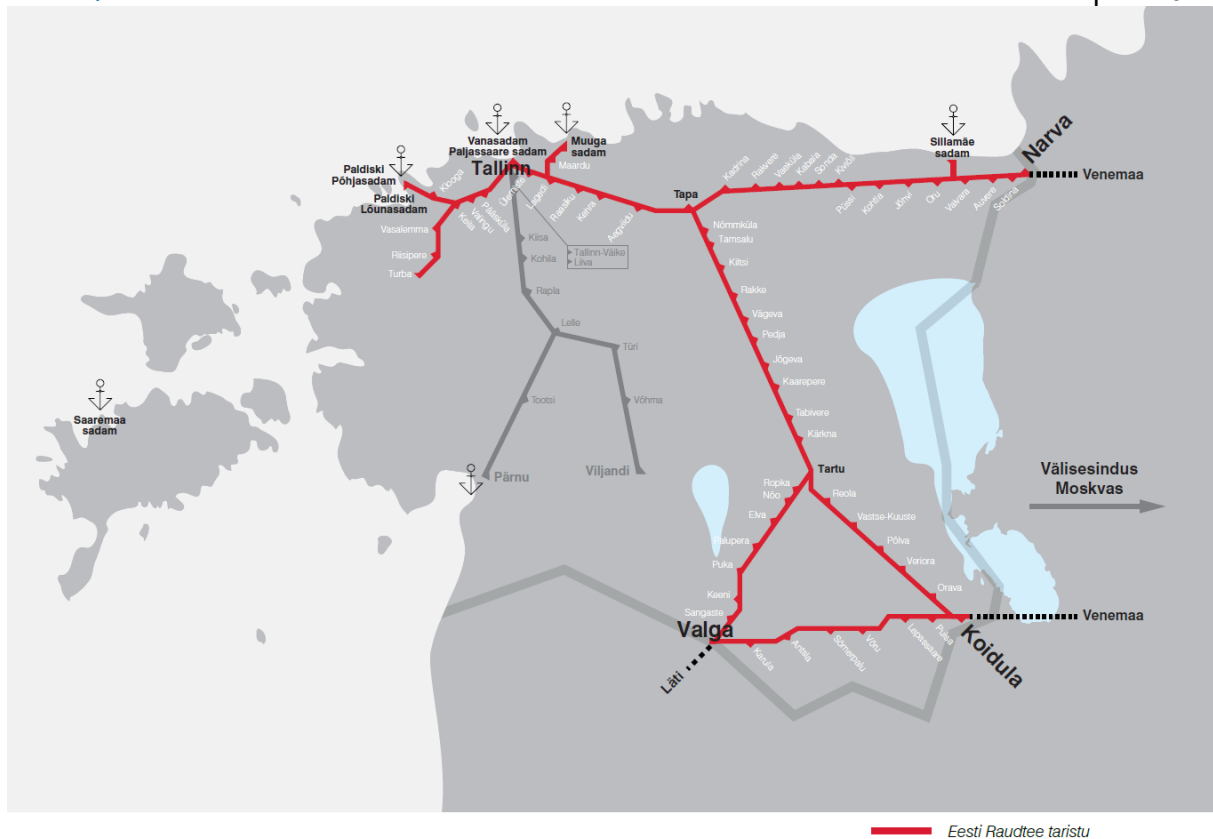




REPUBLIC OF ESTONIA
SAFETY INVESTIGATION BUREAU

Report of the railway accidents
investigated in 2024

Tallinn 2025



Estonian Railways Ltd and Edelaraudtee Infrastructure Ltd infrastructure

(Source: Estonian Railways Ltd)



Preface to the report

The investigative unit for railway accidents in Estonia was formed on 31 March 2004 when the Railways Act which came into force on the same day, enforced the legal provisions stipulated in the "Railway Safety Directive" 2004/49/EC. With the formation of the investigation unit of railway accidents at the Crisis Regulation Department of the Ministry of Economic Affairs and Communications the safety investigations of railway accidents began. Before that, an investigation unit for aviation accidents had already been operating at the Crisis Regulation Department and later, an investigation unit for maritime accidents had been added. Since the safety investigations were only loosely connected to the core function of the Crisis Regulation Department, on 1 January 2012 a new structural unit of the same ministry was created: The Safety Investigation Bureau (ESIB). The ESIB investigates maritime, aviation and railway accidents and incidents.

The last major changes in the organisation of safety investigations of railway accidents and incidents occurred when the provisions of the Directive (EU) 2016/798 of the European Parliament and of the Council, as applied to the Estonian legal area, were enforced in the Railways Act on 31 October 2020. In accordance with the Directive, occurrences considered affecting railway safety in Estonia are accident, serious accident, and incident. Other national legislation is also in line with the requirements of Directive 2016/798, which also forms the basis for conducting a safety investigation. The Safety Investigation Bureau is the only body that has the right to conduct safety investigations. All safety investigations are conducted independently of any other investigation of the same occurrence.

During the year, the Safety Investigation Bureau received reports of safety violations from both railway companies and the Emergency Centre. Initial assessments were carried out for all cases. Materials collected and compiled by both railway infrastructure and transport companies were analysed. The materials are stored in the digital management system Delta. During the year, no occurrence qualified as one for which the ESIB should have opened a safety investigation.



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1. Introduction to the Investigation Body

1.1 Legal basis

Safety investigations of railway traffic accidents and incidents in Estonia began on 31 March 2004 when the amendments in the Railways Act came into force which applied the provisions of the Railway Safety Directive 2004/49/EC of the European Parliament and of the Council. From that moment on, the railway accident investigation unit formed within the Crisis Management Department of the Ministry of Economic Affairs and Communications began to deal with safety investigations.

Investigation units for maritime, aviation and railway accidents operating in the Crisis Management Department of the Ministry of Economic Affairs and Communications were merged into a single multimodal structural unit - the Estonian Safety Investigation Bureau (ESIB) on 1 January 2012. For this, amendments were made to the Aviation Act, Maritime Safety Act and Railways Act. Legal basis for the Safety Investigation Bureau as a whole has been provided in the Aviation Act. The organisation of safety investigations by individual areas is regulated by the above-listed Acts.

The application of the Directive (EU) 2016/798 of May 11, 2016, of the European Parliament and of the Council to the Estonian legal space was completed with the changes in the Railways Act which came into force on 31 October 2020. With these amendments, Estonian legislation was again brought into line with the updated idea in the directive. Later changes to the legislation have not been related to the organisation of safety investigations.

