

NSA Annual Safety Report 2017

*in accordance with Article 18 of
Directive 2004/49/EC*



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List of abbreviations

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| ASR | Annual Safety Report |
| Authority | Croatian Railway Safety Authority |
| Authorisation | Safety authorisation of a railway Infrastructure Manager |
| Certificate | Safety certificate of a Railway Undertaking |
| CSI | Common Safety Indicator |
| CSM | Common Safety Method |
| ECM | Entity in Charge of Maintenance |
| ERA | European Railway Agency |
| Ministry | Ministry of the Sea, Transport and Infrastructure |
| NIB | National Investigation Body |
| RA | Railways Act No 94/2013, 148/2013 OJ |
| RSIA | Railway Safety and Interoperability Act No 82/2013 OJ |
| RMV | Rail motor vehicle |
| RS | Rolling stock |
| SIRS | Safety and Interoperability of the Railway System |
| SMS | Safety management system |
| VKM | Vehicle Keeper Marking |
| HŽI | state owned Infrastructure Manager in the Republic of Croatia HŽ Infrastruktura d.o.o. |



A. Scope of the annual report

The Annual Safety Report for 2017 (hereinafter referred to as the “ASR”) contains railway safety indicators for the railway infrastructure in Croatia for 2017 and information about the activities of the Croatian Railway Safety Agency (hereinafter referred to as the “Authority”) acting as a safety authority in the field of railway safety. Data on urban railways are not included in this report.

B. Introduction

1. Introduction to the report

The obligation to draw up the ASR arises from the provisions of Section 17(2) of the national Safety and Interoperability of the Railway System Act (hereinafter referred to as the SIRS Act) and from Article 18 of Directive 2004/49/EC of the European Parliament and of the Council of 29 April 2004 on safety on the Community’s railways and amending Council Directive 95/18/EC on the licensing of railway undertakings and Directive 2001/14/EC on allocation of railway infrastructure capacity and the levying of charges for the use of railway infrastructure and safety certification (hereinafter referred to as ‘Railway Safety Directive 2004/49/EC’).

The purpose of this ASR is to provide information about the level of railway safety in the Republic of Croatia.

The goal is to continuously improve the level of railway safety as well as to inform stakeholders on how the level of safety is being improved.

2. Croatian railways infrastructure information

The railway infrastructure in the Republic of Croatia (with the exception of railway sidings) is owned by the State. The railway infrastructure is managed and operated by HŽI. For the purposes of this ASR, the railway infrastructure includes main and secondary railway lines.

Construction length of tracks

The total construction length of tracks is 3949 km, of which 2858 km are main tracks and 1091 km are other station tracks. There are 4284 switches and 33 crossings.

Construction length of railway lines:

The construction length of railway lines totals 2604 km, of which 2350 km are single track lines and 254 km are double track lines.



Bridges

As a Part of the railway infrastructure, 538 bridges have been built, 214 being steel construction bridges and 324 solid bridges. The total length of bridges is 21389 m.

Tunnels

The railway infrastructure also includes 109 tunnels. All are single-track. The total length of railway infrastructure tunnels is 29650 m.

Level crossings

Level crossings represent the most critical place in terms of railway safety. A total of 1512 level crossings (including pedestrian crossings as well) have been built as a part of the railway infrastructure.

There are 1441 level crossings (without pedestrian crossings). There are 554 crossings secured with signalling systems and 887 crossings are secured only with road signals. There are 71 pedestrian crossings included, 60 only with signs and 11 with light signalling systems. During the modernisation of railway tracks or in other large reconstructions, the level crossings are usually being replaced with grade-separated crossings.

Track signalling systems

The total length of railway tracks protected by single direction automatic block is 899 km of which 810 km is equipped with discrete speed supervision system (I 60) and 52 km is equipped with continuous speed supervision system (ETCS L1 – Railway line Vinkovci to Tovarnik to state border).

The total length of tracks using a telephone communication system to ensure the railway safety is 1890 km. 210 km of railway lines is still equipped with manual wire operated signalling system.

Station signalling systems

In total, there are 52 interlocking devices which use mechanical and electromechanical interlocking devices in railway stations and 7 control points which use an electronic interlocking system. There are 93 relay (complete) interlocking devices in railway stations and 42 relay (simplified) interlocking devices in railway stations. There are also 16 inter-station dependence devices.

Stations and train stops

There are 554 official locations, 228 train stations and 304 train stops.



Hump yard signalling equipment

The hump yard signalling systems use retarders and compressor stations for their operation. There is 1 retarder in total on Zagreb marshalling yard.

Electrified railway lines

Out of the total length of railway lines, 970 km are electrified, namely with the following systems:

- 25 000 V AC/50 Hz 967 km (250 km double track line, 717 km single track line)
- 3 000 V DC 3 km

Length of 25 kV catenary is 1823 km and the length of the 3 kV catenary is 6,7km.

Substations and sectioning points

There are a total of 21 sectioning substations and sectioning points within the railway infrastructure.

There are 3 centres for remote control of fixed installations for electric traction (Zagreb, Vinkovci, Rijeka).

Corridor routes within the railway infrastructure of Croatia

The total length of railway corridor routes in the Croatia railway network is 769 km; the following sections are involved:

- Corridor RH1 (ex Corridor X) 317 km
- Corridor RH2 (ex Corridor Vb) 338 km
- Corridor RH3 (ex Corridor Vc) 127 km



3. Railway network map

The map of the Croatian railway network is shown in Annex A 1.

4. List of railway undertakings and infrastructure managers

A list of railway undertakings operating on the railway infrastructure in the Republic of Croatia in 2017 is given in Annex A 2. The sole railway infrastructure manager for main and secondary railway lines in the Croatia is HŽ Infrastruktura d.o.o.. Beside HŽI there are three infrastructure managers in maritime ports as well (as stated in Annex 2.1):

- Luka d.d. Split
- Luka Šibenik d.o.o.
- Luka Rijeka d.d.

5. Summary

This, the fourth Annual Report on activities of the Croatian Railway Safety Agency evaluates the results of provisions of railway operation safety and of railway operations in the period from 1st January 2017 till 31st December 2017.

It provides a review and information about the railway infrastructure, and at the same time, it shows conditions of gradual performance and implementation of Safety Directive and Interoperability Directive into the national legal regulations.

One of the fundamental tasks of the SMS for railway infrastructure managers and railway undertakings providing transport services on the railway infrastructure is to ensure and develop railway safety. This obligation also arises from the relevant provisions of the Railways Act and the SIRS Act.

