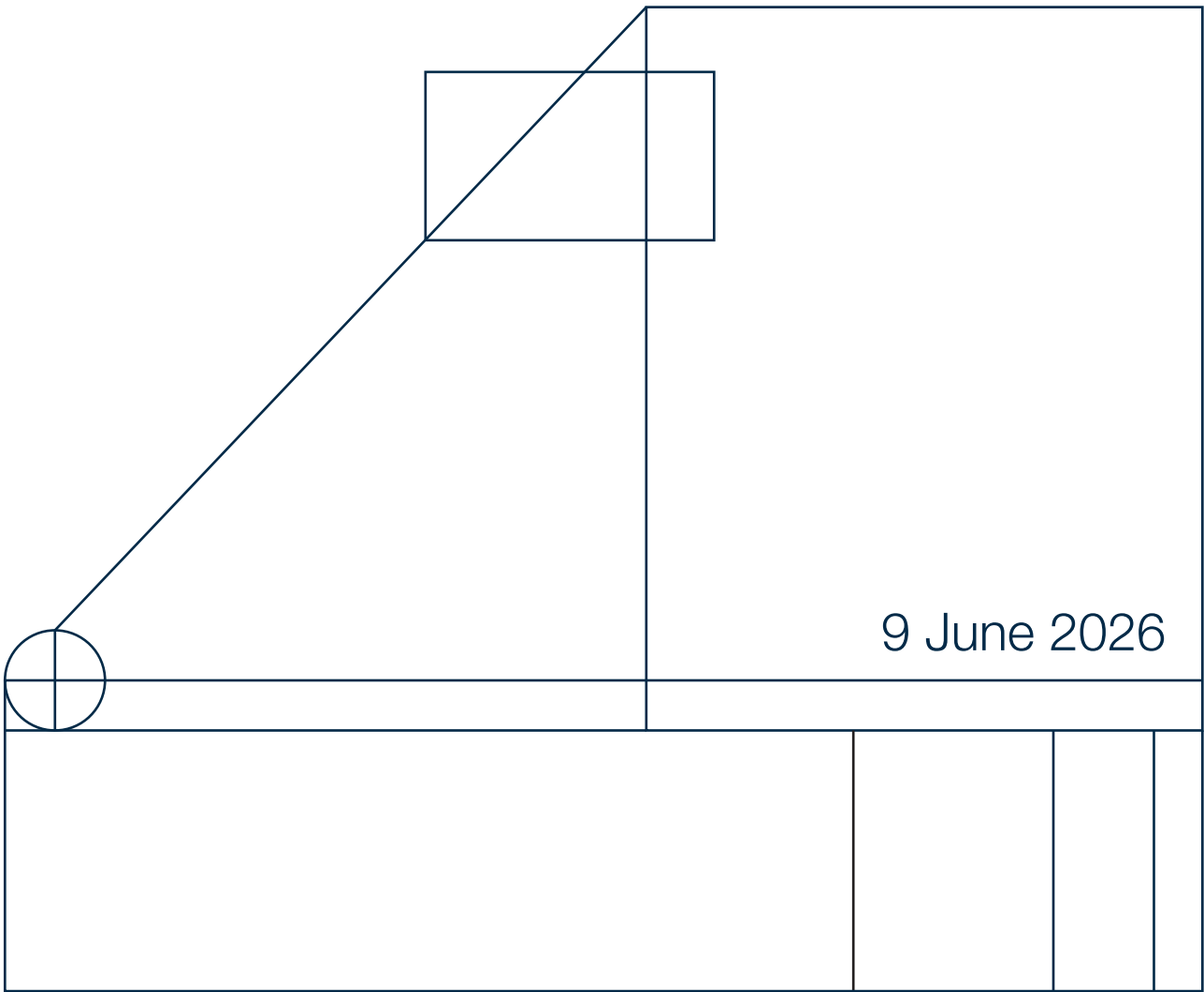


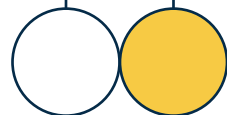
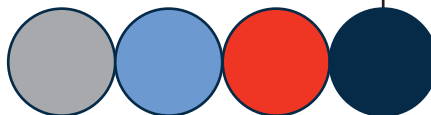
HANDBOOK

for the implementation and application of:

- the APTU Uniform Rules (Appendix F to COTIF)
- the ATMF Uniform Rules (Appendix G to COTIF)



COTIF



Amendments record of the handbook

Reference	Date	Description and comments
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Version 2	17 June 2025	Version approved by the Committee of Technical Experts at its 17 th session.
Version 3	9 June 2026	Version approved by the Committee of Technical Experts at its 18 th session.

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ABBREVIATIONS

Abbreviation	Full text
APTU UR	Uniform Rules concerning the Validation of Technical Standards and the Adoption of Uniform Technical Prescriptions applicable to Railway Material intended to be used in International Traffic (Appendix F to the Convention)
ATMF UR	Uniform Rules concerning the Technical Admission of Railway Material used in International Traffic (Appendix G to the Convention)
CEN	European Committee for Standardization
CENELEC	European Electrotechnical Committee for Standardization
CCS	Control-command and signalling
CSM	Common safety method
COTIF	Convention concerning International Carriage by Rail
CTE	Committee of Technical Experts
DG MOVE	Directorate General Mobility and Transport (European Commission's department responsible for EU policy on mobility and transport)
GCU	General Contract of Use for Wagons
ECM	Entity in Charge of Maintenance
ERA	European Union Agency for Railways
ERADIS	Interoperability and Safety database managed by the European Union Agency for railways
EST UR	Uniform Rules concerning the Safe Operation of Trains in International Traffic (Appendix H to the Convention)
ETSI	European Telecommunications Standards Institute
EU	European Union
EVN	Unique Vehicle Number [UTP] / European Vehicle Number [TSI]
EVR	European Vehicle Register
IC	Interoperability Constituent
INF	Infrastructure
ISO	International Organisation for Standardisation
LOC&PAS	Locomotives and Passenger rolling stock
NoBo	Notified Body
NTR	National Technical Requirement
OTIF	Intergovernmental Organisation for International Carriage by Rail
PRM	Persons with disabilities and persons with reduced mobility
RID	Regulations concerning the International Carriage of Dangerous Goods by

	rail
TAF	Telematics Applications for Freight
TCRC	Train composition and route compatibility checks
TEN	Trans-European Network
TSI	Technical Specification for Interoperability
UTP	Uniform Technical Prescription
VKM	Vehicle Keeper Marking
WAG	Wagon
WG Tech	Working group Technology

I. PURPOSE AND SCOPE OF THIS HANDBOOK

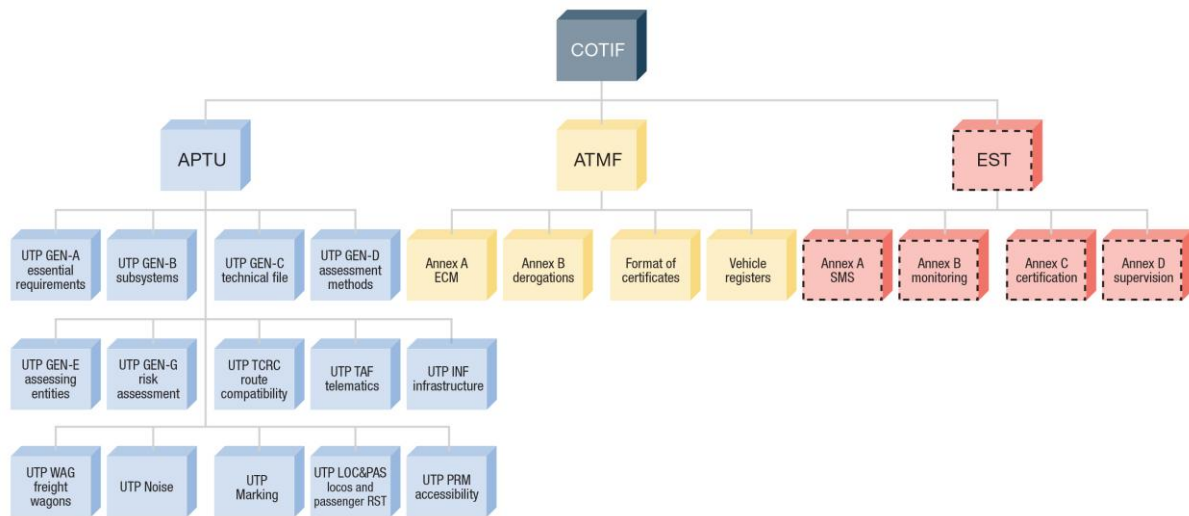
1. The aim of this handbook is to outline the requirements for implementing and applying Appendix F to COTIF (the APTU UR) and Appendix G to COTIF (the ATMF UR) for international transport by rail, and to describe the various roles and responsibilities in connection with implementation and application. It is intended to serve as a practical reference for OTIF members and states interested in acceding to COTIF, particularly for the authorities, entities and actors in their respective railway sectors.
2. The information in the handbook is accurate at the date indicated on the cover page. Any references to other law, such as Uniform Technical Prescriptions (UTPs), are to the editions of that law that were applicable at the date indicated on the cover page. Please note that these editions may have changed since that date.
3. This handbook concerns:
 - The APTU UR in the version of 1 March 2019.
 - The ATMF UR in the version of 1 November 2023.
4. This handbook is purely of an informative nature. It does not contain binding provisions and does not establish any rights or obligations for any party, nor does it change the legal situation in any other way. It should not be construed as legal advice or be considered as a formal interpretation of COTIF.
5. In this context, it is worth recalling the Explanatory Report of COTIF and its Appendices, which is available on OTIF's website. The explanatory notes in the Report reflect the considerations and justifications of the competent OTIF organ when the legal provisions of COTIF and its Appendices were adopted. It is not the aim of this handbook to repeat these explanatory notes, but to provide more practical guidance on how the provisions should be applied and implemented.

II. GENERAL SCOPE AND PURPOSE OF THE APTU AND ATMF UNIFORM RULES

6. Railway vehicles are instrumental to international traffic by rail. The primary objective of the APTU UR and the ATMF UR combined is to provide the legal basis for rail vehicles to circulate in international traffic. The APTU and ATMF UR lay down technical requirements as well as procedures for the admission of vehicles. The OTIF Member States which apply the technical provisions of the APTU and ATMF UR are referred to as Contracting States.
7. The scope of COTIF is limited to international rail traffic only. This has important implications:
 - The APTU and ATMF UR do not concern vehicles intended for domestic traffic only. The technical requirements, assessment procedures and competent bodies for vehicles intended to be used in domestic traffic only are not covered by COTIF.
 - In order to facilitate the circulation of vehicles, the APTU and ATMF UR not only regulate the mutual acceptance of vehicles but also related matters, such as maintenance, documentation and responsibilities for use of these vehicles.
8. Only if the procedures and requirements for admission are applied correctly can every Contracting State be confident that any vehicle circulating in accordance with the ATMF UR has been assessed for compliance with the same rules and with the same level of precision, no matter where the vehicle was first admitted.

9. The safe operation of trains, including the safety management system of the railway undertaking, are not comprehensively covered by the APTU and ATMF UR. In 2018, OTIF's General Assembly decided to adopt Appendix H to COTIF, the Uniform Rules concerning the safe operation of trains in international traffic (the EST UR). The EST UR will regulate the safety certification of railway undertakings, lay down safety responsibilities and set out requirements concerning supervision. The EST UR are not yet in force. However, at the request of the General Assembly, the Committee of Technical Experts (CTE) has already prepared the future annexes to the EST UR. The annexes set out more detailed rules to facilitate harmonised application of the EST UR. The EST UR will enter into force in accordance with the conditions laid down in Article 34 § 2 of COTIF, i.e. twelve months after two-thirds of the OTIF Member States have approved the adopted texts. Once the EST UR are in force, the CTE can formally adopt the annexes. The EST UR are not covered in detail in this handbook.

