

Conference Call #8

Sub-group 4 Pilots and capacity-building activities



Cotton blockchain pilot



UN / CEFAC



1. Overview of progress on ongoing work with partners

Andrea Redaelli, Olivia Chassot, Claudia Di Bernardino

Concept approach:

- Project Status
- Linking up the sustainability claims to the user stories;
- How to develop your claims?
- Pilot partner’s “testimonial”

Neliana Fuenmayor, CEO & Founder A Transparent Company, ZDHC Foundation

2. Overview of the technology blockchain-based platform development

Giacomo Poretti

3. Next steps, experts’ subgroup input – 3rd Policy Dialogue

Maria Teresa Pisani

Background documents

[CUE SPACE](#)

- Project document for a pilot on blockchain for traceability and due diligence in the cotton value chain and progress report (draft April 2020)
- Minutes of Virtual conference #7 meeting 23.09.2020
- “Fil Rouge” Storytelling document & Compilation of User Stories for the Cotton Blockchain Pilot

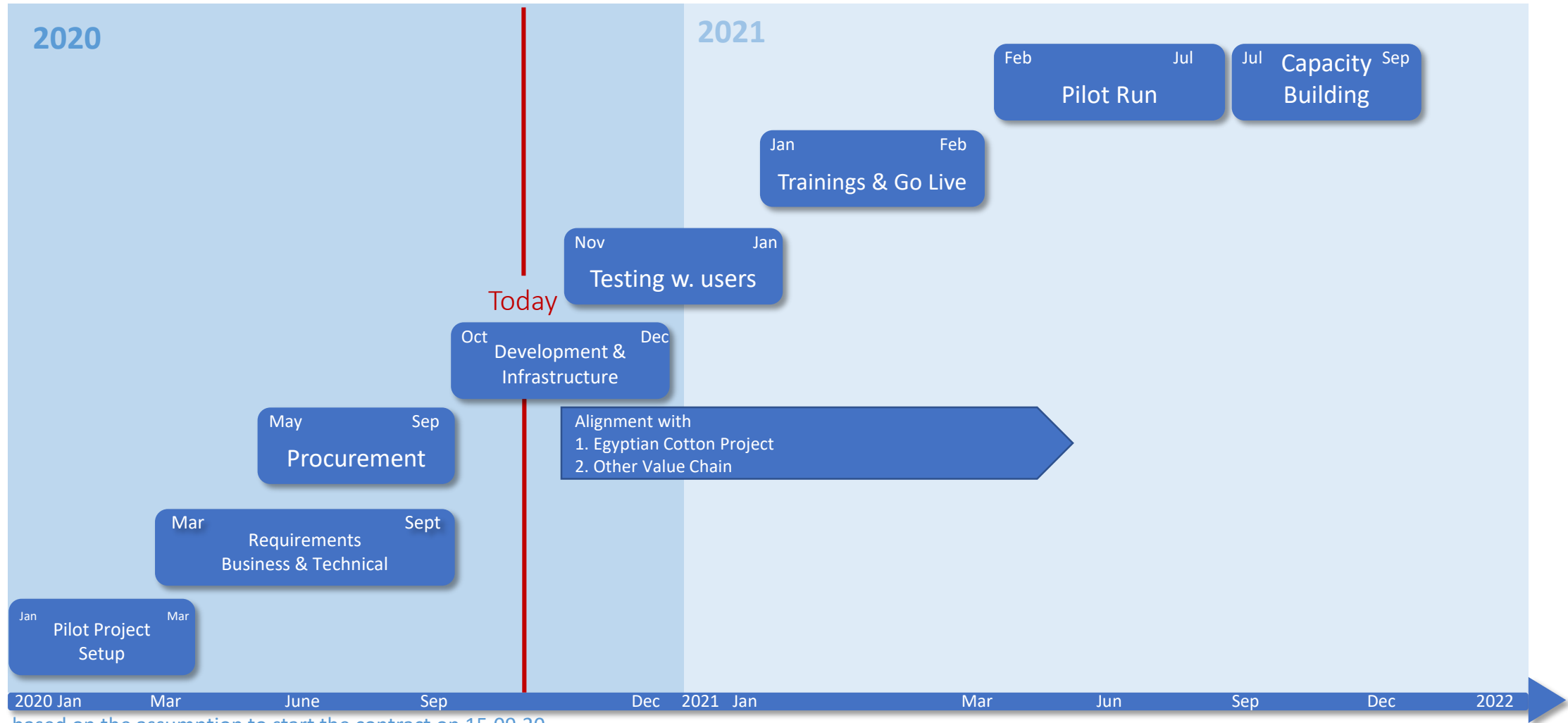
1. Overview of progress on ongoing work with partners

Linking up the sustainability claims to the user stories



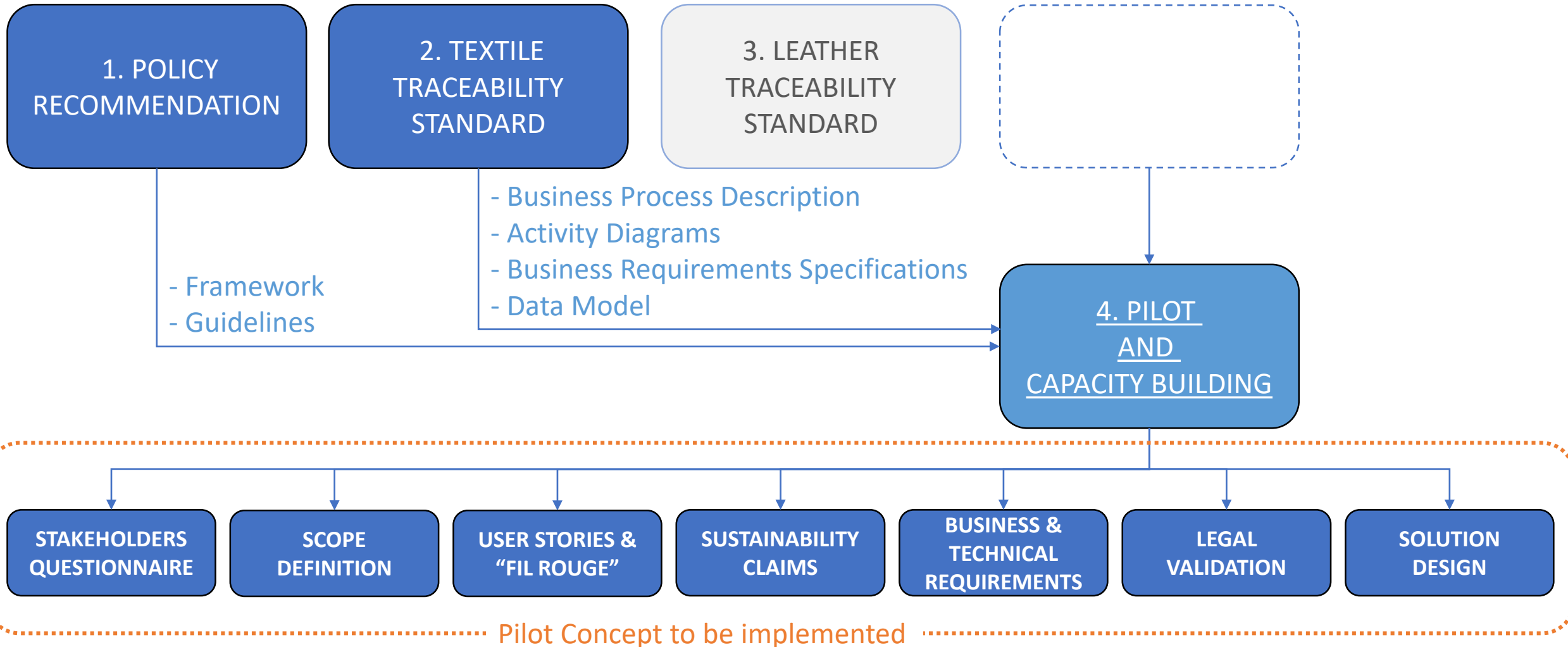
Pilot #1 - Implementing a blockchain technology for traceability and due diligence in the cotton value chain in support of a circular economy

“COTTON VALUE CHAIN PILOT”



based on the assumption to start the contract on 15.09.20

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



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

Kick-off Workshop#1 Blockchain Solution “Concept Alignment”

(15.10.2020)

KICK OFF

Workshop#1 TARGETS

1. Kick Off Meeting to move into the Development Phase
2. Allow the Tech provider (Giacomo – SUPSI) to better understand the business requirements
3. Allow the pilot team to have an overview on the tech platform
4. Finalize the User Stories against the Sustainability Claims for further implementation

