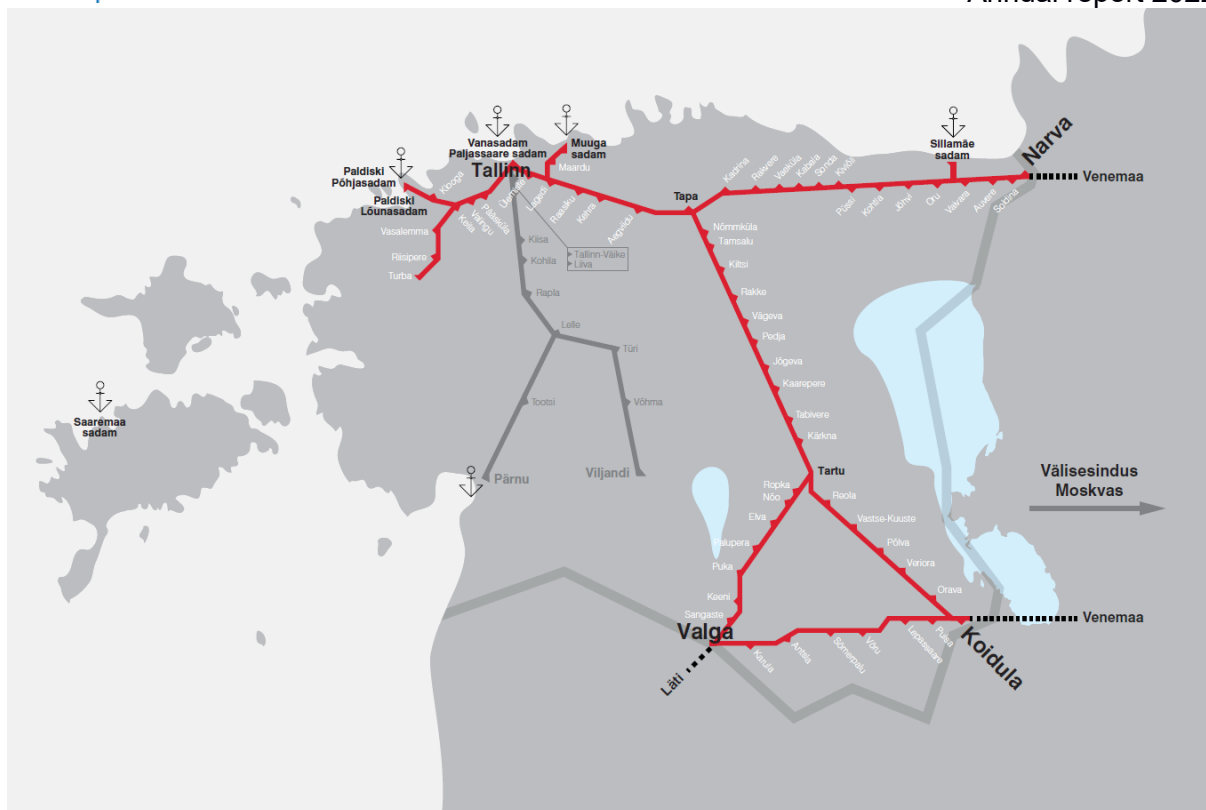




REPUBLIC OF ESTONIA
SAFETY INVESTIGATION BUREAU

Report of the railway accidents
investigated in 2022

Tallinn 2023



 Eesti Raudtee taristu

Public railways in the Republic of Estonia

(Source: Estonian Railways Ltd)



Preface to the report

The provisions of the "Railway Safety Directive" 2004/49/EC were applied to the Estonian legal space in the Railways Act that came into force on 31 March 2004. On the same day, the safety investigation unit of railway accidents was formed as part of the Crisis Regulation Department of the Ministry of Economic Affairs and Communications. Since then, safety investigations of railway accidents have been carried out in Estonia. At the time of the formation of the investigation unit of railway accidents, an investigation unit for aviation accidents had already been operating at the Crisis Regulation Department for several years. An investigation unit for maritime accidents was added later. With this, both legally and organisationally, the safety investigations of the three transport areas were included in a single structure. Safety investigations were not closely related to the core function of the Crisis Regulation Department.

