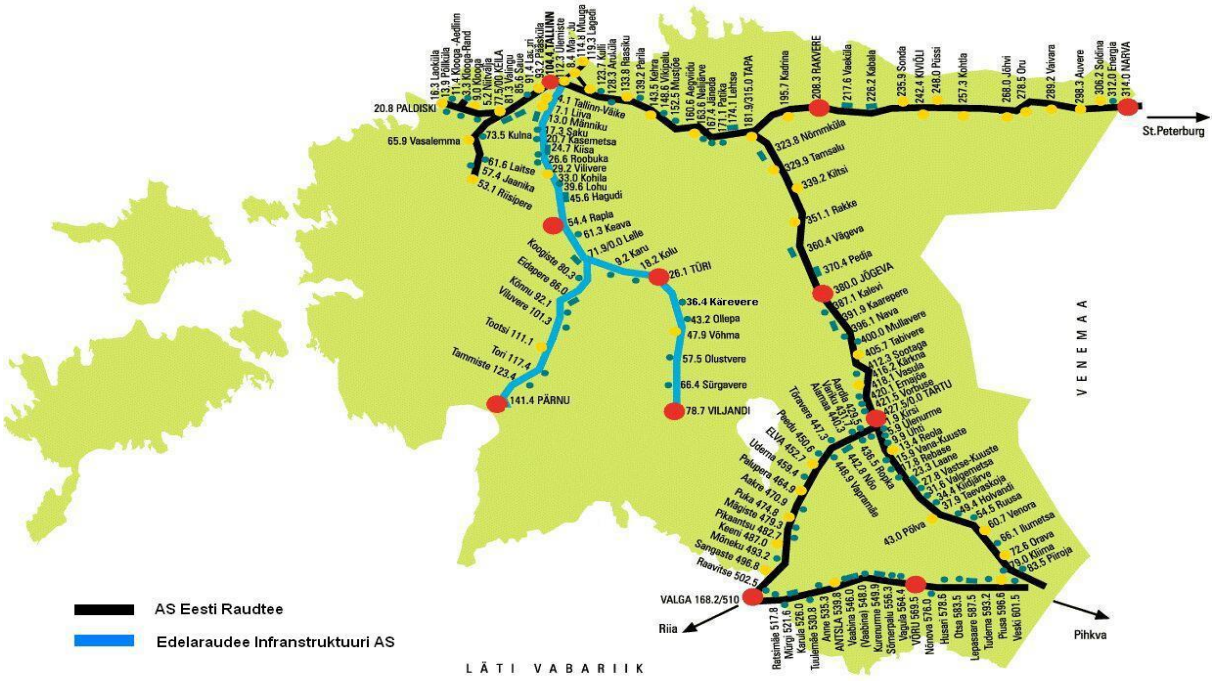
ESTONIAN SAFETY
INVESTIGATION
BUREAU

Report of the railway accidents investigated in 2018

Tallinn 2019



Public railways in the Republic of Estonia

Preface to the report

A unit for investigating railway accidents was formed in Estonia on 31 March 2004 when the Railway Safety Directive 2004/49/EC came into force. Initially the unit formed a part of the crisis regulation department of the Ministry of Economic Affairs and Communications. A multimodal Safety Investigation Bureau (ESIB) was separated from the crisis regulation department on 1 January 2012. The Safety Investigation Bureau investigates maritime, aviation and railway accidents and incidents.

The railway investigations are mainly conducted pursuant to the Railways Act which has been applied according to the European Parliament and Council Railway Safety Directive 2004/49/EC. Identical to the Directive, the Act specifies an accident, serious accident and incident as the occurrences influencing railway safety. The ESIB is required to investigate serious accidents. A decision whether to begin an investigation of other occurrences is made after evaluating additional circumstances and connections.

On the 20 February 2018 there was a collision between a Scania truck and a passenger train on the Kulna level crossing which resulted in the derailment of the train. There were no fatalities as a result of the accident, however one serious injury occurred. ESIB's initial estimation of material damage was under 2 million euros. After considering the circumstances of the occurrence, the ESIB launched a safety investigation. It was later ascertained that the damages exceeded 2 million euros but pursuant to defined regulations the ESIB concluded the safety investigation without reclassifying it.

A safety investigation in Estonia establishes the circumstances and causes of the occurrence based on the specific characteristics of the occurrence. Its aim is to increase railway safety and not to appoint blame or responsibility. A safety investigation is conducted independently from any other proceedings or their results of a given case.

The investigator of railway accidents participates in the Central European as well as the Nordic regional railway accident investigation working groups. The working groups share new information regarding railway safety and safety investigations. At these meetings, the Estonian railway accident investigator usually gives a presentation of his work experiences.

Contents

1. Introduction to the Investigation Body

1.1 Legal basis

Railway accident safety investigations began on 31 March 2004 when an investigation unit was created at crisis regulation department of the Ministry of Economic Affairs and Communications. On the same day the Railways Act came into force based on the European Parliament and Council Directive 2004/49/EC on Railway Safety and was established as the legal basis.

Before the Unit for Investigation of railway accidents was formed a Unit for Investigation of aviation accidents had already been established at the crisis regulation department, and after a Unit for Investigation of railway accidents a Unit for Investigation of maritime accidents was added. On 1 January 2012 the units for investigation of the three modes of transport were combined into a unified multimodal separate structural unit of the Ministry – Estonian Safety Investigation Bureau (ESIB). From a legal aspect the formation of the Safety Investigation Bureau was established by amendments to the Aviation Act, Maritime Safety Act and Railways Act.

Activities of the multimodal Safety Investigation Bureau are regulated according to the mode of transport by relevant articles of the Aviation Act, Maritime Safety Act and Railways Act. For railways, Subsection 42 (1) of the Railways Act establishes that the safety investigations of accidents, serious accidents and incidents are conducted by the ESIB. The same subsection establishes the independence of the safety investigations and any decisions regarding these. In conducting the investigations, the ESIB is guided only by law and other legislation and any international treaties that are binding in Estonia. There is no supervisory control of the ESIB's investigative activities. Same principles are established by the relevant acts of legislation regarding the safety investigations of the other two modes of transport. Even though the Safety Investigation Bureau is a structural part of the Ministry, its organisational independence is guaranteed by Subsection 48 (2) of the Aviation Act which provides that the director of the ESIB is appointed and relieved of its duties by the Government of the Republic on the recommendation of the relevant ministry. The director of ESIB appoints the employees of the ESIB and relieves them of their duties as well as enters into and terminates the employment contracts with them. The budget of the Safety Investigation Bureau is independent and was approved by the Parliament of the Republic of Estonia in the 2018 state budget with item code 20SE070004.