HOW TO PROCEED




1. SUSTAINABILITY CLAIM SELECTION



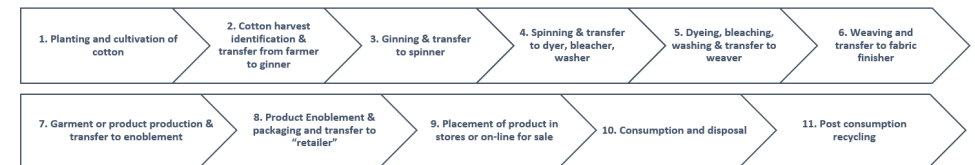
Contents

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- III. CLAIMS RELATED TO FIBRE CONTENT (e.g. ORGANIC, CONVENTIONAL, RECYCLED) 8
- IV. CLAIMS RELATED TO OECD DUE DILIGENCE GUIDANCE REQUIREMENTS FOR RESPONSIBLE SUPPLY CHAINS IN GARMENT AND FOOTWEAR 11
- V. CLAIMS RELATED TO PRODUCT QUALITY 17

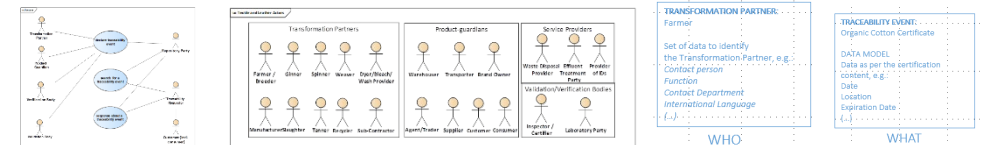
2. USER STORY (CLAIM BASED) SELECTION

User story #57 – complete		
AS A	I WANT TO	SO THAT
Manufacturer 	Make the safety of our products transparent by uploading the STANDARD 100 by OEKO-TEX® label to the blockchain 	Consumers can be certain that every component of the product, i.e. every thread, button and other accessories, has been tested for harmful substances and that the article therefore is harmless in human ecological terms. 
BUSINESS PROCESS 08 Product Ennoblement and Packaging and transfer to "retailer"		

3. ATTRIBUTION TO THE VALUE CHAIN STEP

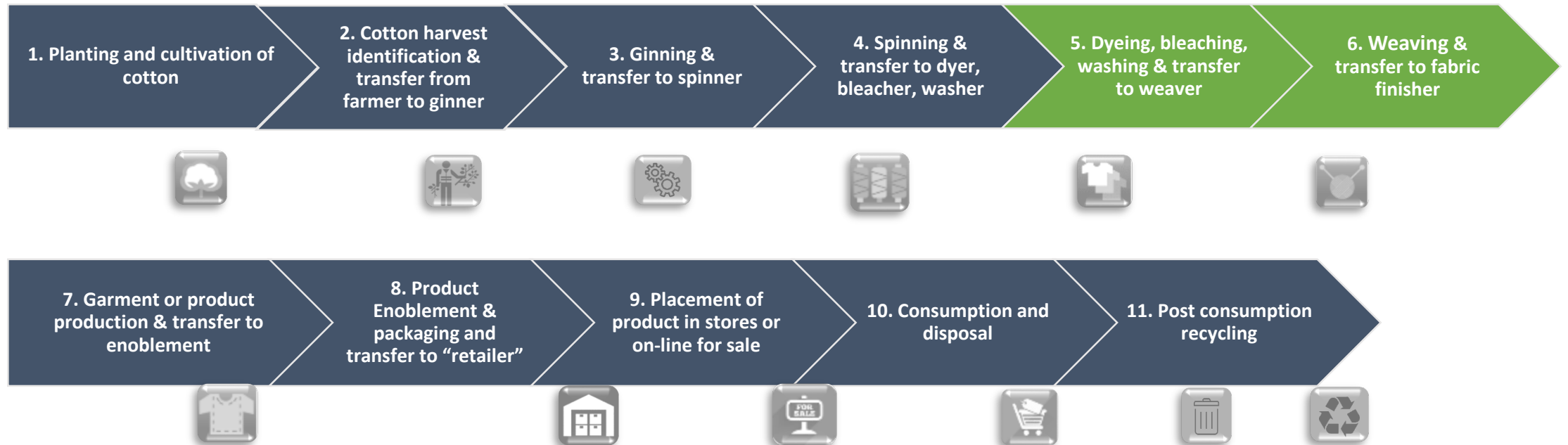


4. EVENT AND DATA MODEL DESCRIPTION



Finalize User Stories against Sustainability Claims

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



On going bilateral meetings

HOW TO PROCEED

HOW TO
BUILD A
CLAIM

CHECK LIST

IDENTIFY
YOUR CLAIM

MAP CLAIM
IN VALUE
CHAIN

- ORIGIN
- CHEMICALS USE
- FIBER CONTENT
- PRODUCT QUALITY
- SOCIAL/LABOUR ASPECTS

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

CLAIM			5 Ws		description	PARTNER
	WHO	Value Chain Partner	from			
			to			
	WHAT	Event				GARMENT MAKER
		Material				Weaving
	HOW	Verification Criteria (Evidence)				- Shipping Document - EU-Eco regulation (EC) No 834/2007 [organic]
		Assurance Process				- Certified by third party (forwarder for shipping document), certificate number - Certified by third party (issuer of Eco-regulation), certificate number
	WHERE	Business Location				Party Factory Location (tbd)
	WHY	Business Step				Receiving, Weaving, Shipping
	WHEN	Event Date and Time				26.10.2020 11:05:40 UTC +10:05:40
		REGULATORY REQUIREMENTS				
		CONSUMER'S ENGAGEMENT				
		TRANSPARENCY				
		ACCESSIBILITY				

THE 5TH Ws

- “**what**”, and **how** it has been transformed, moved or stored
- by which actors (“by **whom**”)
- at which locations (“**where**”)
- in which processes (“**why**”)
- at which time (“**when**”)



1. Overview of progress on ongoing work with partners

Pilot partner's "testimonial"

Neliana Fuenmayor, CEO & Founder A Transparent Company, ZDHC Foundation

 **ZDHC**





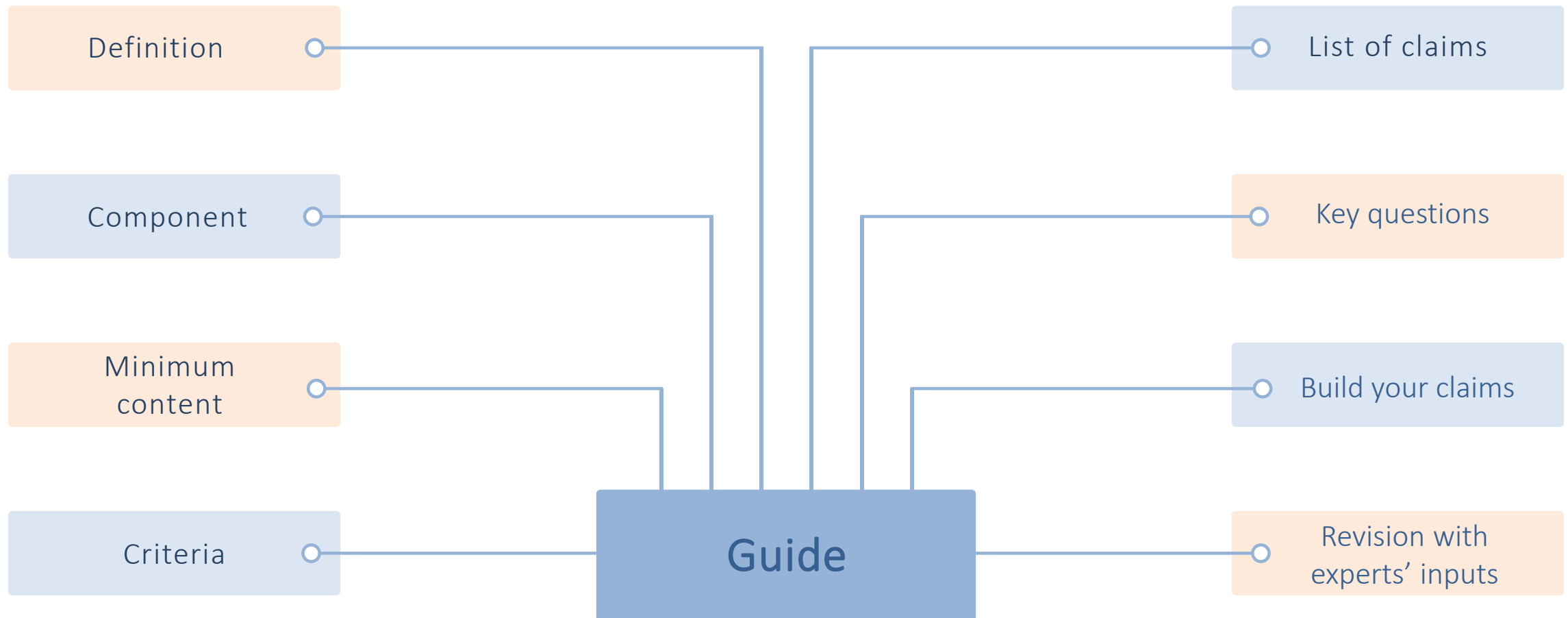
1. Overview of progress on ongoing work with partners

How to develop your claims?



