DECISIONS

COMMISSION DELEGATED DECISION (EU) 2017/1474

of 8 June 2017

supplementing Directive (EU) 2016/797 of the European Parliament and of the Council with regard to specific objectives for the drafting, adoption and review of technical specifications for interoperability

(notified under document C(2017) 3800)

(Text with EEA relevance)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Directive (EU) 2016/797 of the European Parliament and of the Council of 11 May 2016 on the interoperability of the rail system within the European Union ([1]), and in particular Article 5(1) thereof,

Whereas:

(1) While Article 4 of Directive (EU) 2016/797 sets out the content and some general objectives of the technical specifications for interoperability ('TSIs'), that Directive does not set out the specific objectives for each TSI but empowers the Commission to adopt delegated acts for that purpose.

(2) This Decision sets out a coherent set of specific objectives which should be integrated in the TSIs to improve interoperability while making it possible to facilitate, improve and develop rail transport services within the Union and with third countries and contribute to the completion of the single European railway area and the progressive achievement of the internal market.

(3) Those specific objectives in the TSIs should be implemented by means of requests to the European Union Agency for Railways (the 'Agency') in accordance with Article 5(2) of Directive (EU) 2016/797. Those requests should be based on the Commission's own priorities and on the availability of resources within the Agency. For each specific objective, the recommendations of the Agency should include cost benefit analyses and impact assessments of the technical solutions considered to allow the Commission to select the most viable solutions and establish the TSIs by means of implementing acts according to the examination procedure referred to in Article 51(3) of Directive (EU) 2016/797.

(4) In terms of scope of application, the existing TSIs satisfactorily cover all subsystems defined in Annex II to Directive (EU) 2016/797. However, in line with 'better regulation' principles, in order to reduce the number of legislative acts and in order to further increase the coherence between TSIs, the scope of specific TSIs should be reviewed and possibly some of them should be restructured or merged to avoid duplication and to provide a more direct correspondence between subsystems, essential requirements and TSIs. That should take into account the stability necessary in railway legislation.

(5) In order to ensure coherence of the legislation, the possible impacts and interfaces between TSIs and between TSIs and existing strategies, policies and legislation should be taken into account. It should also be considered whether the proposed solutions, or specific elements, should be included in the TSI itself or in related documents and legislation. Furthermore, the TSIs should, whenever possible, preserve the TSI provisions which remove technical barriers to interoperability, in particular provisions facilitating the free movement of vehicles throughout the Union.

(6) TSIs revisions should take into account the experience of the railway sector regarding unclear requirements or other unintended impacts and costs resulting from the TSIs, including in particular the experience of Rail Freight Corridors or experiences resulting from the application of the TSIs to low density lines.

([1]) OJ L 138, 26.5.2016, p. 44.

(7) TSIs revisions should also take into account the need to achieve the right balance between a rule-based approach, which allows to facilitate technical compatibility in particular at the interfaces between subsystems, but also between interoperability constituents and subsystems, and a risk-based approach, which allows to facilitate technical progress and innovative solutions, in particular when specifying functions and performances.

(8) TSIs revisions should take into account the developments of the railway system and related research and innovation activities, in particular but not limited to Shift2Rail, keeping the margin of manoeuvre for innovation, and integrating innovations when they reach an appropriate level of maturity determined by the Agency.

(9) In terms of the technical coherence of the 1 520 mm track gauge railway networks in the Union and of vehicles operated on those networks, relevant TSIs should take into account the evolution of technical requirements applicable in the 1 520 mm track gauge networks of third countries.

(10) In order to facilitate their promotion and possible adoption outside the Union, and to facilitate interchange between third country networks and the Union, TSIs may include voluntary provisions taking into account requirements common in other geographical areas, for example higher axle loads for heavy trains.

(11) In order to allow TSIs to keep up with developments in standards and other technical documents, TSIs should integrate references to those documents in a way which makes it possible to update them in a timely manner while providing for the necessary transitions between standards or between versions of standards.

