



**UN/CEFACT**

SIMPLE, TRANSPARENT AND EFFECTIVE PROCESSES  
FOR GLOBAL BUSINESS

**BUSINESS REQUIREMENTS SPECIFICATION  
(BRS)**

**Business Domain: Primary natural products from plant or animal origin**

**Business process : Product traceability data exchange**

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## Document Change history log

Date of change	Version	Paragraphs changed	Summary of changes
12-04-2016	0.1	Initial version	
01-05-2016	0.2	5.4	Correction of explanation of level 0
10-05-2016	0.9	Entire document	Removal of level 0 description Editorial changes
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# 1 Preamble

The project 'Product Traceability Data Exchange' is the follow up of the project on Animal Traceability Data Exchange (v1.0 ODP5).

At the first stage, we have focused on the movements of animals or groups of animals from one location to another and in this second stage we will focus on the movements of animal and plant products.

Originally the intention was to elaborate two BRSEs, one for traceability of plant products and one for animal products. During the process it became clear that the information elements and the data structure were almost exactly similar. In order not to create a duplication of ABIES and ASBIES in the Core Component Library it was decided to develop one standard for traceability of animal and plant products.

The present document describes traceability processes for animal products (all species) and plant products during processing and transport within a country or across borders.

The business case supported by these processes is:

- All the business parties involved in the chain record T&T (track and trace) information on animal and plant products in a Traceability system
- A T&T requesting party (business, consumer or government) has a question about an animal or plant product, processing step, transport, location or responsible party and requires an immediate answer.
- The T&T system retrieves the required information and sends it to the requesting party

Traceability has been most commonly defined as “the ability to trace the history, application or location of an object” in a supply chain (ISO, 2015).

GS1, Global Standards defines traceability as “the ability to track forward the movement through specified stage(s) of the extended supply chain and trace backward this history, application or location of that which is under consideration (Ryu, 2012).

Traceability issues can be defined in 3 levels:

1. Identify the responsible business partners for the particular tracking and tracing questions for the specified animal or plant products.
2. Questions about animal or plant products, processing steps, locations, transports and responsible parties.
3. Questions in more detail about the origin of the animal or plant product and the conditions in which it has been produced.

The outputs will be the harmonized XML schemas to support the information exchange for the business process.

The structure of this document is based on the structure of the UN/CEFACT Business Requirements Specification (BRS) document reference.

## 2 References

- UN/CEFACT Modelling Methodology User Guide (CEFACT/TMG/N093)
- UN/CEFACT Business Requirement Specification Document Template (CEFACT/ICG/005)
- UN/CEFACT E-CERT BRS
- UN/CEFACT E-Crop BRS
- UN/CEFACT CRIE cattle registration and information exchange BRS
- Previous work on Livestock Life Record draft data model
- ISO / IEC 19987
- UN/CEFACT FLUX Fisheries Language for Universal eXchange P1000-x BRS
- ISO 11784 international standards that regulate the radio frequency identification (RFID) of animals
- ISO 3166 - ISO Country codes used in identification of animals
- BRS Animal Traceability Data Exchange v1.0 ODP5

## 3 Objective

The objective of this document is to standardize the Business Processes, the Business Transactions and the Information Entities of the technical description and information of animal or plant product traceability data exchange.

The Business Process is the detailed description of the way partners intend to play their respective role, establish business relationship and share responsibilities to interact efficiently with the support of their respective information system.

The business documents are composed of Business Information Entities (BIE), which when available, are taken from the library of reusable business information entities and when not found, are proposed as new Business Information Entities. The contents of the business documents and the Business Information Entities are presented using class diagrams.

## 4 Scope

### 4.1 Description

This section describes the extent and limits of the business process within the information chain being described in this document.

The information exchange for tracking and tracing has been developed for products from plant or animal origin. The chain starts with the harvest or collection of the product until the processing step whereby the output can no longer be considered as a plant or animal or plant product. When setting up a specific traceability project, the entry and exit point for the traceability chain has to be specified by the relevant stakeholders.

Categories	Description and Values
Business Process	Electronic registration and exchange of information with the purpose of obtaining traceability information about animal or plant products . This can

	include traceability of a carcass, a batch of wool, etc. Individually identified products are considered as a batch of one.
<b>Product Classification</b>	Traceability of animal or plant products data
<b>Industry Classification</b>	All sectors (agricultural and others) involved in animal slaughter, hunting, animal or plant product processing, trade and transport of animal or plant products
<b>Geopolitical</b>	Global
<b>Official Constraint</b>	International Regulations National regulations Local applicable regulations
<b>Business Process Role</b>	Exchange of tracking and tracing data
<b>Supporting Role</b>	None
<b>System Capabilities</b>	Agreed level of security to protect data integrity Network of connected T&T databases System of authorizations and keys for retrieving T&T information by T&T requesting parties

## 4.2 Context

Important is:

- Products of all species can be tracked and traced using a common model
- A generic standard supporting tracking and tracing of commodities of all kinds can be used for identifying the involved parties for the specified animal or plant products: level 0.
- Level 0 is described and specified in the BRS Animal Traceability Data Exchange v1.0 ODP5. This level is also valid for tracking and tracing animal or plant products.

## 4.3 Parties involved

<b>Terms</b>	<b>Definitions</b>
Animal Holder	The party who keeps and is responsible for an animal kept on a location.
Plant Grower	The party who grows plants or crops on a location.
Primary Producer	An animal holder or plant grower
Transporter	The party transporting animal or plant products from one place to another and providing transport means for this transport .
Trader	The party who trades in animal or plant products.
Processor	The party who is responsible for handling, harvesting, slaughtering,

	packaging, transforming, collecting animal or plant products in nature, etc
Tracking and tracing repository	A repository in which the business partners declare all tracking and tracing events. Parties can search the repository for T&T events and retrieve tracking and tracing information.
Authority	An authority responsible for legal administration of animal or plant (product)production, imports, exports, transport, catchment, or responsible for human health, food and feed safety, animal or plant health, economic or environmental issues
Tracking and tracing requesting party	The party searching, requesting and receiving tracking and tracing information about a plant or animal product
Repository party	A party providing the tracking and tracing repository with all the services concerned.
TT Party	The party responsible for declaring an animal or plant product tracking and tracing event to the tracking and tracing repository. In general that is the party responsible for the production and/or processing of an animal or plant product, a referenced location, a vessel transport means, an id carrier transport means or an animal shipping.

## 5 Business Requirements Elaboration

### 5.1 Business Requirements List

For T&T purposes a network of public and / or private databases could be used, in which the animal or plant product and data on its processing steps and movements in the supply chain can be registered, can be searched and can be retrieved. This data is not public information. The business partners remain in control over the access to the data.

Parties involved need to agree on who has access to which data sets and how they will be used. Authorities have a legal basis in access to and use of data sets.

The traceability data could also be exchanged directly between parties without using such central data bases.

Number	Business Requirement Statement
0.	Track and trace data messages must use existing (inter)national standards and methods allowing to provide information
1.	An animal or plant product or batch of animal or plant products (indicator (e.g. tag) number(s), processing steps, transports, locations, responsible parties)
2.	A transport event (period, consignment, shipment, transport means, equipment, locations, animal or plant products involved, indicator (e.g. tag) number(s), responsible parties)
3.	A processing event (one animal, batch of animals, or animal or plant product, transformed into one or more animal or plant products; a group of animals, animal batches or animal or plant products transformed into one or more new animal or plant product(s))

4.	A location (period, arrival of individual animals, batches of animals, animal or plant products, transformation, departure of animal or plant products, dates of arrivals, transformation and departures, responsible parties)
5.	Responsible party (period, processing steps, locations, animal or plant products)
6.	Interoperability between different systems
7.	Independent of animal species and national and / or geographical locations

Animal or plant product traceability data can be exchanged on a regular basis, e.g. for consumer information. Animal or plant product traceability data can also be exchanged on an ad hoc basis, e.g. in case of health or food security threats, animal welfare issues or infraction of CITES convention.