The safety investigation of railway accidents is comprehensively dealt with in Section 2 of the current Railways Act, entitled "Safety Investigation". The topic of the safety investigation is contained in nine sections (sections 47 - 55).

Section 47 of the Act "Safety Investigation Bureau" provides the most important requirements and conditions for the functioning of the ESIB. The ESIB is a structural unit of the Ministry of Economic Affairs and Communications that conducts safety investigations of accidents, serious accidents, and incidents. The ESIB is independent and relies solely on laws and other legal acts and foreign treaties binding on Estonia, both when conducting safety investigations and when making related decisions. There is no supervisory control of the ESIB's investigative activities. The ESIB has the right to involve experts and form committees to clarify circumstances that require specialist knowledge. The official conducting the investigation directs and supervises the experts and committees. Authorities involved in the safety investigation are obligated to provide necessary assistance to the ESIB within their competence. The official conducting the



safety investigation must provide their certificate of employment while performing his work duties. Safety investigations of all modes of transport at the Safety Investigation Bureau are conducted according to the principles that are legally corresponding to sector-specific laws and regulations.

Independence given to the Safety Investigation Bureau has been specified by the additional conditions stipulated in Section 48 (2) of the Aviation Act. The Director of the Safety Investigation Bureau is appointed and relieved of its duties by the Government of the Republic on the recommendation of the relevant minister. The appointment of the heads of other structural units of the Ministry takes place within the Ministry. The employees of the ESIB are appointed and relieved of their duties by the Director of the ESIB who also concludes and terminates the employment contracts with them. In addition, the budget of the Safety Investigation Bureau is independent and has been approved by the Parliament – the Riigikogu of the Republic of Estonia and which in the 2024 State Budget Act was provided with item code 20SE070004. Safety investigations of all modes of transport at the Safety Investigation Bureau are conducted according to the principles that are legally corresponding to sector-specific laws and regulations.

Section 48 of the Railways Act “Cases affecting railway safety” adopts the concept of a case affecting railway safety which are serious accident, accident, and incident. All definitions are identical to those presented in Section 3 of the Directive 2016/798. This section establishes a requirement that the driver involved in a serious accident or accident is prohibited from consuming alcohol, narcotic, psychotropic or psychotoxic substances immediately after the occurrence. The railway infrastructure company or owner is obliged to eliminate the consequences of the occurrence and restore railway traffic as soon as possible. He must check the efficiency of the restoration work and if necessary, implement measures to improve organisation of the work. If necessary, the local government and the state must provide assistance to the restoration. The supervisory authority has been given the right to investigate the appropriateness of the reasons for the time taken to restore rail traffic after a traffic disruption lasting more than 12 hours. Reference has been made to the obligation of the railway transport company to provide victim assistance in accordance with Regulation No. 1371/2007 of the European Parliament and of the Council.

Section 49 “Notification of Cases Affecting Railway Safety” specifies the obligation by railway infrastructure managers or other railway infrastructure owners and railway undertakings, as well as in the case of having been notified in the process of surveillance activities, the Consumer Protection and Technical Regulatory Authority, to immediately notify the Safety Investigation Bureau of an occurrence affecting railway safety. The notification is made via means of public communication. The same Section also specifies submission of a written notification of an accident and a serious accident within three working days after the verbal notification. The written notice contains specified and verified facts about the occurrence. Additional information about an



accident or serious accident is also provided verbally immediately, and in writing within three working days of receiving the information. A report regarding incidents is submitted within three working days if the ESIB requests it. The obligation of the railway undertaking to take all necessary measures to find out the causes of an occurrence affecting railway safety is stipulated. Subsection 7 of the same Section provides the delegating authority for the establishment of a ministerial regulation on reporting incidents affecting railway safety. Pursuant to the delegating authority the latest version of the Minister of Economic Affairs and Infrastructure Directive No. 83 "Safety Management System, Safety Indicators, Verification of Compliance with Railway Infrastructure, Traffic Management and Safety Requirements, their Reporting, Forms and Deadlines and Notification of Incidents Affecting Railway Safety" entered into force on 14 August 2023. Annex 11 of the Directive provides the format for written notification of a serious accident or an accident. Annex 12 of the Directive provides the format for reporting an incident.

Section 50 of the Railways Act "Initiation of a Safety Investigation" provides the obligation of the Safety Investigation Bureau to immediately initiate a safety investigation in the case of a serious accident. In other cases, the initiation of a safety investigation is based on a discretionary decision, the adoption of which is subject to established conditions. The discretionary decision must consider the seriousness of the accident or incident, whether it is one of a series of accidents or incidents affecting the system as a whole, and its impact on rail safety. The ESIB may initiate a safety investigation in the event of an accident or incident which, under certain conditions, could have caused a serious accident, as well as in the event of a technical failure of a subsystem of the pan-European railway system or a component of the interconnection. When initiating a safety investigation, the ESIB considers the requests submitted by the safety authority of another member state, the Consumer Protection and Technical Regulatory Authority as well as the railway infrastructure manager and the railway transport undertaking. The same section stipulates the deadline for a decision to initiate a safety investigation to be two months from receiving the notification of an accident or incident. The ESIB notifies the European Union Agency for Railways within one week of initiating the safety investigation. The principal legal aim of the safety investigation is to determine whether the occurrence affecting railway safety was caused by an action, inaction, an event, a circumstance, or a combination thereof and propose recommendations to prevent such occurrence in the future and to improve railway safety.

Pursuant to Section 51 "Proceedings of a Safety Investigation", the railway infrastructure managers and third persons are obligated to provide any relevant information they hold, when requested by the ESIB. It is stipulated by legislation that the railway undertaking is obligated to submit to the ESIB the materials collected on all serious accidents and accidents. The railway undertaking presents the materials about an incident if ESIB demands it. The Safety Investigation Bureau organises the investigation of the scene within the shortest possible time in order to avoid obstacles



for reopening of railway traffic. The safety investigation is conducted as publicly as possible with the parties being given the opportunity to provide explanations. Subsection 6 of the same Section stipulates the delegating authority for establishing the format for safety investigations by the Minister's Directive.

