

129th year N°2/2021

Bulletin of International Carriage by Rail

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EDITORIAL

Dear readers,

The "European Year of Rail 2021" symbolises very powerfully the importance of this environmentally friendly mode of transport in terms of achieving the sustainability goals at international level.

OTIF is doing everything in its power to support the strengthening of international rail transport.

The so-called Luxembourg Protocol will make a significant contribution to this in the future. On 8 April 2021, the 9th meeting of the "Preparatory Commission for the Establishment of an International Registry for Railway Rolling Stock in accordance with the Luxembourg (Rail) Protocol" took place, followed by a panel discussion chaired by the Rail Working Group entitled "Building back greener". Both events, which were attended by high-ranking international participants, made it clear once again how important it will be to make use of the relief granted by the Protocol in order to finance railway material.

Another important step was also taken towards opening up OTIF to the states of the Gulf Cooperation Council. Special workshops on the subjects of technical interoperability and the transport of dangerous goods made it possible to explain these two subjects in detail to interested specialists from the Arabian Peninsula.

The purpose of the "ad hoc Committee on Cooperation" and the "Working Group of Legal Experts" is to improve international cooperation and to strengthen and consolidate the legal acquis of OTIF. Now that four meetings of the two groups have already been held, it is time to report in more detail on the results achieved, many of which will be submitted to OTIF's 15th General Assembly in September 2021 for information and decision.

This Bulletin also contains an article on the digitalisation of transport information, an article on the last session of the UN Sub-Committee of Experts on the Transport of Dangerous Goods in the 2019/2020 biennium, whose decisions will be taken into account in the 2023 edition of RID, and more detailed information on the survey of readers that I mentioned earlier.

I hope you enjoy reading it!

Wolfgang Küpper Secretary General



Hans Erni, mural, approximately 20m2, 1965, entrance to the Secretariat

WELCOME!

Ms Beatriz Arias Martín joined the OTIF Secretariat on 6 April 2021 for a period of eight months as an administrative assistant in the Administration and Finance Department.

Ms Arias Martín is from Palencia, Spain, and was previously an international trade advisor for the region of Castilla y León at the Spanish Embassy in Berne.

With a Master's degree in international trade and specialised

in transport and logistics, she joins the OTIF team with the task of helping to organise OTIF's General Assembly, which will be held on 28 and 29 September 2021. Ms Arias Martín also has a degree in translation.

With her international professional profile, Ms Arias Martín will be able to provide the Secretariat with the assistance it needs.

Welcome!



RAIL PREPARATORY COMMISSION

On 8 April 2021, the 9th session of the Rail Preparatory Commission for the establishment of an international registry under the Luxembourg Rail Protocol was held. The session was organised by the OTIF Secretariat and took place remotely.

Invited jointly by the Secretary General of UNIDROIT, Professor Ignacio Tirado, and the Secretary General of OTIF, Mr Wolfgang Küpper, 28 governmental delegations participated in the meeting, as well as the European Commission, the United Nations Economic Commission for Africa (UNECA), the United Nations Economic Commission for Europe (UNECE) and the African Union.

The Preparatory Commission was co-chaired by Mr Peter Bloch (USA) and Mr Antti Leinonen (Finland). It approved a revised version of the draft Regulations of the International Registry. It also took note of the latest developments since the last

session. Lastly, it was informed of the activities of the Group of Experts established by the UNECE for the permanent identification of railway rolling stock.

The summary report of the Preparatory Commission is published under: http://otif.org/fileadmin/new/2-Activities/2F-LuxembourgProtocol/2Fb_PrepComm/Doc7-Summary-Report%20-8-April-2021_final_rev-EN.pdf

THE 4th SESSIONS OF THE WORKING GROUP OF LEGAL EXPERTS AND THE AD HOC COMMITTEE ON COOPERATION

The 4th sessions of the Working Group of Legal Experts and the ad hoc Committee on Cooperation were held from 13 to 15 April 2021. More than 40 participants took part remotely.

The sessions were organised by the OTIF Secretariat's Legal Department in a dedicated teleconference room in Geneva. The Chair, Ms Clio Liégeois, also the delegate from Belgium, was able to travel to the venue to lead the discussions.

More information is available on page 7.



THANK YOU!

In the last quarter of 2020, the OTIF Secretariat put a trilingual survey online for the readers of the Bulletin of International Carriage by Rail. More specifically, the aim was to measure their satisfaction and to gain a better understanding of their expectations.

The Secretariat received a large number of responses, which allowed us to obtain conclusive results. The survey consisted of 29 questions on the content, presentation and format of the Bulletin. Questions were asked about reader appreciation and the interest and usefulness of certain sections.

More than 70% of the readers questioned were satisfied (30% very satisfied) with the new design of the front cover. 75% of readers

consider that a table of contents directly accessible on the cover is useful (26%) or very useful (49%).

Overall, the vast majority of people feel that the articles in the Bulletin are interesting, clear and well written. A large majority of readers seem satisfied with the publication.

Thank you!





WORKSHOPS FOR THE GULF COOPERATION COUNCIL

On 3 and 10 March 2021, the Technical Interoperability and Dangerous Goods Departments conducted a remote workshop with the members of the Gulf Cooperation Council involved in the major rail project.

The Secretary General of OTIF, Mr Küpper, made some introductory remarks and welcomed the participants.

Mr Leermakers and Mr Conrad presented the workings and activities of their respective departments. They also explained the main principles and advantages of:

 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 (APTU),

- the Uniform Rules concerning the Technical Admission of Railway Material used in International Traffic (ATMF).
- the Regulation concerning the International Carriage of Dangerous Goods by Rail (RID).

Participants also received a booklet on "Technical Interoperability" at the end of the workshop, which was hosted by Mr Leermakers. The workshops were a success and the participants very active.

The experts from the GCC and its Member States are actively working with experts from the OTIF Secretariat to achieve accession in order to put in place railway regulations that are compatible with the rules of COTIF.

The Secretariat welcomes these workshops as an example of the vitality of the Memorandum of Understanding signed in 2014.







RESULTS OF THE AD HOC COMMITTEE ON COOPERATION AND THE WORKING GROUP OF LEGAL EXPERTS: 2019 – 2021

On 13 to 15 April 2021, the ad hoc Committee on Cooperation and the Working Group of Legal Experts held their 4th sessions. These were the last sessions before the next ordinary session of the General Assembly. This is therefore the right moment to take stock of OTIF's international cooperation and legal activities and to strengthen the working methods in these two areas.

In 2018, two subsidiary organs were established: the ad hoc Committee on Cooperation and the Working Group of Legal Experts. The ad hoc Committee on Cooperation and the Working Group of Legal Experts have been organised back-to-back since the first sessions. The same Member State and European Commission representatives participate in both organs. In the period from 2019 to 2021, the two organs held four sessions.

The establishment and mandate of the ad hoc Committee on Cooperation

As a result of the following factors, effective cooperation with relevant international organisations and associations is a necessary precondition for the achievement of OTIF's goals:

- many other international intergovernmental organisations are responsible in the area of railway transport, such as OSJD, UNECE, UNESCAP, ECO, etc.;
- private actors and their associations, such as CIT, UIC, etc., play a pivotal role in assisting the railway sector in applying OTIF law;
- other areas of law are applicable to railway transport, such as customs, trade etc., so the necessary interfaces and consistency have to be ensured.

One of the main reasons for establishing the ad hoc Committee on Cooperation was to go beyond the existing means of cooperation, which have mainly been at secretariat level, so that joint contact groups could be set up with other organisations, in which representatives of both members and the secretariats can meet.

At its 13th session, the General Assembly decided, among other matters, in accordance with Article 13 § 2 of COTIF, to establish an ad hoc Committee on Cooperation for a three-year period. The ad hoc Committee on Cooperation was mandated to take decisions on cooperation with other international organisations and associations, including establishing and dissolving consultative contact groups with other international organisations and associations and associations and monitoring the functioning of contact groups.

Overview of the activities and decisions of the ad hoc Committee on Cooperation

The ad hoc Committee on Cooperation attributed particular importance and attention to cooperation with OSJD, UPU and international associations.

Cooperation with OSJD

International railway law is mainly developed by OTIF and OSJD. In most cases, the rules of the two

organisations govern the same areas of railway transport, for instance contracts of carriage, use of wagons, transport of dangerous goods, etc. However, not only are some specific rules different, but more importantly, certain fundamental principles differ as well, for instance the level of commercial freedom or, in general, the distribution of competencies between public authorities and private actors.

The ad hoc Committee on Cooperation has expressed strong interest in enhancing cooperation with OSJD and mandated the Secretariat to contact the OSJD Committee. The OTIF Secretariat suggested to OSJD that a special OSJD – OTIF meeting or forum be organised, with the participation of representatives from members of both organisations, in order to discuss and agree on possible areas and methods for enhanced cooperation.

Cooperation with UPU

The transport of postal items between Europe and Asia represents a real opportunity for both postal operators and railway undertakings. For the former, it provides an opportunity to arrange transport of postal items faster than by maritime transport and cheaper than by air transport. For the latter, it provides an opportunity to increase the volume of rail freight transport. In light of the above, the ad hoc

Committee oversees and guides the OTIF Secretariat's representation in the UPU-Rail Contact Committee (now UPU-Rail Forum).

