

THE NATIONAL SAFETY AUTHORITY FOR RAILWAYS IN IRELAND

2023

ANNUAL REPORT TO THE EUROPEAN UNION AGENCY FOR RAILWAYS

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Definitions and abbreviations

CSI	Common Safety Indicator
CSM	Common Safety Method
CST	Common Safety Target
DoT	Department of Transport
EC	European Commission
ECM	Entities in charge of maintenance
EMM	Enforcement Management Model
ERA	European Union Agency for Railways
ERAIL	European Railway Accident Information Links
ERTMS	European Railway Traffic Management System
EU	European Union
FTE	Full Time Equivalent
IM	Infrastructure Manager
IOD	Interoperability Directive
NIB	National Investigation Body for railway accidents
NoBo	Notified Body
NRV	National Reference Value for CST
NSA	National Safety Authority for railways
PRM TSI	Technical specifications for interoperability relating to accessibility of the Union's rail system for persons with disabilities and persons with reduced mobility
RAIU	The Railway Accident Investigation Unit, the NIB in Ireland
Railway Organisation	An Irish legal term that collectively describes Railway Undertakings and Infrastructure Managers
RSD	Railway Safety Directive
RU	Railway Undertaking
SMS	Safety Management System
TDD	Train Drivers Directive
TSI	Technical Specification for Interoperability
VA	Vehicle Authorisation

1 Introduction

1.1 Purpose, scope and addressees of the report

1.1.1 Purpose and scope of the report

The Commission for Railway Regulation (CRR) is pleased to submit its annual report to the European Union Agency for Railways (ERA) for the year 2023. This is the third annual report under the CRR's current strategy for 2021–2024.

Article 19 of the Railway Safety Directive 2016/798/EC (the Directive that is transposed in Ireland by Statutory Instrument 476 of 2020) requires the CRR to publish an annual report by 30th September each year concerning its activities in the preceding year and to send it to the European Union Agency for Railways (ERA).

In this report, the CRR endeavours to show how the railway system in Ireland is performing, highlighting difficulties and good practices while fostering and encouraging the railway industry in Ireland on its safety improvement journey. This report aims to provide evidence of the CRR's ongoing efforts to improve safety performance in the State, communicate its main safety messages and objectives, show what it is doing and why, and explain how well it is succeeding.

The geographic scope of this report is the 1,600mm gauge national railway system in Ireland.

1.1.2 Structure/Data to which the document refers

The annual report shall contain information on:

- The development of railway safety, including an analysis at Member State level of the common safety indicators (CSIs) laid down in Annex I of the Railway Safety Directive.
- Important changes in legislation and regulation concerning railway safety.
- The development of safety certification and safety authorisation.
- Results of and experience relating to the supervision of infrastructure managers and railway undertakings.
- Derogations for entities in charge of maintenance of vehicles decided in accordance with Article 14a(8) of the Directive.

This report uses the assigned template (GUI_MRA_002 V 3.0) which includes the extended requirements under the fourth railway package.

1.1.3 Target audience of the report

To improve European railway safety, the ERA needs to understand how the EU railway system is functioning and any issues that are impacting on safety performance. This annual report demonstrates how the CRR, as National Safety Authority (NSA) for railways in Ireland, is promoting the EU rail regulatory framework while fulfilling its tasks under the Railway Safety Directive (EU) 2016/798.

This report offers some insight to the operational railway companies and applicants for safety certification and safety authorisation, including the railway undertakings (RU), the infrastructure manager (IM) and the entities in charge of maintenance of vehicles (ECM), which should help them to continually improve their safety management systems (SMS).

This report may also be of interest to the National Investigating Body (NIB) for railway occurrences and to the Department of Transport.

1.1.4 Availability of the report to stakeholders

This report will be published on the websites of the CRR and the ERA.

1.2 Main conclusions on the reporting year

1.2.1 Main conclusion about how the railway system performed

Overall, the safety performance of the Irish conventional railway sector was assessed as positive in 2023, both when compared against previous years and European statistics. This is considered important in a time where new infrastructure is being added and more passengers are using the system.

