



Economic Commission for Europe**Inland Transport Committee****Working Party on Customs Questions affecting Transport****Group of Experts on Conceptual and
Technical Aspects of Computerization of the TIR Procedure****Second session**

Geneva, 25–28 May 2021

Item 6 (b) of the provisional agenda

**eTIR conceptual, functional and technical documentation version 4.3:
eTIR concepts****eTIR concepts - Version 4.3
(formerly e-Business requirements)****Note by the secretariat****Introduction - Mandate**

The Inland Transport Committee during its eighty-second session (23–28 February 2020) approved (ECE/TRANS/294, para. 84¹) the establishment of the Group of Experts on Conceptual and Technical Aspects of Computerization of the TIR Procedure (WP.30/GE.1) and endorsed its ToR ² (ECE/TRANS/WP30/2019/9 and ECE/TRANS/WP.30/2019/9/Corr.1) pending approval by UNECE Executive Committee (EXCOM). EXCOM during its Remote informal meeting of members of the Executive Committee (20 May 2020) approved the establishment of the Group of Experts on Conceptual and Technical Aspects of Computerization of the TIR Procedure (WP.30/GE.1) until 2022, based on the terms of reference included in document ECE/TRANS/WP.30/2019/9 and Corr.1, as contained in document ECE/TRANS/294 (ECE/EX/2020/L.2, para 5(b)).³

¹ Decision of the Inland Transport Committee para. 84 / ECE/TRANS/294
www.unece.org/fileadmin/DAM/trans/doc/2020/itc/ECE-TRANS-294e.pdf

² Terms of reference of the newly established Group approved by the Inland Transport Committee and the Executive Committee (EXCOM) of UNECE
www.unece.org/fileadmin/DAM/trans/bcf/wp30/documents/2019/ECE-TRANS-WP30-2019-09e.pdf
and corrigendum www.unece.org/fileadmin/DAM/trans/bcf/wp30/documents/2019/ECE-TRANS-WP30-2019-09c1e.pdf

³ Decision of EXCOM, ECE/EX/2020/L.2 / para. 5(b)
www.unece.org/fileadmin/DAM/commission/EXCOM/Agenda/2020/Remote_informal_mtg_20_05_2020/Item_4_ECE_EX_2020_L.2_ITC_Sub_bodies_E.pdf



The terms of reference of the Group stipulate that the Group should focus its work on preparing a new version of the eTIR specifications, pending the formal establishment of TIB. More specifically the Group should (a) prepare a new version of the technical specifications of the eTIR procedure, and amendments thereto, ensuring their alignment with the functional specifications of the eTIR procedure; (b) prepare a new version of the functional specifications of the eTIR procedure, and amendments thereto, ensuring their alignment with the conceptual specifications of the eTIR procedure; (c) prepare amendments to the conceptual specifications of the eTIR procedure, upon requests by WP.30.

This document presents the eTIR concepts. The first chapter of this document provides a high-level description of the eTIR international system. The second chapter provides information on the transition to eTIR. The third chapter describes the functioning of the eTIR international system by means of use cases and activity diagrams and the fourth chapter presents the high level class diagram

1. High-level description of the eTIR system

As elaborated in the introduction to the eTIR conceptual, functional and technical documentation, the final objective of the computerization of the TIR procedure encompasses the computerization of the whole TIR Carnet life cycle from distribution, issuance and via the TIR transport to return and repository and it should, ultimately, be aimed at replacing the current paper TIR Carnet without changing the basic philosophy of the TIR Convention. In order to streamline the work towards this challenging objective, the Working Party agreed (and later confirmed) that the approach of the computerization process should be focused on the establishment of an international, centralized database, whose aim is to allow the management by customs of data on guarantees and the exchange of information between customs authorities, being two elements of the TIR Carnet life cycle not computerized so far.

Holders, or his/her representative, are required to send their advance TIR data and advance amendment data only to countries of departure of the TIR Transports. The holder can send this information directly to the country of departure using the national declaration mechanisms. Alternatively, the holder can use the national customs system in his country of residence to send declarations to third countries (this functionality is optional for customs systems), use the declaration mechanism in the eTIR international system or use other private services. The eTIR functional specifications define standard messages for that purpose.

Annex 11 and the eTIR specifications provide a set of provisions and instructions on how to implement the eTIR procedure. However, unless a specific provision of Annex 11 replaces or complements a provision of the TIR convention, all provisions of the TIR Convention apply, *mutatis mutandis*, to the eTIR procedure, such as the approval of an international organization, national associations, transport operators and vehicles the organization and functioning of the guarantee system or the management of claims.

However, the proper implementation of the eTIR procedure replaces the legal requirements for data submission, as set out in Annex 10, paragraph 1, 3 and 4, and Annex 11 contains specific provisions related to the administration of the eTIR specifications

1.1 Actors and roles

This section describes the different tasks and obligations related to the actors and their roles.

1.1.1 Customs authorities

As defined in the TIR Convention, customs authorities can perform the following roles:

- Customs office of departure
- Customs office of destination
- Customs office of entry (en route)

- Customs office of exit (en route)
- Customs office of discharge.

They are responsible for providing declaration mechanisms that will ensure that the holder can send advance TIR data and advance amendment data. They are also responsible for registering declaration data in the eTIR international system and sending TIR operation data (start, termination and discharge) to the eTIR international system.

1.1.2 *eTIR international system*

The eTIR international system interfaces with the guarantee chain and ensures the management by customs of data on guarantees at international level. Moreover, it interfaces with the national customs systems of the customs authorities and ensures the secure exchange of declaration data and TIR operations data between customs administrations.⁴

1.1.3 *Holder*

The holder performs the TIR transport and is responsible for providing the advance TIR data and advance amendment data and for presenting the goods to the relevant Custom offices referred to in Chapter 1.1.1 above.

1.1.4 *Guarantee Chain*

A guarantee chain is composed of an international organization, authorized by AC.2 to take on responsibility for the effective organization and functioning of an international guarantee system in accordance with the provisions of Article 6.2bis of the Convention and national associations, approved by Contracting Parties in accordance with the provisions of Article 6 and Annex 9, Part II of the Convention to act as guarantors. A guarantee chain provides holders with international guarantees, i.e. guarantees recognized by each of the Contracting Parties involved in a TIR transport, and is responsible for registering them in the eTIR international system.

1.2 **Fundamental principles**

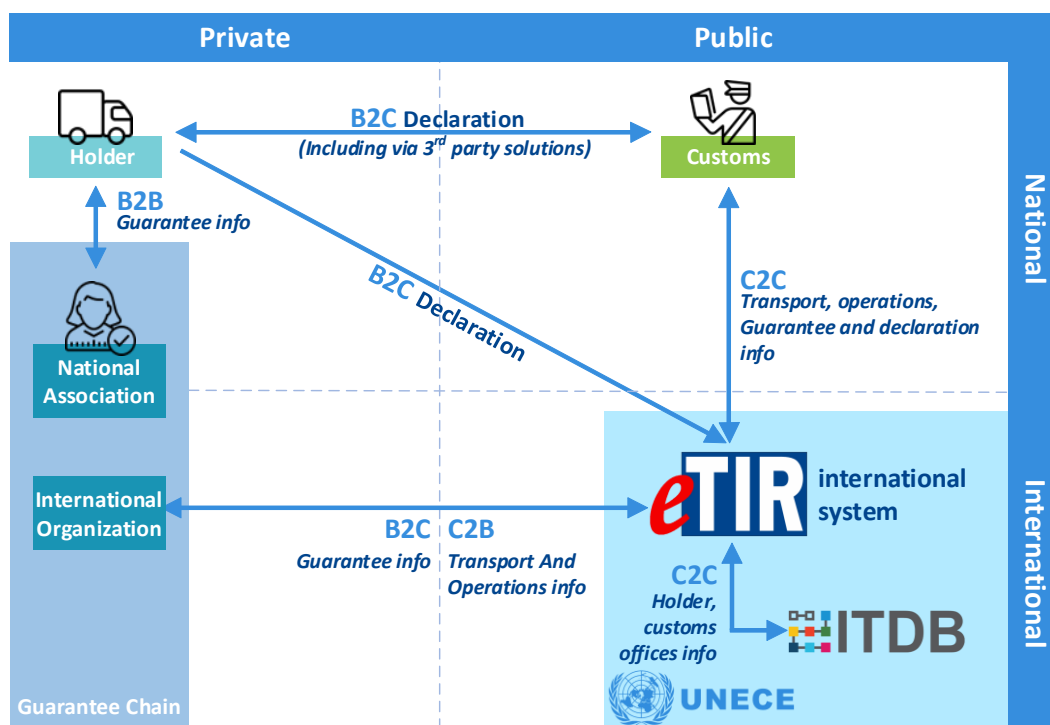
1.2.1 *eTIR international system brief*

The eTIR international system is devised to allow the management by customs of data on guarantees and the secure exchange of data between national customs systems related to the international transit of goods, vehicles and/or containers according to the provisions of the TIR Convention.

Therefore, only a part of the information flow required for the functioning of the eTIR procedure is managed using the eTIR international system. The following picture graphically represents the information exchange between the actors (see figure below).

⁴ In accordance with the instructions by the WP.30 at its 106th session, the eTIR system administration shall be established on the basis of an international, centralized database whose aim it is to facilitate the secure exchange of data between national Customs systems (TRANS/WP.30/212, para. 26).

Figure 1
The new public private partnership



On the one hand, the guarantee chain transmits, to the eTIR international system, information on the guarantees it has issued to the holders so that they can be registered in the eTIR international system. The guarantee chain can also query at any time the status of guarantees it has issued and obtain related TIR transport information. On the other hand, customs authorities use the eTIR international system to check the status of guarantees and to exchange information related to the TIR transport and to TIR operations.

The management by customs of the data on guarantees and the secure exchange of data between national customs systems in relation to TIR transport information are therefore the two fundamental features of the eTIR international system. Furthermore, the declaration mechanisms allowing the submission of advance TIR data and advance amendment data by the holder to customs authorities are detailed in Annex I.

1.2.2 Management by customs of data on guarantees

The management by customs of data on guarantees requires a strong relationship between the guarantee chain and the eTIR international system. The guarantee chain sends information on each issued guarantee to the eTIR international system. The recording of this information in the eTIR international system is conditional on checks made against the International TIR Data Bank (ITDB) concerning authorized holders.

1.2.2.1 Registration of the guarantee

After having issued a guarantee to the holder, in accordance with international, national and internal rules, the guarantee chain shall register it in the eTIR international system by sending a standard electronic message.

The following elements shall be part of the guarantee registration:

- Holder (M)⁵

Information on the physical or legal person to whom the guarantee has been issued.

⁵ M: Mandatory; O: Optional; D: Dependent.

- *Guarantee chain (M)*
Information on the guarantee chain.
- *Guarantee (M)*
Information on the guarantee (guarantee reference number, validity date, guarantee type, ...)

1.2.2.2 *Cancellation of a guarantee*

Once a guarantee has been registered in the eTIR international system, the guarantee chain may cancel any guarantee which has not yet been used. It may also request the cancellation of a guarantee which is in use but the guarantee will only be cancelled after the ongoing TIR operation has been terminated.

