaver				

Process Type Code	Inventory Type Code
.....	Finished goods
Setting Out	Maintenance, repair & operations (MRO)
Shaving (hides)	Packing materials
Shearing (animals)	Raw materials
Reeling (silk)	Unfinished Products.
Softening	Work in progress (WIP)
Sorting	
Spinning	
Splitting	
Tanning (leather)	
Thermo Mech. Recycling	
Warehousing	
Weaving	




These data maintenance requests will be processed during this forum

Code lists and identifiers

Grouped by organization/agency

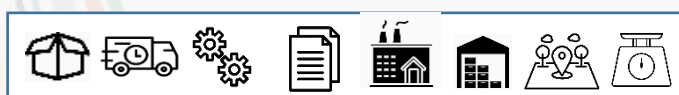
Agency/Organization	Code List reference	Related Information Entity	
 BCI Better Cotton Initiative www.bettercotton.org	Pesticides Classification	Toxicological Hazardous Material	
 CAS A DIVISION OF THE AMERICAN CHEMICAL SOCIETY	CAS Chemical Compound	Distinct Chemical	
 CITES	CITES Endangered Species of Wild Fauna and Flora	Species	
	Agricultural Produce (plants)	Crop Produce Batch	
	Agricultural Species	Species	
	Leather classification	Product Classification	
	 CBIZ 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	
	Fabric Operation Parameters	Specified Parameter	
	Fabric Machine	Production Machine	
	Weave Type	Product Characteristic	
	Colour Type	Product Colour	






 CBIZ 4.0	
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
Knitting/clothing Machine	Production Machine
Value Base System (for size)	Product Characteristics
Intended Use Codes	Photographic Picture
Resolution Type	Photographic Picture
Reason for Transportation	Specified Inventory

Code lists & identifiers

Grouped by organization/agency



 Food and Agriculture Organization of the United Nations	Indicative Crop	Product Classification
 GLOBAL TEXTILE SCHEME	Product Classification	Product Classification
 GS1	GPC Clothing (67), Footwear (63)	Product Classification
 ISO	Colour Fastness Test (yarn)	Specified Method
	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 definitions	Trade Product
	Representation of human sexes	Trade Product Consumer Gender
	ISO 26000, Sustainability Standards	Sustainability Characteristics
	Other	
 ITC	Leather glossary	Leather products
	Sustainability Standards	Sustainability Characteristic
	Sustainability Criteria	Metric Characteristic
	Sustainability Areas (Themes)	Sustainability Characteristic Category
	Sustainability Sub Areas (Sub Chapters)	Sustainability Characteristic Type
 OECD	Health Effects	Sustainability Inspection
	Effects on Biotic Systems	Sustainability Inspection
	Environmental Fate and Behaviour	Sustainability Inspection
 TextileExchange	Textile process	Specified Production Process
	Product	Trade Product
	Product Category	Trade Product Category
	Raw Material	Specified Material
	Final Product Technical Quality Parameter	Specified Parameter


 UNECE UN/CEFACT	Assessment	Product/Process/Organizational 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
 World Health Organization	HS Codes Raw hides and skins, leather etc	Product Classification
	HS Codes Textiles and textiles articles	Product Classification
	Pesticides by Hazard	Toxicological Hazardous Material
 ZDHC	Manufacturing Restricted Substance List	Specified Material


Code lists & Identifiers

Grouped by subject

4.4 Classification

















4.4.1 Crop

Code List #13	Agency	Code List	URL
Indicative Crop Classification for the agricultural	 Food and Agriculture Organization of the United Nations	FAO 1.1 (World Programme for the census of Agriculture 2020)	PDF
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		