Figure 1: APTU UR and its UTPs, ATMF UR and its annexes, EST UR and its future annexes:



A. The scope of the APTU UR

10. The APTU UR are the Uniform Rules concerning the Validation of Technical Standards and the Adoption of Uniform Technical Prescriptions applicable to Railway Material intended to be used in International Traffic. They primarily govern the development, content and adoption of UTPs and the treatment of national technical requirements applicable to railway material used in international traffic, particularly vehicles. The decision-making organ is the CTE. The preparation and adoption of UTPs and their amendments is the responsibility of the CTE. The work of the CTE is further explained in chapter IV of this handbook.

Obligations of Contracting States

11. In accordance with Article 12 of the APTU UR, Contracting States must inform the Secretary General of OTIF of their national technical requirements which apply to railway vehicles. Further information concerning national technical requirements is set out in chapter V, letter D of this handbook.

B. The scope of the ATMF UR

12. The ATMF UR are the Uniform Rules concerning the Technical Admission of Railway Material used in International Traffic. They lay down rules according to which vehicles and infrastructure can be approved for use in international traffic. The implementation of the ATMF UR by Contracting States involves the creation and notification of a number of entities with their distinct responsibilities. The organisational and institutional changes that this may require will lead to advantages in terms of mutual recognition between Contracting States of vehicle admissions and assessment results. In addition to facilitating international traffic by rail, this also provides the potential to achieve significant savings for the railway sector, by avoiding duplication of procedures and documentation. This should result in economies of scale, as similar technologies can be used for rolling stock of different types produced in various states.

Obligations of Contracting States

13. Each Contracting State is required to:
- establish its competent authority and notify it to the Secretary General of OTIF, who in turn publishes a list of competent authorities on OTIF's website;
 - notify the Secretary General of its assessing entities, if any, and, where relevant, its accreditation body;
 - notify the Secretary General of its Entity in Charge of Maintenance (ECM) certification body, if any, either directly or through its accreditation body;
 - ensure consistent supervision of assessing entities.
14. The competent authority acts on behalf of the Contracting State and is responsible for the admission of vehicles to international traffic and for supervising correct application of the ATMF UR on its network. A competent authority can be a national or international entity. For example, the European Union Agency for Railways is the competent authority for all EU Member States.

III. CORRELATION WITH OTHER LAWS

A. Correlation with rules for domestic traffic

15. As COTIF concerns international traffic only, Contracting States are not bound by the APTU and ATMF UR with regard to their approval and use of vehicles for domestic traffic. Therefore, there is no legal correlation at OTIF level between COTIF and the applicable rules that govern domestic traffic in any state.
16. Despite the clear legal separation between domestic and international use of vehicles, in practice, many vehicles will be used both internationally and domestically. Although there is no obligation to do so, there would be obvious advantages if Contracting States were to align their technical requirements concerning vehicles used in domestic traffic with those of COTIF.

B. Correlation with EU law

17. To date, of the 51 Member States of OTIF, 43 apply the APTU and ATMF UR and are therefore Contracting States. Of these 43 Contracting States, 25 are also Member States of the European Union (EU). The EU develops and implements policy to establish a single European railway area. A key element of this policy is to create railway interoperability by harmonising technical requirements and the tasks and responsibilities of authorities, companies, entities and persons

that are active in the EU's railway system. EU law applies to both traffic between EU Member States and domestic traffic within each EU Member State.

18. In June 2011, OTIF and the European Union signed an agreement on the accession of the European Union to COTIF, i.e. the EU accession agreement. It lays down the legal relations between the EU and OTIF. The EU accession agreement is published on OTIF's website and in the Official Journal of the EU. With regard to the application of COTIF in the EU, Article 2 of the EU accession agreement sets out the so-called disconnection clause:

“Without prejudice to the object and the purpose of the Convention to promote, improve and facilitate international traffic by rail and without prejudice to its full application with respect to other Parties to the Convention, in their mutual relations, Parties to the Convention which are Member States of the Union shall apply Union rules and shall therefore not apply the rules arising from that Convention except in so far as there is no Union rule governing the particular subject concerned.”

19. In the EU, the subjects covered by the APTU and ATMF UR are governed by EU rules. Consequently, the disconnection clause applies, meaning that the APTU and ATMF UR do not apply to mutual relations between EU Member States¹. Instead of the APTU and ATMF UR, within the EU, common EU rules apply to both domestic traffic and traffic between EU Member States.

Compatibility and equivalence

20. One of the developments underpinning the EU railway market is the harmonisation of technical rules in the form of the Technical Specifications for Interoperability (TSIs). TSIs, like UTPs, specify requirements for subsystems in order to ensure compatibility between these subsystems and the interoperability of the rail system as a whole. The development of TSIs is one of the tasks of the European Union Agency for Railways (ERA).
21. TSIs are used in the EU for different objectives, including improving the interoperability of rail vehicles and opening the market for railway products and services. Compliance with TSIs is an obligation for any producer of railway products seeking to sell its products anywhere in the EU. In contrast to EU law, COTIF does not cover market aspects. Consequently, UTPs are not used for the same purposes as TSIs in the EU.
22. Even though the scope and objective of EU railway policy and the scope and aims of COTIF are not identical, the requirements concerning technical compatibility are harmonised. Many Contracting States apply COTIF and EU railway provisions at the same time. It is therefore important to ensure that COTIF and EU law are and remain compatible. In the technical field, this is ensured by technical equivalence between UTPs and TSIs. The CTE is competent to declare that a UTP and a TSI are equivalent. This competence is defined in Article 13 § 4 of the APTU UR. The correlation and equivalence between EU law and a UTP is set out at the beginning of each UTP.
23. It should be noted that not all subjects covered by TSIs are also covered by UTPs. For example, there are TSIs that cover safety in railway tunnels, or command control and signalling, but there are no equivalent UTPs. Furthermore, instead of being equivalent to a TSI, some UTPs may be equivalent to (a set of) other EU regulations (not TSIs). This is the case for UTPs that start with the acronym “GEN”, such as UTP GEN-E.

¹ Norway and Switzerland have informed OTIF that they also apply these EU rules.

24. UTPs generally have a 2-column layout, as required by Article 8 § 9 of the APTU UR. Text which appears in full width (across both columns) is identical in substance between the UTP and corresponding TSI. The right-hand column reproduces EU law, for information. Text on the left-hand side is unique to the UTP. The COTIF legal provisions are therefore in the left-hand column and in the full width texts. This layout makes it easier to identify any substantive differences between the UTP and the corresponding TSI.
25. Provided the UTP and TSI requirements are equivalent, vehicles admitted or authorised according to either COTIF and its UTPs, or to EU law and the TSIs are accepted for the purpose of use in international traffic in the scope of the ATMF UR according to the provisions in Article 3a of the ATMF UR.

Administrative cooperation

26. In October 2013, the OTIF Secretariat, DG MOVE and the European Union Agency for Railways (ERA) signed the so-called Administrative Arrangement. It sets out how the three parties coordinate and cooperate, particularly with regard to the development of UTPs and TSIs. In September 2020, the Administrative Arrangements were renewed for an indefinite period.
27. The OTIF Secretariat and ERA together created a working document called the “equivalence table”. It cross-refers EU and COTIF provisions and tracks their development and equivalence over time. Although the document has no formal status, it is a useful tool to obtain a view on the applicable provisions. The equivalence table is updated for each working group Technology (WG Tech) meeting and published on OTIF’s website as a working document four weeks prior to each meeting.

IV. WORK OF THE COMMITTEE OF TECHNICAL EXPERTS

28. The CTE is one of the seven organs mentioned in Article 13 of COTIF and one of the four committees under Article 16 of COTIF. The CTE deals with matters which are assigned to it in accordance with COTIF and the APTU and ATMF UR. All OTIF Member States may attend sessions of the CTE, but only Contracting States may vote. The Rules of Procedure of the CTE are published on OTIF’s website.
29. The CTE usually convenes once per year. The CTE works in all three working languages (French, German and English).
30. The CTE may appoint working groups to deal with specific questions. These working groups may be of an ad-hoc or permanent nature. The CTE has set up a permanent working group (WG Tech). Although it is not strictly necessary, it is common and good practice that, before submitting a proposal to the CTE, draft texts are first examined and discussed at WG Tech.
31. WG Tech usually meets three times per year and works in English only.
32. The CTE’s Rules of Procedure, which also apply to WG Tech, are published on OTIF’s website: [Home](#) > [Activities](#) > [Technical Interoperability](#) > [Committee of Technical Experts](#)

A. List of CTE decisions

33. The decisions taken by the CTE are recorded in a “list of decisions” document in the three working languages. In coordination with the Chairperson, the Secretary General prepares a draft list of decisions shortly after each session. The members of the CTE who participated at the session have one week to propose corrections to the list. Once this period has elapsed, the

Chairperson approves the definitive version of the list of decisions. The list of decisions is then notified to all OTIF Member States and participating observers and published on OTIF's website.

B. Adoption of UTPs and Annexes to the ATMF UR

34. The CTE is competent to adopt and modify UTPs and Annexes to the ATMF UR. This competence is set out in Article 20 § 1 b) of COTIF, Articles 6, 8 and 8a of the APTU UR and Article 21 of the ATMF UR. Formally, such adoption is referred to in Article 35 of COTIF as a "modification of the Convention".
35. Proposals for the adoption of modifications to the Convention within the competence of the CTE, such as the adoption of UTPs or Annexes to the ATMF UR, may be made by:
 - the Secretary General, in accordance with Article 21 § 4 of COTIF;
 - any Contracting State;
 - any regional organisation as defined in Article 2 x) of the ATMF UR;
 - any representative international association for whose members the existence of UTPs relating to railway material is indispensable for reasons of safety and economy in the exercise of their activity.

C. Notification of UTPs and Annexes to the ATMF UR

36. Following a decision by the CTE to adopt modifications, the Secretary General, in his capacity as Depositary of COTIF, is required to notify these modifications to the Member States in accordance with Article 35 § 1 of COTIF. This is done by means of a circular letter addressed to the Member States and associate members of OTIF and to regional organisations which have acceded to COTIF. A copy of the circular letter is sent to observers that are invited to the sessions of the CTE.
37. Notification is the action that formally initiates the process for entry into force according to Article 35 §§ 3 and 4 of COTIF. Modifications decided by the CTE enter into force on the first day of the sixth month following the notification. However, after notification, Contracting States have a period of four months during which they may still object to the CTE's decision. If at least one-quarter of the Contracting States object, the modification will not enter into force.
38. To illustrate this process with a practical example, the CTE takes a decision on any day in June of year N. If the Secretary General notifies this decision by 10 July, Contracting States have four months, i.e. until 10 November, to object to the CTE's decision. If fewer than one-quarter of the Contracting States object, the relevant UTP enters into force on the first day of the sixth month following the notification, i.e. on 1 January of year N+1.
39. Instead of, or in addition to, objecting to a CTE decision related to the adoption of a UTP, a Contracting State may also notify the Secretary General that it will not apply or apply only partially the adopted UTP on its territory. The consequence of such declaration may lead to the suspension of all international traffic to and from this Contracting State, in so far as this traffic relies on this UTP. In practice, this possibility has never been used.
40. UTPs and Annexes to the ATMF UR are published on OTIF's website: [Reference Texts](#) > [Technical Interoperability](#) > [Prescriptions and Other Rules](#).

D. Validation of technical standards

41. In addition to the adoption of UTPs, the CTE is also competent to validate technical standards. This possibility was considered relevant when the APTU UR were adopted as part of COTIF 1999. However, no requests for the validation of technical standards by the CTE have been made to date.
42. Should the CTE validate any standard in future, it may not prepare the standard itself. Drafting standards is the task of the standardisation bodies. The CTE may decide whether or not to validate a standard, but may not modify it.
43. Application for validation of a standard may be made by:
 - any Contracting State;
 - any regional organisation as defined in Article 2 x) of the ATMF UR;
 - any national or international standardisation body which prepares standards in the field of railways, provided they are prepared at international level;
 - any representative international association for whose members the existence of technical standards relating to railway material is indispensable for reasons of safety and economy in the exercise of their activity.