1.2.2.3 *Verification of the guarantee*

The data on guarantees will be accessible to all customs offices. If a holder presents to customs a declaration covered by a guarantee which is not recorded in the eTIR international system or has been cancelled by the guarantee chain, then customs authorities shall not accept it.

1.2.2.4 *Querying guarantee status*

Once a guarantee has been registered in the eTIR international system, the guarantee chain can query at any time the status of that guarantee and obtain declaration data and TIR operations data, other than information which is restricted to customs.

1.2.2.5 *Notifications to the guarantee chain*

The eTIR international system notifies the guarantee chain of all events related to the guarantees it has issued.

1.2.3 *Exchange of declaration data and TIR operation data*

1.2.3.1 *Registration of declaration data*⁶

Customs authorities shall validate and accept the customs declaration before transmitting the declarations data to the eTIR international system. The eTIR international system forwards this information to the subsequent customs authorities involved in the TIR transport.

The following elements shall compose the declaration data.

- *Holder (M)*
Information on the physical or legal person who is responsible for transporting the goods and submitting the declaration.
- *Guarantee (M)*
The guarantee reference number under which the TIR transport will be undertaken.
- *Goods (M)*
Information on the goods transported (e.g.: type, quantity, identifications, customs office of departure, customs office of destination, ...).

⁶ For a detailed explanation see Annex I.

- *Mean of Transport/Containers (M)*

Information on the mean of transport and/or containers used to transport and /or carry the goods.

- *Attached documents (O)*

Reference to all documents, paper or electronic, which are attached to the declaration/advance TIR data.

- *Consignee (O)*

Information on the physical or legal persons to whom goods are shipped.

- *Intended itinerary (Country level) (M)*

Countries intended to be involved in the TIR transport.

- *Consignor (O)*

Information on the physical or legal persons from whom goods are shipped.

- *[Subcontractors (O)]*

Information on the physical or legal person who performs the transport or a part of the transport on behalf of the holder.]⁷

1.2.3.2 *Registration of TIR operation data*

a) *Start TIR operation data*

The customs office starting a TIR operation shall register the start TIR operation data in the eTIR international system. In case seals are affixed, removed or changed, the eTIR international system forwards the start TIR operation data to the subsequent customs administrations involved in the TIR transport.

The following elements shall compose the start TIR operation data:

- Operation sequence number and national operation reference number (M)
- Date of start (M)
- Seals (D)

Information on the seal(s) affixed to the vehicle(s) and/or container(s) if seals are affixed, changed or removed.

- Results of checks
- Time limit for transit (O)

Time limit for the TIR operation

- National itinerary (O)

Customs office(s) at which the road vehicle, the combination of vehicles or the container together with the load have to be produced.

- Customs office (M)

b) *Terminate TIR operation data*

The customs office terminating a TIR operation shall register the terminate TIR operation data in the eTIR international system. In case seals are affixed, removed or changed, the eTIR international system forwards the terminate TIR operation data to the subsequent customs administrations involved in the TIR transport.

⁷ The concept of subcontractors is still under discussion.

The following elements shall compose the terminate TIR operation data:

- Operation sequence number and national operation reference number (M)
- Date of termination (M)
- Seals (D)

Information on the seal(s) affixed to the vehicle(s) and/or container(s) if seals are affixed, changed or removed.

- Results of checks
- Reservations (M)

In case of doubts with regard to the TIR operation, the customs office of destination or exit indicates that it has terminated the TIR operation with reservations.

- Customs office (M)
- Type of termination (M)

Indication of the type of termination, i.e. partial discharge, final discharge, partial loading, suspension, exit or accident / incident.

c) *Discharge TIR operation data*

The customs office discharging a TIR operation shall register the discharge TIR operation data in the eTIR international system.

- The following elements shall compose the discharge TIR operation data: Date of discharge (M)
- Customs office (M)

1.2.4 *Other aspects*

1.2.4.1 *Issuance of guarantees*

The holder requests a guarantee from the guarantee chain, which will, on the basis of international, national and internal rules, decide if the guarantee can be issued to the holder. The guarantee chain will then provide the holder with a guarantee reference number for that specific guarantee. This procedure is outside the scope of the development of the eTIR international system but is a prerequisite for its well functioning.

The guarantee chain registers the guarantee internationally as foreseen in point 1.2.2.1.

1.2.4.2 *Submission of advance TIR data and advance amendment data*

The holder submits the advance TIR data or the advance amendment data by electronic means to the customs administration of the country of departure, making reference to a guarantee issued by a guarantee chain, using authentication mechanisms. The advance TIR data and the advance amendment data shall be submitted prior to the presentation of the goods at the customs office of departure. Alternatively, the holder can make use of declaration mechanisms provided by the eTIR international system, the customs system of his country of residence (if available) or third-party solutions. National customs systems and authorized private sector declaration systems can use the declaration mechanism of the eTIR international system to forward the declaration to the country of departure.

The data comprising the advance TIR data and advance amendment data are those required to form the declaration data (see 1.2.3.1).

1.2.4.3 *Pre-arrival information*

One of the objectives of the eTIR international system, as defined by the Contracting Parties, is to provide customs authorities with information prior to the arrival of cargos. This applies to information provided by the private sector as well as to information exchanged

between customs authorities. Therefore, the eTIR international system forwards to customs authorities all information as soon as it is received (push principle).

1.2.5 Data exchange

1.2.5.1 Central platform

The eTIR system is built around a central platform, the eTIR international system, which is composed of hardware and software, including databases and web services. The databases serve to store and make the information available and act as a repository for all information concerning the TIR system, whereas the web services allow for an efficient and secure interfacing between the Contracting Parties, the guarantee chain and the central platform. The eTIR international system shall store and archive data for a minimum period of ten [10] years.

1.2.5.2 Communication

The eTIR international system may use secure Internet connections to exchange messages.

1.2.5.3 Standard messages

The exchange of data with the eTIR international system is achieved by means of a set of predefined standard messages. All messages needed to ensure the functioning of the eTIR international system are described in the functional specifications document.

1.2.6 Security

1.2.6.1 The elements of security from the TIR Convention

The provision of the TIR convention relating to the security of the TIR procedure apply, *mutatis mutandis*, to the eTIR procedure.

1.2.6.2 Controlled access

Controlled access remains a major principle of the TIR system (TIR Convention, Annex 9, Part II). The ITDB and authentication mechanisms will be used to ensure that only authorized holders use the TIR system.

1.2.6.3 Security data elements

Data elements related to supply chain security in transit, as defined in the SAFE framework of standards of the World Customs Organization, are included in the relevant eTIR messages, which are described in details in the functional specifications document.

1.2.6.4 eTIR international system security

The eTIR international system is secured with security methods applicable to systems communicating via the internet. Messages are encrypted and access is restricted to authorized users. The system is available 24/7.

1.2.7 Accompanying document / Certified report

An accompanying document, generated by the customs office of departure, provides all information regarding the TIR transport. This document also covers the need in case of accidents and incidents and replaces the certified report.

1.2.8 Fallback scenarios

In case, once a TIR transport has begun, customs administrations are not in a position to communicate with the eTIR international system, they will mainly rely on the accompanying document to obtain or provide the required information.

A general presentation of the fallback scenario is contained in the use case descriptions in chapter 3 and a more in-depth description of the fallback scenarios can be found in chapter 1.2 of the functional specifications document.

1.3 Deliverables

1.3.1 National deliverables

1.3.1.1 National management of data

The national computer systems of the countries process electronically the data from and to the eTIR international system. The national applications are primarily focused on reception and validation of the electronic declaration as well as on the management of the TIR operations.

1.3.1.2 Bridges to the eTIR international system

National computer systems communicate with the eTIR international system using a predefined set of standard messages and technology.

1.3.1.3 User manuals and training

Customs administrations provide their customs officers with the necessary documentation and training to ensure the proper use of the national parts of the eTIR international system. They can also provide documentation for holders.

1.3.2 International deliverables

1.3.2.1 eTIR database

The eTIR international system⁸ is based on a central database system, the eTIR database, which stores the data and contains the functional rules that allow the functioning of the eTIR system.

This database contains information on the data on guarantees and their coverage and link the issued guarantees with the holder. Moreover, it contains all data regarding the TIR transports linking them to the guarantee information.

In order to technically restrict access to the eTIR international system to those users who have been authorized, this database also contains the credentials of the IT systems of guarantee chains as well as the customs central systems. Furthermore, holders who would request the use of the centralized declaration mechanism will also have their credentials included.

1.3.2.2 eTIR web services

Web services allow authorized information systems to interact securely with the eTIR international system. The web services provide, in a standard format, the functions which allow querying and updating the central database, as well as the centralized submission of advance TIR data and advance amendment data.

1.3.2.3 eTIR web site

The eTIR web site is an information platform which contains all the relevant information for all the actors to connect to the eTIR international system.

1.3.2.4 Definitions of standard messages

All messages sent to or received from the eTIR international system are defined and listed in the functional specifications document.

⁸ The eTIR international system, as introduced in 1.1.2, is composed of a central database and web services.

1.3.2.5 *Technical documentation*

The technical documentation will ensure that the customs authorities and the guarantee chain can successfully interconnect their information systems with the eTIR international system.

1.3.2.6 *User manuals and training for trainers*

The user manuals and the training for trainers serve as basis for the development of national user manuals and national training programs. They describe the procedures, the best practices as well as all tools available in the eTIR international system.

1.3.2.7 *Service desk*

A service desk is available to customs authorities and the guarantee chain to support the implementation of the eTIR international system and its assistance can be requested for selected fallback procedure.

1.3.3 *Other required systems*

1.3.3.1 *Authorized access database*

To ensure that guarantees are only issued to authorized holders, the eTIR international system links to the ITDB.

1.3.3.2 *Customs offices database*

To check that customs offices are approved for eTIR, the eTIR international system retrieves the necessary information from ITDB using a web service. In version v4.3, no error messages will be sent after these checks.

1.3.4 *Languages and character sets*

The eTIR international system will allow for the translation of all coded information in order to ensure maximum transparency. In order to allow the transmission and display of all languages, the character set used by the eTIR international system is Unicode.

In case of textual descriptions, the language of the country where the information has been provided shall be used. Nevertheless, translations in other languages can also be provided and are sometimes required.

2 Transition to eTIR

While the introduction of the eTIR procedure (Annex 11) does not remove the possibility for transport operators to continue using paper TIR Carnets, the greater facilities provided by the eTIR procedure should progressively encourage transport operators to use it for itineraries where it is possible. However, before being able to replace the TIR procedure by the eTIR procedure along an itinerary, all parties involved in a TIR transport will have to be able to securely exchange declaration data, TIR operations data and data on guarantees. Furthermore, customs administration will have to ensure that national and foreign transport operators can submit advance TIR Data and advance amendment data.

As a result, for TIR transports involving countries not yet interconnected with the eTIR international system, the usage of paper TIR Carnets will remain the only possibility to benefit from the TIR Convention.

In view of the wide geographical coverage of the TIR Convention, the different levels of technological development of the countries concerned and the existence of customs unions, the duration of the transition may vary from country to country.

3 Use cases analysis

The use case analysis provides a high level view on the interactions (uses) between the actors and the eTIR international system.