The procedural rights of the Safety Investigation Bureau are pursuant to Section 52 of the Railways Act. The following is a list of the rights of the official conducting the safety investigation: the scene, vehicle, infrastructure, traffic control and signalling equipment, as well as information and documents, other equipment, recordings, results of expert examinations, other materials of investigations of the same case. The right of the official conducting the safety investigation to demand the restriction of access of outsiders to the accident site, to prohibit the moving, removal and destruction of objects at the accident site has been established. The same person has the right to question the employees of the railway companies involved in the case, to demand confirmation or provision of the necessary information. In the event of non-cooperation, the official conducting the safety investigation may issue a precept to the obligated person to ensure compliance with the obligations related to the safety investigation activities. In case of failure to comply with the precept, the official conducting the safety investigation has the right to impose a fine of up to €1,500 on a natural person and up to €60,000 on a legal person in accordance with the same section.

The Safety Investigation Bureau's right to issue a safety alert during the safety investigation has been stipulated in Section 53 of the Railways Act "Safety Alert". In order to issue a safety alert, the circumstances and facts that have come to light during the investigation of the case must have significance to more than one railway infrastructure manager or railway undertaking or one or more European Union member states. When issuing the alert, the ESIB assesses the determined circumstances affecting the 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.

Organisation of a safety investigation of an occurrence affecting railway safety at a border facility or in its vicinity is provided by Section 54 of the Railways Act "Cooperation with the safety investigation and safety authorities of other countries". The same section also applies to instances where the exact location of the occurrence cannot be determined by either country involved. In these cases, according to the agreement, a safety investigation can be organised either jointly or only by one safety investigation agency. If a railway undertaking established or licensed in another Member State is involved in an occurrence affecting railway safety, and the rolling stock involved in the occurrence is registered or maintained in the same country, the investigation body of that Member State shall be invited to participate in the safety investigation. They will be ensured complete access to all relevant data. If necessary,



the European Union Agency for Railways can be asked to cooperate using special expertise without compromising the independence of the safety investigation. The exchange of experiences and opinions with the safety investigation authorities of other member states has been established for the purpose of improving work efficiency and innovative development. Cooperation with third countries is based on a special agreement between countries. The Safety Investigation Bureau participates in the peer review programme as stipulated in the Article of Directive 2016/798.

The Safety Investigation Bureau compiles two different types of reports, the composition of which is specified in Section 55 of the Railways Act "Reports Relating to a Safety Investigation". A written report of the safety investigation must be completed by the Safety Investigation Bureau in the shortest possible time and published immediately but not later than 12 months after the occurrence. The safety investigation report does not assess anyone's blame or liability. 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. The requirements of the Commission's Implementing Regulation 2020/572 for the content of the report are listed as a summary. The same Section provides the obligation of the Consumer Protection and Technical Regulatory Authority, other authorities, businesses, or organisations that were subject to the ESIB's recommendations, to submit a report to the ESIB annually by the 01 April about the measures taken or planned based on the recommendations made the previous year. Pursuant to the same Section the Safety Investigation Bureau publishes an annual report on the cases investigated in the previous year, the recommendations, and proceedings, on its website by 30 September each year. A copy of the annual report is forwarded to the European Union Agency for Railways.

During the initial assessment of accidents and incidents, it is sometimes appropriate to pay more attention to some cases than usual, but still not to the point of initiating a safety investigation. Depending on requirements, the Safety Investigation Bureau formulates an opinion during the proceedings of such cases and forwards it to the parties involved. The opinion is drawn up based on Appendix R3 of the "Safety Investigation Manual" "Characteristics for adopting a decision to initiate a safety investigation of railway accidents and incidents or formulating an opinion". The opinion does not include recommendations.

Based on the statutes of the Ministry of Economic Affairs and Communications the Minister of Economy and Infrastructure updated the statutes of the Safety Investigation Bureau already in 2023 with his Directive. The statutes specify the rights and obligations established by law, regulates the relations, relationships, tasks of the ESIB. The Safety Investigation Bureau is a structural unit of the Ministry that is independent in conducting safety investigations and making any related decisions. The activities of the ESIB are



organised pursuant to the Ministry's work schedules unless specified differently by legislation. The ESIB has its own letterhead and its postal address is Tartu maantee 85, 10115 Tallinn. The objective of the ESIB is to organise safety investigations in the relevant field of transport. It has the right to participate in the development of legislation regulating its fields of activity and making proposals for changes, in the preparation and development of policies, strategies and development plans related to the fields of activity of the ESIB, as well as national and international projects. In fulfilling its main objective and within its framework, the Safety Investigation Bureau cooperates with other institutions, organisations, associations, companies, private individuals and other countries and international organisations.

The Minister approves the list of the employees on the proposal of the Director of the Safety Investigation Bureau. The duties of employees are determined in the job descriptions. The job descriptions are approved by the Director of the Safety Investigation Bureau. Every ESIB employee is responsible for the legal, accurate and timely fulfilment of their duties. The Safety Investigation Bureau Statutes forms a part of the legal framework affecting the work of railway safety investigations.

The Safety Investigation Bureau is functionally independent of the safety authority and the railway regulating authorities. The ESIB's organisation, legal structure and decision-making process are independent of all parties whose interests might conflict with the duties assigned to it, including railway infrastructure managers, railway undertakings, the charging body, the capacity allocation body, and the conformity assessment body. When conducting a safety investigation, the official responsible for railway accident safety investigations performs the tasks of the investigator-in-charge. Nationally the ESIB's independence is pursuant to Article 22 of the Directive on Railway Safety 2016/798.

Pursuant to the Directive 2016/798 requirements the Minister of Economic Affairs and Communications Directive No 72 "Safety Investigation Procedures" has been established for the organisation of safety investigations. The latest revision of this came into force on 06.02.2022 and is still valid two years later. The safety investigation procedures are common to all three ESIB's areas of transport. The Directive sets out the conditions for conducting safety investigations, which must be taken into account based on the sector-specific exemptions established in the Aviation Act, the Maritime Safety Act and the Railways Act. The Directive determines areas of a safety investigation according to modes of transport and its coordinator. It stipulates the procedures for initiating a safety investigation and notification of those involved. Depending on the complexity and workload associated with the occurrence, inclusion of experts and formation of a safety investigation committee is provided. The Directive establishes the 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. Pursuant to the Directive the safety investigation will find out the causes of the occurrences. During the safety investigation, recommendations are developed and presented in the report, the aim of which is to prevent similar occurrences in the future. The Directive contains annexes of which Annex 3 provides the format "Report to the Safety Investigation Bureau on the action taken or planned in response to a recommendation in an accident, serious accident or incident safety investigation report". The safety investigation report is prepared in accordance with the European Commission Implementing Regulation 2020/572 on the reporting structure to be followed when compiling investigation reports on railway accidents or incidents.