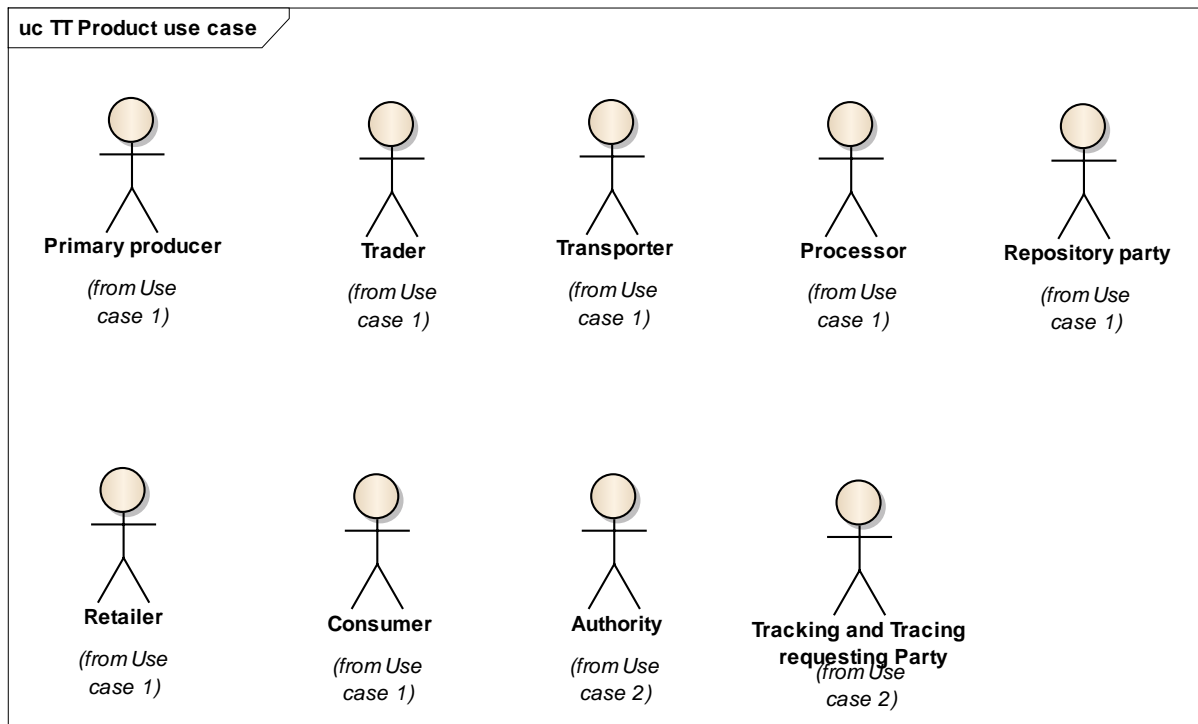
## 5.2 Definitions of Business Terms

<b>Track and trace event</b>	An event involving an animal or plant product, related to the issues What, Where, When, Who and Why.
<b>Tracking and tracing requesting party</b>	Person, organization or authority needing tracking and tracing information on animal or plant product(s) for their business processes, or following an incident or crises with respect to food safety, human health, animal welfare, etc.  In the event that the traceability system is regulated, the traceability data could also be used to verify compliance and enforce laws.
<b>Registration</b>	Administration of data according to a specific set of criteria. (For example animal, animal or plant product, processing registrations, transport registration, registrations with respect to certification, etc.)
<b>Event registration</b>	An administration of an event identifying key information, which can be searched for T&T requests.
<b>Batch of animals</b>	An identified group of not individually identified living or dead animals. An individually identified animal is considered as a batch of one.
<b>Batch of animal or plant products</b>	An identified group of animal or plant products coming from the same animal, group of animals or (batch of) animal or plant product(s). Batches of animal or plant products can be recomposed into one or more new batches during a processing step.
<b>Transport</b>	Movement of animal or plant product(s) from one location to another.
<b>Processing step</b>	Transforming an animal, batch of animals, animal or plant product or batch of animal or plant products into one or more new animal or plant product(s). A processing step can create one or more new batches. Storage and packaging are considered to be a processing step.
<b>Traceability</b>	Traceability is retrieving information about the origin and history of an animal or plant product and the conditions in



	<p>which it has been produced.</p> <p>Traceability information should give an answer on the Why, What, Who, Where and When questions about a (batch of) animal or plant products or an animal or plant product related event.</p>
<b>Location</b>	An identified geographical point or area where an event related to an animal or plant product traceability occurs.
<b>Party</b>	An identified person, organization or authority.

## 5.2.1 Business Partner View-Participants and Stakeholders



**Figure 5 The business parties**

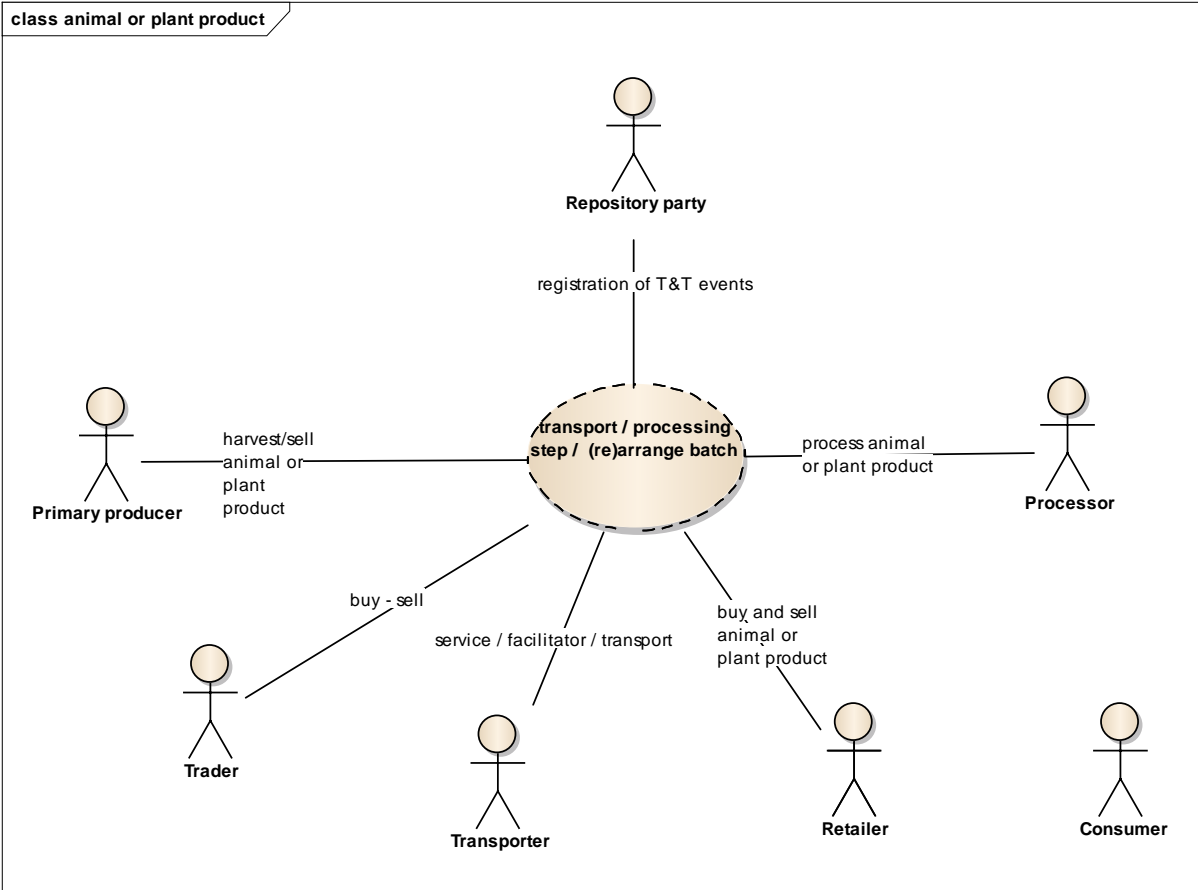
Business partner or actor in this document refers to roles parties involved have in the supply chain. E.g producer organizations or cooperatives are not included as they act in the role of one or more of the actors mentioned above. Specific organizations can have more than one role in the chain.

