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Working Party on Customs Questions Affecting Transport
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Item 9 (b) (ii) of the provisional agenda

CUSTOMS CONVENTION ON THE INTERNATIONAL TRANSPORT OF GOODS UNDER COVER OF TIR CARNETS (TIR CONVENTION, 1975)*

Revision of the Convention

Preparation of Phase III of the TIR revision process

Note by the secretariat

I. BACKGROUND

1. At its fourth session, the Informal Ad hoc Expert Group on Conceptual and Technical aspects of Computerization of the TIR Procedure (further referred as "the Expert Group") held first considerations with regard to preparing a high-level description of the eTIR Project (ExG/COMP/2004/10, paras. 15-17). At its seventh session, the Group continued its consideration on the basis of document ExG/COMP/2004/23 drafted by the secretariat and of a presentation made by the European Commission. The Expert Group requested the secretariat to collaborate with the Commission to prepare a new document for its next session combining the ideas from the Commission's presentation and elements of document ExG/COMP/2004/23.

* The UNECE Transport Division has submitted the present document after the official documentation deadline.

2. At their first meeting, the European Commission and the secretariat were of the view that it would be more effective to devise not one but two separate documents. The first document should present the general ideas on how the eTIR system would replace all functionalities integrated in the TIR Carnet with the aim of presenting it for endorsement to the WP.30 at its October 2005 session. The second document, intended for the Expert Group, should elaborate the ideas, contained in the first document, in the form of high-level functional specifications.

3. At the eighth session, the experts from Customs authorities extensively discussed document TRANS/WP.30/GE.1/2005/2 prepared by the secretariat with the assistance of the European Commission and taking into account the guidelines provided by the Working Party in Informal document No. 9 (2005). They updated the document and requested the secretariat to prepare and distribute a revised version before 25 November 2005. They also mandated the secretariat to continue its work on the basis of the revised document and to draft for its ninth session a document on the possible steps that would lead to a fully computerized eTIR system.

4. At its ninth session the Expert Group proposed to combine document TRANS/WP.30/GE.1/2005/2/Rev.1 with document TRANS/WP.30/GE.1/2006/3, containing a proposal of a step-by-step implementation of the eTIR project, and present this as the high level description of the eTIR project, to be included in the Reference Model at the next session of WP.30 for endorsement.

5. The annex to this document contains the proposed high-level description of the eTIR system[**]. These specifications are fully compliant with the general ideas contained in WP.30 Informal document No. 9 (2005) prepared jointly by the secretariat and the European Commission. The key elements contained in the informal document and agreed upon by the WP.30 are the international management of the guarantee and the exchange of information regarding TIR transports among Customs authorities. At its one-hundred-and-eleventh session, the Working Party supported that the Expert Group should follow the guidelines contained in Informal document No. 9 (2005) for its future discussions (TRANS/WP.30/222, para. 33). It also took note of the concerns and diverging views expressed by the IRU (TRANS/WP.30/222, para. 34).

II. HIGH LEVEL DESCRIPTION OF THE eTIR SYSTEM

6. The high level description of the eTIR system provides an overview of the system on which the future functional and technical specifications of the project will be based. It provides not only a general view, but also establishes guidelines allowing for a smooth transition from the paper-based system to a computerized system.

[**] Documents TRANS/WP.30/GE.1/2005/2/Rev.1 and TRANS/WP.30/GE.1/2006/3 are reproduced as a combined version in their original format.

7. The high level description of the eTIR system are presented as follows: Chapter 1 presents the actors of the eTIR system, Chapter 2 describes the fully implemented eTIR system, Chapter 3 provides the list of deliverables for all parties and finally Chapter 4 describes a progressive step-by-step implementation of the eTIR system.

III. FINAL CONSIDERATIONS

8. The Working Party may wish to endorse the annex and possibly request the inclusion of the high level description of the eTIR system into the Reference Model as an introduction to the eBusiness requirements Chapter and a guideline for the future work of the Expert Group.

Annex

High-level description of the eTIR system

TABLE OF CONTENTS

1. ACTORS AND ROLES

1.1. Customs authorities

Customs authorities can perform the following roles:

- Customs office of departure
- Customs office of destination
- Customs office of entry (en route)
- Customs office of exit (en route)
- [Customs office of discharge].

The different tasks and obligations related to these roles are described in the various fundamental principles in Chapter 2.

