Day 1 - 21 Sept. 2021

Afternoon

Coffee break
MODULE 3: PRINCIPLES AND COMPONENTS OF A TRACEABILITY AND TRANSPARENCY SYSTEM - TRACEABILITY AND TRANSPARENCY PRINCIPLES
Learning Objective : Deep dive into the traceability and transparency principles, components, cost allocation, incentive systems and advanced technologies
Presenter: UNECE Project Expert, Virginia Cram-Martos
MODULE 4: MAKING TT, SUSTAINABILITY AND CIRCULARITY WORK FOR SMALL ACTORS AND VULNERABLE GROUPS
Learning Objective : Take stock of key considerations to create inclusiveness through traceability systems
Presenters
 SDA Bocconi/UNECE Project Expert, Francesca Romana Rinaldi
 ITC, Joseph Wozniak, Head, Trade for Sustainable Development Programme
Discussants
 OACPS Secretariat, Yvonne Chileshe, Expert in Commodities & Value Chains Development
 Uzcharmsanoat Association, Farkhod Nurmukhammedov, Deputy Chairman Initiative for Compliance and Sustainability, Carole Hommey, Coordinator





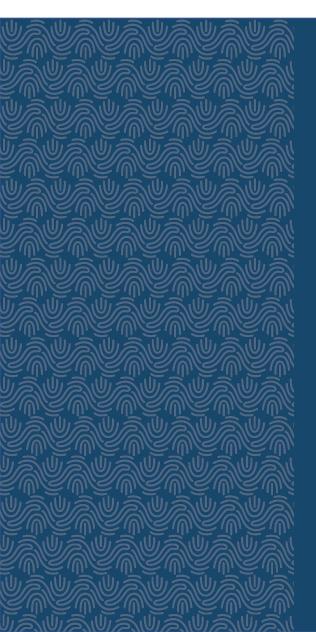












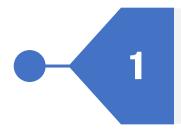
UNECE-SDA Bocconi Regional Workshop 21-23 September 2021

MODULE 3/PRINCIPLES AND COMPONENTS OF A TRACEABILITY AND TRANSPARENCY SYSTEM

SEPT 21, 16:00-16:45 CEST

Virginia Cram-Martos, CEO, Triangularity S.L.

Principles and Components of a Traceability and Transparency System



Overview based on the UNECE Guidelines for Recommendation No. 46 on enhancing traceability and transparency of sustainable value chains in the garment and footwear sector*

- a. The 9 traceability principles
- b. The 9 key traceability concepts
- c. Cost allocation and incentives
- d. Role of advanced technologies and technology selection matrix



Implementing the Principles and Components - the WWF experience (Discussion)

* Document ECE/TRADE/C/CEFACT/2021/10





The 9 Traceability Principles

Awareness - Of the benefits

Knowledge - About: why (purpose), what (traceable asset & information), who, where and when

Risk-based analysis - To maximise impact and make the best use of limited resources

Commitment - Embedded into policy, legal frameworks and corporate strategies

Engagement - Supports and builds cooperation and a consensus approach

Structured implementation - Required for accuracy and accountability

Norms and standards - Decreases future costs and increases interoperability

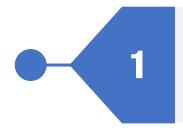
Appropriate technology - Matching the capabilities of participants

Inclusiveness - For acceptance, support and effectiveness



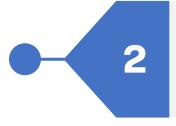


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The 9 Traceability System Components



A Claim

Statement supported by data



Traceable Asset

Product batch, trade unit, product



Logistics Unit

Contains traceable assets for transport or storage



Identifier (ID)

Is unique to an entity and links it to information



Traceability Models

Organize the flow of traceable assets in a value chain



Events

Activities where data needs to be collected



Entry & Exit Points

The events where traceability starts & ends



Verification Criteria

Define scope & parametres of verification



Verification Process

Confirmation of a claim via evidence









High-level statement about:

- a characteristic of a product (asset)
- a process
- an organization associated with that asset

In order to show that the characteristic is true, it is necessary to trace the asset as it moves through the value chain







Traceable Asset



Can be defined at different levels of granularity

For example

- Individually (for example, a single garment or purse)
- In batches from raw material production or manufacturing processes (for example a bale of cotton, one machine load of dyed fabric, all the products produced by one machine during a specified period, etc.)
- In trade units, which are quantities used for buying and selling (for example a package of shirts or a container-load of thread)







Traceable Asset

In textile and leather value chains, assets need to be traced across major transformation stages

- Fiber cultivation and harvest / livestock raising and slaughter
- Thread production / leather tanning
- Fabric weaving / leather finishing
- Clothing / footwear production
- Transport and storage where they can be aggregated or disaggregated (into trade or logistic units)
- Retailing
- Consumer use and end of life

At each transformation stage different traceable assets need to be defined









Traceable Asset



Unique IDs will be discussed in more detail under "Identifiers"

Traceable assets that are inputs and traceable assets that are outputs need to be clearly defined and linked

 Traceability is maintained from the farm/factory to the final product through a "chain" of unique IDs. In other words, the output from each transformation process should be given a unique ID which is linked to the ID(s) of its input(s).







Logistics Unit



Logistics units contain traceable assets for transport and/or storage

- Most often they contain **aggregated traceable assets** (for example, multiple fabric rolls in a container)
- But they may also contain disaggregated traceable assets (for example, one batch of thread spindles packaged into multiple logistics units (such as pallets)
- Logistics units are given IDs in order to follow the traceable assets they contain







Identifier (ID)



 IDs are required for all the entities (i.e. traceable assets, enterprises, locations, logistics units) and processes that information is collected about

 Whenever possible, IDs should be based on open, non-proprietary standards in order to support interoperability

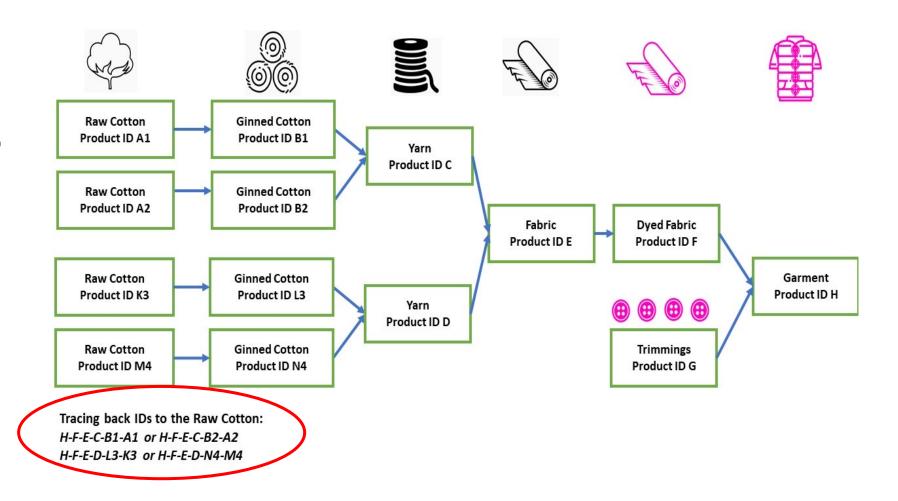






Identifier (ID)

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







- Unique Identifiers
 Create Traceability
- And are the Doors to Further Process and Product Information



Identifier (ID)



Examples of IDs	Type of ID
United Nations Location Code (UN/LOCODE)	Location
Global Legal Entity Identifier (LEI)	Organization
Open Apparel Registry ID (OAR ID)	Facility
Global Trade Item Number (GTIN)	Product
National tax IDs for companies	Organization









Challenges for Ids

- How to attach a unique ID to an output so that you are sure it will travel with the product?
- How to capture the IDs so they are properly linked?
- How to prevent the use of fraudulent IDs?