1.2 Role and aim

The Safety Investigation Bureau plays a role in the Estonian transport network. The goal is to increase traffic safety in general and as a multimodal structural unit, especially in the three areas of transport. As they approach the goal, the ESIB conducts safety investigations into safety violations, which include recommendations for improving safety. An initial assessment of the impact of all incidents on transport safety will also be carried out. If, as a result of the assessment, it is decided to initiate a safety investigation, its purpose and task is to determine the circumstances and causes of the incident or accident under investigation. Connections are made between causes of the occurrence and traffic safety. This is done based on the established facts using a sequence of logical connections, which is formed by linking the various circumstances and causes that characterise the occurrence. Recommendations are formulated to avoid such causes in the future. Every recommendation is case-specific, and its practical implementation will presumably help to reduce or even prevent cases with similar causes in the future. A safety investigation report is a document that implements the role of a safety investigation into maritime, aviation and railway accidents. In addition to conducting safety investigations, it is the task of the Safety Investigation Bureau to contribute to the formulation of legislation related to maritime, aviation and railway safety. Pursuant to its statutes the ESIB has the authority to make recommendations for additions or amendments to current legislation. The ESIB also has a role in formulation and implementation of projects, policies, strategies, development and international projects and plans within its areas of activity.

The objective of the safety investigation has been provided by Section 1 of the Minister's Directive "Safety Investigation Procedures". The objective of the safety investigations of accidents and incidents is to determine the causes and make recommendations and proposals to prevent such occurrences in the future. The purpose of a safety investigation is not to appoint blame or liability.



The Safety Investigation Bureau Statutes approved by the Minister on 21.03.2023 specifies the role and aim as follows:

- 1) To receive documents and information necessary for the fulfilment of the tasks assigned to the Safety Investigation Bureau from the Ministry, state institutions under the Ministry's jurisdiction and private legal entities in respect of which the Ministry exercises founder, member, shareholder or partner rights.
- 2) In accordance with arrangements or agreements, engage employees of other departments in resolving issues within the Safety Investigation Bureau remit.
- 3) Work in cooperation with other government departments, local authority agencies and private legal entities.
- 4) Within limits of its competence, forward information to other authorities and persons.
- 5) Make proposals for contracts required for fulfilling its tasks.
- 6) Receive 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.
- 5) Develops and implements its development schedules.
- 6) Monitors, analyses, and assesses the situation in its areas of activity and informs other authorities and businesses responsible for the relevant area 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) Performs the duties assigned by legislation as a chief or authorised processor of the database of cases investigated.
- 11) Preserves and stores the items, equipment, assemblies, and details in its possession that are relevant to ascertaining the causes of the occurrence for the whole duration of the safety investigation.
- 12) Organises information days about safety and development activities.
- 13) Possesses, uses, and disposes of public property in its possession in cases provided by and in accordance with legislation.
- 14) Advises individuals in matters relating to the Safety Investigation Bureau's areas of activity.
- 15) Performs other tasks assigned by legislation.

1.3 Organisation

The Safety Investigation Bureau is one of the structural units of the Ministry of Economic Affairs and Communications. Since the start of 2023 it is located in a separate building from the main part of the Ministry. In order to perform specific tasks, special status has been granted to the ESIB. To ensure the special status in practice, the ESIB officials have their workplaces in offices, while other officials of the Ministry mostly work in an open office in the main building. Legally the ESIB's special status has been guaranteed by the Aviation Act, Maritime Safety Act and Railways Act. The ESIB utilises other departments' competencies and work in cooperation with them but maintains 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.

The Safety Investigation Bureau has its own logo, letterhead, website www.ojk.ee, and an independent budget that has been approved by the Parliament. All other departments use the Ministry's general relevant attributes. An ESIB official has a certificate of employment. The certificate of employment enables its carrier to exercise the special rights granted to him by legislation while carrying out his official tasks. The certificate of employment can be used as a form of identification and includes a brief list of the sites which it grants access to in Estonian as well as English. The certificate of employment of a railway accidents investigator is valid until January 2027.

The Safety Investigation Bureau's work is led by the Director. There are three officials working under him, an aviation accident investigation expert, a chief specialist in maritime accident investigation and a chief specialist in railway accident investigation. The job titles of those responsible for safety investigations were changed at the end of 2022. Additionally, a separate working group of officials was formed in 2021 whose task is to give an initial assessment of the circumstances of the sinking of the



passenger ferry “Estonia” in an autumn storm of 1994. The work of this working group continued in 2024.

Only the Safety Investigation Bureau has the right to make the decision to conduct 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 also 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 an organic part of the Ministry of Economic Affairs and Communications. The Safety Investigation Bureau is the only structural unit within the Ministry that does not bear the name of a department. Larger departments are divided into services. With just a few officials the Safety Investigation Bureau does not have services. The ESIB, which performs specific tasks, has more rights and is legally more independent than departments.

Based on the decision made by the Government of the Republic in 2024 the preliminary assessment of the circumstances of the sinking of the passenger ferry “Estonia” in September 1994 continued. For this purpose, a working group of civil servants has been formed during the reporting year using a separate budget. There are four specialists on a fixed-term contract who work in cooperation with the relevant working groups from the Finnish and Swedish safety investigation agencies. The “Estonia” working group works separately from the other ESIB officials.

The Ministry of Economic Affairs and Communications is located at Suur-Ameerika 1 that also houses the Ministry of Justice and Digital Affairs, Ministry of Finance, Ministry of Regional Development and Agriculture, Ministry of Social Affairs and Ministry of Climate. This has enabled a common service to be established in the interest of rational financial costs and work organisation. This joint department is formally a structural unit officially part of the Ministry of Finance. The joint department includes the administrative service, real estate service, the document management service, and the legal service. All services serve the Ministry of Finance, Ministry of Justice and the Ministry of Social Affairs. The Ministry of Economic Affairs and Communications is served by the administration, document management and real estate services of the joint department. The administrative service of the joint department serves the Ministry of Regional Affairs and Agriculture but does not serve the Ministry of Climate and the legal service serves the Ministry of Climate but does not serve Ministry of Regional Affairs and Agriculture.

