UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE

UNITED NATIONS CENTRE FOR TRADE FACILITATION
AND ELECTRONIC BUSINESS (UN/CEFACT)

BUSINESS REQUIREMENTS SPECIFICATION

(BRS)

Traceability and Transparency in the Textile and Leather Sector, Part 2: Use Cases and CCBDA Data Structures

FINAL DRAFT AFTER PUBLIC REVIEW

Approved: UN/CEFACT Bureau on 15 February 2021

Version: 1.0

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Revision history

Version	Release	Date	Comment
0.1	Internal draft	2020-October-05	ODP3: Initial
0.2	Internal draft	2020-October-05	ODP4: Internal Review
0.3	Internal draft	2020-October-20	OPD4: Updated: requirement List, IOT Sensor Data Events, Sequence diagram fig. 3.6, Added: Business Entity View, Event examples
0.4	Internal draft	2020-October-22	ODP4: Rearrange chapters/sections for readability, added activity diagrams
0.5	Public Review	2020-October-26	ODP5: Public Review version
1.0	First Version	2021-February	ODP6: Project Exit

1   Introduction

The UN/CEFACT project "Enhancing Traceability and Transparency for Sustainable Value Chains in the Garment and Footwear Sector" has developed a recommendation, guidelines and electronic business standards on traceability and transparency for sustainable value chains in the textile and leather sector in support of more responsible production and consumption patterns, in line with the relevant Sustainable Development Goals (SDGs) of the 2030 Agenda for Sustainable Development.[1]

The project has a very broad scope and will therefore be divided into subprojects designed to have a manageable scope. In the first stage, the focus will be on products or product batches across the value chain and information about the way products are transformed, aggregated, or disaggregated. In other words, it will focus on tracking inputs as they are transformed into outputs, and trade-item units as they are added to or removed from logistical units. By having this type of information linked together, the history and origin of a product becomes visible across organizations and borders, as well as related information that supports sustainability claims.

The business case supported by these processes is as follows:

- All business partners involved in the value chain record traceability information on products, product batches, their traded item units and logistic units in a traceability system (repository).
- A traceability information requestor (business partner or government) has a question about a product or product batches related to a party, location, transport movement, quantities, trade transaction, product and/or process characteristics, and requires an immediate answer.

The traceability system retrieves the required information and sends it to the traceability information requestor. The phrase "product or product batch" can refer to either the type of product or product batch or the individual product or product batch.

Traceability and transparency issues can be defined on three levels:

- The need to identify the business partners who have the answers to traceability and transparency questions for the specified products(s) or product batches
- The need to answer questions about related parties, locations, transport movements, quantities, trade transactions
- The need to answer questions about cultivation, breeding, transformation processes, events, social, environmental, and human health issues

The data models in this document can be used to identify the following:

- All textile and leather products
- Types of products or product batches and individual products or product batches
- Parties involved in the value chain for specified products

These data models use a generic standard which supports traceability and transparency for commodities of all kinds.

The structure of this document is based on the structure of the *UN/CEFACT Business Requirements Specification (BRS) Documentation Template*. This global traceability framework will give specific attention to tackling negative health, social and environmental impacts of textile and leather operations.

1.1   Objective

Part 1 of this business requirements specification provides a data model of standardized business information entities (BIEs) and a view of the business processes for sustainable trade in the textile and leather sector. This document, Part 2 of BRS, provides the use cases and Core Component

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[1] https://sdgs.un.org/2030agenda.

Business Document Assembly (CCBDA)[2] data structures for supporting traceability and transparency; in other words, it provides the business choreography (processes) and related business-information (business-transaction) data structures to be exchanged.

The first use case is based on the ISO 19987 (EPCIS[3]) standard and focuses on traceability by means of sharing events among business partners. The second use case focuses on transparency by means of sharing additional (transparency) information between business partners. In all use cases, the business information entities used will come from the overarching Sustainable Development & Circular Economy Reference Data Model (SDCE RDM). In turn, SDCE RDM is part of the Buy-Ship-Pay Reference Data Model (BSP RDM).

Detailed information on BIEs used within the textile and leather sector is published on the UNECE-UN/CEFACT web page "Streamlined presentation of UN/CEFACT standards".[4] All BIEs used come from the United Nations Core Component Library (UNCCL).

1.2   Reference documents

Knowledge and application of the following documents is crucial for the development of the information entities specified in this document.

- UNECE, *Business Process Analysis for Sustainability and Circularity in Textile Value Chains* (2021).
- UNECE, *Business Process Analysis for Sustainability and Circularity in Leather Value Chains* (2021).
- UNECE, *Accelerating action for a sustainable and circular garment and footwear industry: which role for transparency and traceability of value chains?* Policy paper (2020).
- UNECE, *TEXTILE4SDG12: Transparency in Textile Value Chains in Relation to the Environmental, Social and Human Health Impacts of Parts, Components and Production Processes* (ECE/TRADE/439).
- UNECE, *Traceability for Sustainable Trade: A Framework to Design Traceability Systems for Cross Border Trade* (ECE/Trade/429).
- ISO 19987:2017 EPC Information Services (EPCIS) Standard.
- UN/CEFACT *Reference Data Model (RDM) Guideline* (Draft, v1.0.0.2).
- UN/CEFACT *Core Components Business Document Assembly Technical Specification* (CCBDA), version 1.0 27, (June 2012).
- UN/CEFACT, *Business Requirements Specification for Traceability and Transparency in the Textile and Leather Sector, Part 1: High-Level Process and Data Model* (2021).

1.3   Audience

The audience for this document is all users who are interested in information data exchange to support traceability and transparency for sustainable trade in textile and leather value chains.

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[2] For more information on CCBDA, see the *UN/CEFACT Message Construction Guidelines for CCBDA*, available at https://unece.org/sites/default/files/2021-01/MessageConstructionGuidelines_CCBDA-v1.0.pdf.
[3] The name EPCIS reflects the origins of this effort in the development of the Electronic Product Code (EPC). It should be noted, however, that EPCIS does not require the use of EPCs, nor radio-frequency identification (RFID) data carriers, and as of EPCIS 1.2 does not even require instance-level identification (for which EPC was originally designed).
[4] Available at https://unece.org/trade/uncefact/mainstandards.

1.4   Status of this document

This document has been developed in accordance with the UN/CEFACT Open Development Process[5] and has been approved for publication by the UN/CEFACT Bureau.

1.5   Document context

This document describes the business requirements for Textile and Leather Traceability & Transparency data exchange. As shown below in Figure 1-1, the data-exchange structures, also known as CCBDA[6] data structures, will be derived from the Textile and Leather Process and Data Model which is, in turn, based on the Sustainable Development and Circular Economy Reference Data Model (RDM) architecture.

Figure 1-1 Document context
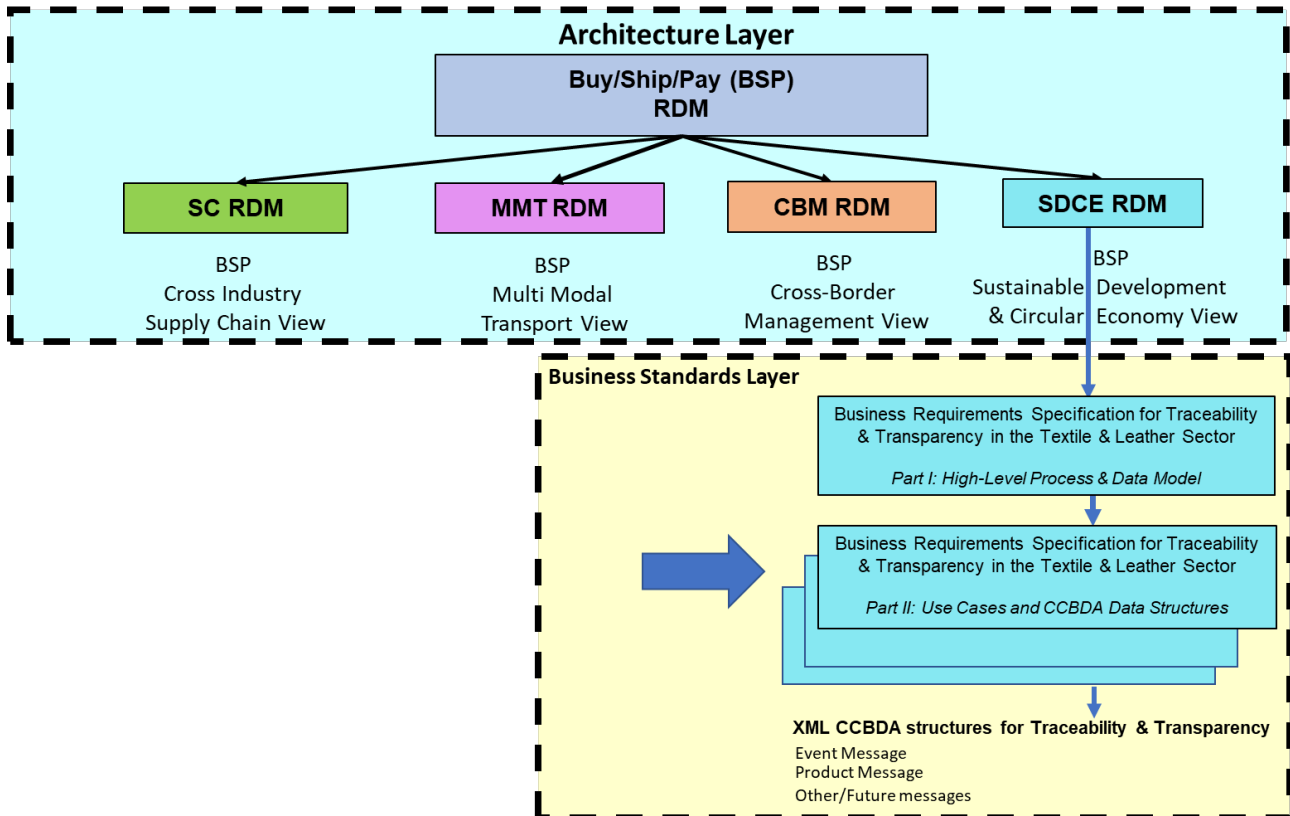
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[5] See ECE/TRADE/C/CEFACT/2016/17. Available at https://unece.org/trade/uncefact/policiesprocedures-and-termsreference.