The Safety Investigation Bureau Statutes specify the ESIB's activities, relationships and connections as well as the tasks, rights and obligations. In addition to what is required by law the Statutes specify the ESIB's accountability to the Secretary General and the Minister regarding organisation of work and other matters. In its work the ESIB is guided by legislation of the Ministry of Economic Affairs and Communications, the Secretary General's Directives, internal procedure rules, operations procedures,

current statutes and other legislation. The organisation of work and other general matters regarding the ESIB's work are ensured by the Ministry. The ESIB's personnel is approved by the Minister. The functions of the employees are specified by job description which has been proposed by the Director of the Safety Investigation Bureau and approved by the Secretary General. The employees of the ESIB are responsible for the legality, accuracy and timely completion of their duties. Safety Investigation Bureau Statutes have been approved by a Ministry of Economic Affairs and Communications Directive and form a part of the legal framework affecting the work of railway safety investigations.

The Safety Investigation Bureau is a structural unit of the Ministry preforming specific duties which has been granted with special rights and independence to conduct safety investigations. The ESIB is functionally independent of the safety authority and the railway regulating authority. The ESIB's organisation, legal structure and decision-making process are independent of any railway infrastructure managers, railway undertakings, the Tax Board, distribution authorities and notified bodies or any other party whose interests might conflict with the tasks given to the ESIB. When conducting an investigation, the official responsible for railway accident safety investigations performs the tasks set by the investigator-in-charge. The identifiers of the ESIB's independence are pursuant to Article 21 of the Directive on Railway Safety 2004/49/EC.

The organisation of the investigations of railway accidents and incidents is provided by Article 4 of the Railways Act "Railway traffic and safety". The object of the safety investigation is defined in Section 40 "Cases affecting railway safety" (1, 2, 3 and 4). Cases affecting railway safety as well as objects of safety investigations are accidents, serious accidents and incidents. The Railways Act has two sections dedicated specifically to safety investigations. These are Section 42 "Safety investigations of accidents, serious accidents and incidents" and Section 43 "Safety Investigation Reports ". The remainder of the provisions of the Railways Act serve in a clarifying and assisting role in the context of safety investigations. Legislation has provided delegation authority to two regulations related to the processes of safety investigation, these are "Safety investigation procedures" (Railways Act Section 42 (12) and "Procedures for providing written notification of accidents, serious accidents and incidents and format of written notifications and reports" (Railways Act Section 42 (13).

Railway infrastructure managers or other railway infrastructure possessors and railway undertakings as well as in the case of having been notified in the process of surveillance activities, the Technical Regulatory Authority, immediately notify the Safety Investigation Bureau of an accident, serious accident or incident via means of public communication pursuant to Subsection 42 (3^1) of the Railways Act. The same Subsection also specifies presenting additional information in writing within three working days. Notification process has been specified by The Ministry of Economic Affairs and Communications "Procedures for notifying of accidents, serious accidents and incidents and the format of the written notices and reports". Pursuant to Subsection

2 (1) of the Directive a written notification is made in the format included in the Annex of the Directive. Pursuant to the same Subsection (2) of the Directive an immediate notification of an incident is made to the email address published by the ESIB. If the ESIB requests additional information, a written report of the incident must be presented within three working days of the request being made.

Subsection 42 (2) of the Railways Act provides the ESIB's right to involve experts and form committees to clarify circumstances that require specialist knowledge. The experts involved in a safety investigation and the committee take part in the investigation under the supervision of the official conducting it. The same Subsection establishes the obligation by authorities involved in a safety investigation to provide necessary assistance to the ESIB within their competence.

The Railways Act establishes the right of the official conducting a safety investigation to make a precept to the person under obligation to fulfil the obligations related to the safety investigation. In the event of non-compliance with the precept, under the same Subsection (11^1) the official conducting the safety investigation has the right to apply a penalty charge.

The Safety Investigation Bureau may issue a safety alert during the investigation. A safety alert is issued pursuant to Subsection 42 (11^2) of the Railways Act when circumstances and facts come to light during the investigation of the occurrence that have significance to more than one railway infrastructure manager or railway undertaking or one or more European Union member state. When issuing the alert, the ESIB assesses the determined circumstances affecting safety of the relevant rolling stock, railway infrastructure installations, railway traffic regulation, maintenance arrangements, handling processes and technical and legal guidelines. The safety alert includes only facts and descriptions but no recommendations or assessments. The safety alert is issued to those concerned and the European Union Agency for Railways.

Subsection 43 of the Railways Act specifies all requirements and deadlines for compiling and presenting various reports. Pursuant to Subsection 43 (1) the ESIB must complete a written report of the safety investigation in the shortest possible time and publish it immediately but no later than 12 months after the occurrence. The safety investigation report is forwarded to all parties involved such as the railway infrastructure managers, railway undertakings, the safety investigation bodies of other European Union member states, victims and their families, owners and manufacturers of damaged property, Rescue Board, representatives of the employees and passengers and the European Union Agency for Railways. Pursuant to Subsection 43 (3) the Estonian Technical Regulatory Authority, other authorities, businesses or organisations that were subject to the ESIB's recommendations, submit a report to the ESIB about the measures taken or planned based on the recommendations annually by the 01 April. Pursuant to Subsection 43 (4), by 30 September each year, the Safety Investigation Bureau shall publish an annual report on the cases investigated in the previous year, the recommendations and proceedings on its website.

The Ministry of Economic Affairs and Communications has issued the Directive No 72 covering all three ESIB's areas of transport, "Safety Investigation Procedures", the latest version of which came into force on 22.04.2016. The Directive sets out ascertainment of causes of the occurrence and making recommendations and specifies the objective of a safety investigation as prevention of similar occurrences in the future. The Directive determines areas of a safety investigation according to modes of transport, its coordinator, defines the start of a safety investigation and notification of those involved, depending on the complexity and workload of the occurrence, formation of a safety investigation committee, procedures for a safety investigation and the tasks of the investigator-in-charge, issuing a safety alert, the format, signing, confirmation and publication of the safety investigation report, completing the safety investigation, proceedings of the safety recommendations, if necessary, the reopening of the safety investigation and procedures for registration of the cases being investigated. The Directive contains annexes which specify the format of safety investigation reports and the format of the report on measures taken or planned, based on the recommendations of the Railway Safety Directive 2004/49/EC annex 5 and the ERA "Guidance on Safety Recommendations in terms of Article 25 Directive 2004/49/EC".

1.2 Role and aim

The role of the Safety Investigation Bureau is to contribute, via its recommendations, to increasing traffic safety in maritime, aviation and railway traffic. The role is realised through the accident safety investigations of the three modes of transport. The aim of the safety investigations is to determine the circumstances and causes of the accidents and incidents investigated. During the investigation an assessment is given to the effect the causes have on the traffic safety. Through the logical connections with circumstances affecting traffic safety, recommendations are formulated that can help decrease or avoid such occurrences in the future. It is the task of the Safety Investigation Bureau to contribute to the formulation of legislation related to maritime, aviation and railway safety. If necessary, the ESIB will make recommendations for additions or amendments to current legislation. The multimodal ESIB also participates in formulation and implementation of projects, policies, strategies and development plans related to its areas of activity and participate in the preparation and implementation of international projects.

The Statutes have defined the following obligations for the Safety Investigation Bureau:

1) Complete all its tasks in a timely manner and to a high standard.
2) Ensure the confidentiality of the professional information pursuant to legislation.
3) Utilize any assets and resources that it has been allocated purposefully and rationally.