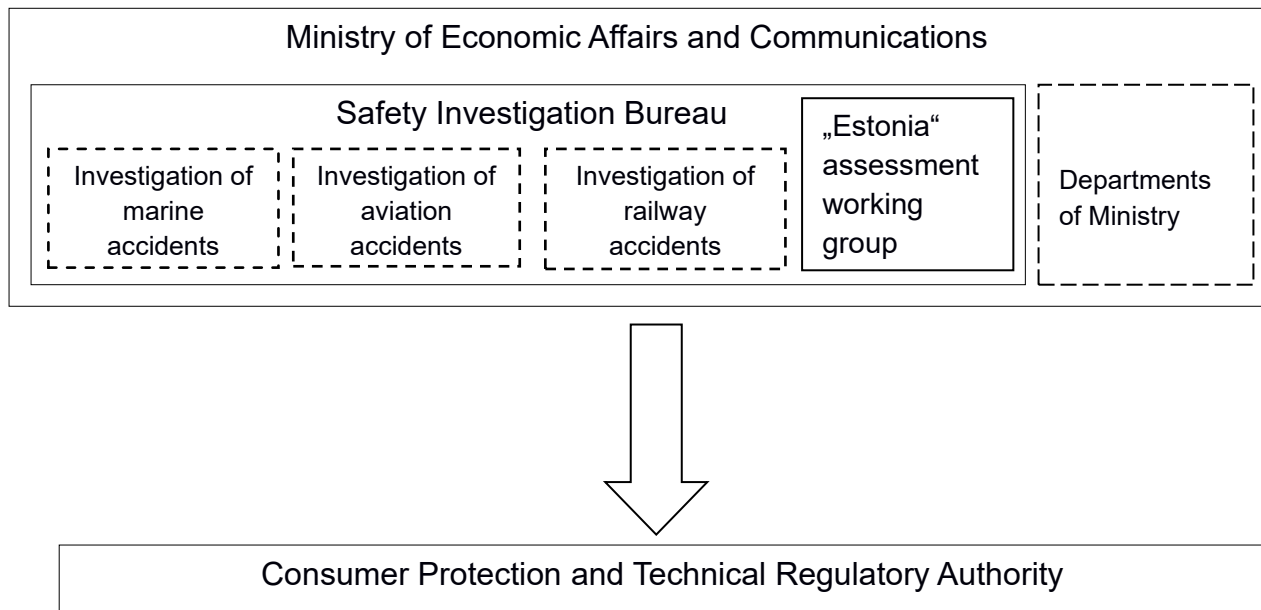


Figure 1 The Safety Investigation Bureau in the organisational structure of the Ministry

The Safety Investigation Bureau is located in Tallinn but separate from the main building of the Ministry, around 3 km away with the address Tartu maantee 85. The Safety Investigation Bureau's work is managed by the Director. Officials who work at the ESIB are permanent staff. Each official is responsible for conducting safety investigation of the specific area of transport assigned to them.

The title of each official contains the name of the transport sector within which they are responsible for conducting safety investigations. An official is independent in conducting safety investigations within his field and must complete the tasks assigned to him on time and with high quality. The legislation stipulates the confidentiality of certain official information. Officials of the other sectors of transport may assist their colleague in their investigation if necessary. During absence from work all officials can be substituted by a colleague to a certain extent. The substitution is documented in digital document management. At the end of their absence, the official shall receive all relevant information in order to continue and complete the work.

A safety investigation is independent of any other investigation or procedures of a given case that might be taking place in parallel. The safety investigation is a completely independent process. The independence of the safety investigation is maintained even in the event of possible cooperation with other proceedings of the same case. No other investigation or proceedings conducted by law enforcement, surveillance authorities or other authorities and institutions are related to the safety investigation. Only the ESIB decides the content and results of a safety investigation.



The Consumer Protection and Technical Regulatory Authority (CPTRA) is an independent state agency in the administrative area of the Ministry of Economic Affairs and Communications with a separate budget, structure, and management. The CPTRA 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. On 1 July 2023 three public railway companies were transferred to the administration of the Ministry of Climate, which also holds their shares. These were the railway infrastructure manager Estonian Railways Ltd, railway freight transport undertaking AS Operail and the railway passenger transports undertaking AS Eesti Liinirongid (Elron). In February 2024 the government made the decision to privatize AS Operail. The two-stage auction for the purchase of AS Operail was won by AS Tiigi Keskus, a company based on Estonian capital, with which a purchase and sale agreement was signed on October 31. As of December 2024, Operail continues to operate on the railway as a private company. All infrastructure and operator companies not mentioned here are still fully owned by private companies. The relationships between the Safety Investigation Bureau and railway undertakings are regulated by legal acts and directives.



2. Investigation processes

2.1 Cases to be investigated

Mandatory safety investigations of occurrences affecting railway safety by Safety Investigation Bureau are specified by the Railways Act. The list of occurrences affecting railway safety in the Railways Act is identical to the classification in the European Parliament and Council Directive (EC) 2016/798 from 11 May 2016 on railway safety. The terminology concerning railway safety is in accordance with that used in the Directive.

The safety investigation of a severe or serious accident must be initiated by the Safety Investigation Bureau without delay. If an accident or incident could have caused a serious accident in certain circumstances, as well as a technical failure of a sub-system or component of the inter-European railway system, the ESIB has a right to initiate a safety investigation. In making the decision the ESIB must consider the severity of the accident or incident and whether it is part of a series of accidents or incidents that affect the system as a whole and its effect on railway safety. When initiating a safety investigation of an accident or incident the ESIB also considers applications submitted by a safety investigation body of another European Union member state, the Consumer Protection and Technical Regulatory Authority and infrastructure managers and railway undertakings.

In addition to legislation and the Minister's Directive the Safety Investigation Bureau also has developed and introduced an organisational "Safety Investigation manual". The document was registered in the document management system Delta on 06 November 2023. The manual contains one cross-sector appendix AMR1 "Hearing, questioning and taking statements". The manual contains 7 appendices about the railway sector that are marked by the letter R and the relevant serial number. The appendices carry the following headings: Safety instructions for the ESIB associate working on the railway network in the railway danger zone, Dataset of technical evidence that needs to be collected (Checklist) in case of an occurrence on the railway, Characteristics of a railway accident or incident for making the decision to begin a safety investigation or formulating an opinion, Analysis of the safety management system in the safety investigation of railway accidents and incidents, Causes of the occurrence and follow up on recommendation process, Analysis of the human factor in the safety investigations of railway accidents and incidents, Manual of initiating railway accident investigations. The appendices of the handbook give the person conducting the safety investigation practical guidelines on how to form his position in one or another situation, and what to pay attention to.