## 5.3 Business Requirements View

### 5.3.1 Use case description

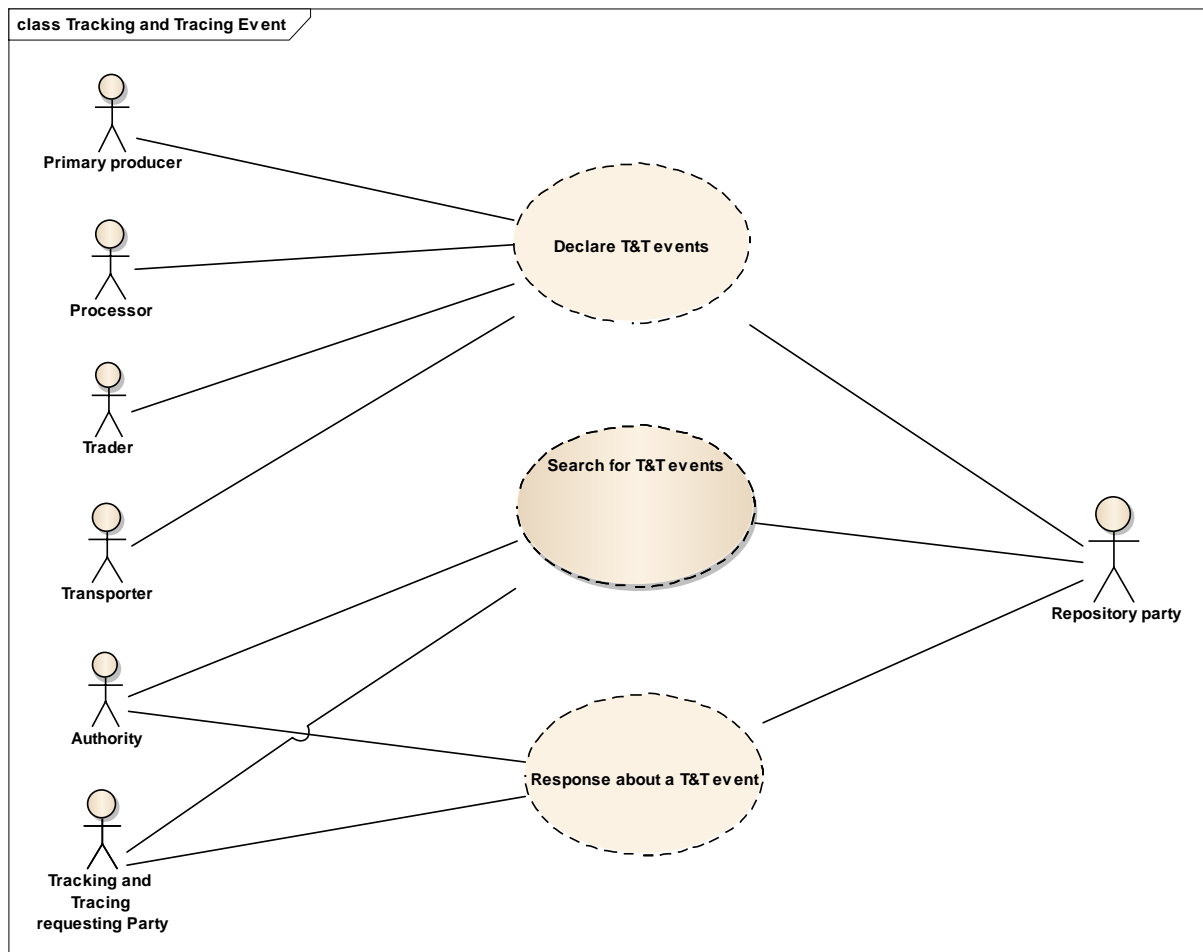
For understanding the business of producing, processing, trade and transport of animal or plant products the first use case (figure 1) shows the relation between the different stakeholders involved.

The business chain starts with the primary producer where animal or plant products are harvested from crops, or living or dead animals. This holding can be any place where animals are kept (e.g farm, slaughter house, park, forest, zoo, etc.) and where crops are produced.



**Figure 1 Basic use case animal or plant product, processing, trade and transport**

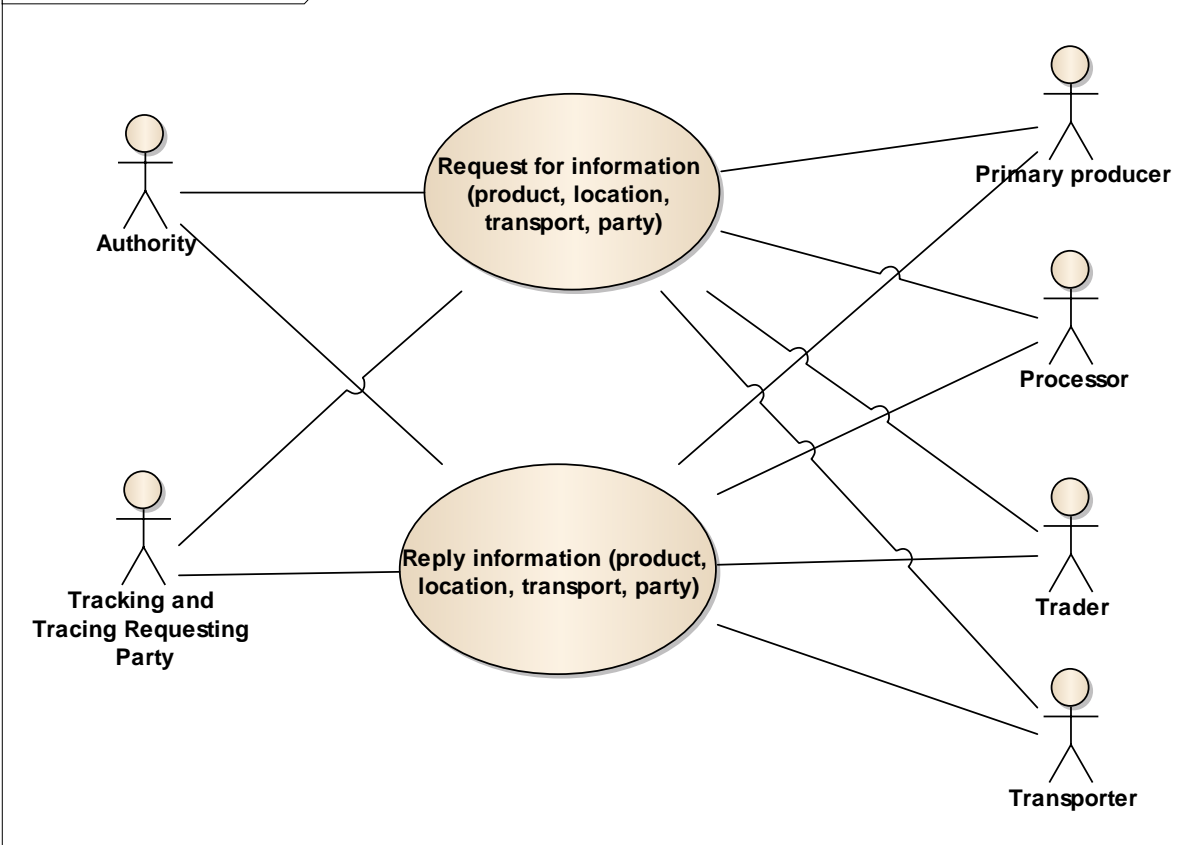
The real use case in a tracking and tracing event is the one below (figure 2), where a specific party needs T&T information about an animal or plant product, a processing step, a transport, a location or a responsible party.  
 This second use case deals with the declaration of these events in a tracking and tracing repository.  
 The third use case is about the search and request in the tracking and tracing repository about animal(s), animal or plant product(s), processing steps, locations, transports and responsible parties.



**Figure 2 Use case tracking and tracing event**

The third (fig 3) use case is about the information exchanged between the business partners, identified with the help of the T&T repository, level 0 (for a detailed description of level 0 see BRS Animal Traceability Data Exchange v1.0 ODP5).

The information exchange is based on a request and the response process. The choice can be made to split the data exchange in a basic and a detailed level. Level 1 is limited to basic data about an animal or plant product, location, transport or responsible party. At Level 2 additional data about these events can be exchanged. In the Business Information Entities the Level 2 ABIEs, BBIEs and ASBIEs are all optional. So the Level 1 and Level 2 will only exist if at schema implementation these differences are implemented. In the implementation guidelines this will be explained in more detail. In the class diagram the difference between Level 1 and Level 2 will be highlighted by use of different colours: the yellow colour is level 2.



