

# The analysis process toward standardized data exchange structures

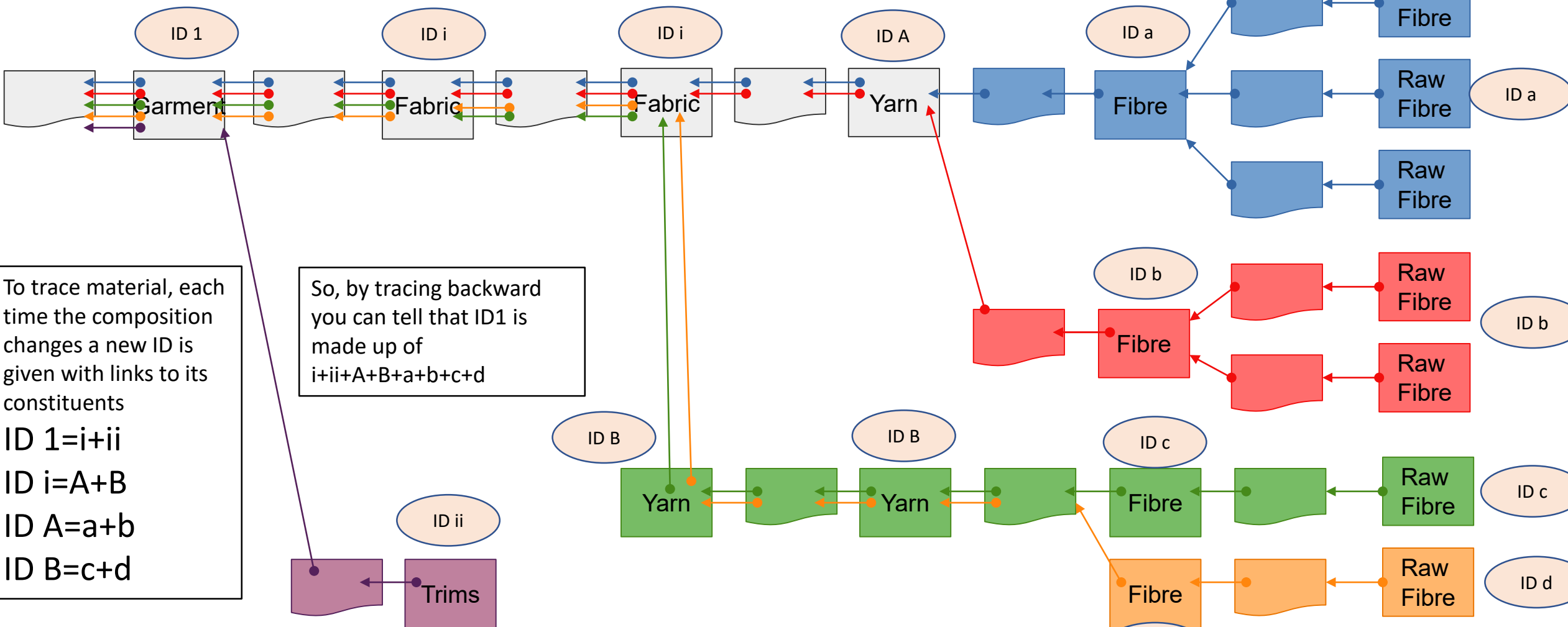


UN / CEFAC



Assembly      Dyeing      Weaving      Spinning      Ginning      Farming

Material flow for supply chain traceability based on documents and processing



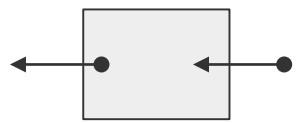
To trace material, each time the composition changes a new ID is given with links to its constituents

$ID\ 1 = i + ii$   
 $ID\ i = A + B$   
 $ID\ A = a + b$   
 $ID\ B = c + d$

So, by tracing backward you can tell that ID1 is made up of  $i + ii + A + B + a + b + c + d$



Transparency relevant documents according UN/EDIFACT  
<https://service.unece.org/trade/untdid/d19a/tred/tred1001.htm>



Material flow according international recognized standards  
 Need to be developed (e.g. GOTS, TE, BCI, ... but also conventional)