One of the Authority's key tasks as part of its competence as a safety authority is the supervision of railway safety, accident prevention, and the enforcement of statutory provisions in the field of railway safety.

An analysis of the railway safety development trend may be derived from the main common safety indicators provided in tables in Annex C.

6. Implementation of the Railway Safety Directive 2004/49/EC

The Railway Safety Directive 2004/49/EC has been fully transposed into the legislation of the Croatia by the Railways Safety and Interoperability Act.

Activities of the Authority in the field of railway safety in 2017 were carried out under the applicable provisions of the SIRS Act, the Railways Act, and other national safety rules. Concurrently, measures were taken in accordance with Article 4 of Commission Regulation (EU) No 1158/2010 of 9th December 2010 on a common safety method for assessing conformity with the requirements for obtaining railway safety certificates in respect of the state professional supervision of the railway undertakings, as well as measures under Article 4 of Commission Regulation (EU) No 1169/2010 of 10th December 2010 on a common safety method for assessing conformity with the requirements for obtaining a railway safety authorization in respect of the state professional supervision of the railway infrastructure manager.

C. Organisation

1. Introduction

The Authority is a state administration body with a country-wide scope of operation based in Zagreb. The scope of the Authority's activities is defined by the Founding Document - Railway Safety Agency Act, which was amended by the SIRS Act in 2013, which was significantly amended in 2015 and 2017.

Headquarters of the Authority: Radnička cesta 39/I, 10000 Zagreb, Croatia

The internal organisation of the Authority is governed by its statute, which was adopted by the Ministry and Government of Croatia.

The Authority is managed and responsibility for its operation is held by the President of the Governing Council and the Agency Director, who are both appointed and may be removed by the Government of Croatia.

The activities of the Authority are governed by its organisational rules, which lay down its internal organisational structure and system and levels of management, as well as the scope of the competence and responsibilities of senior public servants.

The Authority is a state organisation linked to the state budget by financial relations through a budget category managed exclusively by the Ministry.

In its decision-making, all sections which represent core business of the Authority are independent, except for the financial section which depends on the Ministry.

When necessary, the Authority cooperates with safety authorities of other Member States in European Union, as well as with safety authorities of our neighbouring countries.



In 2017, the Authority had a total establishment plan of 31 employees. The registered number of employees as of 1/1/2017 was 15, by the end of the year 2017 number of employees was 16. Namely, 1 new employee was recruited.

2. Organisation of the Authority

Within the meaning of the Railway Safety Directive 2004/49/EC, the Authority should be independent of the railway infrastructure manager and railway undertakings in the performance of its duties as a safety authority.

The Authority's responsibilities and duties in the field of railway safety also include:

- acting as the supervisory body regarding the interoperability of the structural and functional sub-systems and components of the existing railway system in Croatia;
- maintaining a national vehicle register pursuant to Commission Decision No 2007/756/EC of November 9th 2007;
- acting as the ECM certification body pursuant to Commission Regulation (EU) No. 445/2011 of 10 May 2011.

The issuing of authorisations for the operation of railways to railway undertakings for the provision of transport services on railways also relates to railway safety.

Granting of licences for railway undertakings is under Ministry's jurisdiction, so Ministry acts as a licensing authority for the undertakings.

In 2017, the Authority focused mainly on verifying applicant's compliance with the conditions for the issue of a safety certificate and on the supervision (SMS-audits) of the railway undertakings and the railway infrastructure manager as well as audits (assessments/surveillance) of the ability of the ECMs to meet the relevant requirements in Annex III (Regulation 445/2011)

The railway infrastructure manager regularly reports to the Authority on the development of railway safety in its field of activities and submits accident statistics and reports on the results of investigations into the causes of accidents. The Authority is also regularly informed by the NIB about operative commission sessions convened to discuss the results of accident cause investigations and to adopt preventive measures.

Within the scope of its competence, the Authority and its Unit for Inspections carried out the supervision of technical safety and operation of dedicated technical equipment, which is manufactured, designed or used in operating railways and railway traffic, or is a part of the railways.



Within the scope of its competence prior to issuing an approval decision for the use of a newly-built or modernised railway line which is to become a part of the European railway system, Authority determines whether the conditions for structural subsystem verifications conducted prior to the latter being placed in service, have been complied with.

3. Organisation chart

The organisation chart of the Authority is shown in Annex B.

D. Development of railway safety

1. Initiatives to maintain/improve safety performance

Competence for investigating accidents and emergencies that occur on the railways is responsibility of the National Investigation Body (Agency for investigation of air, maritime and railway transport accidents). In 2017, National Investigation Body as the investigative authority, notified the Authority, as the safety authority, of safety recommendations arising from the investigation of the railway accidents.

In order to inform the public on the state of safety on the railway infrastructure, Authority prepares annually a 'Railway Safety Report' for the Parliament. The report must be submitted by 30th September. Employees of Authority are acquainted with the report, which also serves for managers as an input document for the assessment of the state of safety.

The railway infrastructure manager and the railway undertakings providing railway transport services on the Croatian railway infrastructure annually submit to the Authority a safety report within the scope defined by the SIRS Act. The report must be submitted by 30th June.

In 2017, railway safety was monitored in line with the requirements of the Railway Safety Directive 2004/49/EC and the relevant provisions of the SIRS Act. Main indicators of railway safety development are shown in Annex C.



2. Detailed data trend analysis

The technical safety of infrastructure is continuously being improved, primarily on the main lines by the construction of the additional corridor sections and also by the removal of level crossings and the implementation of new components and subsystems that ensure a higher level of railway safety.

The costs relating to the remedy of consequences of injuries and fatalities were not provided.

Based on the documents obtained from the railway sector, the most serious issues in the field of accident occurrence seem to be:

- Unadvisedly entry and/or malicious activity of unauthorised persons on the railway area,
- Frequent disregard of level crossing signalling system alarms or road traffic signs and failure to observe the applicable road traffic regulations by road users.

The accident rate statistics for 2017 are detailed in the ERA CSI data form.

3. Results of safety recommendations

There were 7 safety recommendations in 2017, and there were 24 safety supervisions, 538 technical inspections and 12 systematic SMS audits of IM/RUs. The Authority's lack of staff, as a result of budget constraints, had negative effect on the organisational capability of the Authority.

The railway undertakings as well as the infrastructure manager pay attention to railway safety in accordance with their SMS, focusing particularly on the regular training of personnel engaged in safety-critical tasks, such as operating motor vehicles, ensuring the prescribed technical condition of the railway infrastructure, the technical capacity of rail vehicles, and the safe and functional operation of individual railway infrastructure installations.

