



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****Third session**

Geneva, 13–15 September 2021

Item 4 (a) of the provisional agenda

eTIR conceptual, functional and technical documentation version 4.3:**Introduction****Background, introduction, vision and TIR procedure domain****Revision**

Note by the secretariat

I. 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 ToR² (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 Working Party on Customs Questions affecting transport (WP.30).

This document presents the history of WP.30, the Administrative Committee of the TIR Conversion (AC.2) and the Informal Ad Hoc Expert Group on Conceptual and Technical Aspects of Computerization of the TIR Procedure (GE.1) decisions related to the eTIR project since February 2018 till today, an introduction as well as the vision and the TIR procedure domain.

II. Background

At its 149th session (June 2018), the Working Party endorsed the report of the twenty-seventh session of GE.1, contained in document ECE/TRANS/WP.30/2018/10 and, further to the prolongation of the GE.1 mandate by ITC, encouraged all contracting parties to take part in the twenty-eighth session, which would take place in Geneva on 28 and 29 June 2018 (ECE/TRANS/WP.30/298, para. 13).

At its twenty-eighth session, the Expert Group carefully considered the various amendment proposals and considerations contained in Informal documents GE.1 No. 4 and 5 (2018) and took the following decisions: (ECE/TRANS/WP.30/2018/22, paras. 18–24)

1. Accompanying document

The Expert Group considered the draft accompanying document and the summary description of its usage as prepared by the secretariat. It took note of the positive feedback received from the Netherlands and agreed with the changes proposed by Serbia.

Furthermore, the Expert Group considered the proposal for the accompanying document in combination with Chapter 1.2 (fallback) of the eTIR functional specifications and highlighted several discrepancies, in particular the possibility to begin a TIR transport under the fallback procedure. It also took note that Chapter 1.2 still makes reference to a fallback eTIR website and noted that developing such a web site could be quite costly. It agreed to consider the possibility to replace the eTIR fallback website by systems developed by the guarantee chain and welcomed the offer by the IRU to give a demonstration at the next session on the so-called “IRU Customs Portal”. The Expert Group also requested the secretariat to propose a revised text of Chapter 1.2 which would reflect those changes.

2. Hash code

The Expert Group took note of the proposal by the secretariat to include a hash code in the advance cargo information messages to ensure that the information provided by the transport operator would not be modified along the route. However, the Expert Group was of the view that the inclusion of the hash code would complicate the submission of the advance cargo information for transport operators. Furthermore, it underlined that, upon registration of the declaration by the custom office of departure in the eTIR international system, the data was not only forwarded to all customs offices en route and of destination but also to the guarantee chain. Thus, the information could easily be shared with the transport operator to ensure that the data is identical to the data contained in the advance cargo information he submitted originally, but could also be used as evidence in case of claims or court cases.

In view of the above, the Expert Group decided not to revert to this matter in the future.

3. Reconciliation procedure

The Expert Group discussed the various options to introduce a reconciliation procedure in eTIR, as contained in Informal document GE.1 No. 5 (2018). The Expert Group was of the view that expanding the reconciliation procedure to all eTIR messages would go beyond the scope of Annex 10 and, thus, the appropriate provisions would have to be added in Annex 11 or in the eTIR specifications. The Expert Group also pointed out that any request to start a reconciliation procedure should be addressed to national helpdesks and welcomed the proposal by the EC to present at the next session the rules and procedures related to communications among helpdesks in the New Computerized Transit System (NCTS).

The Expert Group also underlined that in some cases, the reasons for missing messages could be more functional (e.g. the start of a claims procedure) and that this should also be taken into account when elaborating a procedure to reconcile messages missing for technical reasons. At its 150th session (October 2018), the Working Party endorsed the report of the twenty-eighth session of the Informal Ad hoc Expert Group on Technical and Conceptual Aspects of Computerization of the TIR procedure (GE.1), which took place in Geneva (28 and 29 June 2018), as contained in document ECE/TRANS/WP.30/2018/22. It also took note that GE.1 would hold its twenty-ninth session on 14 and 15 November 2018 in Rotterdam, the Netherlands, at the kind invitation of the Dutch customs authorities. GE.1 will continue its discussions on, inter alia, fallback procedures, reconciliation procedures and the use of pointers for errors and amendments. The Working Party supported the continuation of the work of GE.1 in 2019 and requested the secretariat to seek prolongation of the mandate of GE.1 for the year 2019 from ITC (ECE/TRANS/WP.30/300, para. 16).

At its twenty-ninth session, the Expert Group considered the various amendment proposals and considerations contained in Informal documents GE.1 No. 9 (2018) and took the following decisions: (ECE/TRANS/WP.30/2019/2, paras. 16–22)

1. Accompanying document and fallback procedure

The Expert Group welcomed a demonstration of the Custom Portal developed by the IRU and extensively discussed the revised Chapter 1.2 of the eTIR Concepts document. The Expert Group agreed with the proposed fallback procedure and, consequently, mandated the secretariat to update the fallback part of the use case descriptions contained in Chapter 3 of the document. Furthermore, the Expert Group proposed the inclusion of activity diagrams or tables to further clarify the fallback procedure. Finally, acknowledging the difficulty to start an electronic fallback procedure if the Information and Communication Technologies (ICT) system of the office of departure would be unavailable, the Expert Group considered the possibility that the guarantee chain could issue to transport companies using eTIR a TIR Carnet with a very long validity, or no validity date, which could be used if an eTIR transport could not be started for technical reasons at the office of departure.

2. Reconciliation procedure

The Expert Group discussed the three levels of reconciliation foreseen by the European Union New Computerized Transit System (NCTS): (1) NCTS allows for resending messages; (2) direct contact (email or phone) with focal points from other administrations is used in cases where messages cannot be resent by the system (this network of focal points is also used to authorize the start of a procedure under fallback); (3) the European Union help desk assists in solving systemic issues.

The Expert Group welcomed the offer by the representative of the EC to submit, for its next session, a copy of the guidelines that set the obligations of the European Union network of focal points.

3. Pointers

The Expert Group welcomed a presentation by the Netherlands and discussed the various options available in the World Customs Organization (WCO) data model to use pointers to indicate the position of errors or amendments in messages. The Expert Group was of the view that the XPath standard was the best option, that eTIR messages should be amended accordingly and that the appropriate Data Maintenance Requests (DMRs) should be submitted to WCO.

4. Advance cargo information

Considering the discussions which took place at WP.30 on the matter, the Expert Group proposed the term “advance TIR data” as a possible replacement for the term “advance cargo information”.

5. Amended list of messages

The Expert Group agreed to update Table 1.2 in Chapter 2.4.2 of the eTIR Concepts document and mandated the secretariat to include this change in the list of approved amendments to the eTIR specifications. At its 151st session (February 2019), the Working Party adopted the report of the twenty-ninth session of the Informal Ad hoc Expert Group on Conceptual and Technical Aspects of Computerization of the TIR Procedure (GE.1) contained in document ECE/TRANS/WP.30/2019/2, and thanked the Dutch customs authorities for their kind invitation (14-15 November 2018, Rotterdam, Netherlands). It also thanked the customs administration of Hungary for its kind offer to host the thirtieth session of GE.1 in Budapest. At the request of the Russian Federation, the Working Party mandated the secretariat to submit the next version of the eTIR specifications, once finalized by GE.1, as official documents for consideration at a future session of the Working Party (ECE/TRANS/WP.30/302, para. 15).

At its 152nd session (June 2019), the Working Party took note that the thirtieth session of WP.30/GE.1 would be held on 18 and 19 September 2019 in Budapest, at the kind invitation of the Hungarian customs authorities and encouraged active participation from all contracting parties (ECE/TRANS/WP.30/304, para. 14).

At its thirtieth session, the Expert Group carefully considered the various amendment proposals and considerations contained in Informal documents GE.1 No. 5 (2019) and took the following decisions: (ECE/TRANS/WP.30/2020/2, paras. 21–33)

1. Accompanying document and fallback procedure

The Expert Group considered the draft accompanying document, the summary description of its usage, the revision of Chapter 1.2 (fallback) of the eTIR functional specifications and Chapter 3 of the eTIR concepts document as well as four amendments proposed under paragraph 5 of Informal documents GE.1 No. 5 (2019).

With minor editorial changes to the wording of the amendments proposed under paragraph 5 of Informal documents GE.1 No. 5 (2019), the Expert Group agreed with the proposed amendments. Further to a presentation by an expert from the European Commission, the Expert group also requested the secretariat to prepare activity diagrams to further clarify the fallback procedures, for its next session.

2. Reconciliation procedure

The Expert Group thanked the experts from the European Commission for sharing the documentation regarding the National Service Desks, an essential element of the reconciliation procedure of the New Computerized Transit System (NCTS) and took note that the experts from the European Commission expressed doubts about the usefulness of a general reconciliation procedure in the framework of eTIR.

The Experts Group also pointed out at the lack of legal basis in the TIR Convention (other than Annex 10) and in Annex 11 for setting up a general reconciliation procedure.

However, considering the absence of IRU, which had been the main advocate of the introduction of a reconciliation procedure in the eTIR specifications, the Expert Group decided to postpone the discussion on this issue to a next session. The Expert Group took this opportunity to express its regret with regard to the absence of experts from IRU at the session.

3. Pointers

The Expert Group agreed with the proposal to delete code lists 18 and 19.

4. Hash code

Recalling its discussion on the complications related to the usage of a hash code during the submission of the advance TIR data, the Expert Group agreed with all changes proposed in paragraph 14 of Informal document GE.1 No. 5 (2019).

5. Refusal to start

The Expert Group agreed with the changes proposed in paras. 15 and 16 of Informal document GE.1 No. 5 (2019), subject to the following change in the description of the fallback scenario: “[...] will nevertheless send the “refusal to start” electronic message at a later stage”.

6. Accident or incident

The Expert Group agreed with the changes proposed in in paragraph 17 of Informal document GE.1 No. 5 (2019), subject to the following change in the description of the fallback scenario: “[...] will nevertheless send the required electronic message at a later stage”.