All at a minimal cost

Remembering that small cost increases up-stream result in much larger increases downstream as each participant add a % markup to the price







Traceability Models



- A "Traceability model" is the organization of a value chain in order to ensure that traceability can be implemented.
- The usefulness of different models depends upon the type of product and the claims being made.
- Examples of commonly used traceability models are
 - Product segregation
 - Mass balance, and
 - Book and claim



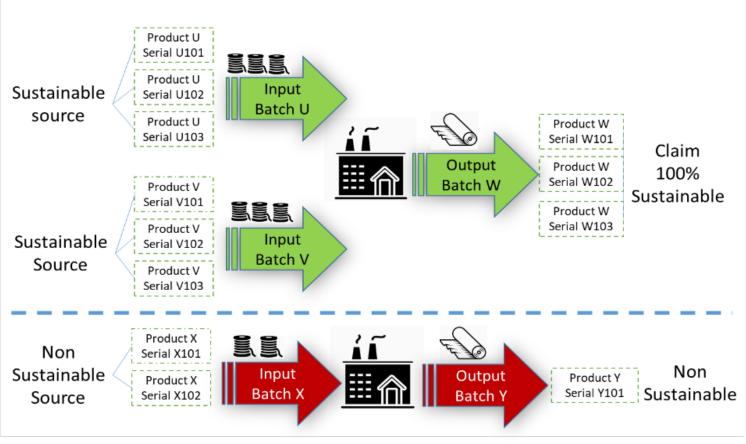




Traceability Models

Product Segregation

There is a physical separation of certified materials and products from non-certified materials and products at each stage in the value chain







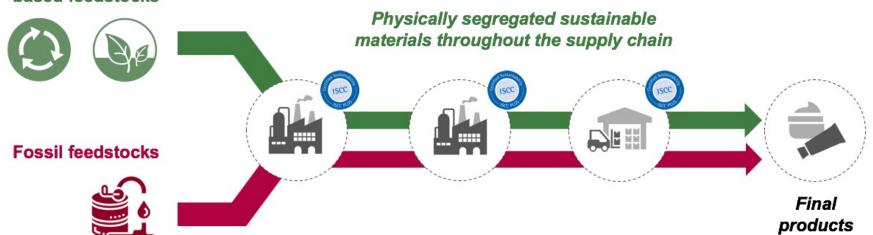


the value chain

Types of Product

The bulk commodity model allows the The identity preservation (IP) model mixing of certified materials from different producers

Circular or biobased feedstocks



Graphic from: https://www.iscc-system.org/about/circular-economy/physical-segregation/

does not allow mixing of certified

materials from different producers in





Mass Balance

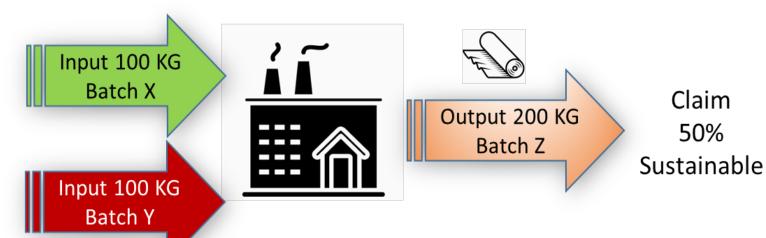


Traceability Models

Products from both sustainable and nonsustainable sources are mixed, but an exact account is kept of the volume ratios so that the amount of sustainable content claimed is equal to the amount of sustainable products or materials used.