Appendix R3 of the manual is called “Characteristics of a railway accident or incident for making the decision to begin a safety investigation or formulating an opinion”. It describes the process of making the decision to initiate or not a safety investigation and what will be addressed in the process. At the same time, in addition to the legal bases, a risk-based assessment of the case, which is part of the decision-making process, is provided for. During the collection of additional information about the incident prior to the safety investigation, the ESIB assesses the risk potential of the incident, the number of fatalities or injuries, railway infrastructure manager’s equipment failure, fatality of a person who was known to the railway infrastructure manager to be present or work at the railway, 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.

2.2 Institutions involved in investigations

It is possible to involve institutions, companies, agencies or individuals in the safety investigations. This takes place based on the provisions of the Railways Act and the Minister’s Directive on organisation of safety investigations. The scope and nature of cooperation and involvement is decided by the investigator-in-charge of a specific safety investigation, under whose direction and supervision it takes place. During the safety investigation, the duties of the investigator-in-charge are performed by the senior official of the relevant field. The rules and principles of involvement are common to all parties. It is prohibited by law to interfere with the decision-making process of safety investigations in the event of anyone having a potential interest in influencing it. The purpose of inclusion is first and foremost to obtain the necessary information about the occurrence and the circumstances surrounding it and to achieve the required standard of safety investigation. Infrastructure managers and third parties are obliged to provide the relevant information they hold when requested by the ESIB. If a safety investigation committee has been formed, the safety investigation may be conducted by several officials based on the division of labour, who have the right to question railway employees and other witnesses involved in the case. The official conducting the safety investigation has a legal right to make a precept to the person under obligation to fulfil the obligations related to the safety investigation. In the event of non-compliance, the official conducting the safety investigation has the right to impose a penalty charge of up to 60 000 euros to a legal person and up to 1500 euros to a natural person.

A cooperation agreement between the Safety Investigation Bureau and the Police and Border Guard Board, the Office of the Prosecutor General, the Rescue Board and the Emergency Centre was signed in the spring of 2015. The cooperation agreement stipulates coordinated activities in the processing of cases of common interest to the parties. Cooperation partners mutually ensure that criminal investigations and safety



investigations are not interfered with. According to the cooperation agreement the Emergency Centre sends an immediate notification to the ESIB email address of any occurrence they have been informed of which will arrive in the inbox of all the ESIB officials. The Emergency Centre has sent reports to the ESIB about safety violations on the railways according to the definition of railway accidents formulated by the Emergency Centre. If possible, the Police and Border Guard and the Rescue Board ensure safeguarding of the scene. If necessary, they will assist the ESIB with the investigation once the rescue operations have finished. All parties allow access to evidence and information, unless forbidden by law. Disclosure 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. Criminal proceedings and the safety investigation are conducted separately even if they work in cooperation with each other.

Over the years, based on practical experience during safety investigations, pragmatic cooperation methods with various businesses, authorities, institutions, and private individuals have been developed. In 2024, the Safety Investigation Bureau has valid cooperation agreements with the safety investigation authorities of the following European Union member states: Finland, the northern neighbour, and Latvia, the southern neighbour.

If an accident involves a railway infrastructure manager established and licensed in another Member State of the European Union and a railway rolling stock that has been involved in an occurrence affecting railway safety that has been registered or maintained in that Member State, the legislation provides an obligation to invite investigative bodies of that country to participate in the safety investigation and they are given access to the relevant information. Thus far, there has been no requirement to use this provision. Neither has it been necessary to ask for help from the safety investigation bodies of other countries or the European Union Agency for Railways with specialist knowledge, technical inspection, performing analysis and giving assessments although legislation allows this.

When conducting a safety investigation, the investigator-in-charge has all the powers to decide and be responsible for inclusion, interpretation of the information obtained and systematic treatment of facts, knowledge, and circumstances. The content of the investigation report reflects information obtained during the safety investigation and the results obtained from its processing. During the investigation, the investigator-in-charge contacts all parties involved, listens to their viewpoints and opinions and if necessary, asks clarifying questions. The investigator-in-charge provides the parties concerned a draft of the safety investigation report marked 'official use'. The draft or preliminary version of the safety investigation report contains all the material in accordance with the Commission Implementing Regulation 2020/572. The final discussion about the draft will take place with the stakeholders at an agreed time.



Representatives of agencies, companies, institutions and, if interested, individuals, will participate in the discussion. During the discussion, all the opinions and positions of the parties involved are heard, and led by the investigator-in-charge, positions are expressed about the safety investigation. As a result of the last discussion, any possible inconsistencies in the investigation report are clarified. Following the discussion, the final safety investigation report, prepared by the investigator-in-charge, is ready for publication.

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, railway company internal investigation, misdemeanour proceedings of the Consumer Protection and 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 all accidents, serious accidents and incidents start from the moment a railway undertaking sends an initial verbal notification to the Safety Investigation Bureau. The ESIB information mailbox receives the first notification of the incident from the Emergency Centre immediately. The first verbal notification from the railway undertaking is usually made by telephone a little later. By this time, the railway undertaking already has a preliminary internal overview of the occurrence. Emergency Centre notifies the ESIB 24 hours a day by email of all occurrences in air, water, and rail that it has become aware of. In the railway sector, railway infrastructure managers and owners and railway undertakings, and if they have been informed during regulatory activities, the Consumer Protection and Technical Regulatory Agency, 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 makes a written notification to the ESIB in the agreed format within three working days of the initial notification. The written notice contains the location of the occurrence, specified, and verified factual details about the rolling stock, casualties, victims, and measures taken. In addition, it contains a short summary of the occurrence and the causes that have been established by the time the notice was drawn up. A written report with additional information about an incident will also be presented within three working days in an agreed format if the ESIB requests it. The incident report is similar in content to the accident notification. All written documents received by the ESIB are systematically stored within the digital document management system Delta as part of the ancillary services.