Assembly

Dyeing

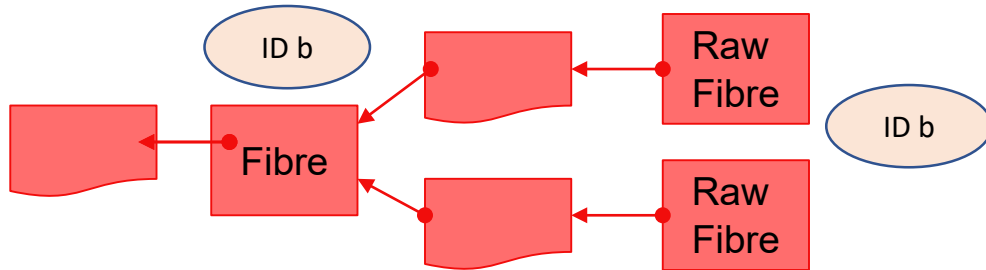
Weaving

Spinning

Ginning

Farming

An Identifier is more than an “ID”: it’s the “Key” for additional **information** at particular a stage.



**1. What does “ID b” do for us exactly?**

- it links info about Farmer & his certificates and equivalent info about the Ginner.

**2. What’s the goal of the Process Analysis?**

- it identifies needed IDs & related information.

**3. Why we need more information to be linked?**

- the Information is used to support policy claims.

• “

**4. What does a policy claim describe?**

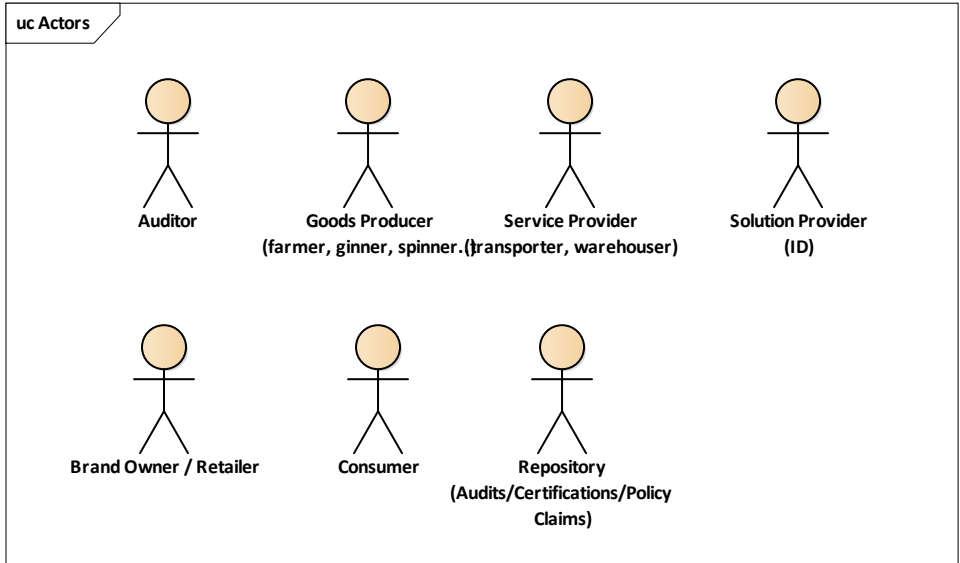
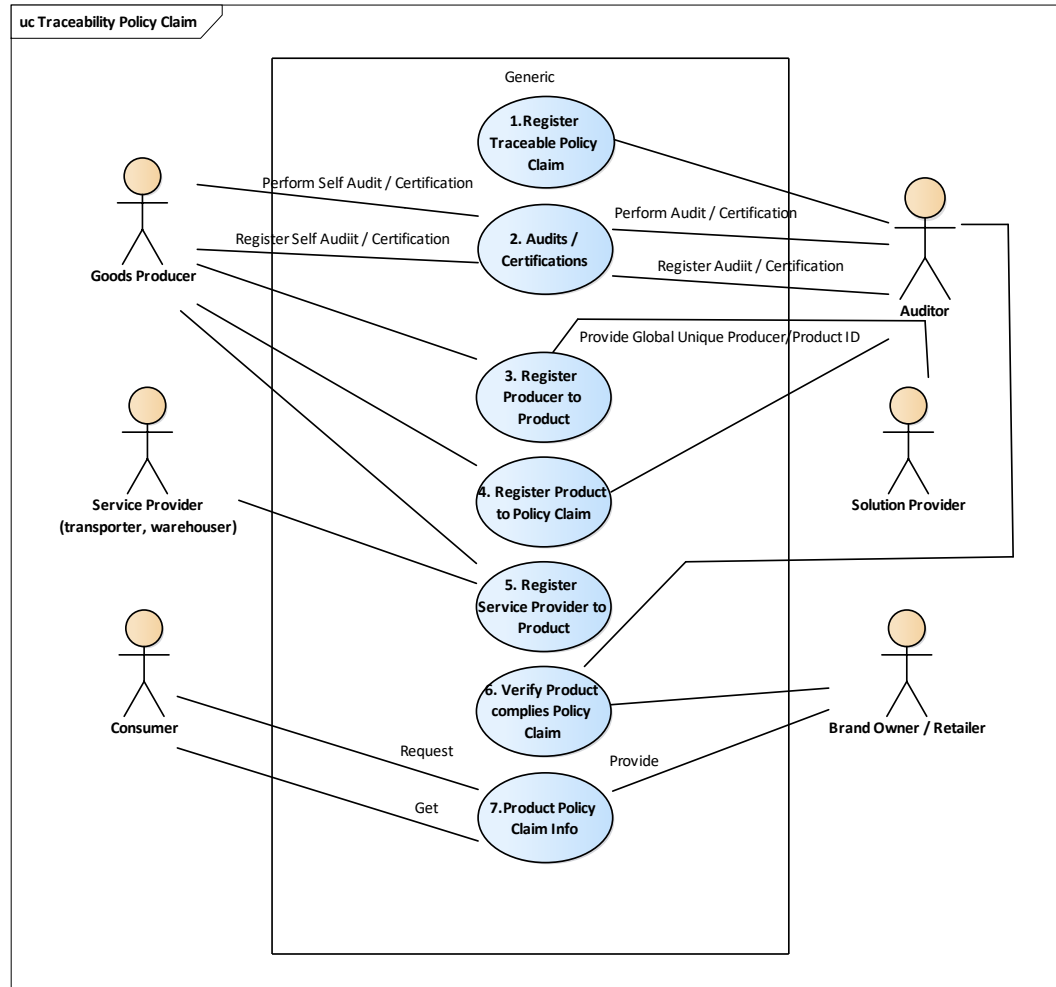
- It describes Product characteristics not identifiable by a simple physical inspection.