All NSA functions continued to be performed in 2023, which included work associated with the certification and authorisation required under EU legislation, Designated Body recognition, as well as safety supervisory functions on the regulated entities, including audit and inspection planned on a risk-based analysis. We continued to monitor RU's and IM's implementation of CRR required actions and the recommendations of the Rail Accident Investigation Unit (RAIU), where progress is observed to be reasonable.

1.2.2 Overall trends

2023 was the first year since 2019 that passenger numbers were not significantly affected by the COVID-19 pandemic. Combined with a strong economy and favourable demographics, passenger km increased by nearly 28% as detailed in section 4. Service expanded in 2023 and this trend is expected to continue in the coming years.

There was substantial increase in significant accidents in Ireland in 2023 (5) compared to 2022 (1). An underlying factor in all significant accidents was trespass on to the railway. The 5 occurrences were made up of 4 fatalities and 1 serious injury. 1 accident led to a serious injury and a fatality. 7 suicides and 2 attempted suicides were recorded in 2023.

The total number of precursors is 18 in 2023, compared with 12 in 2022. The notable increase is driven by broken rails and wrong side failures on the signalling system. Broken rails were observed to be higher in 2023. The figure of 5 broken rails within a calendar year is outside of the previous 10 years of recorded broken rail data. The figure itself does appear as an outlier as the previous broken rail recorded for 2022 was no recorded instances.

1.2.3 Impact of the above analyses on the next year activities

Ascertaining a meaningful trend in accident and incident statistics in Ireland is difficult given that the number of occurrences is very low. In response to the significant accidents experienced in 2023, Supervision adopted a proactive approach with involved organisations to review how they may reduce trespass on the railway and how trespassers may be managed when they are on the railway. It is anticipated this will be an important part of safety data review meetings. Broken rail events are subject to supervision activities that ensure the IM investigation is of sufficient quality and that appropriate mitigations are in place.

1.2.4 Priority actions for the next year

With the transposition of the Railway Safety Directive and the Interoperability Directive in 2020, the CRR will continue to include actions to ensure that both Railway Undertakings and the Infrastructure Manager who are assessed for conformity or authorised under the new directives are aware of the new requirements which they place on them. Similarly, we will ensure that we are in a position to provide conformity assessment and authorisation services as per the processes described in the regulatory framework.

The CRR continued implementing its Statement of Strategy in 2023 and will therefore prioritise engagement with all the sector stakeholders to ensure that the strategy reflects the key objectives relevant to the future development of our national rail system and its continuous improvement.

2 Summary

2023 was the first year since 2019 that passenger numbers were not significantly affected by the COVID-19 pandemic. Combined with a strong economy and favourable demographics, passenger km increased by nearly 28% as detailed in section 4. Services expanded in 2023 and this trend is expected to continue in the coming years.

The CRR developed its 2023 supervision programme with a balance of activities including audits, inspection, post occurrence activity and safety performance meetings. These activities are directed at all the entities we regulate and are based on their risk profile. Our overall approach has been and continues to be based on support, advice, encourage and, when necessary, enforce.

Overall, the safety performance of the Irish conventional railway sector was assessed as positive in 2023, both when compared against previous years and European statistics. This is considered a positive trend at a time where new infrastructure is being added and more passengers are using the system.

All NSA functions continued to be performed in 2023, which included work associated with the certification and authorisation required under EU legislation, Designated Body recognition, as well as safety supervisory functions on the regulated entities, including audit and inspection planned on a risk-based analysis. We continued to monitor RU's and IM's implementation of CRR required actions and the recommendations of the Rail Accident Investigation Unit (RAIU), where progress is observed to be reasonable.

In 2023, the CRR re-issued two of its guideline documents, CRR-G-056-A ERATV and CRR-G-009-H – Guideline on Application for Authorisation or Heavy Rail Fixed Infrastructure and Vehicles. Renewed safety certificates were issued through the one stop shop for Iarnród Éireann Railway Undertaking and Rhomberg Sersa Ireland. In both cases, the entity chose to have the assessment carried out by the CRR as the National Safety Authority as the operation was within a single member state. With regard to authorisation to place in service projects, 5 fixed installations were authorised to go into service in 2023. Ireland's National Development Plan 2018–2027 points to significant investment in the railway system in the coming years which includes further electrification of the conventional railway, new stations, elimination of level crossings, and new rolling stock. 3 'stage 4' testing permissions were issued for various rolling stock projects in 2024.