Sustainable source

non Sustainable source







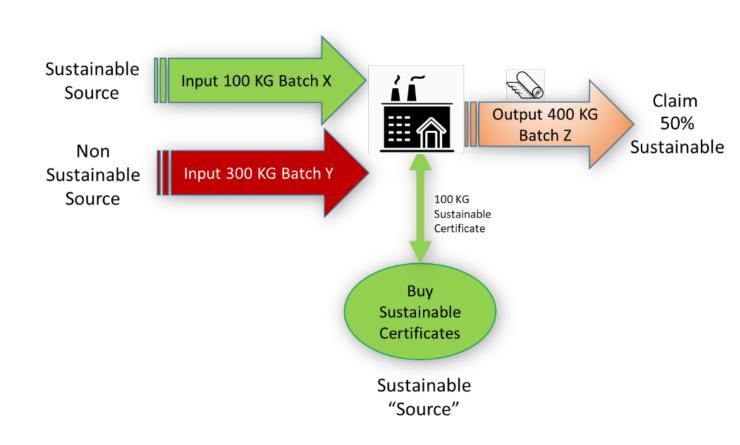
Claim

50%

Book and Claim

- When non-sustainable and sustainable physical products or materials are mixed and sold, the right to claim sustainable sourcing is traded in the form of sustainability certificates.
- A central authority monitors claims by brands and retailers and compares these with the number of certificates issued and traded.
- The earnings from the sale of certificates is used to make payments to the producers whose goods are certified as using the good practice, thus providing an incentive for others to be certified.



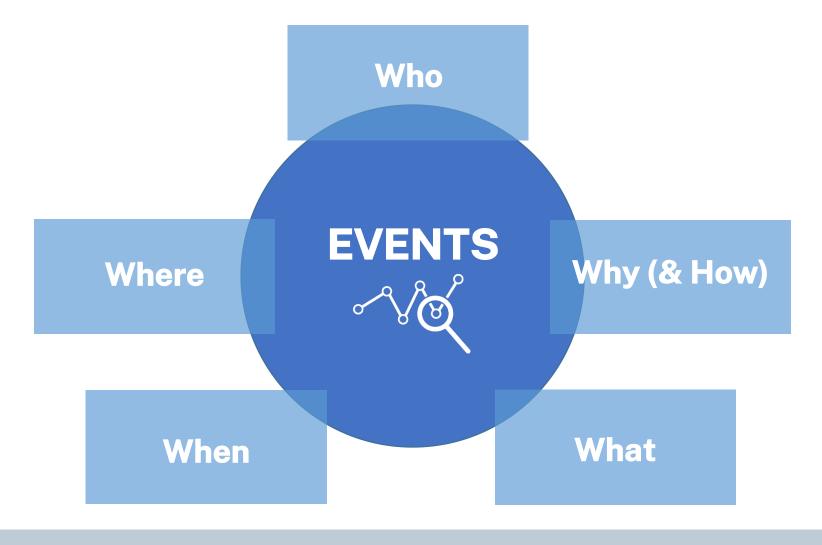








- Traceability is Created Around Events and Their
 5Ws
- Events are those activities where data are collected
- Depending upon the activity/event, data collection may take place just before or just after the event, or at both times
- Traceability systems usually collect, for each event, data for the 5Ws