**Figure 3 Use case tracking and tracing request**

The diagrams of figure 2 and 3 illustrate the use cases to perform three business steps:

- Declare the animal or plant product related processing, trade and transport events by the business partners
- The search for the specified business partners by the T&T party
- The response from the T&T repository system.

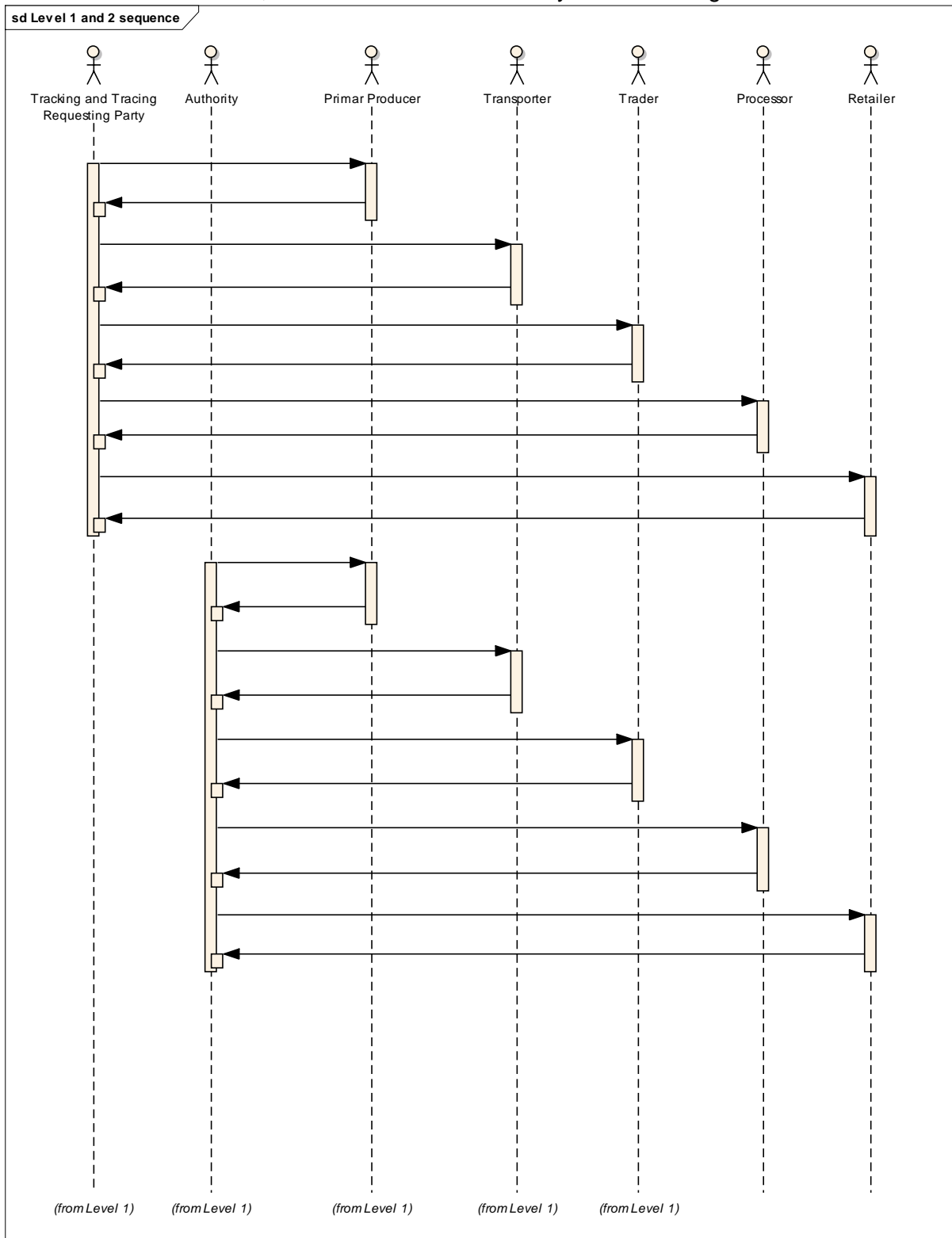
The main data comprise the date and time of the event, animal or plant product data, processing data, transport data, location and involved parties.

Actually, the information needs are the same for every type of animal or plant product.

This use case on traceability of animal or plant products helps reducing risks in the fields of feed and food safety, health, animal welfare, conservation of endangered species, economic and environmental sustainability.

## Sequence diagram

The identification of the responsible primary producer, processor, trader, transporter or retailer is done at Level 0, see BRS Animal Traceability Data Exchange v1.0 ODP5.



**Figure 4. Level 1 and Level 2 sequence diagram tracking and tracing of animal or plant products**

Level 1 and 2 include only a request and a response. Based on the response another iteration of a request and response can be performed.

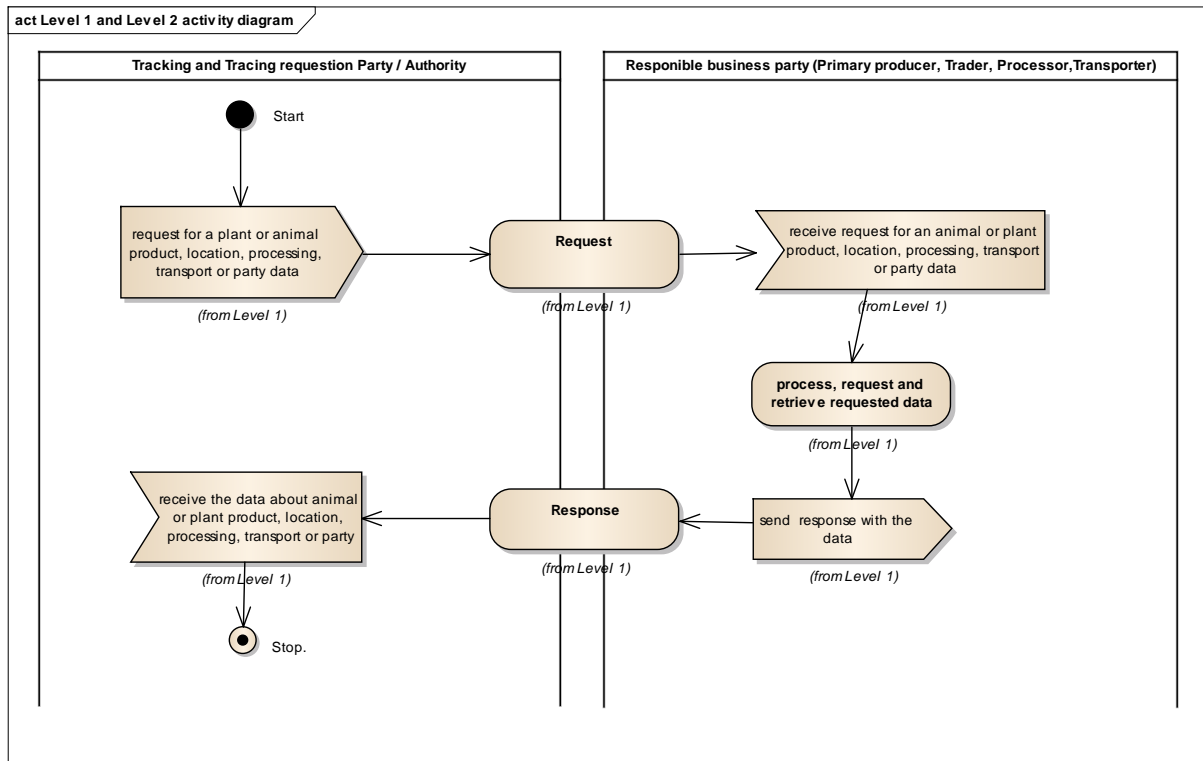
### 5.3.2 Business Entity View

<b>Business process name</b>	Traceability of animal or plant products, processing, trade and transport data exchange
<b>Actors</b>	Tracking and tracing requesting party Authority Primary producer Processor Trader Transporter Repository party Retailer Consumer See 5.2 for definitions
<b>Description</b>	The tracking and tracing party sends a request for information on animal or plant product(s), location(s), transport(s) and responsible parties to a T&T system. The system retrieves the required information from the network and sends a message with the required information.
<b>Pre-condition</b>	A network of related databases is in place A system for authorizations is in place Business parties control access to their data
<b>Post-conditions</b>	<b>Success:</b> All the relevant information is retrieved out of the T&T system and sent to the T&T requesting party <b>Failure:</b> Not all the relevant information can be retrieved (databases not updated, authorisations not given, no interoperability in the T&T system, database not 24*7 available,...)
<b>Scenarios</b>	Providing traceability, processing, trade and transport data information
<b>Remarks</b>	

## 5.4 Activity diagram at Level 1 and 2

This activity diagram helps identifying all the significant information flows between the business partners in the tracking and tracing processes.

