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The digitalisation of international transport, particularly freight transport documents

Preliminary inception paper

I. INTRODUCTION

1. The development of digital technologies has created new opportunities and challenges in all spheres of life, including trade and transport.
2. ‘The purpose of electronic commerce is not to create electronic equivalents of paper documents; electronic commerce is rather aimed at replacing paper documents by the electronic transfer of data which will be able to perform the same function as paper documents. After some adjustments in the rules of evidence, legal effect of electronic messages is beyond doubt in most jurisdictions. After all, the law has never required that documents must be on paper.’¹
3. The general principles of e-transactions law are as follows:
 - The principle of non-discrimination: a communication shall not be denied validity on the sole ground that it is in electronic form.
 - The principle of functional equivalence: the purposes and functions of paper-based requirements may be satisfied with electronic communications, provided certain criteria are met.
 - The principle of technological neutrality: legislation shall not impose the use of or otherwise favour any specific technology.²
4. The United Nations Commission on International Trade Law (UNCITRAL) has developed a number of legal instruments on electronic commerce:
 - UNCITRAL Model Law on Electronic Commerce (1996);
 - UNCITRAL Model Law on Electronic Signatures (2001);
 - United Nations Convention on the Use of Electronic Communications in International Contracts (2005), which entered into force on 1 March 2013;
 - UNCITRAL Model Law on Electronic Transferable Records (2017).
5. Digitalisation in the transport sector covers various aspects from autonomous vehicles to the exchange of relevant information for the performance of the carriage.
6. The carriage of goods is accompanied by the exchange of relevant information between different actors. Traditionally, such information has been exchanged by means of paper documents. The international carriage of goods under the Uniform Rules Concerning the Contract of International Carriage of Goods by Rail (CIM UR) must comply not only with mandatory provisions of the CIM UR and the terms of the contract of carriage agreed between the parties, but also with many other legal requirements, such as customs or sanitary rules. The CIM UR regulate the contract of international carriage of goods, including some basic legal requirements for the consignment note as proof of the contract of carriage. In accordance with Article 7 § 1, letter n), ‘[t]he consignment note must contain the following particulars: [...] a detailed list of the documents which are required by customs or other administrative authorities and are attached to the consignment note or held at the disposal of the carrier at the offices of a duly designated authority or a body designated in the contract’. So the CIM UR expressly recognises that customs or other

¹ Transnational Commercial Law. Texts, Cases and Materials. 2nd edition. Edited by Roy Goode, Herbert Kronke and Ewan McKendrick. Oxford, 2015, p. 290.

² See ‘UNCITRAL legal instruments for e-commerce and paperless trade’ by Luca Castellani ([English](#)).

administrative authorities may require other documents, but the CIM UR do not list these documents and do not set out any legal requirements for them.

7. The digitalisation of transport documents depends on the functions they perform. The following should therefore be recalled:

‘Transport documents may be described by the following core functions:

- 1) evidence of the receipt of goods and their condition;
- 2) evidence of the terms of a contract of carriage;
- 3) document of title to the goods, which provides constructive possession of goods (supplementary function).

[...] A supplementary function (document of title) enables the sale of goods in transit (‘documentary sales’ without physical possession of goods) and trade finance (letters of credit etc.) as goods may be pledged as collateral. Moreover, goods must be delivered only to a holder of such a document of title. Documents of title may be negotiable or non-negotiable, depending on whether rights are transferable or not.

[...] Based on the above three functions, transport documents may be classified into two basic types:

- consignment notes or waybills perform the first two functions;
- bills of lading perform all three functions.’³

8. It is generally recognised that there are no major difficulties in replacing non-negotiable paper transport documents with electronic records. On the other hand, there are major difficulties with regard to negotiable transport documents. Nevertheless, the requirement to use a paper non-negotiable transport document (e.g. the consignment note) for administrative purposes may also have a negative impact on the use of the electronic transport document.
9. Article 6 § 9 of the CIM UR provides that ‘[t]he consignment note and its duplicate may be established in the form of electronic data registration which can be transformed into legible written symbols. The procedure used for the registration and treatment of data must be equivalent from the functional point of view, particularly so far as concerns the evidential value of the consignment note represented by those data.’ In other words, the CIM UR expressly provides a legal basis for the electronic consignment note based on the principle of functional equivalence, but no detailed requirements are stipulated.
10. Lastly, it is evident that there are legal and technical issues with regard to electronic transport documents. However, the latter are outside the scope of the CIM UR.
11. This preliminary inception paper presents an overview of recent OTIF work on the electronic consignment note (II) and the relevant provisions of other conventions on the contract of carriage (III). Lastly, some relevant developments in the EU are briefly described (IV).

³ Working document LAW-21023-GTEJ 4/13 ‘Inception paper on bill of lading’ for the 4th session of the Working Group of Legal Experts, paragraphs 8 to 10.

II. RECENT OTIF WORK ON THE ELECTRONIC CONSIGNMENT NOTE

A. 25th Session of the Revision Committee (Berne, 25-26 June 2014)

12. In preparation for the 25th session of the Revision Committee, on 3 December 2013, CIT sent the OTIF Secretariat a number of suggestions for amendments to the CIM UR, including suggestions concerning the preparation of electronic documents and suggestions for modifying or supplementing the explanatory report on the CIM UR in this respect.
13. Firstly, it was suggested to include a new Article 6a in the CIM UR on the form of the electronic consignment note on the grounds that:

“Work on the e-RailFreight project has demonstrated that at the time, in practice, the principle of functional equivalence according to Art. 6 § 9 CIM made it possible to ensure legal certainty in relation to national laws. However, the principle makes the system complex and expensive, since the paper process in its entirety can only be turned into an electronic process with great difficulty.