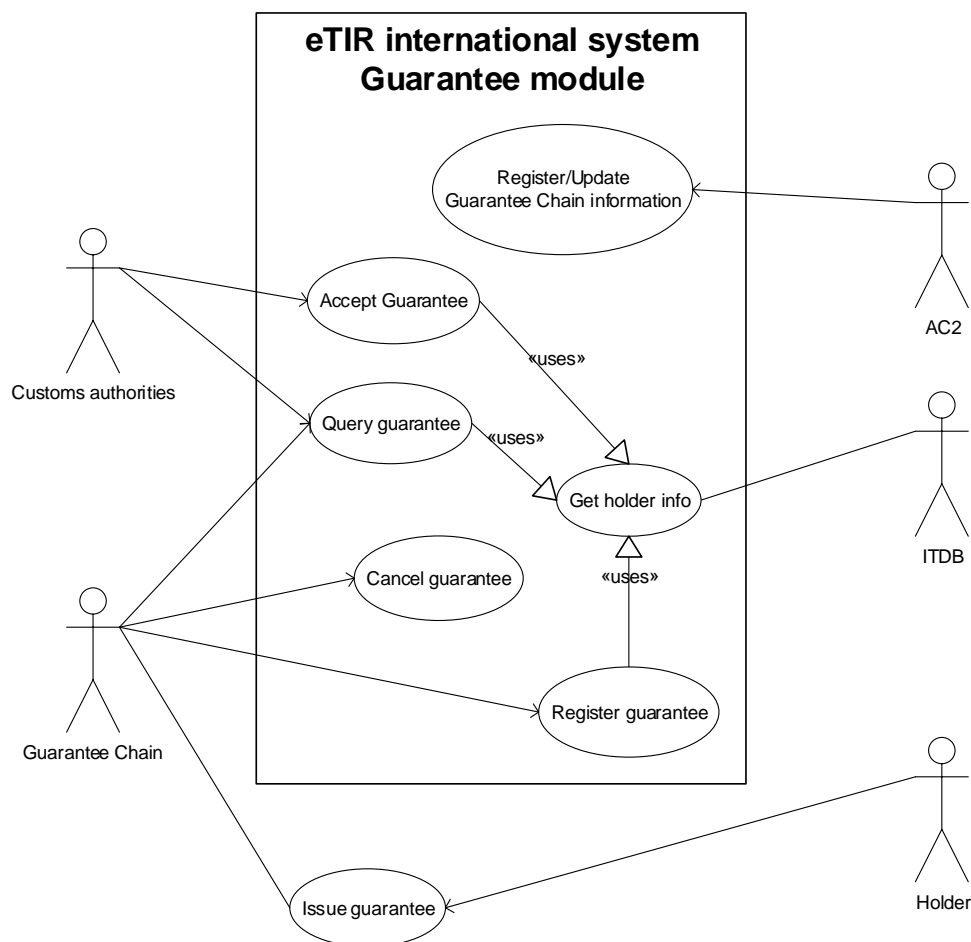
3.1 Management by customs of data on guarantees

The management by customs of data on guarantees requires that the guarantee chain registers the guarantees directly in the eTIR international system right after having issued them to holders.

3.1.1 Management by customs of data on guarantees use case diagram

Figure 2

Customs management of guarantees use case diagram



3.1.2 Guarantee state chart diagram

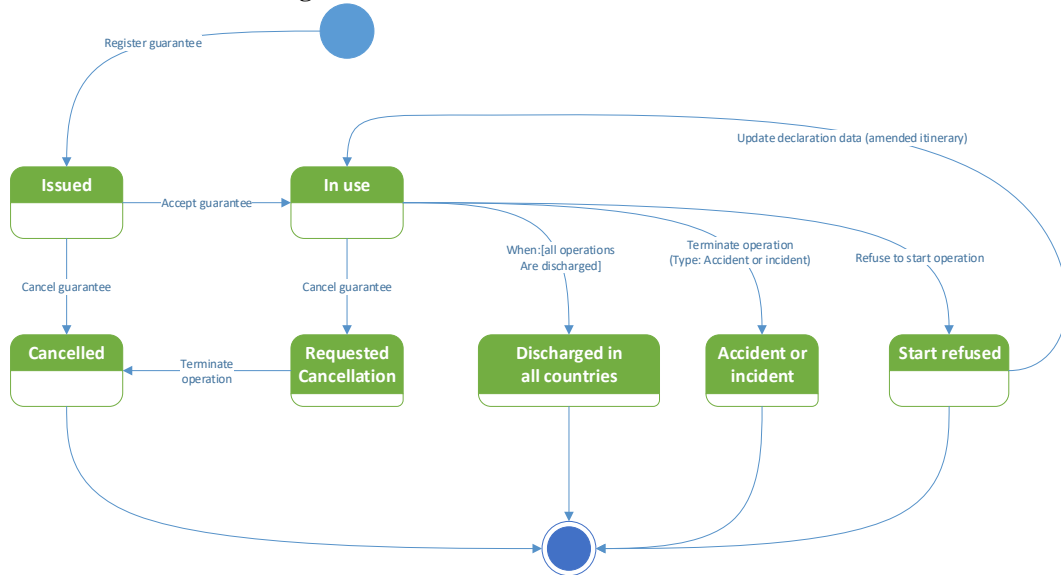
The guarantees registered in the eTIR international system will have their status updated all along the TIR transport. The following state chart diagram shows the various statuses as well as the transition even between them.

The guarantee status can be:

- Issued
- In use
- Requested cancellation

- Cancelled
- Discharged in all countries
- Accident or incident
- Start refused

Figure 3
Guarantee state chart diagram



3.1.3 Register guarantee chain use case description

Table 2
Register/Update guarantee chain information use case description

| Name | Register/Update guarantee chain information use case |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Description | Once the guarantee chain has been authorized, it is registered in the eTIR international system. |
| Actors | AC.2 |
| Performance Goals | Only authorized guarantee chains can register guarantees in the eTIR international system. |
| Preconditions | - |
| Postconditions | - |
| Scenario | <p>Registration</p> <p>The AC.2 authorizes an international organization to manage the guarantee chain in accordance with article 6.2bis of the TIR Convention. It records the guarantee chain in the eTIR international system and inserts the information on the type of guarantees it is allowed to register (including the geographical coverage of its guarantees). It also provides the necessary security information to the guarantee chain in order to allow it to access the system.</p> |
| Alternative Scenario | - |
| Special requirements | - |