The Authority will, through an increased number of inspections, continue to pay attention particularly to the performance of duties of designated technical equipment operators to ensure their prescribed technical qualification and the conduct of specified activities in relation to the dedicated technical equipment.



E. Important changes in legislation and railway regulations

As of 1 July 2013, a new Railway Safety and Interoperability Act ("Narodne Novine", nr. 82/13, 18/15, 110/15 and 70/2017) came into full force and effect, and it was amended twice in 2015 and once in 2017. According to the requirements from the pilots delivered by European Commission:

Following Directives have finally been fully transposed by existing SIRS Act:

- Directive 2004/49/EC of the European Parliament and of the council of 29 April 2004 on safety on the Community's railways and amending Council Directive 95/18/EC on the licensing of railway undertakings and Directive 2001/14/EC on the allocation of railway infrastructure capacity and the levying of charges for the use of railway infrastructure and safety certification,
- Directive 2008/110/EC of the European Parliament and of the Council of 16 December 2008 amending Directive 2004/49/EC on safety on the Community's railways,
- Commission Directive 2009/149/EC of 27 November 2009 amending Directive 2004/49/EC of the European Parliament and of the Council as regards Common Safety Indicators and common methods to calculate accident costs,
- Directive 2008/57/EC of the European Parliament and of the Council of 17 June 2008 on the interoperability of the rail system within the Community,
- Commission Directive 2009/131/EC of 16 October 2009 amending Annex VII to Directive 2008/57/EC of the European Parliament and of the Council on the interoperability of the rail system within the Community,
- Commission Directive 2011/18/EU of 1 March 2011 amending Annexes II, V and VI to Directive 2008/57/EC of the European Parliament and of the Council on the interoperability of the rail system within the Community,
- Commission Directive 2013/9/EU of 11 March 2013 amending Annex III to Directive 2008/57/EC of the European Parliament and of the Council on the interoperability of the rail system within the Community,
- Directive 2007/59/EC of the European Parliament and of the Council of 23 October 2007 on the certification of train drivers operating locomotives and trains on the railway system in the Community,



- Council Directive 2005/47/EC of 18 July 2005 on the Agreement between the Community of European Railways (CER) and the European Transport Workers' Federation (ETF) on certain aspects of the working conditions of mobile workers engaged in interoperable cross-border services in the railway sector.

All Croatian Acts and Regulations are published in Croatian official Journal on web site www.nn.hr.

Note:

Following new Directives have not yet been transposed by the SIRS Act:

- Directive (EU) 2016/798 of the European Parliament and of the Council of 11 May 2016 on railway safety (recast),
- 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 (recast).

F. The development of safety certification and authorisation

1. National legislation

1.1 Issuing of safety certificates pursuant to Article 10 of the Railway Safety Directive 2004/49/EC

Requirements for applications, procedures and conditions for issuing safety certificates to railway undertakings, obligations of railway undertakings, and procedures for updating safety certificates are defined in Article 27., Article 28., Article 29., Article 32. and Article 34. of the Railway Safety and Interoperability Act.

Requirements for the creation and implementation of a safety management system are defined in Article 23. and Article 24. of the Railway Safety and Interoperability Act.

Details of the safety management system structure are set out in Article 25. of the Railway Safety and Interoperability Act. During issuing safety certificates to railway undertakings, the Authority applied the procedure arising from the Railway Safety and Interoperability Act as well as from Commission Regulation (EC) No 653/2007 of 13th June 2007 and Commission Regulation (EC) No 1158/2010 of 9th December 2010.



1.2 Issuing of safety authorisations for infrastructure managers pursuant to Railway Safety Directive 2004/49/EC

Requirements for the submission of applications, procedures and conditions for issuing safety authorisations, requirements for the management and operation of railways by the railway infrastructure manager, its responsibilities, and procedures for updating the safety authorisation are defined in Article 30., Article 31. and Article 32. of the Railway Safety and Interoperability Act (“Narodne Novine”, nr. 82/13, 18/15, 110/15 and 70/17). Requirements for the creation and implementation of a safety management system by the railway infrastructure manager are defined in Article 23. and Article 24. of the Railway Safety and Interoperability Act (“Narodne Novine”, nr. 82/13, 18/15, 110/15 and 70/17). Details of the safety management system structure are set out in Article 25. of the Railway Safety and Interoperability Act (“Narodne Novine”, nr. 82/13, 18/15, 110/15 and 70/17).

1.3 National safety rules

According to Article 22. of the Railway Safety and Interoperability Act the Ministry has the power to stipulate which regulations represent the “national safety rules” as laid down in Article 8. of the Railway Safety Directive. A list of the national safety rules was published on the website of the Authority.

Generally binding statutory provisions falling under the category of national safety rules are registered in the collection of laws and are available to the general public via the applicable distribution network. Regulations issued by the infrastructure manager are available through its organisation of distribution.

2. The development of safety certification and authorisation – numerical data

In 2017 Authority has received 6 applications for safety certificate Part A and 7 applications for safety certificate Part B pursuant to Railway Safety Directive 2004/49/EC. There were 5 Part A certificates and 7 Part B certificates issued in 2017, with one application rejected. The Authority is continuously auditing the SMSs of all active RUs. Accordingly, The Authority has conducted 7 SMS-audits at RUs in 2017.



3. Procedural aspects

3.1 Safety Certificates Part A

Requirements, procedures and the breakdown of issued and cancelled safety certificates Part A and Part B as laid down in Article 10 of the Railway Safety Directive 2004/49/EC are governed by the Railway Safety and Interoperability Act and Commission Regulation (EU) No 1158/2010.

The SIRS Act stipulates, inter alia, that:

- the deadline for issuing a safety certificate is four months from the date of submission of all the required documents,
- a railway undertaking is obliged to notify the safety authority without delay of any change in the conditions under which the safety certificate was issued.

3.1.1 Reasons for an update of the existing safety certificates were:

No such requests have to date been filed to the Authority.

3.1.2 Main reasons for the issuing of a Part A Certificate taking longer than four months

All certificates were processed within the legal timeframe of the four-month period as laid down by Railway Safety and Interoperability Act.

3.1.3 Overview of requests from other NSAs for verification/disclosure of information related to the Part A Certificate of a railway undertaking which was certified in Croatia but applied for the Part B in another Member State

No such requests have to date been filed to the Authority.

3.1.4 Summary of issues in the mutual acceptance of a Part A Certificate valid throughout the Community

No issues were experienced in the mutual acceptance of a Part A Certificate valid throughout the Community.