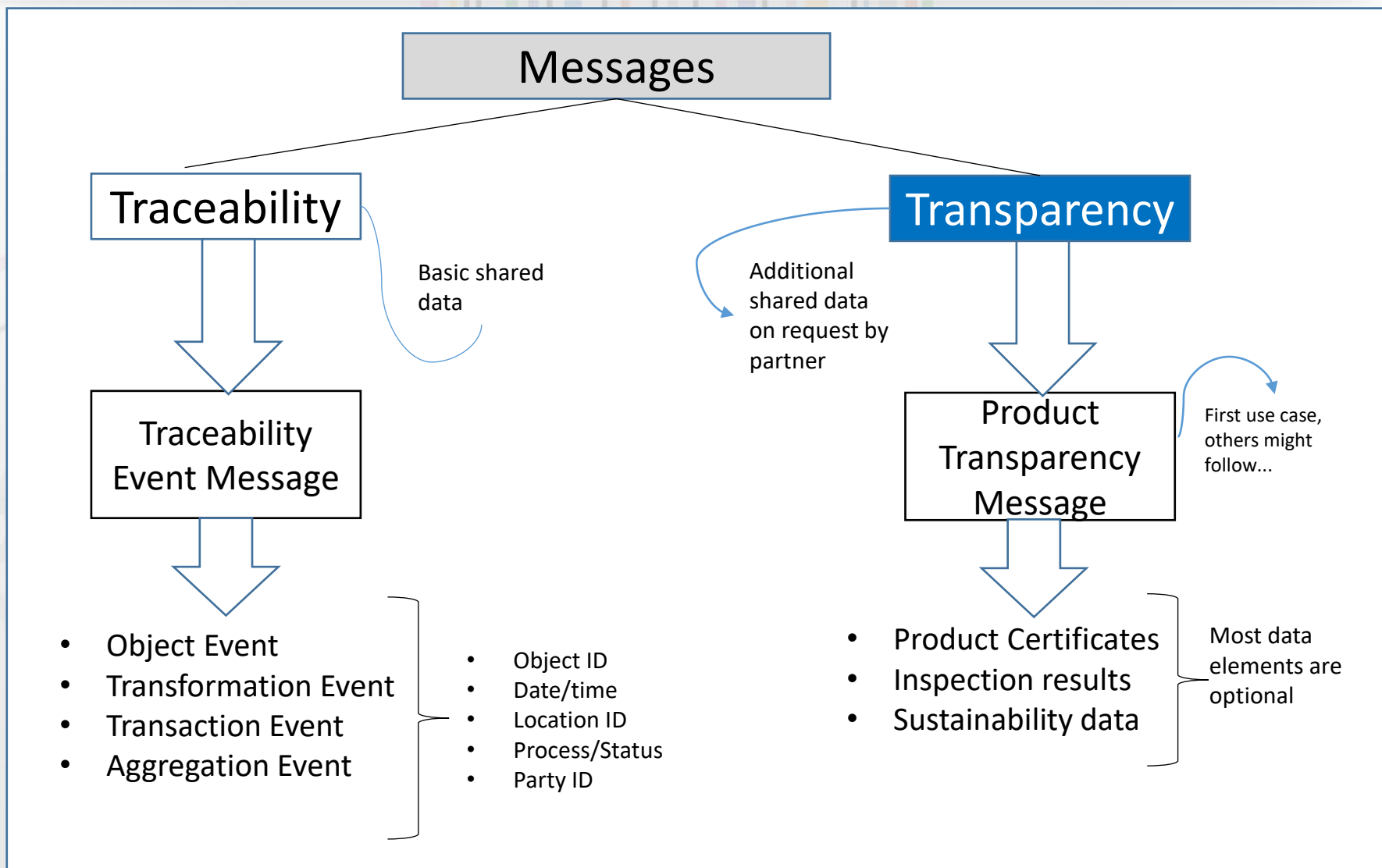
Code List #22	Agency	Code List	URL
Product (Category)	 TextileExchange	Textile Exchange ASR-213-V1.0	PDF
Code TAG	Code Name		
<u>PC0001</u>	Men's apparel		
<u>PC0002</u>	Women's apparel		
<u>PC0003</u>	Babies' apparel		
	ETC		

