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Reports of informal working groups

Report of the informal working group on telematics (Bordeaux, 6 – 8 October 2015)

Transmitted by the government of France[1, 2]

Introduction

1.   The informal working group on telematics met in Bordeaux from 7 October to 8 October 2015 under the chairmanship of Mr. C. Pfauvadel (France), during the Intelligent Transport Systems (ITS) World Congress.

2.   Representatives of France, Germany, Italy, Netherlands, Spain, Sweden, Slovakia, United Kingdom, European Railways Agency (ERA), Intergovernmental Organisation for International Carriage by Rail (OTIF), International Union of Railways (UIC), International Road Transport Union (IRU), and the association of the European rail industry (UNIFE) as well as representatives of some institutions and private companies involved in "telematic" applications for dangerous goods transport (TDG) participated in the session. The list of participants will be circulated as an informal document.

3.   The session was held in English, without interpretation. All the presentations and submitted documents are summarized and will be circulated as informal documents.

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[1]   In accordance with the draft programme of work of the Inland Transport Committee for 2016-2017, (ECE/TRANS/WP.15/2015/19 (9.2)).

[2]   Circulated by the Intergovernmental Organisation for International Carriage by Rail (OTIF) under the symbol OTIF/RID/RC/2016/9.

4.   Before the working group meeting itself, on 6 October 2015 afternoon, an open workshop was held in the context of the ITS congress. Copies of the slides presented during this workshop will be circulated as an informal document, highlighting recent public actions concerning transport or ITS applications, as well as some working examples of ITS applications developed by private companies.

5.   Among the concrete realizations, two working implementations of the TP1 architecture and four functional examples of possible TP2 architectures, developed under the GEOTRANSMD pilot project, have been presented and attracted many interest from the participants, including representatives of European Union (DG Mobility) and of the Transport Division of the United Nations Economic Commission for Europe. Details concerning these developments mat be found in the presentation which will be circulated as informal document.

Summary of discussions during the working group meeting

Swedish case study presentation: voluntary transport monitoring using ITS techniques

6.   It was agreed to start the morning session of 7 October with a presentation from Sweden as the concerned expert had other commitments in the ITS congress. M. Sternberg from LUND University presented an ITS application concerning the voluntary monitoring approach of the transports done by transport operators operating in Sweden. He explained that this was done in a voluntary effort to comply inter alia with local regulation prohibiting illegal "cabotage" by foreign transport companies or subsidiaries. The transport operators who take part of this program register in a ITS architecture which then make the monitoring of all the transport operations done by them. The data collected can to some extent be accessed by third parties like consignors, transport brokers or concerned citizen organizations. The main Swedish companies have decided that after 2017 they will operate only with "transparent" transport companies which take part to the program. As a result it's expected that those companies whose business model is based on conscious breaching of the regulation concerning "cabotage" will eventually be phased out of the Swedish transport business.

Introductory discussion

7.   Before addressing the specific subjects related to impact assessment, and specific technical issues related to the implementation of the architecture a brief introductory discussion took place. The main topics which have been discussed are briefly summarized in the following paragraphs.

8.   It was recalled that that the agreed purpose of the TP1/TP2 architectures, which are considered by the informal working group and agreed by the Joint Meeting to be a proper way forward, was to allow access to transport data in a dematerialized form, for the transport operators, the traffic enforcement agents or the emergency operators. Therefore it was noted that there was a clear difference with monitoring actions even done on a voluntary basis such as the previous example.

9.   It was also highlighted that dematerializing the information concerning TDG could make more information available than in the current situation based on material supports, but that it also creates new requirements for the authorities, to begin with the obligation to implement and to maintain the corresponding ITS architectures.

10. ERA representative noted that there is certainly a room for reporting or monitoring actions, and that the TAF-TSI EU regulation which is now in force for the European railway sector is based on those concepts (see below).