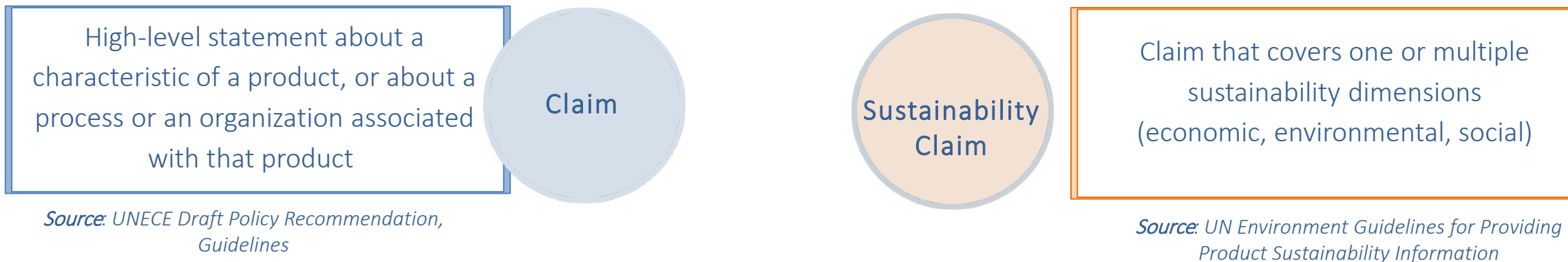
Pilot #1 - Implementing a blockchain technology for traceability and due diligence in the cotton value chain in support of a circular economy

Develop the claims

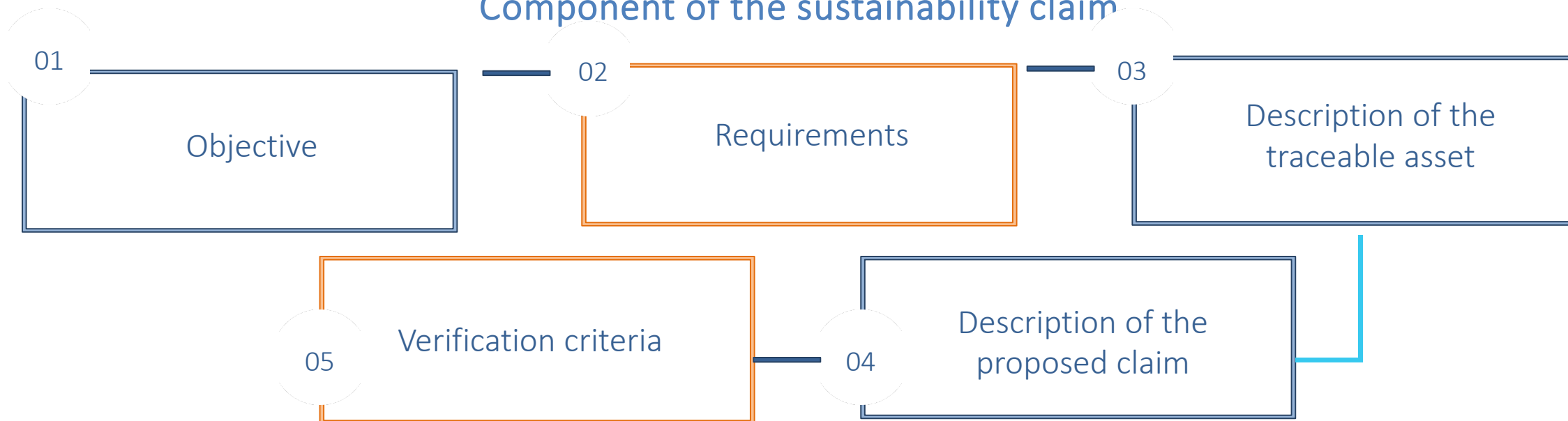


Pilot #1 - Implementing a blockchain technology for traceability and due diligence in the cotton value chain in support of a circular economy