Cooperation with international associations

The distinctive feature of OTIF's legal system is that private entities involved in international railway transport in particular are allowed broad commercial freedom and broad responsibility for defining the necessary implementing measures. Such an approach provides the necessary flexibility and enables competition with other transport modes. However, the large variety of international associations creates uncertainty in terms of the responsibilities of different actors and the relationship among them, particularly with regard to the implementation of COTIF. The ad hoc Committee on Cooperation mandated the Secretary General to clarify the roles and responsibilities of international associations with regard to the implementation and application of OTIF's legal regime. On the basis of the mandate given, the Secretariat intends to cooperate with relevant international associations on the handbook on the application of COTIF.

Establishment and mandate of the Working Group of Legal Experts

Recognising the need to ensure a consistent and coherent approach to the development and application of OTIF's legal framework, the Secretary General set up an advisory working group of legal experts in December 2018. The task of the working group is to assist and facilitate the functioning of the existing organs defined in the legal field and to ensure the effective management of COTIF. The working group's functions are of a preparatory and advisory nature in the legal field, specifically:

- preparation of draft amendments or supplements to COTIF;
- provision of legal advice and assistance:
- promotion and facilitation of the functioning and implementation of COTIF;
- monitoring and assessing the application and implementation of COTIF;
- acting as a forum and thinktank for OTIF's members to raise and discuss relevant legal questions.

Overview of the activities and decisions of the Working Group of Legal Experts

Monitoring and assessment of legal instruments

Taking into account the importance of systematic monitoring and assessment (evaluation) of policy and legislation at national and international levels, the Working Group of Legal Experts considered and endorsed a proposal for a decision on the monitoring and assessment of legal instruments. The Working Group of Legal Experts recommended that at its 15th session, OTIF's General Assembly should adopt the 'Decision on the monitoring and assessment of legal instruments' and approve the accompanying Explanatory Notes. In particular, it should be emphasised that:

- monitoring implementation and application of the Organisation's legal instruments provides evidence concerning their usage;
- based on the monitoring outcomes, an assessment of the Organisation's legal instruments is necessary to

determine their relevance and any need to revise them.

Implementation of COTIF

Pending adoption of the decision on the monitoring and assessment of legal instruments, the Working Group of Legal Experts assessed COTIF's place in the Member States' national legal framework and was instructed to:

- collect information on the implementation of COTIF in the Member States' national legal orders and in the EU's legal order;
- collect information on the reasons for and necessity of maintaining reservations made in accordance with Article 42 § 1 of COTIF.

A comprehensive report will be prepared and follow-up actions, if necessary, will be identified as soon as most of the OTIF members have provided the Secretariat with the relevant information on the implementation of COTIF.

Election and conditions of service of the Secretary General

At its 130th session on 28 February 2019, the Administrative Committee requested the Working Group of Legal Experts to examine the issue of appointing a Secretary General ad interim and electing the Secretary General and to submit proposals to regulate these two issues.

Based on best international practices and lessons learned within OTIF, the Secretariat proposed a legally binding instrument that will regulate the election and conditions of service of the Secretary General, which the Working Group considered and endorsed, together with the accompanying

Explanatory Notes. These proposals will be considered by the General Assembly at its 15th session.

Participation and representation of Member States

The Working Group of Legal Experts monitored and assessed general legal requirements and OTIF's rules and practice with regard to the participation and representation of Member States within OTIF. As a result, modifications to the General Assembly's Rules of Procedure regarding participation and representation (credentials) were considered and endorsed. These proposals will also be considered by the General Assembly at its 15th session.

Following discussions on the appointment of permanent representatives to OTIF, at its 4th session the Working Group of Legal Experts instructed the Secretariat to prepare a draft legal instrument on permanent representatives. It should be emphasised that the discussion at the session clearly showed a common understanding that there should be no obligation to appoint a permanent representative, but a draft legal instrument should aim at ensuring clarity, full transparency and equal treatment for those Member States that wish to appoint permanent representatives.

UNECE initiative on Unified Railway Law

At each session, the Working Group of Legal Experts has been updated on developments with regard to the UNECE initiative on Unified Railway Law. The Working Group of Legal Experts examined the two approaches discussed within the UNECE and concluded as follows:

an interface law between

COTIF/CIM and SMGS would not contradict or overlap with COTIF, provided that its aim is to avoid any conflict with the CIM UR and SMGS and to fill a gap in the international regulations for the international carriage of goods by rail when neither the CIM UR nor SMGS can be applied over the entire journey (traffic between Europe and Asia);

a single set of unified legal rules for any cross-border rail transport in the Euro-Asian area replacing the existing OTIF and OSJD legal systems will contradict and overlap with COTIF. Such a single regime could be developed only in the long term with the clear political commitment and participation of OSJD and OTIF and their members. This approach would also lead to the denunciation of the two tried and trusted legal regimes, COTIF/CIM and SMGS, and the dissolution of OTIF and OSJD.

Moreover, the Working Group of Legal Experts supported the development and adoption of an interface law between COTIF/ CIM and SMGS which would not contradict or overlap with COTIF.

Interfaces between customs and transport regulations

At its 4th session, the Working Group of Legal Experts started assessing the application of specific provisions of the CIM UR relating to customs based on an inception paper on interfaces between customs and transport regulations. It should be noted that among other stakeholders, the World Customs Organization (WCO) participated in and contributed to the discussions on this subject. Following the discussions, the Working Group of Legal Experts:

instructed the Secretariat to

- launch consultations with OTIF's members and relevant stakeholders on the need to modify the customs-related provisions of the CIM UR, in particular Article 6 § 7 Contract of carriage;
- instructed the Secretariat to continue cooperation with relevant international organisations and associations, in particular WCO and UNECE, within the competence of OTIF.

Bill of lading

At its 4th session, the Working Group of Legal Experts started assessing the application of specific provisions of the CIM UR relating to the use of bills of lading based on an inception paper on the bill of lading. It should be noted that among other stakeholders, the International Rail Transport Committee (CIT) and the United Nations Commission On International Trade Law (UNCITRAL), participated in and contributed to the discussions on this subject. Following the discussions, the Working Group of Legal Experts:

- instructed the Secretariat to initiate consultations with OTIF's members and relevant stakeholders on whether it is necessary to introduce the possibility of using transport documents with a document of title function under CIM UR;
- instructed the Secretariat to continue cooperation with relevant international organisations and associations, in particular UNCITRAL, OSJD, ICC and CIT, within the competence of OTIF.

Conclusions and next steps

In substance, the ad hoc Committee on Cooperation and the Working Group of Legal Experts have demonstrated their value in the context of strengthening international cooperation and developing OTIF law. The subjects dealt with by the ad hoc Committee and the Working Group are very much interrelated.

It should be mentioned that the activities of the Working Group of Legal Experts described above represent only a small part of objectives set out in the 2019-2021 Work Programme. Without going into further detail, at

least the following subjects should be mentioned:

- the digitalisation of international transport, particularly freight transport documents. At its 4th session, the Working Group of Legal Experts 'instructed the Secretariat to prepare an inception paper on the digitalisation of freight transport documents for the first meeting in 2022';
- railway network access conditions and cross-border cooperation for the purpose of organising international rail transport. Work on this item has not yet started.

At their 4th sessions, the ad hoc Committee on Cooperation and the Working Group of Legal Experts agreed on a joint proposal for the General Assembly on the future re-organisation of their work, particularly to merge activities by establishing a single "ad hoc Committee on Legal Affairs and International Cooperation" for that purpose. These proposals will be considered by the General Assembly at its 15th session.

Legal Department Aleksandr Kuzmenko and Iris Gries

CONTRIBUTIONS FROM REPRESENTATIVES OF THE MEMBER STATES

GTEJ

"Setting up a Working Group of Legal Experts is an initiative of the OTIF Secretariat which I would like to welcome, both as a lawyer and as a representative of an OTIF Member State which seeks to be active in contributing to the various areas of work. The advantage of this group is that it provides a homogeneous forum where qualified representatives can discuss complex issues of international law and give informed opinions on the proposals submitted by OTIF's Legal Department. The legal work is a key element of OTIF, which works to achieve uniform international railway law. For me, as chair of this group, our greatest achievement has been to act as the preferred forum for topical legal discussions of importance to the Organisation. Setting an ambitious and continuing work schedule allows us to keep a clear view of the issues we wish to address in the future. The work is therefore far from complete, but the experience gained since the group was set up has enabled us to create a really constructive dynamic, which will help us achieve our objectives. The recent opening of our group to the participation of observers was also an important turning point, marking a new stage in our development. We will submit specific proposals to the General Assembly in September 2021, which we hope will win the support of OTIF's Member States and thus contribute to the smooth running of the Organisation and the influence of the legislation it produces."

ACC

"The centralisation of discussions between the Secretariat of OTIF and its Member States with regard to the Secretariat's external relations with various bodies is certainly an improvement. The meetings of this Committee have enabled the representatives of OTIF's Member States to be kept informed of these discussions with third parties and, if necessary, to give the Secretariat the necessary impetus to continue these activities. In this context, the efforts to bring OTIF and OSJD closer together are a point which is worth highlighting. We are still in the early stages of this cooperation, but the involvement of the ad hoc Committee on Cooperation in this framework will certainly be decisive in the future. This Committee's close relationship with the activities of the Working Group of

Legal Experts justifies our decision to propose to the General Assembly that these two organs be merged. In any case however, the focus will continue to be on the cooperation work that OTIF carries out with its various external partners. In this context, the Organisation will certainly be able to count on the support of the Member States' representatives, as was the case for the ad hoc Committee on Cooperation."