7. Validations performed by the eTIR international system

The Expert Group took note that, according to the eTIR specifications, the eTIR international system is expected to perform strict validations with regard to the sequence of messages, the status of the holder, the mandatory nature of data elements, etc. While stressing the importance for all stakeholders to comply with standard eTIR messages, the Expert Group acknowledged that, during a transitional period, it could be envisaged, on a case-by-case basis, to accept messages which would not fully comply with the eTIR specifications, e.g. messages that would arrive out of sequence. Bearing that in mind, the Expert Group requested the secretariat to prepare a draft table presenting the possible transitional exceptions to the rules contained in the eTIR specification, for consideration at its next session.

8. Error codes

The Expert Group welcomed a presentation by the secretariat highlighting the need to improve the code list for errors (CL99). It agreed with the proposal by the secretariat and requested a revised code list of errors, for consideration at its next session.

9. Customs offices database

The Expert Group agreed with the changes proposed in paras. 21 and 22 of Informal document GE.1 No. 5 (2019) and requested the secretariat to propose an interface between the eTIR international system and the ITDB to extract information on customs offices approved for eTIR.

The Expert Group welcomed a presentation by the Chair on message specifications in spreadsheet format. It acknowledged the value of having all the information about a message presented in a single spreadsheet and the advantages of the spreadsheet format versus a conventional word processor or PDF format. However, in order not to overly complicate the publication of the eTIR specifications, the Expert Group was of the view that the message specifications in spreadsheet format, would not be part of the eTIR specification but made available for download on the eTIR website, as a tool to assist with

the national implementation of eTIR. At its 153rd session (October 2019), the Working Party took note that the Informal Ad hoc Expert Group on Conceptual and Technical Aspects of Computerization of the TIR Procedure (GE.1) held its thirtieth session on 18 and 19 September 2019 in Budapest, at the kind invitation of the Hungarian customs administration. It welcomed the participation of the Russian Federation and noted that GE.1 had discussed, inter alia, some issues on which contracting parties had not yet reached consensus when discussing draft Annex 11. At the session, the Expert Group had also discussed a survey on the connection to the eTIR international system and the so-called “opting out” clause, noting that Montenegro, Norway and Switzerland had indicated that they might make use of the “opting out” clause, due to the low volume of TIR transport versus the considerable costs of linking up to the eTIR international system. The Working Party took note that GE.1, while trying to clarify which customs offices should receive advance TIR data, had made proposals to slightly amend Article 2 (b) and Article 6 to incorporate the concepts contained in Explanatory Note 11.6.2 (which could then be deleted). In order to facilitate the discussions on draft Annex 11 at the forthcoming session of AC.2, the secretariat had circulated these proposals to all TIR contracting parties, together with proposals by the secretariat on editorial changes and additional amendments in other articles, aimed at ensuring consistency (as reproduced in Informal document WP.30 (2019) No. 10). The Working Party had first considerations on the various proposals and generally supported the proposals by the secretariat, pending a few possible minor amendments. The Working Party requested the secretariat to transmit the outcome of its discussions to the Administrative Committee. The Working Party also took note that on the issue of the authentication of the holder, GE.1 welcomed a presentation by the experts from the Russian Federation on the use of trusted third parties (TTP) for cross border recognition of electronic signatures. The presentation had raised interest and numerous questions, particularly on the mandatory usage of electronic signatures by all contracting parties, the costs for setting up national and central TTPs as well as roles and responsibilities of TTPs. The Working Party took note that GE.1 had decided to continue considering this issue at its next session.

At the invitation of the secretariat, the Working Party considered converting GE.1 into a formal group of experts. The conversion should facilitate the participation of delegations, in particular for French and Russian speaking delegations, in the work and lead to preparing a version of the eTIR specifications that would be considered and adopted after the entry into force of Annex 11 by the contracting parties which would be bound by Annex 11. The Working Party considered document ECE/TRANS/WP.30/2019/9, which provided details of the rationale of this conversion as well as the draft Terms of Reference of GE.1. The Working Party established that, since the end of its originally mandated tasks in 2015, the secretariat had convened GE.1 whenever issues related to maintaining or amending the eTIR specifications so required, de facto once or twice per year. At the request of WP.30, ITC prolonged the mandate of GE.1 every year from 2016 onwards. The Working Party considered the pros of having the status of GE.1 formalized (particularly, the availability of official documents in the three ECE languages and interpretation during sessions), versus continuing the current practice. The Working Party considered that any request to the Executive Commission (EXCOM) could only be launched after having received endorsement from ITC at its forthcoming session at the end of February 2020. In order not to frustrate the excellent work performed by GE.1 in its informal status, the Working Party requested the secretariat to seek endorsement from ITC to launch the formalization of GE.1 by EXCOM, while maintaining GE.1 as an informal group until such formalization was obtained. At the request of the delegation of the European Union, the secretariat was asked, upon submission of the proposal for conversion to ITC, that GE.1 would meet, at least, twice in 2020 and, at least, twice in 2021, so that more sessions of GE.1 could possibly be organized, with shorter intervals. The delegation of Ukraine stressed the importance of providing pertinent reasons to warrant the conversion (ECE/TRANS/WP.30/306, paras. 10-14).

At its 154th session (February 2020), the Working Party endorsed the report of the thirtieth session of the Informal Ad hoc Expert Group on Conceptual and Technical Aspects of Computerization of the TIR Procedure (GE.1), convened in Budapest on 18–19

September 2019, at the kind invitation of the Hungarian customs administration, as contained in document ECE/TRANS/WP.30/2020/2. In particular, the Working Party took note of the final results of the GE.1 survey on the connection to the eTIR international system and the “opting out” of Annex 11, as contained in Annex III of document ECE/TRANS/WP.30/2020/2. The Working Party took note that the thirty-first session of GE.1 would take place on 10–11 March 2020 in Geneva. It further noted that the meeting will focus on (1) several amendment proposals to be possibly included in version 4.3 of the eTIR specifications, (2) considerations on the introduction of the concept of trusted third parties (TTP) as proposed by the Russian Federation and (3) considerations of a list of questions, prepared by the European Commission, on the application of various provisions of the TIR Convention for TIR transports carried out under the eTIR procedure, together with tentative answers. The Working Party decided to open the list of questions mentioned, so that other customs administrations and national associations could add their questions with regard to the application of various provisions of the TIR Convention (including Annex 11) for TIR transports carried out under the eTIR procedure. It requested the secretariat to invite, by email, customs and associations TIR focal points as well as eTIR focal points, to send questions to the secretariat and to publish these as documents for consideration of GE.1 or the Working Party (depending on the nature of the questions), together with tentative answers. Furthermore, in order to ensure the involvement of all TIR contracting parties, the Working Party requested that, as long as GE.1 remains an informal group working in English only, all questions and answers should be published as official documents for the Working Party, thus ensuring their translation in all ECE working languages. Finally, the Working Party proposed to publish the list of questions, together with the answers, on a new question and answer (Q&A) page of the eTIR website. (c) Conversion of the Informal Ad hoc Expert Group on Conceptual and Technical Aspects of Computerization of the TIR Procedure into a formal Group of Experts.

The secretariat informed WP.30 that the request to prolong the mandate of GE.1 to the year 2020 together with the request to endorse the establishment of GE.1 as a formal Expert Group had been included in the agenda of ITC at its eighty-first session (see ECE/TRANS/293/Add.1, agenda item 4, (k)) (ECE/TRANS/WP.30/308, paras. 18–21).

The Committee recalled that, at its previous session, it had accepted proposals amending certain provisions of the body of the TIR Convention and introducing new Annex 11, as contained in document ECE/TRANS/WP.30/AC.2/2019/9/Rev.2 as amended, pending formal adoption at its current session. In order to facilitate the decision-making process at the national level, the Committee had decided that the jointly formulated and accepted wording at the previous session should be presented as final text. The Committee had requested the secretariat to attach the final text as Annex to the final report of the session and issue it as official document to facilitate formal adoption at the current session.

The Committee formally adopted document ECE/TRANS/WP.30/AC.2/2020/7 which includes the finalized text of proposals amending certain provisions of the body of the TIR Convention and introducing new Annex 11, subject to the following editorial corrections: (1) in the English text of Article 58, the correct term was “quater” and not “quarter”, as mistakenly used in the report of the Committee at its previous session (ECE/TRANS/WP.30/AC.2/145, Annex I); (2) after the header of Article 58 quater, the title of the Article “Technical Implementation Body” should be inserted and (3) as previously agreed by the Committee, the words “of the holder” should be deleted from the title of Annex 11, Article 7. The secretariat was asked to attach the full final text of the proposals, in English, French and Russian as Annex to the final report of the session. The Committee requested the secretariat to send the proposals, as separate package, to the Secretary-General for circulation and formal acceptance by contracting parties.

The Executive Secretary of ECE, the director of the Sustainable Transport Division and various delegations congratulated the Committee with this historical achievement. The delegation of the European Union recalled the many years and resources that all stakeholders have had to invest, at times under severe pressure, to arrive at this moment. eTIR was fully in line with the European Union’s customs policy that, as far as possible, all

communications with customs should be in electronic format. Having said this, it was also clear that further work would only start as of now: to finalize the eTIR specifications and initiate pilots based on them. The delegation of the Russian Federation also stressed that there was still a long way to go and reiterated the importance of the speedy conversion of GE.1 into a formal Group of Experts. The observer of EEC stated that there was a crucial need for the eTIR specifications to be finalized for the understanding of his constituency how the computerization of the TIR procedure would be pursued.

During the adoption, the Committee reiterated the crucial importance of the proposals, introducing eTIR, for the future of the TIR Convention. Therefore, contracting parties not (yet) interested in computerizing the TIR procedure for their territory, were strongly urged to use the possibility stipulated by newly created Article 60 bis, paragraph 1 and notify, upon expiry of the objection period of twelve months, the Secretary-General of the United Nations of their non-acceptance of Annex 11, rather than raising an objection under Article 59, paragraph 3, which would make the complete eTIR package null and void for all TIR contracting parties. The Committee instructed the secretariat to request the Secretary-General to include this statement in the depositary notification by which the eTIR package would be circulated among contracting parties.