[6] UN/CEFACT, *Core Components Business Document Assembly Technical Specification*, version 1.0 (27 June 2012).

2 Business requirement view

2.1 Business domain view

This section describes the extent and limits of the business processes within the textile and leather supply chain being described in this document. The specific processes and use cases including the exchange of messages and content will be described.
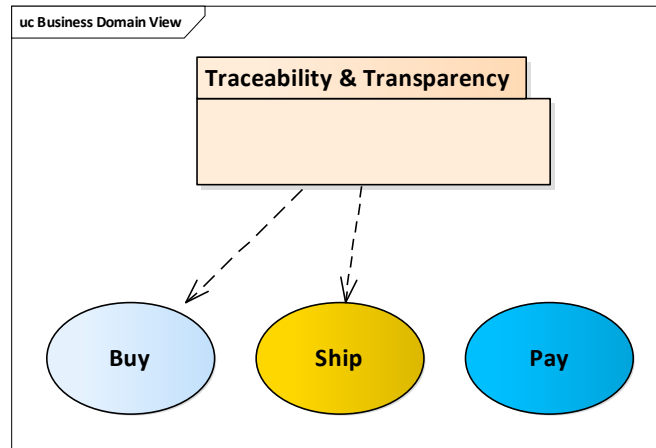

Figure 2-1 Domain view

The textile and leather domain focuses on the "buy" and "ship" part of the UN/CEFACT Buy-Ship-Pay Reference Data Model (Figure 2-1).

Categories	Description and values
Business process	Textile and leather traceability and transparency data exchange
Product classification	Textile and leather traceability and transparency data
Industry classification	Textile and leather
Geopolitical	Global
Official constraint	-European regulations -National regulations -Local applicable regulations
Business process role	Exchange of traceability and transparency data
Supporting role	None
System capabilities	-Agreed level of security to protect data integrity -Network of connected traceability and transparency databases -System of authorizations and keys for retrieving traceability and transparency information by traceability and transparency requesting parties

2.2 Business requirement list

For traceability and transparency purposes a network of public and/or private databases could be used in which cultivation, breeding, manufacturing, finishing and transport data can be registered, searched for and retrieved. This data is not public information. The business partners maintain control over access to the data. The traceability and transparency data could also be sent between parties based on requests, without using such databases. In the list below, business requirements are specified in addition to the ones described in BRS for *Traceability and Transparency in the Textile and Leather Sector, Part 1: High-level Process and Data Model*.

#	Business requirement statement	
B.1	Standardized data exchange structures	Traceability and transparency data exchange structures (messages) must use existing standards and methods which allow the provision of needed information.

#		Business requirement statement	
B.2	Additional information about the product (sustainability related)	Transparency data is obtained by sharing events across organizations using a traceability system. When not provided by the shared event data, the needed additional information (e.g. sustainability data), can be exchanged between organizations based on its linkages to the event data. The traceability system should provide instant visibility across organizations on products and processes for the whole value chain.	
B.3	Events providing data on the five Ws	The traceability event data should answer the five Ws: (who, what, when, where and why) about a product or product batch and provide links (when appropriate and available) to relevant information which is sustainability related.	
B.4	Exchange of measurements from IoT sensors	The requested additional information captured by internet of things (IoT) sensors (such as measurements for humidity and temperature) can be exchanged between business partners and the traceability system, or between business partners themselves.	
B.5	Exchange of sustainability data on key traceability entities	The main purpose of transparency data is to verify sustainability claims that relate to parties (such as brand owners and transporters), and also to facilities, processes, locations, products, product batches, transport movements, etc. This information should be provided to the traceability/transparency information requestor.	
B.6	Transport movement events to support the chain of custody	Transport movement events (shipping/receiving) should be provided about the chain of custody. This includes information about dispatch and delivery date times, the ship from/to parties and logistics locations. Other information such as identifiers of shipments, consignments, transport means, and transport equipment might be requested.	
B.7	Traceability repository access rights	The traceability system should be able to provide access to only a subset of information, depending on the identity of the traceability/transparency information requestor.	
B.8	Interoperability	Interoperability between different systems will be needed	
B.9	Independent, global	Data exchange standards need to be independent of national and/or geographical locations	

Product and product-batch traceability and transparency data can be exchanged on a regular basis (e.g. for consumer information) or on an ad hoc basis (e.g. on request).

2.3 Business partner view
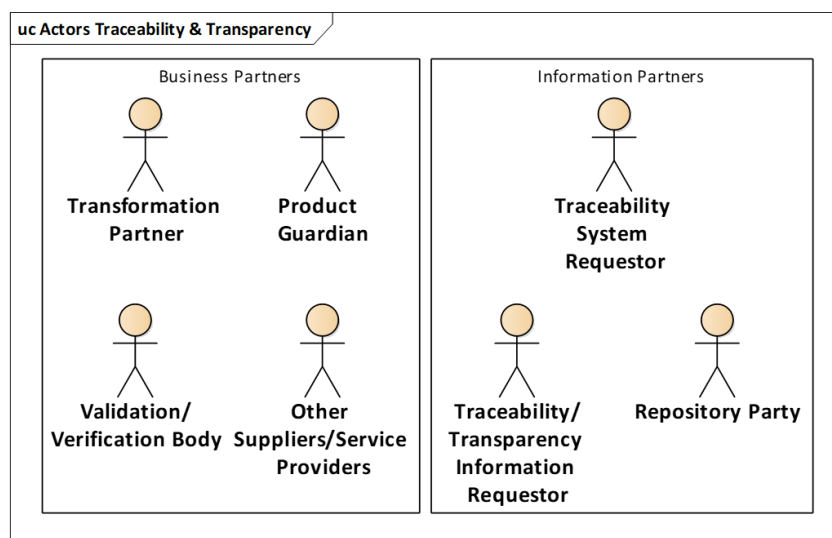
Figure 2-2 Business partner view

Actor	Definition
Customer (including consumer)	Customers are often the customers of the Traceability System Requestor, but they can also be suppliers; so the customer could be the Weaver who is buying organic cotton thread, or the final customer who is purchasing the garment. In other words, it is whoever is purchasing goods, based (at least in part) on a claim made by the seller.