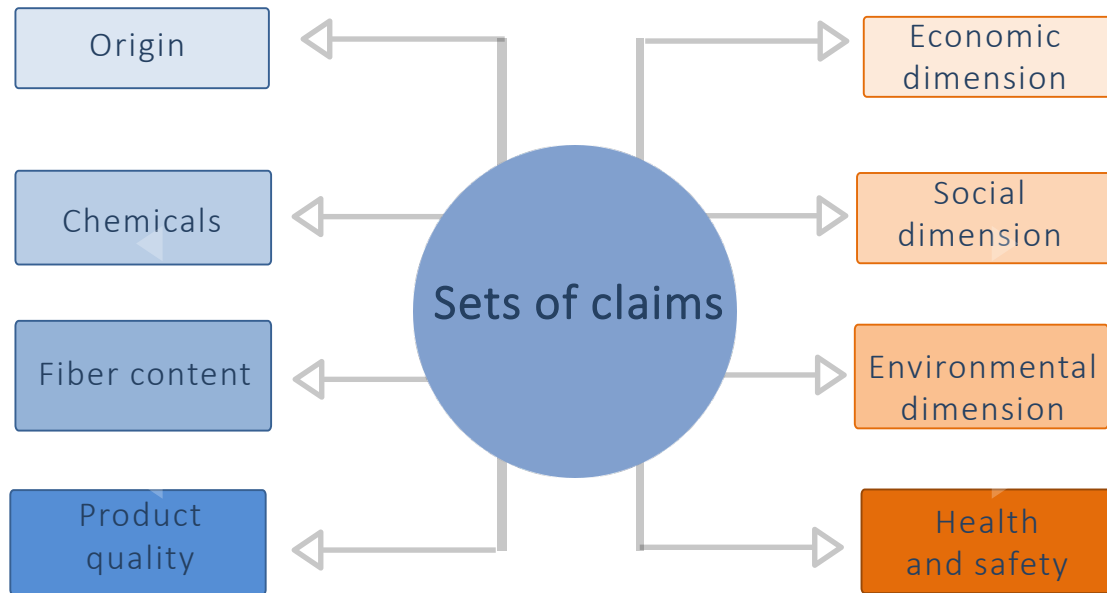
What is a claim



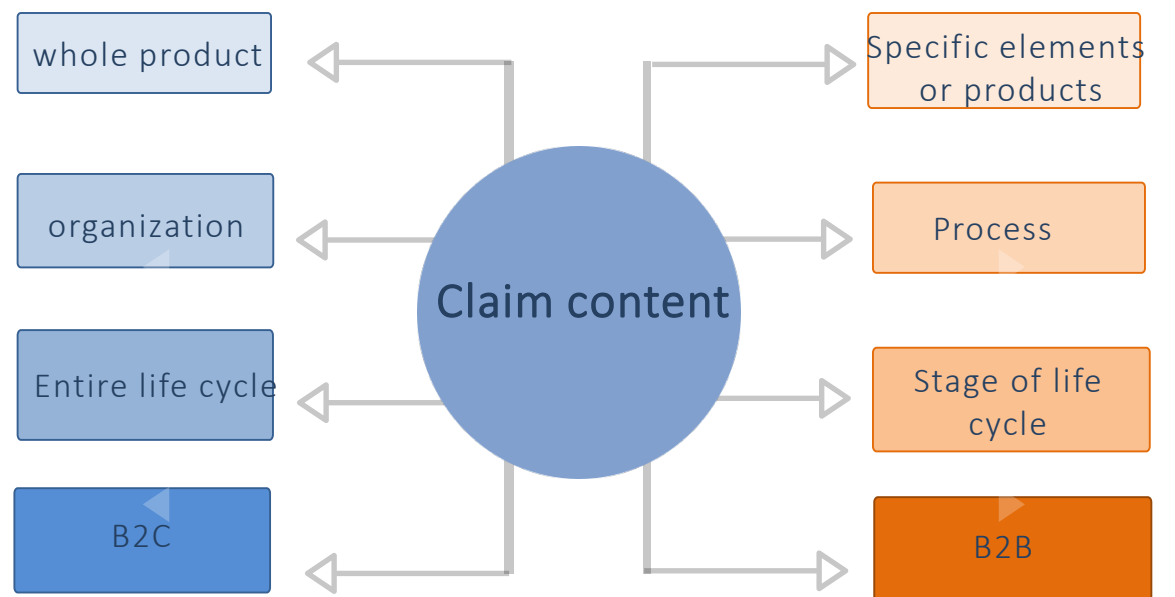
Component of the sustainability claim



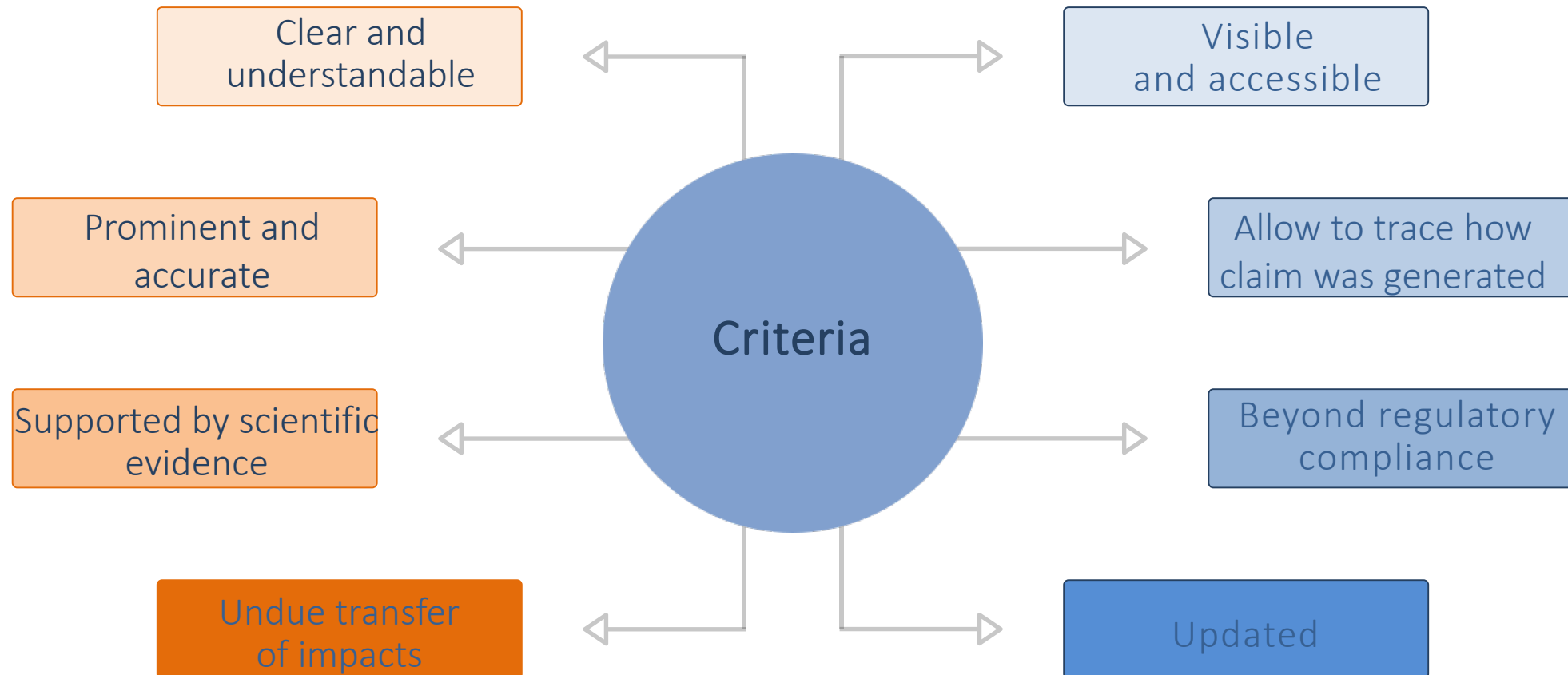
Currently identified set of claims



Content of the claims

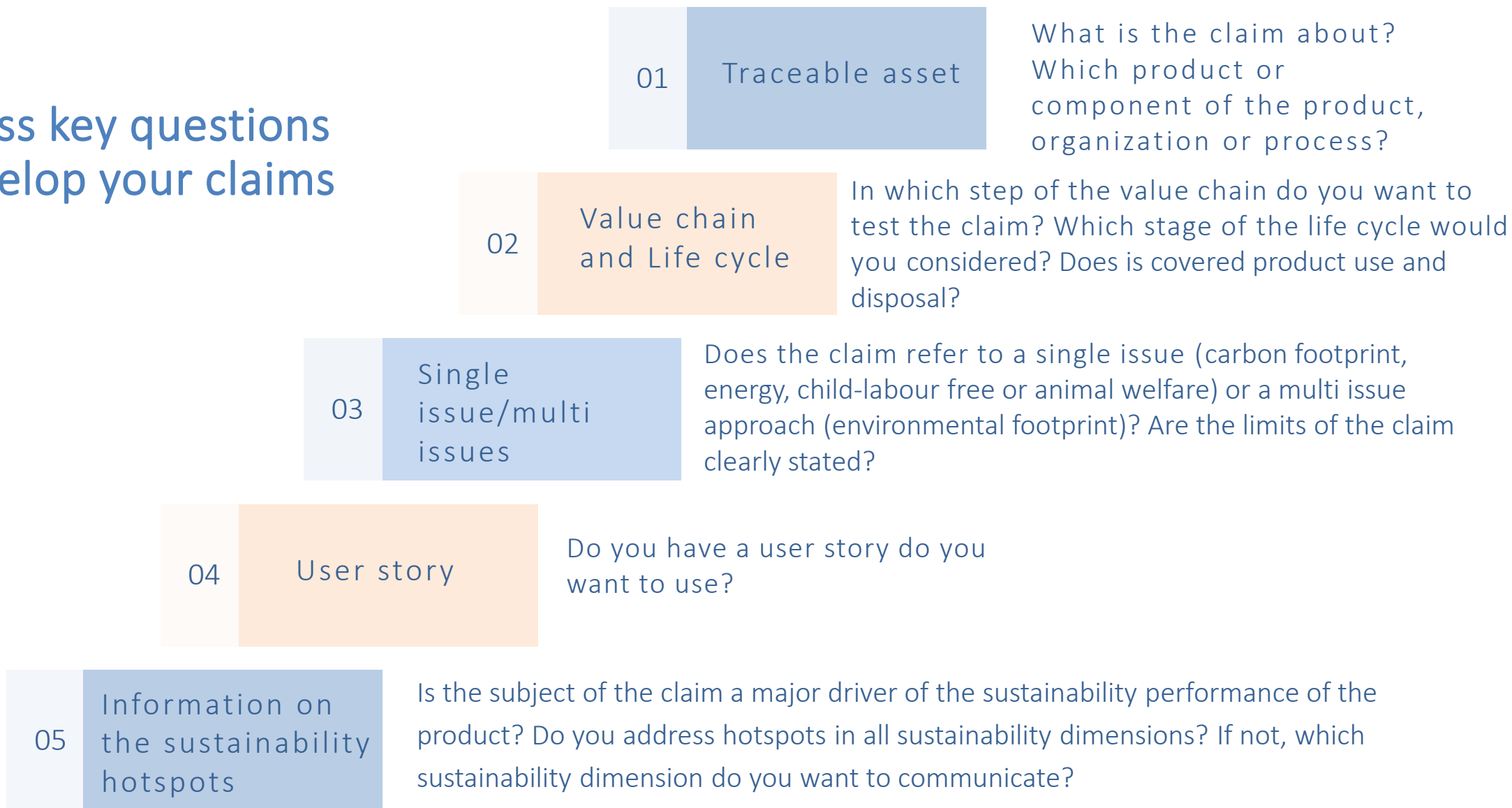


Minimum criteria to be met by the claims



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

Address key questions to develop your claims



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

Address key questions to develop your claims

06

Direct link
between claim
and product

Is the link between the claim and product clear or might consumers think that the claim is also valid for similar/all products from the same brand?

07

Regulatory
requirements

Do your product(s) exceed legal requirements in both countries of production and countries of consumption?

08

Verification
criteria
Assurance
model

Which is the standard, guideline or other document that the claim referred to? Is the claim self-assessed, self-declared or verified by a second party or certified by a third-party? If the claim is verified, is the certificate number clearly provided/available?

