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INTERGOVERNMENTAL ORGANISATION FOR INTERNATIONAL CARRIAGE BY RAIL

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Joint Meeting of the RID Committee of Experts and
the Working Party on the Transport of Dangerous Goods
(Berne, 22 - 25 March 2010)

Agenda item 6: Reports of informal working groups

Report of the working group on telematics

Joint document from Germany and the Secretariat of OTIF transmitted on behalf of the working group

At the invitation of France, the 5th meeting of the working group on telematics was held from 14 – 16 October 2009 in Arcachon. At this meeting, the work on the "who does what" table was completed. This table sets out who needs which information, and when, in the carriage of dangerous goods (see also the report of the working group meeting in Annex 1 and the revised Table in Annex 2).

Future meetings of the working group must now look in more detail at particular areas in which telematics applications might become relevant:

– electronic consignment note,
– electronic transmission of information on the state of the load and the vehicle and incidents,
– geofencing and traffic management considerations and
– security.

At the next meeting from 21 – 23 April 2010 in Hamburg, the current situation in connection with the use of electronic transport documents should first be looked at in more detail, and the maritime/land transport interface should be the subject of a particularly detailed examination.

The Joint Meeting is requested to note the results of the work so far.

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Annex 1

5th meeting of the working group on telematics (Arcachon, 14 – 16 October 2009)

Report

1. At the invitation of France, the 5th meeting of the working group on telematics was held from 14 to 16 October 2009 in Arcachon. The session was chaired by Claude Pfauvadel (France).

2. The following States took part in the discussions at this session: Austria, Belgium, France, Germany, Italy, Romania and the United Kingdom. The European Commission was also represented. In addition, the International Association of Fire and Rescue Service (CTIF), the International Federation of Freight Forwarders Associations (FIATA), the European Industrial Gases Association (EIGA) and the International Union of Railways (UIC) also took part (see Annex 1).

Continuation of the work on the table

3. Informal document INF.8 containing the Table developed by the working group, together with the report of the 4th meeting of the working group (document OTIF/RID/RC/2009/25), were submitted to the Joint Meeting in September 2009 by Germany. At the time, the working group had not yet checked the right-hand side of the Table with the “availability” column and the sub-columns “operational” and “in case of incident/accident”, as well as the evaluative column “use of telematics” and the evaluative sub-columns “technical feasibility”, “better availability in case of incidents/accidents” and “operational advantages”. However, comments from Austria, the United Kingdom and FIATA had already been taken into account.

4. In order to be clear, it was again explained that the “availability” column reflected the current state of affairs, while the “use of telematics” column was based on what the situation could be after telematics have been introduced.

5. As a first step, the following amendments were made to these columns:

   a) As the letter “N” in the “in case of incident/accident” column in sections A and B could be interpreted as “no”, despite the explanation at the end of the Table, it was replaced by the letter “P” ("possible restricted availability in case of incident/accident or during operation").

   b) In order to highlight information that is only relevant to ADN, the abbreviation (“AN”) was introduced.

   c) The “operational advantages” column was renamed “possible operational advantages for public authorities or enterprises” to make clear that the use of telematics applications need not always have operational advantages for all participants.

   d) In line 47 (composition of the train and position of DG wagons in the train (including mass of load and UN No.)), a reference to new footnote 5 was inserted. This footnote explains that mass of load refers to the mass per UN number, although this is not explicitly stated in 1.4.3.6 (b) (in connection with this, see also informal document INF.6 for the 47th session of the RID Committee of Experts, in which the Secretariat suggests clarification of the information required).

e) In line 33 (instructions in writing), keeping various language versions in electronic form and not having to hand them out before the start of every journey may provide some operational advantages (“?” in the “possible operational advantages for public authorities or enterprises” column). However, one disadvantage of this might be that in the event of an accident, the instructions in writing are not as easily accessible as a paper version (“N” in the “better availability in case of incidents/accidents” column).

6. With regard to line 37 (placards and markings), it was explained that telematics applications do not replace the physical markings, rather they should make available the information that derives from these markings. In connection with this, the representative of EIGA was asked to make available the results of discussions within his association on replacing the physical marking on pressure receptacles by RFID chips.
7. As line 42 (identity of carrier in general) dealt with establishing the identity of the carrier before the goods are handed over for carriage within the meaning of Chapter 1.10, “not relevant” was inserted in the “in case of incident/accident” and “better availability in case of incidents/accidents” columns.