In order to improve the performance of specialised safety investigations in the fields of transport, from 1 January 2012, the safety investigations of maritime, air and railway accidents and incidents were consolidated into the newly formed unified multimodal Safety Investigation Bureau (ESIB). The Safety Investigation Bureau performs the duties of a safety investigation agency.

The latest bigger changes in the organisation of railway accidents and incidents were provided in the Railways Act that came into force on 31 October 2020. With these changes the requirements for railway safety provided with the European Parliament and Council Directive (EC) 2016/798 were applied to the Estonian judicial area. In Estonia, occurrences considered affecting railway safety are accident, serious accident, and incident. This classification is pursuant to the classification of occurrences affecting railway safety in the Railway Safety Directive. The safety investigation is carried out according to the national legislation based on and following the provisions of the Safety Directive. Conducting safety investigations is the sole responsibility of the Safety Investigation Bureau and is conducted independently of any other investigation of the same occurrence.

In 2022, the year that is covered by this report, the negative impact of Covid-19 no longer had a noticeable effect on the intensity of rail traffic. The intensity of railway traffic is positively correlated with indicators reflecting safety violations. During the reporting year one serious railway accident took place on 11 March in South Estonia on the Ropka level crossing. The Safety Investigation Bureau began a safety investigation of this occurrence. At the same time the ESIB processed all other occurrences they were made aware of but no safety investigations were launched.



Contents

Public railways in the Republic of Estonia	2
PREFACE TO THE REPORT	3
CONTENTS	4
1 INTRODUCTION TO THE INVESTIGATION BODY	5
1 Legal basis	5
2 Role and aim	11
3 Organisation	13
4 Organisational flow	14
2 INVESTIGATION PROCESSES	17
1 Cases to be investigated	17
2 Institutions involved in investigations	18
3 Investigation process and approach of the Investigation Body	20
3 SAFETY INVESTIGATIONS	24
1 Overview of completed investigations	24
2 Safety Investigations completed and commenced in 2022	25
3 Summaries of the safety investigations concluded in 2022	26
4 Comments on investigations	28
5 Accidents and incidents investigated during the past five years (2018-2022)	29
4 RECOMMENDATIONS	32
1 Short review and presentation of recommendations	32



1. Introduction to the Investigation Body

1.1 Legal basis

On 31 March 2004, a railway accident investigation unit was established in the Crisis Regulation Department of the Ministry of Economic Affairs and Communications, which was tasked with organising independent safety investigations of railway traffic accidents and incidents. From that date, the Railways Act was enforced, which applied the "Railway Safety Directive" 2004/49/EC of the European Parliament and the Council to the legal space of Estonia.

Investigation units for maritime, aviation and railway accidents that were operating at the Crisis Regulation Department of the Ministry of Economic Affairs and Communications were combined into a single multimodal structural unit - the Estonian Safety Investigation Bureau (ESIB) on 1 January 2012. For this purpose, amendments were introduced to the Aviation Act, Maritime Safety Act and Railways Act. Each Act listed provides the legal basis and regulates the safety investigations of the relevant field. The legal basis for the Safety Investigation Bureau as a whole has been provided in the Aviation Act.

The latest major changes related to safety investigation in the Railways Act came into force on 31 October 2020. In the updated version of the legislation The European Parliament and Council Directive (EC) 2016/798 of 11 May 2016 regarding railway safety was applied to the Estonian judicial area. Estonian legislation is in line with the meaning of the directive. Later changes have been made to the legislation, but they have not been related to the organisation of safety investigations.

In the version of the Railways Act that entered into force at the end of 2020, the safety investigation of railway accidents is dealt with in section 2 titled "Safety investigation". Part 2 is entirely dedicated to safety investigations of railway accidents and consists of nine sections (sections 47 - 55).