For the activity diagram of level 0 see BRS Animal Traceability Data Exchange v1.0 ODP5.



**Figure 6 Activity diagram for Level 1 and Level 2 for the request and response T&T data about animal or plant product, location, processing step, transport or responsible party**

## 5.5 Information model definition (class diagrams)

The class diagram describes all the necessary classes of information for a flow of information exchange for animal or plant product traceability exchange.

The messages for level 0 are defined for declaring events to a database or repository, and for basic search and request operations. For details see BRS Animal Traceability Data Exchange v1.0 ODP5

In figure 7 the difference between Level 1 and Level 2 is highlighted by use of different colours. Level 2 elements have a yellow colour (and italic characters in case of B&W print).

In Fig 7 and 8, the Level 1 and Level 2 information entities are presented. Level 1 gives four different types for structuring the information exchange. The information can be structured along animal or plant product, location, processing step, transport or responsible party data.

Level 2 provides also four different types for structuring the information exchange, but includes much more detail than level 1. All details of Level 2 are optional extensions of Level 1. The difference between the two levels can be made at implementation level. The implementation guideline will assist in this.

The class diagram of level 1 and 2 does not differentiate between a request for information or the reply. A key result of this project and this BRS, is to include the generic structures into the UNCEFACT structures.

class TT\_Product class diagram overview

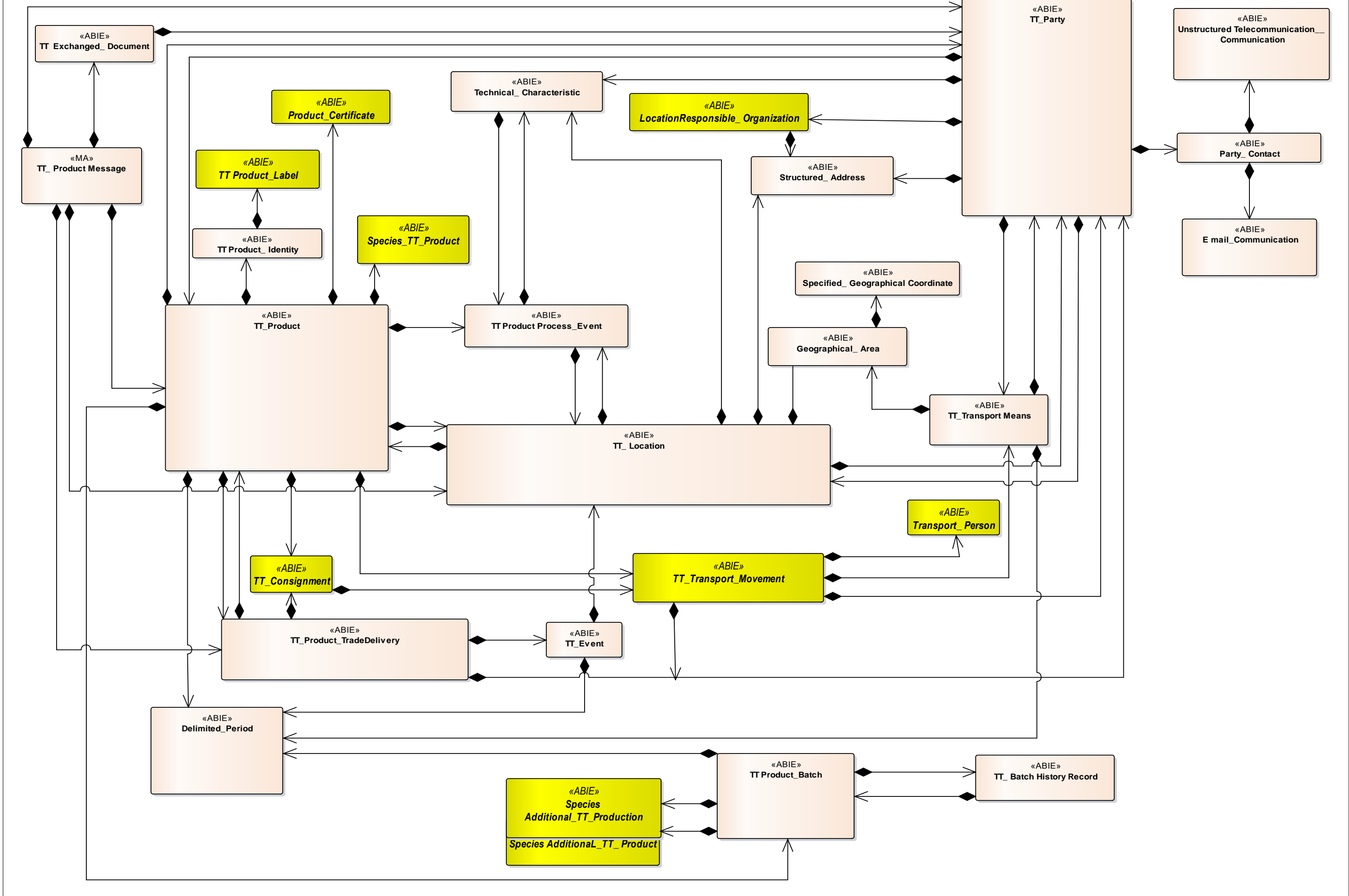


Figure 7 Class diagram overview for Level 1 and 2, for the extended exchange of the animal or plant product data, location, processing and transport data