8. The situation was different with regard to line 43 (driver identifier), as it must be possible to establish the identity throughout the entire transport operation (e.g. if a vehicle containing high consequence dangerous goods is discovered without a driver).

9. Section C contained requirements that have to be taken into account in telematics applications if a corresponding provision for such equipment is included in RID/ADR/ADN. For this as yet non-mandatory information, depending on the various transport modes, an “E” was entered in the “operational” column if it concerned systems for the means of transport which are already available on the market and which are used voluntarily. For systems which are technically feasible, but which are not yet available, an “N” was entered for the time being.

10. In the “how is it provided?” column, an “automatic alert transmission system” is required for various systems, which must include a determination of position. To this end, “positioning information (coordinates, speed, direction, …)” was included as the first line of section C as the main requirement for the subsequent alerts.

11. In addition, a new line entitled “tunnel safety and access control information” was included for monitoring vehicles moving towards or going through a tunnel. Among other things, this new line covers systems to detect engine overheating (formerly line 54).

12. In the “how is it provided?” column, a link between the vehicle (on-board unit) and infrastructure management systems is required. This technical requirement, which might also be relevant to rail transport, could perhaps lead to tunnels being accessible for the carriage of dangerous goods. It was made clear that this line only dealt with access to tunnels, not route planning.

13. Line 61 (alert system for load (tank/bulk transport) – full/empty) was deleted, as the degree of filling need only be established at the place of filling and not throughout the transport operation.

14. Lines 68 and 69 (LQ and EQ marking) were deleted. Instead, the reference in lines 34 and 35 was extended to include 3.4.12 and 3.5.4.

15. Lines 70 (special provisions) and 71 (required information regarding national derogations) were maintained for the time being as placeholders.

Work after completion of the Table

16. In accordance with the mandate from the last meeting of the working group (see paragraphs 24 to 27 of the report), Dr Kaltwasser gave a presentation in which he explained that the next step of the work was to transpose the information listed in the Table into technical specifications. In so doing, the application of telematics systems during transport, the prescribed requirements and the system characteristics, the interfaces to ensure interoperability and the data structures for the exchange of data between the various systems must be described in particular.

17. The information set out in the Table related to different areas in the carriage of dangerous goods (electronic transport document, tracking and tracing and incident management) and could therefore lead to different requirements for telematics systems.

18. The complete presentation is annexed to this report.

Next meeting

19. The next meeting of the working group will be held in Hamburg from 21 – 23 April 2010 at the invitation of Germany. A representative of the US Department of Transportation should be invited to this meeting to provide information on ongoing activities in North America and particularly on the interfaces of the various transport modes.

Annex 2

Version 7.0 (07.01.2010)

No.	INFORMATION	WHO IS IT FOR?														WHAT IS IT FOR?	WHEN IS IT NEEDED? [3]	HOW IS IT PROVIDED?	AVAILABILITY		USE OF TELEMATICS		
												Public authorities											
		Driver / Crew	Shipper/Consignor/ Sender[1]	Freight forwarder	Consignee	Loader	Carrier	Tank-wagon operator	Packer	Filler	Tank-container operator	Infrastructure manager[2]	Competent authority	Emergency responders	Enforcement bodies	Security bodies		All information in the transport document under A is necessary before and throughout the journey. This column only indicates particular circumstances where this information needs to be available.		Operational	In case of incident/accident	Technical feasibility	Better availability in case of incidents/accidents	Possible operational advantages for public authorities or enterprises
A.	**Entry in the transport document or documents attached to the transport document**																						
1	UN number 5.4.1.1.1 (a) [+ 5.2.1 + 5.3.2] R: see also item 47	X	X	X	X	X	X	X	X	X	X	X		X	X	X	Identify DG	Initial incident, initial enforcement, initial security	Transport document [, package markings, plates]	Y	P R: Y	Y	Y	Y
2	Proper Shipping Name 5.4.1.1.1 (b) [, 5.2.1.5, 5.2.1.6, 5.2.1.7]	X	X	X	X	X	X	X	X	X	X	X		X	X	X	Identify DG	Later in incident, clean-up, later enforcement	Transport document [, package markings Class 1 & 7, sometimes Class 2]	Y	P	Y	Y	Y
3	Technical name (if req) 5.4.1.1.1 (b)		X	X	O	X	X		X	X				X	X	X	Further characterize generic or N.O.S. PSNs	Later as incident/enforcement develops	Transport document	Y	P	Y	Y	Y
4	Class (for Class 7) 5.4.1.1.1 (c) [+ 5.2 + 5.3.1]	X	X	X	X	X	X	X	X	X	X	X		X	X	X	Identify nature of hazard	Initial incident, initial enforcement, initial security	Transport document [, package labels, placards, [HINs]]	Y	P	Y	Y	Y
5	Code (for Class 1) 5.4.1.1.1 (c) [+ 5.2 + 5.3.1]	X	X	X	X	X	X	X	X	X	X	X		X	X	X	Identify nature of hazard	Initial incident, initial enforcement, initial security	Transport document [, package labels, placards]	Y	P	Y	Y	Y
6	Danger labels (class and subsidiary risks) 5.4.1.1.1 (c) [+ 5.2 + 5.3.1]	X	X	X	X	X	X	X	X	X	X	X		X	X	X	Identify additional hazard(s)	Initial incident, initial enforcement, initial security	Transport document [, package labels, placards]	Y	P	Y	Y	Y
7	Packing Group 5.4.1.1.1 (d)	X	X	X	X	X	X	X	X	X	X	X		X	X	X	Identify degree of danger	Initial incident, initial enforcement, initial security	Transport document	Y	P	Y	Y	Y
8	Number & type of packages 5.4.1.1.1 (e)	X	X	X	X	X	X					O		X	X	X	Indicate what DGs are contained	Later as incident/enforcement develops	Transport document	Y	P	Y	Y	Y