At its 31st session, the Expert Group carefully considered the various amendment proposals and considerations contained in Informal documents GE.1 No. 6 (2020) and took the following decisions: (ECE/TRANS/WP.30/2020/5, paras. 19–43)

1. Accompanying document and fallback procedure

The Expert Group took note that the secretariat had not been in a position to prepare activity diagrams to further clarify the fallback procedures and agreed to consider this matter at its next session.

2. Reconciliation procedure

The Expert Group recalled that the TIR Convention (other than Annex 10) and Annex 11 do not provide a legal basis for setting up a general reconciliation procedure and that the relevant fallback procedures are already envisaged in the specifications, i.e. in case a message cannot be sent due to a technical problem, the sender should ensure that the message is sent at a later stage when the problem is resolved. However, the Expert Group agreed with the proposal of IRU to make a presentation at the next session on how it has set up an electronic reconciliation procedure with some customs administrations connected to the Real Time SafeTIR and TIR-EDP systems. The EC reiterated its opinion of the reconciliation procedure described in Informal document GE.1 No. 5 (2018), i.e. to leave the reconciliation procedure on paper and limit any automatic procedure to missing messages.

3. Validations performed by the eTIR international system

The Expert Group took note that, due to shifting priorities in the development roadmap of the eTIR international system and also the fact that IRU had just started working with the secretariat to identify potential cases that would require transitional exceptions to the rules contained in the eTIR specifications, this item of the agenda would be postponed for consideration by the Expert group at one of its subsequent sessions.

4. Error codes

The Expert Group welcomed a presentation by the secretariat on the proposal for a new code list for errors (CL99). In reply to several questions raised by members of the audience, the secretariat confirmed that this list was a living document that would still evolve as needed and that its latest version was available on a new web site that would serve as a collaboration portal for all stakeholders willing to interconnect with the eTIR international system.

The Expert Group agreed with the proposal for the new code list for errors (CL99), subject to the following change in the naming of the error codes 100, 200 and 300 where the word “Bad” would be replaced with “Invalid”. Furthermore, additional error codes should, possibly, be added to verify conditions C003, C006, C007 and C009.

5. Customs offices database

The Expert Group welcomed a presentation by the secretariat on the new ITDB web service for the validation of eTIR customs offices. The Expert Group was informed about the workflows, content, technologies and error codes related to the new I19/I20 messages, proposed to validate customs offices. The Expert Group also welcomed a live demonstration of the web services, which showed the current progress and the main features of the proposed implementation. The Expert Group agreed with the proposal to align the error codes with the eTIR error code list proposed by the secretariat and saw no objection to giving access to this new web service to all TIR contracting parties. The Expert Group also supported the idea to have a standard format for the identification of customs offices (similarly to the standard format used for the TIR Carnet holder code) and was of the view that a proposal should be submitted to TIRExB, possibly after consultation with IRU. Finally, the Expert Group requested the inclusion of the new I19/I20 messages in the next version of the eTIR specifications.

6. Declaration data and advance amendment data

The Expert Group took note that AC.2, at its seventy-first session, in order to clarify the difference between the data sent to the country of first departure and subsequent amendments to the declaration, had decided to make a distinction between:

- The term "advance TIR data", which shall mean the data submitted to the competent authorities of the country of departure, in accordance with the eTIR specifications, of the intention of the holder to place goods under the eTIR procedure.

- The term "advance amendment data", which shall mean the data submitted to the competent authorities of the country in which an amendment to the declaration data is requested, in accordance with the eTIR specifications, of the intention of the holder to amend the declaration data.

As a consequence, the Expert Group decided to introduce the definition of the term "advance amendment data" to the TIR glossary, contained in Annex II to the Introduction of the eTIR conceptual, functional and technical documentation, with a reference to Annex 11 Article 2 (d).

Furthermore, the Expert Group decided that in order to better implement this change, the current E9 message should only be used to send advance TIR data and that two separate messages should be created to cancel advance TIR data and send advance amendment data. The Expert Group requested the secretariat to make the required changes in the next version of the eTIR specifications.

Finally, considering that Annex 11 refers to “declaration data” for data that have been validated by the customs office of departure in the process of accepting the declaration, the Expert Group decided to rename the I7 and I8 messages as “Record declaration data”, and “Record declaration data results”, respectively. The Expert Group instructed the secretariat to make the necessary changes in the next version of the eTIR specifications, including in the eTIR concept document, where the concept of recording or amending a “consignment” should be changed into recording or amending a “declaration”.

7. Message Reference Number and Functional Reference

The Expert Group agreed with the proposal to use unique values in the Message Reference Number attribute when sending a message request and mapping the same value in the Functional Reference attribute of the message response. The unique value should be

the concatenation of a unique value identifying the sending entity with a Globally Unique Identifier (GUID).

The Expert Group also agreed that, in order to avoid potential confusion between the Message Reference Number attribute of the eTIR messages and the Master Reference Number attribute used in some NCTS messages, the Message Reference Number attribute of all eTIR messages should be renamed as “Message Identifier” which also better reflects its purpose.

8. Notifications to customs related to TIR operations

The Expert Group noted that according to the data exchange use case diagram (contained in Figure 10 of the eTIR concepts document v.4.2a), information about TIR operations are notified to the guarantee chain but not to customs administrations. The sequence of messages, as contained in Annex I of Informal document GE.1 No.5 (2020), follows the same logic. However, the I15 message (notification to customs) contains sections dedicated to the notification of the start, refusal to start and termination of TIR operations. 33. The Expert Group, while acknowledging the discrepancy, decided that further analysis was required and that it would revert to this issue at its next session.

9. Cancellation of the advance TIR data

The Expert Group agreed to remove the restricted code 1 (Cancellation) from the Message Function attribute of the Advance TIR Data class of message 17 since this case cannot happen and thus, should not be implemented.

10. Issues related to cardinalities

With regard to the various issues related to cardinalities, the Expert Group took the following decisions:

(i) Declaration - Guarantee

The Expert Group noted that Figure 1.17 of the eTIR Functional specifications shows that a declaration can refer to multiple guarantees. This can also be seen in the definitions of the messages in Chapter 2.5, e.g. in message E9, where the cardinality of the guarantee is 0..unbounded. However, Figure 1.18 shows that a TIR operation refers to one and only one guarantee.

The Expert Group was of the view that the use of multiple TIR Carnets was a reality in the paper environment, in particular for TIR transport with more than ten TIR operations, but that, in an electronic environment, this is dealt by simply issuing guarantees which allow more TIR operations. Consequently, the Expert Group decided that the class diagrams and the relevant messages should be amended to limit the cardinality of the guarantee to 1..1. It also requested the secretariat to ask WP.30 to confirm this particular change.

(ii) Start - National itinerary

The Expert Group could not reach a conclusion on this question and requested IRU to look into a number of archived TIR Carnets to check whether a case had already occurred where more than one customs office had to be declared as the national itinerary for a TIR operation, specified by the customs office of entry.

Further to the intervention of an expert from the EC who mentioned that national itineraries were composed of several countries and not customs offices in NCTS, the Expert Group decided to ask the advice of TIRExB on this point in order to determine what forms could take a national itinerary so that it could be properly modelled in the eTIR specifications.

(iii) Start - Customs office

The Expert Group decided that one and only one customs office can start a TIR operation. Therefore, the current cardinality on this aspect in message E6 should be corrected accordingly (from 0..unbounded to 1..1).

(iv) Consignment item - UCR

The Expert Group decided that zero or one UCR can be attached to a consignment item. Therefore, the current cardinality on this aspect in messages E6 and I15 should be corrected accordingly (from 0..unbounded to 0..1).

(v) Consignor - Address

The Expert Group decided that a consignor can have zero or one address. Therefore, the current cardinality on this aspect in messages E6 and I15 should be corrected accordingly (from 0..unbounded to 0..1).

Finally, the Expert Group took note with interest of the introduction of Informal document GE.1 No. 7 (2020) by IRU and, considering the late submission of the document, decided that it will revert to it at its next session.

At its 155th session (October 2020), the Working Party noted that the Informal Ad hoc Expert Group on Conceptual and Technical Aspects of Computerization of the TIR Procedure (GE.1) held its thirty-first session on 10 and 11 March 2020 in Geneva, endorsed its report, contained in document ECE/TRANS/WP.30/2020/5, and confirmed that, for the eTIR procedure, one and only one guarantee per transport should be used. The Working Party considered and approved the list of questions and answers (Q&A) on the application of various provisions of the TIR Convention for TIR transports carried out under the eTIR procedure, contained in document ECE/TRANS/WP.30/2020/6 and requested the secretariat to post the list of Q&A on the eTIR website. It also reiterated that contracting parties and national associations could further contribute to this list by sending questions to the secretariat. Finally, the Working Party considered document ECE/TRANS/WP.30/2020/7, containing amendment proposals to the eTIR conceptual, functional and technical documentation, already approved by GE.1 during its twenty-seventh, twenty-eighth, twenty-ninth, thirtieth and thirty-first sessions. It noted that those amendments will be integrated into version 4.3 of the eTIR specifications that should be submitted to WP.30/GE.1 in 2021.

The Working party noted that, further to its request and approval by ITC, EXCOM agreed, on 20 May 2020, to the conversion of GE.1 into the formal “Expert Group on Conceptual and Technical Aspects of Computerization of the TIR Procedure” (WP.30/GE.1). However, due to a financial liquidity crisis at the United Nations and the ongoing COVID-19 pandemic, the secretariat could not obtain slots in 2020 to organize sessions of WP.30/GE.1 with interpretation in the three ECE working languages. Consequently, and in order to make progress on the preparation of the crucially needed version 4.3 of the eTIR specifications, the secretariat, after consultation with TIR and eTIR focal points, decided to organize a preparatory information meeting (in English only) of WP.30/GE.1 on 3 and 4 November 2020. For 2021, sessions of WP.30/GE.1 are planned for 27–29 January 2021, 25–27 May 2021 and 13–15 September 2021 (ECE/TRANS/WP.30/310, paras. 14–17).