3.1.5 NSA administrative fee for issuing a Part A Certificate

An administrative fee of 70 HRK (cca. 9€) is stipulated by the Administrative Fee Act for issuing a Part A Safety Certificate together with Part B.



3.1.6 Summary of issues in the application of harmonised formats for a Part A Certificate, mainly in connection with the type and scope of services

There were no issues in the application of harmonised formats of certificates relating to the type and scope of services.

3.1.7 Summary of common issues/difficulties of the NSA in the process of application for a Part A Certificate

In the filing of applications for a Part A and Part B Certificate, there were issues pertaining to the incompleteness of certain submitted required documents.

3.1.8 Summary of issues stated by railway undertakings when applying for a Part A Certificate

No major issues experienced by railway undertakings when filing applications for certificates have been seen yet. Applicants most often consult the Authority in advance regarding any issues concerning the filing applications (by phone, by e-mail or in person). Detailed information on filing applications is also given on the website of the Authority.

3.1.9 Feedback procedures (e.g. questionnaires) that enable railway undertakings to express their views on the process of certification or to file an objection or a complaint

No complaints from applicants have been received yet.

3.2 Safety Certificates Part B

3.2.1 Reasons for an update of the safety certificates were:

There were 6 updates of the safety certificates Part B, the reason was expiration of validity of the existing Part A or B.

3.2.2 Main reasons for the issuing of a Part B Certificate taking longer than four months

The reasons are the same as in Item 3.1.2.

3.2.3 NSA administrative fee for issuing a Part B Certificate

An administrative fee of 70 HRK (cca. 9€) is stipulated by the Administrative Fee Act for issuing a Part B Safety Certificate.

3.2.4 Summary of issues in the application of harmonised formats for a Part B Certificate,



mainly relating to the type and scope of services

No issues in the application of harmonised formats for a Part B were experienced.

3.2.5 Summary of common issues/difficulties of the NSA in the process of application for a Part B Certificate

Issues similar to those for Part A were experienced in filing applications for a Part B Certificate.

3.2.6 Summary of issues stated by railway undertakings when applying for a Part B Certificate

No issues experienced by railway undertakings when filing the applications for safety certificates have been seen yet. Applicants most often consult the Authority in advance regarding any issues with filing the applications (by phone, by e-mail or in person). Detailed information on filing the applications is also given on the website of the Authority.

3.2.7 Feedback procedures (e.g. questionnaires) that enable railway undertakings to express their views on the process of certification or to file an objection or a complaint

No complaints from applicants have been received yet.

3.3 Safety authorisations

Requirements, procedures and the breakdown of issued and cancelled safety authorisations as laid down in Article 11 of the Railway Safety Directive 2004/49/EC are governed by the SIRS Act and Commission Regulation (EU) No 1169/2010.

The Railways Safety and Interoperability Act stipulates, inter alia, that:

- the deadline for issuing a safety authorisation is four months from the date of submission of all the required documents
- a railway infrastructure manager is obliged to notify the safety authority without delay of any change in the conditions under which the safety authorisation was issued

3.3.1 Reasons for an update/change and amendment of safety authorisations

In 2017, 4 applications for the issue of a safety authorisation were received by the Authority. 2 applications were for the renewal and the rest were for the first authorisation issue.



3.3.2 Main reasons for the issuing of a safety authorisation taking more than four months

In 2017, safety authorisations were issued within regular four-months period.

3.3.3 Summary of issues/difficulties in the safety authorisation application process

There were no issues in 2017 regarding safety authorisation application process.

3.3.4 Summary of issues stated by an infrastructure manager when applying for a safety authorisation

No issues in the application of harmonised formats for a Safety authorisation were experienced.

3.3.5 Feedback procedures (e.g. questionnaires) that enable an infrastructure manager to express its view on the process of authorisation or to file an objection/complaint

Planned for the implementation in 2018.

3.3.6 Administrative fee for issuing a safety authorisation

The administrative fee for issuing a safety authorisation under the Administrative Fee Act is 70 HRK (cca. 9€).

G. The supervision of railway undertakings and infrastructure managers

1. Description of the supervision

1.1 Audits and inspections

In 2017 the NSA organised 12 SMS-audits in total, 3 SMS-audits were related to Infrastructure managers (HŽ Infrastruktura d.o.o., seaports Rijeka and Šibenik) and 9 to Railway Undertakings. In the same period the Unit for Inspection conducted 538 technical inspections and 24 inspection supervisions.

The supervisory activity of Authority should cover:

- compliance with the terms of and obligations laid down in the SIRS Act, the Railways Act, generally binding statutory provisions and the application of the SMS by the railway undertakings and the infrastructure manager;



- compliance by the infrastructure manager with the conditions for proper and safe operation of the railway in accordance with a safety authorisation issued for railway operation;
- compliance with the conditions to ensure railway safety in accordance with safety certificates and licenses granted to railway undertakings providing transport services on the railway infrastructure;
- determination of the technical condition of railway vehicles and other dedicated technical equipment (dedicated technical equipment, that is to say transportation equipment, gas equipment, pressure equipment, lifting equipment, electrical equipment, equipment for protection against effects of atmospheric and static electricity and for protection against negative effects of return traction currents, containers and interchangeable bodies that are manufactured, designed or used to ensure railway operation or railway traffic, or which are a Part of the railways, focused on the verification of the technical capacity of this equipment prior to commissioning and in the course of operation).

Additional information:

As the competent authority of the public administration in the matter of railways, the Authority maintains the National Vehicle Register in accordance with Commission Decision of 9 November 2007 adopting a common specification of the national vehicle register, as amended by Decision 2011/107/EU of 10 February 2011, and Section XI Article 73. of Railway Safety and Interoperability Act.

Number of railway vehicle registration

The Croatia is in process of connecting to the European railway vehicle database via a Virtual Vehicle Register (VVR) using a standard National Vehicle Register (sNVR).

Table: Number of applications for VKM filed in 2017

| | |
|---|---|
| Number of applications filed for assigning and approval of VKM: | 1 |
| Number of VKMs approved by the agency: | 1 |
| Number of VKMs not approved by the agency: | 0 |
| Number of VKMs not recommended by the Safety Section: | 0 |

Table: Number of applications filed for authorisation for placing in service of railway vehicles in 2017

| Type of railway vehicle | Number of applications filed | Number of authorisations issued | Number of authorisations rejected |
|---|------------------------------|---------------------------------|-----------------------------------|
| Traction vehicles | 52 | 52 | 0 |
| Freight wagons | 1362 | 1362 | 0 |
| Passenger carriages, diesel and electrical motor units (DMU, EMU) | 273 | 273 | 0 |
| Track machinery, special vehicles and machines | 71 | 71 | 0 |
| TOTAL | 1758 | 1758 | 0 |

One of the main activities in the area of interoperability was the decision making on issuing authorisations for the placing in service of railway vehicles under Article 59. of the SIRS Act.