No.	INFORMATION	WHO IS IT FOR?														WHAT IS IT FOR?	WHEN IS IT NEEDED? [3]	HOW IS IT PROVIDED?	AVAILABILITY		USE OF TELEMATICS		
		Driver / Crew	Shipper/Consignor/ Sender[1]	Freight forwarder	Consignee	Loader	Carrier	Tank-wagon operator	Packer	Filler	Tank-container operator	Infrastructure manager[2]	Public authorities: Competent authority	Public authorities: Emergency responders	Public authorities: Enforcement bodies	Public authorities: Security bodies		All information in the transport document under A is necessary before and throughout the journey. This column only indicates particular circumstances where this information needs to be available.		Operational	In case of incident/accident	Technical feasibility	Better availability in case of incidents/accidents	Possible operational advantages for public authorities or enterprises
9	Total quantity of DG 5.4.1.1.1 (f) R: see also item 47	X	X	X	X	X	X	X		X	X	X		X	X	X	Indicate quantity of individual DGs	Initial incident, initial enforcement, initial security	Transport document	Y	P R: Y [5]	Y	Y	Y
10	Consignor name & address 5.4.1.1.1 (g) [+ 5.2.1.7.1 (Cl. 7)]	X		X	X	O	X			O		O		X	X	X	To identify the person who initiated the transport	Later in incident, clean-up, later enforcement	Transport document and consignment note [+ package markings]	Y	P	Y	Y	Y
11	Consignee name & address 5.4.1.1.1 (h) [+ 5.2.1.7.1 (Cl. 7)]	X	X	X			X					O		X	X	X	To identify destination	Later enforcement	Transport document [and consignment note + package markings]	Y	P	Y	Y	Y
12	Declaration req'd by multilateral agreement 5.4.1.1.1 (i)	X	X	X	X	X	X	X	X	X	X		X	X	X		Various	Before and throughout journey	Transport document	Y	P	Y	Y	Y
13	HIN number 5.4.1.1.1 (j) (RID)		R: X				R: X	R: X		R: X	R: X			R: X			Identify nature of hazard and degree of danger	Initial incident	Transport document (for RID) [, (plates)]	Y	P	Y	Y	Y
14	Tunnel restriction code (road) 5.4.1.1.1 (k) (ADR)	A: X		A: X	A: X		A: X								A: X		To select a route in consideration of tunnel restrictions		Transport document (for ADR)	Y	P	Y	Y	Y
15	Wastes 5.4.1.1.3	X	X	X	X	X	X			X					X		To identify simplified classification of wastes and interface with waste regs	Later as incident/enforcement develops	Transport document	Y	P	Y	Y	Y
16	Salvage packaging 5.4.1.1.5 + 5.4.1.1.6	X	X	O	X	X	X							X	X		Indicates a special packaging situation	Later as incident/enforcement develops	Transport document [, package marking]	Y	P	Y	Y	Y