4) Forward to other structural units of the Ministry information that is necessary for them to perform their tasks.

The objective of the safety investigation has been provided by Subsection 42 (3) of the Railways Act and Section 1 of the Minister's Directive "Safety Investigation Procedures". The main objective of the safety investigations of accidents, serious accidents and incidents is to determine the causes and make recommendations to prevent such occurrences in the future and improve railway safety but not to appoint blame or liability.

The Statutes of the Safety Investigation Bureau specify the following rights in order to fulfil its role and aim:

1) Access to documents and information necessary for fulfilling the tasks assigned to the Safety Investigation Bureau from ministers, secretaries general and deputy secretaries general, other departments, government authorities within the jurisdiction of the Ministry and legal persons governed by private law which are subject to the Ministry's founding, membership, stockholder or shareholder rights.
2) Engage employees of other departments in resolving issues within the Safety Investigation Bureau remit.
3) Work in cooperation with other government and local authorities and legal persons governed by private law and make recommendations to form committees and working groups within its areas of activity.
4) Within limits of its competence, communicate information to other authorities and persons.
5) Make proposals for contracts required for fulfilling its tasks.
6) Get further training to improve the specialist, occupational or professional level of the Safety Investigation Bureau employees.
7) Receive necessary office equipment, resources and literature and technical and information support.

Pursuant to the Statutes, while fulfilling its main objective, The Safety Investigation Bureau

1) Works in cooperation with other government departments, local government units, foundations, non-profit associations, business and consumer organisations, businesses, private persons and respective authorities of other countries and international organisations.
2) Represents the state in the international organisations related to its areas of activity in agreement with the Ministry.
3) Takes part in fulfilling any duties of the Republic of Estonia pursuant to the international agreements relating to the ESIB areas of activity.
4) Prepares the draft budget for ESIB and the report on the execution of the previous year's budget.
5) Develops and implements its development plan and work schedules.

6) Monitors, analyses and assesses the situation in its areas of activity and informs The Aviation Authority, Technical Regulatory Authority and Estonian Maritime Administration, the Aviation and Maritime department and the Roads and Railways department of the Ministry as well as other authorities and businesses of its findings.
7) Performs tests and expert analysis on machinery, engines, equipment, their details and assemblies and other devices to assess their compliance with requirements to clarify the circumstances of a case under investigation.
8) Makes recommendations and takes decisions within its jurisdiction provided by legislation.
9) Ensures the confidentiality of information containing business and technical details and personal data if legislation does not provide that it should be published.
10) Implements measures for witness protection.
11) Performs the duties assigned by legislation as a chief or authorised processor of the database of cases investigated.
12) Preserves the items, equipment, assemblies and details in its possession that are relevant to ascertaining the causes of the occurrence.
13) Organises information days about safety and development activities.
14) Possesses, uses and disposes of public property in its possession in cases provided by and in accordance with legislation.
15) Advises individuals in matters relating to the Safety Investigation Bureau's areas of activity.
16) Performs other tasks assigned by legislation.

Subsection 42 (6) of the Railways Act provides that the official conducting the safety investigation of a railway accident, serious accident or incident has the right to

1) Immediate access to the rolling stock, railway infrastructure and traffic control and signalling devices involved in an accident, serious accident or incident.
2) Restrict unauthorised access to the scene of the accident and prohibit handling, removing or destroying items from the scene of the accident.
3) Ensure immediate inventory of all evidence and controlled removal of the wreck, rolling stock, infrastructure equipment or components for investigation or analysis.
4) Immediate access to the on-board and other recording equipment and their recordings and to subject them to their control.
5) Immediately receive into their disposal autopsy reports of the casualties and the results of the analysis of any samples taken from the deceased.
6) Question witnesses and persons who might have important information regarding the safety investigation and demand confirmation or provision of information necessary for the safety investigation.
7) Access to all relevant information and documents independently or in cooperation with the authority conducting the preliminary criminal investigation.

8) Immediate access to the testimony of persons associated with the occurrence and to the analysis results of any samples taken from these persons.

1.3 Organisation

The Safety Investigation Bureau is one of the structural units of the Ministry of Economic Affairs and Communications. To perform specific tasks, the ESIB has been granted a different organisational status from other structural units. The ESIB's special status among the Ministry's departments has been guaranteed by relevant articles of the Aviation Act, Maritime Safety Act and Railways Act. The ESIB has the right to utilise other departments' competencies and work in cooperation with them but retains complete independence in decisions relating to the requirement of cooperation and the extent of utilising of their competencies. Other structural units of the Ministry have the role of providing ancillary services to the ESIB. Main ESIB activities are reflected in its work schedule which form one part of the Ministry's work schedule.

ESIB's distinctive organisational nature is reflected by the letterhead, website, logo and a budget that has been approved by the Parliament. An ESIB official has a certificate of employment. An official can exercise the special rights granted to him by legislation while carrying out his official tasks by presenting the certificate of employment. The certificate of employment includes a brief description of the right of access to the necessary facilities and the national and European Union legal bases of the right. The certificate of employment of a railway accidents investigator is valid until 1 February 2022.

The Safety Investigation Bureau's work is led by a director. There are three officials working under him, an aviation accident investigation expert, a chief specialist in marine accident investigation and a chief specialist in railway accident investigation.

Only the Safety Investigation Bureau has the right to make the decision whether to begin a safety investigation of an accident, serious accident or an incident. The safety investigation must be conducted within 12 months during which an investigation report must be completed. The report is signed by all members of the committee or in the absence thereof, the investigator-in-charge who conducted the investigation. The report is signed off by the director of the ESIB. The report is then forwarded to all relevant parties and published on the ESIB website. An interim report is published after 12 months if during this time the safety investigation has not been completed.

1.4 Organisational flow

The Safety Investigation Bureau is one of the Ministry's structural units. All other structural units are called departments. Larger departments are divided into services. The Safety Investigation Bureau is the most legally independent of all departments. This is the only way they can fulfil the tasks requiring special rights.