The draft of Article 6a CIM is therefore intended to replace Article 6 § 9 CIM by means of specific provisions and to give precedence to the electronic consignment note.”
14. The suggestion to modify Article 42 of the CIM UR (Report of Findings) followed the “same approach as that adopted for the electronic consignment note, i.e. to give priority to the electronic version). In exceptional cases, The carrier and the person entitled may agree to draw up the report in paper form.”
15. The Secretariat of OTIF took up the CIT’s suggestions and submitted them to the 25th session of the Revision Committee as proposals in two documents:
 - The first document, CR 25/5⁴, dated 17 April 2014, contained the proposals for a partial revision of the CIM UR.
 - The second document, CR 25/5 Add. 1⁵, also dated 17 April 2014, was intended to provide explanations of the proposed modifications and to present the modifications to be made to the explanatory report in this respect.
16. One of the major advantages of this amendment to the CIM UR was to create the possibility in future of being able to exchange the consignment note and the accompanying documents by electronic means only, by replacing paragraph 9 of CIM Article 6 and by giving priority to the electronic consignment note.
17. The proposal for the new Article 6a of the CIM UR (Form of the consignment note) contained 5 paragraphs which set out the requirements of the various participants in the consignment note, so that the process agreed for the use of the electronic consignment note and accompanying documents attached to it establish the mode of data transmission and dispatch and all the necessary safeguards, such as the integrity and reliability of the particulars in the electronic consignment note. It did not rule out the possibility of the consignment note being drawn up in paper form.
18. At the 25th session of the Revision Committee⁶, the European Commission informed the delegations that the revision of the CIM UR is an area of shared competence between the

⁴ See Document [CR 25/5](#) “Partial revision of Appendix B (CIM UR)”.

⁵ See document [CR 25/5 Add.1](#) “Partial revision of Appendix B (CIM UR) - Explanatory document and suggestions for additions to the Explanatory Report”.

⁶ See [Minutes of the 25th session of the Revision Committee](#), p. 17.

EU and its Member States. The European Commission would give its view and exercise the right to vote for Articles 6 and 6a of the CIM UR on behalf of the EU. The amendments concerned EU legislation, as the consignment note and the accompanying documents were used for customs, sanitary and phytosanitary procedures. While agreeing with OTIF's intention to give priority to the electronic form of consignment notes, it was of the view that the adoption of these amendments could have undesirable consequences, owing to the preparatory work the European Commission had started on the use of electronic transport documents for transit in the framework of the Union's Customs Code. It therefore suggested not to take a decision on these matters at this session of the Revision Committee and to continue OTIF's cooperation with the EU on this issue in order to arrive at a well-prepared solution for the next revision of the CIM UR, which it would be wise to synchronise with the EU's new Customs Code and its implementing provisions, planned to enter into force on 1 May 2016.

19. In view of the EU's position, the Secretary General proposed to refer all the amendments to the CIM UR to the General Assembly, and it was up to the Secretariat of OTIF to harmonise its positions with the EU so that a text of amendments could be submitted to the General Assembly for adoption at its session in 2015.
20. Following these discussion, the Revision Committee decided to set up a Revision Committee working group to prepare a revision of the CIM UR, with particular attention to reasonable provisions to be put in place concerning the electronic consignment note.

The Revision Committee would approve the proposals of this working group using the written procedure, so that this question could be dealt with at the next General Assembly.

B. Consultation meeting (Brussels, 19 September 2014)

21. Following the 25th session of the Revision Committee, the Secretary General considered it necessary before the first session of the CIM working group set up by this session of the Revision Committee to organise a consultation meeting with the European Commission, in order to agree on the future introduction of the new Article 6a (Form of electronic consignment note) of the CIM UR.
22. Representatives of the European Commission (DG MOVE, DG TAXUD and DG SANCO), as well as representatives of the OTIF Secretariat, CIT and CER participated in this meeting, which took place in Brussels on 19 September 2014.
23. The decision statement from the consultation meeting was validated by the European Commission and the OTIF Secretariat. The CIT and CER supported the consultation document of this meeting.
24. The decision statement provided as follows:

“Following the meeting, it was concluded that for DG MOVE, DG TAXUD and DG SANCO, the aim of the new provision of Article 6a is to enable electronic documents gradually to become the standard, as requested by the rail market in all instances where this is possible. It will of course still be possible to use the paper consignment note, particularly if the customs regulations require it. This possibility is particularly important for phytosanitary documents. It is therefore necessary to clarify the pre-eminence of customs law in the Explanatory Report on CIM.

In the discussion, it also emerged that the question arose as to the possible coexistence of paper documents for accompanying documents and for the consignment note itself. It was therefore decided to add a sentence explaining this in the Explanatory Report as well.

There would then be no substantial problem preventing adoption of the new Article 6a of the CIM UR as worded, because:

1. Article 6 § 7 of the CIM UR, which comes within the field of customs, will not be deleted, so there will continue to be compatibility with the current framework of the Customs Code.
2. § 5 of the new proposed Article 6a stipulates explicitly that "The parties to the contract of carriage may agree to establish the consignment note and the accompanying documents in paper form".

In this context, the wording of Article 6a is still supplementary law, i.e. the consignment note and the documents are drawn up in electronic form, unless the contracting parties agree to draw them up in paper form, which they will be obliged to do for customs documents. The wording chosen will make it possible gradually to take into account future developments in the Customs Code in terms of moving towards paperless procedures. It also authorises the coexistence of the two systems.

3. The precise content of the consignment notes (electronic and paper) is the responsibility of CIT, which will ensure that it adapts to developments in customs law. The wording of the new Article 6a is sufficiently flexible to adapt continuously to developments in customs law, which we understand will be staggered between now and 2020."

C. 1st Session of the Revision Committee working group (Berne, 9 December 2014)

25. The OTIF Secretariat submitted proposals for partial amendments⁷ to the CIM UR to the first session of the working group, which were based on those submitted to the 25th session of the Revision Committee. In the explanatory notes⁸ on these proposed amendments, the Secretariat details the considerations of CIT and the OTIF Secretariat on the development of succinct provisions of substance on the electronic consignment note and, if possible, on the electronic accompanying documents. It noted that the proposal for a new Article 6a of the CIM UR, which entails the deletion of Article 6 § 9, takes account of the following requirements:

- Priority of the electronic consignment note and documents over paper documents.
- Authentication of the electronic consignment note.
- Integrity and reliability of the data in the consignment note.
- Use of the paper consignment note if there is a particular need to do so.

Only Belgium⁹ and the International Association of Tariff Specialists (IVT)¹⁰ took a position on the proposed amendments concerning electronic documents.

26. It was mainly at the 1st session¹¹ of the working group that the Member States expressed their views on these proposed amendments.

⁷ See document [CIM 1/2](#) "Partial revision of Appendix B (CIM UR)".