Section 47 of the Act "Safety Investigation Bureau" establishes that the ESIB, a structural unit of the Ministry of Economic Affairs and Communications, conducts safety investigations of accidents, serious accidents, and incidents. The ESIB is independent in conducting safety investigations and making any related decisions and is guided only by legal acts and other legislation and any international treaties that are binding in Estonia. There is no supervisory control of the ESIB's investigative activities. To clarify circumstances that require specialist knowledge the ESIB has the right to involve experts and form committees. 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 his certificate of employment while performing his work duties.

Safety investigations of other modes of transport at the Safety Investigation Bureau are carried out according to the same principles and which are legally corresponding to sector-specific laws and regulations. Greater independence than all the departments of the Ministry is guaranteed to the Safety Investigation Bureau by the additional conditions stipulated in the Subsection 2 of Section 48 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 director of the 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. 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 which in the 2022 State Budget Act was provided with item code 20SE070004.

Section 48 of the Railways Act “Cases affecting railway safety” defines the concept of a serious accident, accident, and incident. A common term for them is introduced here: a case affecting railway safety. All definitions are identical to those presented in Section 3 of the Directive 2016/798. At the same time, a requirement is established 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. At the same time, he must check the efficiency of the restoration works and, if necessary, implement measures to organise the work better. If necessary, the local government and the state must provide assistance for restoration. The right of the supervisory authority to process the relevance of the reasons for the time taken to restore railway traffic after a traffic interruption lasting more than 12 hours is also stipulated. 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.

The obligation of 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 Consumer Protection and Technical Regulatory Authority, to immediately notify the Safety Investigation Bureau of an occurrence affecting railway safety via means of public communication has been specified by Section 49 of the Railways Act “Cases affecting railway safety”. The same Section also specifies submission of a written notification of an accident and a serious accident with clarified and verified facts within three working days. The written notice contains specified and verified facts about the occurrence. Additional information about an accident or serious accident is also immediately provided verbally, and in writing



within three working days of receiving the information. Additional information for incidents is submitted as a report 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 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 12 December 2020. 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.

The obligation of the Safety Investigation Bureau to immediately initiate a safety investigation in the case of a serious accident is provided by Section 50 of the Railways Act "Initiation of a safety Investigation". To initiate a safety investigation in other cases, the conditions for making a discretionary decision have been legalized. 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 same section allows a decision to be made within two months of the occurrence of an accident and incident to initiate a 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.

The obligation for railway infrastructure managers and third persons to provide any relevant information they hold when requested by the ESIB has been established by Section 51 "Proceedings of a Safety Investigation". It is stipulated 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. 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 right of the official conducting the safety investigation to access 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 has been stipulated by Section 52 of the Act "Procedural rights of the Safety Investigation Bureau". The right of the official carrying out the safety investigation to demand the restriction of the 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 the 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 the event of non-compliance with the precept the official conducting the safety investigation has a right to impose a penalty charge pursuant to the same Section.

The conditions for issuing a safety alert during a safety investigation are provided by Section 53 of the Railways Act "Safety Alert". The alert may be issued when circumstances and facts come to light during the investigation of the case that 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.

Section 54 of the Railways Act "Cooperation with the safety investigation and safety authorities of other countries" provides for the organisation of a safety investigation of an occurrence affecting railway safety at a border facility or in its vicinity, where the exact location of the incident cannot be determined. In the case described, 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, then the investigation body of that Member State shall be invited to participate in the safety investigation. Complete access to all relevant data will be ensured. If necessary, the European Union Agency for Railways can be asked to cooperate on the basis of 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, which takes place 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 two different types of report by the Safety Investigation Bureau in the course of its work are compiled pursuant to 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 no later than 12 months after the occurrence. The safety investigation



report does not assess anyone's guilt of responsibility. 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. 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. In such a case the Safety Investigation Bureau formulates an opinion during the proceedings of an occurrence or several occurrences and forwards this 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.