Actor	Definition
Suppliers/ Service Providers	With the exception of transporters and warehouses (who are Product Guardians), a person or company that provides something that is needed, such as services, feed, equipment, materials, intermediary products and finished products used as inputs, chemicals etc.
Product Guardian	A party, such as a Transporter, Warehousing Party, Agent/Trader, Brand Owner/Retailer, or Consumer that makes no changes to a product or raw material; they only store, transport, sell, or purchase it. Their possession of the product is recorded in order to establish the chain of custody, since product contamination or substitution could take place during their custody.
Provider of IDs	A party that supplies identifiers. For a product or component to be traced, it must have a unique identifier that cannot be duplicated or moved from one (compliant) product to another (which may not be compliant). Parties and locations in the value chain also need to have unique IDs. This value chain partner's role is to provide the identification. The role can be carried out by a Transformation Partner, but it could also be done by a certifier or an inspection organization or an association that specializes in identifiers (such as GS1) or a government (for example, if a company is identified by its tax ID).
Traceability System Requestor	This actor requests that a traceability process be implemented. This could be any down-stream value chain partner that wants to make a "claim" to its clients. Therefore, it could be the Spinner, Weaver, Manufacturer, or a Brand Owner/Retailer.
Transformation Partner	A party that processes or changes one or more inputs to create different outputs (i.e. Farmer, Ginner, Spinner, Weaver, Dyer, Manufacturer, Subcontractor, Tanner, Recycler, etc.). Transformation Partners include those who undertake post-consumer recycling or reuse of products.
Validation Body	A party which inspects planned controls and verification measures in a value chain and validates that they are appropriate and will meet the objectives that have been set. Validation Bodies are often the same organizations that undertake verification activities (see below).
Verification Body	A party that verifies that what has happened in the value chain has taken place according to the rules agreed in advance. These bodies provide the data to prove that processes in the value chain have supported claims made about products or entities/organizations. In addition to auditors, these value chain partners could include certifiers, inspectors, brand auditors or self-auditors.

2.4   Business entity view

The conceptual model below represents the set of data for the traceability system, in particular the traceability events. An event message contains one or more events regarding a product or a product batch.
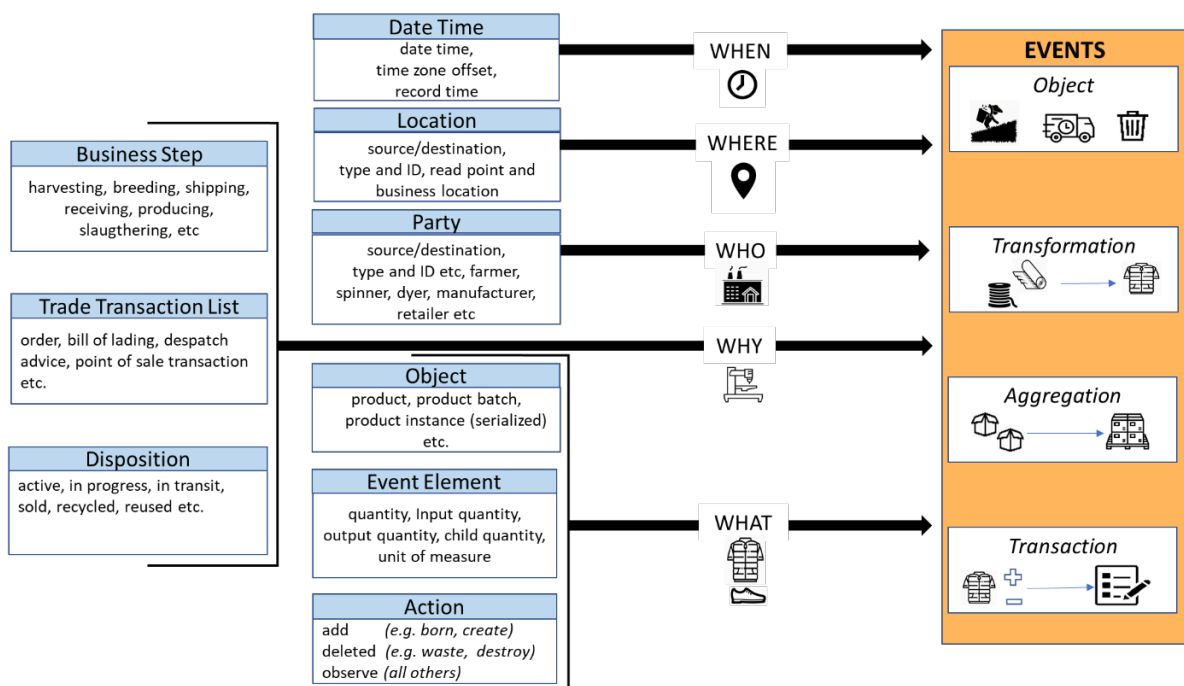

Figure 2-3 Business entity view

In Figure 2-4 below both the traceability repository and the systems of the business partners are using parts of the Textile and Leather Data Model. Depending on the information needs of the traceability information requestor, either the basic visibility information (the five Ws) or additional information can be retrieved. The basic information needs will be retrieved from a shared repository and the additional information needs will be retrieved directly from relevant business partners. The effort required for implementing information exchanges will depend upon the granularity of information (larger information packages will require more effort). The basic and additional information requirements may differ among business partners. This document has described the information entities for exchanging basic visibility data (events). For any other data exchanges that are required, additional guides or updates of this document will be needed to support interoperability between business partners.
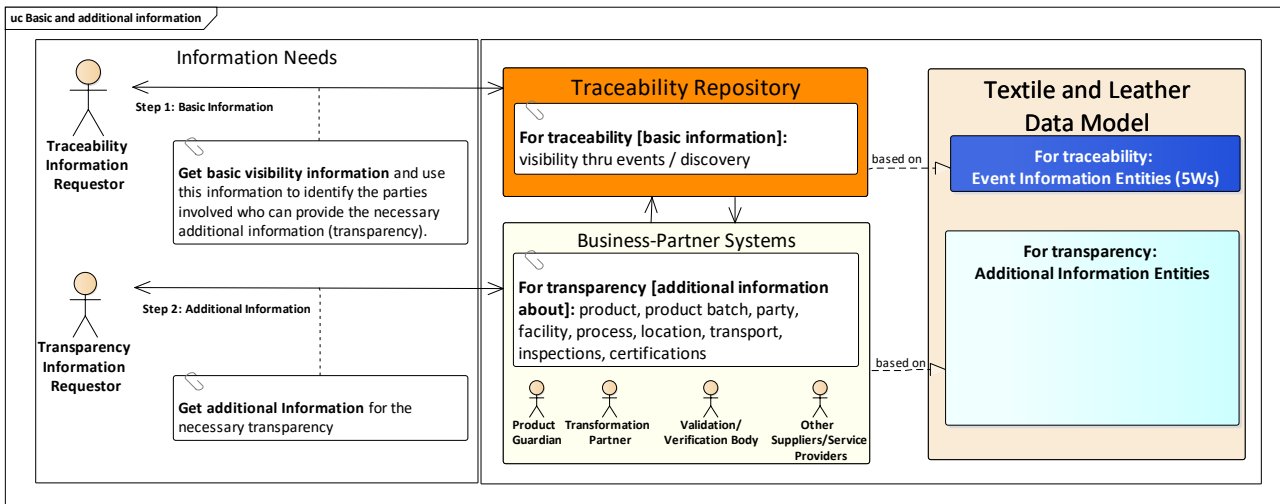

Figure 2-4 Basic event information and additional information

The basic events of a traceability system are generic for all types of products over the whole product life cycle and apply to all processing steps from the sourcing of raw material to the point-of-sale of the end product to the recycling of the used end product.

Event types	Description
Object Event	An event that happened to one or more objects. This is the simplest type of event, as well as the most common.
Aggregation Event	An event that happened to one or more objects that are physically aggregated together or disaggregated from each other. This event contains the identifier of a parent object, and identifiers of one or more child objects.
Transformation Event	An event in which input objects are fully or partially consumed and output objects are produced. This event contains the identifier(s) of the output (parent) object and the identifiers of one or more child (input) objects
Transaction Event	An event in which one or more objects become associated or disassociated with one or more identified business transactions.

Event-related data	Description
Action	The action 'add' marks the beginning of the life of the object. No other events for the same objects should precede this one. The action 'delete' marks the end of the life of the object. No other events for the same objects should follow this one. The action 'observe' is used in all other cases.
Business Step	Identifies what was taking place from a business perspective at the time of the event; that is, what step of a business process was occurring.
Date Time	Specifies when the event took place.
Disposition	Identifies the business condition (status) of the physical or digital objects (what).
Event Element	This is a quantity, and it is not used if every instance of an object is identified. When elements are not individually identified, then a class-level identification is given and this information specifies the quantity of objects covered by that identification.