Code lists and identifiers

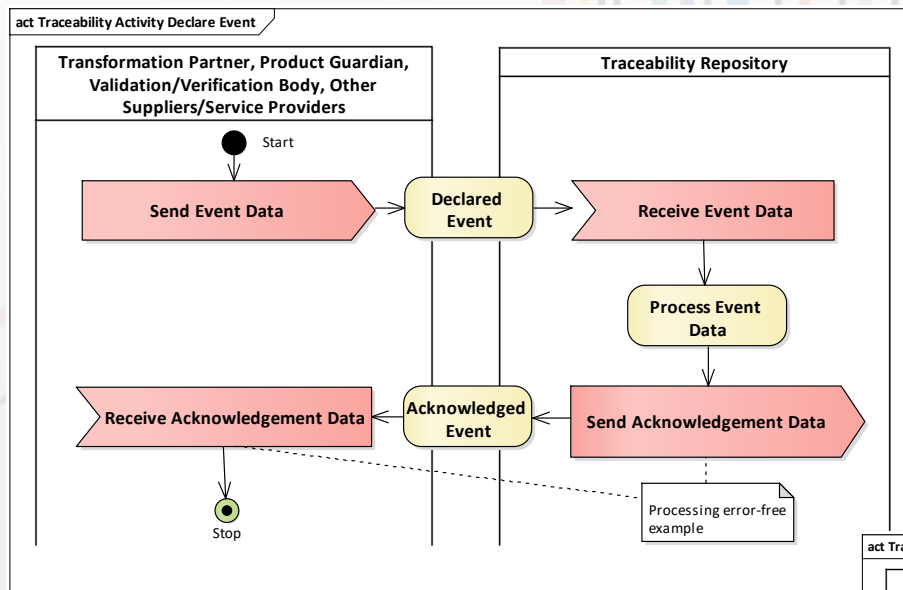
Key Identifiers

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

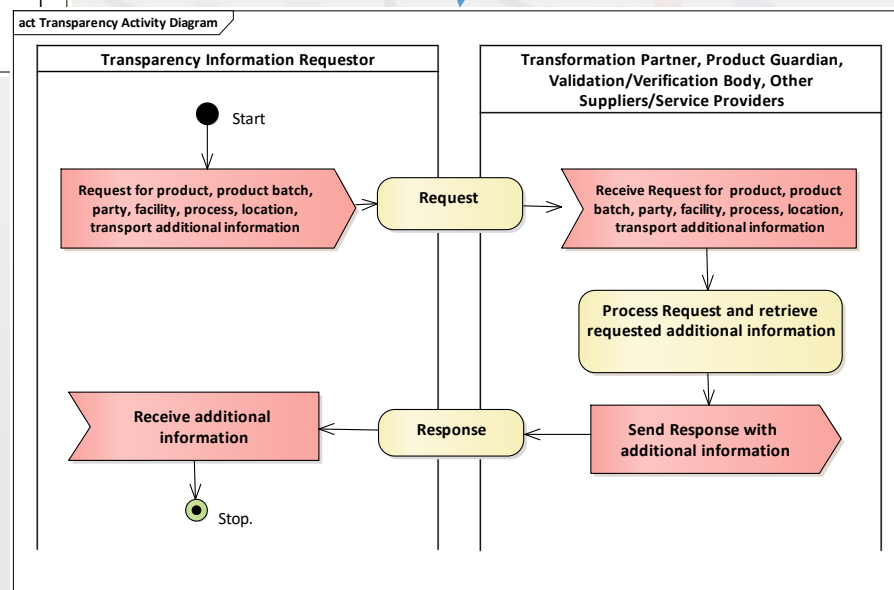
The first messages