No.	INFORMATION	WHO IS IT FOR?														WHAT IS IT FOR?	WHEN IS IT NEEDED? [3]	HOW IS IT PROVIDED?	AVAILABILITY		USE OF TELEMATICS		
		Driver / Crew	Shipper/Consignor/ Sender[1]	Freight forwarder	Consignee	Loader	Carrier	Tank-wagon operator	Packer	Filler	Tank-container operator	Infrastructure manager[2]	Public authorities: Competent authority	Public authorities: Emergency responders	Public authorities: Enforcement bodies	Public authorities: Security bodies		All information in the transport document under A is necessary before and throughout the journey. This column only indicates particular circumstances where this information needs to be available.		Operational	In case of incident/accident	Technical feasibility	Better availability in case of incidents/accidents	Possible operational advantages for public authorities or enterprises
17	Empty uncleaned packagings 5.4.1.1.6	X	X	O	X	O	X							X	X	X	Identify risks from fumes/residues	Later as incident/enforcement develops	Transport document	Y	P	Y	Y	Y
18	Multimodal transport 5.4.1.1.7	O	X	X		X	X				X			X	X		Indicates sea or air requirements apply	Initial incident, initial enforcement, initial security	Transport document	Y	P	Y	Y	Y
19	IBC and tank carriage post inspection date 5.4.1.1.11		X	X	X	X	X	X			X				X		Indicates that journey must be to inspection/disposal facility	Initial enforcement	Transport document [, IBC and tank marking]	Y	P	Y	Y	Y
20	Multi-compartment tank 5.4.1.1.13 (ADR) [+ 5.3.1.2]		A: X		A: O		A: X	A: X		A: X	A: X			A: X	A: X		Indicates which DG in which compartment	Initial incident, later enforcement	Transport document [, plates]	Y	P	Y	Y	Y
21	Elevated temperature 5.4.1.1.14 [+ 5.3.3]	X	X	X	X	X	X	X	X	X	X	X		X	X		Identify scalding/burning hazard		Transport document [, marking on vehicle]	Y	P	Y	Y	Y
22	Temp control/ stabilized 5.4.1.1.15 (ADR)	A: X	A: X	A: X	A: X	A: X	A: X	A: X	A: X	A: X	A: X	A: X		A: X	A: X		Need to maintain conditions		Transport document	Y	P	Y	Y	Y
23	SP 640x 5.4.1.1.16		X	X	X			X		X	X				X		Indicates substance classification tank code	Enforcement	Transport document	Y	P	Y	Y	Y
24	Bulk container approval or marking 5.4.1.1.17 [+ 6.11.3.4]	A: X	X	X		X	X			X					X		Indicates approved containment	Later enforcement	Transport document [, plate]	Y	P	Y	Y	Y

No.	INFORMATION	WHO IS IT FOR?														WHAT IS IT FOR?	WHEN IS IT NEEDED? [3]	HOW IS IT PROVIDED?	AVAILABILITY		USE OF TELEMATICS		
		Driver / Crew	Shipper/Consignor/ Sender[1]	Freight forwarder	Consignee	Loader	Carrier	Tank-wagon operator	Packer	Filler	Tank-container operator	Infrastructure manager[2]	Public authorities: Competent authority	Public authorities: Emergency responders	Public authorities: Enforcement bodies	Public authorities: Security bodies		All information in the transport document under A is necessary before and throughout the journey. This column only indicates particular circumstances where this information needs to be available.		Operational	In case of incident/accident	Technical feasibility	Better availability in case of incidents/accidents	Possible operational advantages for public authorities or enterprises
25	Net Quantity (Class 1) 5.4.1.2.1 (a)	X	X	X	X	X	X		X			X		X	X	X	Indicates quantity of explosives in article	Later as incident/enforcement develops	Transport document	Y	P	Y	Y	Y
26	Explosives label statement 5.4.1.2.1 (c)		X	X			X								X		Clarify for enforcement purposes	Later as incident/enforcement develops	Attached to transport document	Y	P	Y	Y	Y
27	Additional provisions Class 2 5.4.1.2.2		X	X		X	X	X	X	X	X				X		(a) Identify degree of danger; (b) RID, (c) and (d): Indicates specific conditions of transport	Later enforcement?	Transport document	Y	P	Y	Y	Y
28	Classes 4.1 & 5.2 statement and condition of transport 5.4.1.2.3	X	X	X	X	X	X	X	X	X	X	X		X	X	X	Indicates possible explosive hazard and specific conditions of transport	Later as incident/enforcement develops	Transport document [and appoval]	Y	P	Y	Y	Y
29	Infectious substances phone no. (Cl. 6.2) 5.4.1.2.4	X	X	X	X	X	X	X	X	X	X	X		X	X	X	Identifies source of expert advice	Later as incident/enforcement develops	Transport document	Y	P	Y	Y	Y
30	RAM information 5.4.1.2.5 [+ 5.2 + 5.3.1 + 6.4]	X	X	X	X	X	X	X	X	X	X	X		X	X	X	Identify detailed RAM hazard	Mix of initial and later incident information; later enforcement; operational requirements (loading etc)	Transport document [, package labels and approval]	Y	P	Y	Y	Y
31	Non DGs 5.4.1.5	O	X	O			O	O				O		X	O		Indicates not subject to ADR/RID	Initial enforcement	Transport document	Y	P	Y	Y	Y