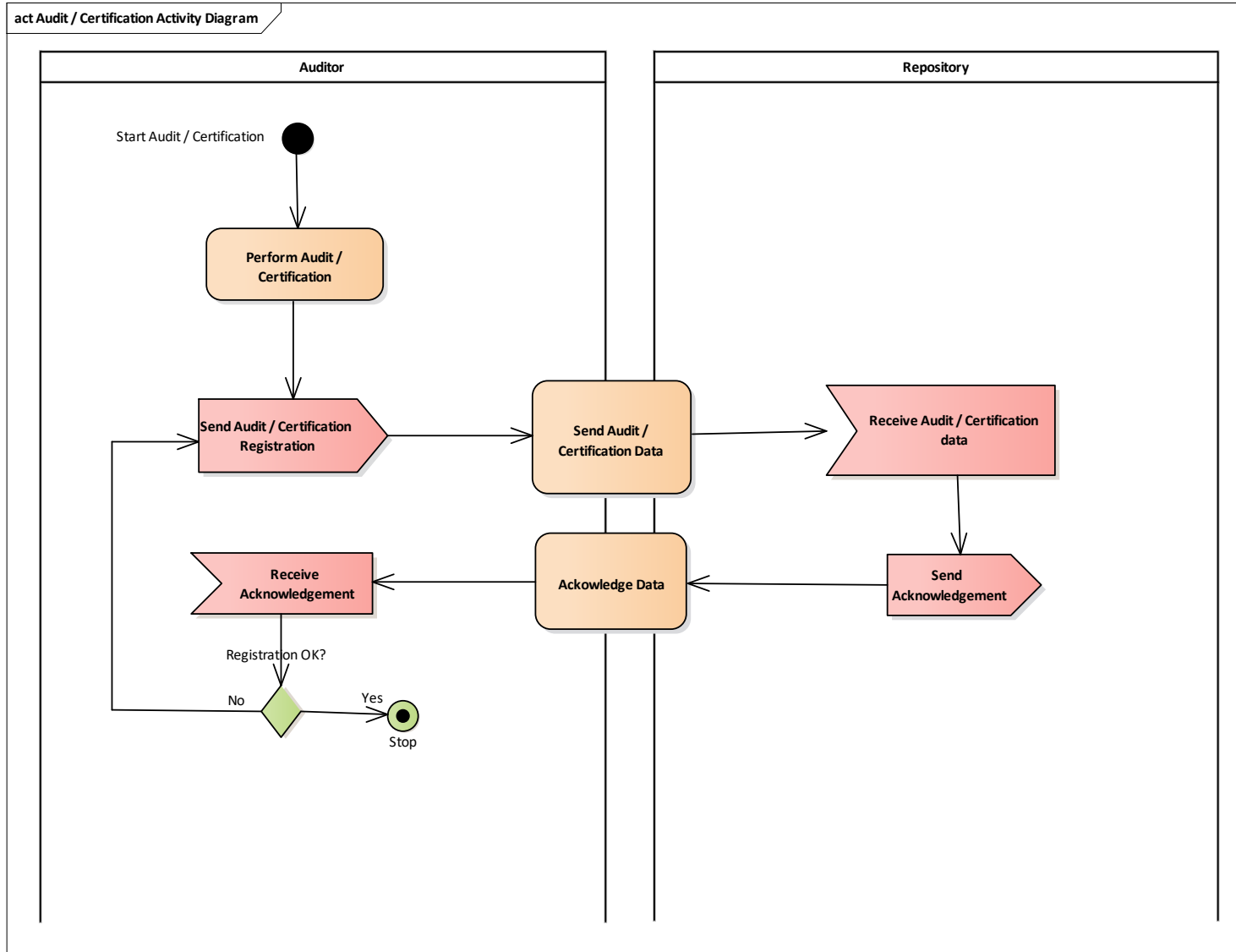
- e.g. “Made of organic cotton” or “The makers of this dress implement good labour practices”