09

Transparency

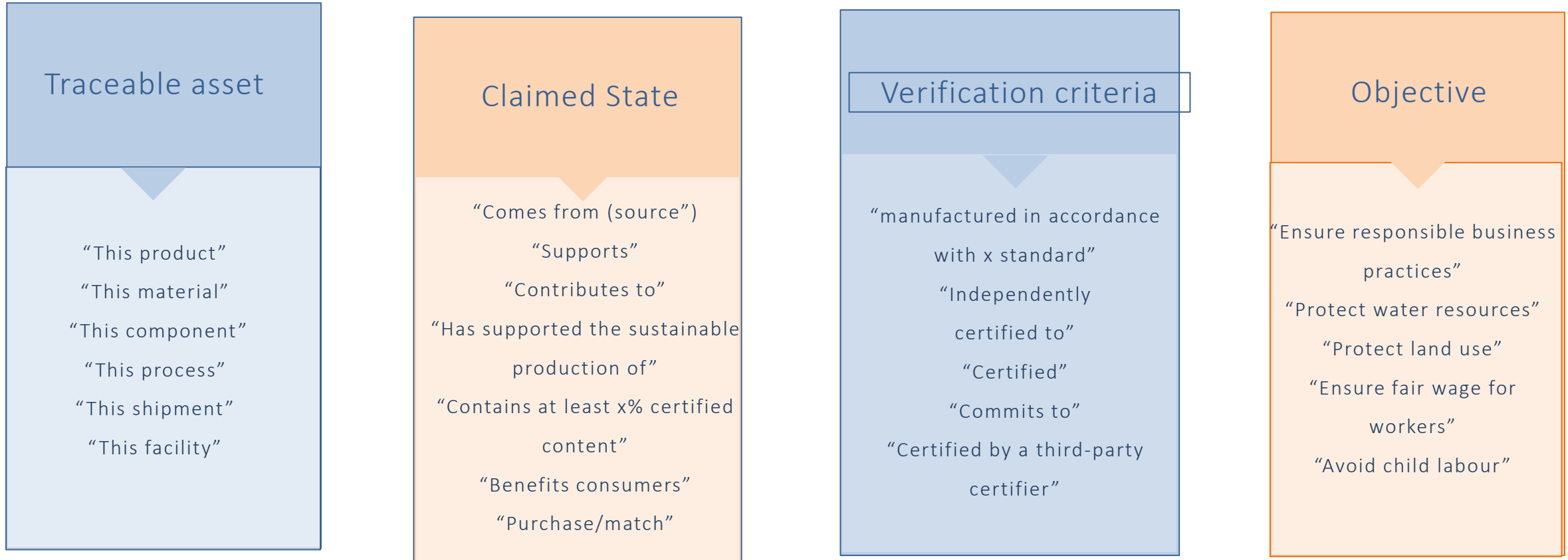
Will you make the documentation supporting the claims available to the public or to the other actors, (confidentiality considerations)?
Will you consider disclosing further information on the company websites?

10

Updated

Regularly reviewed and revised if necessary in order to reflect the changing circumstances

Build your claims



[Traceable Assets] comply with [Claimed State] in accordance with [Verification Criteria] for/to support [Objective]

Imported knitwear contains ethically grown and traded cotton from Country A and is obtained in compliance with the standard for ensuring responsible business conduct.

Imported Ready-made-garments from suppliers in Country B have been manufactured using good labour practices in accordance with the ILO fundamental labour standards, which support sustainable sourcing.



2. Overview of the technology blockchain-based platform development



UN / CEFACT



SUPSI

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

Logical model



Why Blockchain ? «the trust economy»

SUPSI

Today most companies fails when trying to find a way to have reliable visibility over the entire supply chain.

Distributed Ledger technologies have the potential to solve important glitches in traceability and provenance challenges.

Blockchain technology offers a way to record transactions or any digital interaction that is designed to be secure, transparent, highly resistant to outages, auditable and efficient.

Share a unique blockchain across the different stakeholders will ensure that the exchanged and manipulated wares are authenticated, thus preventing potential fraud and making information accessible.

Blockchain System

SUPSI

Blockchain Solution = IT Information system

Blockchain is a complex new technology that can simplify shared business processes

database

insert of information

Capture

data extraction and presentation

Reporting

A system that enable users to interact using **common database and infrastructure**