Name *Register/Update guarantee chain information use case*

Extension Points -

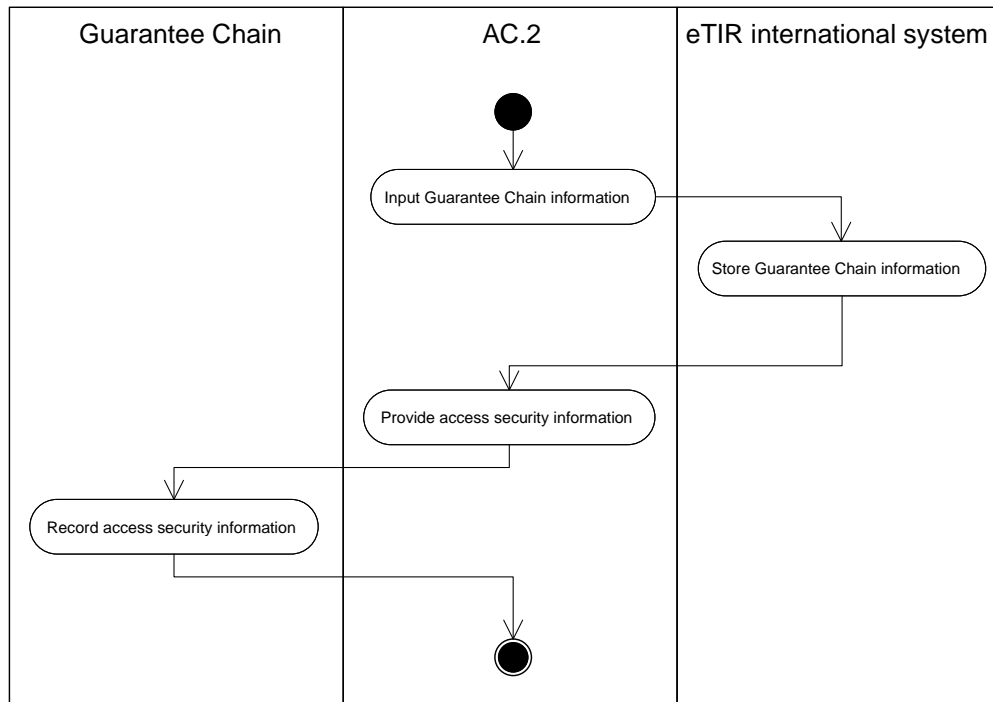
Requirements -

Covered

3.1.4 Register/Update guarantee chain information activity diagram

Figure 4

Register/Update guarantee chain information activity diagram

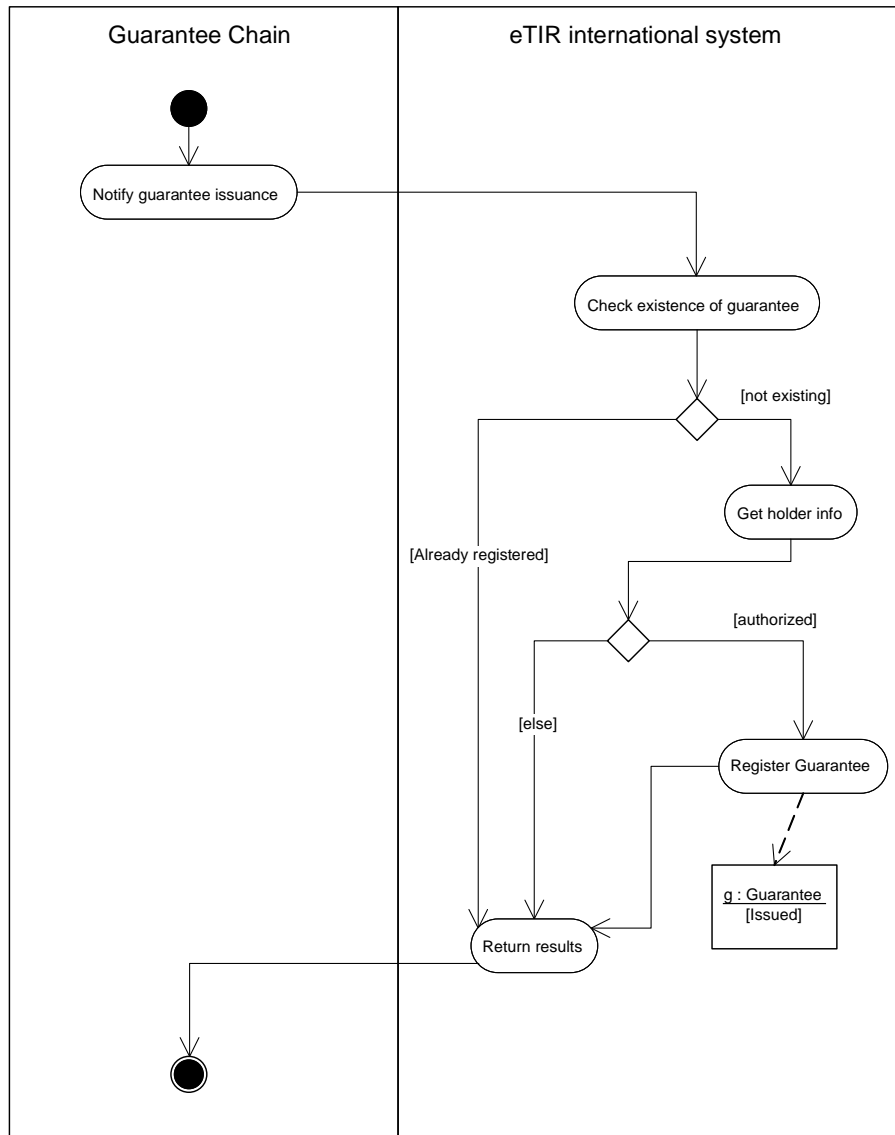


3.1.5 Register guarantee use case description

Table 3
Register guarantee use case description

| <i>Name</i> | <i>Register guarantee use case</i> |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Description | The guarantee chain registers each guarantee issued to a holder in the eTIR international system by sending an electronic message. |
| Actors | Guarantee chain |
| Performance Goals | Any guarantee, issued to a holder, shall be registered in the eTIR international system before it can be used by a holder to accompany a declaration. |
| Preconditions | The holder, to whom the guarantee chain has issued a guarantee, must be authorized and registered in the ITDB and the eTIR international system should not contain a prior registration of the guarantee. |
| Postconditions | The guarantee information is stored in the eTIR international system with status “issued”. |
| Scenario | <p>Registration</p> <p>The guarantee chain issues a guarantee to a holder and sends a secure electronic message with all information regarding the guarantee to the eTIR international system. The eTIR international system checks if the guarantee has not yet been registered. Then it gets holder information, including its current status. In case the guarantee has not yet been registered and the holder is authorized, the system registers the guarantee and notifies the results of the registration of the guarantee to the guarantee chain. If the registration fails for any reason, the guarantee chain is informed accordingly.</p> |
| Alternative Scenario | <p>Fallback scenario</p> <p>If electronic messages cannot be sent to the eTIR international system by means of the web services, no functional fallback is foreseen, and the information should be sent as soon as it is possible.</p> |
| Special requirements | The guarantee chain cannot update any information it has registered in the eTIR international system. Only the cancellation of the guarantee is possible. |
| Extension Points | - |
| Requirements Covered | - |

3.1.6 Register guarantee activity diagram

Figure 5
Register guarantee activity diagram

3.1.7 *Cancel guarantee use case description*

Table 4

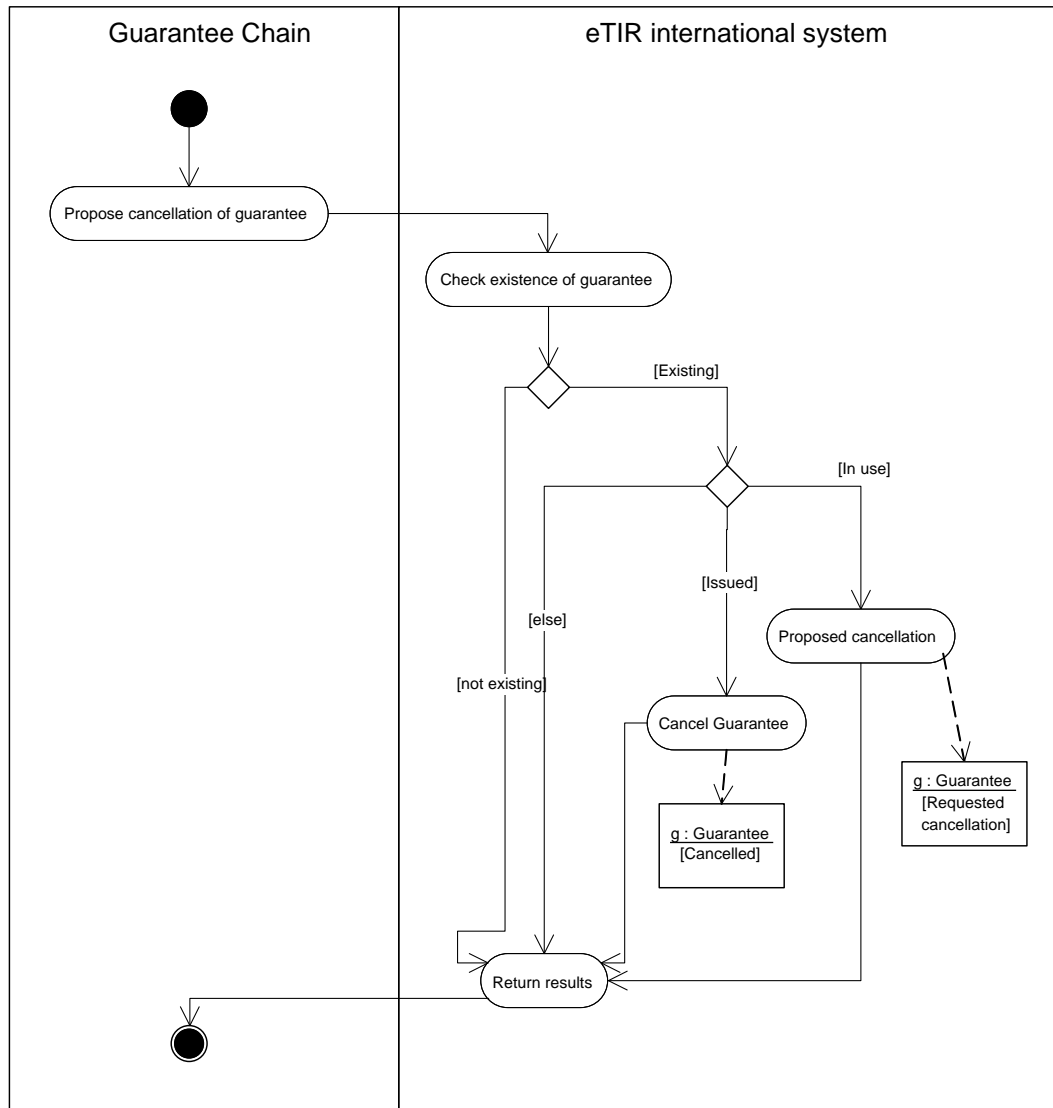
Cancel guarantee use case description

| <i>Name</i> | <i>Cancel guarantee use case</i> |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Description | The guarantee chain cancels a guarantee after it has been issued to a holder by sending an electronic message to the eTIR international system. |
| Actors | Guarantee chain |
| Performance Goals | - |
| Preconditions | The guarantee must have been registered and have the status “issued”. The guarantee can also have the status “in use”. |
| Postconditions | The guarantee status is changed to “cancelled”, “requested cancellation” or remains in its current status. |
| Scenario | <p>Cancellation</p> <p>The guarantee chain sends a secure electronic message to the eTIR international system to request the cancellation of a guarantee. First the eTIR international system checks that the guarantee is registered. Then in case the guarantee status is “issued”, the eTIR international system changes the guarantee status to “cancelled”. If the guarantee status is “in use”, its status is turned to “requested cancellation”.</p> |
| Alternative Scenario | <p>Fallback scenario</p> <p>If electronic messages cannot be sent to the eTIR international system by means of the web services, the guarantee chain should contact the eTIR service desk to transmit the cancellation information.</p> |
| Special requirements | |
| Extension Points | - |
| Requirements Covered | - |

3.1.8 Cancel guarantee activity diagram

Figure 6

Cancel guarantee activity diagram



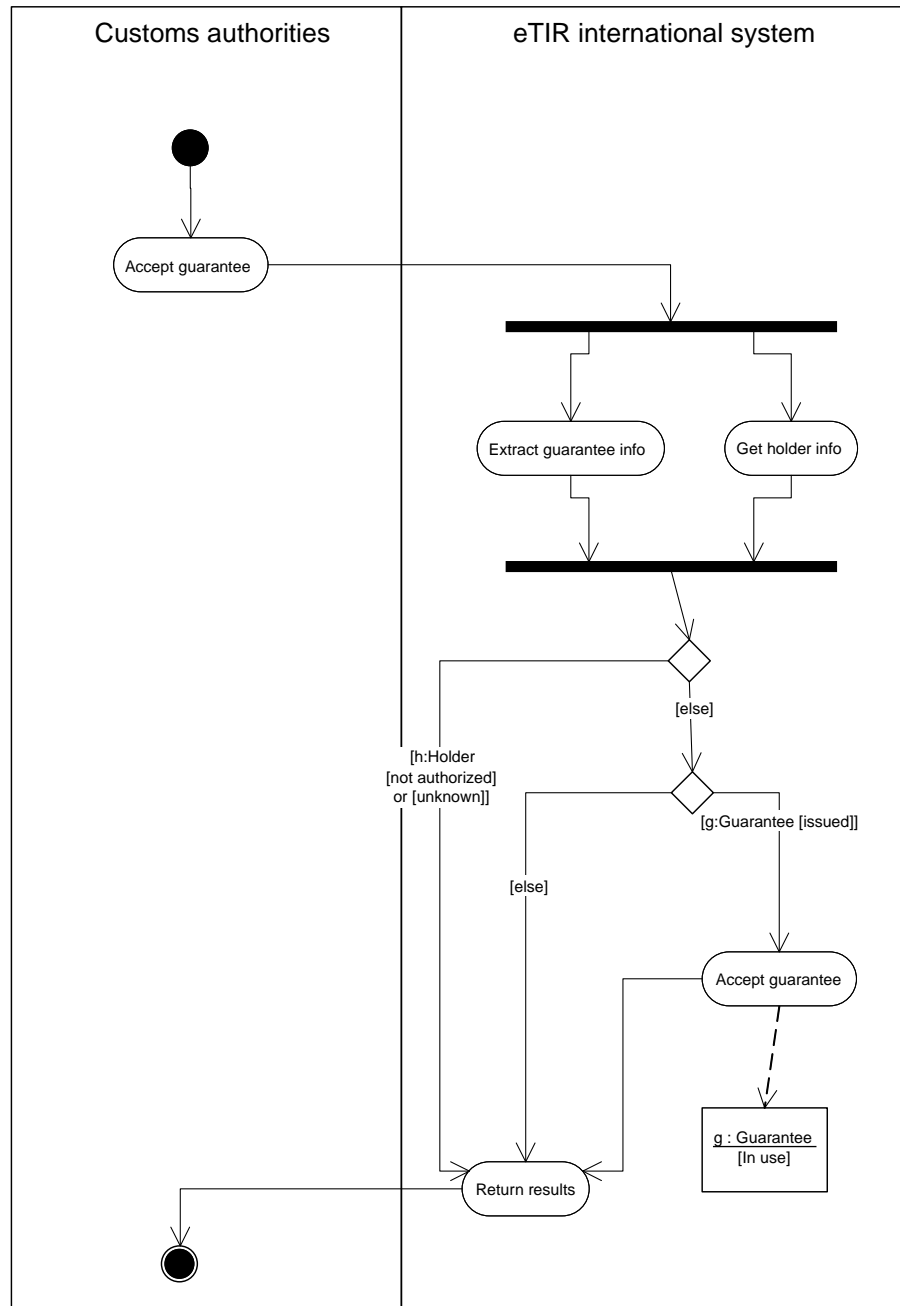
3.1.9 *Accept guarantee use case description*