Another major activity in the area of interoperability under Article 60. of the SIRS Act is granting of additional authorisations for the placing in service of railway vehicles which were first placed in service in another Member States.

As Part of the authorisation proceedings pertaining to railway vehicles, Authority decided whether there should be a test operation of a railway vehicle.

Table: Overview of decisions concerning 12-digit registration numbers of railway vehicles for 2017

| Type of railway vehicle | Number of decisions issued assigning a registration number | Number of decisions issued changing a registration number | Number of decisions issued cancelling a registration number |
|--|--|---|---|
| Motor vehicles | 0 | 0 | 0 |
| Freight wagons | 0 | 0 | 0 |
| Passenger carriages, electric and engine units | 0 | 0 | 0 |
| Track machinery, special vehicles and machines | 0 | 0 | 0 |
| TOTAL | 0 | 0 | 0 |



In relation to the railway vehicles, the Authority assigns changes and cancels registration numbers of railway vehicles in accordance with Article 73. of SIRS Act.

Regarding railway infrastructure installation registration, it is assumed that this will be completed within next two years with the creation of a Railway Infrastructure Register in accordance with Commission Implementing Decision No 2011/633/EU of 15 September 2011 on the common specifications of the register of railway infrastructure.

Detailed guidelines were developed for all activities that fall under the competence of the Authority. They are available to applicants on the website of the (www.asz.hr).

1.2 Findings of the authority in the performance of supervision

Within the scope of its activities, the Authority should focus on supervision of the technical condition of railway vehicles in operation, particularly in response to safety alerts from other NSAs - e.g. checks of rail motor vehicles axles and wheels, checks of bearing housings tightness in leaks of lubricants from axles (prevention of overheating of bearings on axles), checks for correct functioning and locking of passenger transport vehicle entry doors while a train is in motion. Authority should also focus on unsecured crossings on the railway lines of HŽ Infrastruktura d.o.o. and level crossings in general should become top priority.

In the following period, the activity of the Authority will focus primarily on extending the scope of performance of state professional supervision to the railway lines of the railway infrastructure manager, railway undertakings and other stakeholders conducting activities which directly affect railway safety.

2. Submission of safety reports

According to the Article 26. of the SIRS Act, HŽ Infrastruktura d.o.o. as the railway infrastructure manager and railway undertakings providing transport services on the railway infrastructure of Croatia are obliged to submit to the Authority a safety report for the preceding calendar year by 30th of June.

All the railway undertakings complied with the obligation to submit a safety report under the Railways Act by the stipulated date.

In order to achieve uniformity of the data submitted in the safety reports, the Authority published a template for the safety report contents on its website (www.asz.hr) along with other required information (for railway undertakings and infrastructure manager), which the safety report has to include. Problem is that there is still no data available for the substantial number of CSI's, this shall be a priority in the next period.



3. and 4. Supervision and audits of the Authority

| Supervisions and audits | Type | Issued Safety Certificate Part A | Issued Safety Certificate Part B | Issued Safety Authorisation | Other activities |
|--------------------------------|-------------|----------------------------------|----------------------------------|-----------------------------|------------------|
| Number of supervisions in 2017 | Planned | 3 | 4 | 4 | 0 |
| | Unplanned | 1 | 1 | 0 | 0 |
| | Carried out | 4 | 5 | 4 | 0 |

Some audits could not be covered because Authority's lack of staff, which is direct result of prohibition of employment and budget restrictions.

5. Summary of relevant measures of the Authority

Particular corrective measures to rectify potential deficiencies with a specified deadline for their rectification are concurrently assigned to all the ascertained deficiencies in the appropriate record. Each entity to be audited is obliged to notify the Authority when it has implemented the imposed measures for the remedy of the ascertained deficiencies and of any appropriate measures of its own for the future.

6. Summary description of complaints of the infrastructure manager against the railway undertakings in relation to the conditions referred to in Part A/B of the safety certificate

No complaints from the infrastructure manager against the railway undertakings in relation to the conditions of a Part A or Part B Safety Certificate were made to the Authority in 2017.

7. Summary description of complaints of the railway undertakings against the infrastructure manager in relation to conditions of the safety authorisation

No complaints from the railway undertakings against the infrastructure manager in relation to the conditions of a safety authorisation were made to the Authority in 2017.



H. Reporting on the application of the Common Safety Method for risk evaluation and assessment

Commission Implementing Regulation (EU) No 402/2013 on the common safety method (CSM) for risk evaluation and assessment as referred to in Article 6(3)(a) of the Railway Safety Directive 2004/49/EC, is to be implemented in the event of significant changes in accordance with Article 5 of the Regulation. In accordance to the Article 2 of the Regulation this Regulation shall apply to the proposer as defined in Article 3(11) when making any change to the railway system in a Member State. Such changes may be of a technical, operational or organisational nature.

Under Annex 5. of the national SIRS Act, the application of the CSM is required in accordance with the Commission Regulation (EC) No 352/2009 in terms of the procedure of the EC declaration and safety integrations. The SIRS Act needs to be amended and aligned with the new Regulation (EU) No 402/2013.

The risk assessment procedures in the event of significant changes are governed by the safety management systems of the proposers (in terms of the Regulation's Article 3 (11)): railway undertakings, infrastructure manager, ECMs and manufacturers.

I. Conclusions of the Authority on the reporting year – priorities

First of all, in 2017, the main priorities of the Authority in the field of safety were increased supervisions of safety at unsecured level crossings, railway and passenger safety within the scope of the requirements of the SIRS act, national safety rules and by-laws of the railway infrastructure manager and the railway undertakings.

In addition, in 2017, important technical and organisational steps were taken concerning the issuing of train driver licenses within the meaning of Directive No 2007/59/EC of the European Parliament and of the Council on certification of train drivers and Commission Regulation (EU) No 36/2010 and continued in 2017. Authority acquired a contractor for the production and supply of train driver licenses in accordance with Commission Regulation (EU) No 36/2010. Once this process has been completed, the Authority started issuing licenses to train drivers operating in cross border transport in December 2013. 208 licenses were issued for the train drivers in 2017.

The Authority continues the implementation of the National Railway Vehicle Register as well as preparations in order to gradually implement the register of infrastructure according to Commission Decision 2011/633/EU. The next period activities are dependent on resource support from the Ministry. For the time being, management of the register of infrastructure has been assigned to the infrastructure manager.