The Group of Experts on Conceptual and Technical Aspects of Computerization of the TIR Procedure (further referred to as “the Group of Experts”) considered document ECE/TRANS/WP.30/GE.1/2021/19, which contains a list of proposed amendments to version 4.2 of the eTIR specifications, and took the following decisions (ECE/TRANS/WP.30/GE.1/2, paras. 29-58):

1. Accompanying document and fallback procedure

The Group of Experts took note that the secretariat did not yet have the time to

prepare the activity diagrams for the fallback procedures but that they will be submitted to the second session of the Group of Experts.

2. Reconciliation procedure

The Group of Experts were of the view that, in view of the expected time frame leading to the finalization of version 4.3 of the eTIR specifications, further consideration of the reconciliation procedure and a possible change in the scope of the project could only be discussed during the preparation of the next version of the eTIR specifications.

3. Validations performed by the eTIR international system

The Group of Experts noted that, to date, the secretariat had not received any requests for transitional exceptions, which would either change the status of data elements (mandatory vs optional vs dependent) or allow rules or conditions contained in the eTIR specification not to apply. However, if concrete situations appear when connecting customs systems to the eTIR international system, they will be brought to the attention of the Group of Expert.

4. Minor corrections

The Group of Experts agreed to the corrections of several minor issues of editorial, consistency or logical nature identified by the secretariat during the development and improvement of the eTIR international system.

5. Message Identifier

The Group of Experts agreed with the proposal of only using a GUID (v4) for the value of the “Message Identifier” attribute.

6. Functional Reference

The Group of Experts agreed with the proposal to rename the “Functional Reference” attribute in eTIR messages to “Original Message Identifier”.

7. Cancel advance data and Advance amendment data

The Group of Experts agreed with the proposals regarding the names, definitions and structures of messages E9 to E14. The Group of Experts also noted that Experts from the European Commission could propose at the second session the introduction of a rule for message E11, ensuring that information related to the goods already forming part of the declaration data should, in general, not be changed.

8. Add a new rule to the Version attribute

The Group of Experts agreed with the proposals to remove the version attribute from message E9 and to include a new rule to the version attribute, stressing it was a direct consequence of the separation of former message E9 into three separate messages.

9. Review of the conditions and rules

The Group of Experts decided to discuss the rules and conditions during the informal preparatory meeting for the second session on 22 January 2021.

10. Review of the code lists

The Group of Experts agreed with the proposals to restrict the use of code list 21 for the “Size” attribute in the “BinaryFile” class to the following values: byte (AD), kilobytes (2P) and megabytes (4L). The Group of Experts further supported to remove code lists 13 and 15.

11. Change in the metadata information

The Group of Experts agreed with the proposed changes to the metadata

information.

12. Change in the date formats

The Group of Experts agreed with the proposal to change the dates and date/time formats.

13. Introduction of warnings

The Group of Experts took note that, further to the discussions on this point at the informal preparatory meeting and taking into account the various concerns raised by the experts, the secretariat withdrew the proposal to introduce warning at this stage.

14. Cardinality on subcontractors

The Group of Experts agreed to change cardinality of the subcontractor to 0..n and the cardinality of its address to 0..1. The Group of Experts also recalled that condition C001 makes the address of the subcontractor mandatory on in the absence of a subcontractor's code, which is sufficient to clearly identify him/her.

15. Description of the messages E1, E3, E5, E7 and I5

The Group of Experts agreed with the proposal to change the descriptions of the messages E1, E3, E5, E7 and I5.

16. Status of the guarantee after a Refusal to start a TIR operation

The Group of Experts considered the issue related to the guarantee status following a "Refusal to Start" message and agreed to keep the "start refused" status, as it is conceptually different from the status "cancelled". Furthermore, the Group of Experts clarified that a refusal to start message can only be sent once the transport has begun. Finally, the Group of Experts agreed that the "start refused" status should not only be a terminal status, but instead, if the transport is in a position to continue its journey via a different route of return to the departure under the cover of the same guarantee, the status of the guarantee could return to "in use" after customs register the amended declaration data indicating the new itinerary.

17. Notifications to customs related to TIR operations

The Group of Experts considered the issue related to the notification of TIR operations' information to customs administration and agreed with the proposal to send a notification each time seals are affixed or changed while starting or terminating a TIR operation.

Further to a question asked by an expert from the Russian Federation, the secretariat clarified that this notification mechanism comes in addition to the query mechanism that is available at any time through the messages I5/I6 to all customs administrations along the itinerary of a TIR transport to be able to query and receive all information stored in the eTIR international system about this TIR transport, its guarantee and the holder. Furthermore, the notifications related to TIR operations will be sent in addition to the notifications that are already sent every time customs administration record declaration data (original and amendments).

18. New messages I19/I20 to validate customs offices with ITDB

The Group of Experts agreed with the proposed structures of new messages I19/I20 to validate customs offices with ITDB and their inclusion in the eTIR specifications.

19. Updated list of error codes

The Group of Experts agreed with the updated list of error codes proposed by the secretariat.

20. Guarantee types

The Group of Experts agreed with the proposal to start using code list 12 for the guarantees issued in the framework of the pilot projects. Furthermore, the Group of Experts agreed to amend the class diagram regarding the guarantee type, in particular moving the maximum guarantee amount from the guarantee type class to a new association class, between the “guarantee type” class and the “country” class, in order to model the current differences of the maximum guarantee amount between contracting parties.

21. Advance TIR data for multiple loading places

The Group of Experts considered how holders should provide advance information in case they know before the beginning of the transport the details about the goods to be loaded at the different loading points. The Group of Experts agreed with the second option presented, in which holders will only submit to the country of first departure the advance TIR data (E9) related to the first load and, by means of an advance amendment data message (E11) to the countries where subsequent loading will take place, send the data for each subsequent departure office.

Despite the document being available in English only, the Group of Experts also considered document ECE/TRANS/WP.30/GE.1/2021/20, proposing additional amendments to version 4.2 of the eTIR specifications, and took the following decisions:

22. Suspension of an eTIR intermodal transport

The Group of Experts considered the question of the suspension of the eTIR procedure for legs of an intermodal transport in case of existence of simpler customs transit procedures and when the use of a customs transit regime is not necessary. It agreed that the suspension would start once a terminate TIR operation message (I11) would be sent with a “suspension” termination code (to be added in code list 27). The eTIR procedure can then be restored at the end of the leg during which the eTIR procedure was suspended when customs send a start TIR operation message (I9), and the transport could then continue normally. An expert from Turkey recalled that the accompanying document should not be used in such scenario as it is reserved for the fallback procedure and in case of incident or accident.

23. Procedure for drawing samples

The Group of Experts considered the proposals on how to deal with the provision of Explanatory Note 0.21-3 regarding the notification of the drawing of samples of goods by customs authorities in the course of an examination. While they recognized that the drawing of samples should remain an exceptional procedure, they did not consider the usage of the accompanying document as a viable option as its use should be restricted to the fallback procedures and in case of incidents or accidents.

The Group of Experts was not in a position to decide if the use of the control class would be preferable over sending an amendment of the declaration and decided to revert to this issue at its next session. However, the Group of Expert was of the view that this issue could be dealt with in the framework of the version 4.4 of the eTIR specifications and, in case of necessity, an interim solution could be found.

24. Messages exchanged in the framework of the TIR specifications

The Group of Experts was informed that the proposal submitted by IRU, presenting an analysis of the messages exchanged in the framework of the eTIR specifications, had been submitted as a formal document to be discussed by AC.2 in the framework of its consideration of providing IRU access to ITDB.

25. Replication of ITDB TIR Carnet holder and customs office data

The Group of Experts considered the proposal which explains the replication mechanisms of the ITDB and how the ITDB replica could be used in cases of fallback. The Group of Experts agreed with the option that would send an email notification to the TIR or

eTIR focal points when the replica is used longer than a period of 24 hours.

The Working Party was briefed about the outcome of the informal preparatory information meeting for the first session of Group of Expert on Conceptual and Technical Aspects of Computerization of the TIR Procedure (WP.30/GE.1) on 3 and 4 November 2020, the first session of WP.30/GE.1 on 20–21 January 2021 as well as the informal preparatory meeting for the second session of WP.30/GE.1 on 22 January 2021. The Working party further noted that the second and third sessions of WP.30/GE.1 are planned on 25-28 May 2021 and 13-15 September 2021 respectively. The Working Party further noted that countries were invited to send any proposed amendments to the eTIR specifications to be discussed at the second sessions not later than 2 March 2021.

Taking into account the current limitations in the organization of sessions with interpretation and the uncertainties with regard to the number of days with interpretation for the second session of the WP.30/GE.1, the Working Party mandated the secretariat to organize an additional WP.30/GE.1 session with interpretation on 7 and 8 (am) April 2021. (ECE/TRANS/WP.30/312, paras. 21-22)

At its extraordinary session (7 and 8 (am) April 2021), the Group of Experts welcomed document ECE/TRANS/WP.30/GE.1/2021/38 (and its informal translation in Informal document WP.30/GE.1 No. 6 (2021)) which contains comments and proposals transmitted by the Russian Federation regarding requirements for the application of the eTIR procedure in the Eurasian Customs Union. The Group of Experts considered the various comments and proposals (ECE/TRANS/WP.30/GE.1/2021/39, para.6), while not in a position to reach conclusions, and had a number of considerations (see ECE/TRANS/WP.30/GE.1/2021/39, paras.6-32, for details).

In conclusion, the Group of Experts agreed that most of the issues considered above would have to be further investigated in the framework of an exercise such as a PoC on the usages of the eTIR procedure in the EEU, which report should be brought to the attention of the Group of Experts or TIB for consideration. The Group of Experts also welcomed the initiative by the secretariat to send a letter to the heads of customs administrations of the EEU, as well as to the EEC, offering its assistance to carry out a PoC on the usage of the eTIR procedure in the EEU (ECE/TRANS/WP.30/GE.1/2021/39, paras.33)

At its second session, the Group of Experts, pending a few requests for changes, agreed with the documents composing the eTIR conceptual, functional and technical specifications presented at the session (see ECE/TRANS/WP.30/GE.1/4, paras. 18-26 for more details).