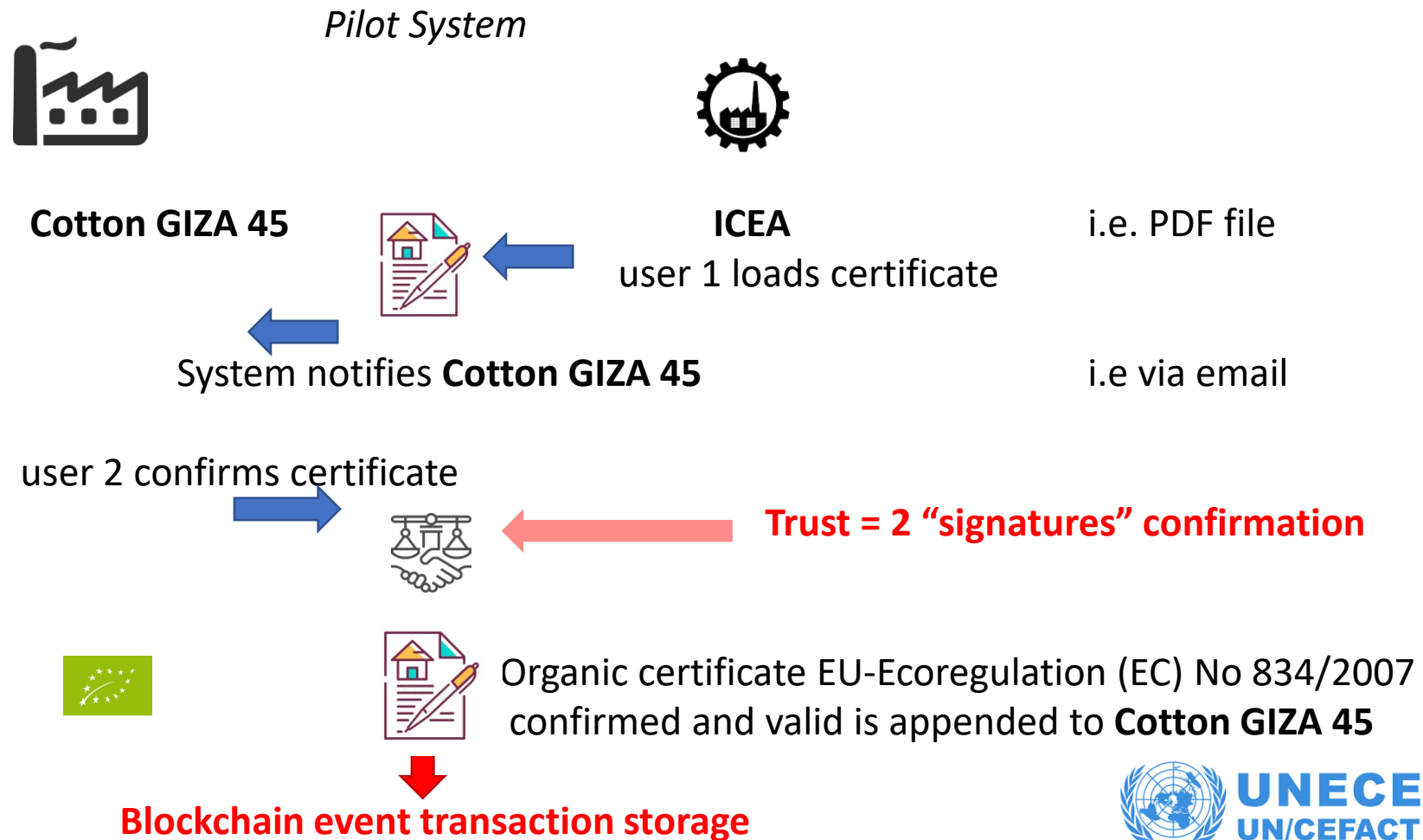
common / shared infrastructure

complex & invisible
public

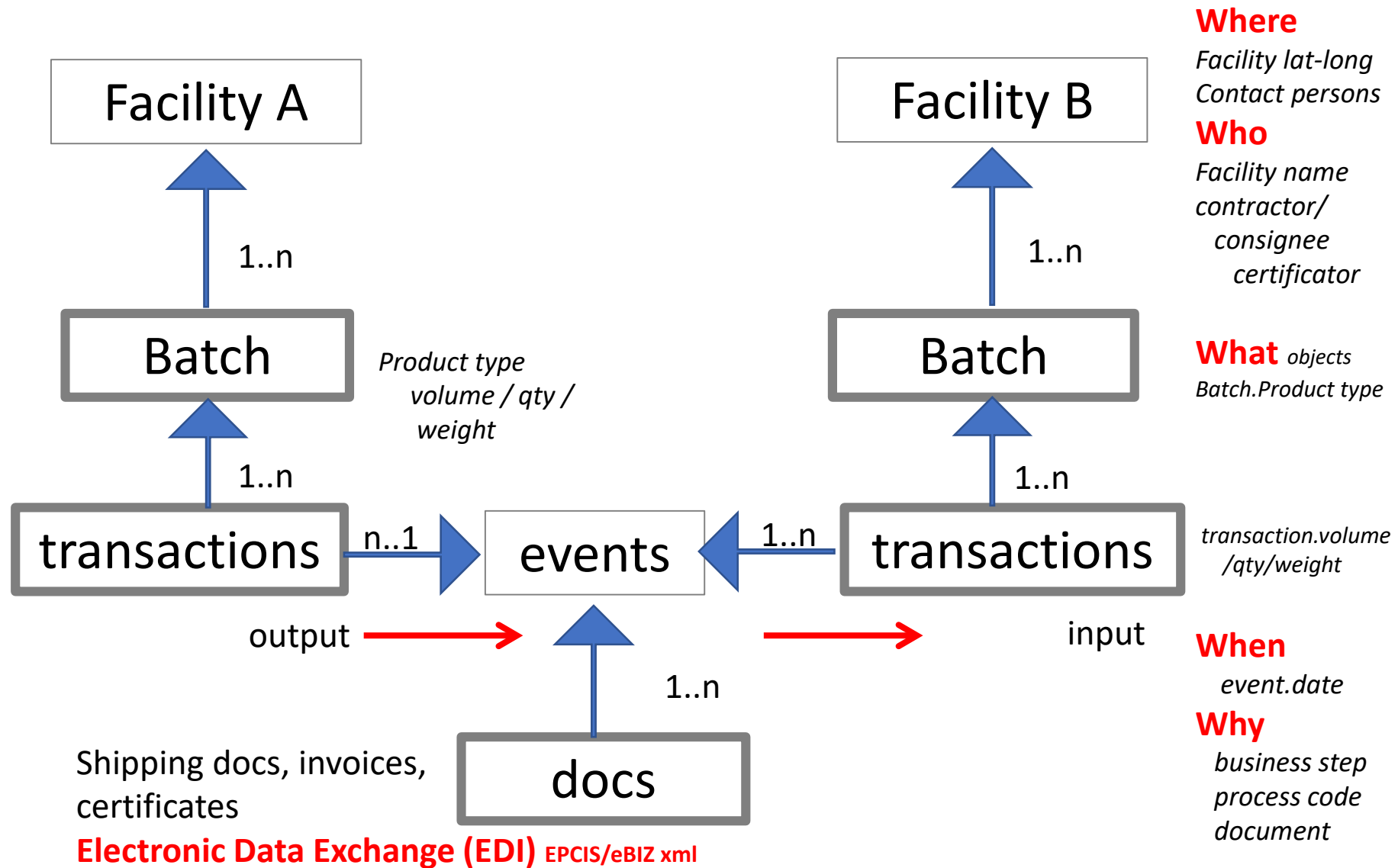
Supply chain ≠ ERP less process details, more interconnected information

Organic Certification use case

SUPSI



Canonical EPCIS input output model



SUPSI

EPCIS

Electronic Product Code Information Services

GS1 standard

EPCIS : enable disparate applications **to create and share visibility event data**, both within and across enterprises.

This sharing is aimed at enabling users to gain a shared view of physical or digital objects within a relevant business context.

Examples of such events and physical objects include trade items (products), logistic units, returnable assets, fixed assets, **physical documents**, etc.

The information content of an event is organized into four dimensions:

- **What** Information about certificates and/or trade items/materials
- **When** The date and time of the event
- **Where** The location where the event occurred
- **Why** Business process, information about the business context

Granularity & Traceable Resource Unit

SUPSI

Production batches are normally large, and they are often split into numerous trade items before shipping

When the level of detail is high, we refer to “granular data”, “high granularity”, or “fine granularity”. Granularity depends on the physical size of the TRU; the smaller the TRU, the more TRUs we have, and the higher or finer the granularity

When implementing a traceability system, companies have to make a decision on the granularity they want

The higher the granularity, the more TRUs they will have, the more work will be involved, and the more accurate the traceability system will be.

BC pilot solution

SUPSI

The pilot will be a full manual system, thus without any direct APIs integration with existing ERP.

The proposed solution is a **document-event based**, tracking business processes or transactions and more particularly what, when who/where, why of every single document exchange

Granularity of the managed information = exchanged documents

- Bill of lading
- Certificates
- Blending instructions
- ..

Scalabel and dynamic model

SUPSI

Scalable and dynamic model

Mass balance and book-and-claim are not supported or only partly supported with systems that work on a batch input /output logic at production lot management at each processing location .