E. Competences of the CTE in the scope of the ATMF UR

44. In accordance with the ATMF UR, the CTE is competent to adopt Annexes to the ATMF UR and to decide on other matters, including:
 - Adopt rules for the certification and auditing of entities in charge of maintenance. In this regard, the CTE may declare equivalence between the COTIF rules and the rules applicable in the EU. Such rules are currently set out in Annex A to the ATMF UR.
 - Adopt assessment procedures for vehicles, including the content of certificates that serve as evidence of assessments that were carried out with a positive result.
 - Discuss matters relating to complaints by a Contracting State about the independence and qualification of assessing entities or competent authorities located in another Contracting State. In this regard, the CTE may instruct the latter Contracting State to suspend or withdraw particular technical certificates.
 - Adopt rules for the mutual recognition of technical inspections and operational tests.
 - Adopt rules and guidelines concerning derogations from the application of UTPs. Such rules and guidelines are currently set out in Annex B to the ATMF UR.
 - Adopt uniform formats for certificates.
 - Adopt specifications for vehicle registers and other databases.
 - Examine the causes of serious accidents and incidents and adopt rules concerning the investigation of accidents and incidents.
 - Adopt mandatory provisions for the assessments and procedural rules for the technical admission of vehicles intended to be used in international traffic.
 - Deal with disputes relating to the technical admission of vehicles intended to be used in international traffic, if there is no resolution by direct negotiation between the parties involved.
 - Recommend methods and practices relating to the admission of railway material.

- Recognise certificates in a different format, as long as they contain the required information outlined in Article 11 of the ATMF UR.

V. PRESCRIPTIONS FOR RAILWAY MATERIAL AND SUBSYSTEMS

A. Taxonomy of railway material

Railway material

45. The term “railway material” as defined in the ATMF UR comprises both vehicles and railway infrastructure.
46. A vehicle is a unit able to circulate on its own wheels that is authorised by a competent authority for use in international traffic. Vehicles must meet the applicable prescriptions to be admitted to international traffic. According to Article 7 of the ATMF UR, the prescriptions for vehicles are the UTPs, all other specifications to fulfil the essential requirements and, where applicable, the requirements under the Regulation concerning the International Carriage of Dangerous Goods by Rail (RID). The RID requirements are not covered by this handbook.
47. Infrastructure is defined in the ATMF UR as *all the railway lines and fixed installations as far as these are necessary for the compatibility with and safe circulation of vehicles*. According to Article 8 of the ATMF UR, prescriptions for infrastructure are also the UTPs, all other specifications to fulfil the essential requirements and, where applicable, RID requirements. It is important to note that although COTIF sets out infrastructure requirements, the admission and maintenance of infrastructure is not in the scope of COTIF and remains subject to national provisions. Points 65-69 of this handbook provide more information on UTP requirements for infrastructure.

Subsystems

48. The requirements and the physical and functional interfaces between railway material (i.e. vehicles and infrastructure) are structured according to a concept called “subsystems”. The subsystems are categorised in structural and functional areas and are defined in UTP GEN-B:
 - structural areas: infrastructure, energy, trackside control-command and signalling, on-board control-command and signalling, rolling stock;
 - functional areas: operation and traffic management, maintenance, telematics applications for passenger and freight services.
49. All subsystems together form the rail system. The concept of subsystems is taken over from the EU. However, the concepts should be considered in the scope of the APTU and ATMF UR, in particular for the admission of vehicles and their use in international traffic. UTPs lay down requirements for subsystems. One UTP may address several subsystems and some subsystems are covered by several UTPs.
50. It is worth noting that the subsystem called “infrastructure” and the railway material called ‘infrastructure’ are not identical concepts. Railway material called “infrastructure” means all fixed installations necessary for compatibility with and safe circulation of vehicles. It therefore includes not only tracks but also overhead contact lines, level crossings, signals, etc. The subsystem called ‘infrastructure’ is limited to tracks and their supporting substructures, such as

ballast, bridges, etc. and it does not for example include overhead contact lines or signals, as these are part of other subsystems.

51. In addition, the railway material called “vehicle” may be composed of more than one structural and functional subsystem. In all cases, a vehicle includes the rolling stock subsystem, which may be complemented by the on-board part of the control-command and signalling (CCS) subsystem. For example, this is the case for locomotives, as they will be concerned by both the rolling stock subsystem and the on-board part of the CCS subsystem. Freight wagons are only concerned by the rolling stock subsystem.

Interoperability constituents

52. An interoperability constituent (IC), also referred to as an “element of construction”, is an elementary component, group of components, complete assembly or subassembly of equipment incorporated or intended to be incorporated into a subsystem. The concept of an IC includes both material and non-material products (e.g. software). In other words, an IC is a product that can be developed, manufactured and sold independently of a subsystem or a vehicle. To be classified as an IC in the UTPs, it must be possible to assess at least one parameter of the product separately from the subsystem.
53. For example, the pantograph is defined as an IC in the UTP LOC&PAS. There are several parameters of the pantograph that can be assessed before it is mounted on a vehicle. Examples of such parameters are the head geometry, the range of motion and the maximum current at standstill. Other parameters can only be assessed once the pantograph is mounted on the vehicle, such as the mean contact force on the contact line in each direction of travel. Another example is the warning horn, of which the frequency and sound pressure can be assessed at IC level. This allows manufacturers of horns to sell them as products that comply with the rules. When integrating the horn into a vehicle, the manufacturer of the vehicle should ensure that the sound level of the built-in horn complies with the rules. The latter can only be assessed after the IC is integrated into the vehicle.
54. UTPs define which components are interoperability constituents, the requirements they must meet and the methods of assessing their compliance. The concept of ICs has been taken over from EU law, where ICs are assessed for conformity with the TSI requirements independently of the subsystem. As a result, by applying EU law, ICs can be produced, certified and sold as separate products in the EU. In the context of COTIF, the purpose and use of ICs is less obvious, as COTIF is not an instrument for marketing products. However, it can still be useful e.g. for the regulatory acceptance of spare parts which are marked as IC.
55. Section 5 of each structural UTP specifies the requirements for ICs and point 6.1 of these UTPs specifies how conformity with these requirements should be assessed. Examples of ICs for rail vehicles are: the wheels, the pantograph and the automatic coupling.
56. In accordance with UTP GEN-D, Contracting States may require the separate assessment of ICs as stand-alone products. This is the case, for example, for all Contracting States that apply EU law. If not required by the Contracting State, separate assessment of ICs may still be carried out on a voluntary basis at the discretion of the supplier of the IC or the applicant for vehicle admission. If an IC is not assessed separately, the IC’s compliance with the applicable provisions must be assessed as part of the subsystem. The correct integration of the IC into the subsystem must in any case also be assessed.

B. Essential requirements

57. Essential requirements are defined as all the conditions which must be met by the rail system, the subsystems and the ICs, including interfaces. The essential requirements are laid down in UTP GEN-A. They are high-level functional requirements that are not strictly defined by pass/fail criteria such as threshold values or performance parameters. Furthermore, there are no defined methods for assessing conformity with the essential requirements. There are general essential requirements that apply to the entire rail system and specific essential requirements that apply to a subsystem. The concept of essential requirements is taken over from EU law.

An example of one of the essential requirements for the subsystem rolling stock reads:

“The rolling stock structures and those of the links between vehicles must be designed in such a way as to protect passengers and driving compartments in the event of collision or derailment”.

This particular example requires that vehicles must provide protection in the event of collision or derailment. This means that when developing vehicles, the risk that the vehicle may derail or collide must be taken into account and measures that mitigate the effects of a derailment or collision are required. It is not therefore sufficient only to take measures actively to avoid collisions and derailments.

The detailed requirements, e.g. how much energy the vehicles must be able to absorb in case of collision, and the assessment criteria and assessment methods are laid down in the UTPs.

58. Section 3 of each UTP that applies to railway material (i.e. vehicles and infrastructure) refers to essential requirements. Every detailed requirement in a UTP is linked to one or more essential requirements. The purpose of UTP requirements is to cover exhaustively all parameters that are necessary for interoperability in international traffic.
59. As noted above, vehicles must comply with both the UTPs and with the essential requirements. Complying with the UTPs will ensure that all the parts of the vehicle that are covered by the UTP will also comply with the essential requirements. However, compliance with the UTPs does not guarantee that the entire vehicle will also comply with all the essential requirements. The reasons for this include:
- The UTP may have open points for which no harmonised specifications yet exist.
 - The UTPs only cover specifications that are necessary for the interoperability of vehicles and trains. UTPs do not therefore cover every component that may be fitted to a vehicle. If a component is not covered by the UTPs, it still has to comply with the essential requirements.
60. The competent authority that is concerned with the initial admission of a vehicle should ascertain that the vehicle as a whole meets the essential requirements. For this purpose, this competent authority should require from the applicant that the vehicle complies with vehicle-related UTPs and with the essential requirements, insofar as the latter are not covered by the vehicle-related UTP requirements.

C. Uniform Technical Prescriptions (UTPs)

61. The UTPs may contain technical, functional, organisational and operational requirements, which are necessary for the scope and aims of the APTU and ATMF UR. UTPs are developed to contain all the requirements which vehicles must comply with in order to circulate in international traffic. The detailed rules in the UTPs cover technical construction requirements and procedures for the verification of compliance. Where possible, UTP requirements are performance-related and do

not define technical solutions. This is to allow innovation and technological progress. Technical solutions are imposed only where this is strictly necessary for interoperability; in particular, to define interfaces between vehicles and infrastructure. UTPs contribute to ensuring safety, efficiency and availability, whilst taking account of environmental protection and public health.

62. In principle, each subsystem may be subject to UTP provisions. However, one UTP may cover several subsystems and one subsystem may be covered by several UTPs. UTPs only apply to new subsystems and/or to existing subsystems when they are being renewed or upgraded. This means that UTP requirements generally have no retroactive effect, so that they do not apply to railway material already in use. There may be exceptions, where a particular requirement must be complied with by a certain deadline, but these must be duly justified by important safety or interoperability reasons.

The subsystems and their UTPs:

- Structural subsystems:
 - Rolling stock – covered by the UTP WAG, the UTP LOC&PAS, the UTP Noise and the UTP Marking;
 - Infrastructure – covered by the UTP INF;
 - Energy – not currently covered by any UTP;
 - Trackside control-command and signalling – not currently covered by any UTP;
 - On-board control-command and signalling - not currently covered by any UTP.
- Functional subsystems:
 - Operation and traffic management – partly covered by the UTP TCRC;
 - Maintenance – partly covered by Annex A to the ATMF UR;
 - Telematics applications for passenger and freight services – partly covered by the UTP TAF.

Table: overview of UTPs

UTP abbreviation	Subject
UTP GEN-A	Essential requirements: top-level conditions which must be met by the rail system, the subsystems and the ICs, including interfaces.
UTP GEN-B	Subsystems: breakdown of the rail system into parts that together form the rail system.
UTP GEN-C	Technical file: documentation relating to a vehicle, containing all its technical characteristics.
UTP GEN-D	Assessment procedures (modules): procedures to be applied by manufacturers and assessing entities to assess whether a subsystem or interoperability constituent fulfils the applicable legal requirements as set out in the UTPs.
UTP GEN-E	Assessing entity - qualifications and independence: requirements to be met by assessing entities.