The Authority will continue to focus on monitoring safety at level crossings and especially at unsecured crossings, performance of supervision of the railway infrastructure manager and the railway undertakings under Article 4 of Commission Regulation No. 1169/2010 and Commission Regulation No 1158/2010, performance of random (without prior notice) inspections of the technical conditions of railway vehicles in operation, performance of obligations of railway undertakings in ensuring the professional, health and mental capacity of employees performing safety-critical tasks in railway operation and railway transport, and on the performance of activities carried out on the railways by contractors.

In 2017 the Authority continues with its significant steps for improving RU`s and IM`s safety management system and its new safety strategy based on the P-D-C-A principles and the methodology of ISO 9001 and risk management based on principles in the standard ISO 31000. The Authority continues comprehensive, systematic and process-based audits in the Sector (IMs/RUs/ECMs) and key member staff and all inspectors are involved. In the same period last year NSA`s staff won certificates for the risk management in accordance with ISO 31000 after they had passed comprehensive international training.

Alongside many organisational improvements in the last year Authority prepared and issued programme/plan document in relation to the 4th Railway Package – “Programme Plan and preparation and implementation of 4th Railway Package of Croatian Railway Safety Agency”. The task of the Programme/Plan and its Task force is to identify objectives, to monitor, to secure and to ensure the coherence between all projects/tasks in The NSA`s Programme/Plan which are necessary to be completed in order to perform new tasks related to vehicle authorisation, single safety certification and ERTMS procedures.

Finally, in 2017. Authority carried out significant safety and organisational improvements in accordance with the recommendations of the ERA cross audit, as well as the Priority countries programme. The director of the Authority reported the Agency and NSAs on the improvements at the 44st Network Plenary Meeting in Valenciennes in February 2017 (“Croatian example of competence management and improvements based on cross-audit and action plan”). All recommendations for improvements were already implemented as stated in the Authority Action plan for the year 2017.

J. Sources of information

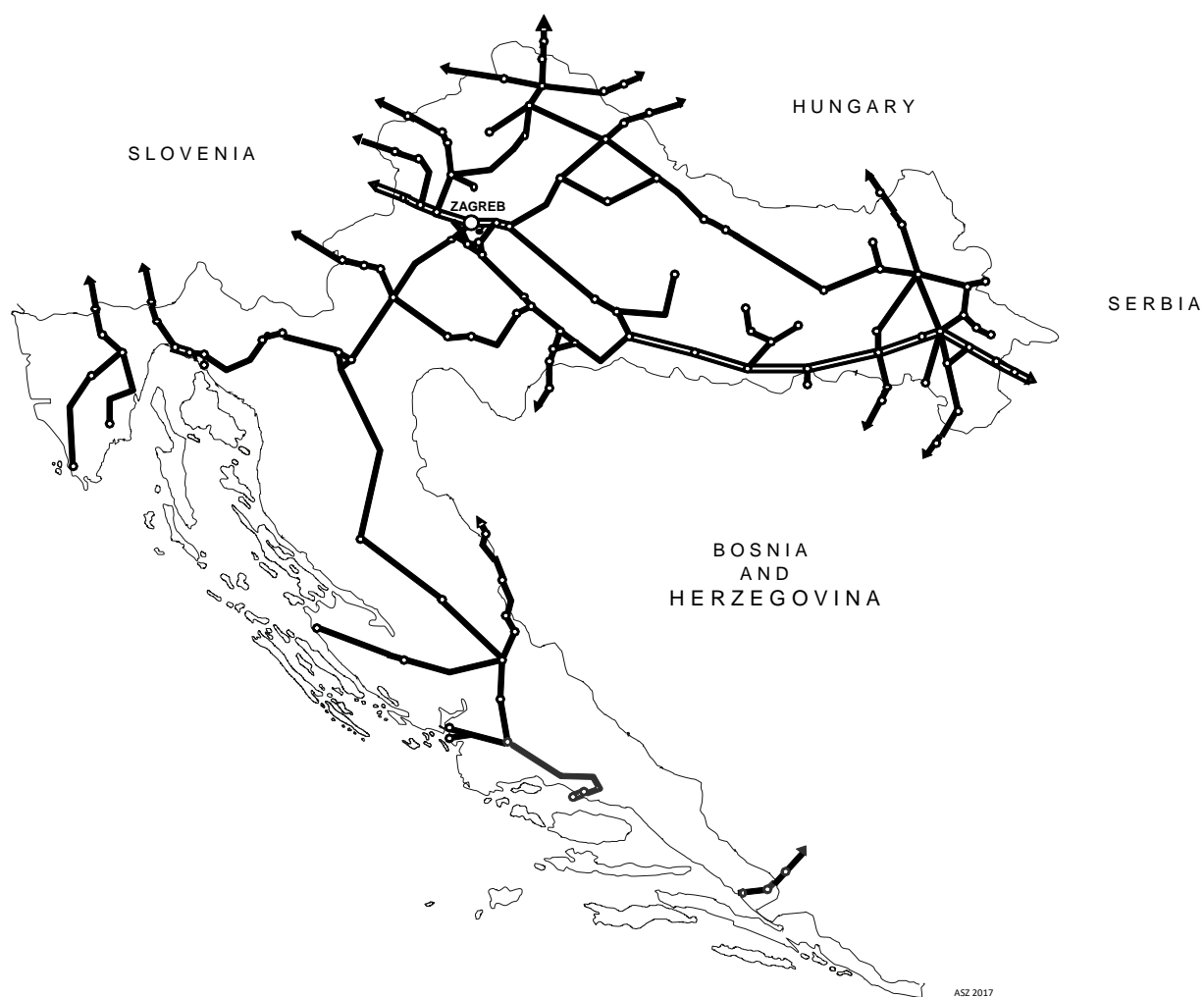
The sources of information and relevant documents used to prepare this ASR were predominantly safety reports from individual railway undertakings and the railway infrastructure manager.

Statistical data and analysis of accidents that occurred within the HŽ Infrastruktura d.o.o. were also used.



K. Annexes

Annex A 1 Croatian railways network





Annex A 2 List of railway undertakings

In 2017 there were 8 railway undertakings, 2 of them are state owned:

- HŽ Putnički prijevoz d.o.o.,
- HŽ Cargo d.o.o.,
- PPD Transport d.o.o.,
- Rail Cargo Carrier – Croatia d.o.o.,
- Train Hungary Maganvasut Kft, Podružnica Zagreb,
- SŽ - Tovorni promet d.o.o., Podružnica Rijeka,
- Rail & Sea d.o.o.,
- Transagent Špedicija d.o.o.