In 2023, CRR inspectors concluded a total of 21 Inspections broken down as follows:

- IÉ-IM: 9 Inspections.
- IÉ-RU: 7 Inspections.
- NIR: 1 Inspection.
- RPSI: 1 Inspections.
- RSIE: 3 Inspections.

The completed inspections in 2023 included IÉ-IM Decision Support System level crossing inspections, inspection of signalling cabins, wheel turning and release to service, RPSI special services operations, station inspections with both IM and RU focuses, bridge inspections, NIR fleet maintenance activities, major station inspections, major event planning, RSIE driver medicals checks, review of IOD signalling projects, wheel lathe inspection, control room management, emergency control panel inspections, train driver licences and IÉ-IM CSI data collection inspection. Primary results are discussed in section 7.1.1. Four audits were completed in 2023. The CRR conducts occurrence inspection activities on accidents and incidents to review compliance with the regulatory framework. 50 such activities were recorded as completed for 2023. Key findings for these activities are discussed in section 7. Supervision also began to review compliance with human and organisational factors in 2023 and this experience is described in sections 7 and 9. Broadly speaking, it is evident a lot of good work is taking place in the sector but also that there is room for improvement.

The CRR held a 'Sector Stakeholder Day' in May 2023, open to all railway organisations and Department of Transport (Ministry) officials. More than 140 delegates ranging from CEO and company Directors to project managers and safety assurance personnel from numerous railway companies attended. At this event, CRR inspectors from the Approvals & Authorisations Team and the Supervision Team gave presentations on various topics such as vehicle authorisation, train driver licensing and supervision of human factors SMS requirements

The report does not identify any significant issues with the regulatory framework.

3 NSA safety strategy, programs, initiatives and organisational context

3.1 Strategy and planning activities

2023 was the final year of the CRR current three-year strategy, which was developed in consultation with all stakeholders. Within the strategy, the CRR is committed to advancing railway safety through effective regulation and by fostering and encouraging the continuous improvement in safety management by railway organisations. It advocates the participation of all stakeholders in the further development of Ireland's rail sector so that it is a safe and efficient mode of transport that benefits our society.

In accordance with the CRR's vision of "safe and sustainable railways that provide efficient and convenient transport for society", its safety initiatives are linked to the main safety critical areas and indicators of accidents and precursors in order to improve common safety indicators.

We have set key strategic priorities relating to rail safety, railway regulation, engagement with Government, communication with stakeholders and for our own organisation.

We have also set key values for how we work, which include integrity, respect, independence and excellence in what we do.

The actions required in the implementation of the CRR action plan, which was developed to address a number of deficiencies identified during the ERA NSA monitoring audit in 2020, were completed. A draft supervision strategy in line with CSM 2018/761, was completed by the end of 2022.

The CRR plans its supervision activities, which are risk based, and identified the main areas that were to be focussed on through audit and inspection. The 2023 plan was completed and approved in January 2023 and included 9 audits and 49 inspections.

The CRR held a key stakeholder engagement day on elements of the transposed Railway Safety and Interoperability Directives in May 2023. This was the first major in person stakeholder conference organised post COVID-19.

3.1.1 NSA process of review and continual improvement of its strategy and planning of activities/initiatives

3.1.1.1 CRR supervision

The CRR's supervision activities are planned annually on a risk basis using qualitative and quantitative means. Throughout 2023, the CRR Supervision team met bi-weekly and all primary ongoing tasks and activities were discussed. At these meetings, inspectors can share experiences and often, as a result of these discussions, there are changes to activities or the way supervision work is undertaken. Inspectors within these bi-weekly meetings feedback on real time safety performance of all regulated railway organisations; an example being feedback to inspectors from key Safety Performance Review Meetings with railway organisations.