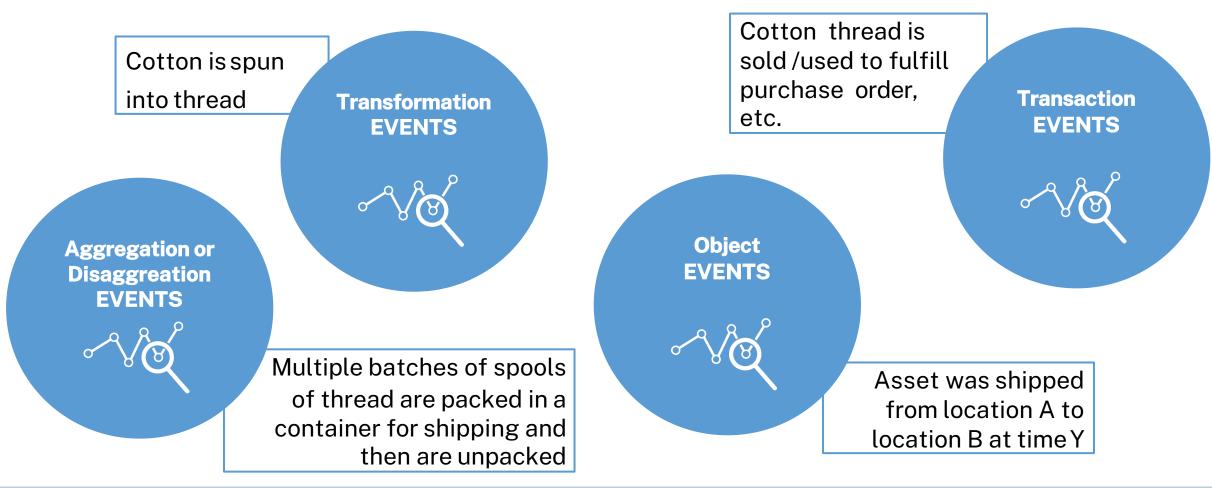








Types of Events / Activities Inside a Process

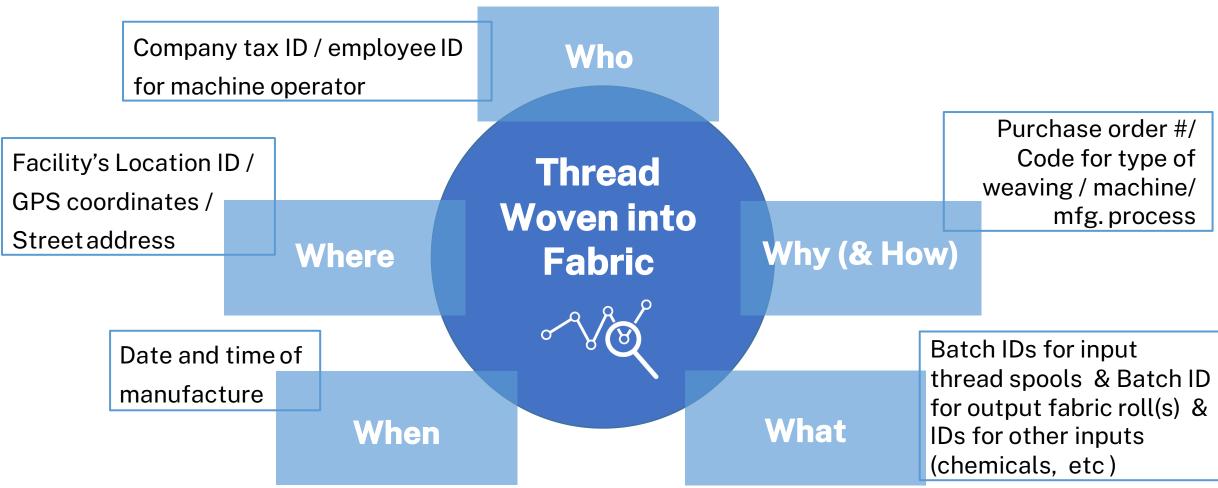








An Example of Transformation Event Data







Harvesting







Where

8714231140184 Sub-Location ID

- GPS



What

8714231147345

- Batch: B42323 - Qty: 500

- Cert: A (organic),

- Cert: B (Fair Trade)

When



2020-07-08T15:00:00+1:00

Who



8714231140580

Logistic unit: 8714231190099

Cert: A (organic), Cert: B (Fair Trade)

Harvested: 2020-07-08T15:00:00+1:00

Product: 8714231147345

Batch: B42323

Qtv: 500

Production



Process-Code: 02



Where 5917271140344

Sub-Location ID

ProductionLine: 6



What 5917271140001

- Batch: B87261

- Piece Qty: 30

- Cert: A (organic),

- Cert: B (Fair Trade)