Table 5
Accept guarantee use case description

| <i>Name</i> | <i>Accept guarantee use case</i> |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Description | The customs authorities notify the eTIR international system that the guarantee has been accepted. |
| Actors | Customs authorities |
| Performance Goals | - |
| Preconditions | The guarantee must be registered and its status must be “issued”. The customs authorities at departure must also have received a TIR declaration. The holder must be registered in ITDB and authorized. |
| Postconditions | The guarantee status is changed to “in use” or remains at its current status. |
| Scenario | <p>Accept guarantee</p> <p>Customs authorities send a secure electronic message to the eTIR international system informing that the guarantee has been accepted for a TIR transport.</p> |
| Alternative Scenario | <p>Fallback scenario</p> <p>If electronic messages cannot be sent to the eTIR international system by means of the web services, the accompanying document will serve as a proof that the guarantee has been accepted.</p> |
| Special requirements | - |
| Extension Points | - |
| Requirements Covered | - |

3.1.10 *Accept guarantee activity diagram*

Figure 7

Accept guarantee activity diagram

3.1.11 *Get holder info use case description*

Table 6

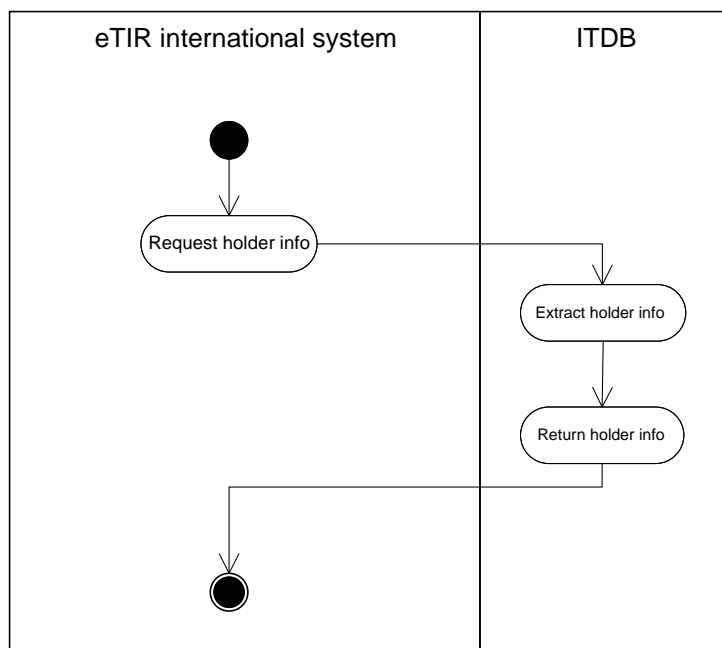
Get holder info use case description

| <i>Name</i> | <i>Get holder info use case</i> |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Description | The eTIR international system queries the ITDB and receives data on a holder. |
| Actors | ITDB |
| Performance Goals | - |
| Preconditions | - |
| Postconditions | - |
| Scenario | The eTIR international system sends a query to the ITDB about a holder. The ITDB returns the data about this holder or sends a message indicating that the holder is unknown. |
| Alternative Scenario | Fallback scenario The eTIR international system uses a local replica of the ITDB. |
| Special requirements | This use case is internal to the system and is used in the following use cases: <ul style="list-style-type: none"> • Register guarantee • Query guarantee • Accept guarantee The holder status can be: <ul style="list-style-type: none"> - “unknown” - “authorized” <ul style="list-style-type: none"> ▪ Withdrawn from date x to date y ▪ Excluded from date x to date y in country z - “not authorized” <ul style="list-style-type: none"> ▪ Permanently withdrawn ▪ End of activity |
| Extension Points | - |
| Requirements Covered | - |

3.1.12 *Get holder info activity diagram*

Figure 8

Get holder info activity diagram



3.1.13 Query guarantee use case description

Table 7

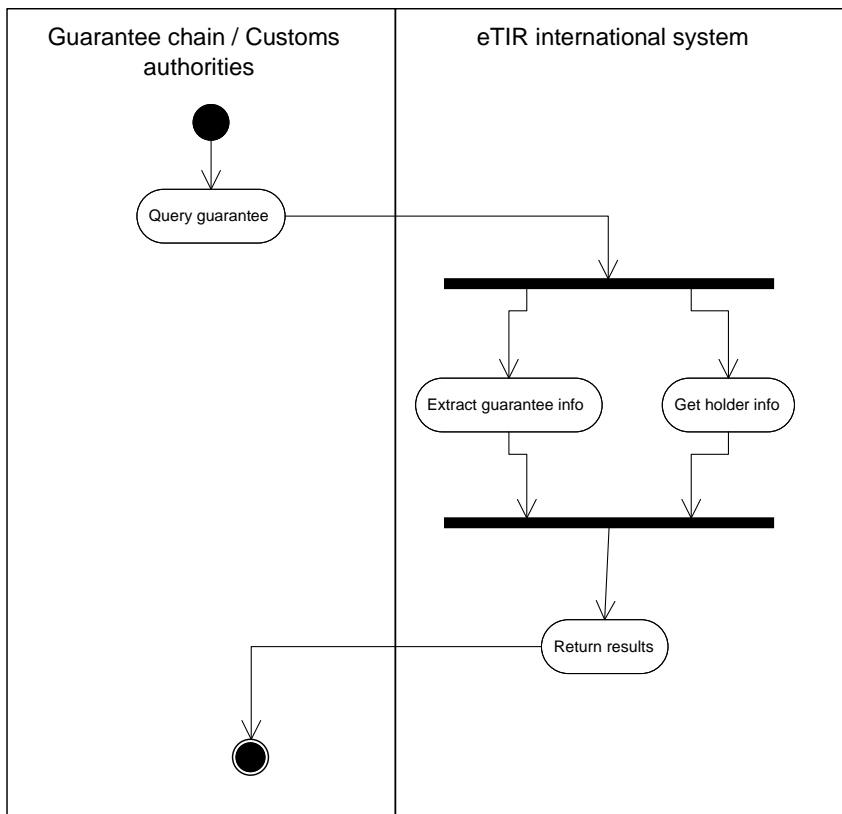
Query guarantee use case description

| Name | Query guarantee use case |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Description | Customs authorities or a guarantee chain request the eTIR international system information on issued guarantees. |
| Actors | Guarantee chain, Customs authorities |
| Performance Goals | - |
| Preconditions | - |
| Postconditions | - |
| Scenario | <p>Query the guarantee</p> <p>A guarantee chain or customs authorities send a secure electronic query to the eTIR international system. The eTIR international system extracts all data from the database concerning the guarantee and combines them with data on the holder (get holder info) and sends all information to customs authorities or to the guarantee chain. If the guarantee has not yet been registered, the customs authorities or the guarantee chain are informed accordingly.</p> |
| Alternative Scenario | <p>Fallback scenario</p> <p>Customs authorities can obtain information about the transport from the accompanying document and can use the web services or consult the web application developed by the guarantee chain.</p> |
| Special requirements | A guarantee chain can only query information on those guarantees which it has issued and which have been registered by the eTIR international system. The eTIR international system also provides the guarantee chain with information on TIR transports attached to the guarantees it has issued. |
| Extension Points | - |

| | |
|----------------------|--------------------------|
| Name | Query guarantee use case |
| Requirements Covered | - |

3.1.14 Query guarantee activity diagram

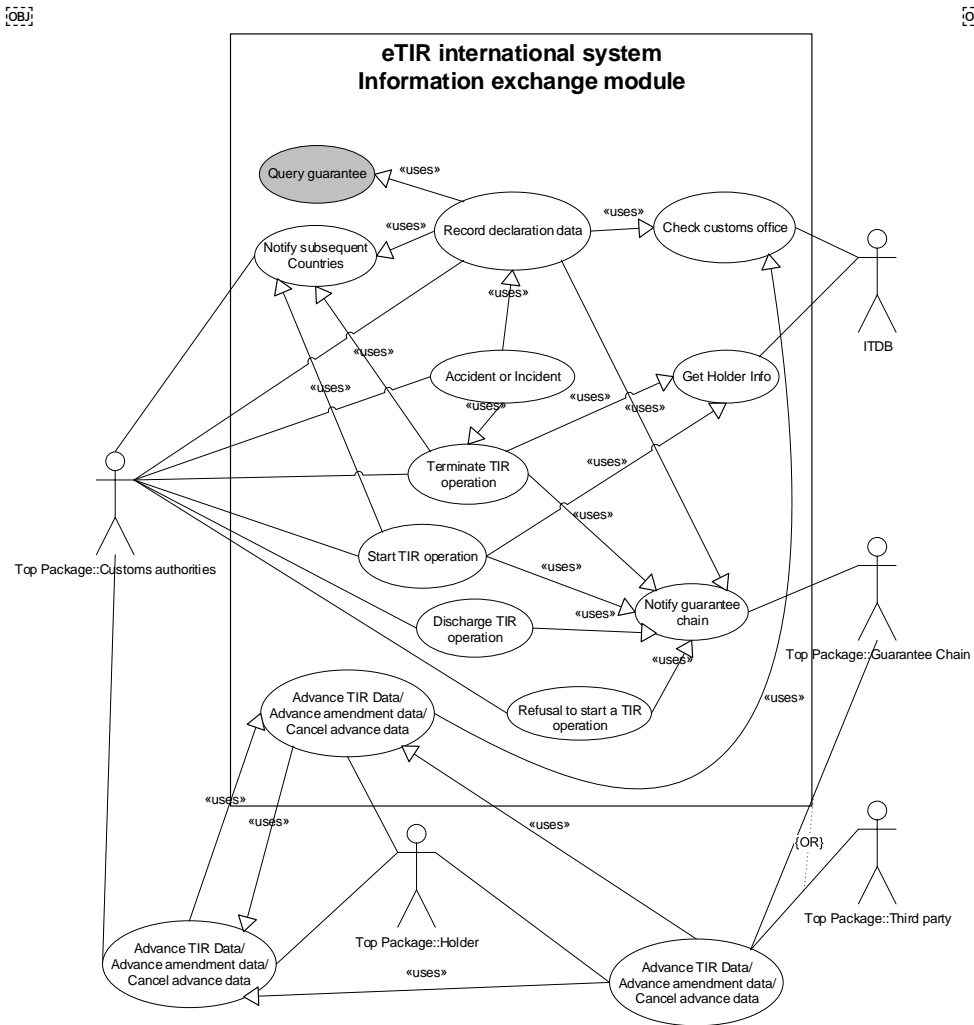
Figure 9
Query guarantee activity diagram



3.2 Data exchange use case

3.2.1 Data exchange use case diagram

Figure 10
Data exchange use case diagram⁹



⁹ Use cases in grey are defined in chapter 3.1.