(12) In accordance with Article 4(3)(f) of Directive (EU) 2016/797, most TSIs include clauses defining the strategy for their application in order to make a gradual transition from the existing situation to a situation of compliance with the TSI. There is however confusion in the rail sector on the concrete application of those clauses. The strategies for application should thus be reviewed and, to the extent possible and depending on the nature of each TSI, be simplified and be consistent in the various TSIs, especially the TSIs relating to rolling stock. The possibility to allow a mixed application of a TSI and of its previous version during the transition period should be considered. Additionally, the validity period of the certificates for interoperability constituents and subsystem should be defined in the TSIs, and should be coherent between TSIs.

(13) Article 4(3)(h) of Directive (EU) 2016/797 allows TSIs to include provisions applicable to existing subsystems and vehicles, in particular in the event of their upgrading and renewal. Those provisions can give rise to legal uncertainty in case of authorisations which are already issued, therefore there should be particular attention to the preliminary analysis of the related costs and benefits and to the definition of the modification works which require an application for a new authorisation.

(14) In order to ensure efficiency in the processes of placing on the market and placing in service of vehicles, the TSIs should provide certainty as to which parameters of a vehicle should be checked as part of the authorisation procedures in accordance with Articles 21 and 24 of Directive (EU) 2016/797 and which parameters should be checked by the railway undertakings after the delivery of the vehicle authorisation for placing on the market and before the first use of the vehicle to ensure compatibility between vehicles and the routes on which they are to be operated. The TSIs should also clarify the procedures to be followed by the railway undertakings to ensure compatibility between complete trains, including intermodal transport units, and the routes on which they are to be operated as well as, to the extent possible, the information to be provided by the infrastructure managers and the conditions under which railway undertakings should be granted network access to carry out related tests.

(15) In addition to the requirements of Article 5(2)(a) of Directive (EU) 2016/797 on the identification of basic parameters and of interfaces between subsystems, the tables of the TSIs listing the links between the basic parameters and the essential requirements set out in Annex III of Directive (EU) 2016/797 should also be updated in order to ensure a coherent approach among all TSIs.

(16) In order to enable easy substitution during maintenance, to allow for economies of scale and to reduce maintenance costs and obsolescence, the modularity of the railway system should be improved. To that end, the number of interoperability constituents should be reviewed and increased where suitable, thereby encouraging the use of commercial off-the-shelf products and spare parts and reaping the benefits of standardisation.

(17) The notification of conformity assessment bodies places significant administrative burden on the Member States and the Commission. In order to increase efficiency and reduce delays, a simplified process should be proposed for additional notifications if only limited or no additional competences are required from a conformity

assessment body that has already been notified for a previous version of a TSI. In order to avoid uncertainty, each TSI should specify whether the full process for notification is to be followed or whether notification can be automatically extended to the revised TSI or a simplified process can be applied and under which conditions.

(18) Since in some cases the description of the roles and responsibilities between applicant and notified bodies is not precise enough, leading to confusion and to divergent interpretations and implementation of the procedures for conformity assessment of interoperability constituents and subsystems, those procedures should be reviewed and the Commission should in parallel adopt implementing acts revising the ad hoc modules for conformity assessment, in line with Article 24(6) of Directive (EU) 2016/797. Additionally, the range of modules allowed for each interoperability constituent and subsystem should be revised and, if possible, streamlined in order to improve the efficiency of the process and to avoid unnecessary costs.

(19) When considering possible solutions to safety-related issues, all possible causes of those issues should be considered, including, to the extent possible, those linked to security incidents, for example passenger safety in the aftermath of an explosion.

(20) The European Railway Traffic Management System ('ERTMS'), the telematics applications for passengers ('TAP') and the telematics applications freight ('TAF') are the backbone of railway digitalisation. Therefore, the relevant TSIs should be amended where appropriate to support the digitalisation of the railway sector.

(21) Several TSIs still have open points. Those open points are elements that correspond to essential requirements and thus require harmonisation, but are not yet covered by the TSIs in question. Therefore, those open points should be addressed in order to reduce the number of national rules, with the objective to achieve full interoperability and contribute to the functioning of the single market.

(22) In line with Article 6 of Directive (EU) 2016/797, TSIs are to be amended if it appears that they have deficiencies.