Declare an event, request for additional info

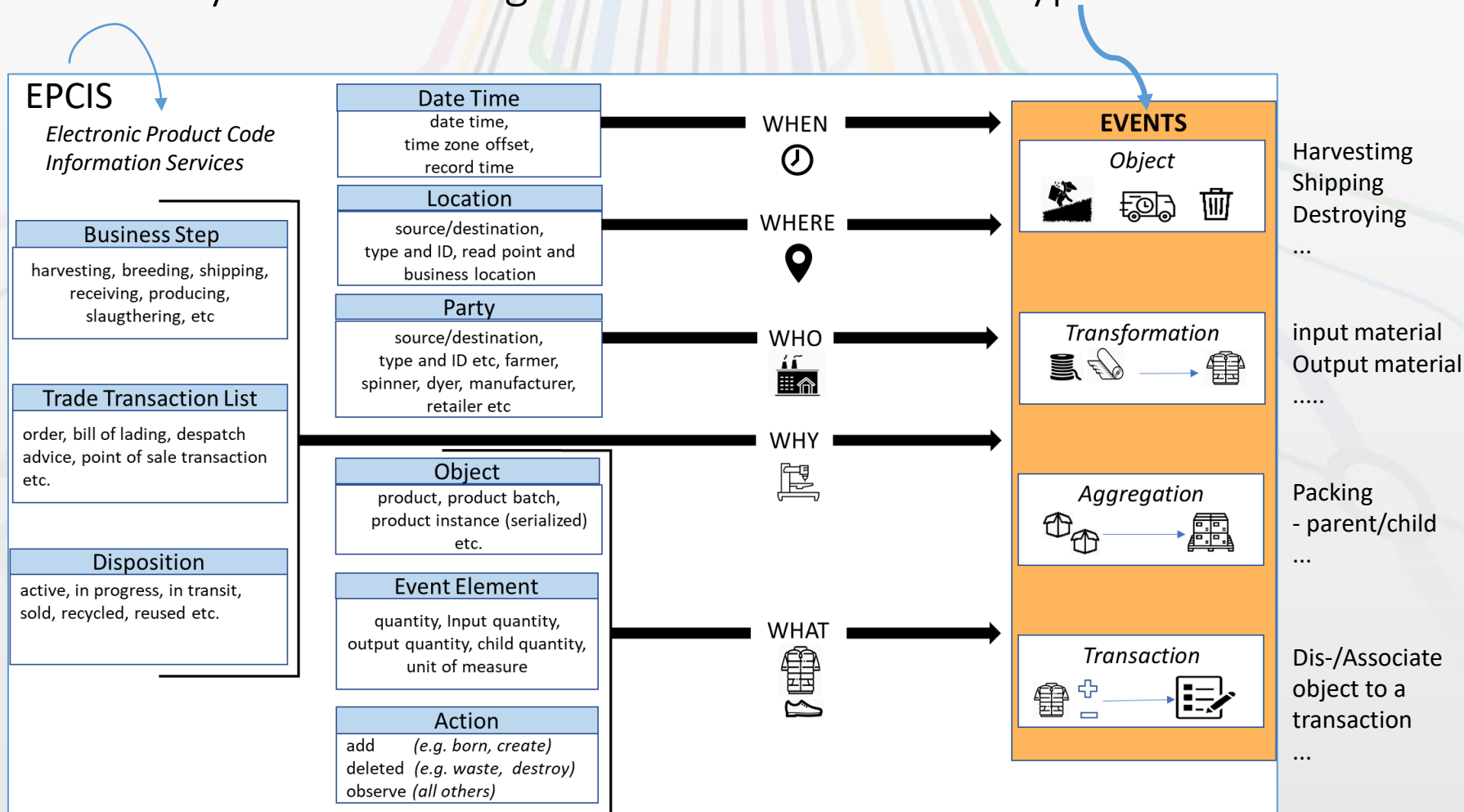


before requesting additional info the user must retrieve events for which someone wants to collect additional information (from the involved partner)