⁸ See document [CIM 1/2 Add.1](#) "Explanatory document and suggestions for additions to the Explanatory Report".

⁹ See [Meeting room document 1](#) – Position of Belgium.

¹⁰ See [CIM 1/4](#) "Position of the international organisations and associations concerned".

¹¹ See [Minutes](#) of the 1st session of the Revision Committee working group.

27. The European Commission was of the view that, now that some working sessions had taken place between the European Commission, the stakeholders and OTIF, the wording of Article 6a and the additions to the Explanatory Report satisfied the requirements of customs bodies and the other European Commission bodies.
28. With regard to the proposed Article 6a, Germany had some reservations, which Austria supported. In Germany's view, there was no need for the amendments, because Article 6 § 9 of the CIM UR already provided the possibility of using the electronic consignment note. The principle of functional equivalence could not be abandoned. An electronic document that did not perform the functions of the consignment note, particularly as evidence, for retention and as a receipt, could not be described as a consignment note. It was premature to prescribe the electronic procedure as the rule until there was some progress on a precise definition of the technical procedures (electronic interoperability). The current relationship between the rule and the exception should not be reversed so long as electronic data registration did not perform the functions of a consignment note and it was left up to the parties to agree the procedure for such registration. There was no fallback provision in the event that the parties have not agreed a procedure for electronic data registration. As Article 6a did not define a standard procedure, the paper form would have to remain the norm if the parties fail to reach agreement. Germany also had reservations with regard to leaving it up to the parties to decide the procedure, as provided for in Article 6a § 5 of the CIM UR. If no such decision were taken, there would be a loophole in the regulations.
29. Consequently, it was concluded that the OTIF Secretariat would propose new wording for Article 6a after consulting the stakeholders and those Member States that were most interested, so that the Member States and stakeholders could give their views at another session of the working group.
30. Germany expressed the same reservations with regard to the proposed amendment to Article 42 of the CIM UR concerning the ascertainment of partial loss or damage.

D. 2nd Session of the Revision Committee working group (Berne, 18 March 2015)

31. In the light of the discussions at the first session of the Revision Committee's working group, the Secretariat of OTIF drafted a new proposal for Article 6a of the CIM UR and for an amendment to Article 6 § 9 of the CIM UR¹². Positions were expressed by France¹³, DG TAXUD¹⁴, DG SANCO¹⁵, the International Association of Tariff Specialists (IVT)¹⁶, Germany¹⁷, the consultant, Mr Freise¹⁸, and Belgium¹⁹.
32. In its document, the Secretariat considered that the following principles for the amendment of Article 6a of the CIM UR were valid:
- a) "The principle of functional equivalence of electronic data registration with the paper form should be established by adapting the sentence in the current Article 6 § 9 CIM,

¹² See document [CIM 2/1](#) "Views of the Member States and the international organisations and associations concerned, and a new proposal by the OTIF Secretariat on the wording of Article 6a of the CIM UR and the amendment of Article 6 § 9 of the CIM UR".

¹³ See document [CIM 2/1 ad1](#) "Position France".

¹⁴ See document [CIM 2/1 ad2](#) "Comments DG TAXUD".

¹⁵ See document [CIM 2/1 ad3](#) "Comments DG SANCO".

¹⁶ See document [CIM 2/1 ad4](#) "Comments IVT (International Association of Tariff Specialists)".

¹⁷ See document [CIM 2](#) "Position Germany".

¹⁸ See document [CIM 2](#) "Comments from Mr Freise (consultant)".

¹⁹ See document [CIM 2](#) "Position Belgium".

which would be added to § 3 of Article 6a of the draft CIM. Those who took part in the 1st session of the working group adopted this principle by consensus.

- b) The sentence in Article 6a § 5 of the draft CIM stipulating that the parties may agree to establish the consignment note and the accompanying documents in paper form should be integrated into a specific paragraph 2. Indeed, if the parties do not agree to establish a consignment note in an electronic format, or if there are any provisions of public law preventing them from doing so (customs or phytosanitary provisions), it should be possible to establish the consignment note in a paper format. This point must be made clear in the Explanatory Report [...].
 - c) The Secretariat is of the view that a model procedure for establishing the electronic consignment note could be defined in accordance with Article 6 § 8 of the CIM. As this paragraph says, "The "international associations of carriers shall establish uniform model consignment notes in agreement with the customers' international associations and the bodies having competence for customs matters in the Member States as well as any intergovernmental regional economic integration organisation having competence to adopt its own customs legislation". The parties to the contract of carriage could therefore agree to use such a model.
 - d) In light of the above, it might however be timely to determine whether it is necessary to specify the essential elements that are necessary for the electronic data registration procedure. In this case, the Secretariat considers that Article 5 of the e-CMR could be taken as a basis. In order to give the international associations a common framework, consideration could be given to examining whether it is necessary to add [...] paragraph 1b to Article 6a."
33. At the 2nd session of the Revision Committee working group²⁰, the delegations agreed to say that the issue of the electronic consignment note was unavoidable, but that there were still a number of questions. More time would be needed to examine these questions, but the current very tight deadlines did not allow this. In the meantime, CIT was invited to consult its members so that they could examine and define the various elements that were necessary. Nevertheless, the chair's proposal to set out the three hypotheses in which a paper consignment note would have to be drawn up and to include Article 5 of the e-CMR in the text were considered relevant ways of improving the text.
34. Following the chair's constructive proposal, it also endorsed the following text, which still has to be examined in depth, but which could be used as a basis for future consideration in a working group set up by the Secretary General, which would probably meet in 2016:
- "§ 1 The consignment note and accompanying documents shall be established in the form of electronic data registration. To this end, the parties to the contract of carriage are required to define a technical procedure for the recording and processing of data that is operable for all parties interested in the performance of the contract of carriage.
 - § 2 Without prejudice to § 1, the parties to the contract of carriage may agree to establish the consignment note and the accompanying documents in paper form, if no agreement can be found according to § 1, if the parties to the contract of carriage agree to do so, or if they are obliged to do so in accordance with Article 2.
 - § 2b The procedure used for recording and processing data shall contain, in particular:
 - (a) The method for establishing and handing over the electronic consignment note to the party entitled;

²⁰ See [Minutes](#) of the 2nd session of the Revision Committee working group.