Event-related data	Description
Location (Read Point and Business Location)	In the case of a *read point*, the identifier of the read point location is where the objects (what) were at the time of the event. In case of a *business location*, the identifier of the business location is where the objects (what) are expected to be following the event, until another event says otherwise. The business location is the location after the read point location.
Object	Identifies the physical or digital objects that were involved in the event (see Figures 2.3 and 4.1)
Party	Identifies the party that relinquishes ownership (source) or receives ownership (destination) of the objects as a result of the business transfer, or takes possession as a result of other transfers such as for storing goods in a warehouse.
Source List and Destination List	Provides additional business context when an event is part of a business transfer of ownership, responsibility or custody. As with business transactions, a source or destination is identified by a pair of identifiers: one for the type of source or destination and another identifier for that specific source or destination of that type.
Trade Transaction List	Identifies one or more specific business transactions that are relevant to an event. A business transaction is identified by a pair of identifiers: one identifier that says what type of business transaction is referenced, and a second identifier that names the specific business transaction of that type. Examples of business transaction types are orders, dispatch notes and invoices.

2.5   Business Terms

Term	Business requirement statement
EPCIS	Electronic Product Code Information Services.
Location	An identified geographical point, place or area where an event related to product or product batch traceability occurs (e.g. an agricultural area, a location of a production unit etc.).
Party	An identified person, organization or authority.
Product Batch	An identified group of not individually identified products, or the quantity of anything made in one operation or lot.
Registration	The administration of data according to a specific set of criteria. (e.g. product registrations and transport movement registrations).
Registration of Event (declaration)	The administration of event-identifying information, which can be searched for traceability and transparency requests.
Sustainability	The manufacturing, marketing and use of garments, footwear and accessories and their parts and components, taking into account the environmental, health, human rights and socioeconomic impacts, and their continuous improvement through all stages of the product's life cycle.[7]
Traceability	"The ability to identify and trace the history, distribution, location and application of products, parts and materials, to ensure the reliability of sustainability claims in the areas of human rights, labour (including health and safety), the environment and anti-corruption"[8] and "the process by which enterprises track materials and products and the conditions in which they were produced through the supply chain".[9]
Traceability/ Transparency Information Requestor	A person, organization or authority needing traceability and transparency information about product(s) for their sustainability statement(s) (claims) regarding environmental, health, human rights and socioeconomic impacts. If the products being traced are regulated, the data could also be used to verify compliance and enforce laws.
Transparency	"Requires relevant information to be made available to all elements of the value chain"[10] in a standardized way, which allows for common understanding, accessibility, clarity and comparison.

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[7] UNECE, *Accelerating action for a sustainable and circular garment and footwear industry: which role for transparency and traceability of value chains?* Policy paper (2020).
[8] United Nations Global Compact Office, *A Guide to Traceability: A Practical Approach to Advance Sustainability in Global Supply Chains* (New York, 2014).
[9] Organisation for Economic Co-operation and Development (OECD), *Due Diligence Guidance for Responsible Supply Chains in the Garment and Footwear Sector* (Paris, 2017).
[10] DAI Europe and the European Commission, *A Background Analysis on Transparency and Traceability in the Garment Value Chain* (2017).

3 Business choreography view

3.1 Generic traceability and transparency use case

The purpose of this generic traceability and transparency use case diagram is to illustrate the principal processes for establishing traceability, which are applicable across different products; this means the model should be good for cotton, wool, viscose, leather, etc. As currently drawn, there are seven kinds of generic value chain partner roles (some of which may be fulfilled by the same organization).
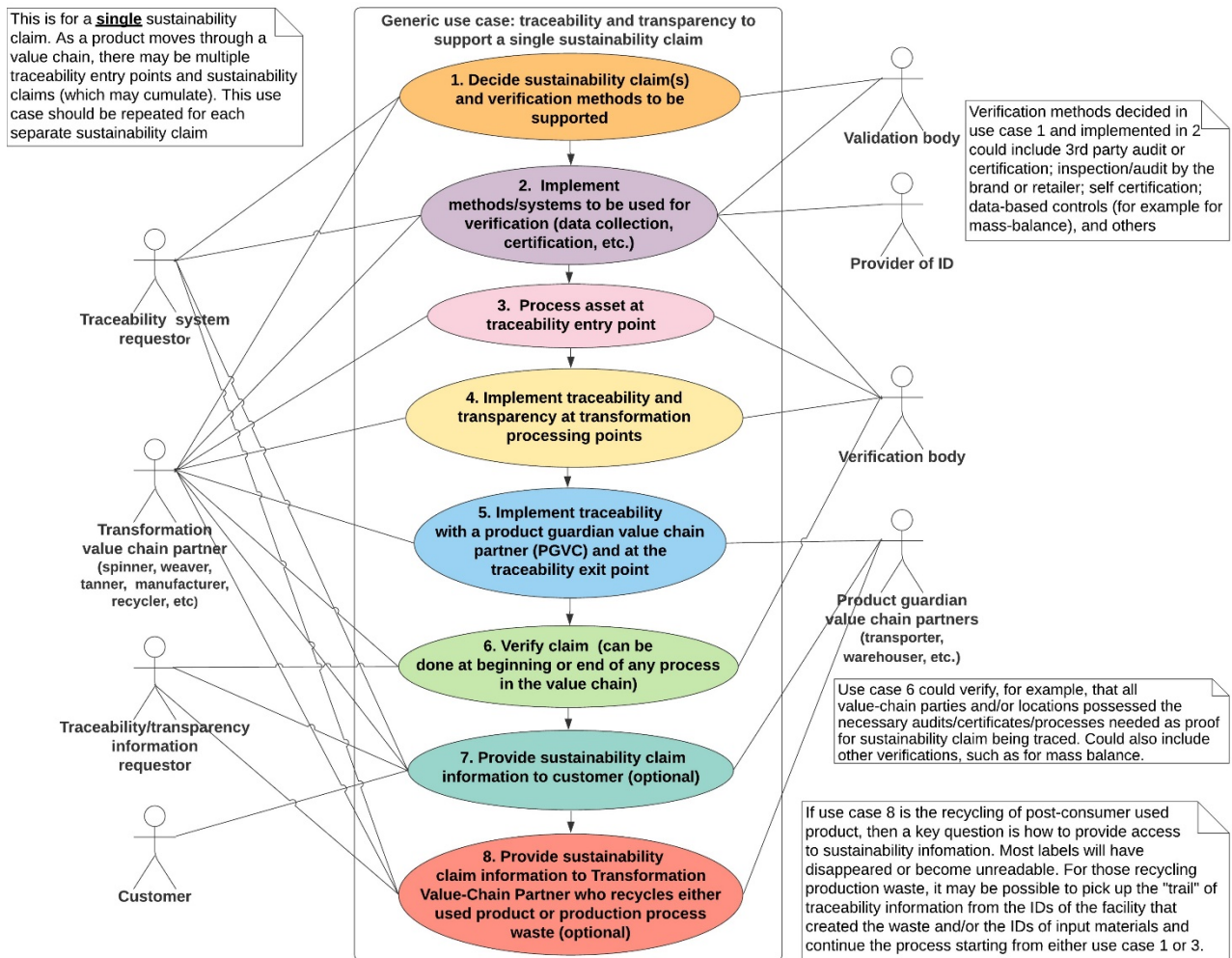

Figure 3-1 Generic traceability and transparency use case

Within the generic traceability and transparency use case shown in Figure 3-1, data is collected, registered and retrieved for events which provide the visibility to enable traceability. This event data can then, depending upon the application, have additional (sustainability) information linked to it.

The use case diagram for traceability (visibility) events can be found in Figure 3-2 with diagrams showing more detail in Figures 3-4, 3-5 (activity diagrams) and 3-6 (a transaction sequence diagram). Figure 3-7 presents the use case diagram for additional transparency (sustainability) information on products, product batches, processes, transport movements, locations and/or business partners. Its accompanying activity diagram is in Figure 3-8 and the transaction sequence diagram is in Figure 3-9.