(23) Commission Regulation (EU) No 1302/2014 [1] ('LOC&PAS TSI') and Commission Regulation (EU) No 321/2013 [2] ('WAG TSI') should be developed further to assure continued interoperability while enhancing the attractiveness and effectiveness of the railway system. The main points which should be developed are the introduction of the provisions specifically relevant for 1 520 mm track gauge railway networks, optional provisions for facilitating the composition of passenger trains, including backward compatibility with the International Coach Regulations ('RIC' — Regolamento Internazionale delle Carrozze), automatic variable gauge systems, ease of passenger access to passenger coaches, measures to increase productivity of rail freight such as automatic coupling systems and harmonised identification for freight wagons. Measures to improve the protection of train drivers should also be considered, including control of the driving and rest times for train drivers, the design of the driving cabin and the corresponding requirements with particular focus on health and safety at work and operational safety, including the issue of noise in the cabin.

(24) The Regulations concerning the International Carriage of Dangerous Goods by Rail ('RID') [3] are established on the European Union territory by Directive 2008/68/EC of the European parliament and of the Council [4]. The RID Committee of Experts introduced a provision in RID Regulation of 2013 allowing derailment detection devices to be installed on freight wagons on a voluntary basis. Based on numerous studies on the costs and benefits of those devices, the working group set up by the RID Committee recommended that the Commission revise all relevant TSIs in order to include the derailment detection function in terms of technical requirements, operational aspects and conformity assessment procedures [5]. Provisions should also be studied on both rolling stock and infrastructure side to minimise safety impacts on persons and environment in case of derailment, taking into account the roles and responsibilities of the relevant actors. In particular, protruding objects at the edge of the tracks, such as rail markers which can perforate tanks carrying dangerous goods in the event of an accident, should be avoided or other mitigating measures adopted.

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[1] Commission Regulation (EU) No 1302/2014 of 18 November 2014 concerning a technical specification for interoperability relating to the 'rolling stock — locomotives and passenger rolling stock' subsystem of the rail system in the European Union (OJ L 356, 12.12.2014, p. 228).

[2] Commission Regulation (EU) No 321/2013 of 13 March 2013 concerning the technical specification for interoperability relating to the subsystem 'rolling stock — freight wagons' of the rail system in the European Union and repealing Decision 2006/861/EC (OJ L 104, 12.4.2013, p. 1).

[3] Appendix C to the Convention concerning International Carriage by Rail (COTIF) concluded at Vilnius on 3 June 1999, as amended.

[4] Directive 2008/68/EC of the European parliament and of the Council of 24 September 2008 on the inland transport of dangerous goods (OJ L 260, 30.9.2008, p. 13).

[5] Annex II to the Report of the 5th session of the RID Committee of Experts' working group on derailment detection (OTIF/RID/CE/GTDD/2016-A, Berne, 19 and 20 April 2016).

(25) As regards Commission Regulation (EU) No 1304/2014 ([1]) ('NOI TSI'), experts generally agree that one of the most effective ways to mitigate rail noise is by retrofitting the existing freight wagons with composite brake blocks. This technical solution reduces rail noise by up to 10 dB which equals to a 50 % reduction in audible noise for humans. Therefore, in order to address rail freight noise, existing freight wagons should be retrofitted with composite brake blocks, or other appropriate solutions should be adopted. A gradual implementation of these solutions might be considered, taking into account their estimated costs and benefits.

(26) In order to adjust a discrepancy resulting from a revision of the WAG TSI, the NOI TSI should include a noise test of composite brake blocks to address rail freight noise, including where necessary through trackside monitoring or, if possible, through acoustic testing of composite brake blocks on a bench test.

(27) The ERTMS European Deployment Plan ([2]) has been adopted on 5 January 2017 in accordance with Article 47 of the TEN-T guidelines and is applicable to the Core Network Corridors. Commission Regulation (EU) 2016/919 ([3]) ('CCS TSI') should be adjusted to provide for a coherent deployment of the ERTMS throughout the railway network within the Union, taking the ERTMS European Deployment Plan into account.

(28) The ERTMS Longer Term Perspective report adopted by the Agency on 18 December 2015 ([4]) with the sector identifies technological elements essential to support the ERTMS business case. Those elements include Automatic Train Operation, Level 3, braking curve optimisation, new generation of telecommunication system and satellite positioning. The ETCS and GSMR specifications should take those elements into account and should be modified as appropriate while taking account of the necessary stability of the ERTMS. The impact on other TSIs should be taken into account.