- (b) The manner in which the party entitled to the rights arising out of the electronic consignment note is able to demonstrate that entitlement;
- (c) The way in which confirmation is given that delivery to the consignee has been effected;
- (d) The procedures for supplementing or amending the electronic consignment note;
- (e) The procedures for the possible replacement of the electronic consignment note by a consignment note issued by different means.

§ 3 The procedure used for the registration and treatment of data must be equivalent from the functional point of view to the paper form, particularly so far as concerns the evidential value of the consignment note represented by those data.

§ 4 The procedure for establishing the electronic consignment note and the accompanying electronic documents shall ensure the integrity and reliability of the information they contain from the time they are established.

§ 5 The procedure agreed between the parties to the contract of carriage for filling out or amending the electronic consignment note shall enable identification of the amendments made. It shall also enable the original information contained in the electronic consignment note to be kept.

§ 6 The electronic consignment note shall be authenticated by the parties to the contract of carriage.

Authentication shall be carried out by means of an electronic signature or another appropriate method that ensures its link with the electronic consignment note.”

- 35. It also emerged from the discussions that in future considerations, the provisions of the e-CMR should be used as a basis and it would also have to be checked whether text should be added to Article 6 § 8 of the CIM UR to say that the international associations of carriers must agree on the electronic data registration procedures.
- 36. The Revision Committee working group agreed that it would be up to the international organisations of carriers, in this case the CIT, to specify what would be useful and necessary in practice to enable the parties to agree on the procedures used for recording and processing electronic data operable for all parties interested in the performance of the contract of carriage.
- 37. With regard to Article 42 of the CIM UR (Ascertainment of partial loss or damage), the working group agreed to say that the considerations taken into account for the electronic consignment note must also be used as a basis for future discussions on the priority to be given to the electronic form of the ascertainment of partial loss or damage.

E. 12th Session of the General Assembly (29-30 September 2015)

- 38. The Secretary General reported²¹ to the 12th General Assembly on the work carried out by the CIM working group on the proposals to amend the CIM UR submitted to the 25th session of the Revision Committee.
- 39. It emerged from this report that:

"1. At this stage of the discussions, it is premature to agree to proposed amendments concerning the electronic consignment note. There were still a number of questions

²¹ See document [AG 12/9](#) “PARTIAL REVISION OF APPENDIX B (CIM UR)”.

which, owing to the very short period of time between the Revision Committee and the 12th General Assembly, could not be examined with the attention the complexity of this issue demands.

2. The issue of the electronic consignment note is nevertheless unavoidable. In some Member States, the railway undertakings already make extensive use of the electronic consignment note. A strong legal basis for the electronic consignment note is therefore necessary.
3. While the electronic consignment note and accompanying documents are given priority, the parties to the contract of carriage must nevertheless agree to establish the consignment note and the accompanying documents in paper form in three cases:
 - If they are unable to define a technical procedure for the recording and processing of data that is operable for all parties interested in the performance of the contract of carriage;
 - If they agree to use the paper form;
 - If they are obliged to establish the consignment note or accompanying documents in paper form because transport to which the CIM UR applies is subject to the provisions of public law, in particular the prescriptions relating to the carriage of dangerous goods as well as the prescriptions of customs law and those relating to the protection of animals (Article 2 of the CIM UR).
4. It would also be advisable, by means of high-level provisions, to specify the essential elements necessary for the procedures for recording and processing electronic data, taking particular account of Article 5 of the e-CMR.

However, it would be up to the international associations of carriers, in this case the CIT, to specify the detailed procedures so that in practice, the parties can put the electronic consignment note into effect under the best conditions in terms of effectiveness and legal certainty. It would also have to be checked whether text should be added to Article 6 § 8 to say that the international associations of carriers must agree on the procedures for electronic data registration and processing.

The principle of functional equivalence of data registration with the paper form is a prerequisite (current Article 6 § 9 of the CIM UR) for all the functions that the paper consignment note fulfils at present.

5. In this respect, the procedure agreed between the parties must of course ensure the integrity and reliability of the information contained in the consignment note and the accompanying electronic documents from the time they are established. It must also make it possible to detect any modifications that are made and to keep the original information contained in the electronic consignment note.

Authentication will be carried out by means of an electronic signature or another appropriate method that ensures its link with the electronic consignment note.

While it did not adopt any definitive provisions, the working group nevertheless endorsed some proposals for a new Article 6a concerning the electronic consignment note, in line with the principles below.

These proposals still have to be examined in depth, but could be used as a basis for future discussions in a working group set up by the Secretary General which will probably meet in 2016 once the sector has re-examined the functional requirements of the electronic consignment note.”

40. The General Assembly noted the Secretary General's report on the progress of the work on revising the CIM UR and the continuation of this work, particularly the work relating to the provisions to be put in place concerning the electronic consignment note, once the sector had re-examined the related functional requirements²².

F. 26th Session of the Revision Committee (27-28 February 2018)

41. The Secretariat of OTIF submitted a new report by the Secretary General on the partial revision of the CIM UR to the 26th session of the Revision Committee²³.
42. In this document, the OTIF Secretariat reported on developments, in particular the CIT report on the digitisation of transport documents within the railways and its conclusions.
43. According to this report,

“With regard to the functional specifications of the electronic consignment note, the CIT report only indicates that these have been prepared by the CIT’s CIM Working Group in the two freight transport manuals, i.e. the Consignment Note Manual (GLV-CIM) and the Freight Traffic Manual (GTM-CIT), that these manuals were adopted by the competent body of CIT, the CIM Committee, and that they entered into force on 1 January 2017. CIT concludes that the sector has an important foundation on which to digitise the transport documents.

Furthermore, in connection with actualising the electronic CIM consignment note and the progress of digitisation in the rail sector, CIT surveyed its members on whether the national courts and other national authorities recognise the electronic CIM consignment note as a means of proving the contract of carriage (Article 6 § 2 of the CIM UR) and what value is attached to the electronic signature in this context.