Type of traceability events

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) (Content)	Shipment Reference AB1 Product 1 / Batch 1 10 PCS	What	Object (asset) (Content)	Shipment Reference AB1 Product 1 / Batch 1 10 PCS	What	Object (asset) (Content)	Shipment Reference BC1 Product 1 / Batch 1 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 Transaction List	Invoice Facility_A-01		Business Transaction List	P.Order Facility_B-P0.01 Invoice Facility_A-01		Business Transaction List	P.Order Facility_B-P0.01 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

The Product Transparency message

- Certificate(s) details
- Certification details
- Sustainability characteristic(s)
 - Type Code (from ITC)
 - Value Text
 - Inspection results
 - Referenced Standard (from ITC)
- 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)

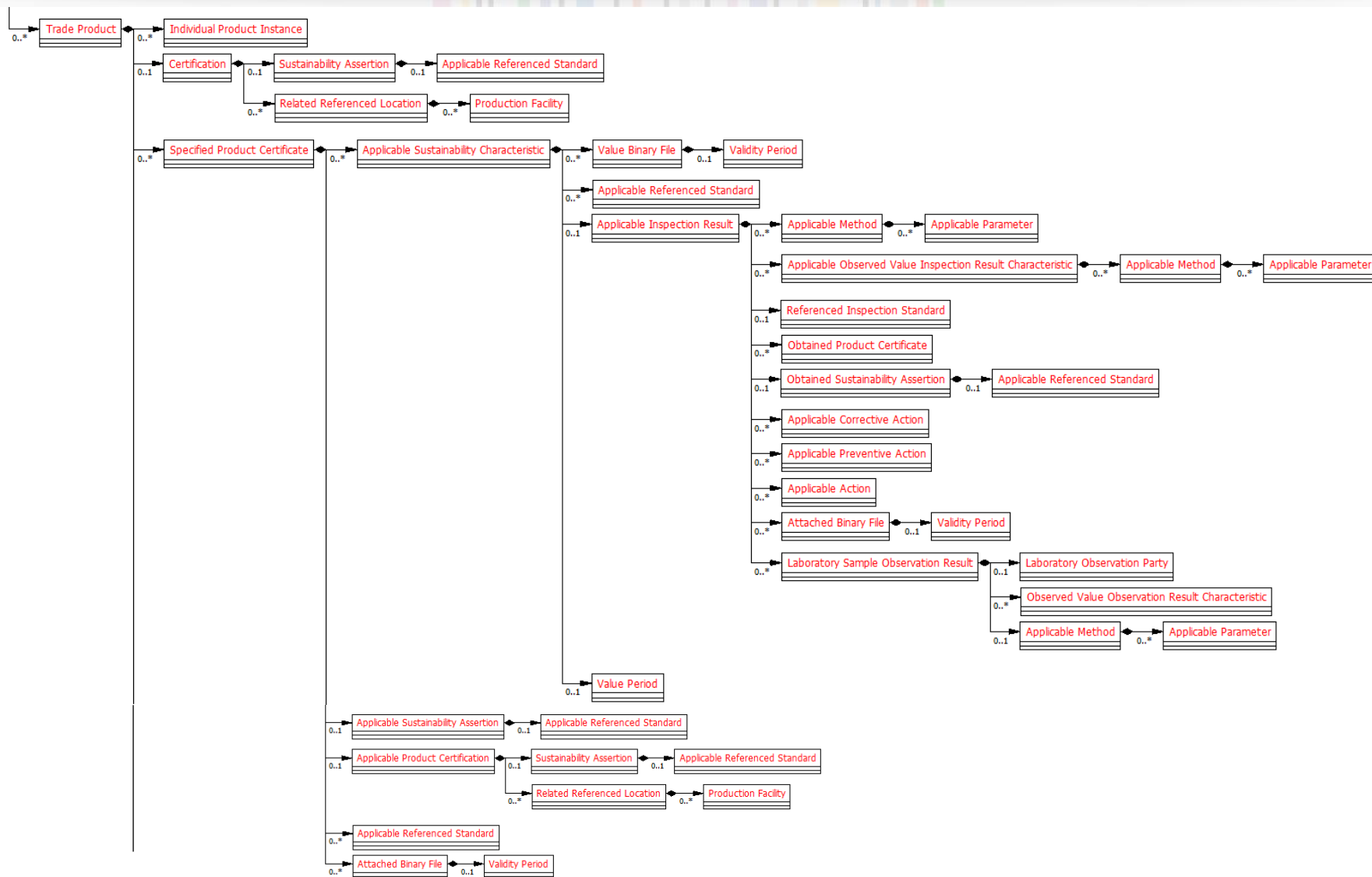
Certificate

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

```

1  <?xml version="1.0" encoding="UTF-8"?>
2  <rsm:ProductTransparencyMessage xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:rsm="urn:un:unece:
   urn:un:unece:uncefact:data:standard:ReusableAggregateBusinessInformationEntity:21A" xsi:schemaLocation="urn:un:unece:
3  <rsm:ExchangedDocument>
4  <ram:ID>289771982</ram:ID>
5  <ram:IssueDateTime>
6  <udt:DateTimeString>2021-04-11T12:37:38.7041375+01:00</udt:DateTimeString>
7  </ram:IssueDateTime>
8  <ram:SenderTradeParty>
9  <ram:ID>12809831029</ram:ID>
10 </ram:SenderTradeParty>
11 <ram:RecipientTradeParty>