Moreover, the CRR Supervision team, together with colleagues from the Conformity Assessment and APIS Team, come together annually to essentially undertake a SWOT Analysis of the year's supervision activities. Feedback on railway organisations from both departments adds an inherent value to the annual workshop as it is an opportunity for the CA/APIS team and Compliance Supervision and Enforcement (CS&E) team to raise key items/developments which then feed into future work planning. In addition, during the CRR's periodic monthly meetings real time updates on all live CA/APIS and CS&E activities are provided and relayed between both teams.

Inspectors share their experiences from the previous year's activities as part of an approach that aims to continually improve the supervision function. At this 'Annual Workshop', Inspection Templates are reviewed and where necessary amended thereby demonstrating continuous improvement/refinement of our supervision processes. The 2023 Annual Supervision Programme continued the process of the prioritisation of activities, particularly in the audit and inspections areas where these were ranked as low, medium or high priorities. In the event of resource constraints within CS&E team supervision activities arising, this hierarchy with respect to activity prioritisation is actioned.

3.1.1.2 Assessments and authorisation

The CRR re-issued two of its guideline documents, CRR-G-056-A ERATV and CRR-G-009-H – Guideline on Application for Authorisation or Heavy Rail Fixed Infrastructure and Vehicles.

Ireland has a limited number of entities involved in the operation of railways in the state. There is one infrastructure manager and four railway undertakings operating on the network. Therefore, we have clear expectations for SMS certification/authorisation applications in a given year. A renewed safety certificate was issued through the one stop shop for Iarnród Éireann Railway Undertaking and Rhomberg Sersa Ireland. In both cases, the entity chose to have the assessment carried out by the CRR the National Safety Authority as the operation was within a single member state.

With regard to authorisation to place in service projects, at the end of each year the Principal Inspector communicates with all potential applicants to determine, as far as possible, what applications are expected in the coming year to assist with resource and competency planning.

5 fixed installations were authorised to go into service in 2023.

Ireland's National Development Plan 2018–2027 points to significant investment in the railway system in the coming years which includes further electrification of the conventional railway, new stations, elimination of level crossings, and new rolling stock. Engagement with the CRR continued on a number of these projects in 2023.

3.1.2 NSA strategies in international activities

The CRR, although a small NSA, values participation in as broad a range of national and international fora as possible. The virtual and in person engagement in 2023 included the ERA's NSA Network, European Commission's Railway Safety and Interoperability Committee, as well as other ERA Working Groups and Task Forces.

In addition, our nominees continued to contribute to work of the International Liaison Group for Government Railway Inspectorates (ILGGRI) plenary meetings and railway related conferences.

The CRR is also an active member of the International Railway Safety Council (IRSC), which it sees as an excellent forum for the exchange of experience and lessons for improving railway safety. In 2023, the CRR sent three delegates to the conference.

3.2 NSA measures adopted or planned regarding to the recommendations issued by NIB and monitoring of their implementation status

(in accordance with art. 26(2) of the Directive (EU) 2016/798)

This is an ongoing task of the Compliance, Supervision and Enforcement (CS&E) team and the CRR have been monitoring the implementation of NIB Safety Recommendations since 2008. Safety recommendation issued by the NIB to the CRR are reviewed and formally issued to the necessary organisations. The organisations in turn are required to advise the CRR of their acceptance or otherwise together with details of actions taken or proposed or details as to why they believe no action is necessary.

There is a requirement for progress to be reported to the CRR on a quarterly basis and for the principal RU's and IÉ-IM to review progress. Regular meetings take place with the railway organisations of which NIB recommendations are assigned, and recommendation review blocks are worked through. Records are kept and there is then a formalised method by which evidence is submitted, reviewed and closed. The status of recommendations is shown in the following table for 2023.

NIB recommendations

Year	No. of reports	No. of recommendations				Total
		Open	Submitted	FER	Closed	
2014	6	0	0	1	25	26
2015	2	0	0	0	4	4
2016	3	6	0	2	12	20
2017	1	0	0	2	7	9
2018	1	1	0	1	7	9
2019	4	9	1	5	21	36
2020	4	6	0	8	4	18
2021	7	15	0	10	11	36
2022	3	15	0	1	0	16
2023	5	43	2	1	1	47
Totals		95	3	31	92	221
Total recommendations made						221

The status categories are:

Open/In progress

Feedback (evidence) from Railway Organisation (or another party) is awaited or actions have not yet been completed.