UTP GEN-G	Common safety method on risk evaluation and assessment (CSM RA): management of safety risks of subsystems and integration into their environment as well as risks to be managed by actors.
UTP WAG	Freight wagons: requirements for rolling stock and related interoperability constituents and the procedures for their conformity assessment.
UTP LOC&PAS	Locomotives and passenger rolling stock: requirements for rolling stock and related interoperability constituents and the procedures for their conformity assessment.
UTP NOI	Rolling stock noise: maximum noise levels to be emitted by rail vehicles and the procedures for their conformity assessment.
UTP MARKING	Vehicle marking: requirements for the external marking of vehicles.
UTP PRM	Accessibility for persons with disabilities and persons with reduced mobility: requirements for accessibility of rolling stock and related interoperability constituents and the procedures for their conformity assessment. Recommendations for the accessibility of stations.
UTP TAF	Telematics applications for freight services: requirements for the digital exchange of data between actors involved in freight services.
UTP TCRC	Train composition and route compatibility checks: responsibilities of the railway undertaking and the infrastructure manager and procedures to exchange information between them.
UTP INF	Infrastructure: parameters for compatibility with vehicles and the methods to check compliance with these parameters.

UTP requirements for vehicles

63. The purpose of UTP requirements for vehicles is to harmonise, in international law, all rules that must be complied with so that vehicles that comply with these rules can be admitted to international traffic on the territory of all Contracting States.
64. UTPs apply in full to new vehicles and apply partly to existing vehicles and only when they are renewed or upgraded.

UTP requirements for infrastructure

65. There is a difference in principle between the application of COTIF to vehicles and the application of COTIF to infrastructure. As vehicles cross borders, it is very important that vehicles are mutually accepted by all Contracting States so that they can be used on the different networks in international traffic. Infrastructure on the other hand is stationary and is not therefore subject to such mutual acceptance. The interfaces between vehicles and infrastructure are however critical for successful and safe railway operations.
66. Compatible infrastructure on international lines will increase the efficiency of international traffic. However, the following important facts need to be taken into account:
 - The scope of COTIF is limited to international traffic only. Most rail infrastructure for international traffic is also used - and often mainly - for domestic traffic. It is therefore important for states to maintain control over the characteristics of their own infrastructure.

- Unlike vehicles, infrastructure does not “move” across borders and does not therefore have to be mutually accepted between states. Approval procedures, analogous to those for vehicles as set out in the ATMF UR, are not needed for infrastructure.
 - The type and volume of international traffic may be very different in different states.
 - All Contracting States have existing infrastructure on their territory and it is important to ensure that all old, new or upgraded infrastructures all allow similar vehicles to operate on it.
67. The CTE concluded that the aims of infrastructure requirements within COTIF should be to contribute to the gradual harmonisation of infrastructure between neighbouring countries. In accordance with Article 8 § 2a of the APTU UR, and as is the case for vehicles, the provisions do not apply retroactively, meaning that there is no obligation for states to make their existing infrastructure compliant by a certain date. The main purpose of the UTP provisions is to ensure that new or upgraded infrastructure:
- can be safely and efficiently used for the operation of trains in international traffic,
 - can be designed and constructed in an economically feasible manner,
 - will allow states to maintain the necessary compatibility with existing lines, networks and specifications, including compatibility with EU law,
 - contributes to interoperability and technical harmonisation.
68. The main purpose of the UTP for infrastructure (UTP INF) is to promote compatibility between connected lines and networks of neighbouring states without compromising coherence between the lines used for international traffic and the rest of the domestic network. Consequently:
- All interfaces between infrastructure and vehicles are comprehensively covered in the UTPs. This facilitates the coordination of infrastructure development between states and improves compatibility and connectivity between the networks and the vehicles running on them.
 - For the parts of the railway infrastructure which do not share an interface with vehicles, there are no binding rules, so that there is freedom to design, construct and, where relevant, certify infrastructure in accordance with the norms and standards applicable in each state.
 - Different classes or categories of lines are defined, so that all lines can be constructed in the most economically viable way, whilst avoiding an excessive number of different classes or categories of lines. An optimum level of harmonisation is pursued. Categories are defined in the form of traffic codes. There are traffic codes for freight and traffic codes for passenger traffic. A line can be attributed one or more traffic codes. Each traffic code is defined by a combination of gauge, axle load, line speed (km/h) and train length (for freight trains) or usable length of platform (for passenger trains). Contracting States are required to attribute one or more traffic codes to all lines that are open to international traffic, including existing lines.
 - The provisions in the UTP INF take into account the need to maintain compatibility between new, upgraded or renewed lines and the networks to which they are connected or in which they are integrated. This may for example concern compatibility with lines used for domestic traffic or with lines in neighbouring states.
 - Contracting States have to decide whether or not to apply the UTP INF to a certain line. It is recommended that they apply the UTP INF on all new lines which will be open to international traffic and on all existing lines which are substantially used for international traffic.

- Contracting States are required to publish a list of lines on which the UTP INF is applicable, and must identify any non-compliance with the technical provisions of the UTP INF.
 - Conformity assessment and procedures for the admission of infrastructure are not regulated by the UTP INF, but by the provisions in force in the state in which the infrastructure is located. Nevertheless, with a view to applying the UTP INF correctly, Contracting States are recommended to ensure that adequately qualified persons carry out robust and reliable conformity assessments.
69. As is the case for most UTPs, the UTP INF is based on the Technical Specifications for Interoperability (TSI) of the European Union. The technical provisions of the UTP and TSI INF are identical, meaning that infrastructure complying with the TSI would also comply with this UTP. Only the rules and responsibilities for application and implementation of the rules differ. Most notably, the Member States of the European Union are obliged to implement the TSI in accordance with EU law, whereas it is at the discretion of non-EU OTIF Member States whether or not they apply the UTP INF on particular lines.

Specific cases

70. UTPs may include specific cases for particular Contracting States. “Specific case” is defined in Article 2 of the ATMF UR, as follows:
- ““specific case” means any part of the rail system of the Contracting States which is indicated as a special provision in the UTP, either temporarily or definitively, because of geographical, topographical or urban environment constraints or those affecting compatibility with the existing system. This may include in particular railway lines and networks isolated from the rest of the network, the loading gauge, the track gauge or space between the tracks as well as vehicles strictly intended for local, regional or historical use, and vehicles originating from or destined for third countries;”*
71. Vehicles must comply with the specific cases for the networks on which they are intended to be used. In accordance with Article 8 § 6 of the APTU UR, each specific case must include requirements concerning the procedures to be used in order to assess conformity with it. Article 10 § 3a of the ATMF UR stipulates as a general rule that conformity with UTPs (which includes specific cases) may be assessed by any assessing entity. If assessment of conformity with a particular specific case cannot be carried out by *any* assessing entity, but only by a *specific* entity, this should be indicated in the specific case in the UTP.
72. The specific cases of Member States of the EU are laid down in the TSIs. UTPs make reference to these publicly accessible TSI specific cases, but do not reproduce them. UTP and TSI specific cases must be applied if the area of use of the vehicle includes networks to which these specific cases apply.
73. To distinguish specific cases from national technical requirements (see chapter V, letter D of this handbook), the following guidelines may be used:
- A specific case should be used to specify a deviation from a requirement in the UTP due to technical constraints affecting compatibility with the existing system. A national technical requirement should be used to define a requirement other than those laid down in the UTPs. In other words, national technical requirements should not contradict UTPs, whereas in principle, specific cases may do so.
 - Specific cases are subject to scrutiny by the CTE, as they are adopted as part of the UTP in which they are included.

- Contracting States notify OTIF’s Secretary General of any national technical requirements, which are published without CTE scrutiny.
- As a specific case is defined in the UTP, it is more transparent than a national technical requirement and therefore preferable in principle.
- If the method of assessing a specific case is complex and too long to describe in the UTP, the specific case in the UTP may refer instead to a specific national technical requirement defining the corresponding assessment method.
- Vehicle-related rules that are linked to or covered by a TSI but not by a UTP (e.g. SRT, ENE, CCS), should be published in the form of national technical requirements.
- If a specific case refers to a document issued by a Contracting State, it should refer to a specific version of this document to ensure transparency and legal certainty.
- The decision whether to describe provisions in a specific case or in a national technical requirement should take into account the users of the provisions and the ease of administration. Contracting States may request guidance from the CTE or WG Tech for this purpose.

Derogations

74. “Derogation” means the permission granted by a Competent Authority on behalf of a Contracting State not to apply particular or any of the provisions of a UTP. The rules for derogations are explained in Annex B to the ATMF UR. Derogations are only applicable on the territory of the derogating Contracting State. Consequently, a vehicle subject to a derogation cannot be used freely in international traffic and requires separate admission by each Contracting State before it can be used on the territories of these Contracting States.
75. Some notable principles:
 - The scope of Annex B to the ATMF UR is limited to derogations concerning vehicles or types of vehicle. The scope does not extend to infrastructure. This is because the UTP concerning infrastructure already allows Contracting States to decide not to apply the UTP without having to apply any centralised derogation procedure.
 - Article 3 § 3 of Annex B to the ATMF UR states that derogations may only concern requirements contained in UTPs dealing with the design and construction of vehicles. Consequently, derogations from UTPs concerning general provisions (UTP GEN) are not possible.
 - Applicants should request permission for derogations concerning specific provisions from the Competent Authority of the Contracting State. The Competent Authority should examine the request and decide whether to accept or reject the request.
 - Guidelines on whether to grant or reject derogations are included in Annex B to the ATMF UR; these should help the Competent Authorities apply the rules in a harmonised way.
 - Vehicles subject to any derogation do not comply with one or more UTP provisions and are not therefore automatically accepted in international traffic. The derogation must be described in the vehicle’s Certificate of Operation. In particular, this should include a precise description of which UTP provisions are not applied, and which alternative requirements are applied instead. The description should allow Competent Authorities of other Contracting States and railway actors to understand the impact of the derogation and the consequences of the derogation in terms of the possible admission of the vehicle to other network(s) and should facilitate route compatibility assessment.

D. National technical requirements

76. In order to ensure technical compatibility between railway vehicles and the variety of networks they are to be used on in international traffic, it may be necessary for these vehicles to comply with specific national technical requirements (NTRs) in addition to the harmonised UTP requirements. NTRs may not contradict UTPs. Contracting States that impose national technical requirements should notify them to OTIF's Secretary General (see Article 12 of the APTU UR). Notifications should include the methods and procedures to prove compliance with them, so that applicants and manufacturers can take them into account in their activities. At least the title and summary of the NTRs must be in one of the working languages of OTIF (French, German or English).
77. There are several possible justifications as to why NTRs may be necessary:
 - In the absence of UTPs (for vehicles, this only concerns the on-board part of the command control and signalling system, as all other vehicle parameters are covered by UTPs).
 - To cover open points in the UTPs. (An open point in the UTP means that the parameter is indispensable for the mutual acceptance of vehicles and their free circulation in international traffic, but that it has not yet been possible to harmonise the specification to cover the parameter).
 - To ensure technical compatibility with the particularities of a network.
 - To provide (detailed) specifications related to a specific case.
78. The APTU UR require that every time a UTP is adopted or amended, the Contracting States have to notify and justify the NTRs that are still required after the UTP enters into force. This notification must be given within 6 months after the entry into force of the UTP. Without such notifications the NTRs are assumed no longer to be required.
79. The aim is gradually to reduce the number of NTRs and specific cases. An NTR can be removed either because it is superseded by a harmonised requirement in a UTP, or because the requirement is no longer needed, for example because the rail network in a Contracting State is modified. In case a national technical requirement falls, in full or in part, in the scope of a requirement laid down in the UTP, it should be transferred into the UTP in the form of a specific case (see also points 70-73 of this handbook). Only when there are no more technical barriers to interoperability can the railways unlock their full potential as a competitive international land transport mode.
80. Subsystems not covered by UTPs are by definition covered by national technical requirements. For example, compatibility with signalling systems is not yet covered by UTPs, so national requirements will apply. If a Contracting State has not notified its national technical requirements to OTIF, it does not mean that there are no rules.
81. If Contracting States do not notify their national technical requirements, the consequence is a lack of transparency and clarity for those who have to apply the rules. This affects manufacturers, vehicle keepers, railway undertakings etc., making their business less predictable and more risky. In the long term, this may lead to less efficiency in the railway sector and to resources being wasted. Transparency of rules provides these parties with increased legal certainty and predictability in their projects and hence lower risks and greater efficiency. It is therefore very important that all Contracting States notify their national technical requirements.