(29) In view of the increased use of coupled locomotives and multiple units, Commission Regulation (EU) No 1301/2014 ([5]) ('ENE TSI') should be reviewed as regards requirements in case of simultaneous operation of multiple pantographs in contact with overhead contact lines resulting from the use of such vehicles. Related operational issues should also be considered. The ENE TSI and other TSIs should also include where appropriate provisions to assure continued interoperability while improving energy efficiency of the relevant subsystems.

(30) Commission Regulation (EU) No 1299/2014 ([6]) ('INF TSI') should include provisions ensuring continued interoperability while allowing for the reduction of infrastructure maintenance costs through the use of, among others time-based maintenance, sensors and condition monitoring technologies.

(31) Commission Regulation (EU) No 1300/2014 ([7]) ('PRM TSI') should be updated to include the latest developments in terms of identifying and eliminating obstacles to accessibility and monitoring the progress of accessibility, in line with Article 7(3) on inventory of assets and Article 8(5) and (7) on national implementation plans of Regulation (EU) No 1300/2014. Common European priorities to further the implementation of the PRM TSI can also be identified on the basis of the National Implementation Plans. This should include a review of permanent structural solutions that may be required in passenger coaches to ensure equal access to extra services for persons with reduced mobility, including in particular access to restaurant cars.

(32) Commission Decision 2012/757/EU ([8]) ('OPE TSI') should be subject to regular monitoring, and where justified revised, to ensure that it continues to be up to date and delivers optimal harmonisation and safety and interoperability of operational requirements at interface level between the railway undertaking and infrastructure

([1]) Commission Regulation (EU) No 1304/2014 of 26 November 2014 on the technical specification for interoperability relating to the subsystem 'rolling stock — noise' amending Decision 2008/232/EC and repealing Decision 2011/229/EU (OJ L 356, 12.12.2014, p. 421).
([2]) Commission Implementing Regulation (EU) 2017/6 of 5 January 2017 on the European Rail Traffic Management System European deployment plan (OJ L 3, 6.1.2017, p. 6).
([3]) Commission Regulation (EU) 2016/919 of 27 May 2016 on the technical specification for interoperability relating to the 'control-command and signalling' subsystems of the rail system in the European Union (OJ L 158, 15.6.2016, p. 1).
([4]) European Railway Agency, ERA-REP-150 of 18 December 2015.
([5]) Commission Regulation (EU) No 1301/2014 of 18 November 2014 on the technical specifications for interoperability relating to the 'energy' subsystem of the rail system in the Union, (OJ L 356, 12.12.2014, p. 179).
([6]) Commission Regulation (EU) No 1299/2014 of 18 November 2014 on the technical specifications for interoperability relating to the 'infrastructure' subsystem of the rail system in the European Union (OJ L 356, 12.12.2014, p. 1).
([7]) Commission Regulation (EU) No 1300/2014 of 18 November 2014 on the technical specifications for interoperability relating to accessibility of the Union's rail system for persons with disabilities and persons with reduced mobility (OJ L 356, 12.12.2014, p. 110).
([8]) Commission Decision 2012/757/EU of 14 November 2012 concerning the technical specification for interoperability relating to the 'operation and traffic management' subsystem of the rail system in the European Union and amending Decision 2007/756/EC (OJ L 345, 15.12.2012, p. 1).

managers, in particular in the case of cross border operations. It should also take into account the developments related to (i) the ERTMS technological elements essential to support the ERTMS business case referred to in Recital (28); (ii) safety culture and human factors; and (iii) train/route compatibility.

(33) In addition, pursuant to Article 36 of Regulation (EU) 2016/796 of the European Parliament and of the Council ([1]), the Commission is to request the Agency to issue recommendations relating to definition of skills and qualifications for all staff performing safety-critical tasks and to their inclusion in the OPE TSI or in other relevant legislation. Those recommendations should cover not only train drivers, but also other on-board staff carrying safety-related tasks that can require specific training, and staff involved in the operation and maintenance of the railway system.

(34) Following the introduction of fire fighting points requirements for the management of hot incidents in Commission Regulation (EU) No 1303/2014 ([2]) ('SRT TSI') and given related feedback from the sector, SRT TSI operational requirements should be revised in view of harmonisation of the evaluation of evacuation capability, for instance in relation to the distance between two lateral or vertical exits. The need to include provisions to ensure communication between on-board staff on one side and infrastructure manager and emergency services on the other side should also be evaluated and related provisions included where appropriate.