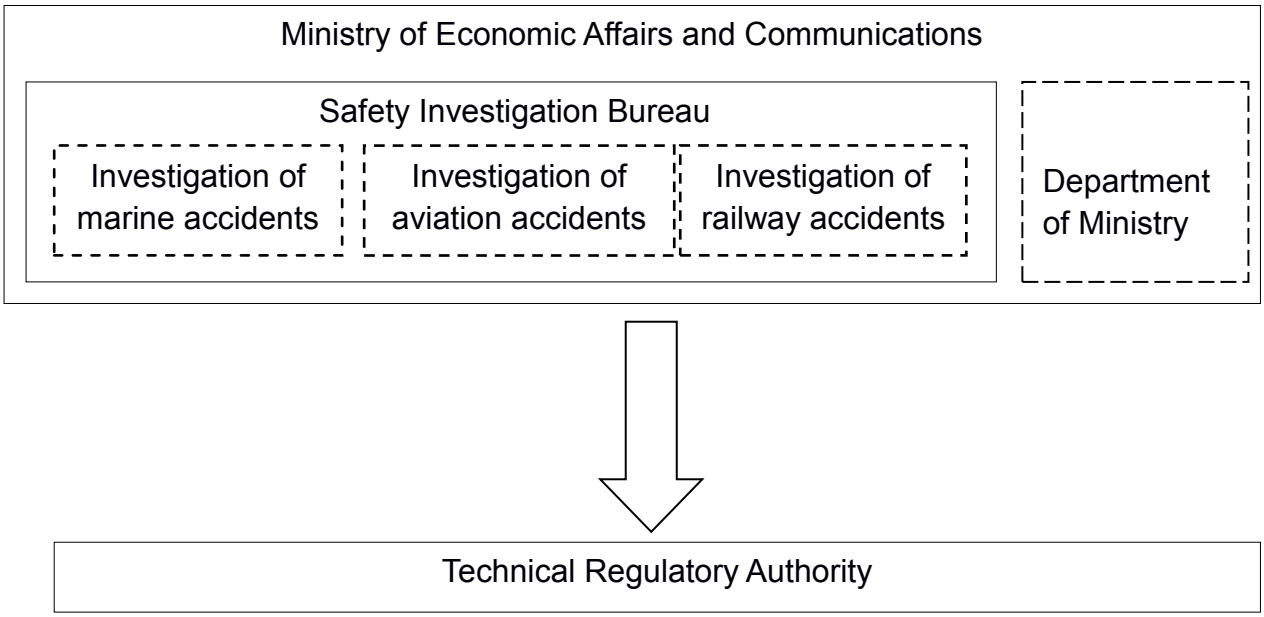


Figure 1 The Safety Investigation Bureau in the organisational structure of the Ministry

The Safety Investigation Bureau is structurally an entity because it has a small number of employees. Its work is directed and supervised by the director. Each of the officials is engaged in a separate area of work. All ESIB officials are permanent staff. Every official has a specific area assigned to them and they are responsible for the accurate, lawful and timely completion of the duties of this area.

The title of each ESIB official reflects the transport sector the accidents and incidents of which they are responsible for conducting safety investigations of. An official is independent in conducting safety investigations. If necessary, the officials of other areas of transport support as assistants in their investigation. If one of the officials is away for a longer period, the others will cover his work to a certain extent. Once the official has returned to work, all necessary information will be forwarded to him to enable him to continue the activities. All officials take turns to be involved in the Safety Investigation Bureau's 24-hour telephone service.

Safety investigations of railway accidents in Estonia are conducted only by the Safety Investigation Bureau. In parallel with the safety investigation, other investigations or

procedures of a given case may take place. An ESIB safety investigation is an independent and completely autonomous process. No other investigation or proceedings conducted by law enforcement, surveillance authorities or other authorities and institutions are related to it. Only the ESIB decides the content and results of a safety investigation.

Estonian Technical Regulatory Authority (ETRA) is an independent department of administration of the Ministry of Economic Affairs and Communications with a separate budget, structure and management. ETRA performs the function of the railway safety authority and a regulator in Estonia.

All railway infrastructure managers and rail operators and other undertakings that manage or own other railway infrastructure or rolling stock are independent manufacturing enterprises acting as legal persons. The Ministry of Economic Affairs and Communications is a shareholder for three of the infrastructure managers. These are the railway infrastructure manager Estonian Railways Ltd, railway freight transport undertaking AS Operail (previously EVR Cargo) and railway passenger transports undertaking AS Eesti Liinirongid (Elron). The Estonian state does not participate in the ownership of the rest of the infrastructure and freight companies. The relationship between the Safety Investigation Bureau and railway undertakings is regulated by legal acts and directives.

2. Investigation processes

2.1 Cases to be investigated

The Railways Act specifies which cases require the Safety Investigation Bureau to conduct a safety investigation. The application of the Railway Safety Directive 2004/49/EC in Estonian legislation has established the classification of occurrences affecting railway safety in Estonia, identical to that of the Directive. The terminology used in Estonia is identical to the Safety Directive in form as well as substance.

The Safety Investigation Bureau is obligated to investigate serious accidents. If the circumstances of an accident or incident or similar circumstances might have caused a serious accident, including at least one death or significant physical harm to five or more people, also technical failure in the subsystem of the Trans-European conventional or high-speed rail system or interoperability constituent, the ESIB has a right to begin a safety investigation. In making the decision the Safety Investigation Bureau must consider the severity of the accident or incident from the pan-European perspective and other important circumstances. In its assessment of an accident or incident the ESIB considers applications submitted by a safety investigation body of another European Union member state, the Technical Regulatory Authority and infrastructure managers and railway undertakings.

The Safety Investigation Bureau has developed the appendix R3 to the ESIB manual “Characteristics of a railway accident or incident for making the decision to begin a safety investigation or formulating an opinion”. In order to make a decision regarding launching a safety investigation the ESIB gathers additional information about the occurrence based on which it assesses the potential risk of the occurrence, number of fatalities or injuries, fatality of a person who was known to the railway infrastructure manager to be or work at the railway as a result of the railway infrastructure manager’s equipment failure, obvious mistake or oversight of the railwayman as a probable cause of the occurrence, circumstances of similar cases, collision of rolling stock with a group of people, depending on the number of injuries and fatalities. By evaluating the information gathered the ESIB decides whether to launch a safety investigation or not. Annex R3 of the manual directs the ESIB to take a risk-based approach as well as relying on the legally determined cases when making the decision to begin a safety investigation.

2.2 Institutions involved in investigations

The Railways Act and the Directive about safety investigations provide the principles that the ESIB is guided by when including anyone in the investigation. The principles are common and compulsory to all parties and prevent anyone potentially interested from intervening in the decision-making process of the safety investigation. The purpose of inclusion is that the safety investigation can be conducted to the required standard, primarily by obtaining the necessary information about the occurrence through those included. Infrastructure managers as well as third parties are obliged to provide the relevant information they hold when requested by the ESIB. If invited by the ESIB, a person is obliged to appear and give testimony about circumstances known to them. The Railways Act establishes the right of the official conducting a safety investigation to make a precept to the person under obligation in order to fulfil the obligations related to the safety investigation. In the event of non-compliance with the precept, the right to apply the penalty charge to either a natural or a legal person is available pursuant to the procedure prescribed by legislation.

The Safety Investigation Bureau has signed a cooperation agreement with the Police and Border Guard Board, the Office of the Prosecutor General, the Rescue Board and the Emergency Centre. Compliance with the cooperation agreement ensures the coordinated activities of the various authorities when fulfilling the duties assigned to them by legislation. Both parties guarantee that a criminal investigation does not hinder the safety investigation and vice versa. The Emergency Centre sends an immediate SMS and a notification to the ESIB email address of any incident or accident they have been informed of in the railway, maritime or aviation field which will simultaneously also arrive in the inbox of all the officials. If possible, the Police and Boarder Guard Board and the Rescue Board ensure safety at the scene and their assistance with the investigations after the rescue operations have finished. All parties allow access to evidence and factual information, unless forbidden by law. The sharing of data collected as part of the criminal proceedings is decided by the prosecutor’s office. Ensuring access and disclosure of evidence cannot hinder the safety investigation or criminal proceedings. If necessary, the parties consult each other and where possible, exchange information. The safety investigation and criminal proceedings are conducted separately although the parties work in cooperation with each other.