1.2. eTIR international system

The eTIR international system interfaces with the guarantor and will ensure the proper management of the guarantee system at international level by the competent customs authorities. Moreover, in view of the fact that, within the eTIR system, electronic direct exchange of information between the Customs administrations located in the different Contracting Parties is neither currently feasible nor enforceable, it will

facilitate the secure circulation of standardized information between Customs administrations.[1]

1.3. Operator

The operator[2] performs the TIR transport[3] and is responsible for providing the related declaration data electronically and for presenting the goods to the relevant Custom offices referred to in Chapter 1.1 above.

1.4. Guarantor

The guarantor[4] provides the operator with a valid international guarantee i.e. a guarantee recognized by each of the Contracting Parties involved in the TIR transport. Moreover, the guarantor must have a legal representative in each country involved in the TIR transports it guarantees. Therefore, the guarantor constitutes de facto a guarantee chain.

2. FUNDAMENTAL PRINCIPLES

2.1. eTIR International System brief

The eTIR international system is devised primarily to allow the management of the guarantee by Customs and the exchange of Customs information related to the international transit of goods, vehicles and/or containers according to the provisions of the TIR Convention.

Therefore, only a part of the information flow required for the functioning of the TIR procedure is managed by the eTIR international system. The following picture graphically represents the information exchange between the actors. It also shows that the eTIR system does not communicate with the operator, and that Customs do not communicate directly with the guarantor. It is important to recall, at this stage, that the management of claims is outside the scope of the eTIR project. Dark arrows show the interactions with the eTIR systems, light ones depict interactions which will be dealt with at national or private sector level.

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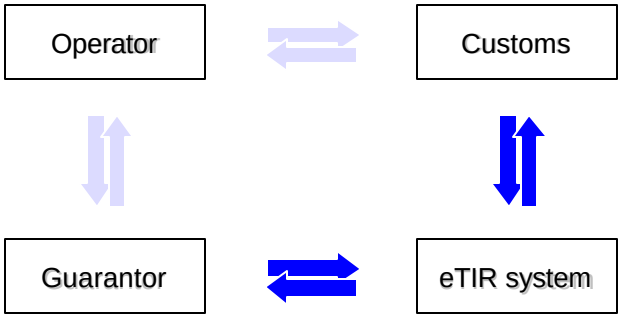
[1] In accordance with the instructions by the WP.30 at its 106th session, the eTIR system administration shall be established on the basis of an international, centralized database whose aim it is to facilitate the secure exchange of data between national Customs systems (TRANS/WP.30/212, para. 26).

[2] The role of the operator is comparable to the one of the TIR Carnet holder in the paper-based system.

[3] The TIR transport is the transport of goods from a Customs office of departure to a Customs office of destination under a procedure, called the TIR procedure, laid down in the TIR Convention.

[4] At present the IRU and the national guaranteeing associations are authorized to perform the role as international guaranteeing chain. It is envisaged that this role as a whole is equivalent to the role of the guarantor as described in this document.



On the one hand, the guarantor interacts with the eTIR system to ensure that the guarantees he has issued to the operators are properly registered in the eTIR system. On the other hand, Customs authorities use the eTIR systems to check the guarantees but also to exchange information related to the TIR transport and to TIR operations.

The guarantee management and the exchange of TIR transport information are therefore the two major fundamental principles. For the time being, guidelines will also be provided to promote harmonization, especially in the context of the dialogue between the operator and Customs authorities. Other aspects might be dealt with at a later stage.

Agreement on communication, security and fallback solution will be other pillars of the system.

2.2. eTIR Guarantee management

The Guarantee management implies a strong relationship between the guarantor and the eTIR international system. The guarantor, or the guarantee chain, is composed of national affiliates, authorized by Customs administrations, and of an international organization authorized by the AC.2 to manage the guarantee chain. The international organization receives from its national affiliates information on the guarantees issued to the operators and sends this information to the Guarantee database, managed by the eTIR international system. The recording of this information in the Guarantee database is conditional on checks made against the International TIR database (ITDB) concerning authorized holders.

2.2.1. Registration of the guarantee

After having issued a guarantee to the operator, the guarantor shall register it in the eTIR international system by sending an appropriate agreed electronic message.

2.2.1.1. Elements composing the registration of the guarantee[5]

2.2.1.1.1. Operator (M)[6]

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

2.2.1.1.2. Guarantor (M)

Information on the guarantor.

