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**Economic Commission for Europe****Inland Transport Committee****Eighty-second session**

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Item 4 (n) of the provisional agenda

**Strategic questions of a horizontal policy  
or regulatory nature: Rail transport****Position paper and Terms of Reference for the establishment  
of a Group of Experts on the Permanent Identification of  
Railway Rolling Stock****Note by the secretariat***Summary*

Following the decision of the Working Party on Rail Transport at its seventy-third session to recommend the establishment of a Group of Experts on Unique Rail Vehicle Identification System (URVIS) to be known as the “Group of Experts on Permanent Identification of Railway Rolling Stock” (GE\_PIRRS), the Inland Transport Committee is invited to **approve** the establishment of this Group of Experts according to the suggested Terms of Reference in Annex II of this document. GE\_PIRRS will report to the Inland Transport Committee's Working Party on Rail Transport.

**I. Background**

1. Luxembourg is the host state for the diplomatic conference which took place in February 2007 to adopt the Luxembourg Rail Protocol to the Cape Town Convention on International Interests in Mobile Equipment. The Luxembourg Rail Protocol is expected to enter into force in 2020.
2. The Cape Town Convention entered into force in 2006 and has been adopted by 79 states. It introduced a new global system for recognition, prioritisation and enforcement of creditor and lessor rights under security lease or conditional sale agreements (collectively security agreements) in relation to certain types of moveable equipment. These rights are registered in an international registry accessible to everyone over the internet at any time. The Aircraft Protocol, applying the Convention to aircraft, also entered into force in 2006 and is now in operation in 76 states, including several European Union (EU) member States. The international registry for aircraft is based in Dublin, Ireland.
3. The Luxembourg Rail Protocol applies the Convention to all railway rolling stock, broadly defined, so it covers not just conventional rail equipment but also light rail, trams,

cable cars and people movers at airports. Accordingly, it will provide a considerably enhanced level of security for secured creditors and lessors under a Security Agreement relating to railway rolling stock when debtors are located in a contracting state. The international registry for railway rolling stock will be based in Luxembourg.

4. The Luxembourg Rail Protocol also provides, for the first time, a global system for uniquely identifying railway rolling stock with identification numbers issued by the international registry.

5. The system allocating the unique numbers is known as the Unique Rail Vehicle Identification System (URVIS). The URVIS number must be fixed permanently to the rolling stock but how this occurs has yet to be determined and should conform with industry practice both currently which also anticipates technology and other advances in the future. To that end we would respectfully request that at the above-mentioned meeting a group of experts is established to agree a global system to determine how unique identifiers of railway rolling stock (URVIS numbers) are permanently affixed to railway rolling stock.

6. In Annex I a brief position paper sets out the issue in more detail. Annex II suggests terms of reference for the group of experts.

7. Following adoption at the seventy-third session of Working Party on Rail Transport (SC.2) of the decision to recommend the establishment of a Group of Experts on URVIS to be known as the “Group of Experts on Permanent Identification of Railway Rolling Stock” (GE\_PIRRS), the Inland Transport Committee is invited to approve the establishment of this Group of Experts according to the suggested terms of reference in Annex II. GE\_PIRRS report to the Inland Transport Committee's Working Party on Rail Transport.

8. Given the role of the Inland Transport Committee of the Economic Commission for Europe (ECE) as the UN Platform for inland transport and the international role that it has in the rail sector as the only UN body bringing together Member States, national railways and technical experts from different railway systems, the Working Party on Rail Transport is the only body able to undertake this technical task. Furthermore, the work will be undertaken in close collaboration with UN/CEFACT further cementing the NEXUS collaborations within the ECE NEXUS on Sustainable Mobility and Smart Connectivity.