Safety Investigation is supported by current legislation. Based on this, pragmatic cooperation methods have evolved with various businesses, authorities, institutions and private individuals. For example, an accident safety investigation conducted in 2018, included cooperation with the railway infrastructure manager and railway undertaking, the police, the Emergency Centre, the possessor of the vehicle, the possessor of the road, etc. The Safety Investigation Bureau has signed cooperation agreements with the Latvian and Finnish safety investigation authorities, the southern and northern neighbours respectively.

The legislation provides an obligation to invite investigative bodies of another Member State of the European Union to participate in a safety investigation if the accident involves a railway infrastructure manager established or licenced in that member state. If necessary, the ESIB may ask the safety investigation bodies of other countries and European Railways Agency for help with specialist knowledge, technical inspection, performing analysis and giving assessments. So far, there has been no requirement to use this option.

It is the role of the investigator-in-charge to interpret the information gathered either by involving others or by directly and systematic processing the facts, knowledge and circumstances. The results will be reflected in the content of the investigation report. The investigator-in-charge contacts all the parties involved, listens to their viewpoints and opinions and before the end of the investigation, presents to them a summary of the results of the safety investigation. The summary is discussed with the authorities, businesses, institutions and if there is interest, individuals involved in the case. As a result of the discussion, the investigator-in-charge prepares an investigation report to be signed and subsequently published.

Since 2004 when the safety investigations of railway accidents and incidents began, neither the investigator-in-charge nor members of the investigation committee have ever been part of a police criminal investigation, an internal investigation, misdemeanour proceedings of the Technical Regulatory Authority or any other proceedings or investigation of the given case conducted by another authority. Neither has any person involved in the investigation of a given case participated in a safety investigation.

2.3 Investigation process and approach of the Investigation Body

The proceedings of each accident, serious accident or incident are conducted at the Safety Investigation Bureau. The proceedings start with receipt of the initial notification. The initial notification arrives from two sources: Emergency Centre and the railway infrastructure manager. The Emergency Centre notifies the ESIB by email and helpline of all occurrences in air, water and rail that it is aware of for 24 hours a day. From the railway sector, railway infrastructure managers and possessors and railway undertakings and if they have become aware during regulatory activities, the Technical Regulatory Authority, notify the Safety Investigation Bureau by means of public communication immediately. The publicly available means of communication is the phone that the investigator of railway accidents has access to 24 hours a day. In the case of an accident or a serious accident the infrastructure manager that made the initial notification also makes a written notification to the ESIB in the agreed format within three working days. The written notice contains specified and verified factual

details of the occurrence that were not yet clear when the initial notification was forwarded. In case of an incident, a written report about additional information in an agreed format is also made within three working days to the ESIB if the ESIB has requested this. All written documents received by the ESIB are systematically stored within a digital document management system as part of the ancillary services.

Based on a pragmatic agreement the preferred method is for the railway infrastructure manager to make the initial notification by phone directly to the official dealing with the safety investigations of railway accidents – the investigator of railway accidents. Individuals who do not know the telephone number of the investigator of railway accidents call the ESIB helpline that has been published on the website. The notification is also forwarded to the official dealing with the safety investigations of railway accidents. The official dealing with safety investigations of railway accidents assesses the initial circumstances of the case and, if necessary, will ask for additional information. He makes an initial assessment based on the Railways Act and the safety investigation manual and makes a proposal to the Director of the ESIB either to begin a safety investigation, not to begin a safety investigation or to defer the decision until additional circumstances have been clarified. Based on the verbal information received, the ESIB decides whether there is a requirement to visit the scene. In the case of a serious accident the official notifies the Director of the Safety Investigation Bureau immediately by telephone. The Director of the Safety Investigation Bureau maintains records of notifications received and if necessary, requests additional information. The Director's position on whether to begin or not to begin a safety investigation is final and binding to the official dealing with the railway accident investigations.

The Safety Investigation Bureau's decision whether to begin an investigation or not is made pursuant to the Railway Safety Directive 2004/49/EC and Subsection 42 (8) of the Railways Act. The decision whether to begin an investigation of an accident, serious accident or incident is made as a maximum one week after receiving notification of the occurrence. The ESIB will notify the European Union Agency for Railways within a week of the decision to begin a safety investigation by entering the relevant information in the correct format to the database of the European Union Agency for Railways.

Since the start of safety investigations in Estonia in 2004 the deadline for notifying the European Railways Agency has never been missed.

The Ministry of Economic Affairs and Communications Directive No 72 "Safety Investigation Procedures" provides a unified multi-modal approach for conducting safety investigations of maritime, aviation and railway accidents. In accordance with the Directive the ESIB Director has approved the "Safety Investigation Manual" of work procedures. The manual consists of a generic main part and annexes. The annexes may be common to all three areas of transport or directed to the specific activities of the safety investigation of one mode of transport. In 2018 the manual contained six annexes, of which one was common to all and 5 annexes specific to railways.

The whole safety investigation is usually conducted by the investigator-in-charge who is the official responsible for investigating railway accidents. He informs all relevant parties of the launch of a safety investigation and drafts an investigation plan the fulfilment of which he is responsible for. If necessary, he makes amendments and additions to the plan during the safety investigation. The investigator-in-charge coordinates the gathering, storage and analysis of data and evidence as well as the contracting of experts and communications with relevant individuals or organisations. The investigator-in-charge organises or performs all necessary activities.

In choosing their work methods and style the investigator-in-charge considers on the specifics of the case being investigated. He chooses different but, at the given time, the most appropriate means and methods of communication to communicate with natural and legal persons. The investigator-in-charge is the active party working with victims, state and local government authorities, businesses and organisations to ascertain the causes and other circumstances of the occurrence. The more important verbally forwarded information is recorded, written information is stored within the document management system. Upon receiving notification of the investigation, the railway undertakings retain all evidence and details of items, technical assemblies, documents, recordings of the data recording equipment and other information which might be important in determining the causes of the occurrence and present this at the request of the investigator-in-charge. The safety investigation only determines which direct causes, underlying causes or root causes are relevant to the case at hand. Determining the causes of the occurrence during the safety investigation is defined in the Annex R5 to the Safety Investigation Manual. Information about the safety investigation is generally issued by the investigator-in-charge or, by prior agreement, a member of the investigation committee or the Director of the ESIB. If there is persistent high risk, a safety alert is made on behalf of the Safety Investigation Bureau.

Hearing, questioning and taking statements from all individuals and parties concerned is conducted pursuant to the Annex (AMR1) of the Safety Investigation Manual common to all three modes of transport which specifies the objectives, planning, conducting and documenting the activities. The safety investigation is conducted as publicly as possible. Disclosure must not start hindering identification of causes or development of recommendations necessary for increasing safety. The investigator-in-charge turns to all parties involved to give them an opportunity to present their opinions, attitude, position and understanding of the proceedings of the safety investigation and its results. The parties involved may address the investigator-in-charge via the communication methods they have been advised of or by direct contact with the investigator-in-charge. Information that has restricted access pursuant to cases specified by The Public Information Act is not disclosed during or after the safety investigation. Specific dates have been designated by law to restrictions to disclosure.