No.	INFORMATION	WHO IS IT FOR?										Public authorities				WHAT IS IT FOR?	WHEN IS IT NEEDED? [3]	HOW IS IT PROVIDED?	AVAILABILITY		USE OF TELEMATICS		
		Driver / Crew	Shipper/Consignor/ Sender[1]	Freight forwarder	Consignee	Loader	Carrier	Tank-wagon operator	Packer	Filler	Tank-container operator	Infrastructure manager[2]	Competent authority	Emergency responders	Enforcement bodies	Security bodies		All information in the transport document under A is necessary before and throughout the journey. This column only indicates particular circumstances where this information needs to be available.		Operational	In case of incident/accident	Technical feasibility	Better availability in case of incidents/accidents	Possible operational advantages for public authorities or enterprises
32	Container packing certificate 5.4.2	A: X R: O	X	X		X	X							X	X		Certifies loading/filling of container/vehicle in accordance with 5.4.2 IMDG Code	Later enforcement, following loading	Attached to transport document	Y	Not relevant	Y	Not relevant	Y
B.	**Miscellaneous**																							
33	Instructions in writing 5.4.3	X					X								X		Emergency information for the vehicle crew	Before the journey, initial incident/accident, operational requirements	Information sheet	Y	P	Y	N	?
34	Tank certificate 6.8.2.3.1		O	O			A: X	X		X	X		X	O	X		Suitability for the intended purpose	Operational requirements (e.g. filling)	Certificate	N	N	Y	Y	Y
35	Test report for packagings 6.1.5.8, 6.5.6.14, 6.6.5.4		X			O			X				X	O	X		Suitability for the intended purpose	Operational requirements (e.g. filling)	Certificate	N	N	Y	Y	Y
36	Labels and markings 5.2 + 3.4.13 + 3.5.4	X	X	X	X	X	X		X					X	X	X	Hazard communication (also relevant for the general public)	During loading, throughout journey, in case of incident/accident	Labels and markings	Y	P	Y	Y	Y
37	Placards and markings 5.3.1 + 5.5.2 + 3.4.10	X			X	X	X			X		X		X	X	X	Hazard communication (also relevant for the general public)	During loading, throughout journey, in case of incident/accident	Placards and markings	Y	P	Y	Y	Y
38	Orange plate 5.3.2	X			X	X	X			X		X		X	X	X	Hazard communication (also relevant for the general public)	During loading, throughout journey, in case of incident/accident	Orange plate	Y	P	Y	Y	Y