3.2.2 *Record declaration data use case description*

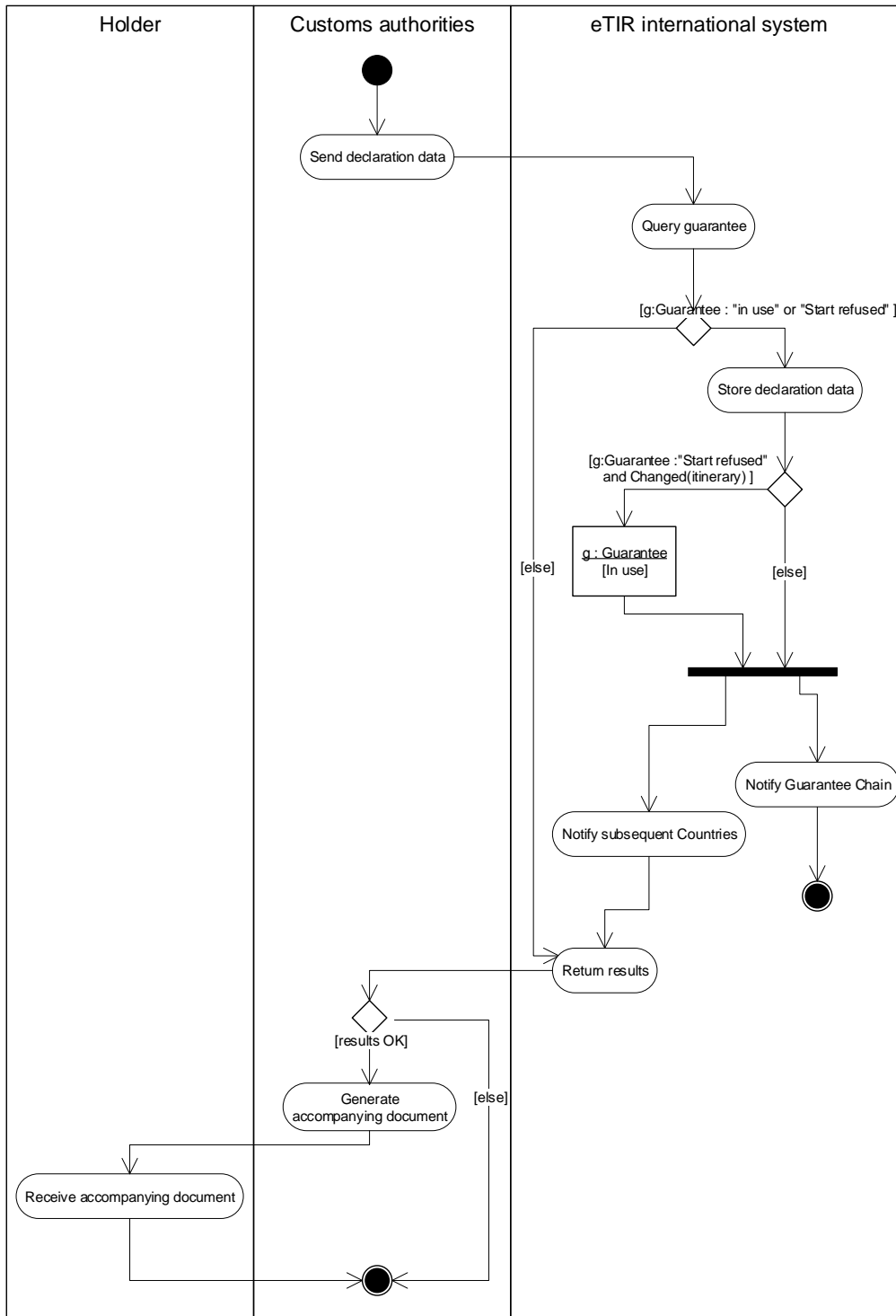
Table 8
Record declaration data use case description

| <i>Name</i> | <i>Record declaration data use case</i> |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Description | The declaration data is recorded to the eTIR international system. |
| Actors | Customs authorities |
| Performance Goals | |
| Preconditions | <p>The guarantee must have been accepted. The holder should be authorized and not currently excluded from any country along the itinerary.</p> <p>The declaration has been accepted by customs authorities.</p> |
| Postconditions | - |
| Scenario | <p>First customs office of departure</p> <p>The first customs office of departure will send the declaration data to the eTIR international system after having accepted the declaration and sealed the loading unit. The eTIR international system provides all subsequent countries indicated in the itinerary and the guarantee chain with the information. Customs authorities will provide the holder with an accompanying document.</p> |
| Alternative Scenario | <p>Intermediate customs office of departure</p> <p>The intermediate customs office of departure will send all data contained in the declaration to the eTIR international system together with the information on the new seals, after having accepted the declaration and resealed the vehicle or container. The eTIR international system provides all subsequent countries indicated in the itinerary and the guarantee chain with the updated information. Customs authorities will provide the holder with an accompanying document.</p> <p>Intermediate customs office of destination</p> <p>After having sent a termination message and unloaded the goods concerned, the intermediate customs office of destination will send information on the new seals affixed. The eTIR international system provides all subsequent countries indicated in the itinerary and the guarantee chain with the updated information. Customs authorities provide the holder with an updated accompanying document.</p> <p>Customs checks</p> <p>Having removed the seals from the vehicle or container, performed the necessary checks and resealed the vehicle or container, customs authorities send a message to provide the eTIR international system with information on the new seals affixed. The eTIR international system provides all subsequent countries indicated in the itinerary and the guarantee chain with the updated information. Customs authorities provide the holder with an updated accompanying document.</p> <p>Change of itinerary</p> <p>After having been informed by the holder that the routing of the transport has changed, customs authorities send a message to provide the eTIR international system with information on the new itinerary.</p> |

| Name | Record declaration data use case |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Special requirements</p> <p>Extension Points -</p> <p>Requirements Covered -</p> | <p>The eTIR international system provides all subsequent countries indicated in the itinerary and the guarantee chain with the updated information. It also informs the countries removed from the itinerary that the TIR transport will not transit their country. Customs authorities provide the holder with an updated accompanying document.</p> <p>Vehicles change</p> <p>After having been informed by the holder that a new vehicle (usually the tractor unit) will be used, customs authorities send a message to provide the eTIR international system with information on the new vehicle. The eTIR international system provides all subsequent countries indicated in the itinerary and the guarantee chain with the updated information.</p> <p>Rerouting due to a refusal to start</p> <p>After having been refused to start a TIR operation in a country and assuming the guarantee still allows for sufficient TIR operations, the holder can request to amend the itinerary in order to use its guarantee to return to the departure or select a new itinerary avoiding the country that refused to start the TIR operation. If Customs accept the amendment of the declaration data, they will record the new declaration data in the eTIR international system. The eTIR international system changes back the guarantee status to “in use” and provides all subsequent countries indicated in the itinerary and the guarantee chain with the updated information.</p> <p>Fallback scenario</p> <p>In case the transmission of information to the eTIR international system fails, the customs authorities nevertheless accept the holder to start the TIR transport. Customs authorities will transmit the electronic data to the eTIR international system at the first opportunity. In the meantime, other customs authorities will obtain the required information from the accompanying document.</p> |

3.2.3 Record declaration data activity diagram

Figure 11
Record declaration data activity diagram



[OBJ]

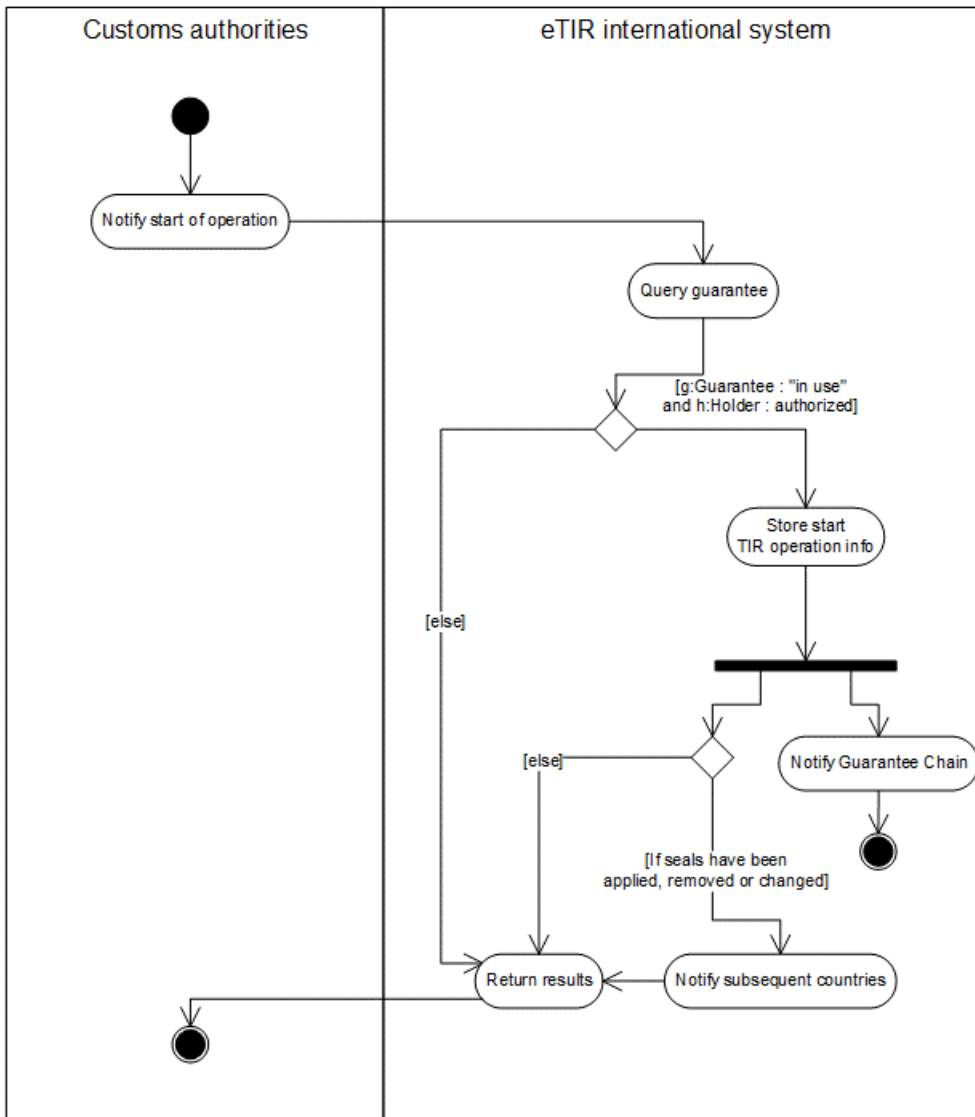
3.2.4 *Starting of TIR operation use case description*

Table 9
Starting of TIR operation use case description

| <i>Name</i> | <i>Starting of TIR operation use case</i> |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Description | Customs authorities provide the eTIR international system with information regarding the start of a TIR operation. |
| Actors | Customs authorities |
| Performance Goals | - |
| Preconditions | Ensure the validity of the guarantee and the authorization for the holder. |
| Postconditions | - |
| Scenario | Customs authorities send a message to the eTIR international system notifying that a TIR operation has started. If the holder is authorized and the guarantee status is “in use”, the eTIR system saves the information and notifies the guarantee chain of the start of a TIR operation. If seals have been applied, removed or changed, the eTIR international system notifies all subsequent countries. |
| Alternative Scenario | <p>Fallback scenario</p> <p>If electronic messages cannot be exchanged with the eTIR international system, the information regarding the start should be provided on the accompanying document. The status of the guarantee can be queried using the web services or the web application developed by the guarantee chain. Customs authorities will nevertheless send the start message at a later stage.</p> |
| Special requirements | - |
| Extension Points | - |
| Requirements Covered | - |