2.2.1.1.3. Guarantee (M)

Information on the guarantee (GRN, validity, max. n° of operations, access code, …)

2.2.2. Invalidation of a guarantee

Once a guarantee has been registered in the eTIR international system, the guarantor can invalidate any guarantee which has not yet been used. It can also cancel the validity of a guarantee currently in use but only for the TIR operations which have not yet started.

2.2.3. Verification of the guarantee

The information about the guarantee will be accessible to all Customs offices. If an operator presents to Customs a declaration covered by a guarantee, which is not recorded in the guarantee database or invalid, then the Customs authorities shall not accept it.

2.2.4. Querying guarantee status

Once a guarantee has been registered in the eTIR international system, the guarantor can query at any time the status of the guarantee and obtain the TIR transport information attached to it. An automated notification system will also be established.

2.3. Exchange of TIR transport information

2.3.1. Data handling at the beginning of the TIR transport

Once the Customs office of departure accepts the declaration, according to national procedures, it will send a message containing that information, together with additional Customs data, to the eTIR international system, in line with agreed requirements. The latter will then store the declaration information and link it with the

[5] The mandatory or optional status of the information contained in the messages in this document will be discussed at a later stage.
[6] M: Mandatory ; O: Optional.

guarantee information. This information is then available, upon request, to all Customs offices.

2.3.1.1. Recording of the elements composing the TIR transport (and its subsequent updates)

The elements required for the TIR transport recording are those of the TIR operation 'start information' (see point 2.3.2.1.1) plus all the elements provided in the declaration(s) (see 2.4.2.1). In addition, the Customs office of departure provides the following elements:

2.3.1.1.1. Seals

Information in the seal(s) affixed to the vehicle(s) and/or container(s).

2.3.2. Data handling related to TIR operations

2.3.2.1. Elements composing the TIR operation registration

2.3.2.1.1. TIR operation start information

The Customs office of departure/entry provides at least the following information:

Operation Reference Number and date of start (M)

Time limit for transit (O)

Time limit for the TIR operation.

National itinerary (O)

Customs office(s) at which the cargo has to be produced.

Customs office/officer (M)

2.3.2.1.2. TIR operation termination information

The Customs office of destination/exit provides at least the following information:

Date of termination (M)

Reservations (O)

In case of doubts with regard to the TIR operation, the Customs office of destination or exit can indicate that is has terminated the TIR operation with reservations.

Customs office/officer (M)

2.3.2.1.3. TIR operation discharge information

The Customs office of discharge is responsible for discharging the TIR operation and providing at least the following information:

Date of discharge (M)

Customs office/officer (M)

2.4. Other aspects

2.4.1. Issuance of guarantees

The operator requests the guarantee from the guarantor, who will, on the basis of international, national and internal rules, decide if the guarantee can be issued to the operator. The guarantor will then complete the guarantee reference number (GRN) for that specific guarantee, associate an access code to it, and provide them to the operator. This procedure is outside the scope of the development of the eTIR international system but is a prerequisite for the functioning of the eTIR procedure.

The guarantor registers the guarantee internationally as foreseen in point 2.2.1.

2.4.2. Declaration

The operator submits the eTIR declaration by electronic means to the Customs office of departure, making reference to a guarantee issued by a guarantor. The eTIR international system takes care of forwarding the information to the following Customs authorities involved in the TIR Transport. The declaration shall be submitted prior to the presentation of the goods at the Customs office of departure.

The declaration is dealt with at national level between the operator and the Customs Authorities. Nevertheless, it is advised that the following elements are provided in the declaration since these elements are also part of the registration of the TIR transport information (see 2.3.1.1).

2.4.2.1. Elements composing the declaration

2.4.2.1.1. Operator (M)

Information on the physical or legal person who is responsible for transporting the goods and submitting the declaration, together with an electronic signature.

2.4.2.1.2. Guarantee (M)

The GRN of the guarantee under which the TIR transport will be undertaken.

2.4.2.1.3. Goods (M)

Information on the goods transported (e.g.: type, quantity, identifications, Customs office of departure, Customs office of destination, …) as well as other accompanying data. Optionally the value of the goods can also be provided.

2.4.2.1.4. Vehicles/Containers (M)

Information on the vehicles and/or containers used to carry the goods.

2.4.2.1.5. Accompanying documents (O)

Reference to all documents, paper or electronic, which are accompanying the declaration.

2.4.2.1.6. Consignee ([O])

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

2.4.2.1.7. Itinerary (Country level) (M)

Countries involved in the TIR transport.