To specify the rights and obligations established by law the Statutes of the Safety Investigation Bureau have been established and this regulates the ESIB's relationships, connections, tasks, rights, and obligations. The ESIB's activities are carried out in coordination and cooperation with other structural units of the Ministry according to the work schedules of the Ministry and the ESIB. The Statutes specifies the ESIB's accountability to the Secretary General and the Minister regarding organisation of work and other matters. Legislation of the Ministry of Economic Affairs and Communications, the Secretary General's Directives, internal procedure rules, operations procedures, current statutes, and other legislation are binding in the organisation of the Safety Investigation Bureau's work. The Ministry ensures the functioning of the ESIB in organisational and general matters. The Minister approves the list of employees for the Safety Investigation Bureau. The duties of employees are determined in the job descriptions approved by the Secretary General of the Ministry at the proposal of the head of the Safety Investigation Bureau. Each ESIB employee is responsible for the legality, accuracy, and timely completion of their duties. The Safety Investigation Bureau Statutes form a part of the legal framework affecting the work of railway safety investigations and it has been approved by a Minister of Economic Affairs and Communications Directive.



The Safety Investigation Bureau is one of the structural units of the Ministry of Economic Affairs and Communications. The ESIB 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. While investigating, 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 Ministry of Economic Affairs and Communications Directive No 72 "Safety Investigation Procedures" has been established for the organisation of safety investigations. The safety investigation procedures are common to all three ESIB's areas of transport. The regulation draws attention to the field-specific exceptions provided in the Aviation Act, the Maritime Safety Act and the Railways Act, the Safety Investigation Bureau organises safety investigations taking these into account. 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 is a link in the transport network. Its role in increasing traffic safety is defined by recommendations made via safety investigations of individual cases. The purpose and task of each individual safety investigation of an accident or incident is to determine the circumstances and causes of the occurrences investigated. The safety investigation ascertains the connections between causes and traffic safety. Based on the circumstances, direct and other causes of the case under investigation, a sequence is constructed through logical connections to various circumstances and causes. Recommendations are formulated to avoid such causes in the future. Every recommendation is case-specific, and its implementation will help to reduce or even prevent cases with similar causes in the future. The role of safety investigations is realised through reports of safety investigations of maritime, aviation and railway accidents. The report completed at the end of the safety investigation presents recommendations for improving traffic safety in the relevant transport sector. Additionally, it is the task of the Safety Investigation Bureau to contribute to the formulation of legislation related to maritime, aviation and railway safety. The ESIB has the authority to make recommendations for additions or amendments to current legislation. Within its areas of activity ESIB participates in formulation and implementation of projects, policies, strategies, development and international projects and plans.

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.

There were no amendments made to the Safety Investigation Bureau statutes in the reporting year.

The Statutes of the Safety Investigation Bureau specify the following rights 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) 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 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, Consumer Protection and 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.

1.3 Organisation

The Safety Investigation Bureau is one of many structural units of the Ministry of Economic Affairs and Communications. The ESIB is located on a separate floor but in the same building as other structural units of the Ministry. The special status granted to the ESIB enables it to perform specific tasks. 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. Legally the ESIB's special status has been guaranteed by relevant articles of the Aviation Act, Maritime Safety Act and Railways Act. The ESIB utilises other departments' competencies and works 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 ESIB's work schedule forms a part of the Ministry's work schedule, and it reflects its main activities.

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 relevant general 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 objects in Estonian as well as English to which it grants access. The certificate of employment of a railway accidents investigator is valid until January 2027.

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. At the end of 2022, the officials responsible for safety investigations were appointed senior investigators in the relevant field. Additionally, a separate working committee 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 the autumn storm of 1994.

Only the Safety Investigation Bureau has the right to make the decision whether to initiate 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. At the same time, due to its specific duties the ESIB has more rights and is legally more independent than other departments.

Based on the decision made by the Government of the Republic, the preliminary assessment of the circumstances of the sinking of the passenger ferry “Estonia” in September 1994 continued in 2022. The assessment of the circumstances of the sinking of “Estonia” is carried out on the basis of a separate budget and was not completed during the reporting year. Eight specialists on a fixed-term contract 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 building that houses the Ministry of Economic Affairs and Communications is also home to several other ministries which are the Ministry of Finance, Ministry of Justice, and Ministry of Social Affairs. In the interest of rational financial costs and work organisation, this has enabled a common department to be established. This joint department is a structural unit officially part of the Ministry of Finance, but it performs the role of ancillary services to four ministries. The joint department includes the HR department, the administrative department, the document management department, and the legal department.