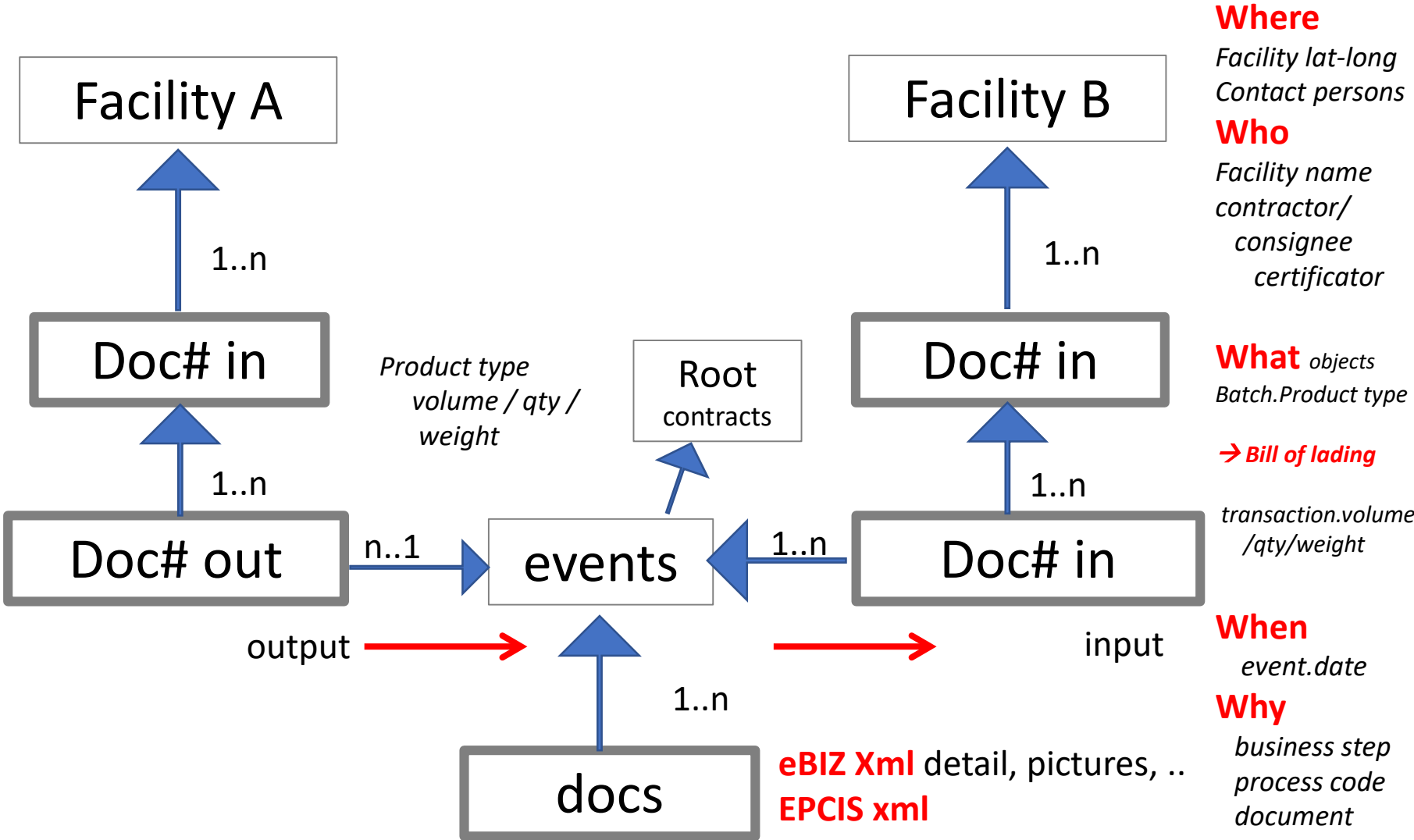
BC Pilot

The proposed solution allows to work at different level of aggregation

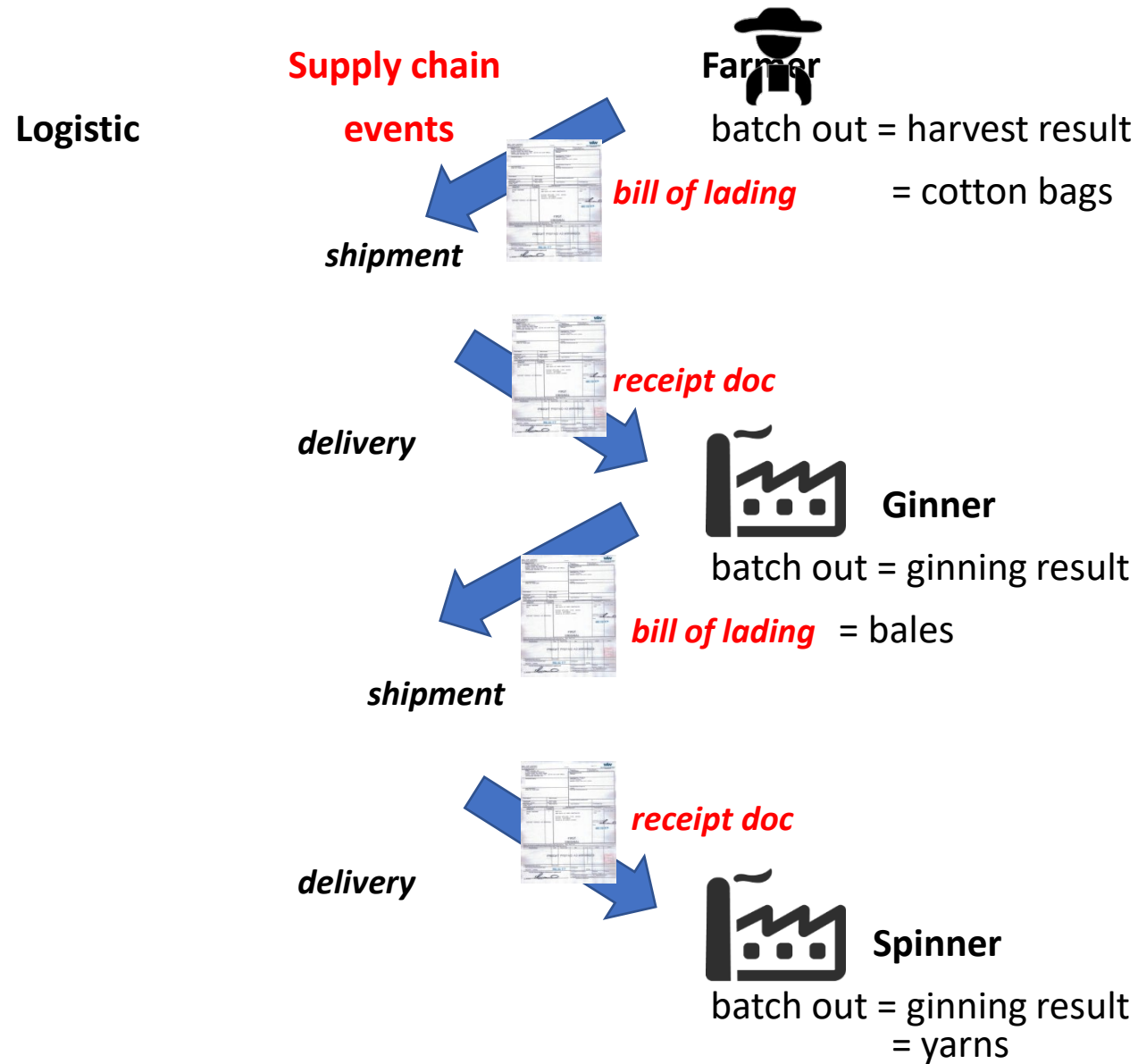
• long term contract	hundreds	no volumes
• seasonal contract	hundreds	no volumes
• order ,	thousands	volumes
• order position	millions	volumes
• In-house batches	billions	volumes

ERP systems

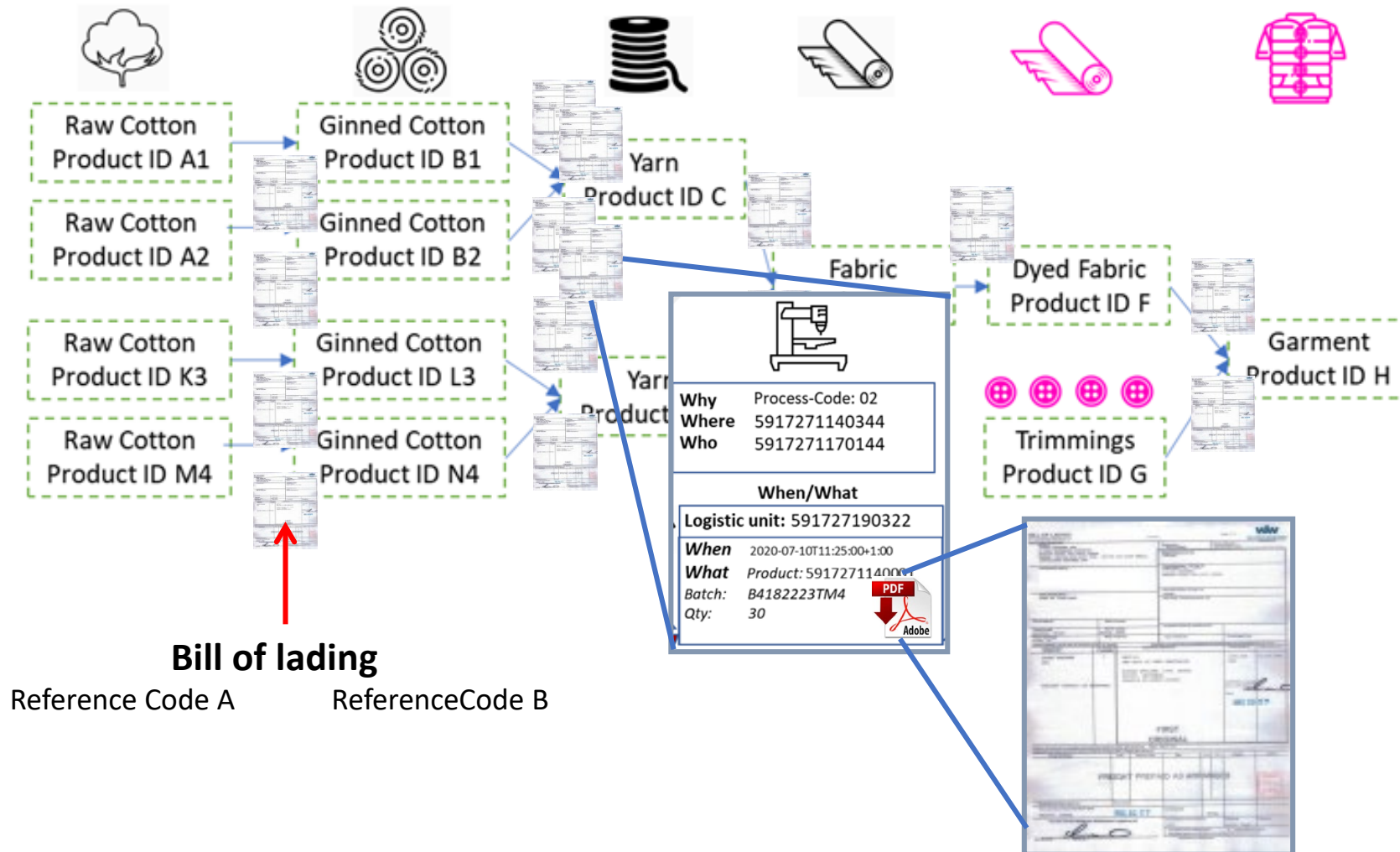
Document based input output model



Traceable assets - practical example



Traceable assets - practical example

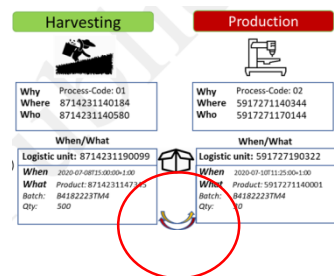


Event types

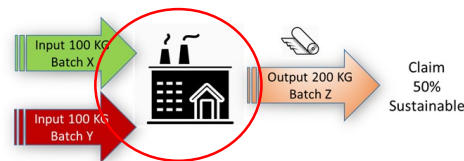
The solution **will handle in the data model** various types of events