Clio Liègeois, Chair of the ad hoc Committee on Cooperation and of the Working Group of Legal Experts, delegate of Belgium



International rail transport requires an effective and efficient legal framework. International transport law should be developed in close cooperation between relevant international organisations and associations. The ad hoc

Committee on Cooperation has contributed to enhancing international cooperation and the Working Group of Legal Experts has contributed to the development of OTIF's institutional and transport law. Experience over the last three years has shown that the activities of the two organs are closely interrelated. The activities should therefore be merged and continued. I am looking forward to participating in the forthcoming work.

Kerstin Leuftink, Vice-Chair of the Working Group of Legal Experts, delegate of Germany



DEVELOPMENT OF RAILWAY LAW | OTIF - COTIF

"I think that currently, the main achievements of the Working Group of Legal Experts are:

- the decision on the monitoring and assessment of legal instruments (to be adopted by the General Assembly);
- the revision of the rules concerning the election of the Secretary General and appointment of the Secretary General ad interim.

I also appreciate all the work that the OTIF Secretariat and its Legal Department have done as regards the UNECE initiative on Unified Railway Law with the aim of reaching a decision on this at the forthcoming General Assembly meeting. This area of activity also includes the in-depth and detailed analysis and documents on the progress of the negotiations over the last ten years and the major obstacles to the negotiations. Such detailed documentation has been very useful, especially for us, the delegates who have not been able to take part in the negotiation process personally (within the UNECE Expert Working Group).

With regard to the ad-hoc Committee on Cooperation, I appreciate the efforts the OTIF Secretariat and the Secretary General have made in order to take concrete steps and achieve the means to cooperate, especially with OSJD, but also with other organisations (such as UPU). However, I understand that because of the COVID-19 pandemic, it has not been easy to take concrete

I look forward to participating also in the future in the work of one single Committee of Legal Affairs and International Cooperation, if the General Assembly decides to merge the Working Group of Legal Experts and the adhoc Committee on Cooperation".

Risto SAARI, delegate of Finland

steps during the last 14 months.

"In 2018, OTIF set up a group of legal experts and an ad-hoc committee to develop OTIF law and strengthen its international cooperation. These two bodies have proved their effectiveness in providing solutions to common challenges in the OTIF area, particularly with regard to the application and implementation of COTIF, the preparation of proposals for amendments to this convention, and in acting to develop cooperation with OSJD and the other international rail and sectoral

The project to merge these two bodies into an "ad hoc Committee on Legal Affairs and International Cooperation" seems more than relevant. It would simplify organisation and, at the same time, make it possible to prepare analyses of legal matters and international cooperation, which OTIF's General Assembly could draw on."

Henri Lacour, delegate of France

organisations.

"With regard to the bill of lading

As I indicated during the Working Group of Legal Experts in April 2021, the initiative to give railway consignment notes the function of a document of title is an important step towards the facilitation of rail traffic. This function has been in use for centuries in maritime trade. The key feature of this function is the security provided by such a signed original transport document in terms of constructive possession of the goods in transit. By signing such a document of title, the carrier guarantees the delivery of goods to the person presenting the original document of title. Therefore, such document can be used in banking systems to arrange for a letter of credit and for other transactions. However, the main disadvantage of this system is that the original document of title has to be presented at the point of delivery of the goods. The speed at which documents are transmitted in the banking system is considerably slower than the speed of transport. It is therefore often the case at the port of

delivery that the original document of title is still in the banking system and is being used as security for goods. In this situation, the delivery of cargo without presenting the original document of title constitutes a breach of the contract of carriage and creates liability to the value of the goods. Therefore, when developing railway law in this field, it is important to consult all the stakeholders involved in order to find a solution to avoid any obstacles or legal liability for the parties involved."

Patriks Markēvičs, delegate of Latvia



"The rules under COTIF establish an essential legal framework for international rail transport.

Rail transport plays an increasingly vital role in a modern, effective and climate/environmentally friendly transport system. With rapidly growing Euro-Asian rail transport services, it is necessary to take a broad perspective on legal developments under OTIF.

The market's needs for legal stability must be balanced against further developments and improvements in the legislation.

For Norway as an OTIF Member State, it is vital to have organs and forums to facilitate fruitful discussions and a common understanding of the legislation.

The ad hoc Committee on Cooperation and the Working Group of Legal Experts are useful platforms for sharing information, discussing further developments and preparing relevant documents and decisions for the General Assembly and other OTIF organs. I believe the proposed merging of these two bodies into a single committee will provide an even more effective framework for this important work."

Erik Syvertsen, delegate of Norway



"In a nutshell, OTIF's role is to develop unified railway law and to promote cooperation in the railway sector between Member States and with other international organisations and associations. With this in mind, it was justified and necessary to set up the Working Group of Legal Experts and ad hoc Committee on Cooperation, and to bring together experts from the Member States to work together on legal issues and cooperation with relevant

international stakeholders. With the great assistance of the OTIF Secretariat's Legal Department, the first two years of these two groups' activities have demonstrated that their work is vital and we strongly believe that it significantly contributes to the organisation's objectives to promote, improve and facilitate international traffic by rail. In addition, bearing in mind the importance of the task of the ad hoc Committee on Cooperation, we fully support the idea of this Committee's continuing its activities beyond September 2021."

Zorica Radovic, delegate of Serbia



"In 2017, at the request of the Swedish Ministry of Infrastructure, I took on my first assignments related to OTIF matters and a new, exciting legal world opened up before my eyes. That was followed by the privilege of being appointed delegate of Sweden in OTIF's Revision Committee, early in 2018. Responsibilities grew from there, and when OTIF later that same year decided to create the ad hoc Committee on Cooperation and the Working Group of Legal Experts, I happily accepted the task of representing Sweden in these two OTIF bodies as well. The objective of establishing the Working Group was to create an expert arena where all legal matters relevant to OTIF could be properly analysed and prepared, thus improving efficiency, while the objective of establishing the Committee was to monitor, support and move forward OTIF's cooperation with other relevant international and sectoral organisations. I must say that it has been both most informative and exciting to be part of what could be considered a new chapter in OTIF's history! During the two and a half years that the Working Group and the Committee have been active, a

respectable number of issues have been discussed, problems analysed, texts edited, decisions taken, reports written, votes cast and recommendations made – and I would like to believe that it has all made a difference. Next on the agenda for these two bodies is for them to be merged into one single Committee, which will further efficiency in that matters will no longer have to be divided into those of a legal or cooperative nature. This will, in its turn, further support, and hopefully also propel OTIF on its journey into the future."

Sara Bandhold, delegate of Sweden



"It is an honour and a pleasure to work with this concentration of legal expertise from many OTIF members and

the Secretariat. I hope that our work will contribute to the more uniform and comprehensive implementation and application of COTIF law. I also consider it important to be able to develop a common OTIF position on the unified railway law (URL). The planned merging of the ad hoc committee and the working group will make our work more efficient and relieve the Secretariat of administrative work. Here's to continued constructive and goal-oriented cooperation!"

Andreas Felder, delegate of Switzerland



DIGITALISED EXCHANGE OF INFORMATION IN INTERNATIONAL RAIL TRANSPORT: EXISTING PROVISIONS UNDER COTIF

What does digitalisation mean for the railway sector and the international and national authorities that are implementing innovative information and communication technologies and transitioning to electronic transport documents in order to achieve objectives for smart mobility, smart transport systems, and the optimisation of route planning and traffic flows?

Does the current legal framework enable these new opportunities? The potential for digital transport corridors is much clearer if we have the right approach to and understanding of the legal and technical systems that provide compatibility and interoperability in terms of data sharing.

The purpose of this article is to enhance the understanding and importance of digitalised information exchange and data sharing among the different actors of the transport chain by looking at the existing provisions under COTIF.

The expectation of having efficient and reliable railway transport services comes from ambitious transport policy goals (including the Digital Agenda for Europe and the EU "Green deal") as well as from the customers' demands for immediate information and sense of instant gratification: "I want to know now." The first place we go to for information is the internet on our computers and smart phones. The internet has become a virtual hub for businesses and people around the world. With the use of smart technologies, we already see the people-to-people, people-tomachine and machine-to-machine interactions. In recent years, the Internet of Things (IoT) has begun to open up new possibilities to connect the physical and digital worlds.

As the railways are embracing digitalisation, they recognise its potential in the use of infrastructure, traffic management automation, robotics in loading and unloading activities, use of autonomous vehicles for shunting, and seamless mobile internet and real-time information for its customers for the entire journey. Research and innovation projects are taking an integrated system approach in the

development of new products. Initiatives such as Shift2Rail¹ and its anticipated successor provide a platform for the demonstration of different telematics technologies and prototypes for automatic train operations, digital transport management, smart monitoring and diagnosis for vehicle maintenance, smart logistics, intelligent wagon designs and digital automatic coupling. The Future Railway Mobile Communication System (FRMCS), the successor of the GSM-R for operational communication in the European Rail Traffic Management System (ERTMS), is another example of developments in telecommunications and signalling developed by UIC in close cooperation with stakeholders of the railway sector. With the introduction of such technologies, the railway sector is already discussing masterplans for implementation, which confirms its commitment to digitalisation.