3.2 Business transaction: event use cases

In Figure 3-2 below, a use case is shown for declaring product or product-batch related events. Figure 3-3 shows the data being collected for events, while the activity diagram in Figure 3-4 details the event declaration process. The activity diagram in Figure 3-5 details the search/request and response processes for traceability events.
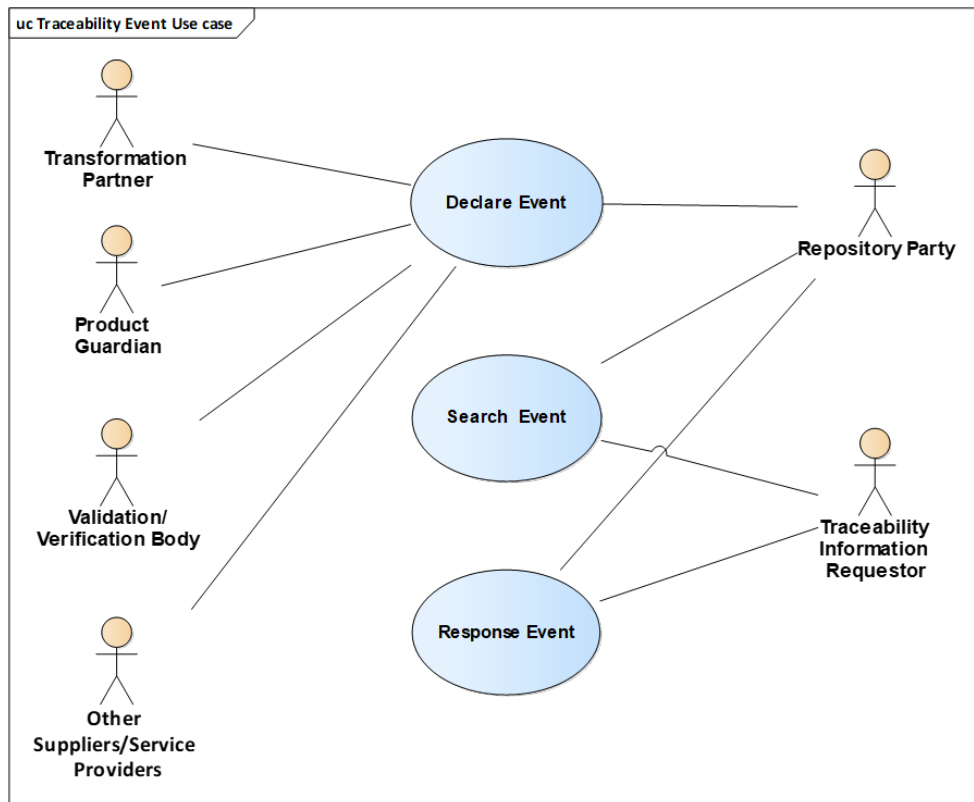
Figure 3-2 Event use cases

The above figure illustrates the use cases for performing three business processes:

- Declare product or product-batch events by Transformation Partners, Product Guardians, Other Suppliers/Service Providers or Validation/Verification Bodies.
- Search for a traceability event within the traceability repository by the Traceability Information Requestor.
- Respond to a search request from the traceability repository system for the Traceability Information Requestor.

The main data for this use case is comprised of the date and time of the event, the product ID or product-batch ID, quantities, party ID, location ID, shipment ID, and process type, answering the key traceability questions known as the five Ws (what, who, where, why and when).
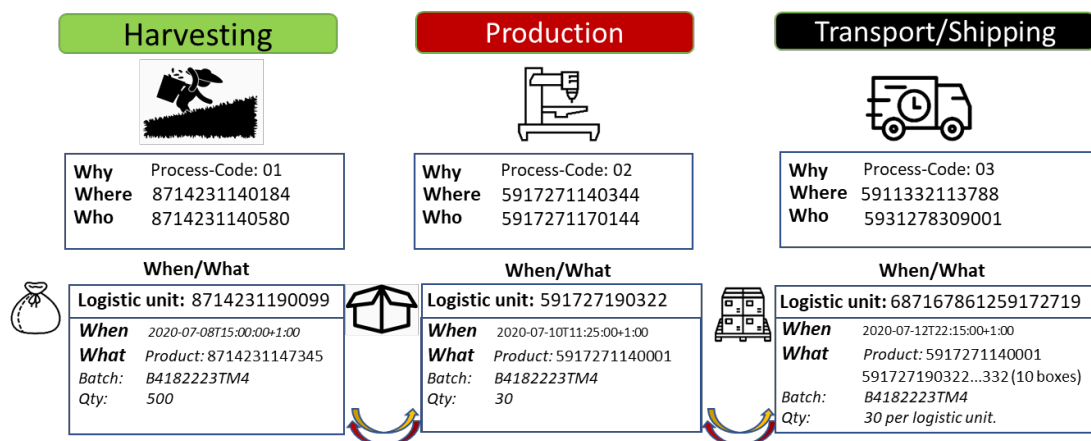
Recording Data

Figure 3-3 Event data

3.3   Business process flow: declare, search/request, and response

The Transformation Partner, Product Guardian or Validation/Verification Body sends a declaration for an event to the traceability repository. The traceability repository receives and processes the event and sends an acknowledgement to the Transformation Partner, Product Guardian or Validation/Verification Body. The acknowledgement message is generated by the traceability repository system. Once the acknowledgement message has been received and processed the activity ends.

Figure 3-4 Declare event
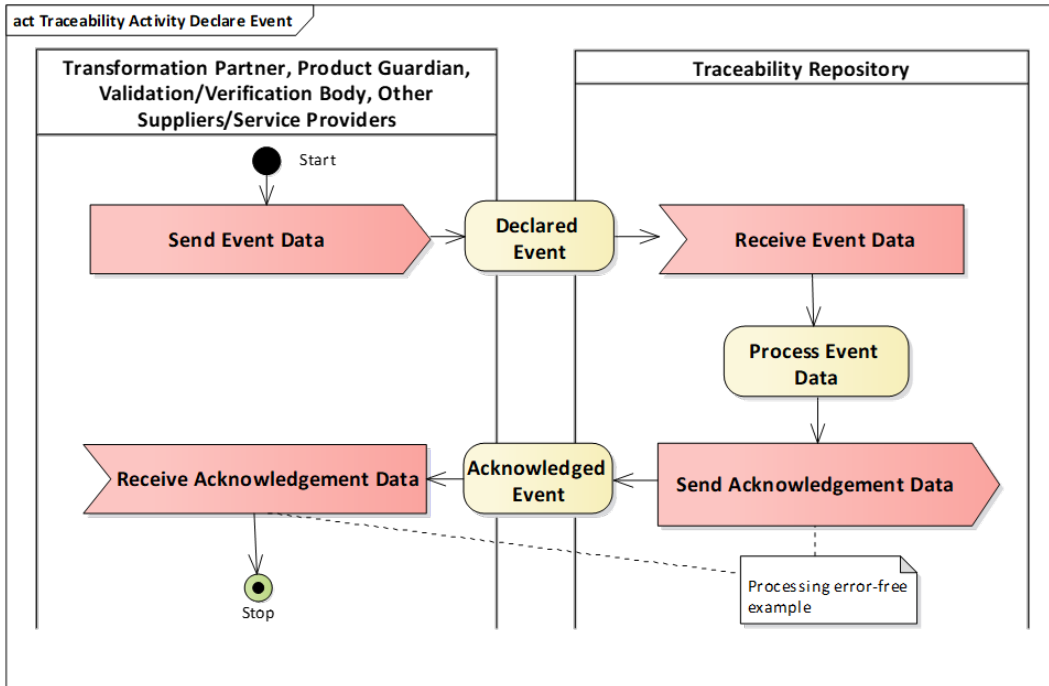
In Figure 3-5, the Traceability Information Requestor sends a search/request for event data to the traceability repository. The traceability repository processes the search/request and collects the requested event data. This event data will be sent to the Traceability Information Requestor. Once received by this party, the activity ends.
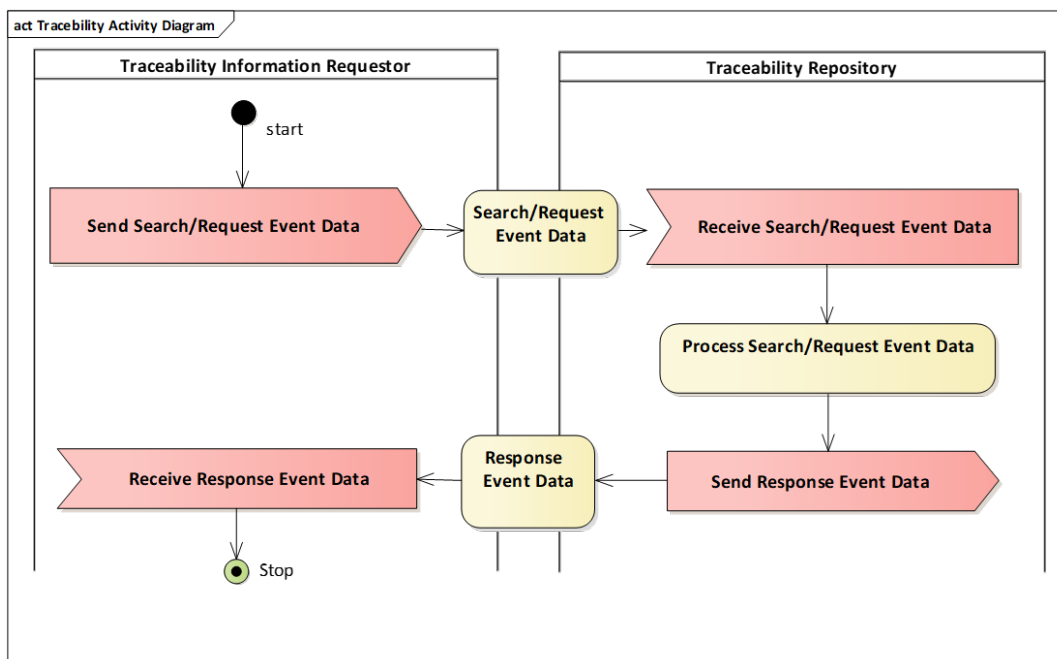