E. Technical standards

82. A technical standard is a set of requirements and practices adopted and published by a recognised international standardisation body and relating to a repeatable technical task, such as designing,

producing or testing a product. A technical standard is voluntary in nature, so that compliance with a technical standard is not mandatory. However, the application of a technical standard means that conformity with the applicable legal requirements can be presumed. Compliance with technical standards may therefore be a relevant factor for a manufacturer's liability in case of loss or damage caused by use of its product. Manufacturers that wish to use alternative practices should prove that the result of the practices they apply is at least equal to that of application of the technical standard.

83. A technical standard can be adopted only by a recognised international standardisation body. Examples are ISO, CEN, CENELEC and ETSI. COTIF does not define a list of recognised international standardisation bodies.
84. The CTE may validate a technical standard. In this case, application of the validated technical standards gives presumption of conformity with the UTP. The CTE has thus far never received a request to validate a standard. Instead, the UTPs refer to many specific provisions of technical standards (usually not to entire technical standards). By means of references in the UTP, these specific provisions of technical standards become part of the UTP and therefore have the same legal status as any other UTP requirement. This legal status supersedes the voluntary nature of the technical standard.
85. UTPs generally refer to a specific version, date or issue of each standard. The version of the standard that is referred to in the UTP remains binding, even if a new version of the standard becomes available. This is referred to as a static reference.
86. If the UTP refers to a standard without indicating a specific date, version or issue, the text of the standard applicable at the date of adoption of the UTP will be binding. This referred to as a dynamic reference. If a UTP is revised and the new version of the UTP repeals and replaces the old version (full revision), all dynamic references are automatically updated at the same time. If only specific parts of the UTP are modified (partial revision), any dynamic references in the non-modified parts of the UTP are not updated.

VI. ADMISSION OF VEHICLES

87. Admission to operation, or simply admission, means the authorisation by a competent authority that a vehicle may be used in international traffic. The evidence of admission in accordance with the ATMF UR is a certificate of operation. The basic concept is that certificates of operation issued by one Contracting State are valid in all the other Contracting States. This mutual acceptance requires trust between the contracting states that all admissions are based on robust and repeatable conformity assessment and transparent decisions.
88. It should be noted that vehicles that are authorised in the EU in accordance with EU law are also deemed to be admitted in accordance with the ATMF UR. For more information, see chapter III, letter B of this handbook.

A. Concept of admission in accordance with the ATMF UR

89. Each vehicle must be admitted before being used in international traffic. In order to be admitted to international operation, a rail vehicle must comply with all applicable requirements. This is explained in more detail in chapter V of this handbook. Only the Competent Authority of a Contracting State is entitled to admit vehicles to international traffic.
90. The procedure leading to admission is divided into two steps: conformity assessment and admission. Conformity assessment involves an assessing entity that checks the vehicle for compliance with the rules. Admission is the formal approval by the competent authority, in which

it issues a certificate of operation. The certificate of operation must specify the area of use of the vehicle, i.e. it must identify the networks on which the vehicle is intended to be used. All Contracting States must accept the certificate of operation and other documentary evidence relating to the vehicle, such as UTP certificates. This is laid down in Article 6 of the ATMF UR. This avoids every vehicle's having to be checked in detail by each state before being accepted. This principle of mutual acceptance therefore improves efficiency.

91. Historically, Contracting States have not fully coordinated the development of their rail networks. Consequently, networks have different technical characteristics (e.g. gauge, signalling system, maximum train length, platform height, rail inclination, maximum track gradient, etc.). Vehicles admitted in one Contracting State may therefore not be compatible with the networks of some or many other Contracting States. In such case, the Competent Authority of each Contracting State in which the vehicle is to be admitted should issue a complementary admission for the vehicle, in addition to its initial admission.
92. Some highly standardised vehicles can be admitted to all networks at once. This is possible only if all essential requirements are covered by the UTPs, the vehicle complies with all applicable UTPs, is not subject to specific cases which affect network compatibility and there are no open points in the UTPs that affect network compatibility (see Article 6 § 3 of the ATMF UR). Only highly standardised freight wagons and passenger coaches can meet these requirements. This concerns freight wagons complying with the provisions of point 7.1.2 of the UTP WAG and passenger coaches complying with the provisions of point 7.1.1.5.1 of the UTP LOC&PAS.

Domestic approval versus international admission

93. The scope of COTIF relates to international traffic by rail. Consequently, the ATMF UR only govern the technical admission and use of railway vehicles in international traffic. Most vehicles will not be exclusively used in international traffic, i.e. most vehicles will at least sometimes also be operated in domestic traffic. This would mean that, at least in the state that initially admits it, a vehicle would be subject to admission for use in international traffic as per the ATMF UR, as well as to approval for use in domestic traffic as per the rules applicable for this purpose in the state concerned. As COTIF does not regulate or harmonise the procedures or technical requirements concerning approval of vehicles for use in domestic traffic, from a strictly legal perspective the national and international admissions are two separate procedures. However, many Contracting States have aligned the procedures for domestic or regional (i.e. in the European Union) use and admission to international traffic in accordance with COTIF. A state that grants a new vehicle its first admission to international traffic will usually also approve it at the same time for use in its domestic traffic.

B. Responsibilities for the admission of vehicles

Competent authority

94. The competent authority is notified to the Secretary General of OTIF to act on behalf of the Contracting State in matters related to vehicle admission. A list of competent authorities is published on OTIF's website.
95. Contracting States that have not notified their competent authority may not issue vehicle admissions. They may however accept vehicles on their network that are admitted by the competent authority of other Contracting States.

Applicant

96. The entity requesting vehicle admission is referred to as the applicant. The applicant could be, for example, the railway company ordering the vehicle or the manufacturer or the future vehicle keeper, etc. The entity that has the contractual obligation to obtain admission for a new vehicle is usually the applicant, but this is not a formal requirement.

Assessing entity

97. The assessment as to whether a vehicle complies with the applicable UTP requirements is the task of assessing entities. The qualifications and independence requirements of assessing entities are laid down in UTP GEN-E. Furthermore, in accordance with Article 5 § 2 of the ATMF UR, assessing entities cannot be part of:
- a rail transport undertaking,
 - an infrastructure manager,
 - a keeper,
 - an entity in charge of maintenance,
 - a designer or manufacturer of railway material participating directly or indirectly in the manufacture of railway material.
98. A competent authority may also itself perform the tasks of an assessing entity, provided that it has the required qualifications, independence and technical competence. However, in most Contracting States, the competent authority and assessing entity/ies are different organisations.
99. Assessing entities do not necessarily have to have their place of business in the Contracting States where admission is sought. Consequently, it is not mandatory or necessary that each Contracting State has its own assessing entity. The benefit of being able to rely on existing/external assessing entities is that specific knowledge can be obtained when it is needed, without such knowledge having to be available and kept up to date in each state. This may be of particular interest to states with a small railway sector, where there are only occasional requests for vehicle admission. Assessing entities that are also authorised to assess conformity with EU law are called Notified Bodies or NoBos (this is further detailed in the point below). A list of assessing entities is published on OTIF's website.

Differences between assessing entities and Notified Bodies

100. Assessing entities that are authorised to carry out TSI assessments in accordance with EU law are referred to as Notified Bodies (NoBos). Based on the provisions in UTP GEN-E, EU NoBos are also automatically deemed to comply with the qualifications and independence requirements for OTIF assessing entities. The justification is that compliance with the EU qualifications and independence requirements for NoBos ensures that the NoBo also fulfils the requirements of UTP GEN-E. Whether a particular NoBo may issue UTP certificates may depend on the exact stipulations of its accreditation or designation. Nevertheless, the COTIF provisions are no obstacle to this.
101. This principle is not reciprocal. Non-EU OTIF assessing entities are not NoBos and are not therefore automatically deemed competent to carry out TSI assessments in accordance with EU law. TSI assessments in accordance with EU law are in the exclusive competence of NoBos. A NoBo can only be notified by an EU Member State, or a state that has a specific agreement with the EU to this end. Such notifications are made to the EU Commission and other EU Member States in accordance with the applicable EU rules, in particular Directive (EU) 2016/797.

102. The scope of non-EU assessing entities under COTIF is limited to carrying out UTP assessments, irrespective of whether the TSIs and UTPs are equivalent and irrespective of the fact that the EU accepts UTP compliant vehicles in international traffic into the EU on the basis of COTIF. Non-EU assessing entities should not therefore issue TSI certificates, unless a specific agreement with the EU permits this.
103. The scope of the APTU and ATMF UR is strictly defined and does not include, e.g., trade, marketing of products or market access conditions for services. For example, to place a rail vehicle on the EU market, EU law must be complied with. This includes TSI conformity assessment by a NoBo. By analogy, to place a rail vehicle on any other (non-EU) market, the rules applicable for the market in that state must be applied, including its technical requirements and procedures. The same is true for the provision of services. This means that assessing entities or NoBos alike cannot assert rights to provide their services in another state solely on the basis of COTIF. Nevertheless, states may unilaterally or multilaterally decide that foreign assessing entities may provide such services on their territory, but this is not regulated under COTIF.
104. It is important to note that the results of the assessments in accordance with EU law and TSIs, or in accordance with COTIF and UTPs, have to be mutually accepted for the purpose of COTIF by all Contracting States. This is the case irrespective of which assessing entity or NoBo carried out the assessment and irrespective of where it was carried out (provided the assessing entity or NoBo complied with all COTIF rules). This means that the certificates that confirm compliance with the UTPs/TSIs should not be called into question by any state or actor for the purpose of admitting this vehicle to international traffic in the scope of the ATMF UR.

Manufacturer

105. Although the ATMF UR do not assign specific responsibilities to the manufacturers of vehicles, manufacturers may (and usually will) be subject to product liability and safety responsibility in accordance with the laws and regulations applicable in the states where they market their products. In many cases, the manufacturer will also be the applicant for vehicle admission. In any case, the manufacturer has to cooperate with the assessing entity and provide the assessing entity with access to information and locations in accordance with the assessment methods laid down in UTP GEN-D.

Common safety method (CSM) assessment body

106. In particular situations that are defined in the various UTPs, it may be required to assess and evaluate the risks resulting from a change to a technical system, such as a vehicle, or to a procedure, such as a maintenance plan. The risk management procedure has to be carried out by the proposer (e.g. the manufacturer or applicant) and is subject to independent assessment of its correct application and its results by a CSM assessment body. See also points 135-137 of this handbook.
107. The UTP GEN-G defines “[CSM] assessment body” as “*an independent and competent external or internal individual, organisation or entity which undertakes investigation to provide a judgement, based on evidence, of the suitability of a system to fulfil its safety requirements.*”
108. The CSM assessment body must meet the requirements set out in Annex II of UTP GEN-G. States can recognise CSM assessment bodies directly, or have them accredited through their accreditation body. The state’s competent authority in accordance with Article 5 of the ATMF UR can also act as a CSM assessment body.
109. In accordance with UTP GEN-G, Contracting States are required to notify the OTIF Secretary General of their CSM assessment bodies; in case of accreditation, the accreditation bodies inform

the Secretary General directly. CSM assessment bodies will be registered in an international register which is common to the EU and OTIF and which is hosted by the European Union Agency for Railways.