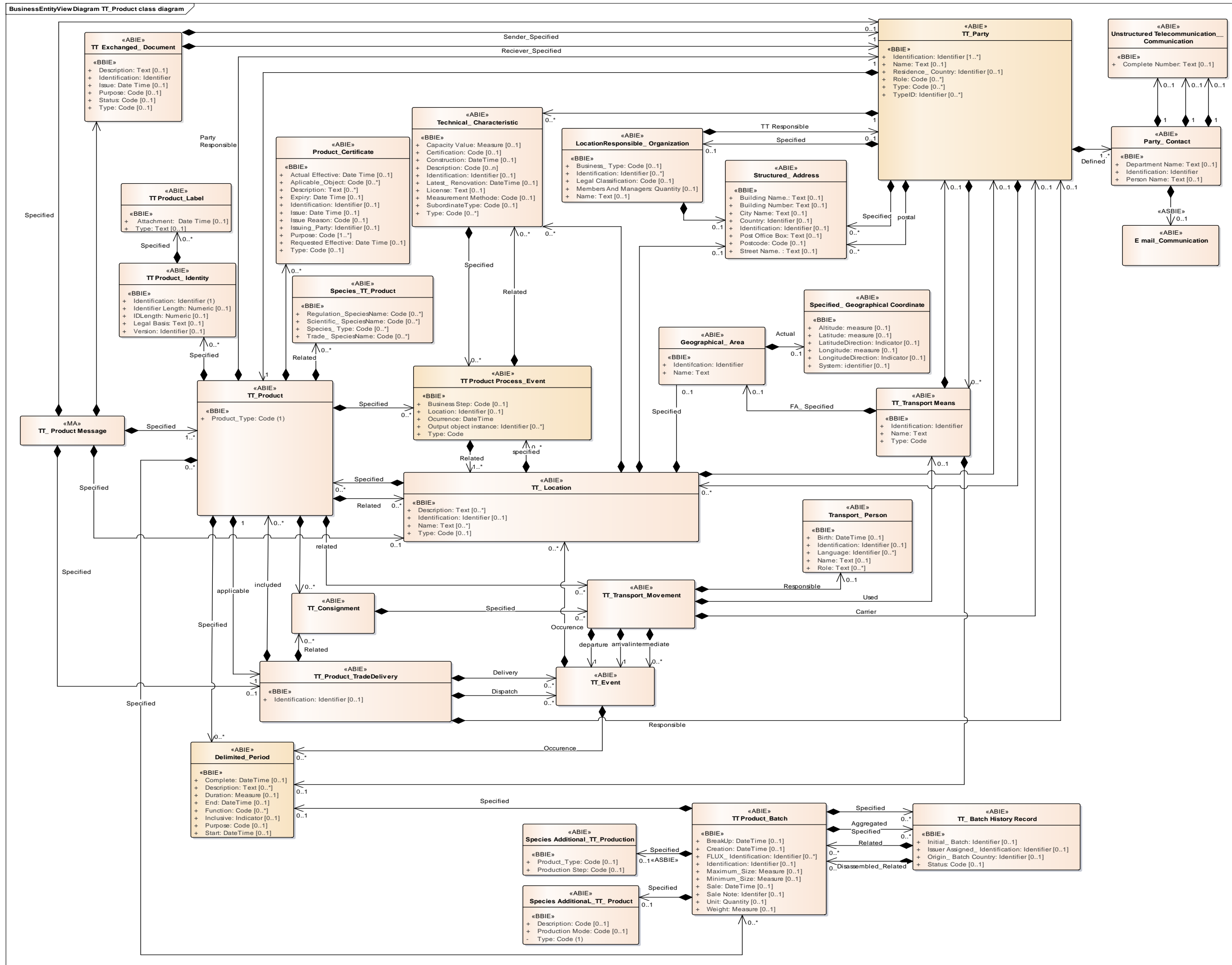


Figure 8 Class diagram in detail for Level 1 and 2, for the extended exchange of the animal or plant product data, location, processing and transport data.

## 5.6 Business Information Entities Level 1 and level 2

### TT Exchanged\_ Document.

Description: A collection of data for a piece of written, printed or electronic matter that is exchanged between two or more parties for Track and Trace (TT) purposes.

Mult.	Business term	Rel.	Type	Description
1	Identification	Att	Identifier	The identifier for this TT exchanged document.
0..1	Description	Att	Text	The textual description of this TT exchanged document.
0..1	Type	Att	Code	The code specifying the type of TT exchanged document.
0..1	Issue	Att	Date Time	The date, time, date time, or other date time value of the issuance of this TT exchanged document.
0..1	Status	Att	Code	The code specifying the status of this TT exchanged document.
0..1	Purpose	Att	Code	The code specifying a purpose of this TT exchanged document.

Mult. Min Max		Association	Description
1	1	TT Exchanged_ Document. Sender_ Specified. TT_ Party	The sending TT party specified for this TT exchanged document.
1	1	TT Exchanged_ Document. Receiver_ Specified. TT_ Party	The receiving TT party specified for this TT exchanged document.

### TT\_ Product.

Description: A Track and Trace (TT) product or batch of product(s).

Mult. Min Max		Business term	Rel.	Type	Description
1	1	Type	Att	Code	The code specifying the type of product(s) such as wool, milk, leather, meat, coffee beans, hemp, bamboo, tea leaves, etc

Mult. Min Max		Association	Description
1	1	TT_ Product. Responsible. TT_ Party	The party responsible for this TT product.
0	1	TT_ Product. Applicable. TT Product_ Trade Delivery	The product trade delivery applicable for this TT

Mult.		Association	Description
Min	Max		
			product.
0	unbounded	TT_Product. Related. TT_Consignment	The consignment specified for this TT product.
0	unbounded	TT_Product. Specified. TT_Product_Batch	A product batch specified for this TT product.
0	unbounded	TT_Product. Specified. TT_Product_Identity	A product identity specified for this TT product.
0	unbounded	TT_Product. Specified. Delimited_Period	A delimited period specified for this TT product.
0	unbounded	TT_Product. Specified. TT_Product_Process_Event	A product process event specified for this TT product.
0	unbounded	TT_Product. Specified. Product_Certificate	A product certificate specified for this TT product.
0	unbounded	TT_Product. Specified. Species TT_Product	A species related to this TT product.
0	unbounded	TT_Product. Related. TT_Location	A location related to this TT product.
0	unbounded	TT_Product. Related. TT_Transport_Movement	A transport movement related to this TT Product

### Species\_TT\_Product

Description: The species, such as animal or plant species, for the product(s) composing this Track and Trace (TT) product.

Mult.		Business term	Rel.	Type	Description
Min	Max				
0	unbounded	Species_Type	Att	Code	A code specifying a type for this species TT product.
0	unbounded	Scientific_Species Name	Att	Code	A code specifying a scientific species name for this species TT product.
0	unbounded	Regulation_Species Name	Att	Code	A code specifying a regulation species name for this species TT product.
0	unbounded	Trade_Species Name	Att	Code	A code specifying a trade species name for this species TT product.
0	unbounded	Additional_Type	Att	Code	A code specifying an additional type for this species TT product.

### TT\_Product\_Identity

Description: Information which identifies a Track and Trace (TT) product or batch of products.

Mult.		Business term	Rel.	Type	Description
Min	Max				
1		Identification	Att	Identifier	The identifier for this individual TT product or batch of TT products
0..1		Identifier Length	Att	Numeric	The length of the identifier in this TT product identity.

0..1	Legal basis	Att	Text	The legal basis, expressed as text, for this TT product identity.
0..1	Version	Att	Identifier	The identifier of the version of this TT Product identity.
0..1	Issuer Party Name.	Att	Text	The name, expressed as text, of the party issuing this animal identity.

Mult.		Association	Description
Min	Max		
0	unbounded	TT Product_Identity. Specified. TT Product_Label	A label specified for this TT product identity, such as an identification tag, a transponder or a tattoo.

### TT Product\_Label

Description: An attachment to a Track and Trace (TT) product for identification purposes.

Mult.	Business term	Rel.	Type	Description
0..1	Attachment	Att	Date Time	The date of attachment of this TT product label.
0..1	Type	Att	Text	The type, expressed as text, for this TT product label.

### Product\_Certificate

Description: A collection of data for a piece of written, printed or electronic matter that provides information or evidence about the product.

Mult.	Business term	Rel.	Type	Description
0..1	Identification	Att	Identifier	The identifier for this product certificate document
0..1	Issue	Att	Date Time	The date, time, date time, or other date time value when this product certificate was issued.
0..1	Expiry	Att	Date Time	The date, time, date time, or other date time value when this product certificate expires.
0..1	Issue reason	Att	Code	The code specifying the reason why the product certificate was issued.
0..1	Type	Att	Code	The type of this product certificate document, expressed as a code.
0..1	Requested Effective	Att	Date Time	The requested effective date, time, date time or other date time value for this product certificate.
0..1	Actual Effective	Att	Date Time	The actual effective date, time, date time or other date time value for this product certificate.
0..*	Description	Att	Text	A textual description of this product certificate.
0..*	Applicable_Object	Att	Code	A code specifying an object, such as item, animal, person or organisation applicable for this product certificate.

0..1	Issuing_Party	Att	Identifier	The identifier for the issuing party of this product certificate.
0..n	Purpose	Att	Code	A code specifying the purpose of this product certificate.

### TT Product Process\_Event

Description: The processing event of a Track and Trace (TT) product, such as milking, shaving, slaughtering, skinning, in a particular production or processing location where products are manufactured from animals or plants (living or dead) or products into products, such as packaging of products.

Mult.	Business term	Rel.	Type	Description
0..1	Location	Att	Identifier	The identifier of the location for this TT product process event.
1	Type	Att	Code	The code specifying the type of TT product process event.
1	Occurrence	Att	Date Time	The date, time, date time, or other date time value of the occurrence of this TT product process event.
0..n	Output Object_Instance	Att	Identifier	An identifier for an output object instance of this TT product process event.
0..1	Business Step	Att	Code	The code specifying the business step for this TT product process event.

Mult. Min	Max	Association	Description
1	n	TT Product Process_Event. Related. TT_Location	A location related to this TT product process event.
0	n	TT Product Process_Event. Related. Technical_Characteristic	A technical characteristic related to this TT product process event.