Submitted

The Railway Organisation (or other party) has made a submission to the CRR advising that it has taken measures to effect the recommendation and the CRR is considering whether to close the recommendation.

FER (Further Evidence Requested)

The CRR has reviewed a submission (or further submission) but considers that further evidence is necessary to close the safety recommendation.

Closed

The CRR has reviewed a submission (or further submission) and is satisfied that the safety recommendation has been addressed.

3.3 Safety measures implemented unrelated to the NIB Safety Recommendations

3.3.1 NSA measures adopted or planned by NSA

The focus of the CRR's 2023 Supervision Programme was to:

1. Supervise the continued application of the Railway organisations approved SMS, i.e., checking compliance with legal requirements, i.e., Common Safety Methods, the Railway Safety Act 2005.
2. Supervise areas of identified risk, and RU/IM Risk Control Measures for the avoidance of accidents.
3. Instill in the minds of railway company personnel that safety is their no. 1 policy.
4. Encourage ROs to 'Move Beyond Compliance', i.e., challenging their SMSs to not only ensure compliance but that they are truly delivering expected outcomes.
5. Promote human factors training for IM and RU staff to improve awareness and knowledge. Promote the need for organisation leaders (Managers) to promote internally a positive organisational/safety culture.

The CRR's principal supervision activities, i.e., audits, inspections and meetings, are devised and planned to achieve points 1 and 2 above. In 2023, a total of 24 inspections were commenced across the operational RUs and the IM. For the railway organisations, five audits were commenced and 4 audits in total were completed in 2023.

The CRR continued its engagement with the sector working group on Human and Organisational Factors in 2023, to support efforts to improve the industry's capability in this area. A variety of railway organisations attended the sessions with engagement in the sector being positive. The outputs from the group are cascaded to all participants.

A memorandum of understanding was agreed between the CRR and the Department for Infrastructure Northern Ireland (DFI-NI) with the objective of facilitating co-operation, enhancing our actions and establishing principles of engagement. Periodic meetings also took place between DFI-NI and the CRR during 2023. These periodic meetings have, from the CS&E perspective, ensured that there is no duplication of activities on NIR within future proposed activities.

3.3.2 Monitoring of implementation status

The CRR reviews the implementation of the plan identified in Section 3.2.1 at a bi-weekly meeting at which all Supervision inspectors attend. Activities allocated to individual inspectors are discussed and their progress reviewed. Moreover, the wider CRR team meet monthly at which the Principal Inspector with responsibility for supervision provides an update as to work completed in the previous month and work in progress. The Commissioner and the Principal Inspectors also meet on a monthly basis to review the current and future work activity and outcomes. Lastly, the programme is reviewed annually in quarter 4 at the supervision workshop. Items incomplete or unresolved are reviewed to determine if they should be carried forward to the next year or if they are still valid/a cause for concern.

3.4 Safety organisational context

The CRR continued to receive the majority of its funding through the annual levy that the CRR places on the entities that are subject to regulation as allowed for in the legislation establishing the CRR. The levy is allocated on the basis of the level of activity relating to the functions the CRR engages in with each regulated entity including certification, authorisation and supervision in that year. The balance is received as Grant-in-Aid from the Department of Transport and by charging agreed statutory fees for other specific activities such as the designation of DeBo's. Breakdown of funding 2023: levy 67%, grant in aid: 31% and fees: 2%

3.4.1 Railway organisational context in the Member State and main changes

The organisational context in MS IE remained constant in 2023 and there were no main changes to staff or structure.

The railway network in Ireland is managed by the IÉ- IM and comprises approximately 2,400 km of railway track, of which approximately 1,660 km is currently active, and includes 145 passenger stations and 372 platforms. It also comprises of 4,440 bridges, 909 level crossings, over 3,300 plus cuttings and embankments and 13 tunnels. The railway is mainly single track, with 886km of double track and 60km of multiple track. The network includes main lines, suburban and commuter passenger routes, together with freight-only routes. Most of the network is comprised of radial lines focused on the capital, Dublin. The network largely provides for inter-urban connections providing strategic transport links at the national level between the six key cities on the island: Dublin, Cork, Galway, Limerick, Waterford and Belfast.