110. The register is publicly accessible via ERA's website:
https://eradis.era.europa.eu/safety_docs/assessments/bodies/default.aspx
111. A CSM assessment body does not necessarily have to limit its activities to within the Contracting States where it is recognised or accredited and has its place of business. Consequently, it is not mandatory or necessary for CSM assessment bodies to exist in each Contracting State. The benefit of being able to rely on existing/external CSM assessment bodies is that specific knowledge can be obtained when it is needed, without such knowledge having to be available and kept up to date in each organisation or even state.
112. The scope of the APTU and ATMF UR is strictly defined and does not include, e.g., trade, marketing of products or market access conditions for services. This means that CSM assessment bodies cannot assert rights to provide their services in another state solely on the basis of COTIF. Consequently, Contracting States may choose to accept or limit the provision of services by foreign CSM assessment bodies on their territory, including for domestic or internal EU purposes, if so allowed by the applicable market-related rules established at domestic or EU level, as appropriate.
113. It is important to note that the results of the assessments, either in accordance with EU law, or in accordance with COTIF, have to be mutually accepted for the purpose of the ATMF UR by all Contracting States, i.e. they must be relevant to vehicles intended to be used in international traffic.
114. The key principle is that the mutual acceptance of assessment results (and the certificates that represent them) is directly linked to the acceptance of vehicles for circulation in international traffic, as the scope of the ATMF UR is essentially limited to that. If a vehicle is first authorised and registered in the EU, the assessment is carried out by a CSM assessment body competent according to EU law. If a vehicle is first admitted and registered by a non-EU Contracting State, the CSM assessment body must be competent according to OTIF law.
115. This means that certificates are only intended to be used as part of the technical file for a specific vehicle that is intended to be used in international traffic. Contracting States are not therefore required to accept certificates in isolation for purposes other than the use of vehicles in international traffic.

C. Procedures related to the admission of vehicles

116. Vehicle admission is the procedure by which a competent authority ascertains that a vehicle complies with all applicable requirements and is compatible with the network(s) on which it is intended to be used. All information is provided to the competent authority by the applicant. The applicant must appoint an assessing entity to carry out assessment of conformity with the rules, in particular those laid down in UTPs. If the vehicle meets all requirements, the competent authority authorises the vehicle by admitting it to international traffic.

Granting admission

117. If a new vehicle is admitted for the first time, this is referred to as its initial admission. By default, the initial admission is valid only on the network(s) of the Contracting State(s) of which the competent authority has authorised the vehicle. As a next step, the vehicle can be granted complementary admission to additional networks by the competent authorities of other

Contracting States. Complementary admission should not require the (full) approval process to be repeated, because compliance with the UTPs is mutually accepted. The required additional information should therefore be limited to proving that the vehicle is compatible with the network, including any specific cases that relate to this.

118. For subsequent admissions of vehicles that comply with all the UTP requirements, compliance checks by competent authorities of other states should be limited to:
 - Subsystems that are not (yet) covered by UTP. At the time of writing, the on-board part of the command control and signalling subsystem is the only vehicle subsystem not covered by UTP.
 - Specific cases that affect technical compatibility with the network of the state concerned.
 - Open points in the UTP that relate to compatibility with the infrastructure.
 - Elements of the vehicle which deviate from the UTP specification, e.g. due to a derogation in accordance with Annex B to ATMF UR.
 - National technical requirements, which are notified and valid in accordance with Article 12 of the APTU UR.
119. The combined networks to which the vehicle is admitted are referred to as its area of use. The initial admission of a vehicle can be:
 - Valid in an area of use limited to the network(s) for which the authority is competent;
 - Valid in a wider area of use, potentially including all networks of all Contracting States.
120. The second option is only possible if the vehicle meets very specific requirements defined in Article 6 § 3 of the ATMF UR. This is currently only possible for highly standardised freight wagons and passenger coaches. In accordance with the UTP WAG, the UTP LOC&PAS and the UTP Marking, these wagons and coaches may bear a “TEN” marking. In all cases not covered by Article 6 § 3 of the ATMF UR, the competent authorities of other states may ask the applicant for additional technical information, such as a risk analysis and/or vehicle tests before granting a complementary admission to operation and extending the vehicle’s area of use. This is governed by Article 6 § 4 of the ATMF UR. Vehicles admitted to operation consecutively by two or more states in accordance with Article 6 § 4 of the ATMF UR are permitted to run in these states only.
121. When a vehicle is admitted, the type of construction to which the vehicle is built is admitted at the same time. This is referred to as the **vehicle type**. For the admission of subsequent vehicles of the same vehicle type, it is sufficient to prove to the competent authorities that the vehicles are built in accordance with the type. UTP GEN-D sets out specific assessment procedures to prove that a new vehicle is indeed built to a vehicle type that has already been admitted. New vehicles built to the same type will be admitted to the same **area of use** as the vehicle type.
122. The detailed practical arrangements as to how the applicant and competent authority interact are not prescribed by COTIF. The applicant should therefore ask the competent authority for the applicable arrangements and practices for the admission of a particular vehicle.
123. The admission is granted, in principle, for an unlimited period, meaning the entire operational life of the vehicle. However, in accordance with Article 16 § 4 of the ATMF UR, the CTE may instruct Contracting States to suspend the admission of types of vehicles following accidents or incidents.

Technical certificates

124. Admissions according to the ATMF UR should be documented in technical certificates.

125. There are two types of technical certificate:
- the design type certificate;
 - the certificate of operation.
126. The **design type certificate** relates to the admission of a vehicle type and the **certificate of operation** relates to a physical vehicle. This is governed by Article 11 of the ATMF UR.
127. The validity and expiration of design type certificates is regulated by the ATMF UR and by the UTPs. Chapter 7 of each UTP concerning vehicles defines its implementing and transitional rules. As a general rule, vehicles have to comply with the UTPs that are in force at the beginning of the design phase, when the assessing entity is contracted by the applicant. If one or more UTPs change during the design and production of a vehicle type, the assessing entity has to analyse the impact of these UTP changes on new vehicles that will be built to this type. If a vehicle type was previously successfully assessed for conformity with a previous version of the UTP, it is generally also presumed to comply with the new version of the UTP. Exceptions to this general rule and their transitional periods are defined in the UTPs. After expiration of the transitional period, it may be necessary to modify the vehicle type to comply with the new rules. If the admission of a vehicle type expires, its design type certificate expires at the same time.
128. A certificate of operation is evidence of the admission to international traffic of a physical vehicle. It is granted, in principle, for an undefined period. It may only expire, be suspended or be revoked in accordance with the ATMF UR. One certificate of operation may cover more than one vehicle of the same type.
129. Various documents must be attached to the certificates, including:
- the technical file;
 - the conditions and limits of use of the vehicle;
 - assessment reports and UTP declarations;
 - specification of the competent authority that admitted the vehicle or type;
 - the area of use.
130. The certificate of operation must be in the possession of the vehicle keeper. If the vehicle keeper changes, the certificate of operation must be handed over to the new keeper without delay, together with the maintenance file and all instructions for maintenance and operation. This also applies to other relevant documentation pertaining to vehicles.

Conformity assessment

131. The applicant for a vehicle admission appoints an assessing entity that assesses a vehicle for conformity with the UTPs. The assessing entity performs so-called third-party assessment on behalf of the applicant.

In general, assessment of conformity of any product with the applicable requirement can be done by means of first, second or third party assessments. In the scope of railway vehicle conformity assessment:

1. First party assessment would mean self-assessment by the manufacturer.
2. Second party conformity assessment would be performed by an organisation that has a user interest in the vehicle, for example the railway undertaking as the final user or keeper of the vehicle.
3. Third party assessment is characterised by assessment performed by an entity that is independent of the manufacturer of the vehicle and has no user interests in that vehicle. The verification of conformity of rail vehicles with UTPs must imperatively be third party assessment.

132. Third-party assessments have benefits because they are impartial and, as a result, can be seen as fair and objective. This makes it easier for everyone to agree on the results. Additionally, these assessments allow specialised knowledge to be concentrated in assessing entities that can work for different applicants, potentially in different states.
133. The assessment starts during the design phase of a project and continues until the last vehicle is produced. This means that the assessing entity should be involved from the start of a project. If more than one vehicle of the same design is to be admitted, the first vehicle constitutes a type. For the admission of subsequent vehicles of the same type, it is sufficient to prove that the vehicles are built in accordance with that type. In such case, the design of the vehicle does not have to be assessed again. The required checks are set out in the assessment procedures in UTP GEN-D. The type of assessment procedures that are used depends firstly on what is permitted by the structural UTP in question. The results of the assessments are valid and recognised in all other Contracting States for subsequent admissions of a vehicle of vehicle type in accordance with Article 6a of the ATMF UR.
134. Every assessment carried out has to be documented by the assessing entity in an assessment report that describes the assessments carried out, the provisions the object has been assessed against and whether the object passed or failed this assessment.

Risk assessment

135. The procedures for assessing, evaluating and mitigating risks are laid down in UTP GEN-G concerning a common safety method (CSM) for risk evaluation and assessment.
136. The procedure in UTP GEN-G should be applied, for example:
 - To upgraded or renewed vehicles, for instance if there are significant changes to their construction or maintenance.
 - In the case of admissions of new vehicles if the CSM must be applied because a UTP concerning the vehicle so requires.
 - In the case of admissions of new vehicles in order to check the safe integration of subsystems within a vehicle (i.e. rolling stock and the on-board part of the signalling system), but only when there are no mandatory rules in the UTP concerning the subsystems or in national rules concerning this safe integration.
 - In the case of admissions of new vehicles in order to check the safe integration of a vehicle and a particular network. However, this is only mandatory if required by a UTP concerning the vehicle or by NTR (national technical requirements) in force in accordance with Article

12 of the APTU UR, and it only relates to risks that are not already covered by UTP or NTR.

137. The risk management procedure has to be carried out by the proposer and is subject to independent assessment of its correct application and results. The latter is the task of the CSM assessment body. See also points 106-115 of this handbook.

Technical file

138. Before the admission to operation is issued, the applicant must compile a technical file. “Technical file” means the documentation relating to the vehicle, containing all its technical characteristics. The purpose of the technical file could be compared to that of a user manual. The content of the technical file is defined in UTP GEN-C. The technical file is attached to the certificate of operation and is kept by the vehicle keeper throughout the life of the vehicle. If the keeper of a vehicle changes, the technical file must be handed over to the new keeper without delay.

Renewal and upgrade

139. When an existing vehicle is upgraded or renewed, depending on the extent of the changes, the vehicle may need to be admitted again. The requirements applicable in such case are set out in the UTPs. Generally speaking, only elements of the vehicle that are being renewed or upgraded should be subject to UTP conformity assessment and, in some cases, risk assessment.

VII. VEHICLE REGISTERS

140. When a vehicle is admitted, it must be registered in a vehicle register (VR). For this purpose, the keeper of the vehicle should register it with the registration entity of the Contracting State that admitted the vehicle for the first time (the initial admission). A list of registration entities is published on OTIF’s website (see chapter XI of this handbook). The other Contracting States in which the vehicle is also admitted should be listed in the VR as well.
141. Competent authorities, infrastructure managers, railway undertakings, keepers and other relevant actors should be given access to the relevant information concerning vehicles admitted to international traffic, so that they can:
- check whether a vehicle they are using or investigating is duly registered and check the status of the registration;
 - retrieve information on the admission to operations, including the authorising entity, the area of use, the conditions for use and other restrictions;
 - retrieve the type of construction according to which the vehicle is built;
 - identify the keeper, the owner and the ECM.
142. It is the task of the registering entity to ensure that the competent authorities and railway actors have access to the vehicle data that are relevant to them. This access concerns actors and competent authorities of their own state as well as those in other Contracting States in which the vehicle is used. For example, railway undertakings and infrastructure managers should be able to check the relevant data concerning each vehicle that they are using, or that is used on their infrastructure. The competent authorities should have access to data concerning each vehicle that is used on their network(s).