12 <ram:ID>1</ram:ID>
13 </ram:RecipientTradeParty>
14 </rsm:ExchangedDocument>
15 <rsm:TradeProduct>
16 <ram:GlobalID>8735667213218789</ram:GlobalID>
17 <ram:SpecifiedProductCertificate>
18 <ram:ID>21312321321</ram:ID>
19 <ram:IssueDateTime>
20 <udt:DateTimeString>2021-04-11T12:37:38.7041375+01:00</udt:DateTimeString>
21 </ram:IssueDateTime>
22 <ram:ExpiryDateTime>
23 <udt:DateTimeString>2021-04-11T12:37:38.7041375+01:00</udt:DateTimeString>
24 </ram:ExpiryDateTime>
25 <ram:TypeCode>753</ram:TypeCode>
26 <ram:Description>Certificate of sustainability</ram:Description>
27 <ram:IssuingPartyID>2197983798</ram:IssuingPartyID>
28 <ram:ApplicableReferencedStandard>
29 <ram:VersionID>6.0</ram:VersionID>
30 <ram:Name>GOTS ORGANIC</ram:Name>
31 </ram:ApplicableReferencedStandard>
32 <ram:AttachedSpecifiedBinaryFile>
33 <ram:FileName>MyCertificate.PDF</ram:FileName>
34 <ram:URIID>https://Certificates/MyCertificate.PDF</ram:URIID>
35 <ram:IncludedBinaryObject>UjBsR09EbGhjZ0dTQUxNQUFUUNBRU1tQ1p0dU1GUXhEUzhi</ram:IncludedBinaryObject>
36 </ram:AttachedSpecifiedBinaryFile>
37 </ram:SpecifiedProductCertificate>
38 <ram:RelatedSupplyChainTradeTransaction>
39 <ram:ID>2132132132</ram:ID>
40 <ram:TypeCode>105</ram:TypeCode>
41 <ram:AssociatedReferencedDocument>
  
```

Certificate

Envelope: sender/receiver

Product ID

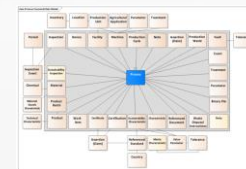
Certificate ID

Standard Reference

Attachment

What else?

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

End of presentation

Thank you.