No.	INFORMATION	WHO IS IT FOR?														WHAT IS IT FOR?	WHEN IS IT NEEDED? [3]	HOW IS IT PROVIDED?	AVAILABILITY		USE OF TELEMATICS		
		Driver / Crew	Shipper/Consignor/ Sender[1]	Freight forwarder	Consignee	Loader	Carrier	Tank-wagon operator	Packer	Filler	Tank-container operator	Infrastructure manager[2]	Public authorities: Competent authority	Public authorities: Emergency responders	Public authorities: Enforcement bodies	Public authorities: Security bodies		All information in the transport document under A is necessary before and throughout the journey. This column only indicates particular circumstances where this information needs to be available.		Operational	In case of incident/accident	Technical feasibility	Better availability in case of incidents/accidents	Possible operational advantages for public authorities or enterprises
39	Packaging design type approval markings 6.1 - 6.6		X	O	X	X			X				X	X	X		Indicates design type approval; indicates some properties of containment	During loading, throughout journey; some information may be helpful in case of incident	Packaging marking	Y	P	Y	Y	Y
40	Pressure receptacle markings 6.2		X	O	O	X			X				X	X	X		Indicates design type approval; indicates some properties of containment	During loading, throughout journey; some information may be helpful in case of incident	Pressure receptacle markings	Y	P	Y	Y	Y
41	Tank plate and marking 6.7 + 6.8 + 6.9	X	X	O	O		X	X		X	X		X	X	X		Indicates design type approval; indicates some properties of containment	During loading, throughout journey; some information may be helpful in case of incident	Tank plate and marking	Y	P	Y	Y	Y
42	Identity of carrier in general 1.10.1.2	O	X	X	O	X		O		X	O	O		O	O	X	Security purposes	Before offering the goods for carriage	Appropriate identity checks (professional competencies); legal compliance checks	Y	Not relevant	Y	Not relevant	Y
43	Driver identifier 1.10.1.4		O	O	O	A: X	X			A: X					X	X	Security purposes	Before handing over the goods to the driver for carriage and throughout journey	ID card or other documents accepted by the competent authority	Y	P	Y	Y	Y
44	Driver/ADN-expert training certificate 7.5.1.2 and 8.2.1	A/AN: X	A/AN: X	A/AN: O		A/AN: X	A/AN: X			A/AN: X					A/AN: X	A/AN: X	Indicates qualification for carrying dangerous goods	Before and throughout journey	Certificate, on board	A/AN: Y	P	A/AN: Y	Not relevant	A/AN: Y
45	Certificate of approval for vehicles/inland waterway vessels 9.1.3.5 ADR / 8.1.8. ADN	A/AN: O	A/AN: X	A/AN: X		A/AN: X	A/AN: X			A/AN: X			A/AN: X	A/AN: O	A/AN: X		Indicates suitability for carrying dangerous goods	Before and throughout journey	Certificate, on board	A/AN: Y	P	A/AN: Y	A/AN: Y	A/AN: Y

No.	INFORMATION	WHO IS IT FOR?										Public authorities				WHAT IS IT FOR?	WHEN IS IT NEEDED? [3]	HOW IS IT PROVIDED?	AVAILABILITY		USE OF TELEMATICS		
		Driver / Crew	Shipper/Consignor/ Sender[1]	Freight forwarder	Consignee	Loader	Carrier	Tank-wagon operator	Packer	Filler	Tank-container operator	Infrastructure manager[2]	Competent authority	Emergency responders	Enforcement bodies	Security bodies		All information in the transport document under A is necessary before and throughout the journey. This column only indicates particular circumstances where this information needs to be available.		Operational	In case of incident/accident	Technical feasibility	Better availability in case of incidents/accidents	Possible operational advantages for public authorities or enterprises
46	Tunnel category (road) 1.9.5.3.1, 1.9.5.3.7 (ADR)	A: X	A: X	A: X			A: X					A: X	A: X	A: X	A: X		Indicates tunnel restrictions	Before and throughout journey	Road sign (for ADR) and Website UNECE	Y	Y	Y	Y	Y
47	Composition of the train and position of DG wagons in the train (including mass of load and UN No.) 1.4.2.2.5 + 1.4.3.6 (RID)	R: X					R: X					R: X		R: X	R: O	R: O	Indicates location of dangerous goods in a train	Before and throughout journey in case of incident/accident	Access to a data base or information	Y	Y	Y	Y	Y
C.	**New information[4]**																							
48	Alert-system for incident/accident - fire	S	O	O	O		O	O			O	S		S			Various	During loading, throughout journey, in case of incident/accident	Fire detector; automatic alert transmission system	A/R: N AN: E	N	Y	Y	Y
49	Alert-system for road traffic incident/accident (e.g. stability, shock) (ADR)	A: O [6]	O	O	O		O	O			O	A: S		A: S			Automatic emergency call	In case of an accident	Tilt/shock sensor; automatic alert transmission system	A: E	N	Y	Y	Y
50	Alert-system for rail incident/accident (derailment) (RID)	R: S	O	O	O		R: S	O			O	R: S		R: S			Automatic emergency call. Information for the driver	In case of an accident	Derailment detector; automatic alert transmission system	N	N	Y	Y	Y
51	Alert-system for incident/accident - axle-bearing temperature detection	S					S	S				S					Alert before an accident happens	Throughout journey	Temperature sensor; R: automatic alert transmission system	A: N R: N[7]	N	Y	Y	Y