2.4.2.1.8. Electronic signature (M)

Element ensuring the identity of the operator submitting the advance declaration and certifying its contents has not been updated since the signature has been created.

2.4.2.1.9. Consignor (M)

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

2.4.2.1.10. [Subcontractors

Information on the physical or legal person who performs the transport or a part of the transport on behalf of the operator.] *under discussion*

2.4.3. Pre-arrival information

[One of the objectives of the eTIR system, as defined by the Contracting Parties, is to provide Customs authorities with information prior to the arrival of cargos. This applies to information provided by the private sector as well as to information exchanged between Customs authorities. Therefore, the eTIR international system makes all information available to all authorized Customs offices concerned. If requested, automated messages could be sent from the eTIR international system to Customs authorities as soon as information is received.] *to be discussed*

2.5. Data exchange

2.5.1. Central platform

The eTIR system is built around a central platform, the eTIR international system, which is a composed of hardware and software, including databases and web services. The databases serve to store and make the information available and acts as repository for all information concerning eTIR, whereas the web services allow for an efficient and secure interfacing between the Contracting parties and the central platform.

2.5.2. Communication

The eTIR system may use the Internet to exchange messages.

2.5.3. Standard messages

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

2.6. Security

2.6.1. The elements of security from the TIR Convention

2.6.1.1. Controlled access

Controlled access is a major principle of the TIR system. The ITDB will be fully used to ensure that only authorized operators use the TIR system.

2.6.2. Security data elements

In line with international recommendations concerning supply chain security, a number of data elements may have to be added to increase the security of the eTIR system.

2.6.3. eTIR system security

The eTIR international system is secured with the latest security methods applicable to systems communicating via the Internet. All messages are encrypted and the access is restricted to authorize users. The system is set up to function 24/7.

2.7. Fallback solutions and certified report

In case of problems in the course of a TIR transport, an accompanying document, printed by the Customs office of departure, provides all information regarding the TIR transport. This document also covers the need in case of accident and incidents and replaces the certified report.

In the future, the access to the TIR transport information by other authorities like police will be made available by means of portable technologies such as those embarked in modern cell phones or PDAs.

3. DELIVERABLES

3.1. National deliverables

3.1.1. National management of eTIR data

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

3.1.2. Bridges to the international eTIR system

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

3.1.3. User manuals and training

Customs administrations provide their Customs officers with the necessary documentation and training to ensure the proper use of the national parts of the eTIR system.

3.2. International deliverables

3.2.1. Central databases

The eTIR platform is based on a central database system. The databases store the data and contain the functional rules that allow the proper functioning of the eTIR international system.

The databases contain information on the data on guarantees and their coverage, and link the issued guarantees with the operator. Moreover, they contain all data regarding the TIR transports linking them to the guarantee information.

3.2.2. Web services

The eTIR web services implemented on the central platform allow authorized computer systems to interact securely with the eTIR system. The web services provide, in a standard format, the functions which allow querying and updating the eTIR database.

3.2.3. Definitions of standard exchange messages

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

3.2.4. Technical documentation

The technical documentation will help Customs authorities and the private sector to develop their specific applications connected to the eTIR international system. It mainly describes the web services and the standard messages.

3.2.5. User manuals and training for trainers

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

3.2.6. Helpdesk

The helpdesk is available to Customs authorities and the private sector to help in the implementation of specifics parts of the eTIR system.

3.3. Other deliverables

Other elements which may be necessary for the functioning of the eTIR system are not necessarily integrated into the eTIR international system.

3.3.1. Customs offices database

A database in which information on all Customs offices involved in the eTIR system is stored.

3.3.2. Countries database

A database containing information on all Countries involved in the eTIR system.

3.3.3. Authorized access database

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

3.3.4. eTIR security database

In order to technically restrict access to the eTIR international system to those users who have been authorized, the eTIR systems uses a security database.

3.4. Languages and character sets

The eTIR system will allow for the translation of all coded information in order to ensure the maximum transparency. In order to allow the transmission and display of all languages, the character set used by the eTIR system is Unicode (UTF-16).
In case of textual descriptions, the language of the country where the information has been provided shall be used. Nevertheless, translations in other languages can also be provided and are sometimes required.

4. STEPS

The eTIR system as defined in chapter 2 is subdivided in two major parts: guarantee management and data exchange. When implemented, at the international level, in the given order, these two parts progressively bring the advantage of a fully computerized eTIR system, while, at the same time, gradually replacing the present paper TIR Carnet.