Annex A 2.1 Infrastructure managers

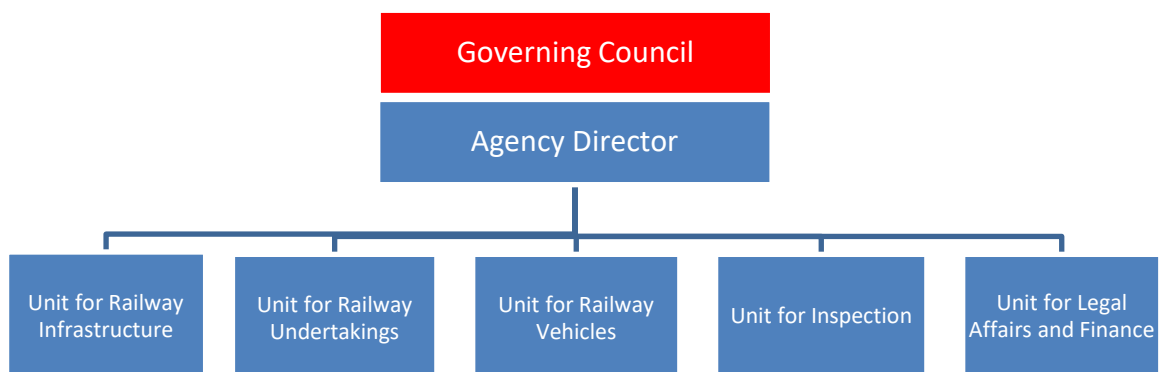
In 2017 there were 4 infrastructure managers in total. HŽ Infrastruktura d.o.o., is state owned. The other three are maritime ports IM Luka Šibenik d.o.o., IM Luka Rijeka d.d. and Luka Split d.o.o.

Annex A 2.2 Railway undertakings – safety certificates issued

All safety certificates in 2017, Part A and Part B, are issued according to regulations as laid down in Article 10 of the Railway Safety Directive 2004/49/EC and governed by the Railway Safety and Interoperability Act and Commission Regulation (EU) No 1158/2010.



Annex B Organisation chart of the Authority





Annex B 1 Internal organisation

Governing Council

The Authority is managed by the Governing Council, which consists of the president and four members appointed by the Government of the Republic of Croatia for the duration of five years with the possibility of re-appointment.

The Government of the Republic of Croatia has, after the public competition, and upon the proposal of the minister in charge of transport, nominated the Agency Governing Council on August 20th, 2009.

Authority Director

The Authority is headed by the Director, who represents the Authority, organizes and manages work of the Authority and conducts other tasks in accordance with the SIRS Act and Authority Statute. The Director performs his duties in a professional manner as a full-time employee of the Authority.

The Government of the Republic of Croatia has, after the public competition, nominated Mr. Želimir Delač as the Director of the Croatian Railway Safety Agency (Croatian NSA) on February 17th, 2015 (the decision of the Croatian Government published in the National Gazette No 18/2015, February 11th 2015) .

Unit for Railway Infrastructure

The Unit for Railway Infrastructure performs Agency competences in connection to managing and regulating the system of railway safety within the infrastructural subsystems (infrastructure subsystems, energy, control-command and signalling, and operation and traffic management subsystem) and other functional Parts and equipment of railway infrastructure, as well as the operation of the infrastructure manager.

Unit for Railway Undertakings

The Unit for Railway Undertakings performs Agency competences in connection to managing and regulating the system of railway safety concerning the operation of railway transport, i.e. in connection to the operation of railway undertakings and legal entities that perform transport for their own needs, especially in the area of public rail passenger and freight transport.



Unit for Railway Vehicles

The Unit for Railway Vehicles performs Agency competences in connection to managing and regulating the system of railway safety concerning railway vehicles and their maintenance, owners, keepers and entities in charge of maintenance. It also performs Agency competences in connection to managing and regulating the system of railway safety concerning the professional requirements that must be fulfilled by railway executive staff, concerning professional examination and periodic checks, procedure of obtaining a licence to operate railway vehicles, organization and implementation of examination and periodic checks, and issuance of driving licenses.

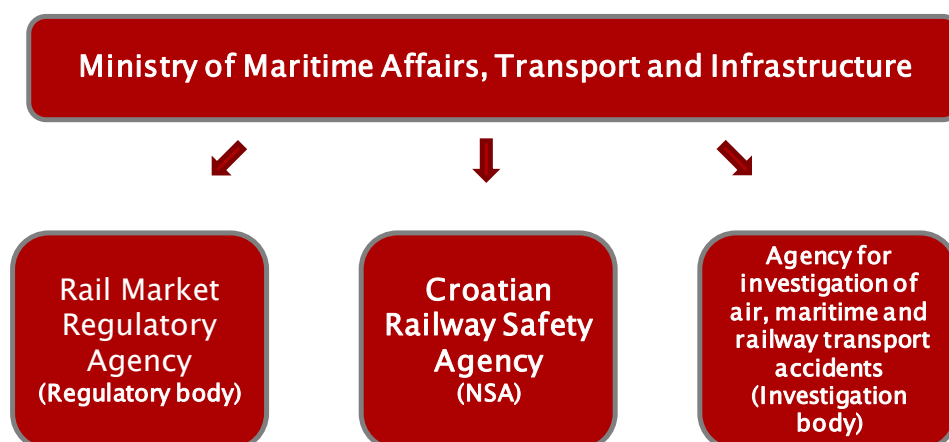
Unit for Legal Affairs and Finance

The Unit for Legal Affairs and Finance performs legal, economic, professional and administrative-technical tasks for the Agency.

Unit for Inspection

The Unit for Supervision performs Agency competences in connection to professional supervision of compliance with laws and by-laws as well as the implementation of general and individual legal acts concerning managing and regulating the system of railway safety.