Recalling the discussion on the matter at the extraordinary session (7–8 April 2021), the Group of Experts reconfirmed that, while the Introduction is not part of the documents mentioned in Annex 11 and is, therefore, not legally binding, it remains an important document that contains the background of the eTIR project and a detailed analysis of the paper TIR system and was, therefore, included in the work plan as a deliverable. The Group of Expert reiterated that the background part of the Introduction document will have to reflect all decisions taken by the Group of Experts and, possibly, the Working Party on Customs Questions affecting Transport (WP.30) during 2021 and decided that it would be more appropriate to agree on it at the third session, in September 2021 (ECE/TRANS/WP.30/GE.1/4, para. 16).

The Group of Experts also considered document ECE/TRANS/WP.30/GE.1/2021/37, which contains a list of proposed amendments to the eTIR specifications, and took the following decisions (ECE/TRANS/WP.30/GE.1/4, paras. 27-49):

1. Accompanying document and fallback procedure

The Group of Experts took note that the secretariat included activity diagrams for the fallback procedures in document ECE/TRANS/WP.30/GE.1/2021/29 and considered this part of the eTIR specifications completed.

2. Minor corrections

The Group of Experts agreed to the corrections of several minor issues of editorial, consistency or logical nature, identified by the secretariat during the development and improvement of the eTIR international system.

3. Issues related to cardinalities

The Group of Experts agreed to the corrections of various issues related to cardinalities, identified by the secretariat when developing and improving the eTIR international system.

While agreeing to the change of cardinality between the Consignment Item and Packaging classes from 1..1 to 1..unbounded, the Group of Experts also agreed to add a sequence number in the Packaging class and revise condition C002 as follows:

```
IF ( CONSIGNMENTITEM.PACKAGING.Type, coded ) = "VQ", "VG", "VL",  
"VY", "VR" OR "VO"  
THEN OPTIONAL ( CONSIGNMENT.CONSIGNMENTITEM.PACKAGING.  
Marks and numbers )  
AND EMPTY ( CONSIGNMENTITEM.PACKAGING.Number of packages )  
ELSE IF ( CONSIGNMENTITEM.PACKAGING.Type, coded ) = "NE", "NF" OR  
"NG"  
THEN OPTIONAL ( CONSIGNMENT.CONSIGNMENTITEM.PACKAGING.  
Marks and numbers )  
AND NOT EMPTY ( CONSIGNMENT.CONSIGNMENTITEM.PACKAGING.Number of packages )  
ELSE NOT EMPTY ( CONSIGNMENTITEM.PACKAGING. Marks and numbers )  
AND NOT EMPTY ( CONSIGNMENT.CONSIGNMENTITEM.PACKAGING.Number of packages )
```

4. Validity of the guarantee

The Group of Experts decided to remove the "Validity" attribute from the Guarantee class in the I7 message.

5. Status of the Postcode identification

The Group of Experts agreed to change the status of the "Postcode identification" to optional in all relevant messages.

6. Type of the Binary File

The Group of Experts agreed to remove the "Type" attribute from the "Binary File" class in all relevant messages.

7. Type of the Classification

The Group of Experts agreed to reinsert the "Type, coded" attribute (CL03) in the "Classification" class.

8. Renaming codes and identifiers

The Group of Experts agreed with the proposal by the secretariat to rename codes and identifiers by following a naming convention for consistency.

9. Rename date attributes

The Group of Experts agreed with the proposal by the secretariat to rename the date and date/time attributes by following a naming convention for consistency.

10. Updated list of error codes

The Group of Experts considered the updated list of error codes. However, one expert from Turkey questioned the legal value of the newly introduced error code 306

(Country not connected: The country is not yet connected to the eTIR international system and cannot be part of the itinerary of a TIR transport using the eTIR procedure). In his view, countries, bound by Annex 11 but not yet connected to the eTIR international system, could still be part of the itinerary and, while not able to receive or process any information electronically or in advance, they could process the accompanying document.

Other experts were of the view that countries, bound by Annex 11 but not yet connected to the eTIR international system, cannot process the accompanying document, because it is solely intended for the fallback procedure, in case of a system failure, but not to make up for the fact that a national customs system has not yet been connected to the eTIR international.

The Group of Experts decided that the issue should be presented to AC.2, because such a fundamental interpretation of Annex 11 was outside the mandate of the Group of Experts. In the meantime, the Group of Experts decided to remove the error code 306 from the code list CL99.

11. Add a Sequence number in the Transport Means class

The Group of Experts agreed to add a “Sequence number” attribute in the “Transport Means” class in all relevant messages.

12. Add a Sequence number in the Subcontractor class

On expert questioned the pertinence of adding a “Sequence number” attribute in the “Subcontractor” class and mentioned that this type of modification might also be questioned by the WCO data model. The secretariat proposed to reconsider this amendment, to which the Group of Experts agreed.

13. Extending the usage of messages I3/I4 and I19/I20 to customs authorities

The Group of Experts agreed with the proposal to allow customs to use messages I3/I4 and I19/I20 to obtain data from ITDB via the eTIR international system.

14. Suspension of an eTIR intermodal transport

The Group of Experts agreed with the mechanism, proposed by the secretariat, to register the suspension of a TIR transport and the inclusion of a new “suspended” status for the guarantee.

15. New descriptions for the classes and attributes

The Group of Experts took note that the secretariat had prepared a new set of eTIR descriptions to complement the WCO descriptions of classes and attributes used in the eTIR data model. It agreed that, while the new descriptions would be submitted for translation as part of the technical specifications, those new eTIR descriptions will ultimately be integrated in the functional specifications, in particular in the consolidated document to be prepared for the third session of the Group of Experts.

16. Revised modelling of the “heavy or bulky” goods

The Group of Experts agreed to replace the current “Heavy and bulky goods indicator” attribute in the “Additional Information” class at the declaration level by a new “Heavy or bulky goods indicator” attribute in the “Consignment” class in all relevant messages.

17. Clarifications related to messages E9/E10, E11/E12 and E13/E14

The Group of Experts agreed with the proposed changes in the usage of the attributes in the “Message” class of messages E9/E10, E11/E12 and E13/E14.

18. Versions of external code lists

The Group of Experts agreed with the proposed methodology to keep track of the

different versions of code lists and requested the secretariat to include it in the eTIR specifications. The Group of Experts also pointed out that the methodology applies to both internal and external code lists.

19. Review of the rules and conditions

The Group of Experts agreed with the proposed definitions for Rules and Conditions and supported the amendments to the list of Rules and Condition proposed by the secretariat. However, the Group of Expert took note of a comment by IRU regarding the fact that holders generally do not have any information regarding the Certificate of Approval of containers and that condition C005 should be revised accordingly. The Group of Experts agreed to amend condition C005 as follows.

```
IF(CONSIGNMENT.Heavy or bulky goods indicator ) = FALSE AND
TRANSPORTEQUIPMENT.Size and type identification= 14, 17, 42 or T1)
```

```
THEN NOT EMPTY( TRANSPORTEQUIPMENT.CERTIFICATEOFAPPROVAL )
```

```
ELSE EMPTY( TRANSPORTEQUIPMENT.CERTIFICATEOFAPPROVAL )
```

,where “T1” represent a new value to be included in the CL01 for the loading unit of a simple truck.

The Group of Experts also considered document ECE/TRANS/WP.30/GE.1/2021/38, in conjunction with Informal document WP.30/GE.1 No. 10 (2021) (English only), which were transmitted by the Russian Federation. One expert from the Russian Federation introduced the documents and stressed the need to align the structures and content of eTIR messages to those used in EACU, e.g by including the value of the goods, to ensure the legal significance of the messages exchanged via the eTIR international system and to ensure that the authentication is performed in line with the legislation of EACU. He also pointed out the fact that his technical colleagues will consider the inclusion, in the eTIR technical specifications, of the possibility to use a TTP in the interconnection of a national customs system with the eTIR international system.

The Group of Experts recalled the discussion which took place during its extraordinary session (7–8 April 2021) and various experts reiterated the suggestion to carry out an analysis, similar to the NCTS-eTIR Proof of Concept (PoC), aimed at identifying the differences in the requirements of the EACU and those contained in the eTIR specifications, in order to formulate concrete proposal, targeted at bridging identified gaps. The secretariat recalled that it had already contacted EEC and its Member States, proposing to launch a study on how to best interconnect the countries of EACU with the eTIR international system. The Group of Experts noted that while EEC had declined the offer, because it is not a contracting party to the TIR convention, its Member States had not yet responded, with the exception of Belarus that had contacted the secretariat, indicating their possible interest to interconnect their national customs system with the eTIR international system.

Hopeful that other Member States of EACU will soon contact the secretariat to carry out such an analysis, the Group of Experts recalled that its mandate ends after its third session and that a PoC is a complex and time-consuming exercise. With that in mind, the Group of Experts recommended that any request for changes to the eTIR specifications that would result from a PoC should be brought to the attention of the Technical Implementation Body (TIB) in the framework preparing version 4.4 of the eTIR specifications. In the meantime, some experts also recalled that Annex 11 allows for customs administrations to request holders for additional information when that information is required by national law. (ECE/TRANS/WP.30/GE.1/4, paras. 50-52)

B. Introduction to the conceptual, functional and technical documentation

Just as it is not possible to build a decent and secure house without a proper plan, which has been drawn up by a qualified architect, it is not possible to computerize a system without first designing the necessary models, outlining all the elements and procedures of

which it consists. And just as the construction of a small garden shed does not require the same planning as the construction of a hundred storey high commercial building, different systems will require different modelling techniques, in function of their aim and complexity.⁴

The conceptual, functional and technical documentation contains the full description of the TIR Procedure Computerization Project.

The business process modelling methodology applied to draw up these documents are based on the UN/CEFACT Modelling Methodology (UMM). UMM in its turn is based on the Unified Modelling Language (UML) from the Object Management Group (OMG) and is derived from the Rational Unified Process (RUP) developed by Rational Corporation. As such, UMM provides a procedure for specifying/modelling business processes in a protocol-neutral, implementation-independent way.