11. Finally the working group agreed to work on the basis of the document prepared by France that presented some elements for an impact assessment (see annex). France explained that this document was a first draft and that comments for improvement were welcomed. As it was an ongoing process France would prepare a new version of that document for the joint meeting. It was also agreed that the technical presentations annexed to this report would be used as tools for the discussion.

General discussion about draft Impact Assessment document

12. The chairman recalled that the possibility of hosting the TP1 interface and initiating proper standardization work had been discussed at a EU level. To support such decision an impact assessment document concerning the project had to be established. The last RID/ADR/ADN Joint Meeting (JM) agreed to include this work in the working group's terms of reference (see ECE/TRANS/WP.15/AC.1/138 paragraphs 48-52 and informal document INF.33 of the Spring 2015 session of the Joint Meeting).

13. The ERA representative based on the agency's experience in performing impact assessments recalled the objectives of European Union impact assessments, which are basically to answer the following questions:

- why is the addressed topic already a problem ?

- why should European Union act (instead of member states only: subsidiarity)?

- what should be achieved (list of main use cases)?

14. It was noted that the 2009 guidelines have evolved toward a website but which content basically unchanged. The chairman suggested amending the existing draft impact assessment document with all the comments made by the informal working group. Keeping in mind that the geographical scope of for implementing the architecture may be wider than the European Union (Member States of the United Nations Economic Commission for Europe), the impact assessment should also be drafted in that respect.

15. The ERA representative recalled that the impact assessment document needs to assess precisely costs/benefits associated with use of TP1/TP2 architectures. He suggested that each use case of these architectures be described with the possible options and then costs/benefits be provided for each of them. These cost/benefits evaluations should be done first by comparing the cost of implementing the TP1/TP2 architecture versus doing nothing, then between different possible options for each use case. The additional costs for implementing the architectures (in terms of hosting, material, operating and maintenance costs) need also to be assessed precisely.

16. It was noted that according to the envisaged architecture the number of TP1 interfaces could be reduced to one and would be generally much less than the amount of TP2. Also the TP1 interface being the link to competent authorities (access management interface), therefore it would be less subject to develop a market. The various TP2 would more likely be implemented and then maintained by private operators. There are already some working solutions for TP2 offered on the marked in France. Since most of the main transport companies already operate their own data base system for surveying their logistical operations or for transport fleet optimizing/monitoring, the costs for a TP2 will be only for adapting those already existing systems. In comparison the cost of TP1 are related to the initial development of that interface.

17.   It was generally agreed that a global calculation of the costs saved by implementing the paperless option for the transport document was very difficult or impossible under the current circumstances, even with the help of some available transport statistics. It's suggested that the basic content of the impact assessment could be the list of the identified and agreed use cases (paperless transport document and improvement of the emergency response...) with the cost/benefit estimations associated to each cases taking care also of different TP1/TP2 options (single versus multiple TP1...). Some participants noted that since this impact assessment is a top level document, it should remain focused on the main concepts and therefore be not too detailed.

18.   ERA suggested to be more precise by describing the various service levels associated with the various technical options for TP1 and TP2 architectures. For each service level, typical data on number of transactions per day, or number of companies reached by TP2 should be given. These data of course should be also considered when estimating the size of the servers and their costs. It was stressed by some participants that such a level of detail is difficult to achieve, because of a general lack of statistical data concerning TDG. France explained that the best efforts will be made to develop a new version of the impact assessment document but that indeed it will be limited by available data.

Discussion concerning cost reduction due to not using paper

19.   It was noted that the maximum of benefits are to be expected for the transport companies specialized in in packages. Based on the case of an existing company operating a fleet of about 700 vehicles, it was stressed that for each journey an average of 15 transport documents (roughly 20 pages) are presently to be printed, which amounts to 6 t of paper per year or about 12 k€costs. The cost benefit for companies specialized on TDG delivery in tank is expected to be smaller, since the tanks usually are specialized for one given product (chemical, hydrocarbon ...) and consequently the transport documents are simpler and more reduced in size.