**Prepare a Use Case diagram:**

- identifying the principle processes and participants





Develop an **Activity Diagram** showing the participants in the process, the actions / activities undertaken, the sequence of actions and any information flows.



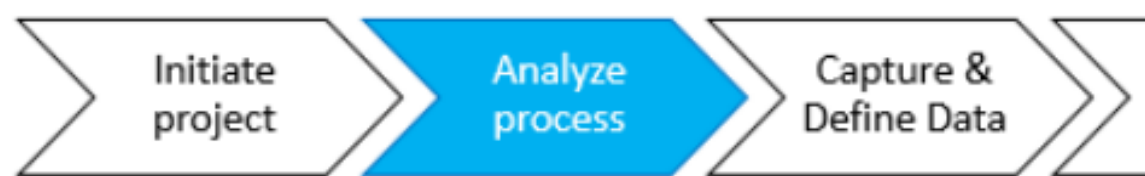
- The Certifier registers the traceable policy claim. It includes all involved parties and certificates to provide the necessary proof. The Auditor can be the Brand Owner / Retailer.
- The Certifier or Goods Producer perform (self) audits / certifications. They both can register them.
- The Goods Producer uses a global unique IDs, provided by a Solution Provider, in order to register himself and the product(s) he produced (including transformation). As a Service Provider may not be aware of the products being transported, stored etcetera, the Goods Producer has to provide the involved product IDs (missing link between Goods and Products). The farmer is also a Goods Producer.
- The Goods Producer and Certifier can register products under a Product Policy Claim because they gain the needed certificate(s).
- The Service Provider uses a global unique IDs, provided by a Solution Provider, in order register himself and the product(s) he has in custody.
- The Brand Owner and the Certifier can verify if a product complies to the traceability policy claim. Although some Brand Owners can do this already as they are Certifier as well.
- The Consumer can request for information about a product regarding the Product Policy Claim. The Brand Owner/Retailer provides this information.

## Prepare a Business Process Description describing:

- “the story” behind the diagram
- any information exchange, including documents.

Example: “story” to be put into the “Business Process Description Form”  
(see next slide)

# Business Process Description Form – Part 1



<b>Name of process area</b>	Organic Cotton Traceability – The information in this form was “invented” as an example, it needs to be filled in by a cotton supply chain expert
<b>Name of business process activity (use case)</b>	3. Cotton Production, Identification (labelling with ID) and Transfer from Farmer to Ginner Note: Identification steps are still to be added
<b>Related laws, rules, regulations and certifications which can be requested by buyers</b>	No use of GMO seed, no use of chemical fertilizers, No child labour Alternatively, one could say, "BCI or GOTS standard or equivalent"
<b>Process participants</b>	Farm supplier, Cotton Farm, Transporter, Trader, Cotton Ginner
<b>Input and criteria to enter/begin the process</b>	Crop Schema Planning has taken place (? Copied from process diagram from Frans and Niki)