## Annex I

### Position Paper

## Establishing global rules and protocols for fixing unique identifiers to railway rolling stock

### I. Introduction

1. The Luxembourg Rail Protocol to the Cape Town Convention on International Interests in Mobile Equipment (the **Luxembourg Rail Protocol**), was adopted at a diplomatic conference in Luxembourg which took place in February 2007.
2. The Luxembourg Rail Protocol provides a new common system of international security rights for creditors (secured lenders and lessors) whose interests will be registered, and searchable at any time, at an international registry to be based in Luxembourg under the auspices of a Supervisory Authority composed of the contracting states.
3. The protocol covers all railway rolling stock, very broadly defined, to include any vehicle which runs on tracks or above, on or under a guideway.<sup>1</sup> This means that, aside from conventional passenger and freight locomotives, wagons and coaches, trams, metro trains, cable cars, as well as gantries and cranes operating on rails in ports are also covered by the Luxembourg Rail Protocol.
4. As a result, the Luxembourg Rail Protocol will facilitate banks, lessors, pension funds and other financiers providing credit at attractive rates to support much needed new rolling stock procurement around the world without state guarantees. It will also open the way for state and private operators to refinance existing fleets, creating much needed liquidity at attractive rates and underwrite operating leasing of railway rolling stock. Further the Luxembourg Rail Protocol will lower the barriers to entry for operators and lead to a more competitive and dynamic rail industry worldwide – bringing important social, environmental, developmental and economic advantages as well as new business opportunities.
5. The Luxembourg Rail Protocol is expected to enter into force in contracting states in 2020. The European Union (in respect of its competences), Luxembourg, Sweden and Gabon have ratified the Protocol. Furthermore, many United Nations Member States have already signed the Protocol and are proceeding to ratification. Other Member States are working actively on the adoption of the Protocol, have launched studies into its adoption or recently stated that they intend to move forward with the Protocol.
6. Both the drafting of the Luxembourg Rail Protocol and the regulations issued thereunder have involved government experts and the private sector, represented by a not for profit association, the Rail Working Group.

### II. Uniquely identifying railway rolling stock

7. The ability uniquely to identify railway rolling stock is critical for the effective operation of the Luxembourg Rail Protocol. But unique identification is becoming increasingly important commercially, for example facilitating tracking of the status and location of equipment in real time, predictive maintenance programmes and more efficient accident analysis for liability and insurance.<sup>2</sup> On the other hand, governments have accepted, and private financiers and operators have insisted that the financial consequences of contracting parties utilising the registration system of the Luxembourg Rail Protocol should

<sup>1</sup> Article I, paragraph 2 (e)

<sup>2</sup> To avoid ambiguity, for these purposes it is accepted that the identifier has to be unique at the time it is issued and thereafter

be as inclusive and therefore as cost effective as possible. This means that the system of identification, as a precondition for registration, also must be as inexpensive as possible.

8. Article XIV of the Luxembourg Rail Protocol deals with the issue of unique identification as follows:

*Article XIV – Identification of railway rolling stock for registration purposes*

1. For the purposes of Article 18 (1) (a) of the Convention, the regulations shall prescribe a system for the allocation of identification numbers by the Registrar which enable the unique identification of items of railway rolling stock. The identification number shall be:

- (a) affixed to the item of railway rolling stock;
- (b) associated in the International Registry with the manufacturer's name and the manufacturer's identification number for the item so affixed; or
- (c) associated in the International Registry with a national or regional identification number so affixed.

9. We do not expect subparagraphs (b) and (c) to be used but if there are the same issues will need to be confronted.

10. The regulations will be issued in final form on the date the protocol enters into force. The Luxembourg Rail Protocol enters into force between the states which have deposited instruments of accession on the **later of** (a) the first day of the month following the expiration of three months after the date of the deposit of the fourth instrument of ratification, acceptance, approval or accession, and (b) the date of the deposit by the Secretariat with the Depository of a certificate confirming that the International Registry is fully operational.<sup>3</sup>

11. The Secretariat will be the Intergovernmental Organisation for International Carriage by Rail (OTIF), based in Bern, Switzerland.<sup>4</sup> The Depository is the International Institute for the unification of Private Law (UNIDROIT).<sup>5</sup>

12. The latest draft of the regulations set out a new global unique identification system for all railway rolling stock system known as the Unique Rail Vehicle Identification System (URVIS). They state that:

"URVIS identifier" means, in respect of an item of railway rolling stock, the unique, 16-digit identification number allocated in accordance with the system prescribed by Section 5 of these Regulations.

13. And Section 5.3 states that:

"The URVIS identifier shall be composed of fifteen digits wholly numeric; zeroes shall be permitted in any position other than the first position and an automatically generated check digit shall form the sixteenth digit derived from the Luhn mod 10N algorithm."<sup>6</sup>

14. Section 5.1 of the draft regulations state that:

"[i]n order to effect a registration, use of the URVIS identifier provided by the International Registry relating to railway rolling stock is mandatory and, where so provided, is the sole means of satisfying the requirements of Section 5.3 (c) (i) and (ii)" of the regulations.