Business Modelling provides a formalized way to describe how the TIR procedure operates and thus enables a common understanding of its key features and requirements. It can be used as a tool to provide a range of e-business solutions covering all or part of the TIR procedure and based on a variety of technologies. The models also facilitate the detection of opportunities for simplification and harmonization.

These documents are first intended to facilitate the work of the Informal ad hoc Expert Group on Conceptual and Technical Aspects of Computerization of the TIR Procedure and to provide modelling support. In addition, it should facilitate the work to be undertaken by the Informal ad hoc Expert Group on Legal Aspects of Computerization of the TIR Procedure. The final version of these documents will be submitted to the Working Party on Customs Questions affecting Transport (WP.30) and the Administrative Committee for the TIR Convention (AC.2) for endorsement before serving as references for any future work in the field of the computerization of the TIR procedure. In addition, each of the documents will, upon completion, be submitted for endorsement to the WP.30 (see Table 0.3).

b.1. Phases and Workflows

According to Rational Unified Process and UMM, every project passes through a series of standard phases. The phases are inception, elaboration, construction and transition. For each phase, a number of workflows are required. The workflows identified for computerization projects are: Business Domain Modelling, e-Business requirements, Analysis, Design, Implementation, Test and Deployment. The UMM focuses on the inception and elaboration phases and limits itself to the first four workflows, not encompassing the Implementation, Test and Deployment workflows. The description of the work during every phase, indicating the main or 'high-level' activities, is shown in Table 0.1.

Table 0.1

Activities associated with each phase

<i>Phase</i>	<i>High-level activities</i>
Inception	<ul style="list-style-type: none"> • Idea is conceived, and initially documented using the UMM. • Main workflows are: 1) Business Domain Modelling, and 2) e-Business requirements.
Elaboration	<ul style="list-style-type: none"> • Idea is further refined and expanded • Main workflows are: 1) Analysis, and 2) Design • The outcome – deliverables – is compared with the already defined models, requirements and references

⁴ See also IS architecture artistry. G. Gage, IDG Communication Publication, July 1991.

<i>Phase</i>	<i>High-level activities</i>
	contained in the 'repository'
	<ul style="list-style-type: none"> • New models or enhancements to existing models are incorporated into the repository
Construction	<ul style="list-style-type: none"> • Messages are designed • Software development • Main workflows are: (a) Implementation, (b) Testing, and (c) Deployment
Transition	<ul style="list-style-type: none"> • Testing • Main workflow is Deployment

In the Inception and Elaboration phases, the UMM concentrates on workflows needed to understand the business needs to produce business scenarios, business objects and areas of business collaboration. They are:

- Business Domain Modelling (introduction)
- e-Business requirements (conceptual specifications)
- Analysis (functional specifications)
- Design (technical specifications)

Within each of these workflows a set of deliverables is produced (see Table 0.2). The whole process is iterative so that additions and changes can be validated and incorporated into any of the workflows as they are discovered. Additions and changes should be a natural result of maintenance and enhancement.

Table 0.2
Deliverables

<i>Deliverables</i>	<i>Business Domain Modelling Workflow</i>	<i>e-Business requirements Workflow</i>	<i>Analysis Workflow</i>	<i>Design Workflow</i>
Package diagram	x			
Class diagram	x	x	x	x
Use case description	x	x	x	
Use case diagram	x	x	x	x
Sequence diagram			x	x
Collaboration diagram			x	x
Statechart (state machine) diagram			x	x
Activity diagram	x	x	x	x
Component diagram				x
Deployment diagram				x
Requirements list	x	x	x	
Glossary	x	x	x	

Every workflow focuses on specific aspects of the project. The Business Domain Modelling describes the scope of the project within the whole system, enabling a common understanding of the functioning of the current TIR procedure – the “as-is” situation – to all 'stakeholders' and defines the high-level business requirements. The e-Business requirements workflow captures the detailed user requirements in the computerized environment to be developed and further elaborates the use cases described in the previous phase of the work. The third workflow, the Analysis, translates the requirements identified in earlier phases into specifications that can be followed by software developers and

message designers. Finally, in the Design workflow, the specification devised during the Analysis workflow will be used to develop the messages and the collaborations required to exchange these messages.

Each and every workflow will be terminated by a formal validation by the relevant bodies.

b.2. Step by step approach applied to the UMM

At its one-hundred-and-sixth session, the Working Party agreed that, in the light of the complexity of the project and in order to achieve tangible results in the near future, a step-by step approach was the only feasible way to address the eTIR Project.

As stated in the introduction to Chapter b, the UMM is mainly based upon the Rational Unified Process (RUP), which originally has been used in the field of software engineering. The eTIR Project, although not being a software engineering project, is confronted with many similar problems with regard to the complexity of the issues at stake. In order to address complex problems, software engineers usually issue a first version of a software, tackling the main issues. With every new release, they add functionalities to the software with a view to advance towards reaching the final objectives of the project.

In the eTIR project, the various steps to be undertaken to achieve results in the project may be considered as being equivalent to the various releases of software. Therefore (and in accordance with the RUP), every single step, after it has been clearly defined, will be considered as a specific sub-project and will have to pass through all phases of a project lifecycle. All sub-projects share the same final objectives, but each individual sub-project contains different elements to achieve them.

b.3. Structure and updating of the document

The introduction, conceptual, functional and technical documents follow the methodology and structure presented above. The four documents correspond to the four workflows of the Inception and Elaboration phases. In addition, a number of annexes also form part of the documentation.

In the present introduction document:

The requirements list and the glossary (TIR glossary) are two key cross-reference documents which are used throughout the process to ensure that all business requirements, terms, and definitions are recorded. These two documents are maintained as and recorded in Annexes I and II respectively.

Annex III contains the data elements records.

Annex IV contains a UML Symbols Glossary, describing the specific terms and symbols of the language to allow non-UML literates to understand the numerous diagrams contained in this document.

Annex V contains a UMM/UML Glossary, describing the specific terms used by the UMM methodology.

Annex VI contains summary of an independently conducted cost-benefit analysis (CBA), an assessment of the CBA and recommendations.

Annex VII contains the Joint Statement on the computerization of the TIR procedure endorsed by AC.2, on 11 June 2015,

In Annex X the reader can find all references to the documents used to elaborate all documentation.

In the conceptual specifications document

Annex I contains a detailed description of the functioning of the eTIR declaration mechanisms.

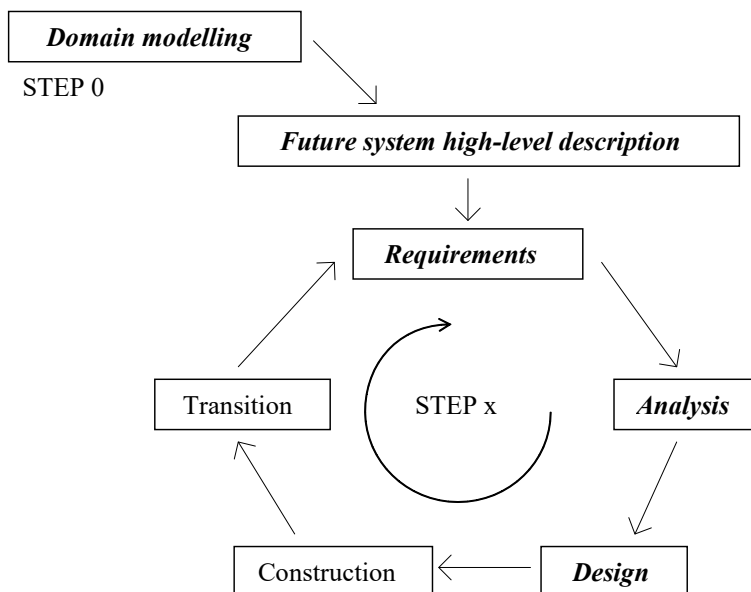
In the technical specifications document

Annexes I and II contain the functional and technical fall-backs.

Each document also contains two Annexes which present the lists of figures and tables contained in the documents.

The eTIR conceptual, functional and technical documents will contain the results of each work phase, in line with the description in Chapter b.1. and in accordance with the decisions by the Expert Group. In view of the step-by-step approach, described in Chapter b.2., this documentation will be amended by means of an iterative process, as shown in Figure 0.1.

Figure 0.1
Step-by-step iterative approach of UMM



Because UMM does not go beyond the design phase of projects, the actual construction and transition phases are beyond the scope of the eTIR Project. Thus, the Expert Group can already start drafting the requirements of the next step before the previous step will actually be in production (see dashed line in Figure 0.1.).

A step-by-step approach can only be successful if all steps, necessary to achieve the final goal, are well defined before starting the actual work. Therefore, the introduction to the eTIR concepts document contains the description of the different steps of the project and explains how these steps will complement each other in order to achieve the overall objectives of the eTIR Project.

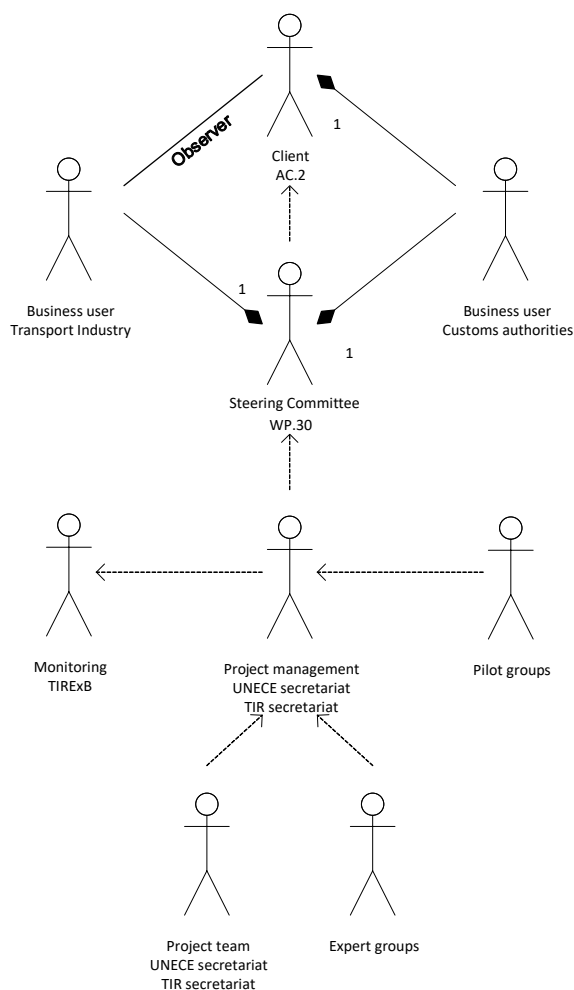
In addition, some chapters or annexes may be added in the future to reflect the specificities of the TIR Procedure Computerization Project.