(35) Commission Regulation (EU) No 1305/2014 ([3]) ('TAF TSI') should include information facilitating the exchange of wagons, combined or multi-modal transport, the development of the rail freight corridors and occurrence reporting, taking into account links with other related tools. That should include a simplified procedure for the update of the technical baseline of the TAF TSI in accordance with the TAF TSI Change Control Management process referred to in Section 7.2 of the Annex to Regulation (EU) No 1305/2014. In addition, a study should be carried out on the possibility to exchange TAF TSI data with safety related applications, for example in the case of dangerous goods or exceptional consignments. The TSI should also be amended to allow the Agency to assess the compliance of the IT tools deployed by the European rail sector against the TSI requirements. Furthermore, Section 2.3.2 of the Annex to Regulation (EU) No 1305/2014 which requires contractual agreements for lead railway undertakings to provide information to stakeholders could constitute a barrier for the digitalisation of railways and therefore it should be reviewed.

(36) The Commission Regulation (EU) No 454/2011 ([4]) ('TAP TSI') should be reviewed in order to further facilitate the use of digital ticketing including control and settlement of payment between the participants, especially in the light of the development of the industry-driven 'Full Service Model' initiative. The TSI should also take into account the PRM TSI revisions and of suitable Change Requests through the established TAP TSI Change Control Management process. The share of the tasks related to managing the centralised data structures should be reviewed to take into account the new tasks and responsibilities of the Agency as system authority and the governance body defined in the TAP Governance document ([5]) and established by the sector with a view to accelerate the implementation of the TAP TSI. Improvements to facilitate the emergence of through-ticketing and multi-modal travel information systems should also be pursued, notably through the access to and exchange of relevant railway travel data with stakeholders along the multimodal value chain. In addition, the TAP-TSI should aim to facilitate the emergence of integrated mobility services. The TSI should also be amended to allow the Agency to assess the compliance of the IT tools deployed by the European rail sector with the TSI requirements,

([1]) Regulation (EU) 2016/796 of the European Parliament and of the Council of 11 May 2016 on the European Union Agency for Railways and repealing Regulation (EC) No 881/2004 (OJ L 138, 26.5.2016, p. 1).
([2]) Commission Regulation (EU) No 1303/2014 of 18 November 2014 concerning the technical specification for interoperability relating to 'safety in railway tunnels' of the rail system of the European Union (OJ L 356, 12.12.2014, p. 394).
([3]) Commission Regulation (EU) No 1305/2014 of 11 December 2014 on the technical specification for interoperability relating to the telematics applications for freight subsystem of the rail system in the European Union and repealing the Regulation (EC) No 62/2006 (OJ L 356, 12.12.2014, p. 438).
([4]) Commission Regulation (EU) No 454/2011 of 5 May 2011 on the technical specification for interoperability relating to the subsystem 'telematics applications for passenger services' of the trans-European rail system (OJ L 123, 12.5.2011, p. 11).
([5]) Document B.61 referenced in Annex V of the TAP TSI.

HAS ADOPTED THIS DECISION:

Article 1

Subject matter and scope

This Decision sets out the specific objectives according to which new technical specifications for interoperability ('TSIs') shall be developed or existing TSIs shall be amended.

Article 2

Tasks of the Agency

In drafting TSIs and amendments thereto upon the Commission requests pursuant to Article 5(2) of Directive (EU) 2016/797, the Agency shall follow the specific objectives laid down in Articles 3 to 14 of this Decision.

The Agency shall make recommendations to the Commission after taking into account the estimated costs and benefits of the specific objectives referred to in the first subparagraph.

Article 3

Common specific objectives

1. The TSIs shall cover the whole Union railway system in a way which avoids duplication, provides a more direct correspondence between subsystems, essential requirements and TSIs, and allows for a coherent definition of the strategies for the application of the TSIs.

For that purpose, different possible scenarios and corresponding impact assessments shall be developed.

2. The geographical and technical scope of each TSI shall be reviewed to take into account the requirements set out in Article 1(3) to (5) of Directive (EU) 2016/797.