**Parallel Processes**

Activities and associated information (from Activity Diagram)  (The first 2 digits are the number of the activity in the activity diagram)  All documents and information exchanges involved should be described	DESCRIPTION	Required DOCUMENTS	Required OTHER INFORMATION / communication method	TRACEABILITY Actions and Data required – to be added to the Activity Diagram in STEP 2 for final process
	Indicate: transformation / aggregation / transaction	Who to Who	Who to Who	
	3.1 Planning and Ordering - Cotton Crop and order seed and fertilizer  Transaction	Order forms for seed and fertilizer from farmer to suppliers		
	3.2 Order/Delivery of Seed: based on order from Farm  Transaction		Order, email or mobile phone (SMS/Whatsapp)  From Farmer to Supplier  Delivery info, email or mobile phone (SMS/Whatsapp)  From Supplier to Farmer	Registration of Seed used



## Basic Event Types happening during activities (based on EPCIS standard)

### 1. Transformation event

Captures the relationship between one or more objects that are fully or partially consumed as inputs or as outputs (3 product parts make 1 product)

### 2. Aggregation event

Objects or processes are grouped (products or batches grouped)

### 3. Transaction event

One or more objects become associated or disassociated with one or more business transactions. For example, an object becomes associated with a purchase order or invoice.

### 4. Object event

An event happened to an object that was not one of the other 3 types of events  
For example the object was shipped

*For more about an implementations of EPCIS (electronic product information code Information Services):*

<https://www.gs1.org/standards/epcis-and-cbv-implementation-guideline/12#3-Anatomy-of-an-EPCIS-event+3-5-EPCIS-Event-types-and-action>





## Business Process Description Form – Part 2, the end

<b>Output and criteria to exit the business process</b>	Cotton Ginner is in possession of the raw cotton
<b>“Common” exceptions/problems</b>	Location information not correctly provided to truck driver, Chemical fertilizer substituted for natural fertilizer by supplier without notification to farmer, ...
<b>Observations</b>	



## Prepare a Document / Information Exchanges List based on:

- Information in the Business Process Descriptions, which lists all of the information exchanges (including documents) for the Use Case

Note: Below short example, definitive for is in development

#	Business Requirement Statement	Business Transaction name for this requirement
1	The Auditor initiates the Policy Claim process by sending the Policy Claim to a repository.	Policy Claim Registration
2	The Auditor completes the Audit / Certification process by sending sending the Audit Result / Certification to a repository.	Audit And Certification Registration
3	The Goods Producer initiates the product registartion process by sending a product identity to a repository	Produced Product Registration
#	Policy Claim Registration data requirement statement	
1	A Policy Claim registration specifies one or more certificates of different types	
2	A Policy Claim registration specifies one or more producer and/or service providers related to certificates	



## List all data for each of the Information Exchanges identified

Note: Below short example, definitive for is in development

### Policy Claim Registration Data Requirements

Auditor Identification

Policy Claim Registration Issue Date Time

Policy Claim Registration Change Date Time

Policy Claim Description

Policy Claim Applicable Certificates Types

Policy Claim Applicable Industry Type

Policy Claim Applicable Producers

Policy Claim Applicable Service Providers



## Summary of Process Analysis – 5 Steps

1. Prepare a **Use Case diagram** identifying the principle processes (what we will focus on during this teleconference)
2. For each process, develop an **Activity Diagram** showing the participants in the process, the actions/activities undertaken, the sequence of actions and any information flows
3. For each Activity Diagram prepare a **Business Process Description** which describes, in text, “the story” behind the diagram and any information exchanges, including documents
4. **List of Document / Information Exchanges** – This is based on information in the Business Process Descriptions and lists all of the information exchanges (including documents) within the Use Case and identifies where the same information is exchanged in different business processes (activity diagrams)
5. For each of the Information Exchanges listed in 4, prepare a **list of the data elements** (for example, date of delivery or product quantity) included in that information exchange.



## We will Prepare 2 ½ Process Analyses

### One that is “Generic for Traceability”

1. To identify what data needs to be exchanged, with whom and when in order to establish traceability for a policy claim by the brand / producer / factory
2. To identify what data needs to be exchanged, with whom and when in order to establish traceability for transparency about a product’s characteristics (technical, environmental and social)

### One for the “Cotton to Finished Garment Process” (as it exists now)

1. To identify what product and process data is currently exchanged, with whom and when

### A Revised “Cotton to Finished Garment Process” (including the needed traceability actions & data)

1. To identify if any new product or process data will be needed to implement the generic traceability process
2. To identify when and from whom data should be collected in order to implement the generic traceability process – with a secondary objective of trying to minimize additional data collection and exchanges (i.e. costs)



**We Really Appreciate Your Willingness  
To Provide Input and Help Us Complete these Process  
Analyses**

**Your input will make a difference as we work to  
develop Guidelines and Standards  
That are usable, practical and of a high quality**

**Thank you!**