The full computerization of the TIR procedure depends on the complete implementation of all steps of the computerization by all parties involved. Therefore, transition phases will be required after the implementation of each step at the international level before all Contracting Parties of the Convention will be in a position to exchange electronic information. In view of the wide geographical coverage of the TIR Convention and the different levels of technological developement of the countries concerned, the duration of the transition phases may vary from country to country.

4.1. Step 1: Guarantee management

The guarantee management module, as described in Chapter 2.2, allows the guarantor to electronically register in the eTIR international system all guarantees issued to the operators. Moreover, it enables Customs authorities to check the validity of the guarantee in the course of a TIR transport and for each TIR operation.

Introducing the guarantee management into the eTIR system will increase the security of the TIR system by making avaibale, at any time, information on the validity of the guarantees. Moreover, by linking the consultation of the status of the guarantee to the ITDB, it will further secure the system by ensuring that unauthorized operators will not be allowed to perform TIR transports. Logically, it will also further discourage attempts to falsify the TIR Carnet.

The implementation of the guarantee management module will not lead to the abolition of the present paper TIR Carnet because the data transmission role of the Carnet will continue to exist.

The corner stone of the guarantee management module is the registration of the guarantee by the guarantor. It implies the development of the eTIR international

system with all related functionalities and the development or the amendment of a tool allowing for real-time transmission by the guarantor of guarantee data to the eTIR international system. Once both systems are in place, Customs administrations can progressively start implementing and aligning their internal procedures and systems.

A transition phase will be required to ensure that all Contracting Parties, as of a certain moment, will make use of the guarantee management module.

4.2. Step 2: Data exchange

The second step of the eTIR project will be to develop the TIR transport and TIR operations information exchange, building on the already developed guarantee management module.

Once the data exchange module will be functional at the international level, national Customs system can transmit and obtain information via the central system.

In view of the fact that not all Customs offices will immediately have access to the eTIR system, the use of present paper TIR Carnet will be maintained and remain mandatory. Nevertheless, all eTIR compatible Customs offices will already be in a position to have access to and update the central system with TIR transport/TIR operation information.

It can be envisaged that, with a view to accelerate the initiation of this step, one or more pilot projects concerning the exchange of data between Contracting Parties can be initiated in parallel to step 1, in line with the mandate provided by WP.30 (TRANS/WP.30/212, para 21).

4.3. Abolition of the present TIR Carnet: a geographical expansion

Before being able to completely abandon the present paper TIR Carnet, all parties involved in a TIR transport will have to be able to securely exchange electronic information on the TIR transport, the TIR operations and on the guarantee. To enable a smooth transition towards a fully computerized TIR system, the use of the present paper TIR Carnet will be discontinued for itineraries where all Customs offices will be compatible with the eTIR system.

As a result, for those TIR transports where the TIR Carnet will no longer be required, the full implementation of the second phase of the eTIR will become mandatory for all Customs offices involved. Issues with regard to rerouting will need to be addressed during the analysis and design phases.