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.

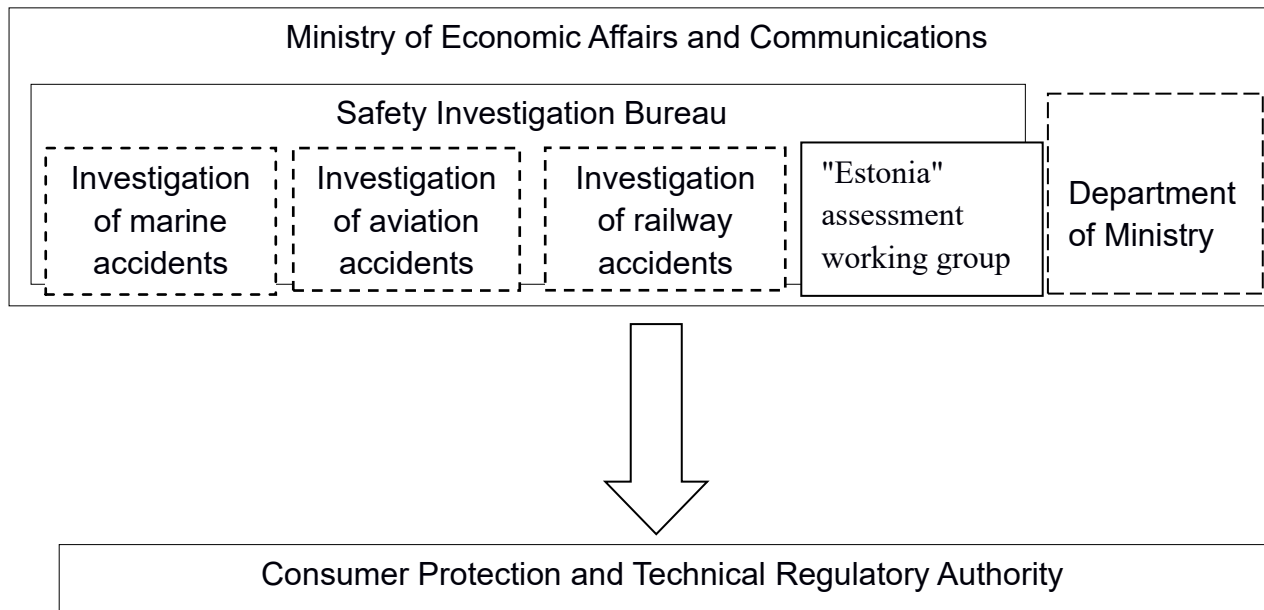


Figure 1 The Safety Investigation Bureau in the organisational structure of the Ministry

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 is responsible for the accurate, lawful, and timely completion of the duties. The legislation stipulates the confidentiality of certain professional 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.

Only the Safety Investigation Bureau has the right to conduct safety investigations in Estonia.

An ESIB 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 must be 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 is 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 department 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. 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 and the 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 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 Estonia is identical to the classification presented 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 Bureau must immediately initiate a safety investigation of a severe or serious accident. If in certain circumstances an accident or incident might have caused a serious accident, 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 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". 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 begin or not to initiate 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. While collecting additional information about the occurrence the ESIB assesses the potential risk of the occurrence, 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

Involvement of institutions or individuals in safety investigations is regulated by the provisions in the Railways Act and the Minister's Directive on organisation of safety investigations. Involvement and cooperation take place under the direction and supervision of the investigator-in-charge of the specific safety investigation. The duties of the investigator-in-charge are performed by the official of the relevant field at the ESIB. The rules and principles of involvement are common to all parties. Interference in the safety investigation decision-making process in the event of a potential interest is prohibited by law. 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 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 euro to a legal person and up to 1500 euro 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 shall mutually ensure that criminal investigations and safety investigations are not interfered with. 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. 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.