Annex B 2 Relationship with other National Bodies





Annex C Common Safety Indicators data (main indicators)

| Year | Passenger km (x10 ⁹) | Freight tonne km (x10 ⁹) |
|-------|----------------------------------|--------------------------------------|
| 2010. | 1,742 | 2,618 |
| 2011. | 1,486 | 2,438 |
| 2012. | 1,103 | 2,332 |
| 2013. | 0,948 | 2,148 |
| 2014. | 0,927 | 2,129 |
| 2015. | 0,951 | 2,215 |
| 2016. | 0,836 | 2,160 |
| 2017 | 0,731 | 2,592 |

| Year | Passenger trainkm (x10 ⁶) | Freight trainkm (x10 ⁶) | Other trainkm (x10 ⁶) | Total trainkm (x10 ⁶) |
|-------|---------------------------------------|-------------------------------------|-----------------------------------|-----------------------------------|
| 2010. | 16,9 | 5,3 | 1,9 | 24,1 |
| 2011. | 18,3 | 5,3 | 2,0 | 25,6 |
| 2012. | 18,2 | 5,9 | 1,6 | 25,7 |
| 2013. | 16,7 | 5,2 | 0,6 | 22,5 |
| 2014. | 15,2 | 5,1 | 0,6 | 20,9 |
| 2015. | 15,3 | 5,0 | 0,6 | 20,9 |
| 2016. | 15,3 | 5,3 | 0,5 | 21,2 |
| 2017 | 15,2 | 5,8 | 0,6 | 21,6 |

| Year | Significant accidents | Seriously injured | Suicides | Killed |
|-------|-----------------------|-------------------|----------|--------|
| 2010. | 45 | 21 | 18 | 27 |
| 2011. | 39 | 20 | 26 | 26 |
| 2012. | 42 | 34 | 24 | 14 |
| 2013. | 33 | 19 | 15 | 18 |
| 2014. | 33 | 15 | 28 | 19 |
| 2015. | 27 | 20 | 30 | 15 |
| 2016. | 23 | 18 | 27 | 13 |
| 2017. | 33 | 16 | 21 | 21 |

Annex D Important changes in legislation and regulations

Explained under “E. Important changes in legislation and railway regulations”.



Annex E The development of safety certification and safety authorisation - numerical data

E.1. Safety Certificates according to Directive 2004/49/EC

| | | |
|---|----------------------------------|--|
| E.1.1. Number of safety certificates Part A issued in the reporting and in previous years and remain valid at the end of year 2017 | Total number of certificates: 7 | Number of certificates Part A in ERADIS: 7 |
| | in the reporting year: 5 | |
| | in the previous years: 4 | |
| | valid at the end of year 2017: 6 | |

| | | |
|---|---------------------------------|--|
| E.1.2. Number of safety certificates Part B issued in the reporting and in previous years by your member state and remain valid in the year 2017 | Total number of certificates: 8 | Number of certificates Part B in ERADIS: 8 |
| | in Croatia | in the reporting year: year: 8 |
| | | in the previous years: 6 |
| | | valid at the end of year 2017: 8 |
| | in another Member State | in the reporting year: 0 |
| | | in the previous years: 0 |
| | | valid at the end of year 2017: 0 |

| | | | | |
|--|------------------------------|---|---|---|
| E.1.3. Number of new applications for Safety Certificates Part A submitted by Railway Undertakings in year 2017 | Certification Type | A | R | P |
| | New certificates | 1 | 1 | 0 |
| | Updated/amended certificates | | 0 | 0 |
| | Renewed certificates | 4 | 0 | 0 |

| | | | | | |
|--|--|------------------------------|---|---|---|
| E.1.4. Number of new applications for Safety Certificates Part B submitted by Railway Undertakings in year 2017 | Where | Certification Type | A | R | P |
| | the Part A has been issued in Croatia | New certificates | 1 | 0 | 0 |
| | | Updated/amended certificates | 0 | 0 | 0 |
| | | Renewed certificates | 6 | 0 | 0 |
| | the Part A has been issued in another Member-State | New certificates | 0 | 0 | 0 |
| | | Updated/amended certificates | 0 | 0 | 0 |
| | | Renewed certificates | 1 | 0 | 0 |

A = Accepted application, certificate is already issued

R = Rejected applications, no certificate was issued

P = Case is still pending, no certificate was issued so far

| | | |
|---|---|---|
| Revoked safety certificates | Total number of revoked certificates in the year 2017 | Number of revoked certificates in ERADIS in the year 2017 |
| E 1.5 Number of certificates Part A revoked in the current reporting year 2017 | 0 | 0 |
| E 1.6 Number of certificates Part B revoked in the current reporting year 2017 | 0 | 0 |



E.1.7 List of countries where RUs applying for a Safety Certificate Part B in your Member State have obtained their Safety Certificate Part A

| Name of RU | Member State where Safety Certificate Part A was issued |
|---|---|
| Train Hungary Maganvasut Kft, Podružnica Zagreb | Hungary |
| SŽ - Tovorni promet d.o.o. | Slovenia |

E. 2 Safety Authorisations according to Directive 2004/49/EC

| | |
|---|--|
| E.2.1. Number of valid Safety Authorisations issued to Infrastructure Managers in the reporting year and in previous years and remain valid at the end of the year 2017 | Total number of safety authorisations: 4 |
| | in the reporting year: 2 |
| | in the previous years: 2 |
| | valid at the end of year 2017: 4 |

| | | | | |
|---|--------------------------------|---|---|---|
| E.2.2. Number of applications for Safety Authorisations submitted by Infrastructure Managers in year 2017 | Type of authorisation | A | R | P |
| | New authorisations | 2 | 0 | 0 |
| | Updated/amended authorisations | 0 | 0 | 0 |
| | Renewed authorisations | 2 | 0 | 0 |

A = Accepted application, certificate is already issued

R = Rejected applications, no certificate was issued

P = Case is still pending, no certificate was issued so far

| | |
|--|---|
| E.2.3 Number of Safety Authorisations revoked in the current reporting year 2017 | 0 |
|--|---|

E.3. Procedural aspects – Safety Certificates Part A

| | | | |
|--|------------|-----------------|----------|
| The average time after receiving the application with the required information and the final delivery of a Safety Certificate Part A in 2017 for Railway Undertakings | New | Updated/amended | Renewed |
| | 3.5 months | 2 months | 3 months |

E.4. Procedural aspects – Safety Certificates Part B

| | | | | |
|--|--|------------|-----------------|----------|
| The average time after receiving the application with the required information and the final delivery of a Safety Certificate Part B in 2017 for Railway Undertakings | Where | New | Updated/amended | Renewed |
| | the Part A has been issued in Croatia | 3.5 months | 2 months | 3 months |
| | the Part A has been issued in another Member-State | 3 months | 2 months | 3 months |

E.5. Procedural aspects – Safety Authorisations

| | | | |
|---|----------|-----------------|----------|
| The average time after receiving the application with the required information and the final delivery of a Safety Authorisation in 2017 for Infrastructure Managers | New | Updated/amended | Renewed |
| | 3 months | 3 months | 3 months |

Croatian Railway Safety Agency

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