Over the years of cooperation, a pragmatic and rational agreement has developed with the undertakings and that enables the safety investigator to be notified faster without needlessly burdening the ESIB 24-hour emergency phone line. The railway infrastructure manager is immediately informed of any railway accidents and incidents through its internal information channels. He forwards the notification by phone to the official dealing with safety investigations of railway accidents. It is not practical to use an intermediate link in the form of a helpline telephone since occurrences affecting railway safety are rare. In addition, the official dealing with the safety investigation of railway accidents must give his assessment to the received notification anyway. Information is relayed to the helpline if the caller does not know the phone number of the official conducting the safety investigation. Since 2004, this has only happened a few times. The official dealing with safety investigations of railway accidents acknowledges the initial notification, assesses the circumstances, asks additional questions, and if necessary, requests clarification of any circumstances but in general, takes note of the initial notification. In accordance with the Railways Act and the safety investigation manual, the official dealing with the safety investigation makes an initial assessment of the occurrence and makes a proposal to the Director of the ESIB either to initiate a safety investigation or not. If gathering necessary additional information requires more time, the official makes a proposal to the Director of the ESIB to defer the decision of initiating an investigation. The decision about a requirement to visit the scene is based on the verbal notification. If based on the initial verbal notification the occurrence turns out to be a serious accident, the official notifies the Director of the Safety Investigation Bureau immediately by telephone, in other cases an email is sufficient. The official responsible for conducting investigations of railway accidents maintains records of notifications received. He collects and stores concentrated information as a table in his database. If necessary, the official conducting the safety investigation and the ESIB Director keep in regular contact to clarify the initial circumstances. The Director's position on whether to initiate a safety investigation is final and binding to the official dealing with the railway accident investigations.

The decision whether to initiate an investigation of an accident, serious accident or incident is made within two months after receiving notification of the occurrence. The time criterion for deciding to initiate a safety investigation is stipulated in Section 50, Subsection 5 of the Railways Act, which is based on the Directive 2016/798 on railway safety. At the latest one week after the decision to initiate the safety investigation has been made, the railway accident investigator will forward the information to the European Union Agency for Railways (ERA) in the correct format. The format for forwarding the information has been established by the ERA. The obligation to notify the ERA has been specified in Section 50 (7) of the Railways Act. Up till now the deadline for notifying the European Union Agency for Railways has never been missed.

The safety investigations of all accidents and incidents of different modes of transport organised by the Safety Investigation Bureau are conducted based on a unified multimodal approach. The unified approach has been confirmed by The Ministry of



Economic Affairs and Communications Directive No 72 “Safety Investigation Procedures” and the ESIB Director has approved the “Safety Investigation Manual” of work procedures. The manual consists of a common main part and annexes which can be common to all three areas of transport or can be area specific.

The whole safety investigation is conducted from beginning to end by the official responsible for investigating accidents in the relevant field – the senior investigator, who performs the duties of investigator-in-charge. The investigator-in-charge informs all relevant parties of the launch of a safety investigation and drafts an investigation plan. He may make changes and clarifications to the draft during the safety investigation but is fully responsible for conducting of the entire safety investigation as well as its quality and compliance. 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 and performs all necessary activities relating to the investigation. If necessary, in case of particularly serious accidents, the Director of the Safety Investigation Bureau may form a committee to conduct a safety investigation. An appropriate format has been developed for the formation of the committee. The division of work between the members of the committee and the planned investigation directions are decided by the committee.

By the autumn of 2023, the Safety Investigation Bureau achieved an agreement with freelance experts for different areas of transport, on the basis of which a list of experts was compiled. Experts are involved pursuant to relevant work organisation instructions. Involvement of experts is decided by the senior investigator of the field or the Director of the ESIB if there is an urgent and operational need for it. The expert is employed using a mandate agreement. Before formalising the contract, on each occasion the potential expert must give their consent to apply their knowledge to the occurrence. In the railway sector there are seven individuals on the list of experts.

The investigator-in-charge is free to choose the working style and methods most suitable to him. The correctness of the choice depends on the most suitable methods for the given context and how skilfully and rationally they have been applied to reach the goal. The investigator-in-charge is an active party in the selection of communication tools and methods, as well as in communication with natural and legal persons. The aim is to identify the causes and circumstances of the occurrence in cooperation with the victims, state and local government authorities, businesses, and organisations. The more important verbally obtained information is recorded and written information is stored within the document management system Delta. 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. If requested by the investigator-in-charge, they would present this to the ESIB. The safety investigation identifies the causes and circumstances of the case, which shall be in accordance with the requirements



established by the European Commission Implementing Regulation 2020/572 regarding the reporting structure to be followed when compiling the investigation reports. The provisions of Annex R5 of the Safety Investigation Manual are also considered when determining the causes of the occurrence. Information about the safety investigation is usually issued by the investigator-in-charge. By prior agreement, a member of the investigation committee or the Director of the ESIB may also do this. An alert is issued on behalf of the Safety Investigation Bureau in the event of a persistent high risk.

The joint Annex (AMR1) of the Safety Investigation Manual includes instructions for hearing, questioning, and taking statements from all individuals and parties concerned, 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. All parties concerned whom the investigator-in-charge approaches or who turn to the investigator-in-charge themselves have an opportunity to present their opinions, attitude, position and understanding of the proceedings of the safety investigation and its results. Information that has restricted access pursuant to cases specified by The Public Information Act is not disclosed during or after the safety investigation. Restrictions on disclosure are stipulated by law with defined deadlines.

Human behaviour plays usually an important part in the circumstances of occurrences affecting railway safety. Analysis of human factors during the safety investigation is based on the Implementation Regulation 2020/572 and the guidelines set out in Annex R6 of the Safety Investigation Manual.

The effect and impact of the infrastructure manager's safety management system in the context of the case under investigation is important for ensuring railway safety. The safety investigation assesses the aspects of the safety management system that are connected to the case under investigation. Guidelines on what to focus on are provided in Annex R4 of the Safety Investigation Manual. 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. As a rule, the safety management of other companies involved in the case does not fall under the competence of the safety investigation.

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 of these recommendations. Once a year, the addressee submits a report to the ESIB on the status of the proceedings, or the final results based on the recommendations made to him in the previous year. The report will form the basis of the summary of the previous year's safety investigations. The ESIB monitors the proceedings that take place prior to the report being presented. For this purpose, the investigator-in-charge contacts the



recipient of the recommendation. 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 year, the Safety Investigation Bureau received 8 notifications of accidents and 13 notifications of incidents. Of the accidents, 4 took place on level crossings, 3 cases were of a train hitting a person. No serious accidents took place. Due to extensive work on the railways to increase the permitted speed, the number of incidents has increased. The report does not contain information about suicides that took place on the railway.