When



2020-07-10T11:25:00+1:00

Who



59172711701444



Logistic unit: 591727190322

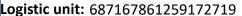
Prod.Date: 2020-07-10T11:25:00+1:00

Product: 5917271140001 Batch: B42323

Qty: 30

Cert: A (organic), Cert: B (Fair Trade)





Shipped date: 2020-07-12T22:15:00+1:00

Log. Units: 591727190322...332 (10 boxes) Product in log. unit: 5917271140001

Product Qty per Log Unit: 30



Example of

Data

Specific Event

Events

Sub-Location ID



What 591727190322

- Product: 5917271140001

- Batch: B87261

Transport

Why Process-Code: 03

Where 59113321130788

- GPS

- Logistic Package Qty: 10

- Cert: A (organic),

- Cert: B (Fair Trade)

When

Who

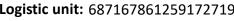


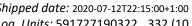
2020-07-12T22:15:00+1:00



5931278309001







Product Batch: B42323

Cert: A (organic), Cert: B (Fair Trade)



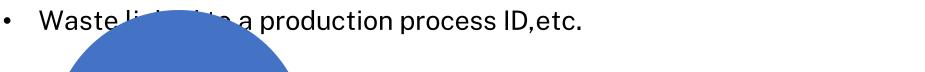




So How Do Events and IDs Create Transparency?

The IDs for the 5Ws allow additional information to be 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 arealinked to a location ID





Linked data about

Certifications

Processes

Sustainability

Facilities

Inspections





Sustainability information can be linked to Event IDs



Product



Process

Facility

Environment

Social

Health

Health

Safety

Input (Chemical/Pesticides)

Water

Energy

CO2

Soil

Air

Thermic

Noise

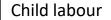
Biodiversity

Deforestation

Habitat

Waste/End-of-life

Animal Welfare



Forced Labour

Land Use

Work & Social protection

Trade Unions & Collective bargaining

Sexual harassment

Gender inequality

Discrimination

Homeworkers

Pe

Permits

Contracts

Compliance to legislation/regulations



Management / Administration

Quality

<u>Inspections</u> / Certificates



Events

From raw material production...

...through manufacturing and branding...

...to consumption and post-consumption.

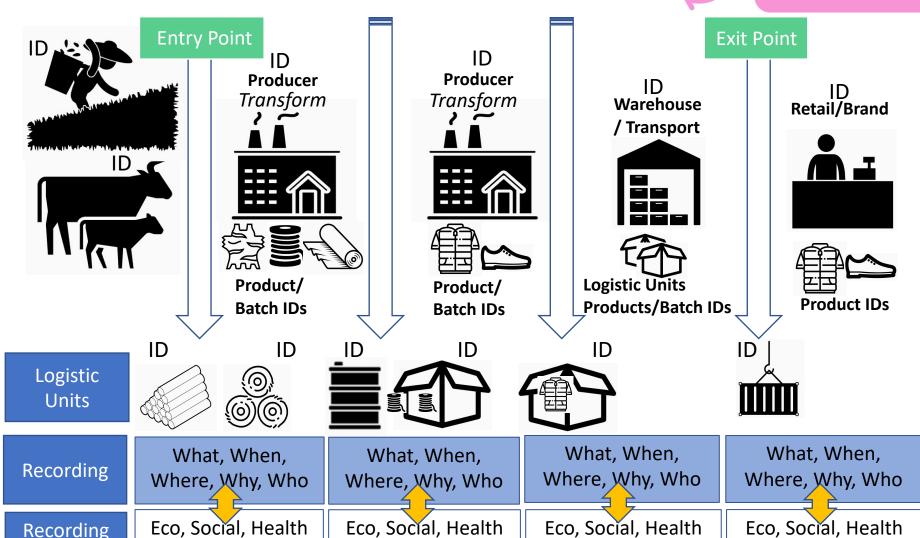




For the Beginning and End of Traceability



Entry & Exit Points



- At each of these points the traceable asset needs to meet specified criteria
- The primary factor in deciding on entry and exit points should be what must be traced, and when, in order to