Based on practical experience, pragmatic cooperation methods with various businesses, authorities, institutions, and private individuals have been developed during safety investigations. The Safety Investigation Bureau has signed cooperation



agreements with the safety investigation authorities of neighbouring European Union Member States Latvia and Finland.

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 on inclusion, interpretation of the information obtained and systematic treatment of facts, knowledge, and circumstances. The information obtained in the safety investigation and the results obtained from its use are reflected in the content of the investigation report. During the investigation, the investigator-in-charge contacts all parties involved, listens to their viewpoints and opinions and if necessary, asks clarifying questions. Before the end of the investigation the investigator-in-charge provides the parties concerned a draft of the 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 Commission Implementing Regulation 2020/572, for which a final discussion will take place at an agreed time with the stakeholders, who are representatives of establishments, companies, institutions and, if interested, individuals. During the discussion, all the opinions and positions of the parties involved are heard and led by the investigator-in-charge, positions are expressed in the safety investigation. As a result of the last discussion, a few possible inconsistencies are specified in the investigation report. After the discussion, the investigator-in-charge prepares the final safety investigation report which is then 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, 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 immediate initial notification arrives from the Emergency Centre into the ESIB information mailbox. The first verbal notification from the railway undertaking is usually made by telephone a little later, when it already has a preliminary internal overview of the occurrence. The 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 possessors and railway undertakings and if they have become aware 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 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 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 being drawn up. A written report with additional information about an incident will also be made 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 a 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 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 couple of times. In the spring of 2021, the ESIB general helpline was suspended for economic and organisational reasons. The service was not restored in 2022. 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 summary, 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 will propose deferring the decision of initiating an investigation. The decision about a requirement to visit the scene is based on the verbal notification. If the occurrence turns out to be a serious accident based on the initial verbal notification, the official will notify 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 Subsection 5 of Section 50, 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 in the correct format to the European Union Agency for Railways (ERA). The format for forwarding the information has been established by 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 carried out on the basis of 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. In 2022 the manual contained one common annex and 6 annexes only specific to railways.

The whole safety investigation is usually conducted by the official responsible for investigating accidents in the relevant field 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. If necessary, in case of particularly serious accidents, the Director of the Safety Investigation Bureau may form a committee to conduct a safety investigation.

The investigator-in-charge is free to choose the working style and methods most suitable to him. The correctness of the choice depends on how skilfully, rationally and the most suitable methods for the given context 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 objective is to ascertain 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.

A 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. A 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 addresses 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. Specific dates have been designated by law to restrictions of disclosure.

In most cases connections with human behaviour play 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 concentrate 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

The corona pandemic had passed its peak and the day-to-day restrictions that were in force during that time had ended. Rail traffic resumed, and with it came more safety violations. During the year, the Safety Investigation Bureau received 17 notifications of accidents and 7 notifications of incidents. Of the accidents, 9 took place on a level crossing, one of these was a serious accident for which a safety investigation was initiated, 5 were other accidents during shunting, 2 cases of a train hitting a person and 1 small fire on a train.

In the previous year, 2021 and the year before that, in 2020, the Safety Investigation Bureau received 8 and 10 notifications of accidents, respectively. The number of notifications of incidents in the same years was 5 and 1. In the pre-Corona 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.

At the beginning of the year, the preliminary evaluation of track breakages classified as incidents in December 2021 was completed, as a result of which the opinion of the Safety Investigation Bureau was formulated. The opinion was forwarded to the safety authority Consumer Protection and Technical Regulatory Authority, railway infrastructure manager Estonian Railways Ltd for their information and to Go Track OÜ as the company performing the welding works on the tracks. The opinion did not contain any recommendations.

Summary of the safety investigations completed in 2022

Table 1

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



3.2 Safety investigations completed and commenced in 2022

There were no safety investigations from the previous year that were due to be completed in the reporting year at the Safety Investigation Bureau. All safety investigations have always been concluded within the prescribed one-year period.

Safety investigations completed in 2022

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

On the 7th of February the preliminary evaluation that started last December of the two track breakages was completed. As a result of this the ESIB opinion was formulated. By forwarding the opinion to the relevant parties, the proceedings of the incident were concluded. The ESIB did not consider it necessary to initiate a safety investigation for either incident.