Discussion on Telematics applications for freight service (TAF-TSI) - interoperability and possible links with the TP1 architecture

20.   The main aspects of TAF-TSI regulation were presented by ERA (the presentation will be circulated as an informal document. It was recalled that TAF-TSI regulation's main purpose is to enhance interoperability between the different rail transport operators and infrastructure managers, by setting the rules for exchanging TDG data or safety instructions in writing between them, in order to decrease the obstacles to transport and enhance safety. It was explained that the TAF-TSI data are usually available for locomotive drivers on numerical tablets, because it's cheaper than to have them on paper and that the use of numeric data also gives more flexibility, by allowing for instance to filter out only the parts of the RID written instructions concerning the dangerous goods which are present on the train, for an easier reading by the locomotive driver.

21.   It was clarified that TAF-TSI was meant for facilitation and harmonization of data exchange between railway sector operators and clients and that it did not deal with the way that these data shall be made available to authorities such as control authorities or emergency services. Therefore it has been agreed that the main benefit of a TP1 approach was the ability to retrieve those existing TDG data from the TAF-TSI structure, and that to some extent the TAF-TSI interface could be seen as a kind of TP2 specialized for rail transport.

Discussion on emergency response

22.   The chairman recalled some examples of real cases when early emergency would have yield benefits. For instance the TDG truck fire on Mathilde Bridge in Rouen eventually caused the failure of the bridge, which could have been prevented by an earlier emergency response due to a better localization of the burning transport unit by the fire brigade. ERA noted that such response gain was not very relevant for rail (where the precise location of the transport units is always known) but was more about adequacy between risk and safety equipments.

23.   ERA also noted that early incident modelling is a growing topic and in future versions TAF-TSI could integrate some safety indicators to be reported (though not for early emergency response but for accident prevention).

Discussion on accident statistics collection

24. The chairman explained the current situation in France concerning TDG traffic statistics collections, where now several persons currently work on TDG statistics. He recalled that there are an average of 5 to 6 million transport operations per year on the road in France . In spite of many efforts for their collection, the data concerning traffic are not very precise . Data collection for statistic studies about TDG may become an interesting use case for TP1/TP2 architectures and could be easily implemented from a technical point of view. He finally pointed out that there is a growing need for precise statistical data to implement a correct risk based approach for assessing transport infrastructure projects.

25.   ERA explained that TAF-TSI will convey risk data to DG Transport in 5 years The chairman noted that it makes sense to mention in the impact assessment document that TAF-TSI will make statistic collection less and less expensive and that there is a need to have the same scheme for road transport. The impact assessment could therefore include evaluation of that case.

Discussion on safety issues

26.   The chairman recalled that the following main issues are to be addressed concerning the safety of the data conveyed on the TP1/TP2 system :

- private data protection and compliance to European Union Directive on personal data
- security of the system itself.

27.   Under the European Union Directive on personal data, any data connected to a person must be listed and its use must be declared. Furthermore, access to correction must be given upon request, and it does not depend on how old the data are or what kind of organization (public, private, authority ...) collects it. Although in principle no personal individual data are necessary for the architecture to work properly it has been agreed to check if any data of the TP1/TP2 architecture falls under the European Union Directive on personal data.

28.   Concerning the second point, it was pointed out that a safe system won't allow permission to store illegal data. However system must be secure because it will be used as an enforcement basis in place of the current paper documentation.

29.   More generally, the data available in the different TP2 are and must be kept private. By design, all the queries for these data are initiated by dedicated interfaces which are

granted authorisation to question the various TP2 through the TP1 interface which in turn never gets access nor stores the data of the TP2s. If done properly, all the TP2 are kept independent, all the different transport operators which have different duties according RID/ADR can access to their own data which are traced but kept private.

Discussion on centralized/decentralized architectures for TP1

30. It was noted that the comparison between centralized/decentralized architectures for TP1 is an important issue. While it can be stated that both options are valid to do the job correctly, for many aspects a centralized TP1 shows an advantage over a decentralized architecture. For a given territory, a single TP1 would result in a single server, with no need to multiple questions between the multiples TP1s, hence less data traffic and better access times.