The second sentence of Article 6 § 9 of the CIM UR says that “the procedure used for the registration and treatment of data must be equivalent from the functional point of view, particularly so far as concerns the evidential value of the consignment note represented by those data.” In this provision, the evidential value is only highlighted as an example, because this is the area where more significant difficulties can occur in some national legislations. However, it should be pointed out that the only conclusion that CIT has been able to draw from this survey is that the evidential value of the electronic transport documents differs according to national law and that this evidential value is subject to the court’s unconstrained consideration of the evidence.

The decision of the 12th General Assembly requested the sector to “re-examine the functional specifications of the electronic consignment note”.

In its letter to the Secretary General of OTIF, CIT summarises as follows the conclusions of its work and the results of its efforts in terms of digitising the transport documents:

- The second sentence of Article 6 § 9 of the CIM UR on the functional equivalence of the electronic consignment note is a sufficient legal basis for the new sector standard, which has been available to the users since 1 January 2017.
- Based on these standards, the sector is currently preparing the implementation of the electronic CIM consignment note, including with respect to customs.

²² See [final document](#) of the 12th session of the General Assembly, point 7.7.

²³ See document [LAW-17127-CR 26/6](#) “Partial revision of Appendix B (CIM UR) - Report from the Secretary General”.

- CIT will assess the need for further legislative development in COTIF/CIM after a certain period of time based on practical use and experience and if necessary will come back to OTIF with further suggestions for a revision of the legal framework.”

44. The 26th session of the Revision Committee²⁴ noted this report and instructed the Secretary General to submit to its 27th session a report on the progress of work on customs issues and the digitalisation of freight transport documents and, if necessary, to submit proposals to amend the CIM UR.

III. OTHER CONVENTIONS ON THE CONTRACT OF CARRIAGE

A. Rail transport

45. In addition to the CIM UR, another international legal instrument applicable to the contract of carriage of goods is the Agreement on international railway freight communications (SMGS) (Applicable from 1 November 1951 with amendments and supplements as of 01.07.2021) of the Organisation for Cooperation between Railways (OSJD).

46. Article 2 ‘Definitions’ of the SMGS provides as follows:

‘Electronic document means a legally valid document established in electronic form and containing the amount of data specified for the relevant document issued in accordance with the provisions of this Agreement.’

47. Article 14 § 7 ‘Contract of carriage’ of the SMGS provides as follows:

‘Participants in the carriage [the consignor, carrier or consignee] may exercise their rights and obligations by means of either paper or electronic documents. Electronic documents are used if the carriers involved in the carriage so agree.’

48. Article 15 § 4 ‘Consignment Note’ of the SMGS provides that:

‘The consignment note may be in the form of a paper document (paper consignment note) or electronic document (electronic consignment note).’

49. Article 46 § 2 ‘Claims’ of the SMGS provides that:

‘Claims shall be made in writing, with appropriate justification and an indication of the amount claimed. Claims may be made in paper form or in electronic form if this is allowed in accordance with an agreement to be concluded between the participants in the carriage. [...]’.

B. Road transport

50. Contracts of international carriage by road transport are regulated by:

- The Convention on the Contract for the International Carriage of Goods by Road (CMR);
- OHADA (Organization for the harmonization of business law in Africa) Uniform act on the contract for the Carriage of goods by road.

51. In 2008, the Additional Protocol to the Convention on the Contract for the International Carriage of Goods by Road (CMR) concerning the Electronic Consignment Note was

²⁴ See [Minutes](#) of the 26th session of the Revision Committee, pp. 10 and 11.

adopted. In accordance with the preamble of the Additional Protocol, its aim is ‘to facilitate the optional making out of the consignment note by means of procedures used for the electronic recording and handling of data.’ As of 8 March 2022, there were 30 parties to this Additional Protocol (e-CMR).

52. Article 1 ‘Definitions’ of the Additional Protocol provides that:

“‘Electronic communication’ means information generated, sent, received or stored by electronic, optical, digital or similar means with the result that the information communicated is accessible so as to be usable for subsequent reference;

“‘Electronic consignment note’ means a consignment note issued by electronic communication by the carrier, the sender or any other party interested in the performance of a contract of carriage to which the Convention applies, including particulars logically associated with the electronic communication by attachments or otherwise linked to the electronic communication contemporaneously with or subsequent to its issue, so as to become part of the electronic consignment note;

“‘Electronic signature’ means data in electronic form which are attached to or logically associated with other electronic data and which serve as a method of authentication.’

53. Article 2 ‘Scope and effect of the electronic consignment note’ of the Additional Protocol provides that:

‘1. Subject to the provisions of this Protocol, the consignment note referred to in the Convention, as well as any demand, declaration, instruction, request, reservation or other communication relating to the performance of a contract of carriage to which the Convention applies, may be made out by electronic communication.

2. An electronic consignment note that complies with the provisions of this Protocol shall be considered to be equivalent to the consignment note referred to in the Convention and shall therefore have the same evidentiary value and produce the same effects as that consignment note.’

54. Article 3 ‘Authentication of the electronic consignment note’ of the Additional Protocol provides that:

‘1. The electronic consignment note shall be authenticated by the parties to the contract of carriage by means of a reliable electronic signature that ensures its link with the electronic consignment note. The reliability of an electronic signature method is presumed, unless otherwise proved, if the electronic signature:

(a) is uniquely linked to the signatory;

(b) is capable of identifying the signatory;

(c) is created using means that the signatory can maintain under his sole control; and

(d) is linked to the data to which it relates in such a manner that any subsequent change of the data is detectable.

2. The electronic consignment note may also be authenticated by any other electronic authentication method permitted by the law of the country in which the electronic consignment note has been made out.

3. The particulars contained in the electronic consignment note shall be accessible to any party entitled thereto.’

55. Article 4 ‘Conditions for the establishment of the electronic consignment note’ of the Additional Protocol provides that:

‘1. The electronic consignment note shall contain the same particulars as the consignment note referred to in the Convention.

2. The procedure used to issue the electronic consignment note shall ensure the integrity of the particulars contained therein from the time when it was first generated in its final form. There is integrity when the particulars have remained complete and unaltered, apart from any addition or change which arises in the normal course of communication, storage and display.

3. The particulars contained in the electronic consignment note may be supplemented or amended in the cases authorized by the Convention.

The procedure used for supplementing or amending the electronic consignment note shall make it possible to detect as such any supplement or amendment to the electronic consignment note and shall preserve the particulars originally contained therein.’