3. TSIs shall be reviewed where appropriate to ensure the right balance between rule-based and risk-based approaches.

4. The correspondence between the basic parameters and the applicable essential requirements shall be reviewed for each TSI as well as the interfaces with the other subsystems.

5. The TSIs shall, where appropriate, include provisions which:

(a) take into account possible impact on and interfaces with other TSIs and existing relevant strategies, policies and Union legislation, and ensure coherence between them. The TSIs shall, whenever possible, preserve the provisions in force aimed at removing technical barriers to interoperability;

(b) take into account the developments of the Union railway system and related research and innovation activities, and integrate them when they reach the appropriate level of maturity;

(c) close the remaining open points;

(d) take into account the evolution of technical requirements applicable in the 1 520 mm track gauge networks of third countries;

(e) harmonise definitions, in addition to the ones listed in Directive (EU) 2016/797, between TSIs;

(f) integrate references to standards and to other technical documents evolving regularly in a way which allows their updating in a timely manner;

(g) review the number of interoperability constituents and, where appropriate, increase it;

(h) indicate whether the conformity assessment bodies which were already notified on the basis of a previous version of the TSI, need to be re-notified, and whether a simplified notification process shall be applied. In all cases, the related conditions applicable shall be specified;

(i) take into account the sector's best practice and review the choice of modules prescribed in the procedures for conformity assessment of interoperability constituents and subsystems;

(j) reduce the risk of derailment as well as the safety impact on people and the environment in case of derailment;

(k) in considering possible solutions to safety-related issues, take into account all possible causes of those issues including, to the extent possible, those linked to security incidents, without compromising safety or interoperability;

(l) improve energy efficiency of the relevant subsystems.

6. TSIs related to information and communication systems shall take into account open source and open data architecture requirements.

7. The application of the modules for conformity assessment of interoperability constituents and subsystems, including possible revisions of the content of the relevant chapters of the TSIs as well as the need for new or revised ad-hoc modules or the migration towards the standard modules set out in Annex II to Decision No 768/2008/EC of the European Parliament and of the Council ([1]) shall be clarified. To that purpose a study shall be carried out which shall set out:

(i) the roles and responsibilities of the stakeholders involved in the conformity assessment procedures;

(ii) an extended scope to include also the conformity assessment procedures related to notified national technical rules;

(iii) the elements of the procedures referred to in point (ii), including the content of the technical file, and the sequencing of the assessment stages;

(iv) the templates of certificates of verification and their period of validity in the case of certification according to the relevant TSI or to the national rules;

(v) the conditions under which interoperability constituents may be certified according to repealed TSIs;

(vi) the elements of the surveillance and the renewal audits where assessment based on quality management system(s) apply, including the conditions under which unexpected visits of the premises of the applicant shall be carried out.

Article 4

Specific objectives applicable to LOC&PAS TSI

1. The provisions on automatic variable gauge systems of Regulation (EU) No 1302/2014 ('LOC&PAS TSI'), including in terms of technical specifications and conformity assessment procedures, shall be reviewed.

2. Provisions facilitating passenger access to passenger coaches shall be included where appropriate in the LOC&PAS TSI, taking into account the interfaces with the infrastructure.

3. The LOC&PAS TSI shall include optional modalities facilitating:

(a) the authorisation of vehicles in large areas of use; and

(b) the composition of passenger trains, including the backward compatibility with the International Coach Regulations ('RIC' — Regolamento Internazionale delle Carrozze).

4. Requirements for an improved protection of train drivers shall be included where appropriate in the LOC&PAS TSI in terms of health and safety at work as well as operational safety. Specifications for tools for the control of the driving and rest times for train drivers shall be defined.

5. The LOC&PAS TSI shall take into account changes in the procedure for placing mobile subsystems on the market, as provided for in Articles 20 to 26 of Directive (EU) 2016/797, including the checks before the first use of authorised vehicles mentioned in Articles 4(3)(i) and 23 of that Directive.

([1]) Decision No 768/2008/EC of the European Parliament and of the Council of 9 July 2008 on a common framework for the marketing of products (OJ L 218, 13.8.2008, p. 82).

Article 5

Specific objectives applicable to WAG TSI

1. Without prejudice to Article 21(16) of Directive (EU) 2016/797, Regulation (EU) No 321/2013 ('WAG TSI') shall include the vehicles to be authorised and operated on rail networks within the Union with a track gauge of 1 520 mm.