- **Objects events (Transfer / Trades)** B2B transactions
- **Transformation events** internal processes
- **Observation events (Certifications)** B2Certifier
links sustainability related information
(certificates + inspections reports)

Objects events



Transformation events
i.e. aggregation



Observation events
certifications/inspections



Traceability models compliance

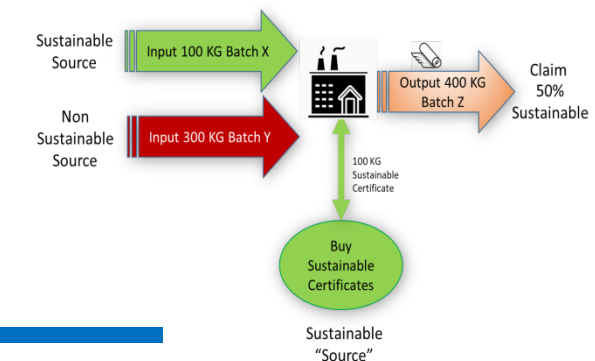
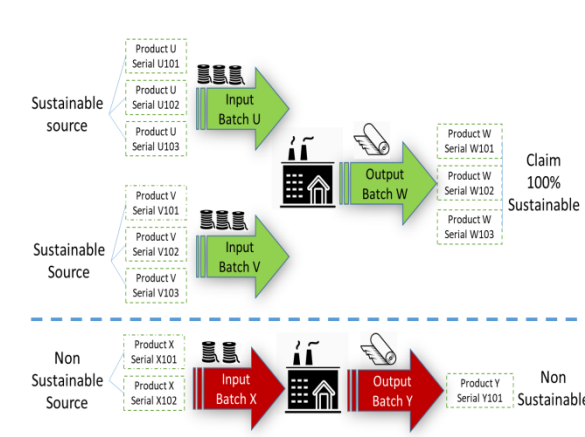
SUPSI

Product segregation

- **Bulk Commodity** separates certified raw materials from non-certified materials but allows mixing of certified materials from different producers
- **Identity Preservation (IP)** requires segregation of the certified material from the non-certified material but it **does not** allow mixing of certified materials from different producers

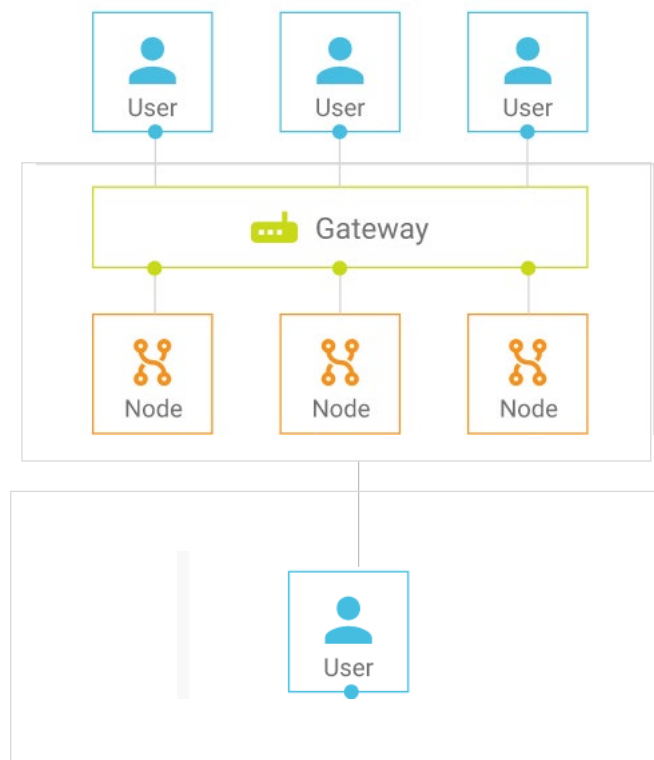
Mass balance : This model is commonly used for products and raw materials where segregation is very difficult or impossible to achieve

Book and claim : typically used when the production and market conditions make it impractical to sell certified product that has been segregated from non-certified product



System architecture

SUPSI



Internal stakeholders

Web app / cloud / DBMS

user / password protected
off-chain private data

Blockchain

open-source
permissionless
on-chain “public” data

External (public / externals)

on-chain data only

Blockchain data model

SUPSI

On-chain

*Immutable, common infrastructure
visible, public*

Party = (#ID, **names**
nationality/region,

Events(#party1-id, #part2-id, [#docs]
percentage

Documents
(#doc, %, ..

Off-chain

protected, privacy

Party = (#ID, name, address, ...)

Users = (name, surname, email,
partyID, ..)

Event = (date, type, contractor,
consignee, date..

Documents

ERPs



Batch = (... production date,
start/end
quantity/mass/volume units, ..

Where
Who

When

Why

What

Questions

SUPSI

Who: Who needs to have visibility and access to supply chain information, and for what purposes?

Who are the actors for the pilot, who will use the system ?

Are they ready to use the system ?

What : information is being shared, and in what format? Does it include multiple tiers? What information needs to be included considering internal stakeholders and clients, and consumers. We are considering 2 level of confidentiality (public and internals)

How : What information needs to be included? Is it a supplier list or a map? **Policies recommendations + Privacy + Confidentiality**

How to represent information out from the BC solution ?

SUPSI

WP1 : BC System set up

- *WP1.1 Cloud environment set + database set up*
- *WP1.2 User onboarding / registration*
- *WP1.3 System access*

WP2 : Event data management (off chain)

- *WP2.1 Event data registration*
- *WP2.2 Event search*
- *WP2.3 Event visualization*

WP3 – Blockchain management

- *WP3.1 off-chain / on-chain system technical linking*
- *WP3.2 BC data registration*
- *WP3.3 BC data extraction*

WP4 – Mapping / reporting

- *WP4.1 BC data visualization (public) (on chain data only)*
- *WP4.2 BC internal data visualization
(on chain data + off chain level of detail)*

SUPSI

Thank you

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giacomo.poretti@supsi.ch

3. Next steps and experts' subgroup input, Q&A

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

«FIL ROUGE» the story running behind the pilot (draft September 2020)	<i>For review and inputs</i>
Business Process Analysis (BPA) for textile and leather	<i>Ongoing</i>
User Stories Selection with pilot partners	<i>Ongoing</i>
Workshops & bilateral meetings w/ SUPSI and pilot partners	<i>Ongoing</i>



3. Next steps and experts' subgroup input, Q&A

Upcoming meeting



23-24 November 2020

3rd Multi-stakeholder Policy Dialogue

13:00-17:00 CET via WebEx videoconference

back to back with the 26th UN/CEFACT Plenary

Accelerating action for Sustainable and Circular
Value Chains in Garment & Footwear

▲ Join us 23 & 24 November 2020

in person or online for the

3rd Multi-stakeholder Policy Dialogue

in conjunction with UN/CEFACT 26th Plenary



To discuss progress on policy recommendations, technical standards, the enabling role of blockchain, and the call to action to key industry actors

23 and 24 November 2020, 10:00–13:00 and 15:00–18:00

Palais des Nations, Geneva, Room XXVI

and via **WebEx** Videoconference

Registration by **30 October 2020** at [Maria Teresa Pisani](#), [Olivia Chassot](#), [Olga Kharitonova](#) UNECE Secretariat

Under the UNECE project “Enhancing Transparency and Traceability of Sustainable Value Chains in the Garment and Footwear Sector”

UN/CEFACT Public Review launched



20 Oct – 20 December 2020

Policy Recommendation, Part I

Guidelines, Part II

<https://uncefact.unece.org/display/uncefactpublicreview>

In partnership with



UN/CEFACT – REG-PDA/AGRI-Textile – P1071

UNITED NATIONS
Centre for Trade Facilitation and Electronic Business
(UN/CEFACT)

REGULATORY AND EBUSINESS PROGRAMME DEVELOPMENT AREA
AGRICULTURE, AGRI-FOOD AND FISHERIES DOMAIN

19 October 2020

UNECE-UN/CEFACT "Enhancing Transparency and Traceability for Sustainable Value Chains in Garment and Footwear"

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