Figure 3-5 Search and response event

3.4   Business transaction sequence for events

This diagram shows the sequence of information transactions needed for the processes of declaring, searching and requesting event information using a traceability repository. Events are declared by Transformation Partners, Product Guardians, Other Suppliers/Service Providers, Validation and Verification Bodies. Examples of such events are declaring the creation of a product, the inputs/outputs of a transformation process, transport movements, storage, disposal and so on. When all actors in the value chain declare traceability events, visibility across the value chain becomes available. The Traceability Information Requestor, including Validation and Verification Bodies, can request traceability event information from the Repository Party.
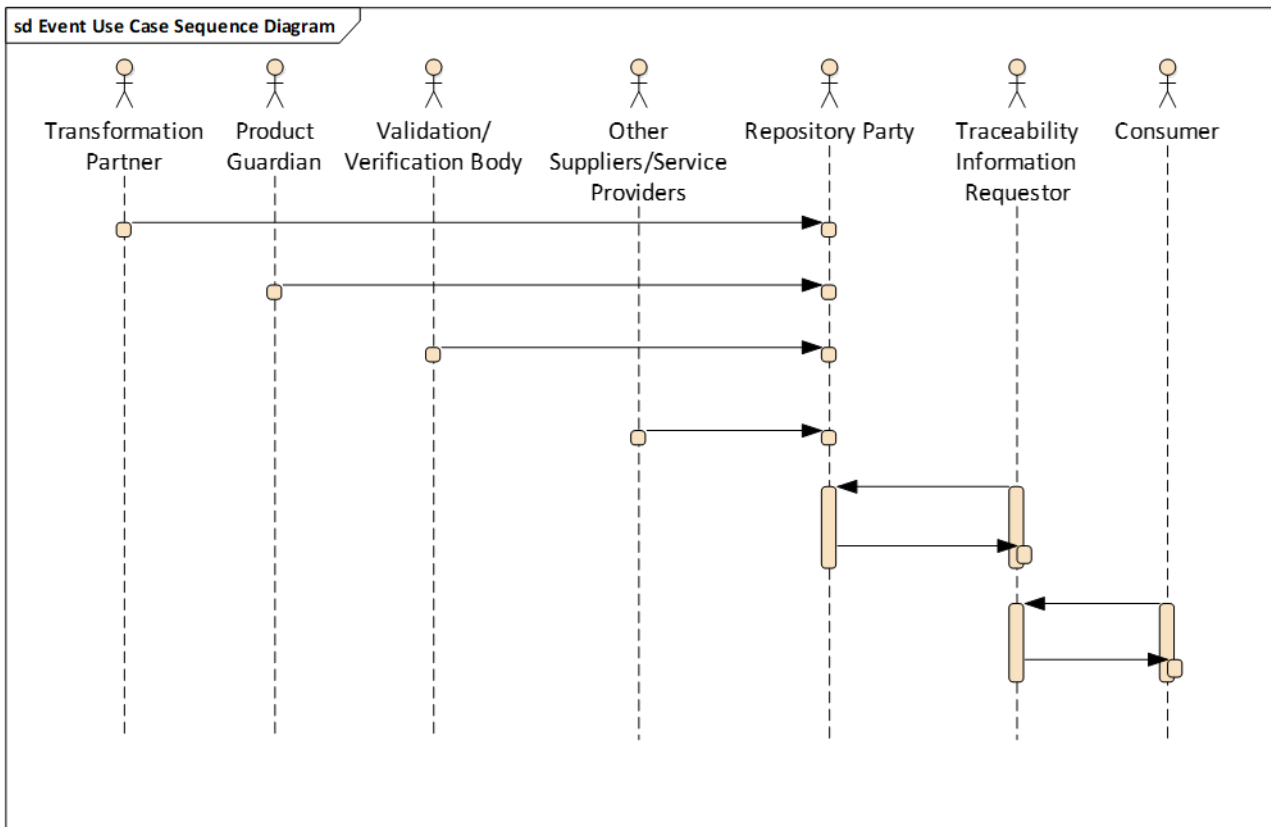
Figure 3-6 Business transaction sequence for events

3.5   Business transaction: additional information use case

This use case is about the information exchanged *between* the business partners, identified with the help of the traceability repository. In this use case the information exchange is based on a request and response process. This use case is commonly limited to sustainability-related data about a product, product batch, party, facility, process, location or transport movement. The implementation will decide which additional transparency information is provided.
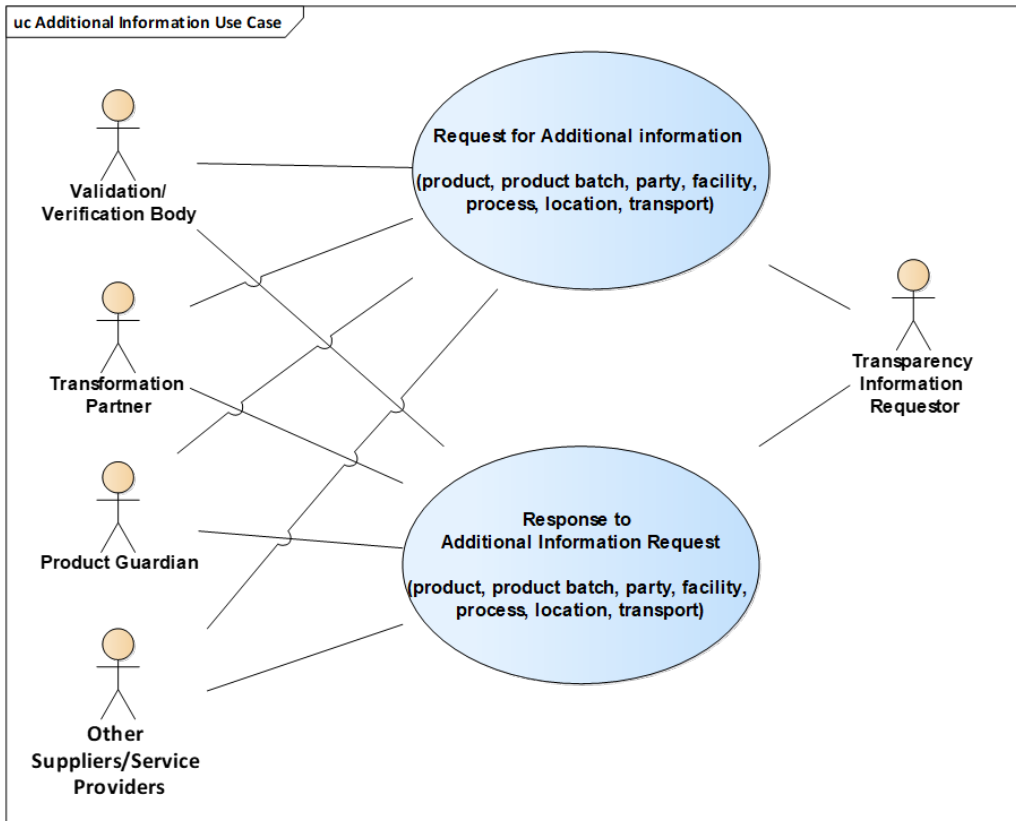
Figure 3-7 Additional information use cases

3.6 Business flow

The Transparency Information Requestor sends a request for additional information about a product, product batch, party, facility, location or transport movement to the Transformation Partner, Product Guardian, Other Supplier/Service Provider or Validation/Verification Body. These parties process the request and retrieve the requested additional information. This information is sent to the Transparency Information Requestor. Once received, the activity ends.