2. The provisions of the WAG TSI on automatic variable gauge systems, including in terms of technical specifications and conformity assessment procedures, shall be reviewed.

3. The WAG TSI shall include provisions to increase flexibility and efficiency in train composition and the development of intermodal transport. Provisions on automatic coupling shall be included where appropriate.

4. The WAG TSI shall ensure consistency and avoid any overlap with the Regulations concerning the International Carriage of Dangerous Goods by Rail ('RID') as regards technical requirements applicable to vehicles. The inclusion of the derailment detection function shall be considered in terms of technical requirements, operational aspects and conformity assessment procedures.

5. The WAG TSI shall include requirements improving the identification of freight wagons. The use of contactless technologies and related standards shall be included where appropriate.

6. The WAG TSI shall take into account changes in the procedure for placing mobile subsystems on the market, as provided for in Articles 20 to 26 of Directive (EU) 2016/797, including the checks before the first use of authorised vehicles mentioned in Articles 4(3)(i) and 23 of that Directive.

Article 6

Specific objectives applicable to NOI TSI

1. Regulation (EU) No 1304/2014 ('NOI TSI') shall include provisions to effectively address rail freight noise by retrofitting of existing freight wagons with composite brake blocks, or via other appropriate solutions.

2. A procedure aimed at testing the acoustic performance of composite brake blocks shall be included in the NOI TSI. The use of composite brake blocks mentioned in Appendix G to Regulation (EU) No 321/2013 shall be allowed. Where necessary, additional testing may be required through either trackside monitoring or acoustic testing of composite brake blocks on a bench test.

Article 7

Specific objectives applicable to CCS TSI

1. Regulation (EU) 2016/919 ('CCS TSI') shall be reviewed to simplify the procedure for the update of its technical baseline in accordance with the Change Requests established through the CCS TSI Change Control Management process.

2. The CCS TSI shall be revised in order to provide for a coherent deployment of the ERTMS throughout the railway network within the Union. Simple on-board architectures and reduced number of software versions shall be targeted for a cost-efficient deployment.

3. The CCS TSI shall modify the ETCS and GSM-R specifications taking into account a cost benefit analysis relating to new projects and past investments. It shall include both technical and migration regulatory frameworks for addressing the technological elements identified in the ERTMS Longer Term Perspective Report.

4. The CCS TSI shall provide a mechanism for a swift correction of errors taking into account the compatibility between trackside and on-board subsystems. That mechanism shall include corrective measures to ensure compatibility of ERTMS implementation without jeopardising the stability of the ERTMS. Additional measures to ensure technical compatibility between trackside and on-board subsystems shall be included where appropriate.

5. The CCS TSI shall enable migration of technologies that can be used by both the trackside and on-board subsystem, from GSM-R to a next generation communication system, taking into account the balance between railways specific and general telecom standards.

Article 8

Specific objectives applicable to ENE TSI

Regulation (EU) No 1301/2014 ('ENE TSI') shall be reviewed as regards the technical requirements applicable to the simultaneous operation of multiple pantographs in contact with overhead contact lines resulting from the use of coupled locomotives and multiple units. Related operational issues shall also be included where appropriate.

Article 9

Specific objectives applicable to INF TSI

1. Provisions ensuring continued interoperability within the subsystem and, where appropriate, with other subsystems, while allowing for the reduction of infrastructure maintenance costs through the use of in particular time-based maintenance, sensors and condition monitoring technologies, shall be included in Regulation (EU) No 1299/2014 ('INF TSI').

2. The INF TSI shall include provisions on automatic variable gauge systems, including in terms of technical specifications and conformity assessment procedures.

Article 10

Specific objectives applicable to PRM TSI

1. Regulation (EU) No 1300/2014 ('PRM TSI') shall be revised to lay down requirements on the inventory of assets referred to in its Article 7 of that Regulation.

It shall include provisions related to the designation of the entities responsible for providing the related data and provisions which lay down a schedule for the establishment of the inventory of assets by the Member States.

Those provisions shall be based on the Agency's recommendation referred to in Article 7(2) of that Regulation and on the best practices resulting from the implementation of the inventories of assets established by each Member State.