### TT\_Location

Description: A physical place related to a Track and Trace (TT) process

Mult.	Business term	Rel.	Type	Description
0..1	Identification	Att	Identifier	The unique identifier for this TT location.
0..*	Name	Att	Text	A name, expressed as text, of this TT location.
0..1	Type	Att	Code	The code specifying the type of TT location.
0..*	Description	Att	Text	A textual description for this TT location.

Mult. Min      Max		Association	Description
0	n	TT_Location. Specified. Product_Process_Event	A product process event specified for this TT location.
0	n	TT_Location. Applicable. Technical_Characteristic	A technical characteristic applicable to this TT location.
0	1	TT_Location. Responsible. TT_Party	The party responsible for this TT location.
0	n	TT_Location. Specified. TT_Product	A product specified for this TT location.
0	1	TT_Location. Specified. Geographical_Area	The geographical area specified for this TT location.
0	1	TT_Location. Specified. Structured_Address	The structured address specified for this TT location.

### Technical\_Characteristic

Description: A prominent technical attribute or aspect.

Mult.	Business term	Rel.	Type	Description
0..n	Type	Att	Code	A code specifying a type of technical characteristic.
0..1	Subordinate Type	Att	Code	The code specifying the subordinate type for this technical characteristic.
0..1	Description	Att	Code	A code specifying a description of this technical characteristic.
0..1	Identification	Att	Identifier	The identifier for this technical characteristic.
0..1	Capacity Value	Att	Measure	The capacity, expressed as a measure, such as a production volume, a surface area or a number of animals, for this technical characteristic.
0..1	Measurement Method	Att	Code	The code specifying the measurement method for this technical characteristic
0..1	Certification	Att	Code	The code specifying the certification granted to this technical characteristic.
0..1	Licence	Att	Text	The licence, expressed as text, for this technical characteristic.
0..1	Construction	Att	Date Time	The date, time, date time, or other date time value of the construction of this technical characteristic.
0..1	Latest_Renovation	Att	Date Time	The date, time, date time, or other date time value of the latest renovation of this technical characteristic.

Mult.		Association	Description
Min	Max		
0	n	Technical_Characteristic. Specified. TT Product Process_Event	A Track and Trace (TT) product process event specified for this technical characteristic.

### Location Responsible\_ Organization

Description: The organization responsible for a location.

Mult.	Business term	Rel.	Type	Description
0..n	Identification	Att	Identifier	An identifier for the organization responsible for a location.
0..1	Name	Att	Text	The name, expressed as text, of the organization responsible for a location.
0..1	Business_Type	Att	Code	The code specifying the business type of the organization responsible for a location.
0..1	Members And Managers	Att	Quantity	The number of members and managers in the organization responsible for a location.
0..1	Legal Classification	Att	Code	The code specifying the legal classification of the organization responsible for a location.

Mult.		Association	Description
Min	Max		
0	1	Location Responsible_Organization. Physical. Structured_Address	The physical structured address of the organization responsible for a location.
0	n	Location Responsible_ Organization. TT_ Responsible. TT_Party	The party responsible for the Track and Trace (TT) information related to an organization responsible for a location.

### Specified\_ Geographical Coordinate

Description: The latitude, longitude and altitude of a place, by which its relative situation on the globe is known.

Mult.	Business term	Rel.	Type	Description
0..1	Altitude	Att	Measure	The measure of the altitude that reflects the vertical elevation of an object above a surface for this specified geographical coordinate.
0..1	Latitude	Att	Measure	The measure of the longitude as an angular distance east or west from the Greenwich meridian to the meridian of a specific place for this specified geographical coordinate.
0..1	Longitude	Att	Measure	The measure of the latitude as an angular distance north or south from the Equator

				meridian to the meridian of a specific place for this specified geographical coordinate.
0..1	Latitude Direction	Att	Indicator	The indication of whether the latitude compass direction from the Equator meridian to the meridian of a specific place for this specified geographical coordinate is North (+) or South
0..1	Longitude Direction	Att	Indicator	The indication of whether the longitude as a compass direction from the Greenwich meridian to the meridian of a specific place is East (+) or West (-) for this specified geographical.
0..1	System	Att	Identifier	The identifier of the system used for measuring this specified geographical coordinate.

### Structured\_Address

Description: The location, using a structured address format, at which a location, a technical structure, (group of) animals, a particular organization or person may be found or reached.

Mult.	Business term	Rel.	Type	Description
0..1	Identification	Att	Identifier	An identifier for this tracking and tracing structured address.
0..1	Postcode	Att	Code	The code specifying the postcode in the structured address.
0..1	Building Name	Att	Text	The name, expressed as text, of a building, a house or other structure on a street in the structured address.
0..1	Street Name	Att	Text	The name, expressed as text, of a street or thoroughfare in the structured address.
0..1	Building Number	Att	Text	The number, expressed as text, of a building or house on a street at this structured address.
0..1	City Name	Att	Text	The name, expressed as text, of the city, town or village in the structured address.
0..1	Country	Att	Identifier	The unique identifier of a country in the structured address (Reference ISO 3166 and UN/ECE Rec 3).

### Geographical\_Area

Description: The identifier for this geographical area.

Mult.	Business term	Rel.	Type	Description
1	Identification	Att	Identifier	The identifier for this geographical area.
1	Name	Att	Text	The name, expressed as text for this specified geographical area.

Mult. Min    Max	Association	Description



Mult.		Association	Description
Min	Max		
0	1	Geographical_ Area. Actual. Specified_ Geographical Coordinate	The actual geographical coordinate specified for this area.

### Delimited\_Period

Description: A period of time from a start date time onwards up to an end date time.

Mult.	Business term	Rel.	Type	Description
0..1	Start	Att	Date Time	The date, time, date time or other date time value for the start of this delimited period.
0..1	End	Att	Date Time	The date, time, date time or other date time value for the end of this delimited period.
0..1	Duration	Att	Measure	The measure of the length of time for this delimited period such as hours, days, weeks, months or years.
0..1	Complete	Att	Date Time	The date, time, date time or other date time value for a complete delimited period of time expressed as a specific month, a specific week.
0..n	Function	Att	Code	A code specifying a function of this delimited period, such as fiscal period, accounting period.
0..1	Inclusive	Att	Indicator	The indication of whether or not the start and end dates are included in this delimited period.
0..1	Purpose	Att	Code	The code specifying the purpose of this delimited period.
0..n	Description	Att	Text	A textual description of this delimited period of time.

### TT Product\_Batch

Description: A group of Track and Trace (TT) products dealt with together

Mult.	Business term	Rel.	Type	Description
0..1	Identification	Att	Identifier	The identifier for this TT product batch.
0..1	Creation	Att	Date Time	The date, time, date time, or other date time value of the creation of this TT product batch.
0..1	Break up	Att	Date Time	The date, time, date time, or other date time value of the break up of this TT product batch.
0..1	Sale	Att	Date Time	The date, time, date time, or other date time value of the sale for this TT product batch.
0..1	Sales Note	Att	Identifier	The identifier for the sales note for this TT product batch.
0..n	FLUX_ Identification	Att	Identifier	The Fisheries Language for Universal eXchange (FLUX) identifier for this TT product batch.

0..1	Minimum_Size	Att	Measure	The minimum size, expressed as a measure, of this TT product batch.
0..1	Maximum_Size	Att	Measure	The maximum size, expressed as a measure, of this TT product batch.
0..1	Unit	Att	Quantity	The number of units in this TT product batch.
0..1	Weight	Att	Measure	The weight, expressed as a measure, for this TT product batch.

Mult. Min Max		Association	Description
0	1	TT Product_Batch. Specified. Delimited_Period	The delimited period specified for this TT product batch.
0	n	TT Product_Batch. Aggregated_Specified. TT_Batch History Record	An aggregated batch history record specified for this TT product batch.
0	n	TT Product_Batch. Specified. TT_Batch History Record	A batch history record specified for this TT product batch.
0	1	TT Product_Batch. Specified. Species Additional TT_Production	Additional information about the TT production for this TT product batch
0	1	TT Product_Batch. Specified. Species Additional TT_Product	Additional information about the TT product stage for this TT product batch

### TT\_Batch History Record

Description: A Track and Trace (TT) batch history record which has a parent or child relationship to another TT batch history record.