Are the **standards and key performance indicators** that traceable assets are supposed to meet and **the rules governing the traceability process**

The criteria should include well-defined states for traceable assets at the entry and exit points

Other verification criteria may include:

Defined **responsibilities** for the coordination, implementation and distribution of traceability tasks and their verification

Procedures for organizing, recording, and reporting **product conditions** at

- Entry/exit points
- Transformation, aggregation, and disaggregation event points
- The beginning and end of shipment processes

Applicable regulatory guidelines, standards, certificates or other sustainability criteria



<u>/_</u>



Verification Process

Verification processes are carried out by auditors or other verification agencies based on Verification Criteria

To create confidence in a claim, **audits** should take place in order to confirm that the predefined rules for the traceability process have been followed, and to prove that the traceable assets comply with the defined sustainability requirements

The auditors could be from:

- The public sector,
- A ministry or government agency
- The private sector (for example an industry association or a private inspection agency)
- A public/private sector partnership (PPP) such as an inspection agency appointed by a government

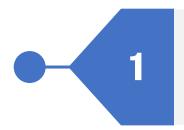


Certification can play a similar role to that of independent audits (third party validation of sustainability claims) for verification. At the same time, it imposes additional administrative and organizational costs, and, when used, robust traceability and best practices should be followed





Principles and Components of a Traceability and Transparency System



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Implementing the Principles and Components - the WWF experience (Discussion)





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Cost allocation is a key factor in the uptake and implementation of a traceability and transparency system

Costs for traceability and transparency are related to

- 1) The development of the system including identifying and implementing a standardized dataset for information exchange among partners to ensure that shared data are interpreted consistently and correctly
- 2) The system's **ongoing implementation**, including data collection, supporting data exchange between systems, inventory management and labelling
- Meeting sustainability verification criteria such as certifications or audits









Criteria to consider for cost allocation include:

- How the profit margins are distributed
- The relative price of partners' outputs
- Partners' product volumes
- Partners' needs
- The allocation of benefits from the traceability system





A key role is also played by effective and efficient systems of both public and private incentives, as well as accountability mechanisms

Financial incentives include economic and fiscal incentives, both positive and negative, by **governments**. Possible incentives of this kind include:

- Financial support to digital technological innovation
- **Investments** in physical and digital infrastructure
- **Direct incentives** for the development of interoperable solutions and digitalization
- Preferential financing loans and grants on the base of traceability and transparency criteria
- Funding of feasibility studies and pilot projects, particularly in value chains with many SMEs

On the other end, **industry actors** such as brands and retailers, could consider implementing **private financial incentive schemes for suppliers** of traceable fibres and materials; or suppliers with harmonized or interoperable systems; or small suppliers needing assistance to cover the initial implementation cost.

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

Non-financial incentives are complementary to financial ones

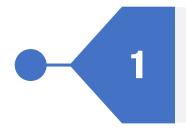
On the **government** side, they can include:

- Measures to facilitate market access
- Fast-track processes and expedited customs clearance for products with higher traceability and transparency
- Specialized managerial and workforce training
- The development and nurturing of open-source and open-licence tools and data
- Traceability and transparency criteria for green and socially responsible public procurement
- Cradle to cradle criteria as part of an overall policy for waste management supported by government procurement
- **Public visibility**, both positive and negative

Industry actors could encourage participation through **user-friendly interface designs** for data entry apps (to make it as simple as possible) and through **free training for SMEs** in their value

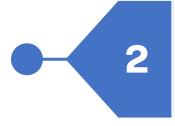


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Supporting Role of Advanced Technologies



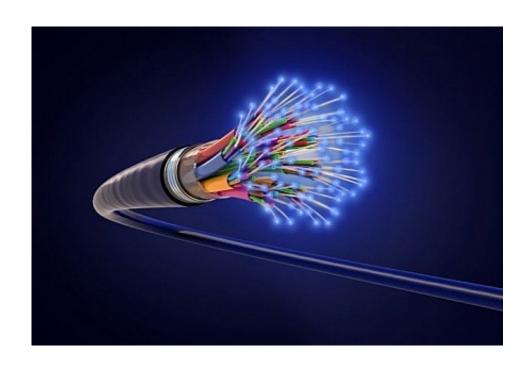
Technology can be a key element in:

- Managing risk
- Improving compliance
- Increasing speed and efficiency
- Providing universal access to data
- Creating incentives through secondary benefits





Supporting Role of Advanced Technologies



Some advanced technologies that can support traceability and transparency

Artificial intelligence (AI) and machine learning systems

Blockchain technology

Internet cloud services

Distributed databases and data pipelines

Internet of Things (IoT)

Advanced product labelling:

- -Quick response (QR) codes
- Physical tracer technologies
- Radio frequency IDs (RFID)
- Near-field communications (NFC) labels





Supporting Role of Advanced Technologies



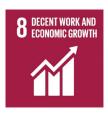
Challenges

- Implementing with small and vulnerable partners – so as to close the technology gap
- Ensuring data quality and handling exceptions
- Cost and access
- Data quality and system reliability
- Engagement and participation





FOR MORE DETAILS - See Part II of the Recommendation 46 Document*







A. Introduction

- Purpose: Practical guidance on the development of traceability systems To Support Claims and Regulatory Compliance For Sustainable and Circular Garment and Footwear Value Chains
- Target audience: High Level Government and Private Sector Managers with implementation responsibility

B. Traceability principles

 9 Principles: Awareness, Knowledge, Riskbased Analysis, Commitment, Engagement, Structured implementation, Norms & Standards, Appropriate technology, Inclusiveness

C. Key traceability systems concepts

- Claims
- Traceable Assets
- Logistics Units
- Unique Identifiers (IDs)
- Entry & Exit Points
- · Traceability models
- Verification criteria
- Verification processes

D. Cost allocation & incentive systems

- Costs related to traceability and transparency: e.g. costs for development of the system; data collection and exchange, certification, inspections, audits, etc.
- Type of incentives: financial and non-financial, public vs private
- Criteria of cost structure for value-chain partners

E. Supporting role of advanced technologies

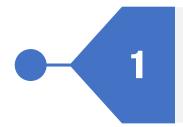
- · Opportunities and challenges
- Type of supporting technologies: e.g. AI, IOT, Blockchain, Internet Cloud Services, Advanced product labelling (QR, RFID, DNA markers, NFC labels)
- · Criteria for their selection and impact

F. Creating inclusiveness in traceability systems

- · The digital divide
- · Gender considerations
- Small- and medium-sized enterprises
- Integrating Developing Countries

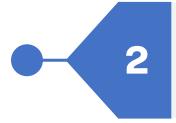
UNECE-UN/CEFACT "Enhancing Transparency and Traceability for Sustainable Value Chains in Garment and UNECE Policy Recommendation on Transparency and Traceability for Sustainable Value Chains in Garment and Footwear II. Guidelines for Recommendation nº46 on enhancing transparency and traceability for sustainable garment and footwear value chains THE TRACEABILITY SYSTEM ARCHITECTURE - A MORE IN-DEPTH APPROAC CORNULATION AND IMPLEMENTATION OF A TRACEABILITY AND TRANSPARENCY ACTION RLAW

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Implementing the Principles and Components

Time for discussion, questions and experience sharing







UNECE-SDA Bocconi Regional Workshop 21-23 September 2021







THANK YOU JOIN THE SUSTAINABILITY PLEDGE

thesustainabilitypledge.org

Virginia Cram-Martos, CEO, Triangularity S.L

Day 1 - 21 Sept. 2021

16.45-17.30

MODULE 4: MAKING TT, SUSTAINABILITY AND CIRCULARITY WORK FOR SMALL ACTORS AND VULNERABLE GROUPS

Learning Objective: Take stock of key considerations to create inclusiveness through traceability systems

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