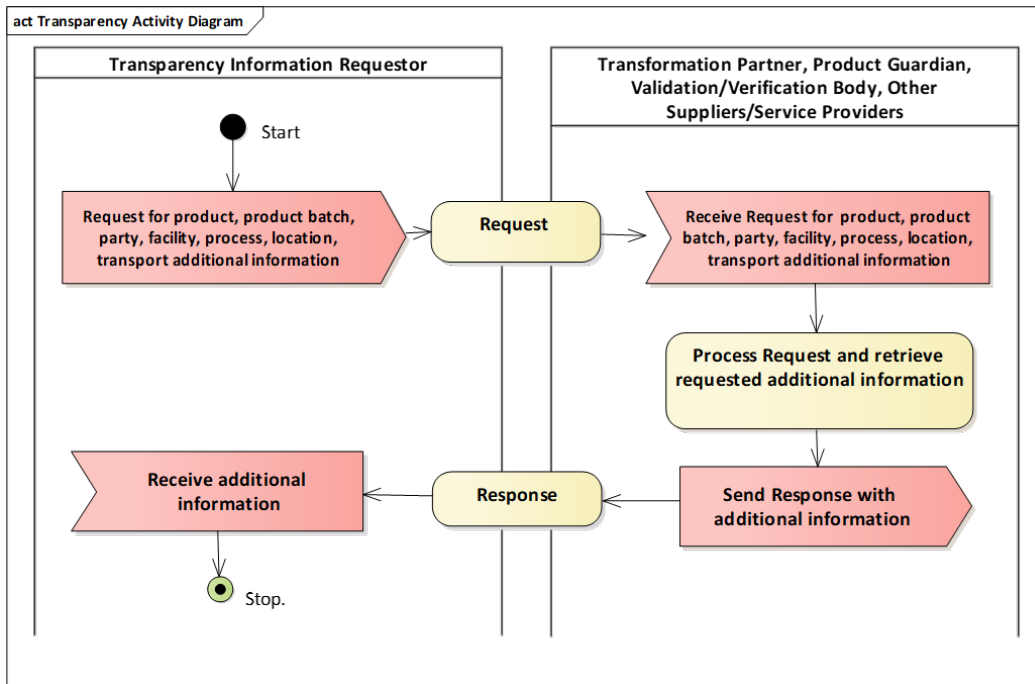**Figure 3-8 Activity diagram additional information**

3.7   Business transaction sequence for additional information

This diagram shows the sequence of information transactions needed for the exchange of additional information between business partners and the Transparency Information Requestor. The identification of the party holding the additional information (i.e. the relevant Transformation Partner, Product Guardian, Other Supplier/Service Provider or Validation or Verification Body) can be retrieved from the traceability repository. The transaction sequence of this use case consists of only one request and a response between the party (having the additional information) and the Transparency Information Requestor. Based on the response, another iteration of a request and response can be performed. The Customer (including the Consumer) can request additional information from the Transparency Information Requestor (e.g. the Brand Owner). In practice, a Consumer will probably use a mobile phone app of the Brand Owner to obtain additional information.
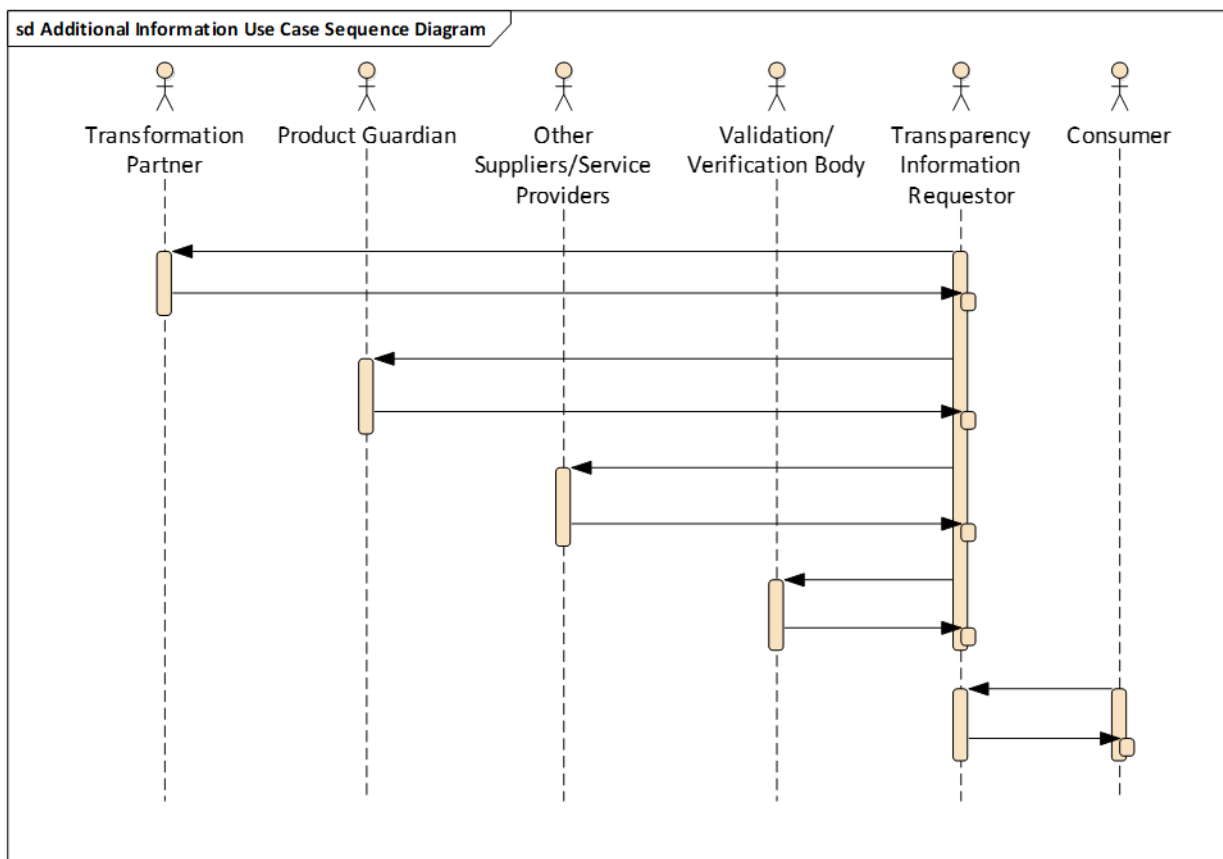

Figure 3-9 Business transaction sequence for additional information

4 Business information view

4.1 Event Data Model

The UN/CEFACT event-based entities allow for the tracing of an object (e.g. product/product batch/ logistic unit) backward/forward through the supply chain. A chain of custody/ownership can be created by tracing all partners that had physical possession of an object. In addition, by tracing all partners and related locations, the origin and pedigree of an object can be determined. Even greater visibility across the value chain can be obtained through data relating to the what, who, when, why and where of an object. Stock levels can be optimized by capturing and analysing inventory inputs/outputs and stocktaking. With the help of the traceability repository, business partners can request additional information from their partners which would otherwise remain invisible.
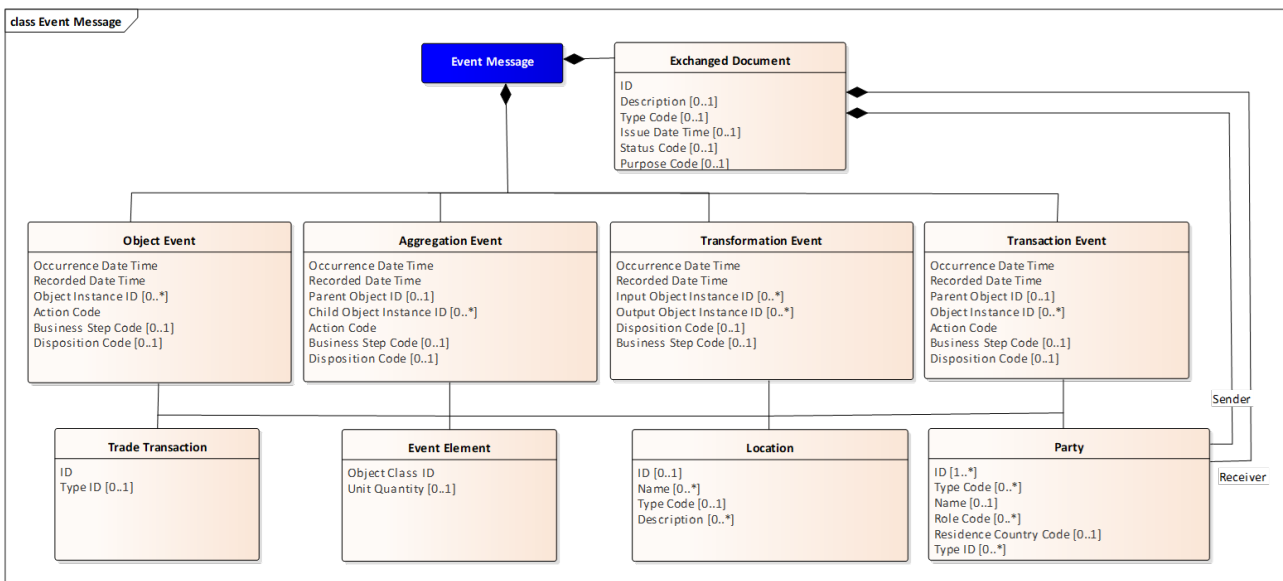