Moreover, the existing systems identified during the domain modelling phase will have to be taken into account during the Analysis and Design phases of every step to avoid superfluous or incompatible developments. It is important to recall that the eTIR project is not a so-called “Greenfield” project.

b.4. Stakeholders responsibility chart

The computerization of the TIR Procedure is a project involving numerous stakeholders. Most of them have specific roles to play in the project and they are interdependent. Figure 0.2 shows the roles of the stakeholders and dependencies between them; dependency arrows also indicate the reporting directions, in other words, who reports to whom.

Figure 0.2
Stakeholders responsibility chart



b.5. Review and validation status

The table below presents the revisions and the validation dates for the various parts and versions of the reference model.

Table 0.3
Review and validation status

	Version	Validated by ... on ... ⁵		
		COMP/GE.1 ⁶	WP.30 ⁷	AC.2 ⁸
Introduction (formerly Business domain modelling)	1.5a	27/5/2005	31/5/2006	
	1.6a	29/1/2007	13/6/2007	
	3.0a	10/3/2011		
	4.0a	21/11/2013		

⁵ This table contains the dates on which the various versions of parts of the reference model have been validated (endorsed) by the different groups. The cells in grey indicate that endorsement by that specific group is not required.

⁶ Informal ad hoc Expert Group on Conceptual and Technical Aspects of Computerization of the TIR Procedure.

⁷ Working Party on Customs Questions affecting Transport.

⁸ Administrative Committee for the TIR Convention, 1975.

	Version	Validated by ... on ... ⁵		
		COMP/GE.1 ⁶	WP.30 ⁷	AC.2 ⁸
	4.1a	26/9/2014	12/6/2015 ⁹	
1 Vision	1.2	2/3/2004		
	1.5a	27/5/2005		
2 TIR procedure domain	1.2	2/3/2004		
	1.4a	27/10/2004		
3 TIR Carnet life cycle use cases	1.2	2/3/2004		
	1.4a	27/10/2004		
4 Elaboration the use cases	1.4a	27/10/2004		
5 Entity classes	1.0	2/9/2003		
	1.4a	27/10/2004		
1.6 High-level class diagram	1.4a	27/10/2004		
Conceptual specifications (formerly e-Business requirements)	2.0a	12/6/2007	26/9/2007	27/9/2007
	2.1a	11/4/2008		
	3.0a	10/3/2011		
	4.0a	21/11/2013		
	4.1a	26/9/2014	12/6/2015 ⁵	
Functional specifications (formerly Analysis workflow)	3.0a	10/3/2011		
	4.0a	21/11/2013		
	4.1a	26/9/2014	12/6/2015 ⁵	
Technical specifications (formerly Design workflow)	4.0a	21/11/2013		
	4.1a	26/9/2014	12/6/2015 ⁵	

C. Business domain modelling

The purpose of the Business Domain Modelling workflow is:

- To present the scope of the project;
- To understand the structure and dynamics of processes within the current TIR procedure;
- To ensure that all stakeholders involved have a common understanding of the current TIR procedure;
- To understand the daily business in the TIR procedure, without reference to an electronic solution;
- To formulate the high-level business requirements which will serve as a basis for a subsequent detailed analysis.

In an international project such as the computerization of the TIR procedure, it is absolutely indispensable that every stakeholder involved has a common vision of the project. Therefore, the first part of the Business Domain Modelling describes this vision in light of the background and the mandates given to the various groups involved.

⁹ WP.30 supported document version 4.1a of the eTIR Reference Model as a basis for future work of GE.2 as well as for pilot projects. At the same time WP.30 recalled that the eTIR Reference Model is not “carved in stone”.

Once the vision is clearly defined, the high-level analysis of the TIR procedure domain can be undertaken, followed by a more detailed analysis enabling a deeper understanding of the functioning of the TIR procedure. To this end, the domain is divided into areas and a use case analysis is drawn up for each area of interest. Already at this level some areas will be left aside because they are not part of the scope of the project. The requirements list and the TIR glossary are also filled-in accordingly. The list of entity classes and the high-level class diagram, established during this workflow, contribute to the development of the TIR glossary.

Deliverables from the Business Domain Model workflow include:

- Scope of the Business Domain and the boundaries of the project;
- Business Domain use case diagram with its description and business domain activity diagram;
- Use case diagram, use case description and activity diagram for each area;
- TIR entity classes, definitions and a high-level class diagram;
- List of business requirements (including non-functional requirements);
- TIR glossary.

1. Vision

This first part of the work aims at reaching agreement on the objectives, the business needs and the scope of the business domain. This also involves identifying the business opportunities and specifying the boundaries of the business domain being modelled.

1.1 Project title and abbreviation

The title given by the WP.30 to the project is:

TIR Procedure Computerization Project

The abbreviation used for the project is:

eTIR

1.2 Objectives

This chapter gives a brief description of the purpose of the project.

The final objectives of the eTIR Project are:

- Integrating the computerized TIR procedure in the overall process of technological development in international transport, trade and customs procedures:
 - Simple and cost-effective data capture and data transmission;
 - Facilitation of global intermodal application of the TIR Procedure;
 - Real time exchange of information among actors.
- Improving the efficiency and quality of the TIR procedure:
 - Reduction of processing times at border crossings and final destination;
 - Increased efficiency of internal administrative and control procedures;
 - Increased accuracy and reduction of errors;
 - Reduction of costs;
 - Progressive replacement of paper TIR Carnet;
 - Full use of international standard codes in order to eliminate language barriers;
 - Availability of advance TIR data.
- Reducing the risk of fraud and improving security:

- Automatic generation of data for risk assessment;
- Facility to implement early-warning system;
- Easy access to information for control and risk management purposes.

1.3 Boundary of the eTIR Project

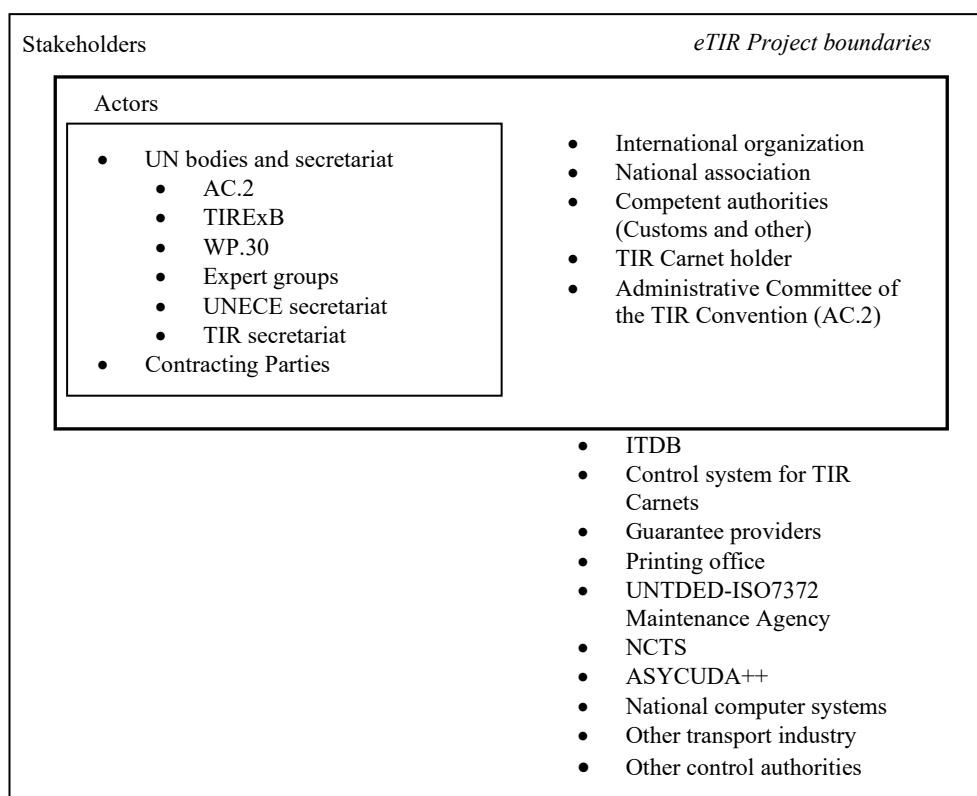
The final objective of the eTIR project encompasses the computerization of the whole TIR Carnet life cycle (from issuance and distribution via the TIR transport to return and repository) and is ultimately aimed at replacing the current paper TIR Carnet. However, the eTIR Project will inevitably have repercussions on other parts of the TIR Procedure. Therefore, it is important to identify the boundaries of the project in order to realize the full impact the project may have and to ensure that the views of all stakeholders are taken into due account. The boundaries are defined along two axes: stakeholders and information.

1.3.1 Stakeholders

A stakeholder is defined as someone (or something) who is materially affected by the outcome of the system but may or may not be an actor of the system. Actors are stakeholders who are involved in the specific project as users and are thus part of the Reference Model. Stakeholders inside the boundary of the system are involved in the project as active participants in the work and/or members of decision-making bodies; those outside the boundary may participate in meeting to ensure any future compatibility where necessary.

Figure 1.1 shows the stakeholders inside and outside the boundaries of the project and emphasises those who are also actors.

Figure 1.1
Stakeholders and actors



1.3.2 Information

The data elements inside the boundaries have already been identified and are listed in Annex III (source: the report of the Second meeting of the Expert Group (ExG/COMP/2002/10, Annex 3)). These data elements reflect the information contained in the current, paper-based TIR carnet and provide the basis for the elaboration of a minimal set of data to be computerized. However, this set may need to be further amended in the course of the project, when the Group addresses other issues, such as, for example, security.