No.	INFORMATION	WHO IS IT FOR?														WHAT IS IT FOR?	WHEN IS IT NEEDED? [3]	HOW IS IT PROVIDED?	AVAILABILITY		USE OF TELEMATICS		
		Driver / Crew	Shipper/Consignor/ Sender[1]	Freight forwarder	Consignee	Loader	Carrier	Tank-wagon operator	Packer	Filler	Tank-container operator	Infrastructure manager[2]	Public authorities: Competent authority	Public authorities: Emergency responders	Public authorities: Enforcement bodies	Public authorities: Security bodies		All information in the transport document under A is necessary before and throughout the journey. This column only indicates particular circumstances where this information needs to be available.		Operational	In case of incident/accident	Technical feasibility	Better availability in case of incidents/accidents	Possible operational advantages for public authorities or enterprises
52	Alert-system for vehicle brake (temperature and other malfunction)	S					S	S				S					Alert before an accident happens	Throughout journey	Temperature sensor; brake monitoring sensor; R: automatic alert transmission system	R:N[7] A: E	N	Y	Y	R: Y A: N
~~53~~	~~Alert-system for road vehicles - tire pressure (ADR)~~	~~A: S~~															~~Alert before an accident happens~~	~~Throughout journey~~	~~Tire pressure sensor~~	~~N~~	~~N~~	~~Y~~	~~Y~~	~~Y~~
~~54~~	~~Alert-system for road vehicles - engine overheating (ADR)~~	~~A: S~~					~~A: S~~					~~A: S~~					~~Alert before an accident happens~~	~~Throughout journey~~	~~Temperature sensor~~	~~N~~	~~N~~	~~Y~~	~~Y~~	~~Y~~
55	Alert-system for load - pressure	S	O	O	S		S	S		S	S	S		S	S		Information / alert before an incident/accident happens	Before and throughout journey	Pressure sensor; automatic alert transmission system	E	N	Y	Y	Y
56	Alert-system for load - temperature control [2.2.41.1.17 + 2.2.52.1.16 + 7.2.4 (V8) + 8.5 (S4) (ADR)]	S	O	O	S	S	S			S		S		S	S		Information / alert before an incident/accident happens	Before and throughout journey	Temperature sensor; automatic alert transmission system	E	N	Y	Y	Y
57	Alert-system for load - gas leakage (load compartment)	S	O	O	S	S	S							S	S		Alert in case of an incident/accident	Before and throughout journey	Gas sensor; automatic alert transmission system	N	N	Y	Y	Y
58	Alert-system for load - gas leakage (tank and battery vehicles)	S	O	O	S		S			S		S		S	S		Alert in case of an incident/accident	Before and throughout journey	Gas sensor; automatic alert transmission system	N	N	Y	Y	Y
59	Alert-system for unauthorised opening of load compartment	S	S	S	S		S								S	S	Alert in case of an incident/accident	Before and throughout journey	Anti-theft device; automatic alert transmission system	E	N	Y	Y	Y

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60	Alert-system for unauthorised use of vehicles (ADR/ADN)	~~A/A~~ N: S	~~A/AN:~~ S	~~A/A~~ N: S	~~A/A~~ N: S		~~A/A~~ N: S								~~A/A~~ N: S	~~A/A~~ N: S	Alert in case of an incident/accident	Before and throughout journey	Anti-theft device; automatic alert transmission system	E	N	Y	Y	Y
~~61~~	~~Alert-system for load (tank/bulk transpport) - Full/Empty~~	~~S~~	~~S~~	~~S~~	~~S~~	~~S~~	~~S~~			~~S~~		~~S~~			~~S~~	~~S~~	~~Alert in case of an incident/accident~~	~~Before and throughout journey~~	~~Load sensor device, automatic transmission system~~	~~N~~	~~N~~	~~Y~~	~~Y~~	~~Y~~
62	Alert-system for routing for DG [1.9.1 - 1.9.4]	S	O	S			S					S			S	S	e.g. Use of defined routes (e.g. motorways), no environmentally sensitive areas	Before and throughout journey	Navigation system for the driver; automatic alert transmission system	E	N	Y	Y	Y
63	Alert-system for position control (geofencing)	S	S	S			S					S			S	S	Position monitoring by a control unit	Throughout journey	GSM / GPS; automatic alert transmission system	E	N	Y	Y	Y
64	Tunnel restrictions: selection of an optimal route 1.9.5 + 8.6 (ADR)	A: S	A: S	A: S			A: S							A: S	A: S		Selection of an optimal route in consideration of the tunnel restrictions	Before and throughout journey	Navigation system for the driver	A: Y	A: Y	A: Y	A: N	A: Y
65	Transport unit / containment system identifier	S	S	S	S	S	S	S	S	S	S	S		S	S	S	Identify DG and their status	During loading, throughout journey, in case of incident/accident	Smartboxes or Monitorung Units with different kinds of sensors	E	N	Y	Y	Y
66	Relevant traffic / weather conditions	S		S			S					S		S	S		Routing / e.g.: Parking when icy	Throughout journey	Radio, TV, Internet, navigation systems	E	Y	Y	Y	Y