56. Article 5 ‘Implementation of the electronic consignment note’ of the Additional Protocol provides that:

‘1. The parties interested in the performance of the contract of carriage shall agree on the procedures and their implementation in order to comply with the requirements of this Protocol and the Convention, in particular as regards:

(a) The method for the issuance and the delivery of the electronic consignment note to the entitled party;

(b) An assurance that the electronic consignment note retains its integrity;

(c) The manner in which the party entitled to the rights arising out of the electronic consignment note is able to demonstrate that entitlement;

(d) The way in which confirmation is given that delivery to the consignee has been effected;

(e) The procedures for supplementing or amending the electronic consignment note; and

(f) The procedures for the possible replacement of the electronic consignment note by a consignment note issued by different means.

2. The procedures in paragraph 1 must be referred to in the electronic consignment note and shall be readily ascertainable.’

57. Article 6 ‘Documents supplementing the electronic consignment note’ of the Additional Protocol provides that:

‘1. The carrier shall hand over to the sender, at the latter’s request, a receipt for the goods and all information necessary for identifying the shipment and for access to the electronic consignment note to which this Protocol refers.

2. The documents referred to in Article 6, paragraph 2 (g) and Article 11 of the Convention may be furnished by the sender to the carrier in the form of an electronic communication if the documents exist in this form and if the parties have agreed to procedures enabling a link to be established between these documents and the electronic consignment note to which this Protocol refers in a manner that assures their integrity.’

58. The Additional Protocol forms an explicit legal framework recognising the legal value of the electronic consignment note. This legal framework allows for tailor-made means for the exchange of eCMR information, such as the "high-level architecture of the future eCMR system"²⁵ or the development of specific electronic platforms or software for eCMR that could be developed by private partners.
59. However, the implementation of the electronic consignment note is encountering a number of problems which slow down its general implementation. Notably, in 2012, the International Road Transport Union ("IRU") observed that the "electronic signature" was a major obstacle to the wider use of the electronic consignment note²⁶. The divergence of national legislation and the absence of a universally accepted international instrument complicate the establishment of a common system. This was one of the issues discussed at the extraordinary session of the UNECE Working Party on Road Transport (SC.1) in 2018²⁷.
60. In order to facilitate the widespread introduction of the consignment note, a group of experts on the operationalization of the eCMR was set up in 2021 for 2 years under the auspices of the UNECE. The work of the expert group in 2022 and 2023 will include translating into practice the requirements of Article 5 of the Additional Protocol (referred to above), including the purpose and scope, the high-level architecture and the conceptual specifications of a future environment that would contribute to the easier exchange of electronic consignment notes.
61. There are no provisions in the OHADA Uniform act on the contract for the Carriage of goods by road relating to the electronic consignment note.

C. Inland waterway transport

62. Contracts of international carriage by inland waterways are regulated by the Budapest Convention on the Contract for the Carriage of Goods by Inland Waterway (CMNI).
63. Article 1, point 8, 'Definitions' of the Budapest Convention provides that:
- ‘‘In writing’ includes, unless otherwise agreed between the parties concerned, the transmission of information by electronic, optical or similar means of communication, including, but not limited to, telegram, facsimile, telex, electronic mail or electronic data interchange (EDI), provided the information is accessible so as to be usable for subsequent reference.’
64. Article 11, paragraph 2, 'Nature and content' provides that:
- ‘The original of the transport document must be signed by the carrier, the master of the vessel or a person authorized by the carrier. The carrier may require the shipper to countersign the original or a copy. The signature may be in handwriting, printed in facsimile, perforated, stamped, in symbols or made by any other mechanical or electronic means, if this is not prohibited by the law of the State where the transport document was issued.’
65. Digitalisation in inland navigation concerns both the introduction of electronic transport documents and the secure exchange of information for the operation of autonomous

²⁵ ECE/TRANS/SC.1/2021/3, Working Party on Road Transport, Additional Protocol to the CMR concerning the Electronic Consignment Note (eCMR), High level architecture of future eCMR system, 30 July 2021, [French/English](#).

²⁶ ECE/TRANS/SC.1/398, Report of the Working Party on Road Transport on its 107th session, 12 November 2012, [French/English](#).

²⁷ ECE/TRANS/SC.1/S/398, Report of the Special session of Working Party on Road Transport, 16 April 2018, [French/English](#), para. 7.

vessels. In this context, a workshop was organised by the UNECE Working Party on Inland Water Transport (SC.3) on digitalisation in inland water transport²⁸. The topic of the digitalisation of transport documents is closely related to the development of computerised exchange systems, the development of River Information Services, the creation of intelligent transport systems, the implementation of digital services and modern technologies.

66. UNECE has formulated recommendations for UNECE actions to make inland navigation more sustainable and competitive²⁹. Recommendation No. 6 concerns in particular promotion of the development of automation, digitalisation and other innovations in the inland water transport sector. More specifically, the UNECE believes that the sector could learn from the experience of other transport modes to develop the electronic consignment note. In addition to encouraging the sector, the UNECE could “*support the development of a harmonized international legal framework for the digitalization of transport documents and consider a possible impact on the existing legal instruments, in particular, the Budapest Convention on the Contract for the Carriage of Goods by Inland Waterway*”³⁰. The Inland Transport Committee approved these recommendations at its 82nd session³¹.

D. Air transport

67. Contracts of international carriage by air are regulated by
- The Convention for the Unification of Certain Rules for International Carriage by Air (the Montreal Convention of 1999) and
 - The Warsaw System on air carriers’ liability consisting of the Convention for the Unification of certain rules relating to international carriage by air (the Warsaw Convention of 1929) and a number of modifying and supplementary treaties.
68. The Montreal Protocol No.4 (1975) to amend the Warsaw Convention of 1929, as amended by The Hague Protocol of 1955, replaced the provisions of Article 5 with the following:
- ‘1. In respect of the carriage of cargo an air waybill shall be delivered.
 2. Any other means which would preserve a record of the carriage to be performed may, with the consent of the consignor, be substituted for the delivery of an air waybill. If such other means are used, the carrier shall, if so requested by the consignor, deliver to the consignor a receipt for the cargo permitting identification of the consignment and access to the information contained in the record preserved by such other means.
 3. The impossibility of using, at points of transit and destination, the other means which would preserve the record of the carriage referred to in paragraph 2 of this Article does not entitle the carrier to refuse to accept the cargo for carriage.’
69. Article 4 ‘Cargo’ of the Montreal Convention of 1999 provides that:
- ‘1. In respect of the carriage of cargo, an air waybill shall be delivered.
 2. Any other means which preserves a record of the carriage to be performed may be substituted for the delivery of an air waybill. If such other means are used, the carrier shall, if so requested by the consignor, deliver to the consignor a cargo receipt permitting

²⁸ ECE/TRANS/SC.3/2018/9 Workshop “Digitalization in inland water transport” [French/English](#), para 4.