Figure 4-1 UN/CEFACT Event Message

Business requirement	Description
What	Identifiers of the object(s) or other entities which are the subject of the event. The traceability system allows for two kinds of object identification: instance-level (each identifier is unique to a single object) and class-level (multiple objects carry the same identifier).
When	Identifies the date and time the event took place and the local time zone in effect, for example, date of event (2018-11-19); time of event (23:47:00); and time zone in effect (UTC +10:30).
Where	Identifier of the location at which the event occurred, and identifier of the location where the object(s) are expected to be following the event. Besides the *read point*, this means the specific place where an event took place, uniquely identified (e.g. captured at loading dock II); and the business location (e.g. production facility B) of the object after the event, uniquely identified.
Who	The identifier of the party that relinquishes ownership (source) or receives ownership (destination) of the object(s) as a result of a business transfer or takes possession as a result of other transfers (such as for storing goods in a warehouse).
Why	This identifier indicates the business state of the object(s) following the event (e.g. destroyed), the shipping and receiving parties, links to relevant business transaction documents (e.g. a purchase order, an invoice), instance- or lot-level master data, and/or other information defined via user extensions.

4.2 Business documents: Event data message

Entity	Min	Max	Name	
Entity			Event Message	Event information exchanged between parties involved in a track-and-trace process.
Assoc	0	1	Exchanged Document Context	The scenario or setting of an exchanged document, such as its business process application context.
Assoc	1	1	Exchanged Document	A collection of data for a piece of written, printed or electronic matter that is exchanged between two or more parties.
Assoc	1	Unbounded	Object Event	Object event details for this event message.
Assoc	1	Unbounded	Transformation Event	Transformation event details for this event message.
Assoc	1	Unbounded	Aggregation Event	Aggregation event details for this event message.
Assoc	1	Unbounded	Transaction Event	Transaction event details for this event message.

4.2.1 Business information entities

More information on the above entities can be found in the Part 1 of this BRS.

4.2.2 Example

Use case: Shipping – Receiving – Shipping.

Facility A is producing Product 1 and selling it to Facility B. Facility B is distributing (selling) Product 1 to Facility C. Shipping and receiving events are generating event data. The information is structured as presented in the above class diagram and available as information entities within the Textile and Leather Process and Data Model.

Table 4-1 Event examples (text used instead of identifiers for readability)

	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	EPCList (object)	Product 1	**What**	EPCList (object)	Product 1	**What**	EPCList (object)	Product 1
		Batch 1			Batch 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 Transaction List	Invoice Facility_A-01		Business Transaction List	P.Order Facility_B-P0.01		Business Transaction List	P.Order Facility_B-P0.01
					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

4.3 Business document: additional information message

The Textile and Leather High-Level Process and Data Model contains rich information entities which allow for the retrieving of additional information (e.g. sustainability data). The key transparency information entities are included in the master message structure of the Textile and Leather High-Level Process and Data Model, which means that each of the following key information entities might become part of an additional information message.

Key transparency information entities
Product or Product Batch
Party
Production Facility
Production Process
Location
Trade Delivery
Consignment (Transport Movement)

As an example, the additional information message, here named "product transparency message", contains the product information entity as a root element. From this root element several associations lead to relevant sustainability information entities.
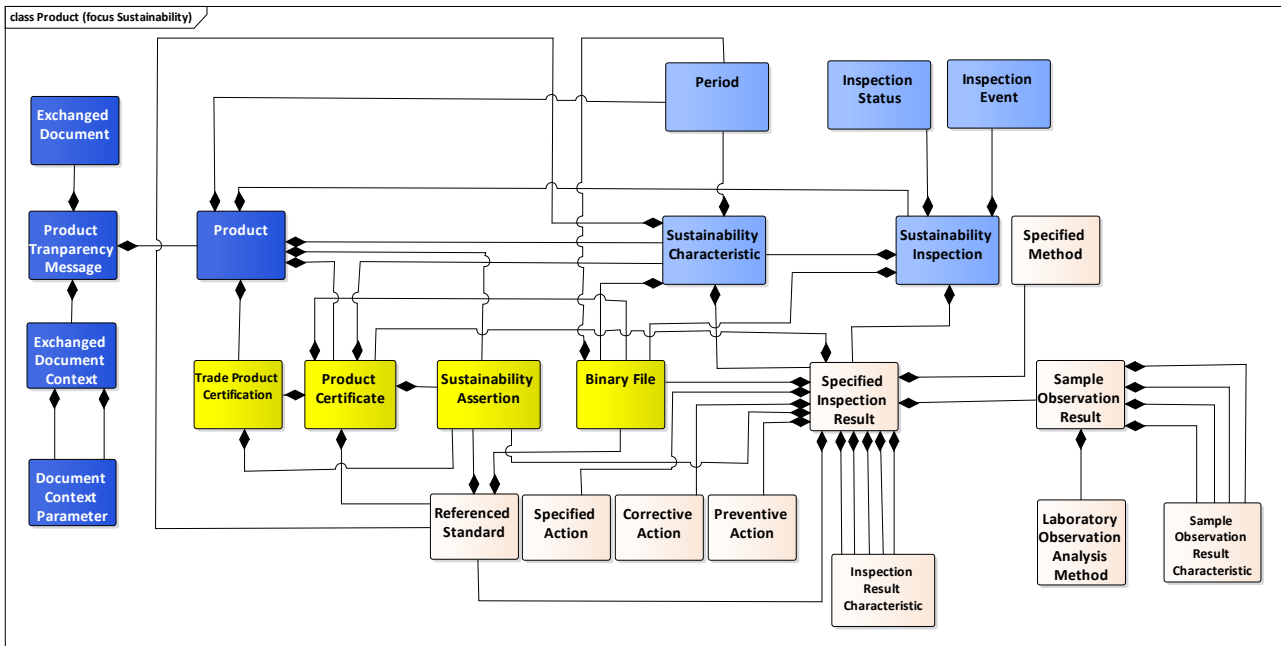

Figure 4-2 Example product transparency message (focuses on sustainability information)

4.4 Business documents: product transparency message (focuses on sustainability data)

Entity	Min	Max	Name	Description
Message			Product Transparency Message request/response	Transparency information about a product/product batch exchanged between parties involved in a track-and-trace process.
Assoc	0	1	Exchanged Document Context	The scenario or setting of an exchanged document, such as its business process context.
Assoc	1	1	Exchanged Document	A collection of data for a piece of written, printed, or electronic matter that is exchanged between two or more parties.
Assoc	1	Unbounded	Product	Product/product-batch details for this message.

4.4.1 Business information entities

In the list below of information entities, for the root element "product" only a Global ID attribute is shown, although many more attributes could be given to a product. A full list of the product attributes and available associations can be found within the published BRS for *Traceability and Transparency in the Textile and Leather Sector, Part 1: High-level Process and Data Model*.

Note: As the key traceability information entities are quite extensive, the need for a restricted common user profile is evident. At this moment, the way these restrictions should be applied is not yet set, but this will be done within a sector implementation guideline.

Entity	Trade Product	Any tangible output or service produced by human or mechanical effort or by a natural process for trade purposes.	Min	Max
Attr.	Global ID	A unique global identifier for this trade product.	0	1
Assoc.	Certification	A certification applicable to this trade product.	0	unbounded
Assoc.	Product Certificate	A product certificate specified for this trade product.	0	unbounded
Assoc.	Specified Period	A period applicable for this product.	0	unbounded
Assoc.	Sustainability Characteristic	A sustainability characteristic applicable for this trade product.	0	unbounded
Assoc.	Sustainability Inspection	A sustainability inspection specified for this trade product.	0	unbounded
Assoc.	Sustainability Assertion	A sustainability assertion specified for this trade product.	0	unbounded