Depending on the position in the rail transport chain, every actor may have their own expectations on the way information should flow and on which type of information should be electronically available. The customer is seen as the final recipient, who

is concerned with the timely arrival of his or her train and of his or her goods. Railway companies/ undertakings, infrastructure managers, manufacturers, keepers, IT suppliers, booking companies. and intermodal terminal operators have joined forces to build win-win innovative solutions and products and services that will provide a better customer experience, increase the capacity of rail transport and connect railway networks, not only physically, but also virtually through digital platforms and the electronic exchange of information across borders.

Seamless rail traffic flows are enabled by the efficient flow of information that should correspond to the use of standardised contracts and the application of defined uniform rules, requirements and harmonised procedures.

Within COTIF, there are already different contractual, regulatory and technical interoperability provisions for the transport of passengers and freight (including dangerous goods) across borders. The impact of these provisions and their integration into the digital transport ecosystem can only be understood when they

¹ https://shift2rail.org/research-development/.

are implemented along the whole transport chain.

This article focuses on international rail freight services, but the principles for the exchange of information remain the same and may even be more elaborate for the transport of passengers due to increasing customer needs in terms of relying on new information and communication technologies for smart and intermodal ticketing and journey planning.

COTIF provisions for a digitalised exchange of information: telematics applications for international rail freight transport

The railway system consists of different subsystems, all of which have technical and functional requirements to achieve system-wide interoperability and compatibility. These subsystems are referred to in the "Uniform Rules concerning the Technical Admission of Railway Material used in International Traffic" (ATMF UR/Appendix G to COTIF) and are described in the Uniform Technical Prescriptions for General Provisions to Subsystems (UTP GEN-B). COTIF rules on technical interoperability are developed on the basis of the European Union provisions on interoperability and safety. Many OTIF and EU rules are equivalent, which facilitates interoperability beyond the EU.

All subsystems are interconnected, but one particular functional subsystem that deals with the exchange of information before and during rail transport or a journey is Telematics Applications. In this framework, the "Uniform Technical Prescriptions for Telematics Applications for Freight" (UTP TAF) represent the minimum legal requirements for the exchange of information for international freight services. The UTP TAF is equivalent to the EU provisions in the TAF TSI. Both the UTP and TSI refer to a list of Technical Documents on standardised processes. message and data models, common interfaces and operational and reference databases. These Technical Documents are updated regularly at working group level at the European Union Agency for Railways (ERA) to reflect developments and feedback from the railway sector on its experience. The legal basis for UTP TAF is:

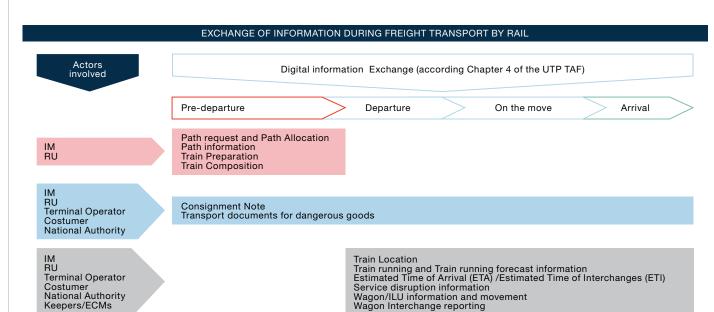
- Article 8 § 2 of the "Uniform Rules concerning the Validation of Technical Standards and the adoption of Uniform Technical Prescriptions applicable to Railway Material intended to be used in International Traffic" (APTU UR/Appendix F to COTIF) in the sense that each subsystem is subject to one UTP, and
- UTP GEN-B 2.6 (b) in the sense that the subsystem of TAF is

comprised of the application for freight services, including information systems (real-time monitoring of freight and trains), marshalling and train path allocation systems, reservation, payment and invoicing systems, management of connections with other modes of transport and production of electronic accompanying documents.

The application of UTP TAF is voluntary. However, if a Contracting State chooses to implement development plans for telematics applications, it should do so in a harmonised and compatible way to ensure the smooth electronic exchange of data across borders. When implementing telematics applications in international digitalised railway operations, the following needs to be considered:

- The level of communication, i.e. who gives information to whom and when,
- The type of information and the point of the journey when such information should be available.

The best way to demonstrate these considerations is to explore the train journey, starting with the pre-departure at the origin, the departure and then monitoring the train during the journey and upon arrival at the destination. These different steps are illustrated in the diagram below.



Pre-departure information exchange

The starting point of a train journey is to obtain access to the railway network, book the route (also known as a train path), and to verify that the train is compatible with the desired route. Information is exchanged between the Railway Operators/ Undertakings (RUs) and the Infrastructure Managers (IMs) and relates to the use of infrastructure in the relevant Contracting States. RUs have an obligation to provide the IMs with information on the time, route and characteristics of the train insofar as it interacts with the infrastructure. In return, the IMs can confirm the availability and restrictions of such a route. In this exchange, the information is standardised in data parameters such as path request and path allocation, train preparation and train composition, all of which are important in terms of checking that the train is compatible with the infrastructure and the journey planning. To facilitate and coordinate this exchange at international level, RailNet Europe (RNE), represented by Infrastructure Managers and Allocation Bodies, has developed a one-stop shop internet-based platform for path requests, known as Path Coordination System (PCS)2.

The booking of the train path has to be accompanied by information from the consignment note and the vehicle in use. The UTP TAF makes a direct reference to the "Uniform Rules concerning the Contract of International Carriage of Goods by Rail (CIM UR/Appendix B to COTIF)" and the "Uniform Rules concerning Contracts of Use of Vehicles in International Rail Traffic (CUV UR/ Appendix D to COTIF) and valid national rules" (Chapter 4.2.1). The consignment order is a subset of the consignment note information. It must be forwarded to the RUs involved in the transport

chain by the lead RU (if several RUs are transporting the goods along the route). The content of the consignment order must show the relevant information which is needed for an RU to effect transport during its responsibility until handover to the next RU. The harmonised data structure and the detailed format for this information are based on European rules i.e. the technical document reference of TAF TSI -Annex D.2: Appendix F - TAF TSI Data and Message Model. The main contents of these consignment orders are:

- Consignor and consignee information
- Routing information
- Consignment identification
- Wagon information (load weight, Harmonised System number used by customs, dangerous goods information, and transportation unit)
- Place and time information.

For intermodal transport, information on intermodal units should also be provided. For the transport of dangerous goods, a description of all the required documentation is prescribed in the "Regulation concerning the International Carriage of Goods by Rail" (RID/Appendix C to COTIF), Chapter 5.4. Section 5.4.1.

The scope of the COTIF provisions is limited to defining legal, technical and functional requirements for the exchange of information.
COTIF permits its Contracting States and the railway sector to develop and implement their own technical solutions based on these requirements. For example, the International Rail Transport Committee (CIT) has made extensive use of the possibility

of including in the electronic consignment note all the other particulars considered useful either by its members (RUs and shipping companies) or by the bodies having competence for customs matters. With regard to the functional requirements of the electronic consignment note, CIT has prepared two manuals on the carriage of goods, i.e. the Consignment Note Manual (GLV-CIM) and the Freight Traffic Manual (GTM-CIT)3. The GLV-CIM contains the implementing provisions for the CIM consignment note, the CIM consignment note for combined transport and the other documents concerning international rail freight transport.

For the use of electronic documents for the transport of dangerous goods, the RID/ADR/ADN Joint Meeting, which is jointly organised twice a year by the Secretariats of OTIF and the UNECE Transport Division, adopted common guidelines for rail, road and inland waterways⁴.

Information exchange after departure of the train (train run and arrival)

RUs and IMs continue to exchange information to provide updates and, where relevant, real-time information on the train and the status and movement of a vehicle. Moreover, it is the responsibility of the IM to inform the RU of the following:

- Train running information at agreed reporting points, including at least departure, interchange/handover and arrival points of the contracted transport
- Estimated Time of Arrival (ETA) at the final destination, including vards and intermodal terminals
- Service disruption.

² https://pcs.rne.eu/what-is-pcs/

³ https://www.cit-rail.org/en/freight-traffic/manuals/

⁴ http://otif.org/fileadmin/new/3-Reference-Text/3B-RID/3Ba-RIDGuidelines/RID-20001-CE-e-guidelines_for_the_use_of_5_4_0_2.pdf

At sector level, RNE has developed and continues to upgrade the services of a web-based application, Train Information System (TIS), to monitor the movement of 17,000 trains per day⁵. Such information benefits both the RU, as it can trace the movement and location of its train, and the customer, who is kept informed of the whereabouts of his or her goods. The ETA and, where applicable, the Estimated Time of Interchange (ETI) are probably the most important pieces of information that the RU has to make available to the customer. This information reflects the expectations of the customer according to the contractual agreement with the RU and the RU's commitment to deliver the goods on time. The RU calculates the ETA based on information received by the IM on the Train Estimated Time of Arrival (TETA). Such information is incorporated in a standardised Train Running Forecast message. Where (intermodal) terminal operators (e.g. in sea ports) are also involved in the transport chain, additional information can be provided for the Estimated Time of Pick-up (ETP). The terminal operator can determine the ETP based on the information it receives on the Estimated Time of Interchange (ETI) for the rail freight wagon or for the intermodal unit.