²⁹ Brief overview of the information included in the draft revision of the White Paper on efficient and sustainable inland water transport in Europe.

³⁰ Informal document SC.3 No. 4 (2019), Recommendation No.6, page 48, point e; [French/English](#).

³¹ Informal document No.10/Rev6 [French/English](#).

identification of the consignment and access to the information contained in the record preserved by such other mean.’

70. The introduction of the electronic air waybill was prepared by the association representing the sector - IATA. An E-cargo Working Group began its work in 2008³² and announced in 2019 that the electronic consignment note has become the default contract of carriage in 2019 for air freight shipments, gradually replacing paper-based procedures³³. In May 2021, the electronic air waybill was used for 75.4% of air cargo³⁴.

E. Maritime transport

71. There are several international regimes regulating the carriage of goods by sea:
- The International Convention for the Unification of Certain Rules of Law relating to Bills of Lading (‘Hague Rules’) of 1924;
 - The Protocol to Amend the International Convention for the Unification of Certain Rules of Law Relating to Bills of Lading (a consolidated version known as the ‘Hague-Visby Rules’) of 1968;
 - The United Nations Convention on the Carriage of Goods by Sea (the ‘Hamburg Rules’) of 1978 (entered into force in 1992).
72. In 2008, the United Nations Convention on Contracts for the International Carriage of Goods Wholly or Partly by Sea, the ‘Rotterdam Rules’, was adopted. However, it has not yet entered into force.
73. ‘The Hague Rules and the Hamburg Rules do not state that they are applicable only to paper bills of lading and they contain nothing preventing their application to electronic bills. The Hamburg Rules (Art. 14.3) [...] provide for the possibility that the signature can be made by electronic means [...]. It thus seems that there are not any international legal barriers to the use of electronic bills of lading.’³⁵
74. The Rotterdam Rules set out very detailed rules on electronic transport documents.
75. Article 1, points 17 to 23, ‘Definitions’ of the Rotterdam Rules provides that:
- ‘17. “Electronic communication” means information generated, sent, received or stored by electronic, optical, digital or similar means with the result that the information communicated is accessible so as to be usable for subsequent reference.’
18. “Electronic transport record” means information in one or more messages issued by electronic communication under a contract of carriage by a carrier, including information logically associated with the electronic transport record by attachments or otherwise linked to the electronic transport record contemporaneously with or subsequent to its issue by the carrier, so as to become part of the electronic transport record, that:
- (a) Evidences the carrier’s or a performing party’s receipt of goods under a contract of carriage; and

³² More information on this group is available under the following link: [English](#).

³³ IATA press release: [English](#).

³⁴ Monthly report May 2021 (latest report available in February 2022) under the following link: [English](#).

³⁵ Časlav Pejović. Transport Documents in Carriage of Goods by Sea. International Law and Practice, Routledge, 2020, p. 223.

(b) Evidences or contains a contract of carriage.

19. “Negotiable electronic transport record” means an electronic transport record:

(a) That indicates, by wording such as “to order”, or “negotiable”, or other appropriate wording recognized as having the same effect by the law applicable to the record, that the goods have been consigned to the order of the shipper or to the order of the consignee, and is not explicitly stated as being “non-negotiable” or “not negotiable”; and

(b) The use of which meets the requirements of article 9, paragraph 1.

20. “Non-negotiable electronic transport record” means an electronic transport record that is not a negotiable electronic transport record.

21. The “issuance” of a negotiable electronic transport record means the issuance of the record in accordance with procedures that ensure that the record is subject to exclusive control from its creation until it ceases to have any effect or validity.

22. The “transfer” of a negotiable electronic transport record means the transfer of exclusive control over the record.

23. “Contract particulars” means any information relating to the contract of carriage or to the goods (including terms, notations, signatures and endorsements) that is in a transport document or an electronic transport record.’

76. Chapter 3 ‘Electronic transport records’ of the Rotterdam Rules provides that:

‘Article 8 ‘Use and effect of electronic transport records’

Subject to the requirements set out in this Convention:

(a) Anything that is to be in or on a transport document under this Convention may be recorded in an electronic transport record, provided the issuance and subsequent use of an electronic transport record is with the consent of the carrier and the shipper; and

(b) The issuance, exclusive control, or transfer of an electronic transport record has the same effect as the issuance, possession, or transfer of a transport document.

Article 9 ‘Procedures for use of negotiable electronic transport records’

1. The use of a negotiable electronic transport record shall be subject to procedures that provide for:

(a) The method for the issuance and the transfer of that record to an intended holder;

(b) An assurance that the negotiable electronic transport record retains its integrity;

(c) The manner in which the holder is able to demonstrate that it is the holder; and

(d) The manner of providing confirmation that delivery to the holder has been effected, or that, pursuant to articles 10, paragraph 2, or 47, subparagraphs 1 (a) (ii) and (c), the electronic transport record has ceased to have any effect or validity.

2. The procedures in paragraph 1 of this article shall be referred to in the contract particulars and be readily ascertainable.

Article 10 ‘Replacement of negotiable transport document or negotiable electronic transport record’

1. If a negotiable transport document has been issued and the carrier and the holder agree to replace that document by a negotiable electronic transport record:

(a) The holder shall surrender the negotiable transport document, or all of them if more than one has been issued, to the carrier;

(b) The carrier shall issue to the holder a negotiable electronic transport record that includes a statement that it replaces the negotiable transport document; and

(c) The negotiable transport document ceases thereafter to have any effect or validity.

2. If a negotiable electronic transport record has been issued and the carrier and the holder agree to replace that electronic transport record by a negotiable transport document:

(a) The carrier shall issue to the holder, in place of the electronic transport record, a negotiable transport document that includes a statement that it replaces the negotiable electronic transport record; and

(b) The electronic transport record ceases thereafter to have any effect or validity.’