3.2.5 Starting of TIR operation activity diagram

Figure 12
Starting of TIR operation activity diagram



3.2.6 *Terminate TIR operation use case description*

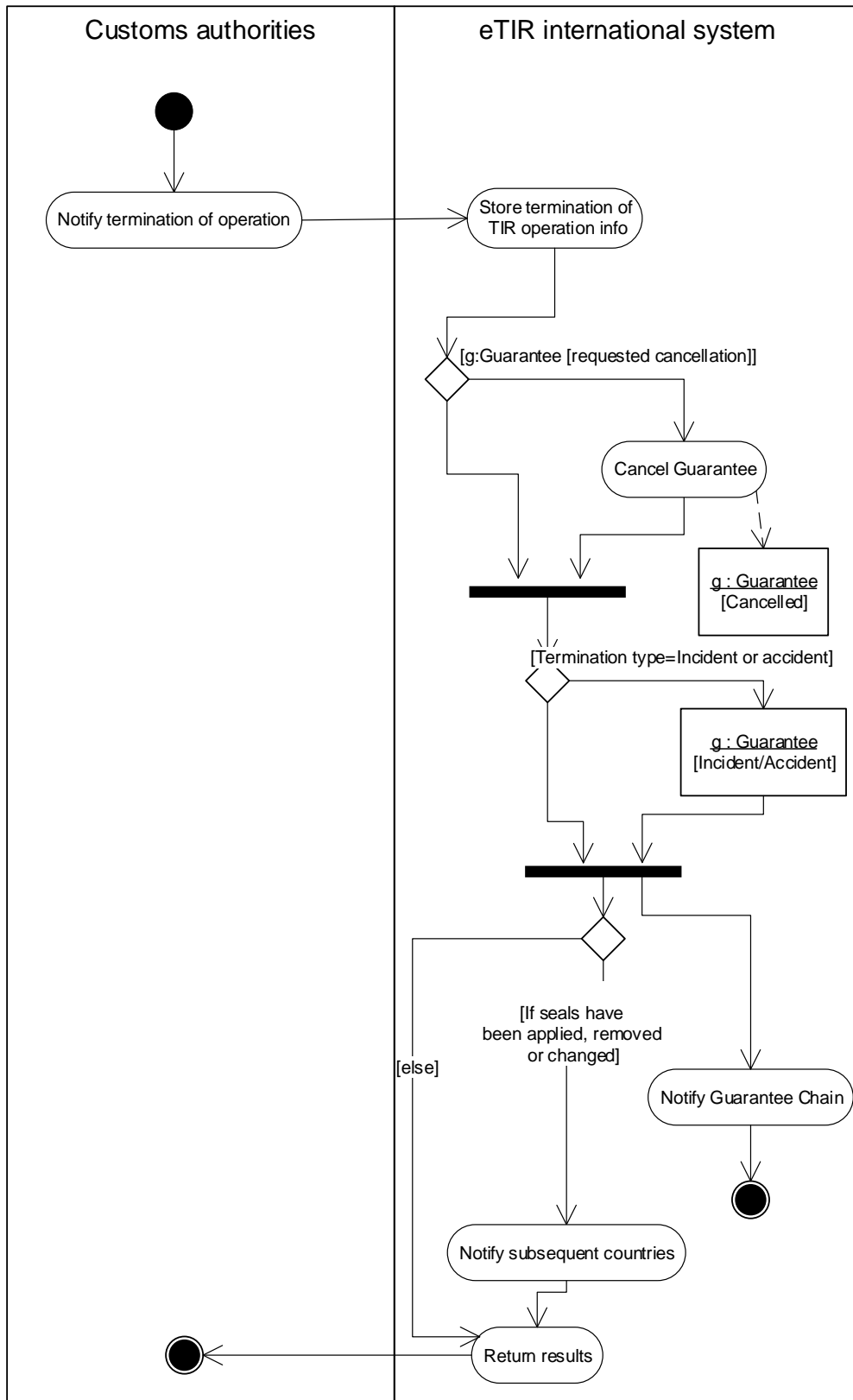
Table 10

Terminate TIR operation use case description

| <i>Name</i> | <i>Terminate TIR operation use case</i> |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Description | Customs authorities provide the eTIR international system with information regarding the termination of a TIR operation. |
| Actors | Customs authorities |
| Performance Goals | - |
| Preconditions | - |
| Postconditions | - |
| Scenario | Customs authorities send a message to the eTIR international system notifying that a TIR operation has terminated. The eTIR system stores the information, changes the status of the guarantee to cancelled in case the guarantee chain has requested cancellation and notifies the guarantee chain of the termination of all TIR operations, including the final termination, providing the data as required by Annex 10 of the TIR Convention. When the termination type is incident or accident, the status of the guarantee is changed accordingly. If seals have been applied, removed or changed, the eTIR international system notifies all subsequent countries. |
| Alternative Scenario | Fallback scenario If electronic messages cannot be exchanged with the eTIR international system, the information regarding the termination should be provided on the accompanying document. Customs authorities will nevertheless send the termination message at a later stage. |
| Special requirements | Termination can be made with reservations. |
| Extension Points | - |
| Requirements Covered | - |

3.2.7 Terminate TIR operation activity diagram

Figure 13
Terminate TIR operation activity diagram



3.2.8 *Discharge TIR operation use case description*

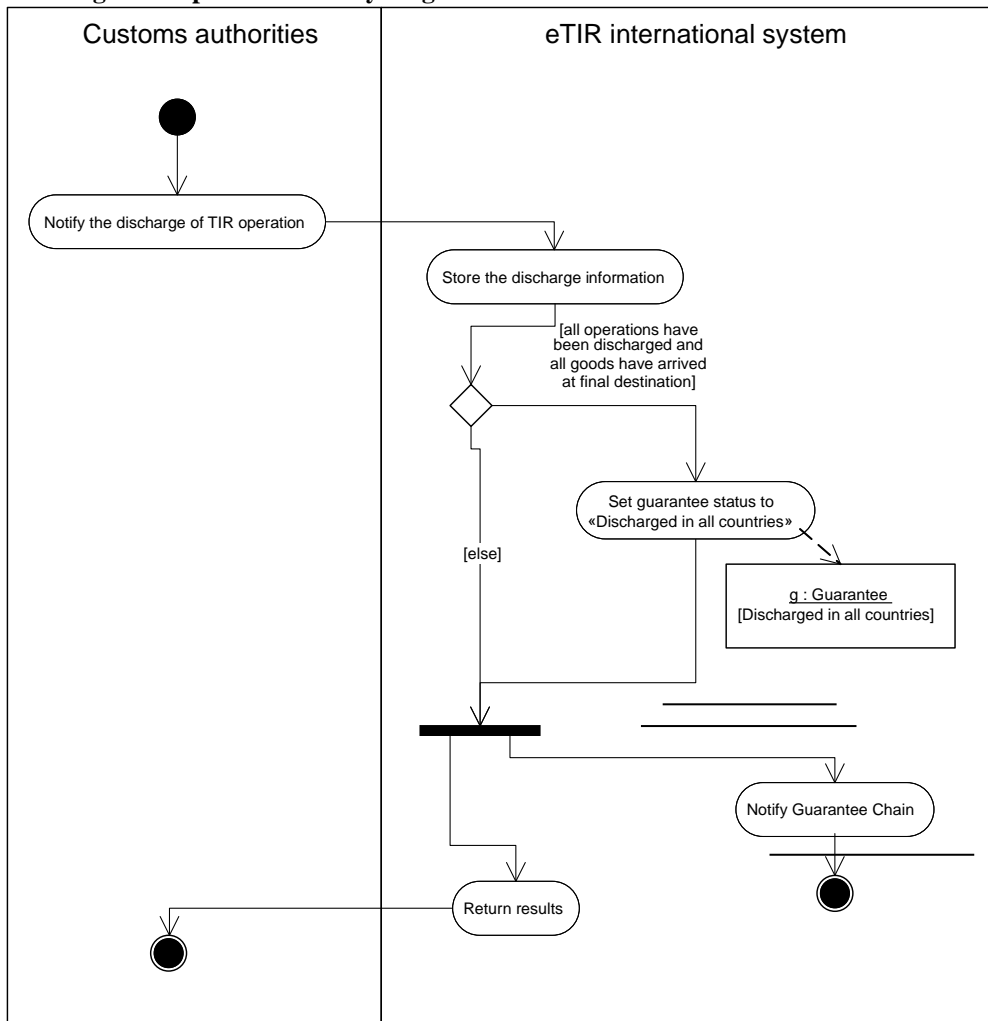
Table 11

Discharge TIR operation use case description

| <i>Name</i> | <i>Discharge TIR operation use case</i> |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Description | Customs authorities provide the eTIR international system with information regarding the discharge of a TIR operation. |
| Actors | Customs authorities |
| Performance Goals | |
| Preconditions | - |
| Postconditions | - |
| Scenario | Customs authorities send a message to the eTIR international system notifying that a TIR operation has been discharged. The eTIR international system stores the information and notifies the guarantee chain of the discharge of the TIR operations constituting a single TIR transport. When all goods have reached their final destination and all TIR operations covered by the guarantee have been discharged, the status of the guarantee is changed to “discharged in all countries”. |
| Alternative Scenario | Fallback scenario If electronic messages cannot be exchanged with the eTIR international system, customs authorities will nevertheless send the discharge message at a later stage. |
| Special requirements | - |
| Extension Points | - |
| Requirements Covered | - |

3.2.9 Discharge TIR operation activity diagram

Figure 14
Discharge TIR operation activity diagram



3.2.10 *Notify guarantee chain use case description*

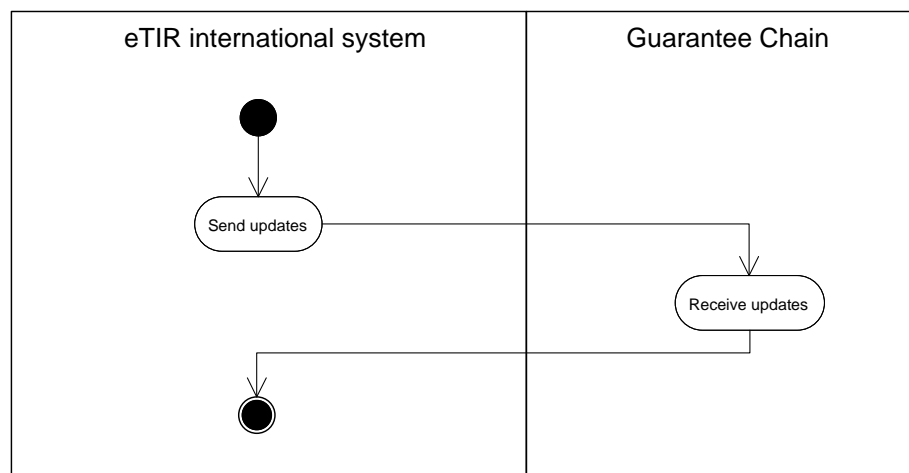
Table 12

Notify guarantee chain use case description

| Name | <i>Notify guarantee chain use case</i> |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Description | The eTIR international systems notifies the guarantee chain of changes in the information related to a guarantee it has issued. |
| Actors | Guarantee chain |
| Performance Goals | |
| Preconditions | - |
| Postconditions | - |
| Scenario | The eTIR international system notifies the guarantee chain of changes in the information related to a guarantee it has issued by sending an electronic message. |
| Alternative Scenario | Fallback scenario In case the computer system of the guarantee chain cannot be reached, the eTIR international system will continue to try sending the information. A monitoring system will detect problems and trigger prompt and appropriate reactions. |
| Special requirements | - |
| Extension Points | - |
| Requirements Covered | - |