Information exchange on vehicles

Rail freight wagons are assets that are continuously shunted and moved along the transport network. Wagons may be used in domestic and international traffic, where more than one RU is involved. Some wagons may carry goods

under one consignment note, while others may carry goods under multiple consignment notes. For these reasons, in addition to ETA and ETI information about the train. data on the wagon status, wagon movement and related information about the consignment note have also to be available to the customer. In addition, entities such as keepers and fleet managers can have access to this information in order to fulfil their obligations with regard to the status and condition of the wagon. Unless there are other means to exchange information on the wagon status and wagon movement electronically, the current UTP TAF provisions provide the option for the sector to develop a Wagon and Intermodal unit Operational Database (WIMO). The WIMO is an operational database and its specifications are defined in Annex D.2.: Appendix B of the TAF TSI.

It is equally important that information for the purpose of fleet management and vehicle maintenance is provided electronically by another sectordeveloped data source, such as the Rolling Stock Reference Databases. Such information includes primarily administrative data relating to the registration and certification of vehicles, vehicle characteristics and maintenance records. This information is regularly updated by keepers and can be queried by RUs, Entities in Charge of Maintenance (ECMs) and national authorities.

Conclusion

Data exchange in rail transport is unique in that it can be collected, accessed and processed while a vehicle and a full train for that matter are transporting passengers and goods from one place to another. Whether it is called disruption. revolution, or evolution, digitalisation is already changing the way performance is monitored and how the safety and security of trains is managed, as well as the way the different actors engage in the railway system and in railway transport services, in particular with their customers. Data on the move is information on the move. Finally, the exchange of information is not only about the obligation to provide administrative and operational data, but should also ensure that such information is accurate, secure and compatible when it is shared between different digital platforms using a common interface. To achieve seamless data transmission, the railway digital ecosystem needs seamless interfaces. A common interface is particularly important for international transport because it has to facilitate the safe and secure exchange of information between different digital sources. regardless of whether they are centralised or de-centralised, taking into account functions such as message formatting (including different languages), access rights and verification of users, encryption and decryption of messages, and cybersecurity.

Maria Price

57th SESSION OF THE UN SUB-COMMITTEE OF EXPERTS ON THE TRANSPORT OF DANGEROUS GOODS

Geneva, 30 November to 8 December 2020

The 57th session of the UN Sub-Committee of Experts was the last session in the 2019/2020 biennium. Its decisions will be reflected in the 22nd revised edition of the UN Model Regulations and will form the common basis for all the mode-specific dangerous goods regulations. In the context of harmonising RID/ADR/ADN with the UN Recommendations on the Transport of Dangerous Goods, these decisions will also be carried over into the 2023 editions of RID, ADR and ADN

Owing to the outbreak of the COVID-19 pandemic and the measures UN Member States have taken to protect public health, such as travel restrictions, the 57th session of the UN Sub-Committee of Experts originally planned for 29 June to 8 July 2020 was postponed to December 2020. In early summer, the Secretariat set up an online platform to exchange comments on the proposals that were originally submitted for discussion at the session in July. Following the written comments on the online platform, several virtual meetings were held to enable discussion of those documents on which the authors had specifically requested a discussion. As no decisions may be taken at informal meetings, this procedure was chosen in order to give authors the opportunity to revise their proposals on the basis of any comments received so that at the meeting in December - the last meeting of the 2019/2020 biennium - these proposals could be adopted.

Heads of delegation were also given the opportunity to comment on the revised proposals on the online platform before the meeting in December. As a result, it was already relatively clear before the meeting began which documents were ready for adoption without further discussion, which documents would have to be

discussed further and which documents could not be decided on during this biennium.

The 57th session of the UN Sub-Committee of Experts was held as a video-conference from 30 November to 8 December 2020. It was chaired by Mr Duane Pfund (United States of America) and 27 states, 6 governmental organisations and 27 non-governmental organisations were represented at it. As all the decisions of the **UN Sub-Committee of Experts** have repercussions for the dangerous goods provisions of the various modes, the Intergovernmental Organisation for International Carriage by Rail (OTIF) was represented as a modal organisation.

Owing to the financial constraints resulting from the United Nations' liquidity crisis, ongoing renovation work at the Palais des Nations and technical constraints in connection with the limited number of meeting rooms available for hybrid meetings (meetings where people can be present physically or take part via video-conference), only the afternoon sessions could be held as official meetings with interpretation. The morning sessions were held as informal meetings in English only and were used to prepare the official sessions.

The UN Sub-Committee of Experts praised the Secretariat's efforts in connection with organising this meeting so that the 22nd revised edition of the UN Model Regulations can be completed as planned.

Classification

UN 1002 Air, compressed

"Synthetic air" is a mixture containing up to 23.5% oxygen, with the balance being nitrogen. This mixture is used in a variety of applications, including medical and non-medical. One of the reasons why "synthetic air" is used in place of compressed air is that sometimes the ambient air is not suitable to be compressed due to atmospheric contaminants.

The European Industrial Gases Association was of the view that the official name "air, compressed" might suggest that only compressed ambient air can be carried under UN number 1002.

The UN Sub-Committee of Experts decided to include a special provision in which the scope of UN number 1002 is described in such a way that it also includes synthetic air.

UN 1012 Butylene

Spain pointed out some differences in the proper shipping name of UN number 1012 between the UN Model Regulations and RID/ADR/ADN. The UN Model Regulations only allows the name "butylene", whereas RID/ADR/ADN offers the descriptions of isomers "1-BUTYLENE", "cis-2-BUTYLENE" or "trans-2-BUTYLENE" or the name "BUTYLENES, MIXTURE". A separate UN number (UN 1055) with slightly different conditions of carriage is assigned to another butvlene isomer - isobutvlene. The names for UN number 1012 in RID/ADR/ADN were already chosen before the restructuring so as to make clear in the name that isobutylene does not come under UN number 1012.

The UN Sub-Committee of Experts decided against adapting the name in the UN Model Regulations, but agreed to include a special provision explaining which butylene isomers come under UN Number 1012. Butylene isomers were included in the alphabetical list in the UN Model Regulations, also with a reference to UN number 1012.

UN 1044 Fire extinguishers

In accordance with special provision 225 (a), the entry for fire extinguishers (UN 1044) also comprises portable fire extinguishers. While there is no definition of portable fire extinguishers in RID/ADR/ADN, it is assumed that completed, properly functioning portable fire extinguishers are meant.

For the transport of new portable fire extinguishers, manufacturers mostly do not attach components such as hoses and nozzles, in order to minimise packaging. These components are enclosed loose in the packaging. Service companies which regularly carry

out maintenance and inspections of fire extinguishers do not usually transport any completed, functioning fire extinguishers either, as hoses and nozzles are only examined on site and in most cases do not need to be changed. The transport of portable fire extinguishers without the components necessary for proper functioning is comparable to the transport of completed, properly functioning portable fire extinguishers, as the components mounted behind the stop valve are unpressurised.

The UN Sub-Committee of Experts decided to include an additional note in special provision 225 so as also to allow the carriage of fire extinguishers under UN number 1044 even if some components that are necessary for their proper functioning are temporarily detached. The aim of this is to prevent the pressurised containers of fire extinguishers having to be classified on the basis of the gas they contain (e.g. UN 1013 Carbon dioxide or UN 3500 Chemical under pressure, n.o.s.) and having to meet all the provisions of Chapter 6.2. This is because for fire extinguishers, special provision 225 specifically allows them to be manufactured, tested, approved and labelled in accordance with the provisions that apply in the country of manufacture.

UN numbers 1169 and 1197

In German and French, the proper shipping name of UN numbers 1169 and 1197 read as follows: is also used in both names in other languages. In the German and English names and in other languages, different terms are used for the two UN numbers (aroma/aromatic and flavouring), although it remains unclear what the difference is.

Investigations have revealed that these UN numbers have been listed in the dangerous goods regulations for several decades. However, before 1969, the proper shipping name for UN number 1169 was simply "essences".

Against the background that the industry does not distinguish clearly between the two UN numbers either, and that the same conditions of carriage apply to both UN numbers, the UN Sub-Committee of Experts decided to delete UN number 1169 and to use the new name "EXTRACTS, LIQUID, for flavour or aroma" for the remaining UN number 1197.

UN 1891 Ethyl bromide

Various data sources have shown that the flashpoint (-20°C) and boiling point (38°C) of ethyl bromide clearly meet the criteria for classification in Class 3, packing group II (see criteria in 2.2.3.1.3). The European CLP Regulation also indicates that the primary hazard of this substance is flammability rather than toxicity.

The available scientific data cast doubt on whether ethyl bromide meets the criteria for the subsidiary hazard of toxicity.

UN 1169 | EXTRAKTE, AROMATISCH, FLÜSSIG | EXTRAITS AROMATIQUES LIQUIDES
UN 1197 | EXTRAKTE, GESCHMACKSTOFFE, FLÜSSIG | EXTRAITS LIQUIDES POUR AROMATISER

If the French names were to be translated back into German, the resulting names would be "flüssige Aromaextrakte" und "Flüssigextrakte zur Aromatisierung". The term "aroma"

The LD_{50} value for acute toxicity on ingestion is 1350 mg/kg and is therefore well above the upper threshold for Class 6.1 (300 mg/kg). In addition, there is no indication that ethyl bromide is

toxic if absorbed through the skin. Following another analysis of the available data, there is still doubt as to whether or not ethyl bromide meets the criteria for toxicity upon inhalation of vapours.

The UN Sub-Committee of Experts decided to assign UN 1891 Ethyl bromide to Class 3 and to maintain toxicity as a subsidiary hazard for the time being. The conditions for carriage in tanks were also maintained. However, there are some relaxations, particularly for carriage in limited quantities and in excepted quantities.