During the safety investigation of railway accidents and incidents it is often necessary to provide an explanation and assessment to the relative importance of human factors

and their effect. Analysis of human factors during the safety investigation is supported by the guidelines set out in Annex R6 of the Safety Investigation Manual.

Operation of the infrastructure manager's safety management system before and after the accident or incident under investigation is important in ensuring railway traffic safety. Annex R4 of the Safety Investigation Manual specifies which aspects of the company's safety management system should be paid attention to during the safety investigation. In cases that are not related to the management of infrastructure managers, an assessment is given to the operation of the infrastructure manager's safety management system as part of the ascertainment of the causes of the occurrence and elimination of consequences.

The investigator-in-charge is responsible for the investigation report to be completed in a timely manner and in the prescribed format. The recommendations presented in the report are subject to proceedings by the addressees. The results of the proceedings are to be presented to the ESIB by the addressees in the annual report. The ESIB monitors the proceedings that take place prior to the report being presented. The investigator-in-charge contacts the addressee of the recommendation for this purpose. Monitoring of the proceedings by the investigator-in-charge is set out in Annex R5 of the Safety Investigation Manual.

3. Safety Investigations

3.1 Overview of completed investigations

During the reporting year the Safety Investigation Bureau received 33 initial accident notifications of which 17 were rolling stock colliding with pedestrians. For the most part (in 12 cases) the pedestrians were deliberately on the rail tracks when the train was approaching; either walking, standing, sitting, stepping out in front of the train, hurrying towards the tracks or in any other way behaving in a manner indicating a possible suicide. Suicide is not an event which is unwelcome or inadvertently unexpected to all parties and therefore does not belong into the classification of accidents. The year before saw 24 initial accident notifications.

On the 20 February 2018 the Safety Investigation Bureau launched a safety investigation of a collision that took place on the Kulna level crossing between a truck and a passenger train. The safety investigation was concluded within the same year.

During the year the Safety Investigation Bureau received 9 initial notifications of incidents. In 2017 there were 3 incidents and, in the year before, 13. The Safety Investigation Bureau did not launch a safety investigation of any incident. The incidents consisted of track breakages caused by temperature changes. They did not result in hazardous situations.

Summary of the safety investigations completed in 2018

Table 1

Type of case investigated	Number of cases	Casualties		Estimated losses (EUR)	Trend compared to last year
		Deaths	Seriously injured		
Accident[1]	1	-	1	2.9 million	Same
Incident	-	-	-	-	-

[1]in later statistics this occurrence is reclassified as a serious accident.

Compared to 2017, the number of cases investigated remained the same. After the occurrence the Safety Investigation Bureau estimated the possible damages at under 2 million euros and on 26 February launched a safety investigation of the railway level crossing accident. As a result of the expert analysis of the rolling stock performed at the manufacturer's company, the losses proved to be higher than 2 million euros.

Pursuant to Railway Safety Directive 2004/49/EC one of the characteristics of a serious accident is extensive damage the extent of which the investigative body can immediately estimate as being at least 2 million euros. After the Kulna accident the Safety Investigation Bureau provisionally estimated the damages as under 2 million euros. The later reassessment of damages as a result of expert analysis does not form a basis for reassessment of the decision to launch a safety investigation. The occurrence had several significant characteristics which formed the basis to launch a safety investigation. The Safety Investigation Bureau investigated the Kulna level crossing occurrence as an accident.

3.2 Safety investigations completed and commenced in 2018

There were no safety investigations of an accident, serious accident or incident that had commenced in the previous years but still not completed by 2018.

The Safety Investigation Bureau classified the collision between a truck and a passenger train that took place on the Kulna passive unconfigured level crossing as an accident pursuant to Subsection 40 (2) of the Railways Act and Article 3 of the Railway Safety Directive 2004/49/EC. The Safety Investigation Bureau launched a safety investigation based on Article 21 of the Safety Directive and Subsection 42 (5) of the Railways Act.

Safety investigations completed in 2018

Table 2

Date of occurrence	Title of the investigation (Occurrence type, location)	Legal basis	Completed (date)
20.02.2018	Collision between a truck and a passenger train, an accident between the Vasalemma and Keila stations, on the Kulna level crossing, km 73,208.	i	11.10.2018

Basis for investigation: i = pursuant to the safety directive

The following table shows that no safety investigations were launched in 2018 that could not be completed in the same year.

Safety investigations commenced in 2018

Table 3

Date of occurrence	Title of the investigation (Occurrence type, location)	Legal basis
-	-	I

Basis for investigation: i = pursuant to the safety directive

3.3 Summary of the safety investigations completed in 2018

Kulna 20.02.2018

On Tuesday 20 February 2018 at 08.29am a collision between a Scania truck and AS Eesti Liinirongid (Elron) passenger train No 0522 took place between the Vasalemma and Keila stations on a rural, unconfigured (passive) Estonian Railways Ltd infrastructure Kulna level crossing (km 73,208). The driver of the truck sustained serious injuries. Two train crew members and 6 passengers sustained minor injuries.

Photo 1. The truck with a semitrailer and the train after the accident.

The Elron three-carriage electric train Stadler Flirt EMU 1309 served the Riisipere - Tallinn route as a passenger train. The train is equipped with B-class ALSN-type signalling control management system VEPS. The train approached the stop by reducing speed. At the time of the collision the speed sensor reading was 28 km/h. The

driver of the rolling stock had engaged the emergency brakes and observed all traffic regulations.

The Scania truck collided with the lead carriage of the train on the right-hand side from the driving direction of the train. Recent de-icing in the vicinity of the level crossing had improved the driving conditions which enabled the vehicle driver to increase speed. At the time of the collision the truck's speed was 29 km/h.

The occurrence took place in the morning when the sun was shining from the back of the vehicle driver and the slight cloudiness had reduced. The level crossing is equipped with traffic management measures which, if followed by the vehicle driver, would have enabled the collision to be avoided. It was determined that the vehicle driver was intoxicated. As an experienced driver he drove carefully and was concentrating on the conditions of the road ahead. It is likely that the alcohol in his system slowed down switching his attention from the road to the approaching train.

As a result of being hit by a 40-ton truck, the train was derailed. The last undercarriage remained on the tracks. Out of the 37 passengers on the train 6 sustained minor injuries. Of the crew the driver of the rolling stock and one of the customer attendants also sustained minor injuries. The truck driver sustained serious injuries.

Train traffic was stopped for 52 hours and 36 minutes. 54 trains were cancelled and passenger trains experienced delays totalling 39 minutes. Until the reinstatement of the train service travel was organised in coaches.

The safety investigation report made 2 recommendations to the Estonian Road Administration and 3 recommendations to the Technical Regulatory Authority.

3.4 Comments of investigations

The Kulna accident that was investigated in the reporting year took place on 20 February and the safety investigation report was signed on 11 October. The safety investigation of the occurrence lasted for 7 months and 21 days. Both the Safety Directive and the Railways Act have established the time limit for an investigation as 1 year. This investigation was completed within the prescribed timeframe.