Safety investigations commenced in 2022

Table 3

Date of occurrence	Title of the investigation (Occurrence type, location)	Legal basis
11.03.2022	Collision between a passenger train and a truck on the Ropka automated level crossing, km 436,018.	i

Basis for investigation: i = pursuant to the safety directive

The collision between a truck and a passenger train at the Ropka railway level crossing qualified as a serious accident, since the Safety Investigation Bureau estimated the amount of damage caused after the accident to be at least 2 million euro. The completion of the safety investigation was delayed until the following year.



3.3 Summaries of the safety investigations concluded in 2022

All initial notifications of accidents or incidents received during the year were followed by their initial evaluation by the Safety Investigation Bureau. Pursuant to Directive 2016/798 and the Railways Act the ESIB must decide within two months whether to initiate a safety investigation. After receiving the initial verbal notification from the railway undertaking, all accidents are followed by the initial assessment that includes the written notification and subsequent review and formal acknowledgment of the materials collected by the undertaking and mandatorily submitted to the ESIB. During the initial assessment of the accident the official responsible for the safety investigation turns to the railway infrastructure manager or the supervisory authority for additional information if required. In the case of simpler incidents, a verbal initial notification is sufficient for the official to develop his assessment. In the case of more complicated incidents, he will request a report about the incident from the railway undertaking. In 2022, the preliminary evaluation of the two incidents was completed by formulating the opinion of the Safety Investigation Bureau. As a rule, the process of preliminary assessment is completed within the two-month time limit. In most cases, one month is enough to complete the preliminary proceedings.

Opinion based on the initial assessment of the track breakage that took place on 06.12.2021 at Klooga and Paldiski.

The track breakages occurred on the Estonian Railways Ltd infrastructure on line I of Klooga station (km 9 pc 9) and on the main track III of Paldiski station (km 21 pc 4). There had been rapid and extensive changes in air temperature that day. The two locations are just over 10km apart from each other. The track breakages occurred in thermite welds, which were performed by one and the same welder of the company Go Track OÜ. The welder held a railroad mechanic level 4 qualification, which met the requirements. He had passed a competency exam at Pandrol Deutschland and at Väylävirasto Consulting in Finland, which granted him the right to perform the same work in Finland. The welding diaries showed that the work was carried out at a high-quality level. The organisation of work in both Estonian Railways Ltd and Go Track OÜ was sufficiently stipulated and reasonably supervised and checked.



Photo 1. Track breakage at Klooga 06.12.2021

Go Track OÜ had ordered a series of laboratory experiments on thermite welding from Tallinn University of Technology 2 years earlier, the conclusion of which was the assessment that thermite welding is a technology where it is certainly not possible to weld 100% effectively. Defects arise from a combination of several deviations.

In the summary of the opinion, it was noted that in real life, it is not possible to perform rail welding in a sterile, stable environment where all side effects (external temperature fluctuations, lack of rail traffic, performing other works, etc.) would be excluded. Go Track OÜ had changed the work instructions after learning the results of the laboratory tests carried out at the Tallinn University of Technology. Go Track OÜ had changed the work instructions after learning the results of the laboratory tests carried out at the Tallinn University of Technology. They coordinated the changes with Pandrol Deutschland, which developed the technology and materials. Estonian Railways Ltd added a plan to update the manual for the construction and maintenance of long-track roads. The company is changing the ratio between thermite and contact welding in favour of contact welding. In the future, thermite welding will be done selectively in places where it is more urgent.



Photo 2. Track breakage in Paldiski 06.12.2021

The Safety Investigation Bureau assessed the evaluation of companies' continuous feedback on the existing quality of work and the factors influencing them, together with the increase in the skills of welders, as sufficient to reduce the number of defects in optional thermite welding in the future. The opinion did not contain recommendations for anyone.