Cobalt dihydroxide

Cobalt is a mineral that is used globally in various medical and technical applications. It is obtained from cobalt dihydroxide, which is carried in various forms: crude in mixtures together with cobalt sulphate, copper and nickel sulphates, partly refined with very high moisture content and as a refined product in powder form.

Up to now, around 200,000 tonnes of cobalt dihydroxide have been transported annually as UN 3077 ENVIRONMENTALLY HAZARDOUS SOLID, N.O.S., packing group III.

Testing required for compliance with the REACH Regulation in the European Union, and subsequent evaluation against the hazard classification criteria of the EU CLP Regulation (GHS) resulted in a classification as a substance of Class 6.1, packing group I (acute toxicity by inhalation). This change in the classification meant that the flexible plastics IBCs used up to now could no longer be used, as flexible IBCs are not permitted for toxic substances of packing group I. In order to overcome this problem, Belgium initiated multilateral special agreement M 323 for road transport, which has been signed by France, Luxembourg and the United Kingdom.

The industry concerned had organised various working group meetings whose aim was to include a new UN number for cobalt dihydroxide in the dangerous goods regulations and to continue to approve flexible woven plastics IBCs with liner or flexible woven plastics IBCs, coated and with liner (13H3 and 13H4) for these new UN numbers.

The industry compiled various properties of cobalt dihydroxide which were intended to prove that this substance only has a very low potential for toxicity upon inhalation:

- Zero vapour pressure;
- Relative density is 3.6 g/cm3
 heavy, so does not remain in air for extended time;
- Hygroscopic takes up water and tends to 'clump together' on exposure to air;
- Low respirability, only 0.8% is modelled to deposit in pulmonary region.

The UN Sub-Committee of Experts decided to provide a new UN number for cobalt dihydroxide powder containing ≥ 10% respirable particles. Coarse and pasty cobalt dihydroxide, which does not emit dust in the pulmonary range, poses no hazard on inhalation, and can continue to be carried under UN number 3077. A new special packing provision allows the use of flexible IBCs with a sift-proof inner liner to prevent leakage of dust during transport.

Sodium-ion batteries

Sodium-ion batteries are a low cost alternative to lithium-ion batteries, although their energy density and performance are somewhat lower than lithium-ion batteries. The main advantages of sodium-ion batteries are the better availability

of the raw materials and increased safety. Sodium is available in large quantities, as it is relatively easy to obtain from sodium chloride, which is extracted from sea water. This means that manufacturing costs are also lower than for lithium-ion batteries. Another major difference is that unlike lithium-ion batteries, sodium-ion batteries are proofed against deep discharge and can be discharged to 0 volts, without affecting the performance of the cell. Full discharge is an important factor for battery safety, because the state of charge has a significant impact on the heat release rate and hence on the thermal stability of a battery during transport (see also Bulletin 1/2018, pp. 19 and 20 and 4/2019, pp. 19 and 20).

The existing entry UN 3292
Batteries, containing sodium
or cells, containing sodium, is
not suitable for this new type of
battery, as the special provision
that applies to these batteries
assumes metallic sodium and
sodium compounds and does
not take account of the lesser risk
of sodium-ion technology. This
situation is the same as for lithium
batteries, where a distinction
is made between lithium metal
batteries (UN 3090) and lithium-ion
batteries (UN 3480).

The inclusion of provisions for sodium-ion batteries has already been a subject of discussion at the UN Sub-Committee of Experts since 2015. For this session of the UN Sub-Committee of Experts, France and the United Kingdom had submitted a document containing full provisions for the carriage of sodium-ion batteries, including:

- The introduction of a new UN number for sodium-ion batteries and restricting UN number 3292 to batteries or cells containing metallic sodium or sodium alloy;
- Inclusion of an exemption

provision with a minimal set of requirements for shorted batteries;

- Adaptation of all the provisions currently applicable to lithiumion batteries in order to make them applicable to sodium-ion batteries as well;
- Taking into account the lower energy density of sodiumion batteries, as the energy density has an impact on the risk from batteries. At present, sodiumion batteries have an energy density of 22 Wh/kg to 150 Wh/kg, whereas lithium batteries can have an energy density of between 190 Wh/kg and 250 Wh/kg; The range of energy densities of sodiumion batteries is therefore very high and covers the numerous possible uses of batteries.
- The intrinsic hazards will be assessed by using the wellknown testing scheme of section 38.3 of the Manual of Tests and Criteria, with some changes to make it more suitable to the level of risk posed by sodium-ion batteries.

Although the discussions revealed a great deal of support for the proposal, the UN Sub-Committee of Experts decided to postpone a decision to the next biennium. As a possible way forward, France proposed to allow exceptions on the basis of multilateral special agreements in the meantime and to collect more data on the carriage of sodium-ion batteries.

Carriage of COVID-19 vaccines

The representative of the World Health Organization explained the challenges involved in transporting COVID-19 vaccines in which genetically modified microorganisms (GMMO) are used. He expressed concern with regard

to vaccines that contain GMMO having to be assigned to UN number 3245, as this could lead to complications in transport.

The UN Sub-Committee of Experts was of the view that by definition, GMMO are not subject to the UN Model Regulations (and RID/ADR/ADN) when they have been approved for use by the competent authorities of the countries of origin, transit and destination (see RID/ADR/ADN 2.2.9.1.11, Note 2). Vaccines approved for use, including those approved for clinical trials, are not therefore subject to the regulations.

In addition, special provision 601 could be called upon for European land transport. For pharmaceutical products (medicines) ready for use, which are substances manufactured and packaged for retail sale or distribution for personal or household consumption, this special provision provides an exemption from the provisions.

In view of the confirmation by the UN Sub-Committee of Experts that vaccines are not subject to the UN Model Regulations in this case, and in view of the safety of vaccines, WHO and ICAO proposed that all Member States be urged to exempt GMMO vaccines from the dangerous goods regulations when the vaccine is still in the approved trial phase before final approval by the national governmental authorities.

Packing

Packagings with more than 400 kg net mass

According to 4.1.1.3.1, packagings for the carriage of dangerous goods must conform to a design type successfully tested in accordance with the requirements of 6.1.5. For all types of packagings, Chapter 6.1 stipulates a maximum net mass of

400 kg. However, various packing instructions also allow the use of strong outer packagings, protective enclosures or pallets in certain circumstances. In this case, the provisions of 4.1.1.3 need not be met.

Some users interpret the requirements of RID/ADR/ADN to mean that the maximum mass of 400 kg may not be exceeded when using non-type approved packagings either, and that in cases where the maximum net mass is more than 400 kg, large packagings must be used.

The UN Sub-Committee of Experts adopted various proposals from the battery industry, which had encountered this problem when applying packing instruction P 903 for the carriage of lithium batteries. A sentence was added to 4.1.3.3 with a general statement to the effect that packagings that do not have to meet the requirements of 4.1.1.3 are not subject to the mass or volume limits of Chapter 6.1. The packing instructions which allow non-type approved packagings will refer to this amended 4.1.3.3.

Use of recycled plastics material

The last session of the UN Sub-Committee of Experts adopted an industry proposal also to allow recycled plastics material recovered from used industrial packagings for rigid plastics IBCs and composite IBCs with plastics inner receptacles (see Bulletin 4/2019, p. 17, 2/2020, pp. 18 and 19).

To supplement the decisions taken at the last session, this session of the UN Sub-Committee of Experts included a provision in Chapter 6.5, as proposed by Belgium, to require that for IBCs as well, "REC" must be indicated in the marking when the IBCs are made of recycled plastics material.

For the time being, there was no support for further proposals to extend the use of recycled plastics material to flexible IBCs, woven plastics bags and film and, bearing in mind that the size and materials used in large packagings and IBCs are comparable, also to large plastics packagings. However, the **UN Sub-Committee of Experts** was of the view that the term "of suitable material", which is used in various places in the construction requirements for packagings, does not exclude the use of recycled plastics material. It was decided to return to this issue during the next biennium in order to increase the rate of recycling for dangerous goods packagings for reasons of environmental protection.

In the Note to the definition of recycled plastics material, which refers to standard ISO 16103:2005 (Packaging - Transport packagings for dangerous goods - Recycled plastics material), a remark was included to say that "these guidelines were developed based on the experience of the manufacturing of drums and jerricans from recycled plastics material and as such may need to be adapted for other types of packagings, IBCs and large packagings made of recycled plastics material".

Packing instruction P 200 – LC₅₀ values

Packing instruction P 200, which applies to gases, sets out the ${\rm LC}_{50}$ values for certain gases. The ${\rm LC}_{50}$ value is defined as the concentration which, administered by continuous inhalation to both male and female young adult albino rats for one hour, is most likely to cause death within 14 days in one half of the animals tested. These ${\rm LC}_{50}$ values were included in the UN Model Regulations and RID/ADR on the basis of the 1995 edition of standard ISO 10298.

As examples, the $\rm LC_{50}$ value of gases is required in order to classify gas mixtures, determine certain requirements for gas receptacles and exclude certain gas receptacles.

In packing instruction P 200, the ${\rm LC}_{50}$ values of UN 1008 Boron trifluoride, UN 1052 Hydrogen fluoride, anhydrous, UN 2196 Tungsten hexafluoride and UN 2198 Phosphorus pentafluoride were aligned with the latest toxicological data from the 2018 edition of standard ISO 10298. As a result of adapting the LC50 values for UN 2196 and UN 2198, these two gases may also be carried in large cylinders and pressure drums.