143. Within the scope of COTIF, registration of a vehicle in a register is not a condition for the admission of the vehicle or its use in international traffic. However, Article 13 § 6 of the ATMF UR lays down that the data in a VR must be considered as *prima facie* evidence of the admission. Proper registration therefore avoids lengthy checks of the status of admission of a vehicle if it crosses borders. Registration of vehicles and access to this information for all relevant parties is therefore very important for smooth international traffic by rail. Each Contracting State should ensure that a VR is available for the registration of all relevant parameters and that this can be accessed by all the relevant entities of any other Contracting State.
144. OTIF's VR specifications are aligned with the European Vehicle Register (EVR) specifications of the European Union. The VR specifications define harmonised data content, data formatting and access rights for national registers. The OTIF VR specifications allow states to choose whether they establish their own national vehicle register, use the EVR, or establish and share another joint register with one or more other states. However, all registers would need to comply with the specified common data format and provide access to all the relevant entities of any other Contracting State. This should facilitate the future development of a single internet-based search engine or platform, which would allow simultaneous search queries in all registers.
145. COTIF applies to international traffic only and may therefore only require that data concerning vehicles for use in international traffic be shared. Vehicles that are intended for use in domestic traffic only are outside the scope of COTIF and are also therefore outside the scope of mandatory vehicle register specifications under COTIF. It is at the discretion of the Contracting States if they wish to register vehicles for domestic use as well.
146. The European Union has also offered non-EU OTIF Member States the opportunity to use the EVR. The conditions for such use would have to be agreed between the parties concerned on a bilateral basis. This might be an interesting option for non-EU Contracting States that do not wish to establish their own register, or if they have a lot of international traffic with the EU.

VIII. EXTERNAL MARKING OF VEHICLES

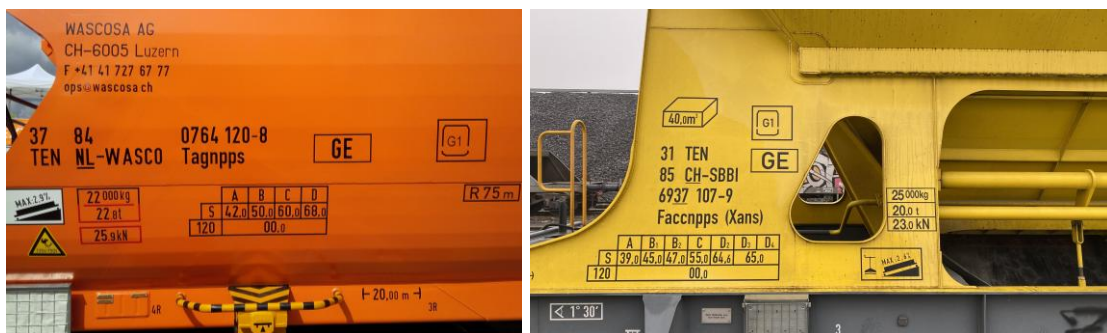
A. Mandatory markings

147. Vehicles used internationally bear several markings. Some of these markings are mandated by COTIF, in particular by the UTPs and by RID, while other markings are not legally required, but are used on the basis of agreements between railway undertakings and vehicle keepers, etc. This section of the handbook summarises the markings that are required by UTPs. Further detailed explanations are given in the explanatory document for the UTP Marking, which can be obtained from OTIF's website: [Home](#) > [Legal Texts](#) > [COTIF](#) > [Technical Interoperability](#) (select Prescriptions and other rules > UTP Marking).
148. The UTP Marking prescribes mandatory markings, namely the Unique Vehicle Number (EVN) to identify the vehicle, the alphabetical code of the country where the vehicle is registered and the Vehicle Keeper Marking (VKM) to identify the keeper of the vehicle.
149. The EVN is a unique 12-digit number that provides information about the vehicle:
 - The first two digits indicate the interoperability capability and the type of vehicle;
 - The third and fourth digits indicate the country in which the vehicle is registered;
 - The fifth to eight digits relate to the vehicle's technical characteristics;
 - Digits nine to eleven are a serial number;

- The twelfth digit is a control digit that is calculated on the basis of a formula using the other digits as input.
150. The code of the country in which the vehicle is registered is a 1, 2 or 3-letter code, as defined in the UTP Marking.
151. The VKM marking is a unique alphabetical code consisting of 2 to 5 letters. All keepers of the railway vehicles and their VKM code are registered in the VKM register, which links the abbreviations to the full name and contact details of each keeper. The VKM register is kept up to date jointly by ERA and the OTIF Secretariat. It is accessible on ERA's website.
152. In addition to the markings required by the UTP Marking, there are a few other mandatory external markings required by the UTP WAG and the UTP LOC&PAS, such as those indicating the lifting and jacking points of a vehicle.

B. Optional markings

153. The UTP WAG and the UTP LOC&PAS include optional requirements for elements and interfaces that, when implemented, enhance the vehicle's flexibility of use. If these requirements are fulfilled in their entirety, the vehicle may be marked accordingly.
- “TEN” marking means that the vehicle is suitable for free circulation in the meaning of Article 6 § 3 of the ATMF UR. This marking may be applied when the initial admission of a vehicle is valid for an area of use covering multiple Contracting States, without the need for separate admission by each of these Contracting States. The conditions are set out in point 7.1.2 of the UTP WAG and in point 7.1.1.5.1 of the UTP LOC&PAS for passenger coaches.
 - A “GE” or “CW” marking may be applied to a freight wagon in addition to the “TEN” marking if it is equipped with standardised inter-vehicle interfaces, enabling interchangeable integration of the vehicle into a train composition alongside other vehicles that have similar features. The conditions are set out in Appendix C to the UTP WAG.



C. Sector markings

154. In addition to the obligatory marking requirements, the railway sector may agree on additional markings that facilitate the operation of vehicles. Such agreement may include references to standards or sector agreements, for example the RIC agreement or Appendix 11 to the General Contract of Use for Wagons (GCU). The latter covers the marking of wagons in connection with loading, combined transport, train preparation, shunting, technical inspections, workshops or key warning signs.

IX. ROLES AND RESPONSIBILITIES FOR THE USE OF VEHICLES

155. Vehicles that are admitted to international traffic may be used in their area of use by railway undertakings that are licensed and certified for the network(s) concerned.
156. Some of the tasks of railway undertakings and those of other actors are defined by the ATMF UR and by UTPs. However, it should be noted that the licensing and safety certification of railway undertakings is not in the scope of the APTU or ATMF UR. Safety certification will be covered by the EST UR, once these have entered into force. Licensing, i.e. granting railway undertakings permission to provide railway services, is not in the scope of COTIF.
157. Other Appendices to COTIF may be relevant to railway undertakings as well, but are not discussed in this handbook.
158. The following points explain the roles and responsibilities that contribute to safe and efficient international traffic in connection with the use of vehicles. Supervision of whether each of the actors acts as required is a task of the relevant authorities of each Contracting State.

A. Railway undertaking

159. Railway undertakings provide railway services and for this purpose they operate trains. The primary responsibilities of railway undertakings in the scope of the ATMF UR are set out in Article 6 § 2 and Article 15a of the ATMF UR. These responsibilities relate to the correct use of vehicles and can be summarised as:
 - Using vehicles only within their limit and conditions of use.
 - Ensuring that vehicles are compatible with the infrastructure on which they are used.
 - Ensuring that vehicles are only used when there is an ECM assigned to them.
 - Safely composing, preparing and checking trains before they depart.
160. Parameters that have already been verified throughout the admission process need not be reassessed. Provisions that are more detailed are set out in the UTP for train composition and route compatibility checks (UTP TCRC). See also points 169-174 of this handbook.

B. Vehicle keeper

161. Each vehicle has a keeper. The keeper is defined in the ATMF UR as “the person or entity that, being the owner of a vehicle or having the right to use it, exploits the vehicle as a means of transport and is registered as such in the vehicle register”. In the scope of the ATMF UR, the keeper must ensure that its vehicles comply with the (UTP and other) rules, that each vehicle has an ECM assigned to it and that they are registered. If a vehicle has no identifiable keeper, it should not be used in international traffic. In addition to the registration of the vehicle keeper in the vehicle register, each vehicle bears a marking to identify its keeper. See also chapter VIII, letter A of this handbook.
162. A railway undertaking may also be the keeper of the vehicles it uses, but the keeper and railway undertaking may also be separate parties. A keeper may also be the ECM of its vehicles, but it may also outsource the ECM responsibilities.
163. Details on the ECM’s tasks and responsibilities are provided in chapter X of this handbook.

C. Infrastructure manager

164. Among other things, infrastructure managers manage infrastructure, manage traffic and allocate network capacity. Within the scope of the ATMF UR, the main task of infrastructure managers is to provide complete and accurate information to railway undertakings on the infrastructure and the route characteristics, including changes to these characteristics. Detailed requirements are set out in the UTP TCRC.

D. Sharing information

Information relevant to maintenance

165. The keeper, the ECM, and the railway undertakings which use the vehicle are required to exchange information about the vehicle. These exchanges of information are mandatory for all vehicles in international traffic in the scope of the ATMF UR, irrespective of whether or not the ECM for the vehicle concerned must be certified.
166. As the keeper of a vehicle assigns the ECM, it is also responsible for providing the ECM with the relevant information. Article 15 § 3 of the ATMF UR requires the keeper to *make available to the ECM, as far as necessary for maintenance, the elements relating to the instructions concerning servicing, constant or routine monitoring, adjustment and maintenance of the vehicle*. This would include the maintenance files as required in the UTPs applicable to the vehicle. In cases where the keeper and ECM are the same entity, the provision of information may remain an internal matter.
167. The ECM has to ensure, either directly or via the keeper, that *reliable information about maintenance and restrictions affecting operations, necessary and sufficient to support safe operations are available for the operating railway undertaking*. In practice, the keeper will often provide groups of user-railway undertakings with such information by electronic means.
168. The operating railway undertaking should in due time, either directly or via the keeper, *provide the ECM with information on operation of the vehicles (including mileage, type and extent of activities, incidents/accidents) for which the ECM is in charge*. Such information is increasingly being generated electronically and in real time by means of sensors, location trackers, etc. The availability of such information may help the ECM to optimise and specifically tailor the maintenance of each vehicle.

Train composition and route compatibility checks

169. The safe and correct use of vehicles is the responsibility of railway undertakings. It is therefore important that before they use a vehicle, railway undertakings ensure firstly, that the vehicle is compatible with the train in which it is integrated and secondly, that the train is compatible with the lines on which it is intended to run.
170. Railway undertakings base their checks on information that is in part to be provided by the infrastructure manager. The responsibilities are set out in the UTP TCRC. Before operating a train, the railway undertaking must ascertain that all vehicles in the train are legally permitted to run on the route on the networks of the Contracting States involved. This usually means that the vehicles composed in the train are admitted in accordance with the ATMF UR or are authorised in accordance with EU law. Older vehicles that existed prior to the UTPs may have legacy rights in accordance with Article 19 of the ATMF UR.

171. The UTP TCRC covers two different, but connected, subjects that precede the movement of the train:
- Train composition, which is the process in which, based on the technical file of each vehicle, the railway undertaking prepares the train for operation and ensures that all vehicles in the train and the train as a whole meet the essential requirements, and
 - Route compatibility checks, in which the railway undertaking ascertains that the train is compatible with the route on which it intends to run the train. For this purpose, the railway undertaking should base its checks on route information provided by the infrastructure manager and on vehicle information. The vehicle information should be provided by the keeper, as the holder of the certificate of operation, or by the holder of the EU authorisation documentation, or through an electronic register.
172. Correct application of the UTP TCRC avoids or limits the need to check the train composition again at border crossing stations. It can also facilitate the recomposition of trains in situations where only the locomotive has to be changed at a border crossing station.
173. The UTP TCRC does not deal with the actual operation of trains or safety certification or the licensing of railway undertakings and infrastructure managers, as these activities do not fall within the scope of the APTU UR and ATMF UR². These matters therefore remain subject to the law applicable in each Contracting State, including EU law in Member States of the EU.
174. Before a train departs, the railway undertaking must ascertain that all the necessary checks have been carried out and that all the requirements regarding safety and the route on which the train is operated have been met. The checks comprise verification of all the vehicles, their positioning within the train, the brakes, couplings, wheels, signals, and any other essential parts. This also includes safe loading of the train, including compliance with RID when dangerous goods are carried. Once all the necessary checks are completed and any possible issues are resolved, the train is deemed to be *in running order* and is ready to depart.