3.2.11 *Notify guarantee chain activity diagram*

Figure 15

Notify guarantee chain activity diagram

3.2.12 *Notify subsequent Countries use case description*

Table 13

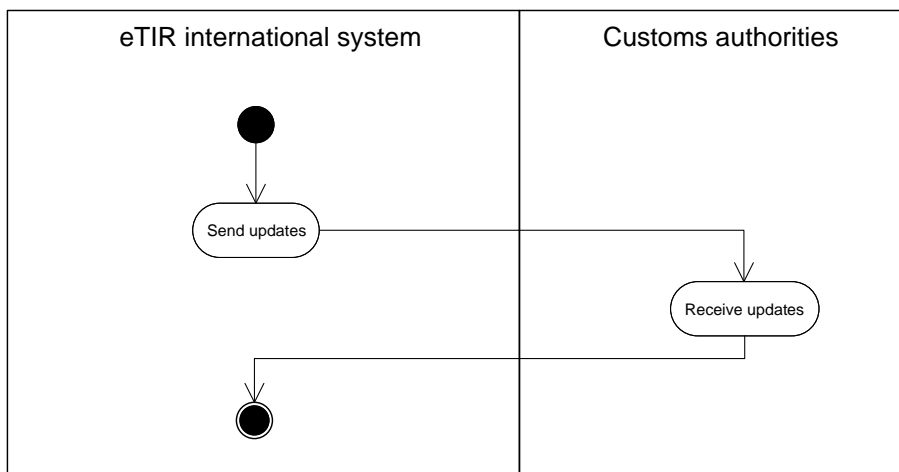
Notify subsequent Countries use case description

| Name | <i>Notify subsequent Countries use case</i> |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Description | The eTIR international system notifies customs authorities of information related to a consignment that will transit their territory. |
| Actors | Customs authorities |
| Performance Goals | |
| Preconditions | - |
| Postconditions | - |
| Scenario | The eTIR international system notifies customs authorities of information related to consignments that will transit their territory by sending them electronic messages. |
| Alternative Scenario | Fallback scenario In case a national system is not available, the eTIR international system will continue to try sending the information. A monitoring system will detect problems and trigger prompt and appropriate reactions. |
| Special requirements | - |
| Extension Points | - |
| Requirements Covered | - |

3.2.13 *Notify subsequent Countries activity diagram*

Figure 16

Notify subsequent Countries activity diagram



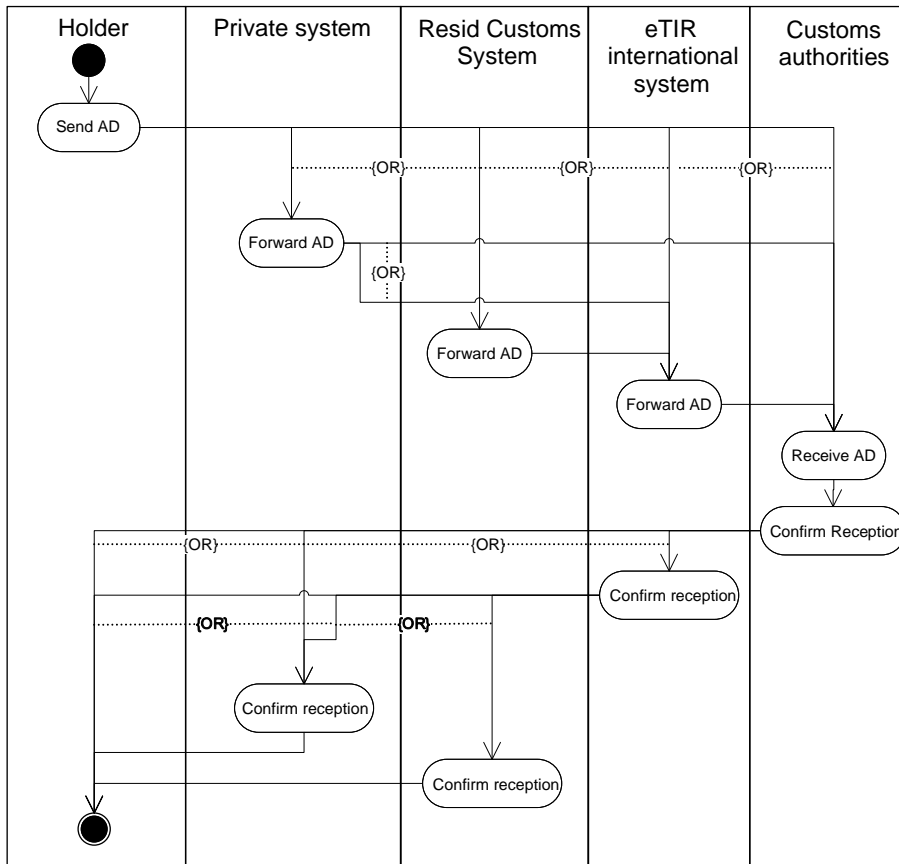
3.2.14 *Advance data use case description*

Table 14
Advance data use case description

| <i>Name</i> | <i>Advance data use case</i> |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Description | <p>Sending advance data covers 3 cases: sending advance TIR data, sending advance amendment data or cancelling advance data.</p> <p>The holder transmits advance TIR data to the eTIR international system, either directly via a declaration mechanism provided by the customs authorities of his/her country of residence or a private international declaration mechanism, which will then forward the data to the customs authorities of the country of first customs office of departure.</p> <p>Before the declaration is accepted, the holder may send a cancel advance data message to cancel previously sent advance TIR data.</p> <p>Once the declaration has been accepted by customs, the holder may then transmit advance amendment data to request an amendment to the accepted declaration data. The holder may then also send a cancel advance data message to cancel previously sent advance amendment data.</p> |
| Actors | Holder, Customs authorities, private provider of an international declaration services (e.g. guarantee chain). |
| Performance Goals | |
| Preconditions | The holder, the customs system of the country of residence of the holder or the private provider of an international declaration services is registered in the authentication database (see 1.3.2.9). |
| Postconditions | - |
| Scenario | . |
| Alternative Scenario | <p>Fallback scenario</p> <p>In case transmission by means of web services is not available, the holder should use other available declaration mechanisms.</p> |
| Special requirements | - |
| Extension Points | - |
| Requirements Covered | - |

3.2.15 Advance data activity diagram

Figure 17
Advance data activity diagram



3.2.16 Refusal to start TIR operation use case description

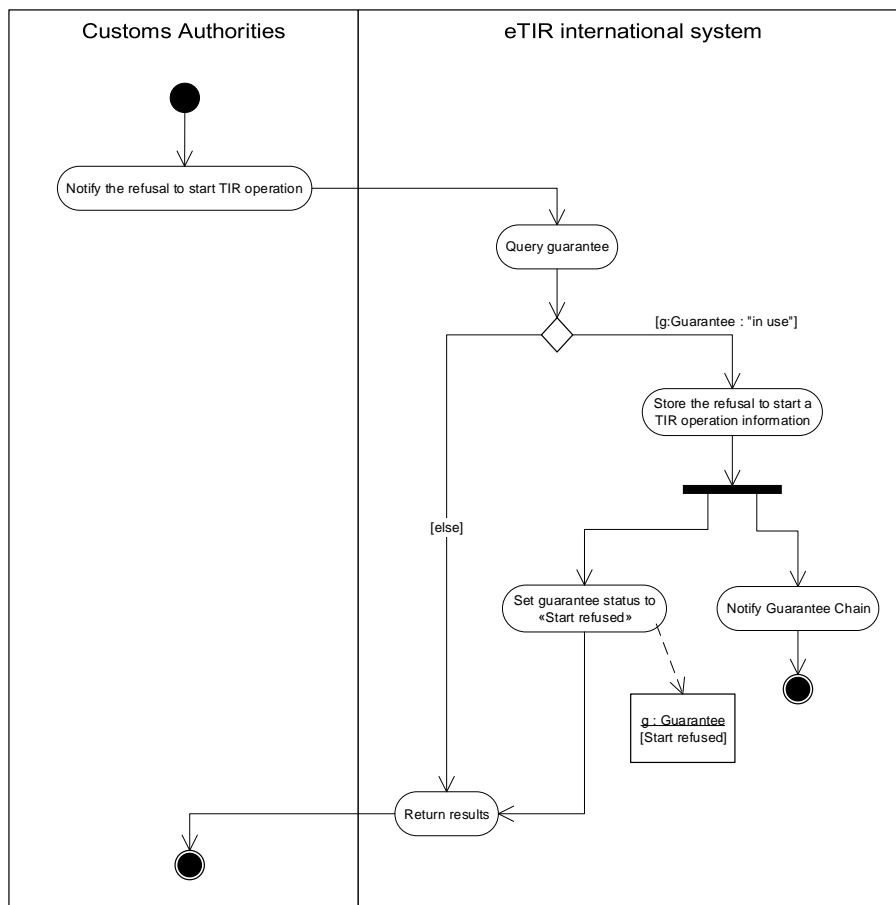
Table 15
Refusal to start TIR operation use case description

| | |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Name | Refusal to start a TIR operation use case |
| Description | Customs authorities provide the eTIR international system with information regarding the refusal to start a TIR operation. |
| Actors | Customs authorities |
| Performance Goals | - |
| Preconditions | - |
| Postconditions | - |
| Scenario | Customs authorities send a message to the eTIR international system notifying that they refused to start a TIR operation (including the reason). The eTIR international system saves the information and notifies the guarantee chain of the refusal to start a TIR operation. |
| Alternative Scenario | Fallback scenario If electronic messages cannot be exchanged with the eTIR international system, the information regarding the refusal to start a TIR operation should be provided on the accompanying document. Customs authorities will nevertheless send the refusal to start electronic message at a later stage. |

| | |
|----------------------|-------------------------------------------|
| Name | Refusal to start a TIR operation use case |
| Special requirements | - |
| Extension Points | - |
| Requirements Covered | - |

3.2.17 Refusal to start TIR operation activity diagram

Figure 18
Refusal to start TIR operation activity diagram



3.2.18 Accident or incident use case description

Table 16
Accident or incident use case description

| | |
|-------------------|---------------------------------------------------------------|
| Name | Accident or incident use case |
| Description | An Accident or incident happens en route. |
| Actors | Customs authorities, other authorities en route (e.g. police) |
| Performance Goals | - |
| Preconditions | - |
| Postconditions | - |

| | |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Name | <i>Accident or incident use case</i> |
| Scenario | Authorities en route fill in the certified report at the back of the accompanying document. At the first opportunity, customs authorities provide the eTIR international system with information regarding the accident or incident, either by updating the TIR transport information, if the TIR transport could continue, or by sending a termination message with type “Accident or incident” in case the TIR transport could not be resumed. |
| Alternative Scenario | Fallback scenario If electronic messages cannot be exchanged with the eTIR international system, information regarding the accident or incident is already available in the certified report and customs authorities shall amend the accompanying document accordingly. Customs authorities will nevertheless send the required electronic messages at a later stage. |
| Special requirements | - |
| Extension Points | - |
| Requirements Covered | - |

3.2.19 *Accident or incident activity diagram*

Figure 19
Accident or incident activity diagram