Packing instruction P 200 – gas mixtures containing fluorine

Fluorine is a strongly oxidizing gas requiring specific safety measures. It reacts spontaneously with almost all organic materials and many metals. Thus, steel pressure receptacles, for example, have to be passivated before they are filled. Due to the strong chemical reactivity of fluorine, packing instruction P 200 limits the maximum allowable working pressure for gas cylinders to 30 bar. In addition, a minimum test pressure of 200 bar is required.

However, RID/ADR do not contain any guidance on the maximum allowable working pressure and minimum test pressure for mixtures containing fluorine and gases that are inert towards fluorine, such as nitrogen. Typical mixtures that are commercially available include 1% fluorine in noble gases and 10% or 20% fluorine in nitrogen. Mixtures of fluorine and inert gases are less reactive towards materials than pure fluorine. For this reason, the maximum allowable working pressure may exceed 30 bar for certain mixtures.

The UN Sub-Committee of Experts adopted a proposal from Germany to treat gas mixtures containing 35% fluorine or more as pure fluorine. For mixtures of fluorine and nitrogen with less than 35% fluorine, the maximum allowable working pressure must be chosen so as to ensure that the partial pressure of fluorine in the mixture does not exceed 31 bar.

Salvage pressure receptacles

When provisions for the approval and use of salvage pressure receptacles were introduced into RID/ADR/ADN 2013, the capacity of salvage pressure receptacles was limited to 1000 litres. In the 2017 edition of RID/ADR/ADN, this capacity was then increased to 3000 litres so that pressure drums and large cylinders with a capacity of up to 1000 litres could be carried in salvage pressure receptacles.

In the meantime, large cylinders made of composite materials for the transport of gases have become established. The average volume of these large cylinders has also increased.

The UN Sub-Committee of Experts adopted a proposal from Germany to delete in Chapter 4.1 the limitation on the capacity of pressure receptacles that may be used in salvage pressure receptacles.

More far-reaching proposals to provide for a maximum pressure volume product in the definition of pressure receptacles that also applies to salvage pressure receptacles and consequently to delete the limitation of the capacity of salvage pressure receptacles were not adopted for the time being. These amendments are necessary in order to have suitable salvage pressure receptacles for the carriage of, for example, damaged gas storage systems made of composite materials and

damaged large cylinders made of composite materials and installed in battery-vehicles or multiple element gas containers (MEGCs). If the damage cannot be assessed at the scene of the accident or in the repair workshop, such pressure receptacles must be carried under a certain pressure in order not to damage them irreversibly.

Packing instruction P 621

Packing instruction P 621 applies to UN number 3291 (Clinical waste, unspecified, n.o.s. or (bio) medical waste, n.o.s. or regulated medical waste, n.o.s.). This packing instruction authorises the use of packagings conforming to the packing group II performance level for solids, provided there is sufficient absorbent material to absorb the entire amount of liquid present and the packaging is capable of retaining liquids.

Most of the medical waste packagings have openings with a diameter exceeding 7 cm and are therefore, by definition, of the removable head type (see RID/ADR 6.1.4.1.5). Some smaller medical waste packagings, such as used needle containers, may however have openings with a diameter not exceeding 7 cm. They are, by definition, of the non-removable head type.





Bearing in mind that the construction and testing requirements for non-removable head type packagings are at least equivalent to the construction and testing requirements for the removable head type packagings, it is assumed that the non-removable head type packagings offer at least an equivalent safety level for the transport of wastes of UN number 3291.

The UN Sub-Committee of Experts adopted a proposal from Belgium to allow the use of non-removable head type packagings in packing instruction P 621 (1), as is already permitted for packages containing larger quantities of liquids in packing instruction P 621 (2).

Packing instructions P 911 and LP 906

Packing instructions P 911 and LP 906 were developed for the packing of damaged and defective lithium batteries. The additional requirements for such packagings must be verified by the competent authority, and footnote a to packing instructions P 911 and LP 906 sets out criteria that can be drawn on to assess the packaging. These criteria are intended to ensure that the effectiveness of the protective function of the packaging is demonstrated for the worst foreseeable case. A verification

report must include at least the name, number, mass, type and energy content of the battery as well as the identification of the packaging and the test data in accordance with the verification method specified by the competent authority.

These packing instructions led to the development of very robust packagings capable of containing the hazards posed by the lithium batteries in the event of a thermal reaction. These packagings may also contain devices for extinguishing or controlling reaction hazards.

While packing instruction P 911 permits the carriage of several damaged or defective batteries in one packaging, packing instruction LP 906 can only be used for the carriage of a single large battery or a single device containing a lithium battery. This means that large packagings designed for the carriage of a battery with a mass of 600 kg may not be used, for example, for the carriage of four batteries for hybrid vehicles with an individual mass of 120 kg, although the energy content of a 600 kg battery is higher than the energy content of four hybrid batteries.

The UN Sub-Committee of Experts adopted a proposal from the battery industry to allow the carriage of several lithium batteries in one large packaging. To prevent the misuse of large packagings, the packaging manufacturer must provide instructions for use, giving information on the batteries and equipment that may be contained in the packaging, the maximum permitted number of batteries contained in a package and the maximum permitted total energy content of the batteries, and the configuration within the package, including partitions and protective devices used during performance verification. These points are also included in the criteria for the assessment of packagings in footnote a to packing instructions P 911 and LP 906.

Portable tanks

Fibre-reinforced plastics portable tanks

At the 52nd session of the UN Sub-Committee of Experts in December 2017, it was decided to set up an informal working group chaired by Mr Steven Webb (United States of America) to address construction, testing and approval requirements for portable tanks made of fibrereinforced plastics. Chapter 6.9 of RID/ADR, which has permitted the use of fibre-reinforced plastics for ADR tank-vehicles and RID/ADR tank-containers since the beginning of the millennium, served as the basis (see Bulletin 1/2018, p. 21). However, this chapter has not been fundamentally revised since then, so the technical developments that have taken place in the meantime are not reflected. In addition, RID/ ADR Chapter 6.9 only contains references to European standards and not to ISO standards.

Portable tanks made of fibrereinforced plastics have the following advantages compared with metal tanks:

- Lower weight;
- Corrosion resistance;
- No need for additional lining;
- Lower thermal conductivity;
- Higher impact resistance;
- Easier to repair;
- Lower transport, manufacturing and maintenance costs.

At the time, the informal working group was mandated by the UN Sub-Committee of Experts to pay special attention to the following issues:

 The evaluation of performance equivalence with metal tanks (with the focus on stress and

- fatigue resistance, chemical compatibility, ageing, fire resistance and impact resistance):
- Assessment of different materials for fibres and resins, including new technologies;
- Different manufacturing techniques and performance evaluation methods;
- Suitability for different classes of dangerous goods;
- Existing regulations at international, regional or national level;
- Specific periodic inspection needs including after repair and damage.

After submitting various interim reports, the informal working group submitted a finalised text to this meeting, for a vote, setting out a new chapter on portable tanks made of fibre-reinforced plastics. The following points can be highlighted:

- Portable FRP tanks may be used for the carriage of substances of classes 1, 3, 5.1, 6.1, 6.2, 8 and 9, provided that these substances are also permitted for carriage in portable metal tanks;
- In principle, the provisions of Chapter 4.2 and 6.7.1 and 6.7.2 apply, with the exception of those provisions relating to the use of metallic materials;
- The new chapter contains definitions of terms that are only used in this chapter;
- Manufacturers of portable FRP tanks must apply a quality assurance system, the provisions of which have been taken over from Chapter 6.2;
- In addition to the unsaturated

- polyester resins, vinyl ester resins, epoxy resins and phenolic resins permitted in Chapter 6.9 of RID/ADR, thermoplastic resins are also permitted;
- A design type test report summarising the results of the material tests, the ball drop test and the fire resistance test is required for the design type approval. One element of the design type approval is also a service life test programme for continuous monitoring of the condition of the tank during periodic inspections;
- Overall, the material tests are formulated more comprehensively than in Chapter 6.9 of RID/ADR;
- Shell samples are cutouts from the tank wall, such as those obtained when manufacturing the opening for the internal inspection of the tank. These must be retained for possible review from the time of the initial inspection until successful completion of the first 5-year inspection;
- In addition to the usual information, the markings of portable FRP tanks must include the words "fibrereinforced plastic" and information on the reinforcing fibres and resin used.

In the context of harmonising RID/ADR/ADN with the 22nd edition of the UN Model Regulations on the Transport of Dangerous Goods, the RID/ADR/ADN Joint Meeting will have to discuss whether this new chapter in RID/ADR should replace Chapter 6.9 and apply to ADR tank-vehicles and RID/ADR tank-containers at the same time, or whether the existing Chapter 6.9 should be retained and revised on the basis of the new provisions for portable FRP tanks.

Marking and labelling

Telephone number on the mark for lithium batteries

The dangerous goods regulations require that the lithium battery mark shown in 5.2.1.9 must be affixed to almost all packages containing small lithium batteries. This label is also often used on packagings of electronic devices, such as mobile phones, notebooks, tablets and power tools that are packed together with or contain lithium batteries.



The model of the mark contains a double asterisk, which is described below the mark as follows: "Place for telephone number for additional information".