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67	Automatic calculation of the total maximum quantity per transport unit 1.1.3.6 (ADR/ADN)	A/AN: X	A/AN: X	A/AN: X		A/AN: X	A/AN: X					A/AN: X		A/AN: X	A/AN: X		Automatic calculation of the total maximum quantity per transport unit	During loading, throughout journey~~, in case of incident/accident~~	e.g. RFID reader	N	N	Y	N	Y
~~68~~	~~LQ Marking 3.4~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~		~~X~~			~~X~~		~~X~~	~~X~~		~~Indicates LQ exemption~~	~~During loading, throughout journey, in case of incident/accident~~	~~Package and TU marking~~	~~Y~~	~~N~~	~~Y~~	~~Y~~	~~Y~~
~~69~~	~~EQ Marking 3.5.4~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~		~~X~~			~~X~~		~~X~~	~~X~~		~~Indicates EQ exemption~~	~~During loading, throughout journey, in case of incident/accident~~	~~Package marking~~	~~Y~~	~~N~~	~~Y~~	~~Y~~	~~Y~~
XX	Amount of dangerous goods in limited or excepted qantities 3.4.9 + 3.5.6	X	X			X	X							X	X		Establishing the need for an LQ mark or EQ limit	Before and throughout journey	Various traceable means	Y	N	Y	Y	Y
70	Special provisions 3.3 et al.	X	X	X		X	X	X	X	X	X		X	X	X		Various	Various	Various	Placeholder	Placeholder	Placeholder	Placeholder	Placeholder
71	Required information regarding national derogations ~~(see also No. 71)~~	X	X	X	X	X	X	X	X	X	X	X	X	X	X		Various	Various	Various	Placeholder	Placeholder	Placeholder	Placeholder	Placeholder

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72	Positioning information (coordinates, speed, direction, ….)	S	O	O	O	O	S	O		O	O	S		S	S	S	Knowing the position	In relation to alerts. Throughout journey.	Location reference based on OBU providing GNSS information (use of EGNOS correction and integrity) (It has to refer to the container or the transport unit and not to the package inside the container or the transport unit)	E	N	Y	Y	Y
73	Tunnel safety and access control information	S	O	O	O		O					S		S	O		Monitoring of vehicles approaching and traversing the tunnel	Before entering and throughout the tunnel	Link between vehicle and infrastructure management systems	N	N	Y	Y	Y

[1] The person who initiates the process.

[2] Infrastructure manager means public or private body with influence over the use of road, rail or inland waterways

[3] Interpretation of "When is it needed" column:

a. Initial incident – the immediate availability of information to those responders to an incident who are first on the scene.
b. Initial enforcement – the immediate availability of information to allow visual determination of compliance with regulations.
c. Initial security – the availability of information to determine compliance with security provisions at the roadside/trackside.
d. Later in incident – the availability of additional, more detailed information that may inform the response to an incident once the initial actions have been taken.
e. Later enforcement – the availability of additional more detailed information to assess full compliance with the regulations.
f. Later security – availability of information to determine full compliance with security provisions.

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[4] Availibility under Part C: New Information, means the availability of this information today

Additional proposal for Part C from the UK: "Emergency services have prime responsibility for dealing with an ongoing incident. Where there is a risk of an incident occurring, the Enforcement Body has the primacy and power to stop a vehicle and move it to a place of safety"

[5] Although it is not precisely defined in 1.4.3.6 (b) of RID current practice leads to declaration of mass per UN Number by the carrier.

[6] To manage false alerts.

[7] Some railway networks are equipped with stationary local systems.

X = Required under existing DG Regulations or directly necessary to comply with the regulations
O = May be known or needed for other reasons or may be indirectly necessary to comply with the regulations
S = Safety or security-linked information for this participant

Y = Yes
P = Possible restricted availability in case of incident/accident or during operation
N = No
E = Existing on the market for means of transport

R = RID only
A = ADR only
AN = ADN only

[] = supplementary requirement / means of provisions