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
2018	-	1/1	8/-
2019	-	-	-
2020	-	-	-
2021	-	-	-
2022	-	-	8/2
Total	-	1/1	16/2



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

Breakdown of the injured and deaths

Table 5

Breakdown by type of persons		Year, number				
		2018	2019	2020	2021	2022
Deaths	Passengers	-	-	-	-	-
	Staff	-	-	-	-	-
	Third parties	-	-	-	-	-
	Total	-	-	-	-	-
Injured	Passengers	6	-	-	-	8
	Staff	2	-	-	-	-
	Third parties	1	-	-	-	-
	Total	9	-	-	-	8

In Tables 4 and 5, the number of people injured in safety investigation-related accidents in 2022 is presented for the unfinished safety investigation. The safety investigation continued in 2023.

3.5 Accidents and incidents investigated during the past five years (2018 – 2022)

During the past five years there have been two accidents where safety investigations were initiated. In 2018, as a result of the collision between a truck and a passenger train at a railway level crossing, there were no fatalities, but a total of 9 people sustained injuries of varying degrees, 1 of them seriously. At the start of the investigation, the Safety Investigation Bureau estimated the amount of damages to be less than 2 million euro. During the safety investigation, the case was classified as a level crossing accident, although during the investigation it became evident that the damages exceeded the 2-million-euro mark.

On 11 March 2022, a serious railway traffic accident took place at an automatically set level crossing in Ropka in southern Estonia. The safety investigation continued in 2023. Therefore, there are no summary data in this annual report.



The Safety Investigation Bureau gathers information about every accident it has been notified of. For this it works in cooperation with infrastructure managers and other institutions. During the initial assessment the ESIB evaluates the impact of the occurrence on the safety situation in general. Due to the relatively small total number of accidents each year, five-year statistics do not always show a trend in the long term. Numerical fluctuations that may occur during this time are not reliable for making larger generalizations. The number of accidents that occurred in individual years and the safety investigations conducted reflect the current situation in railway traffic as a whole. 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					
		2018	2019	2020	2021	2022	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

The table above does not include data from the incidents that took place in December 2021 in Klooga and Paldiski. The Safety Information Bureau formulated an opinion about these based on the initial assessment. Safety investigation was not initiated.



4. Recommendations

4.1 Short review and presentation of recommendations

Recommendations are formed during the safety investigation, and they are formulated at the end of the safety investigation report. The report is forwarded to the safety authority (CPTRA) regardless of whether the report even includes recommendations about railways. The report is also always forwarded to railway transport as well as the infrastructure manager involved in the accident. The latter are often the final executor of recommendations. The final executor can also be the safety authority. The recommendations could be aimed at any other authority or institution responsible for resolving the given issue relating to railway safety. All executors submit an annual report on the status of the proceedings. The first report on the status of the proceedings is presented to the ESIB by 1 April of the year following the completion of the safety investigation report. The proceedings conclude with a presentation of a report if the recommendation has been accepted and fulfilled, rejected, or the proceedings have been suspended. The Consumer Protection and Technical Regulatory Authority monitors and directs the proceedings of recommendations addressed to railway undertakings. 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				
	2018	2019	2020	2021	2022
Maintenance and care of railway infrastructure	-	-	-	-	-
Care, maintenance and managing of rolling stock	-	-	-	-	-
Organisation of supervision	-	-	-	-	-
Road traffic management, road traffic control devices	2	-	-	-	-
Winter maintenance of roads	-	-	-	-	-
Dissemination of information concerning traffic, training	-	-	-	-	-



Amendments to legal acts and regulating instructions	1	-	-	-	-
Operation of traffic lights, railway traffic control	1	-	-	-	-
Organisation of operation of railway communication devices	-	-	-	-	-
Use of information recording equipment	-	-	-	-	-
Professional qualifications of railwaymen	-	-	-	-	-
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	%
2018	5	2	40	3	60	-	-	-	-
2019	-	3	60	-	-	-	-	-	-
2020	-	-	-	-	-	-	-	-	-
2021	-	-	-	-	-	-	-	-	-
2022	-	-	-	-	-	-	-	-	-
Total	5	5	100	-	-	-	-	-	-

In 2022, the opinion of the Safety Investigation Bureau of the Klooga and Paldiski incidents did not contain any recommendations.