In the previous year, 2023, the Safety Investigation Bureau received notifications of 12 accidents and 6 incidents. In 2022 notifications of 17 accidents and 7 incidents were received. In 2021 and 2020 the ESIB was notified of 8 and 10 accidents, respectively. The number of notifications of incidents in the same years was 5 and 1. In the pre-Covid years of 2019, 2018 and 2017 the ESIB received 19, 33 and 24 initial notifications of train accidents, respectively. There were 5, 9 and 3 notifications of incidents in the same years.

Summary of the safety investigations completed in 2024

Table 1

Type of case investigated	Number of cases	Casualties		Estimated losses (EUR)	Trend compared to last year
		Deaths	Seriously injured		
Serious accident	-	-	-	-	decreased
Incident	-	-	-	-	-

While a safety investigation into one serious accident was completed in the year preceding the reporting year, there were no safety investigations completed in the year under review.

During the year under review, the total number of accidents had decreased compared to the previous year.



3.2 Safety investigations completed and commenced in 2024

Of the accidents or incidents that took place during the year, none had characteristics that would definitely qualify for a requirement to initiate a safety investigation.

Safety investigations completed in 2024

Table 2

Date of occurrence	Title of the investigation (Occurrence type, location)	Legal basis	Completed (date)
-	-	i	-

Basis for investigation: i = pursuant to the safety directive

During the year, a preliminary assessment of the circumstances of all known accidents and incidents has been carried out. No safety investigations were initiated.

Safety investigations commenced in 2024

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 Summaries of the safety investigations concluded in 2024

No safety investigations were concluded in the year under review.



3.4 Comments of investigations

Based on safety investigations conducted over the last five years, the following table shows the deaths and injuries.

Total number of deaths and injuries

Table 4

Year	Deaths	Injured in road vehicle / of them seriously	Injured in rolling stock / of them seriously
2020	-	-	-
2021	-	-	-
2022	-	-	8/2
2023	-	-	-
2024	-	-	-
Total	-	-	8/2

The following table explains the distribution of the number of injured and killed in the cases investigated over the past five years:

Breakdown of the injured and deaths

Table 5

Breakdown by type of persons		Year, number				
		2020	2021	2022	2023	2024
Deaths	Passengers	-	-	-	-	-
	Staff	-	-	-	-	-
	Third parties	-	-	-	-	-
	Total	-	-	-	-	-
Injured	Passengers	-	-	8	-	-
	Staff	-	-	-	-	-
	Third parties	-	-	-	-	-
	Total	-	-	8	-	-



3.5 Accidents and incidents investigated during the past five years (2020 – 2024)

On March 11, 2022, an accident took place at an automatically set level crossing in Ropka in southern Estonia which the Safety Investigation Bureau classified as serious. As the basis of the classification, the ESIB estimated damages caused by the accident to be more than two million euros. Other characteristics were not sufficient for the occurrence to be called as serious. A safety investigation of the Ropka accident was initiated and this was concluded in 2023.

The Safety Investigation Bureau gathers information about every accident it has been notified of. Information is obtained from infrastructure managers and other institutions and companies. All occurrences are initially assessed through the impact of the occurrence on the safety situation in general. There are usually few accidents in Estonia and the number of accidents is not sufficient to use it as a statistically reliable basis for assessing a five-year trend. The number of accidents that occurred in individual years and the safety investigations conducted reflect the current situation in railway traffic. The trends reflected in the safety of railway traffic are expressed by the statistics on railway accidents studied, which are much longer than five years.

Breakdown of investigated cases by years

Table 6

Title of the case		Year, number of investigations					
		2020	2021	2022	2023	2024	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	-	-	-	-	-	-



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



4. Recommendations

4.1 Short review and presentation of recommendations

During the preparation of the safety investigation report, recommendations are formulated based on the content of the case, the precise wording of which is presented at the end of the report. The safety investigation report is always forwarded to the safety authority which in Estonia is the Consumer Protection and Technical Regulatory Authority. Submission of one report is sufficient if the processing of recommendations has by that time ended with the acceptance and implementation of the recommendation, rejection, or discontinuation of the processing. The report is always forwarded to the railway transport company as well as the infrastructure manager involved in the accident. These three addressees are always specific and do not depend on whether recommendations were made to them in the report. The railway transport companies are often the final executors of recommendations, but the final executor may also be the safety authority. The recommendations could be aimed at any other authority or institution if it is responsible for and organising any issue relating to railway safety that has arisen in the given case. All addressees of recommendations submit an annual report on the status of the proceedings. In most cases, only one report on the status of the proceedings is submitted. This is done by the 1 April following the completion of the safety investigation report of the previous year. Submission of one report is sufficient if the processing of recommendations has by that time ended with the acceptance and implementation of the recommendation, rejection, or discontinuation of the processing. The CPTRA also presents a summary report of the proceedings of the recommendations to the ESIB.

Recommendations for improvement of safety

Table 7

Field of activity of recommendation	Year, number of recommendations				
	2020	2021	2022	2023	2024
Maintenance and care of railway infrastructure	-	-	-	1	-
Care, maintenance and managing of rolling stock	-	-	-	-	-
Organisation of supervision	-	-	-	-	-



Road traffic management, road traffic control devices	-	-	-	-	-
Winter maintenance of roads	-	-	-	-	-
Dissemination of information concerning traffic, training	-	-	-	-	-
Amendments to legal acts and regulating instructions	-	-	-	2	-
Operation of traffic lights, railway traffic control	-	-	-	-	-
Organisation of operation of railway communication devices	-	-	-	-	-
Use of information recording equipment	-	-	-	-	-
Professional qualifications of railwaymen	-	-	-	1	-
Other arrangements	-	-	-	1	-
Total	-	-	-	5	-

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	%
2020	-	-	-	-	-	-	-	-	-
2021	-	-	-	-	-	-	-	-	-
2022	-	-	-	-	-	-	-	-	-
2023	5	4	80	-	-	1	20	-	-
2024	-	-	-	-	-	-	-	-	-
Total	5	4	80	-	-	1	20	-	-

Before the finalisation of the safety investigation report with recommendations, it is presented to the parties involved. The addressee of the recommendation has the



opportunity to express their position. The Safety Investigation Bureau is independent in the final formulation and presentation of the recommendation. The ESIB proceeds from the necessity of solving a problem known to it.

4.2 Recommendations 2024

No recommendations were made to anyone by the Safety Investigation Bureau in 2024.