However, it is not clear whose telephone number must be given here - the manufacturer's or the consignor's. Furthermore, it is not clear whether this telephone number has to be available around the clock and in which languages information is available. There is also the question of what to do when large quantities of lithium batteries or devices containing lithium batteries are transported from Asia to distribution centres around the world and then reconsigned for transport in smaller quantities. Practice shows that in these cases the telephone number of the original consignor is often re-used.

The UN Sub-Committee of Experts was unanimous in its opinion that the telephone number has

little practical use based on the experience of past years and that omitting the telephone number has no influence on the effectiveness of the mark and decided to delete the requirement to provide the telephone number.

Optical differentiation of danger labels/placards for gases

Recent sessions of the UN Sub-Committee of Experts discussed the possibility of a different design for danger labels model No. 2.1 (flammable gases) and model No. 3 (flammable liquids) and for danger labels model No. 2.3 (toxic gases) and model No. 6.1 (toxic substances), so that in an accident, it would be easier to ascertain the actual danger from a distance.

In the discussions so far, arguments have already been exchanged in favour of and against amending the provisions:

For:

- Visual differences improve easy recognition;
- Avoid mixing up of labels and wrong attachment;
- Improves information, specifically for emergency services, bearing in mind that their tasks, competence, equipment and training vary from country to country;
- Greater safety distances in incidents involving gas can be set up more quickly.

Against:

- Around 2 billion gas cylinders worldwide would need to be relabelled, although they are easily recognisable owing to their shape;
- Other sources of information

- are available in parallel, such as orange-coloured plates and in some cases the UN number is shown on the danger label;
- Lengthy transitional periods would be needed to avoid costs, possibility of confusion during the transitional period.

Spain and the International Association of Fire Fighters had prepared several proposals for the UN Sub-Committee of Experts on how to achieve a better distinction between danger labels and placards for flammable liquids and flammable gases or for toxic substances and toxic gases, such as using the gas cylinder symbol on the danger labels for gases or including a text such as "flammable gas" or "toxic gas".

Following the discussion at the informal meeting in July, the authors of the proposal amended their proposal again to take account of the comments made. The compromise proposal for the December meeting was to make amendments only for placards.

While the UN Sub-Committee of Experts recognised the importance of hazard communication for the emergency services, the proposal submitted did not receive full support. Some delegations were of the view that such hazard communication issues were best dealt with in regional or modal provisions, as is currently the case in RID with the continuous orange stripe on tank-wagons for liquefied, refrigerated liquefied or dissolved gases.

Documentation

Information in the transport document when applying special provisions

In accordance with RID/ADR/ADN 1.4.2.1 (b), the consignor of dangerous goods is obliged

to provide the carrier with the necessary particulars and information and, where appropriate, the necessary transport documents and accompanying documents in a verifiable form, taking into account in particular the provisions of Chapter 5.4 and Table A of Chapter 3.2.

In order to carry out safe transport, it is important that the information to be transmitted is complete. Although numerous special provisions require a special entry in the transport document, there is no reference in Chapter 5.4 that generally prescribes the inclusion of information from special provisions. At present, there is a specific provision in RID/ADR/ADN for the carriage of UN 3528, UN 3529 and UN 3530 (various types of internal combustion engines). which requires an additional indication prescribed in a special provision (see RID/ADR/ADN 5.4.1.1.21).

At the request of Germany, the UN Sub-Committee of Experts adopted a dynamic reference to additional information that is required under a special provision in Chapter 3.3. In the case of future new special provisions or amendments to special provisions that refer to the transport document, conse-quential amendments will then no longer be necessary.

Additions to the transport document

3.1.2.5 requires that where a solid is handed over for carriage in the molten state, the official name in the transport document must be supplemented by the word "MOLTEN". In accordance with 3.1.2.6, the official names of substances to be carried in a stabilised condition or under temperature control must be specified in the transport

document with the words "STABILISED" or "TEMPERATURE CONTROLLED".

The UN Sub-Committee of Experts adopted a proposal from Spain to reproduce these requirements, for the sake of completeness, in Chapter 5.4 as well, which contains all the information required for the transport document.

Explosion in Beirut on 4 August 2020

The UN Sub-Committee of Experts noted the information on South Africa's response to the disaster in Beirut, where large quantities of ammonium nitrate exploded in a warehouse at the port. The representative of South Africa reported on the initiative taken in her country to assess the regulations and practices in place to prevent a similar disaster and to improve safety in the storage and transport of dangerous goods.

The representative of France informed the meeting of a similar initiative of his government to collect data not only on the transport, but also on the storage and transshipment of ammonium nitrate in sea and inland ports. The representative of Canada also reported on parallel activities in her country and agreed to make the results available to the UN Sub-Committee of Experts once the study was completed. The **UN Sub-Committee of Experts** stressed the importance of learning lessons from accidents and welcomed the initiative to share best practices with all delegations.

Implementation of the UN Model Regulations

The UN Model Regulations provide the international basis for the safe multimodal transport of dangerous goods. As supply chains span all continents and are

becoming increasingly complex, it is becoming increasingly important to update national dangerous goods regulations to reflect the latest edition of the UN Model Regulations.

National, regional and international regulatory authorities update their respective regulations and standards according to different timetables in accordance with the mandatory procedures that apply in each case. These different timetables lead to inconsistencies that can also pose a safety risk to the transport staff involved. In addition, unnecessary costs or delays in delivery of important medical or other supplies vital to support life may occur.

Furthermore, it should be noted that seven different editions of the UN Model Regulations are used in parallel on one continent. This understandably leads to inconsistencies in the provisions and unnecessary risks, because progress in transport safety is not mapped or is mapped late. These inconsistencies are most evident in the carriage of limited quantities, exempted quantities and small quantities of environmentally hazardous substances.

The UN Sub-Committee of Experts agreed to add a standing agenda item to discuss routinely the global implementation of the Model Regulations. This type of discussion could trace, promote and facilitate the application of the Model Regulations in a transparent manner and thus contribute to the safe transport of dangerous goods.

It was recalled that the UN Model Regulations for land transport are implemented via RID, ADR and ADN without much delay in all countries that are Contracting Parties to these regulations. The remaining countries are asked to report their national implementation status to the Secretariat on a voluntary basis.

Election of the Chair for the next biennium

The UN Sub-Committee of Experts re-elected the Chair, Mr Duane Pfund (United States of America),

and the Vice-Chair, Mr Claude Pfauvadel (France), for the next biennium.

Next session

The 58th session of the UN Sub-Committee of Experts will be held from 28 June to 2 July 2021 in Geneva. This will be the first session of the new biennium, whose decisions will feed into the 23rd revised edition of the UN Model Regulations and later into the 2025 editions of RID, ADR and ADN.

Jochen Conrad

CALENDAR OF OTIF'S MEETINGS IN 2021

DATE	EVENT	ORG	LOCATION
22 - 23 June	13th session of the Committee of Technical Experts		Berne - Switzerland (HYBRID OR REMOTE MEETING)
23 - 24 June	Working Group WG TECH. 43 rd Session		Berne - Switzerland (HYBRID OR REMOTE MEETING)
9 July	Meeting on OTIF-DG MOVE-ERA Administrative Arrangement		(REMOTE MEETING)
7 - 8 September	Joint Coordinating Group of Experts		Berne - Switzerland
8 - 9 September	Working Group WG TECH. 44th Session		Berne - Switzerland
21 September - 1 October	RID/ADR/ADN Joint Meeting	UNECE	Geneva - Switzerland
28 - 29 September	15 th General Assembly		Berne - Switzerland

EVENTS WITH OTIF PARTICIPATION IN 2021

DATE	EVENT	ORG	LOCATION
28 June - 2 July	UN Sub-Committee of Experts on the Transport of Dangerous Goods (58th session)	UNECE	Geneva - Switzerland
1 - 2 July	Railway Interoperability and Safety Committee (RISC)	European Commission	(REMOTE MEETING)
1 - 2 July	CIM/SMGS Expert and Legal Group	CIT	(REMOTE MEETING)
6 July	Working Party on the revision of TSIs	ERA	(REMOTE MEETING)
7 - 8 July	EuMedRail meeting on OTIF Technical Interoperability	ERA	(REMOTE MEETING)
28 July	Topical Working Group digital automatic coupler	ERA	(REMOTE MEETING)
16 - 20 August	RID/ADR/ADN Translation conference for the German language	Austrian Ministry of Transport	Austria
24 - 27 August	Group of Experts on SMGS Annex 2 "Provisions for the Carriage of Dangerous Goods"	OSJD	Warsaw - Poland

EVENTS WITH OTIF PARTICIPATION IN 2021

DATE	EVENT	ORG	LOCATION
9 - 10 September	General Assembly of the Association of Public Transport	Association of Public Transport	Berne - Switzerland
13 - 14 September	8 th Annual Meeting of International Organisations	OECD	(REMOTE MEETING)
13 - 15 September	Group of Experts on the Permanent Identification of Railway Rolling Stock (SC.2/PIRRS) (4th session)	UNECE	Geneva - Switzerland
22 September	Task Force on revision of Assessment Scheme	ERA	(REMOTE MEETING)
22 - 27 September	100 th session of the UNIDROIT Governing Council	UNIDROIT	Rome - Italy
27 - 28 September	Connecting Europe Express/Trans-European Transport Network Train	European Commission, BAV, SBB	Berne - Switzerland
25 - 29 October	OSJD Commission for Transport Law in the field of provisions for the carriage of dangerous goods	OSJD	Warsaw - Poland



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Thank you for your continued interest. The Bulletin editor

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