4.4. Parallel projects

4.4.1. Declaration mechanisms

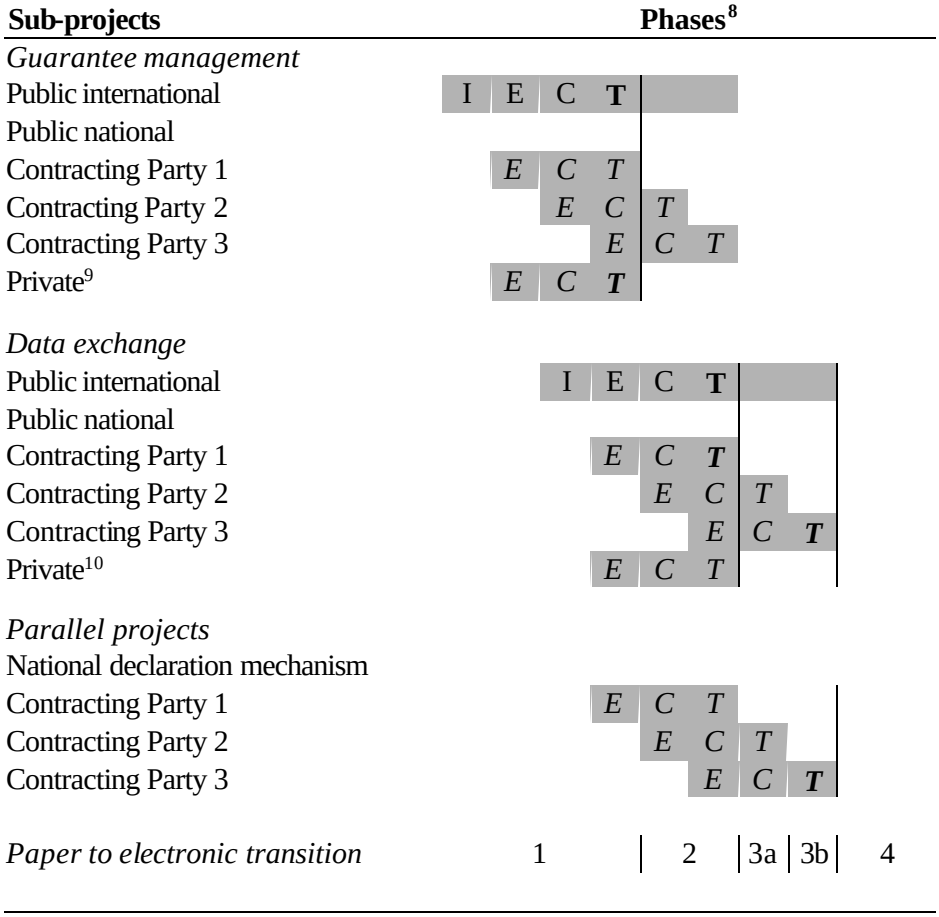
In parallel to the implementation of the eTIR international system, standard eTIR national electronic declaration mechanisms will also have to be developed, aided by guidelines established during the analysis of the second step. In this context, it can also be envisaged that standard declaration mechanisms are facilitated by developments at the international level, either at public or private level.

4.5. Schedule

The eTIR sub-projects imply developments at public and private level. Moreover, the public developments will be of both an international and national nature.[7]

The following schedule does not provide any timeframe; it only aims at showing the dependencies between the various sub-projects in their different phases of development. The national implementations of the sub-projects by Contracting Parties will not be achieved in parallel. Therefore, the schedule below considers three different timeframes, covering the possibilities for countries to develop their part of the sub-projects at their own speed.

[7] The same might apply to the private sector development but it is not the aim of this project to provide the private sector with instructions on how their systems will have to be developed or updated in order to meet the requirements of the eTIR project.



4.5.1. Paper to electronic transition

1. The transition from the paper TIR Carnet to the eTIR system will be achieved progressively, with the completion and implementation of the sub-projects at the national and international level. In the schedule above, four phases are identified:

– 1: Before the guarantee management will be in place, allowing the exchange of information between the guarantor and the eTIR international system, the paper TIR Carnet and the actual private or public systems will remain the only possible tool for the management of the TIR procedure.

[8] The letters in the cells represent the different phases as identified in table 0.1 of the Reference Model (I: Inception, E: Elaboration, C: Construction, T: Transition). Phases in italics are performed at national level or at private sector level. Phases in bold need to be finalized before reaching the milestone (indicated by vertical lines).

[9] The well functioning of the private/public partnership is essential to reach the milestone.

[10] The private part of the data exchange module aims at providing tools allowing the consultation (and, possibly, reception) by the guarantor of data exchanged between Customs authorities.

- 2: Once the guarantee information is available in the eTIR international system, countries will start linking up to the eTIR international system, in order to validate the guarantees provided by the operators. This second phase ends when the eTIR international system and, at least, one country have implemented the second step.
- 3.a: Once the data exchange module is implemented at international and national level, at least in one country, Customs authorities will start updating and consulting the eTIR international system, possibly in combination with nationally developed declaration mechanisms. Because the information in the central database will not be complete until all Customs authorities involved in a TIR transport have become eTIR compatible, the paper TIR Carnet will remain the main reference.
- 3.b: When all Contracting Parties along a specific itinerary will have become computerized (the guarantee and data exchange modules as well as the declaration mechanisms), there will be no more need to use the present paper TIR Carnet for the TIR transport. During this phase, some TIR transports will continue to use paper TIR Carnets whereas others will be performed under cover of eTIR.
- 4: Only when all Contracting Parties of the TIR Convention will have implemented both modules as well as the appropriate declaration mechanisms, the present TIR Carnet will be completely abandoned.

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