Intra-urban rail is also extensive within the Dublin area, with the provision of DART in 1984 on the main network providing the core high-capacity network that is central to the Greater Dublin Area's mass transit system. Passenger transport and freight services are provided on the network by IÉ-RU. In addition, Northern Irish Railways also operate a joint (the 'Enterprise') service with IÉ-RU between Dublin and Belfast as well as operating its own event based special serviced between Belfast and Dublin. The full detail is provided in the Iarnród Éireann Infrastructure Manager Annual Network Statement ([available here](#)).

In 2023, there has been a steady and marked increase in passenger numbers, such that they are nearly back to pre-COVID-19 levels for Iarnród Éireann at 46.07 million passenger journeys.

Also in 2023, the Department of Transport in Ireland and the Department for Infrastructure (DfI) in Northern Ireland commissioned an All-Island Strategic Rail Review with the aim of developing strategic recommendations to enhance and expand the rail system in Ireland and Northern Ireland up to 2050.

The organisational structure of the CRR is shown in Figure 1, with a corresponding diagram indicating CRR workflow and relationships in Figure 2.

(Only staff dealing with railways is included, with a focus on staff dealing with the following activities: issuing single safety certificate, vehicle authorisation, supervision and train driver's licences.)

Sections 3.4.3.1 to 3.4.3.4 summarise how competence is managed for NSA staff for specific topics, but some aspects are common for all inspectors. There is a formal induction training programme in place for newly recruited inspectors. Inspectors receive this induction training together with all the necessary railway safety competences required to access the various railways we regulate.

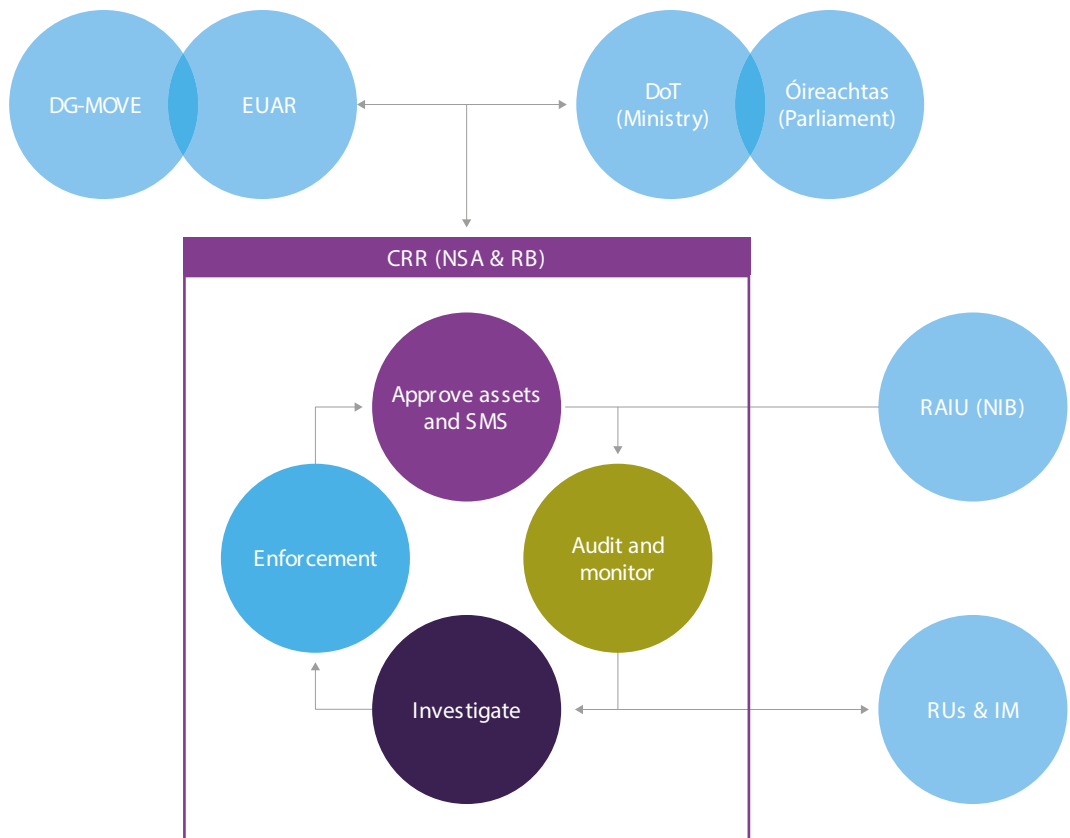
A small team of inspectors are responsible for the assessment of single safety certificates and safety authorisations. All staff involved have been with the CRR for at least 2 years and are familiar with CRR and the ERA OSS processes.