Mult.	Business term	Rel.	Type	Description
0..1	Batch	Att	Identifier	The initial identifier for this TT batch history record.
0..1	Issuer assigned_Identification	Att	Identifier	The identifier assigned by the issuer for this TT batch history record.
0..1	Origin batch_Country	Att	Identifier	The identifier of the country of origin for the batch in this TT batch history record.
0..1	Status	Att	Code	The code specifying the status of this TT batch history record.

Mult. Min Max		Association	Description
0	unbounded	TT_Batch History Record. Disassembled_Related. TT Product_Batch	A related disassembled product batch (batch broken up into new separately identified product batches), for this TT batch history record.
0	unbounded	TT_Batch History Record. Related. TT Product_Batch	A product batch related to this TT batch history record.

## TT Product\_Trade Delivery

Description: The shipping arrangements and movement of products including despatch and delivery.

Mult.	Business term	Rel.	Type	Description
0..1	Identification	Att	Identifier	The identifier for this TT product trade delivery.

Mult.		Association	Description
Min	Max		
0	1	TT Product_Trade Delivery. Responsible. TT_Party	The party responsible for this TT product trade delivery.
0	n	TT Product_Trade Delivery. Included. TT_Product	A product included in this TT product trade delivery.
0	n	TT Product_Trade Delivery. Related. TT_Consignment	A consignment related to this TT product trade delivery.
0	n	TT Product_Trade Delivery. Delivery. TT_Event	A delivery event specified for this TT product trade delivery.
0	n	TT Product_Trade Delivery. Despatch. TT_Event	A despatch event specified for this TT product trade delivery.

## TT\_Transport Movement

Description: The conveyance (physical carriage) of people, animals, goods, or other objects which are subject to a Track and Trace (TT) process.

Mult.		Association	Description
Min	Max		
0	n	TT_Transport Movement. Arrival. TT_Event	An arrival event for this TT transport movement.
0	n	TT_Transport Movement. Departure. TT_Event	A departure event for this TT transport movement.
0	n	TT_Transport Movement. Intermediate. TT_Event	An intermediate event for this TT transport movement.
0	1	TT_Transport Movement. Used. TT_Transport Means	The transport means used for this TT transport movement.
0	1	TT_Transport Movement. Carrier. TT_Party	The carrier party for this TT transport movement.
0	1	TT_Transport Movement. Responsible. Transport_Person	The transport person legally responsible for this TT transport movement.

## TT\_Transport Means

Description: The identification and characteristic information for a TT transport means.

Mult.	Business term	Rel.	Type	Description
1	Identification	Att	Identifier	The identifier for this TT transport means.

1	Name	Att	Text	The name, expressed as text, of this TT transport means.
1	Type	Att	Code	The code specifying a type of TT transport means.

Mult. Min Max		Association	Description
0	1	TT_ Transport Means. TT_ Responsible. TT_ Party	The party responsible for information related to this TT transport means.
0	1	TT_ Transport Means. FA_ Specified. Delimited_ Period	The Fishing Activity (FA) delimited period specified for this TT transport means.
0	1	TT_ Transport Means. FA_ Specified. Geographical_ Area	The Fishing Activity (FA) geographical area specified for this TT transport means.

### TT\_ Consignment

Description: A consignment of people, animals, goods, or other objects which are subject to a Track and Trace (TT) process.

Mult. Min Max		Association	Description
0	n	TT_ Consignment. Specified. TT_ Transport Movement	A transport movement specified for this TT consignment.

### TT\_ Event

Description: A significant Track and Trace (TT) occurrence or happening.

Mult. Min Max		Association	Description
0	n	TT_ Event. Occurrence. TT_ Location	A TT location where this event occurs.
0	n	TT_ Event. Occurrence. Delimited_ Period	A delimited period of time during which this TT event occurs.

### Species Additional\_ TT\_ Production

Description: Additional information about the Track and Trace (TT) production for this product.

Mult.	Business term	Rel.	Type	Description
0..1	Production Step	Att	Code	The code specifying additional information about the process step of this TT production.
0..1	Product_ Type	Att	Code	The code specifying additional information about the type of product produced for this production process.

### Species Additional\_TT\_Product

Description: Additional information about the Track and Trace (TT) product stage for this species.

Mult.	Business term	Rel.	Type	Description
1	Type	Att.	Code	The code specifying an additional type for this species TT product
0..1	Description	Att	Code	The code specifying an additional description for this species TT product.
0..1	Production Mode	Att	Code	The code specifying an additional production mode for this species TT product.

### TT\_Party

Description: An individual, group, or body related to a Track and Trace (TT) process.

Mult.	Business term	Rel.	Type	Description
1..n	Identification	Att	Identifier	An identifier for this TT party.
0..n	Type	Att	Code	A code for the type for this TT party.
0..1	Name	Att	Text	A name expressed as text for this TT party.
0..n	Role	Att	Code	A code for the role for this TT party.
0..1	Residence Country	Att	Code	The code for the country of residence of this TT party, , such as the country in which a person lives or in which a corporation has its place of incorporation.

Mult.		Association	Description
Min	Max		
0	n	TT_Party. Defined. Party_Contact	A defined contact for this TT party.
0	n	TT_Party. Specified. Structured_Address	A structured address specified for this TT party.
0	n	TT_Party. Postal. Structured_Address	A structured postal address for this TT party.
0	n	TT_Party. Managed. Technical_Characteristic	A technical characteristic managed by this TT party.
0	n	TT_Party. Specified. TT_Location	A location specified for this TT party.
0	n	TT_Party. Specified. TT_Product	A TT product specified for this TT party.
0	1	TT_Party. Specified. Location_Responsible_Organization	The organization responsible for the location specified for this TT party.
0	n	TT_Party. Managed. TT_Transport Means	A transport means managed by this TT party.

## Party\_Contact

Description: A person or department that acts as a point of contact for a party.

Mult.	Business term	Rel.	Type	Description
1..1	Identification	Att	Identifier	An unique identifier of this party contact.
0..1	Person Name	Att	Text	A name expressed as text of the person for this party contact.
0..1	Department Name	Att	Text	A name, expressed as text, of the department to which this party contact belongs.

Mult.		Association	Description
Min	Max		
0	1	Party_Contact. Direct_Telephone. Telecommunication_Communication Unstructured_	The direct unstructured telephone communication information for this party contact.
0	1	Party_Contact. Mobile_Telephone. Telecommunication_Communication Unstructured_	The mobile unstructured telephone communication information for this party contact.
0	1	Party_Contact. Fax. Unstructured_Telecommunication_Communication	The fax unstructured telecommunication information for this party contact.
0	1	Party_Contact. Email_Communication	The email Uniform Resource Identifier (URI) communication information for this party contact.

**Unstructured Telecommunication\_Communication:** Description: An exchange of information between persons and/or organizations.

Mult.	Business term	Rel.	Type	Description
0..1	Complete Number	Att	Text	The text string of characters that make up the complete number for this specified communication.

## E-mail Communication

Description: A web or an email address, for this specified communication (Uniform Resource Identifier, URI)

Mult.	Business term	Rel.	Type	Description
0..1	E-mail Communication	Att	Identifier	A web or an email address (The Uniform Resource Identifier, URI), for this specified communication.

## Transport\_Person

Description: A individual human being involved in the exchange of information between persons and/or organizations

Mult.	Business term	Rel.	Type	Description
0..1	Name	Att	Text	The name or set of names, expressed as text, by which this transport person is known.

0..1	Identification	Att.	Identifier	The unique identifier for this transport person.
0..1	Birth	Att.	Date Time	The birth date of this transport person.
0..*	Language	Att.	Identifier UN02000050	A unique identifier of a language related to this transport person, such as their spoken or correspondence language.
0..*	Role	Att.	Text	A role, expressed as text, of this transport person.

## 5.7 Business rules

The Tracking and Tracing message is used to exchange information between the business partners in production, trade, processing and transport of products, the tracking and tracing parties, authorities. The message contains not any specified business rules.

The different receiving parties may get dedicated content, according to their information requirements and conform the licence to distribute the data.