2. The PRM TSI shall define common priorities and criteria to further improve accessibility to persons with reduced mobility based on the comparative overview of the strategies contained in the national implementation plans referred to in Article 8 of Regulation (EU) No 1300/2014.

Those priorities and criteria shall take into account the best practices resulting from the development and implementation of those plans.

3. The PRM TSI shall provide a clear definition of manual and electrical wheelchairs and the requirements applicable to innovative electric wheelchairs to access passenger trains safely.

Article 11

Specific objectives applicable to OPE TSI

1. The Decision No 2012/757/EU ('OPE TSI') shall define fundamental operational principles and common operational rules in order to allow for the reduction of the number of national rules.

2. The OPE TSI shall include provisions to ensure compatibility between complete trains and the routes on which they are to be operated.

3. The OPE TSI shall take into account the development of standardised communication methods and protocols, as well as standardised data exchange systems.

4. The OPE TSI shall take into account developments of the registers referred to in Articles 47, 48 and 49 of Directive (EU) 2016/797.

5. The OPE TSI shall define the scope of the open points for operations and distinguish between national applicable rules and rules requiring harmonisation through Union law in order to allow for migration to an interoperable system defining the optimal level of technical harmonisation.

6. The OPE TSI shall provide for the development of coherent links to the operational requirements of the safety management systems of the infrastructure managers and railway undertakings. This shall include ensuring that safety culture and human factors are adequately taken into account.

7. Where appropriate, the OPE TSI shall define skills and qualifications for all staff performing safety-critical tasks that are not covered in other relevant legislations.

Article 12

Specific objectives applicable to SRT TSI

1. The operational requirements of Regulation (EU) No 1303/2014 ('SRT TSI') shall be revised in view of harmonisation of the evaluation of evacuation capability, for instance in relation to the distance between two lateral or vertical exits.

2. Provisions on communication between on-board staff on one side and infrastructure manager and emergency services on the other side shall be included where appropriate.

Article 13

Specific objectives applicable to TAF TSI

1. Regulation (EU) No 1305/2014 ('TAF TSI') shall be revised in order to simplify the procedure for the update of its technical baseline in accordance with the TAF TSI Change Control Management process referred to in Section 7.2 of the Annex to that Regulation.

2. The content and structure of messages defined in the TAF TSI in relation to exchange of wagons and train composition shall be revised and, where appropriate, simplified.

3. The content and structure of messages defined in the TAF TSI in relation to combined or multi-modal transport shall be revised and, where they are not available, they shall be developed in order to facilitate logistics and operations.

4. Where appropriate, the TAF TSI shall include data which shall be exchanged with safety related applications.

5. The links between the TAF TSI databases and the tools used to improve the performance of rail freight shall be reviewed.

6. The TAF TSI shall allow the Agency to assess the compliance of the IT tools deployed by the European rail sector with the TSI requirements.

7. The TAF TSI shall not impose requirements on railway undertakings, which could constitute a barrier for the digitalisation of railways.

Article 14

Specific objectives applicable to TAP TSI

1. Regulation (EU) No 454/2011 ('TAP TSI') shall be revised in order to simplify the procedure for the update of its technical baseline in accordance with the TAP TSI Change Control Management process referred to in Section 7.5.2 of the Annex to that Regulation.

2. The geographical scope of the TAP TSI shall be the geographical scope of the TAF TSI.

3. Where appropriate, the TAP TSI shall take into account the essential requirement 'Accessibility' as defined in Annex III, point 1.6 of Directive (EU) 2016/797.

4. The TAP TSI shall take into account the revision of the TSI PRM, in particular as regards the Inventories of Assets and, where appropriate, the industry-driven Full Service Model initiative.

5. The TAP TSI shall define the share of the tasks related to the management of centralised data structures to take into account the new tasks and responsibilities of the Agency and the governance body established by the sector with a view to accelerate the TAP TSI implementation.

6. The TAP TSI shall aim to facilitate the emergence of through-ticketing, integrated ticketing and multi-modal travel information and reservation systems.

7. The TAP TSI shall allow the Agency to assess the compliance of the IT tools deployed by the European rail sector with the TSI requirements.

Article 15

This Decision shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

Done at Brussels, 8 June 2017.

For the Commission
The President
Jean-Claude JUNCKER