In Estonia there is one official at the Safety Investigation Bureau engaged in railway accident investigations. He is not excused from other work commitments for the duration of the safety investigation. This official must perform all ESIB duties related to the railways throughout the year. He receives notifications of all occurrences, gathers relevant additional information and analyses it. He makes the proposal to launch a safety investigation, analyses the materials related to all accidents that have been sent to the ESIB by the railway undertakings, participates in regional as well as pan-

European events for safety investigation organisations, gathers, analyses and processes material for compiling the annual report and compiles the annual report, works in cooperation with national institutions on railway safety.

The official responsible for conducting safety investigations plans his activities ahead and divides the activities according to a timeline into different stages so that by alternating between separate work commitments he ensures the timely completion of all work. Since 2004 when the safety investigations began in Estonia, no investigation has lasted longer than 12 months.

Total number of deaths and injuries

Table 4

Year	Deaths	Injured in road vehicle / of them seriously	Injured in rolling stock / of them seriously
2014	2	-	12/-
2015	-	-	-
2016	-	-	-
2017	2	-	-
2018	-	1/1	8/-
Total	4	1/1	10/-

The Kulna accident took place on a single-track electrified main railway line. To remove the train and reopen traffic, the electrical line and support posts had to be removed and then replaced. The safety investigation did not reveal any circumstances where the railway infrastructure manager's or the railway undertaking's actions had pointed to the underlying causes or root causes. Direct causes of the occurrence were determined.

In the past five years only two years have seen an accident investigation with 2 fatalities each. One occurrence has resulted in serious injuries. There have been more minor injuries that have occurred on the passenger trains involved in accidents.

The following table shows the number of injuries and deaths over the past five years:

Breakdown of the injured and deaths

Table 5

Breakdown by type of persons		Year, number				
		2014	2015	2016	2017	2018
Deaths	Passengers	1	-	-	-	-
	Staff	-	-	-	-	-
	Third parties	1	-	-	2	-

	Total	2	-	-	2	-
Injured	Passengers	12	-	-	-	6
	Staff	-	-	-	-	2
	Third parties	-	-	-	-	1
	Total	12	-	-	-	9

3.5 Accidents and incidents investigated during the past five years (2014 – 2018)

During the past five years there has been an investigation of the only serious accident that took place on a level crossing. The occurrence resulted in the derailment of the train and deaths of two people. In addition, the ESIB conducted a safety investigation of two accidents where in the case of one, the damages were estimated to be less than 2 million euros at the launch of the investigation but after several months were determined to be higher by experts. The ESIB investigated the occurrence as an accident but this was later classified as a serious accident in national statistics. The classification of the second accident investigated did not change with the later specification of the data.

Breakdown of investigated cases by years

Table 6

Title of the case		**Year, number of investigations**					
		2014	**2015**	**2016**	**2017**	**2018**	**Total**
Art 19.1,2	Train collision	-	-	-	-	-	-
	Train collision with an obstacle	-	-	-	-	-	-
	Train derailment	-	-	-	-	-	-
	Level crossing accident	1	-	-	-	-	1
	Accident to person caused by RS in motion	-	-	-	-	-	-
	Fire in rolling stock	-	-	-	-	-	-
	Accident involving dangerous goods	-	-	-	-	-	-
	Train collision	-	-	-	-	-	-

Art 21.6	Train collision with an obstacle	-	-	-	-	-	-
	Train derailment	-	-	-	-	-	-
	Level crossing accident	-	-	-	1	1	2
	Accident to person caused by RS in motion	-	-	-	-	-	-
	Fire in rolling stock	-	-	-	-	-	-
	Accident involving dangerous goods	-	-	-	-	-	-
Incident		-	-	-	-	-	-
Total		**1**	**-**	**-**	**1**	**1**	**3**

In describing the past five years it can be noted that at the end of 2015 beginning of 2016 there were sudden changes in temperature in Estonia. This caused track breakages although this did not result in any dangerous situations in rail traffic. The ESIB gathered additional information about these incidents and presented its opinion. No safety investigations were conducted about these incidents.

4. Recommendations

4.1 Short review and presentation of recommendations

The Safety Investigation Bureau presents all recommendations concerning railway undertakings to the Technical Regulatory Authority and simultaneously to the relevant railway undertaking along with the investigation report. The Technical Regulatory Authority produces a report in specified format about the status of proceedings by a specified time. The railway undertakings also produce a report about the recommendations concerning them.

Recommendations aimed at other institutions and organisations are presented directly to them by the ESIB. They also produce a relevant report by a specified time.

Recommendations for improvement of safety

Table 7

Field of activity of recommendation	**Year, number of recommendations**				
	2014	**2015**	**2016**	**2017**	**2018**
Maintenance and care of railway infrastructure	-	-	-	-	-
Care, maintenance and managing of rolling stock	-	-	-	-	-
Organisation of supervision	-	-	-	1	-
Road traffic management, road traffic control devices	1	-	-	-	2
Winter maintenance of roads	-	-	-	-	-
Dissemination of information concerning traffic, training	1	-	-	1	-
Amendments to legal acts and regulating instructions	-	-	-	-	1
Operation of traffic lights, railway traffic control	2	-	-	-	1
Organisation of operation of railway	-	-	-	-	-

communication devices					
Use of information recording equipment	-	-	-	-	-
Professional qualifications of railwaymen	-	-	-	-	-
Other arrangements	-	-	-	-	1
Total	4	-	-	2	5

The following table shows the status of implementation of recommendations based on data as of 1 April 2019.

Implementation of recommendations

Table 8

Recommendations issued		**Recommendation implementation status**							
		Implemented		**In progress**		**Not to be implemented**		**Implementation suspended**	
Year	**No**	**No**	**%**	**No**	**%**	**No**	**%**	**No**	**%**
2014	4	4	100	-	-	-	-	-	-
2015	-	-	-	-	-	-	-	-	-
2016	-	-	-	-	-	-	-	-	-
2017	2	2	100	-	-	-	-	-	-
2018	5	2	40	3	60	-	-	-	-
Total	11	8	73	3	27	-	-	-	-

Proceedings of recommendations are conducted by the addressees until the proceedings have been completed or suspended due to change in circumstances. When the proceedings continue, the addressee of the recommendation presents an annual report in specified format to the Safety Investigation Bureau.

To obtain information about the status of the implementation of recommendations the ESIB contacted the addressees a few months after the recommendations were presented. An interim review about the proceedings of the recommendations given after the Kulna accident was carried out with the Technical Regulatory Authority on 11 December and with the Estonian Road Administration on 14 December 2018.

4.2 Recommendations made in 2018

During 2018 the ESIB worked out recommendations during the safety investigation of the Kulna level crossing accident. The level crossing was marked to the road vehicles

by warning traffic control devices. There were no automatic crossing traffic lights or an optional barrier.
The ESIB assessed the circumstances of the occurrence and drew conclusions from them. Based on formulated opinions recommendations were made to the road possessor, railway infrastructure manager and the safety authority. Recommendations addressed to the railway infrastructure manager were simultaneously also presented to the safety authority for proceedings.