1.4 References

References are contained in Annex X.

1.5 Scope of the project

The scope of the project is to allow for the use of electronic data interchange in the so-called “TIR Carnet life cycle” without changing its basic philosophy.

The following elements of the TIR procedure are inside the scope of the project:

- TIR Carnet life cycle:
 - Issuance and distribution of TIR Carnets;
 - TIR Transport;
 - Return and repository of the TIR Carnets;

The following elements of the TIR procedure are outside the scope of the project:

- Approval of the guarantee chain;
- Approval of the association;
- Approval of transport operators;
- Approval of vehicles;

- Management of a control system for TIR Carnets (Annex 10 of the TIR Convention);
- Administration of the TIR Convention;
- Organization and functioning of the guarantee system.

When outlining the contents of the eTIR Project, the WP.30 and the Expert Group have already identified a number of tasks which shall be included. The key statements are reproduced here after:

- Analysis of the actual and future functioning of the TIR procedure (TRANS/WP.30/2002/5; ExG/COMP/2002/7);
- Development of a standard set of messages allowing for an effective communication between parties involved (ExG/COMP/2002/5);
- Preparation of the required amendments to the TIR Convention (TRANS/WP.30/2002/5; ExG/COMP/2002/7);
- Description of roles and responsibilities of all actors involved in an electronic environment (TRANS/WP.30/2002/7);
- Estimation of the costs generated by a computerized environment (cost/benefit analysis) (TRANS/WP.30/2002/5; ExG/COMP/2002/7);
- Inventory of impact on national administrative procedures and national infrastructure (TRANS/WP.30/2002/7);
- Step-by-step approach to achieve tangible results in the computerization of the TIR procedure (TRANS/WP.30/212);
- Establishment of an international centralized database (TRANS/WP.30/212);
- Management by customs of data on guarantees, once the guarantor has issued a guarantee to an operator (ECE/TRANS/WP.30/226).

1.6 Constraints

This Chapter describes which issues of a technical, political, economical or other nature have to be taken into account when designing and describing the eTIR Project. Some such issues may limit the possibilities for the project, whereas others may represent dependencies or even create opportunities.

The Requirement List of Annex I specifies how each of these constraints has to be addressed.

1.6.1 Technical constraints

- Data protection
- Security
- Compatibility, interoperability or interfacing with the following projects
 - NCTS
 - National customs systems
 - SafeTIR/Cutewise
 - ITDB
 - ASYCUDA, ASYCUDA ++, ASYCUDA WORLD
 - UNTDED/ISO7372
 - UNeDocs (project)
 - WCO data sets and data model

- A complete migration overnight towards a computerized environment is not realistic (a step-by-step implementation is required).
- Use only future-proof systems and standards
- Character set and coding management

1.6.2 *Political/legal constraints*

- The TIR Convention should be changed as little as possible.
- Certain Contracting Parties may not want to directly exchange information with other Contracting Parties.
- The computerisation should not result in the exclusion of Contracting Parties from the TIR system.
- Data protection laws (e.g. business secrecy, privacy of physical persons law, governmental data protection)
- It may be a legal requirement that the national language of the country of departure is used.

1.6.3 *Financial / Economic constraints*

- Limited resources available at the national and international level, both at the private and the public sector.
- Budgeting procedure might take up to 50 months in certain countries. National investments should be planned long in advance.
- Financial support necessity

1.6.4 *Other constraints*

- Prioritisation and timing
- IT knowledge in countries (human constraints)

1.7 Stakeholders' needs

1.7.1 *Needs of customs administrations*

Functional needs of customs

- Real time information
- Advance TIR data
- International Guarantee management for customs
- International validation of the authorisation of the TIR Carnet holders against the ITDB (Authorisation, Withdrawal, ...)
- Reports with statistical information
- Status of the TIR transport to be available

Functional needs of guarantors (in the view of customs)

- Termination notification
- Discharge notification
- Status of the TIR transport to be available

Functional needs of the private sector (in the view of customs)

- Status of the TIR transport to be available

Additional data needs for customs

- Consignee
- EU: need of consignor data

1.7.2 *Needs of the transport industry*

- Keep the TIR System accessible for new Contracting Parties and small transporters meeting the requirements of Annex 9;
- Ensure the TIR system to be easy to use and competitive in comparison with another means of guaranteeing the delivery of goods to customs office of destination;
- Develop standardized instructions for all the participants of the TIR System with the aim to eliminate disconnected actions and human element causing mistakes while working with the system;
- Facilitate the movement of goods through faster and more standardized customs procedures;
- Reduce the risk of providing the guarantee by rapidly securing termination and making data timely and available 100%;
- Quickly identify and eliminate from the system those who perpetrate fraud;
- Safeguard data from unauthorized access and occasional damage or loss;
- Increase the level of transparency and confidence between the industry and competent authorities.
- Standard declaration mechanism
- Status of the TIR transport to be available

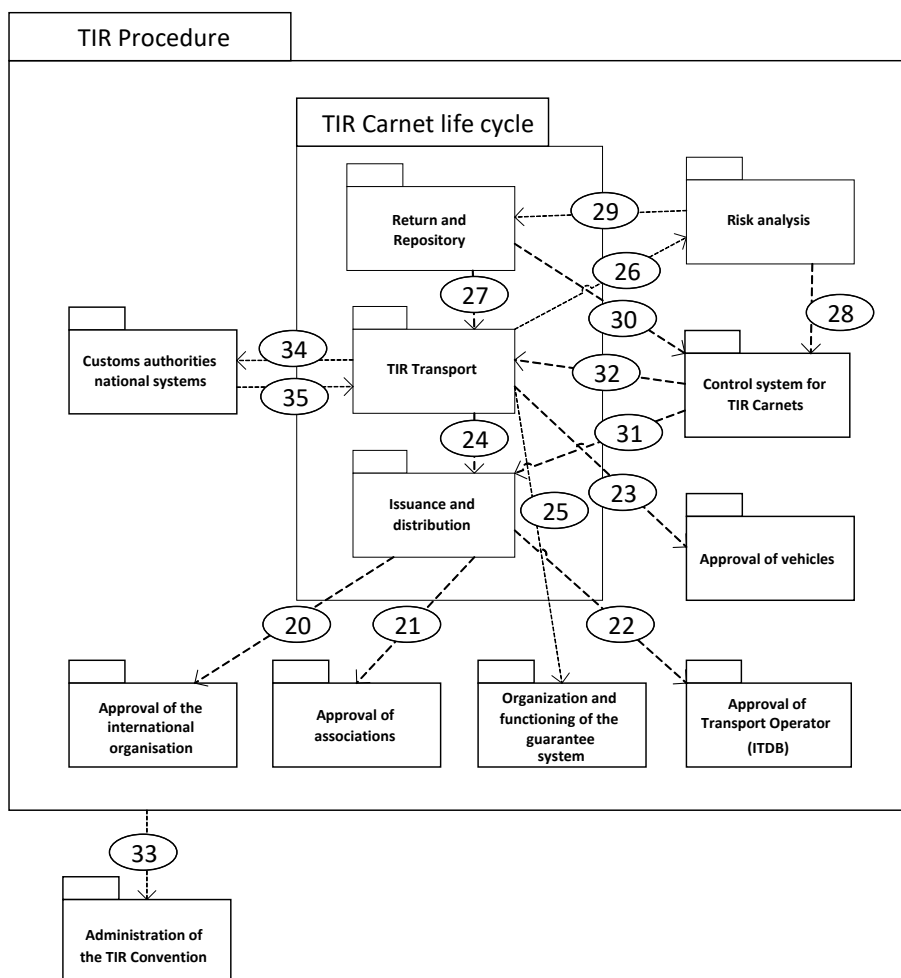
2. **TIR procedure domain**

The TIR procedure is a very wide domain, composed of numerous interconnected systems. As seen under 1.5, the current project is limited in its scope to a part of the overall TIR procedure: the TIR Carnet.

2.1 **TIR Procedure package diagram**

The following package diagram is intended to show the division of the domain into systems and the dependencies among those systems.

Figure 1.2
TIR procedure package diagram



2.2 TIR Procedure package diagram description

Table 1.1
TIR procedure package diagram description

Name	TIR procedure package diagram
Description	<p>The TIR procedure is an International Customs Procedure governed by the TIR Convention, 1975. A detailed description of the procedure can be found in the introduction of the TIR Handbook distributed by the TIR Secretariat.</p> <p>The TIR procedure is composed of numerous interconnecting systems to allow for the functioning of the procedure. The system we are most interested in for the current project is the TIR Carnet system. It can be defined by listing all functions and uses of the TIR Carnet. It is composed of sub-systems, namely: the issuance and distribution system, the TIR transport system and the return and repository.</p> <ul style="list-style-type: none"> • The function of the issuance and distribution sub-system by the international organization and the national associations is to provide transport operators with TIR Carnets in order to allow them to perform TIR transports; • The TIR transport sub-system is the central system of the

<i>Name</i>	<i>TIR procedure package diagram</i>
	<p>TIR procedure. It links the transport industry to the customs offices involved in a TIR transport and allows them to exchange the necessary information;</p> <ul style="list-style-type: none"> • The transport operators, the associations and the international organization manage the return and repository sub-system. Its function is to centralize the storage of the used TIR Carnet and to check that no problems have occurred during the TIR transport; <p>Other systems outside the scope of the current project but of importance for the well functioning of the TIR procedure are:</p> <ul style="list-style-type: none"> • Customs authorities national systems; • Approval of the guarantee chain; • Approval of the association; • Approval of transport operators; • Approval of vehicles; • Control system for TIR Carnets; • Organization and functioning of the guarantee system; • Risk analysis system; • Administration of the TIR Convention. <p>In the package diagram, the dependencies between all systems are indicated with dashed arrows. The dependencies are numbered according to the Requirements 20 to 35 of which they are the consequences.</p>
Actors	Transport industry, Customs, Guarantee chain.
Performance Goals	Facilitate border crossing in international transport of goods.
Preconditions	Ratification of the TIR Convention by Contracting Parties and implementation of the TIR system.
Requirements Covered	20–35