31. Implementing a centralized TP1 architecture in a given territory implies that all the concerned competent authorities agree to delegate this task to a common project manager that would accept to supervise the establishment and maintenance of the single TP1 interface On the other hand, a decentralized TP1 architecture avoids finding such central body but it leaves the task to develop TP1 interfaces to local operators or competent authorities, and it should be noted that, to be fully operative, all the local TP1 must be implemented in a short time, exactly as in the case of the centralized TP1 architecture. Indeed for any transport operation coming from a place that would not be covered it would not be possible to retrieve the suitable information in electronic format.

32. From the standpoint of costs and especially for road transport, it can be roughly said that the interface server's size (and hence its costs) for a single TP1 is much less than the sum of the sizes of each local TP1, because some redundancy of data is unavoidable (to take into account the case for instance of foreign transport operators which also operate on a national territory and would be declared then in the TP1s of both countries), but it must be checked if it's still the case for other transport modes. Therefore the cost of developing a single central TP1 is much less than the added costs of the deployment of each local TP1

Further technical issues do deal with in the future

33. The ongoing experimental work concerning the implementation of TP1/TP2 architectures led to discover the following technical issues which have to be addressed in the future and which are briefly mentioned below.

34. In order to operate in full transparency with the transport operators, there can be a need to send back to the TP2 a message indicating which kind of authority (enforcement agent, emergency service ...) had sent a request for data and which data was asked for. It has been generally agreed that this would be a good idea.

35. In the case of road transport, even if they are unambiguously identified by a unique VIN number kept in a European register, each transport unit is practically identified by its license plates. The problem arising from similar plate numbers issued by different countries must be solved, maybe by defining an appropriate country identification variable in the database.

36. Another practical issue raised is dealing with requests on partial plate numbers (a situation which may happen during a TDG accident) which requires further investigation.

37. To make the TP1/TP2 architecture more user-friendly, the case of the registration to more than one TP2 shall also be examined. This can happen in the case of some (usually small) transport companies who do transport operations as subcontractors for more than one

bigger company, which each declare the corresponding transport units in their own TP2. The same case appears with multi-loading, when a transport unit is loaded with dangerous goods packagings from more than one company, all of which are editing the corresponding transport documents through their own data base.

38. Finally, a backing of the dematerialized transport documents in Portable Document Format (PDF) seems to be a convenient method to avoid impossibility of accessing the data in case of white spots or other communication line problems, which however needs careful definition of the way of dealing with successive versions of those documents.

Summary of the work to do with the impact assessment document

39. At the end of the discussions, it has been agreed that a modified impact assessment document would be prepared by for submission to the RID/ADR/ADN Joint Meeting at the Spring 2016 session. As this may require substantial work it was noted that a information document could complement this report that should be sent as an official paper.

40. It was agreed that France will propose a modified draft impact assessment mentioning the basic use cases agreed before (paperless transport document, improved emergency response, statistics) It was also agreed that keeping the number of use cases at a reasonable level would be preferable at this point. However this shall not exclude the development of new uses, therefore in general any system to be put in place shall remain flexible and open to improvements.

41. For the cost/benefits analysis, the impact assessment will include some costs inherent for servers and technical developments which could be based on the feedback of the ongoing experiment of TP1/TP2 implementation in France.

42. The different technical options, in particular the single versus multiple TP1 interfaces will be addressed, with the corresponding service levels and indication of associated costs.

43. It's noted that for the impact assessment document, further work is needed :

- for getting information on TAF-TSI assessments
- for getting data and costs figures concerning the impact of paperless documentation especially for tank transport companies
- for getting data concerning average expenses and consolidating global statistical figures .

44. Finally, all the members of the informal working group are kindly asked to contribute to the draft impact assessment document by providing relevant transport and cost data when available, which will consolidated by France in the impact assessment document.

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