77. Lastly, throughout the Rotterdam Rules, reference is made to transport documents and electronic transport records.

F. Multimodal transport

78. Currently, only unimodal conventions whose application can be extended to multimodal carriage are in force. The United Nations Convention on International Multimodal Transport of Goods of 1980 would apply to all contracts of multimodal transport, but it has not entered into force.

79. Article 5, paragraph 3, ‘Issue of multimodal transport document’ provides that:

‘The signature on the multimodal transport document may be in handwriting, printed in facsimile, perforated, stamped, in symbols, or made by any other mechanical or electronic means, if not inconsistent with the law of the country where the multimodal transport document is issued.’

IV. RELEVANT DEVELOPMENTS WITHIN THE EU

80. There are numerous initiatives on digitalisation within the EU. However, for the purposes of this preliminary inception paper, the most important of these is Regulation (EU) 2020/1056 of the European Parliament and of the Council of 15 July 2020 on electronic freight transport information (hereafter ‘Regulation (EU) 2020/1056’), the so-called eFTI-regulation, and the Digital Transport and Logistics Forum (DTLF).

81. The Digital Transport and Logistics Forum (DTFL) was established by the European Commission in 2015, initially until 2018 (first mandate). In 2018, the European Commission renewed the DTFL (second mandate).

82. In accordance with the Commission Decision of 13.9.2018 setting up the group of experts on digital freight transport and logistics: the Digital Transport and Logistics Forum (DTLF):

‘The [...] [DTFL] shall provide a platform for structural dialogue, exchange and provision of technical expertise, cooperation and coordination between the Commission, Member States and relevant stakeholders, with a view to assisting the Commission in the development and implementation of the Union’s activities and programmes aimed at the digitalisation of the transport and logistics sector and at fostering a more efficient electronic exchange of information in transport and logistics.’

83. The DTLF played an important role in the preparation of Regulation (EU) 2020/1056 and is currently involved in the preparation of its implementation.
84. Regulation (EU) 2020/1056 entered into force on 20 August 2020. It will apply from 21 August 2024, except some provisions that applied from the date of entry into force.
85. The objective of Regulation (EU) 2020/1056 is ‘to ensure a uniform approach to acceptance by competent authorities of freight transport information made available electronically’.³⁶ ‘The absence of a uniform legal framework at [European] Union level requiring competent authorities to accept relevant freight transport information, required by legislation, in electronic form, is considered to be the main reason for the lack of progress towards the simplification and greater efficiency of information exchanges made possible by available electronic means. [...]’³⁷
86. In accordance with Article 1, the Regulation:
- ‘(a) lays down the conditions based on which competent authorities are required to accept regulatory information when that information is made available electronically by the economic operators concerned;
- (b) lays down rules on the provision of services related to making regulatory information available electronically by the economic operators concerned to competent authorities.’
87. ‘Since this Regulation is only intended to facilitate and encourage the provision of information between the economic operators and competent authorities by electronic means, it should be without prejudice to the provisions of Union legal acts or national law determining the content of regulatory information and, in particular, should not impose any additional regulatory information or language requirements. [...] [However,] it is without prejudice to the possibility for the economic operators concerned to present that information in paper format [...]’³⁸
88. ‘Competent authorities should therefore be required to accept information made available electronically whenever economic operators are obliged to make information available as proof of compliance with requirements laid down in Union legal acts covered by this Regulation. This requirement should also cover information requested by the authorities as additional information in accordance with the provisions of those Union legal acts, for example, when some information is missing. The same should apply where national law requires the provision of regulatory information identical, in whole or in part, to information to be provided pursuant to Union legal acts falling within the scope of this Regulation. [...]The obligation for competent authorities to accept information made available electronically by economic operators should also apply whenever provisions of Union legal acts or national law falling within the scope of this Regulation require information that is also referred to in relevant international conventions such as the conventions governing the international contracts of carriage in the different transport modes, for example the UN Convention on the Contract for the International Carriage of Goods by Road (CMR), the Convention concerning International Carriage by Rail (COTIF), the IATA Resolution 672 on E-air Waybill, the Convention for the Unification

³⁶ See point 20 of the Preamble to Regulation (EU) 2020/1056.

³⁷ See point 4 of the Preamble to Regulation (EU) 2020/1056.

³⁸ See point 7 of the Preamble to Regulation (EU) 2020/1056.

of Certain Rules for International Carriage by Air (Montreal Convention), and the Budapest Convention on the Contract for the Carriage of Goods by Inland Waterways (CMNI).³⁹

89. In accordance with Article 4 ‘Requirements for competent authorities’, ‘[w]here the economic operators concerned make regulatory information available electronically to a competent authority, they shall do so on the basis of data processed on a certified eFTI platform⁴⁰ and, if applicable, by a certified eFTI service provider. That regulatory information shall be made available by the economic operators concerned in machine-readable format and, at the request of the competent authority, in human-readable format.’
90. In accordance with Article 5, ‘Requirements for economic operators concerned’, ‘competent authorities shall accept regulatory information made available electronically by the economic operators concerned [...], including where such regulatory information is requested by competent authorities as additional information’
91. In accordance with Article 7, ‘eFTI common data set and eFTI data subsets’, ‘[t]he Commission shall adopt delegated acts [...] to supplement this Regulation by establishing and amending the eFTI common data set and eFTI data subsets in relation to the respective regulatory information requirements [...], including corresponding specifications on the definition and technical characteristics for each data element included in the eFTI common data set and eFTI data subsets.’
92. In accordance with Article 8, ‘Common procedures and rules for access’, ‘[t]he Commission shall adopt implementing acts laying down common procedures and detailed rules, including common technical specifications, for access by competent authorities to eFTI platforms, including procedures for the processing of regulatory information and for communication between competent authorities and the economic operators concerned in relation to that information.’

³⁹ See point 6 of the Preamble to Regulation (EU) 2020/1056.

⁴⁰ ‘eFTI platform’ means a solution based on information and communication technology (ICT), such as an operating system, an operating environment, or a database, intended to be used for the processing of eFTI (Article 3 ‘Definitions’, point 10).