Information related to accidents, incidents and severe damage

175. In case of accident, incident or severe damage, railway undertakings, infrastructure managers, keepers, ECMs, and other relevant parties should take all the necessary measures to ensure the safety of railway traffic, respect for the environment and public health and establish the causes of the occurrence.
176. Unless required differently by the Contracting State, the infrastructure manager where the occurrence has occurred is responsible for coordinating these measures. Contracting States may, or, if required by the applicable law, must request an independent investigation in addition to the investigations carried out by the parties involved in the occurrence.
177. If a vehicle contributed to the cause of the occurrence, this should be notified to the competent authority that has admitted the vehicle and the notification must include all relevant information.
178. With regard to vehicles used in international traffic, Contracting States have to keep records, publish investigation reports with their findings and recommendations, and inform the authorities concerned and the Secretary General of OTIF.
179. The CTE may examine the causes of occurrences in international traffic with a view to:
- developing the construction and operation prescriptions for vehicles contained in the UTP

² These activities will come under the scope of the EST UR once they enter into force.

- deciding to instruct the Contracting States within a short time limit to suspend relevant certificates of operation, design type certificates or declarations issued
- preparing and adopting further mandatory rules concerning the investigation of serious accidents, incidents and severe damage, requirements concerning independent State investigation bodies, and the form and content of reports.

180. In 2022, the CTE adopted a procedure for sharing information on the causes of accidents, incidents, and severe damage in international traffic within the scope of Article 16 § 4 of the ATMF UR. Such information can be notified by the Contracting States and competent authorities, including reports by the Joint Network Secretariat (JNS) issued by the European Union Agency for Railways. In turn, the Secretary General of OTIF informs the Contracting States and publishes the notified information on OTIF's website.

E. Railway noise

181. In many Contracting States, railway noise, in particular noise caused by night time freight trains, is considered a public health issue. On 1 December 2012, the first version of the UTP Noise entered into force. This UTP and its subsequent revisions regulate the noise that may be emitted by new rolling stock.
182. Over time, all old wagons which are at the end of their economic life will be replaced by new wagons. These new wagons must comply with the noise rules, so that the fleet will gradually become silent. Several Contracting States were of the view that this gradual replacement on economic grounds only would take too long and that the noise emitted by old, pre-UTP freight wagons needed be addressed as well. One of the issues is that if there are only one or two noisy wagons in a train, the entire train is still noisy, even when all other wagons in that train are silent.
183. Most pre-UTP freight wagons are traditionally equipped with cast iron brake blocks that are pushed onto the wheel thread by the brake system to generate a braking force. When braking, the cast iron brake blocks roughen the steel running surfaces of the wheels. These rough wheel surfaces result in excessive pass-by noise when the wagons are running at speed. Research in the early 2000s revealed that when cast-iron brake blocks are replaced with composite brake blocks, the wheel surfaces are no longer roughened but are smoothed. The pass-by noise emitted by wagons with smooth wheels is much lower.
184. The majority of Contracting States therefore agreed that the cast-iron brake blocks on the existing fleet must be replaced with composite brake blocks (retrofitting). At the same time, it was agreed that there should be no strict obligation to retrofit all wagons. Only wagons that actually caused excessive noise nuisance should be dealt with.
185. For this purpose, the UTP Noise of 1 April 2021 introduced the concept of “quieter routes”. The UTP Noise permits Contracting States to define certain lines (or even the entire network) as quieter routes. These could for example be routes along which many people live and which have night time freight traffic. The UTP does not define specific criteria for quieter routes. Only wagons that have low level pass-by noise, i.e. those that have composite brake blocks, are compatible with quieter routes. Older wagons that still have cast iron brake blocks are not compatible with quieter routes and may not be used on them from 8 December 2024. However, they may continue to be used on lines that are not part of the quieter routes.
186. Member States of the European Union have published their quieter routes in the Register of Infrastructure (RINF). Corresponding information is also available on ERA's website https://www.era.europa.eu/domains/technical-specifications-interoperability/noise-tsi_en. Switzerland has designated its entire network as quieter routes (see 7.4.1 of the UTP Noise).

187. Considering the density of quieter routes, this means that from 8 December 2024, in practice only wagons equipped with composite brake blocks may be used on most international routes.
188. It is worth noting that wagons equipped with composite brake blocks may require particular operational measures in order to ensure their safe use under severe Nordic winter conditions.

X. VEHICLE MAINTENANCE

189. The operation of railways is such that vehicles, particularly freight wagons, are frequently exchanged between and operated by different railway undertakings. It is not realistic or efficient to require each railway undertaking to assess fully the state of maintenance of each vehicle they haul. It would make international railway traffic very inefficient and practically impossible. It is for this reason that harmonised rules for the maintenance of railway vehicles have been introduced into COTIF. Article 15 of the ATMF UR defines the general objectives and responsibilities of ECMs. Detailed rules on ECMs and their certification are set out in Annex A to the ATMF UR, also referred to as the ECM Regulation. These rules are harmonised with EU rules.

A. Entity in charge of maintenance – ECM

190. The concept of the ECM was created to ensure that for each vehicle there is one identifiable entity responsible for making sure it is properly maintained, irrespective of who operates the vehicle.
191. The ATMF UR require each vehicle used in international traffic to have an ECM assigned to it, irrespective of whether it is a freight wagon or a locomotive or a passenger vehicle. It is the responsibility of the vehicle keeper to ensure that an ECM is allocated and registered as such in the vehicle register. When using vehicles, the railway undertaking has to ascertain that each vehicle it uses has an ECM assigned to it.
192. Once assigned, the ECM must ensure by means of a system of maintenance that the vehicle is in a safe state of running. The ECM functions may be exercised by any organisation meeting the ECM requirements. For example, this might be a dedicated maintenance company, a railway undertaking or the keeper of the vehicle itself.
193. The ECM Regulation does not define how or at which intervals the maintenance should be performed. Instead, the rules aim to ensure that a certified ECM has the necessary skills and know-how, as well as the ability to fulfil its responsibilities and perform maintenance in a systematic and effective manner. The ECM Regulation allows for different approaches to maintenance, as long as it leads to the overall objective: ensuring that vehicles are in a safe state of maintenance. The rules do not therefore hinder innovation. They permit modern maintenance methods, such as, for example, data-driven monitoring for condition-based maintenance.
194. The following functions are distinguished in the ECM Regulation:
 - The management function supervises and coordinates the other functions. The entity that fulfils the management function is the actual ECM and bears the related overall responsibilities.
 - The maintenance development function is responsible for managing the maintenance documentation. This includes the configuration management, for example to keep track of the maintenance information for the relevant parts of each wagon.
 - The fleet maintenance management function manages the wagon's withdrawal for maintenance and its return to operation after maintenance.

- The maintenance delivery function delivers the required maintenance of a wagon, or parts of it.
195. An ECM may outsource functions, with the exception of the management function. That being said, all outsourced functions remain under the full responsibility of the ECM.

B. ECM certification body

196. With a few exceptions, all ECMs must be independently certified. So-called ECM certification bodies award ECM certificates to ECMs which meet all the applicable requirements.
197. Contracting States are required to ensure that all ECM certification bodies comply with the criteria and requirements in the ECM Regulation, or with equivalent EU law. There are three options for Contracting States to ensure this. Firstly, competence can be designated directly to the competent authority in the meaning of Article 5 of the ATMF UR. Secondly, Contracting States may decide that their accreditation body is competent to accredit ECM certification bodies. Lastly, Contracting States may appoint a national body, other than the accreditation body, which is competent to recognise ECM certification bodies. If a Contracting State uses the second option (accreditation), the national accreditation body must inform the Secretary General directly of any ECM certification body it accredits. Contracting States, or their accreditation body, have to inform the Secretary General of any changes in the situation concerning ECM certification bodies.
198. Depending on the decision of each Contracting State, the ECM certification bodies may be public or private entities. Nevertheless, *the ECM certification body must be organisationally and functionally independent in its decision-making from railway undertakings, infrastructure managers, keepers, manufacturers and entities in charge of maintenance and shall not provide similar services* (Annex I of the ECM Regulation).
199. As is the case for assessing entities, Contracting States are not required to have an ECM certification body on their territory. Contracting States have the option to rely on foreign ECM certification bodies.

C. Correlation with EU law

200. Chapter III, letter B and points 100-104 of this handbook provide guidance on the correlation between EU law and COTIF with regard to the application of technical rules and with regard to the scope of work of assessing entities. Similar principles apply to the work of ECMs and ECM certification bodies.
201. The requirements that ECMs must meet in order to be certified and the qualifications of ECM certification bodies are harmonised between the EU and OTIF. Consequently, for vehicles in international traffic in the scope of the ATMF UR, it does not matter whether their ECM is certified according to EU law or according to COTIF. Vehicles in international traffic in the scope of the ATMF UR should not therefore be rejected based on whether its ECM is certified under COTIF or EU rules.
202. The scope of the ATMF UR does not include market access conditions for services. This means that ECMs and ECM certification bodies cannot assert rights to provide their services in another state solely on the basis of COTIF. However, although not regulated by COTIF, states may unilaterally or multilaterally decide that foreign ECMs and ECM certification bodies may provide services on their territory, if so allowed by the applicable market-related rules established at domestic or EU level, as appropriate.

203. In summary:

- For the purpose of vehicle movements in the scope of the ATMF UR, any ECM assigned to a vehicle that is certified in accordance with COTIF or EU rules should be accepted in international traffic;
- For the purpose of providing ECM services on the territory of a Contracting State, that Contracting State may require that ECMs comply with the rules applicable on their territory, including EU law for members of the EU.

D. The ECM register

204. ECMs, as well as ECM certification bodies, are registered in an international register. The register is common to the EU and OTIF and is hosted by the European Union Agency for Railways. It is publicly accessible on https://eradis.era.europa.eu/safety_docs/ecm/default.aspx.
205. After being notified of an ECM certification body, the Secretary General will ensure that it is included in the register. The ECM certification body will get access to the database of ECM certificates, so that it can autonomously register ECM certificates. The ECM certification body must update the register if it amends, renews, suspends or revokes ECM certificates that it has issued.

XI. GUIDE TO OTIF’S WEBSITE WITH REGARD TO THE APTU AND ATMF UR

COTIF, including the APTU and ATMF UR and the Explanatory Report, are published under:

- [Home > Legal Texts > COTIF > COTIF 1999](#)

The UTPs and other provisions adopted by the CTE are published under:

- [Home > Legal Texts > COTIF > COTIF 1999 > Technical Interoperability](#) (select *Prescriptions and other rules*)

The rules of procedure of the CTE are accessible through:

- [Home > Activities > Technical Interoperability > Committee of Technical Experts](#)

Working documents for the CTE are published under:

- [Home > Activities > Technical Interoperability > Committee of Technical Experts > Working Documents](#)

Decisions by the CTE are published under:

- [Home > Activities > Technical Interoperability > Committee of Technical Experts > Decisions](#)

Depository notifications, including those related to decisions taken by the CTE, are published under:

- [Home > Legal texts > Depository Notifications](#)

Working documents for the WG Tech meeting are published under:

- [Home > Activities > Technical Interoperability > Working Group Tech > Working Documents](#)

The list of competent authorities of Member States, as notified to the Secretary General of OTIF, is published under:

- [Home > Legal Texts > COTIF > COTIF 1999 > Technical Interoperability](#) (select *Competent Authorities of Member States*)

Links to the vehicle keeper marking (VKM) register, the ECM register and the register of CSM assessing entities:

- [Home > Legal Texts > COTIF > COTIF 1999 > Technical Interoperability](#) (select *Registers*)

A list of vehicle registration entities is published under:

- [Home > Legal Texts > COTIF > COTIF 1999 > Technical Interoperability](#) (select *Registers*)

This handbook:

- [Home > Activities > Technical Interoperability](#) (*Handbook APTU, ATMF*)