The following recommendations were made to the Estonian Road Administration as the road possessor:

1. Install a warning sign 112 “Level crossing without a barrier” to the same post as the additional warning sign “Level crossing ahead”.
2. Install a mandatory traffic speed warning sign on the Kulna level crossing on the approach from the forest.

The following recommendations were made to the Technical Regulatory Authority as the safety authority:

3. Plan a set of proposals to the Ministry of Economic Affairs and Communications in order to elevate the status of the level crossing inspection committee by increasing its duties and authority.
4. Direct Estonian Railways Ltd to prioritize installation of automatic traffic light signalling device on the Kulna level crossing.
5. Instruct Estonian Railways Ltd to review the principles of document management to ensure alignment of various sets of data within a sensible timeframe.

During the proceedings of the recommendation No 1, Estonian Road Administration referred to the discrepancy between the Rules for Technical Use of Railway Annex 4 and Estonian national standard (EVS613).

At the same time, the concept of the recommendation, the better engagement of the road user with traffic management tools, was accepted and fulfilled by other methods.

In addition, the Estonian Road Administration considered the condition of the road which they were aware of previously, but which was not noticeable on 20 February due to the snow cover. It also assessed other possible circumstances that can hinder visibility. The Estonian Road Administration continues the proceedings of their planned additional measures.

Annexes

Annex 1

Proceeding of recommendations – Kulna, 20.02.2018

Date and time	20.02.2018, at 08.29am		
Location	Estonian Railways Ltd infrastructure, open track between Vasalemma and Keila, rural area, km 73,208.		
Type of occurrence	Accident: level crossing accident		
Train type and number	Passenger train No 522		
Road vehicle	Scania truck with a Kraker semi-trailer		
		On the train	In the road vehicle
Number of persons (on board the train and vehicle)	Crew	3	1
	Passengers	37	-
Fatally injured	Crew	-	-
	Passengers	-	-
Seriously injured	Crew	-	1
	Passengers	-	-
Slightly injured	Crew	2	-
	Passengers	6	-
Damages to rolling stock	Various types of deformations on the bodywork of three carriages, damage to undercarriages, automatic clutch and driving motor.		
Damages to track equipment	Damage to the tracks including the cover plate rendered unusable.		
Other damages	Scania truck's engine, cab and gearbox destroyed and the Kraker semi-trailer deformed, causing both to be unrecoverable.		
Summary: As the road conditions improved, the Scania truck drove at increasing speed towards a visible station without noticing the slowing Stadler Flirt EMU 1309 passenger train and collided with it.			

Final report issued	11.10.2018	
Recommendation No 01	One of the prescribed warning signs on the approach to the level crossing is missing.	
	Install a warning sign 112 “Level crossing without a barrier” to the same post as the additional warning sign “Level crossing ahead” 125.	
Date	Status	Explanation
12.12.2018 01.2019	Accepted and fulfilled.	Planning of implementation of measure. In order to make them more visible, equip both road signs warning the approach to the level crossing in both directions (road signs 112 “Level crossing without a barrier” and signs 123 to 128 “Level crossing ahead”) with yellowish-green light-reflecting fluorescent film covered background screen because the level crossing is not very noticeable to road users. Road sign 112 will not be installed alongside with sign 125 “Level crossing ahead” because this does not comply with the requirements for installing warning signs (EVS 613) and may cause inaccurate judgements made by the road users following the warning signs. Timeframe of fulfilling the measures.
Recommendation No 02	Despite the presence of several warning signs, a vehicle driver might not adequately gauge the sudden change in traffic conditions when emerging from the forest to a clearing or recognise the potential danger of the level crossing ahead of them.	
	Install a mandatory speed limit sign on the Kulna level crossing where the road emerges from the forest.	
Date	Status	Explanation
12.12.2018	Proceedings continue	Planning of implementation of measures. Install traffic sign 351 “Maximum permitted speed” with the maximum speed at 50km/h on the approach to the level crossing on both directions.

		Implementation of measures to be planned for spring.
12.12.2018	Proceedings continue	In addition to the recommendations No 1 and 2, the Estonian Road Administration decided to • Recondition the carriageway road markings at the approach to the level crossing and install rumble strips on the road surface to alert drivers. • Reduce the intersection of the carriageway near the level crossing (within the 50m zone) to avoid parking vehicles that may obstruct visibility of the level crossing and install the information board further away.
Recommendation No 3	The work of level crossing inspection committee has often become a formality where there is no analysis of the characteristics of any given level crossing and the focus is on just confirming its accordance with existing standards.	
	Plan a set of proposals to the Ministry of Economic Affairs and Communications in order to elevate the status of the level crossing inspection committee of by increasing its duties and authority.	
Date	Status	Explanation
There are no definitive dates. This is an ongoing process.	Proceedings continue	The proceedings of this recommendation are continuing according to the timeframe of the adoption of the 4th package of railway laws. The safety authority is preparing an amendment to Annex 4 to the Ministry's Rules for Technical Use of Railway to increase the responsibility and authorisation of the inspection committee in order to render the work of the committee more efficient and enable the decisions to be implemented faster. Any ruling of the level crossing inspection committee must be subject to immediate fulfilment and legally binding to the railway undertaking and the road possessor.

		Today the situation is rather bureaucratic, and it is not always clear how to obligate the road possessor to implement measures to reduce speed, for example (additional road signs, etc), and this has created opportunities to ignore the committee's rulings and not fulfil them. In the case of a railway undertaking the safety authority must formalise a report or a precept. The amendments would reduce the bureaucracy and speed up the implementation of changes on the level crossing. It would also mean a direct obligation by the road possessor to implement the committee's rulings.
Recommendation No 4	Kulna level crossing has not been fitted with standardised automatic light signalling device	
	Direct Estonian Railways Ltd to prioritize installation of automatic traffic light signalling device on the Kulna level crossing.	
Date	Status	Explanation
01.03.2019 Safety Authority's enquiry to ER 7-4/18-601-006 ER response to the Safety Authority with letter No 1-12/570-1	Proceedings continue	In accordance with the decision of the Supervisory Board of Estonian Railways Ltd (ER) it is especially important within the West Harju traffic management system project to provide Kulna level crossing with automatic traffic signalling and barriers as soon as possible. The contractor for the West Harju traffic management system, Mipro Eesti Ltd, is aware that in accordance with the decision of the board it is a priority requirement to provide Kulna level crossing with automatic traffic signalling and barriers during the first half of 2019 at the latest. For various reasons the deadlines for the fulfilment of the traffic management system project have been amended, however, Mipro Eesti Ltd estimates that it is still realistic to complete the installing of the safety equipment on the Kulna level crossing by the end of August 2019.

Recommendation No 5	Estonian Railways Ltd databases contained discrepancies between data with the same content.	
	Instruct Estonian Railways Ltd to review the principles of document management to ensure alignment of various sets of data within a sensible timeframe.	
Date	Status	Explanation
11-12.2018	Accepted and fulfilled.	Data within the level crossing databases has been checked and any discrepancies removed.