15. However, a number of key questions need to be resolved in a way that reconciles, as much as possible, the integrity of the security system offered by the Luxembourg Rail Protocol with industry practice on marking and access to identifiers.

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<sup>3</sup> Article XXIII of the Protocol.

<sup>4</sup> Article XII (6) *ibid.*

<sup>5</sup> Article XXXIII (1) *ibid.*

<sup>6</sup> Last paragraph.

(a) The industry needs a global technical guideline as to how the identifier is "affixed". Logically this identifier must be affixed in a way which is permanent or if it needs to be replaced,<sup>7</sup> the conditions for a "safe" replacement must be specified.

(b) The type of identifier is not specified. Painted numbers, a common practice for immatriculation identifiers, are clearly unsatisfactory because they are not permanent and can be obscured or painted over. In the past the obvious permanent marker would have been either a metal plate or a stamp. But now it could be a box containing RFID chips or other electronic devices fixed permanently to the wagon.

(c) The size of the identifier(s) and its ability to be read by human agents with or without electronic machines.

(d) If the identifier is to be read electronically and how it should be accessible.

(e) If the identification data is accessible remotely, should this be accessible to anyone or only selected interest parties?

(f) Building in a flexible revision system to take into account developing technology.

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<sup>7</sup> For example as a result of damage.

## Annex II

### Terms of reference

#### I. Scope of issues and achievements expected

1. The Group of Experts will focus its work on the following issues:
  - (a) Identify methodologies, tools and good practices for evaluating optimal mechanisms for marking railway rolling stock with unique identifiers to ensure that the marking is compatible with requirements under the Luxembourg Rail Protocol;
  - (b) shape open standards for the Unique Rail Vehicle Identification System (URVIS) application among the relevant stakeholders;
  - (c) set out recommendations and draft protocols for a range of qualifying rolling stock marking systems with unique identifiers, taking into account the wide range of equipment potentially to be marked, the need to be flexible to adapt to future technological developments and balancing cost with effectiveness;
  - (d) consider and recommend protocols on private and public access to the unique identifier, in particular when these are accessible remotely.

#### II. Methods of Work

2. The Group of Experts should take into account rules and protocols already in place for marking railway rolling stock, including Commission implementing Decision (EU) 2018/1614 laying down specifications for the vehicle registers referred to in Article 47 of Directive (EU) 2016/797 and the rules of the American Association of Railways, the Rail Safety Regulator of South Africa and any directions given by OTIF under COTIF<sup>1</sup> treaties and take evidence from the Rail Working Group, Regulis SA, the registrar of the International Registry, or any successor body, OTIF, UNIDROIT, financiers of rolling stock, rail operators and manufacturers (directly or through their representative associations) as well as industry experts, technology providers and suppliers of identification systems on the options, practicalities and cost of the various identification marking systems.
3. The Group of Experts will be established and function in accordance with the ECE Guidelines for teams of specialists approved by the Executive Committee of ECE on 31 March 2010 (ECE/EX/2/Rev.1). At its first meeting, the Group of Experts will adopt a work plan, clearly defining its objectives and activities, including a time schedule for their implementation.
4. The Group of Experts is expected to meet twice in 2020, at least twice in 2021 and at least once in 2022 at the Palais des Nations in Geneva, before concluding its activities with the transmission of a report to the Working Party on Rail Transport at its seventy-sixth session (November 2022, Geneva). This report shall also contain proposals for monitoring procedures and follow-up activities.
5. Translation of documents and simultaneous interpretation of its sessions in English, French, and Russian shall be provided by ECE for all sessions held at the Palais des Nations in Geneva.
6. Participation in the Group of Experts is open to all concerned United Nations member countries and experts. Concerned intergovernmental and non-governmental organizations, as well as concerned railway administration authorities and companies, freight and forwarding industries, intermodal terminals, freight and logistics centres as well as ports authorities are

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<sup>1</sup> The Convention concerning International Carriage by Rail

invited to participate and provide expert advice in compliance with United Nations rules and practices.

### **III. Secretariat**

7. ECE will provide secretariat services for the Group of Experts and shall ensure close cooperation with the secretariat of the Luxembourg Protocol and all relevant stakeholders.

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