In terms of the ongoing management of staff competence, this area involves both formal training, e.g., ERA OSS training and on-the-job mentoring whereby a new/less experienced members of staff shadow a more experienced member of the team.

Commissioner

Principal Inspector Authorisation to Place in Service and Conformity Assessment	Principal Inspector Compliance, Supervision and Enforcement	Head of Corporate Governance and Regulation
Inspector GI	Inspector GI	Higher Executive Officer
Inspector GII	Inspector GII	Executive Officer
Inspector GII	Inspector GII	
Inspector GII	Inspector GII	
Inspector GII	Inspector GII	
	Inspector GII	

Figure 2
Organogram of
independent CRR
organisation and
primary workflows



The CRR have since mid-2023 implemented a competence management system (CMS), which involves inspectors reviewing and updating their competence record in conjunction with discussions with the Head of Unit for Approvals & Authorisations.

As a small team, all staff have the opportunity to be involved with SSC assessments reasonably frequently, albeit there are only a small number of Railway Undertakings operating in the state.

3.4.3.2 Vehicle authorisation

As advised in previous reports, the process for vehicle authorisation is described in specific CRR Guidance. NSA inspectors working on vehicle authorisation projects are all engineers with many years experience. They have also attended the pool of expert training at ERA. Additional training is available should a need be identified. Furthermore, expert advice is contracted by the NSA as necessary.

As stated above, the rollout of a CMS commenced in 2023 and will become more established over the years ahead.

3.4.3.3 Supervision

The principal activities undertaken by CRR Supervision inspectors are audits, inspections, post occurrence activities, responding to representations, and a variety of meetings with railway organisations management.

CRR inspectors are encouraged to maintain their own continuous professional development and are all offered the opportunity to complete a relevant MSc university course such as the 'MSc in Railway Systems Engineering & Integration'.

The Principal Inspector of CS&E, who has responsibility for supervision, has an annual training budget allocation per inspector reporting to them and it is used at the discretion of the Principal Inspector CS&E in consultation with their staff.

Prior to undertaking any activity, there is also a period of on-the-job learning where more junior inspectors are mentored by more experienced staff. This includes acting in a support role on audits and shadowing inspectors as they carry out asset/task observation inspections. In the case of auditing, this is supported by formal, classroom-based Lead Auditor training which all inspectors receive.

Inspector reports are always peer reviewed and feedback is given when necessary. Moreover, inspector performance is reviewed twice per year as per the CRR Performance Management and Development System (PMDS).

A competence management system (CMS) continued to be developed in 2023, with its implementation envisaged for 2024 for CS&E via a more refined system to encompass all CS&E relevant activities.

3.4.3.4 Train driver licences

Given there are just four Railway Undertakings operating in the state, the number of train driver licences issued in any given year is not significant. Based on applications received in 2023, the CRR issued 62 train driver licences. 59 were 'first issue', 2 were replacement licences and 1 was an update/amendment.

CRR guidance exists covering this task and it explains the application process. As advised in our 2022 report, a new NSA inspector was trained in these requirements shadowing another member of the team to gain experience in what is required to be done. They are now leading the activity processing all applications received.

4 Safety performance

Reference to requirement: art. 19 (a) of Directive (EU) 2016/798

4.1 Statistics and analysis of general safety performance trends

This chapter uses the CSIs and national safety indicators when considering the reasons and context behind recent safety developments. National safety indicators are shown in the CRR's Annual Railway Safety Performance report, which is published separately on the CRR website.

The Irish network accounts for a small proportion of total EU railway traffic. In 2023, 2,235 million passenger-km was reported, along with 76 million tonne-km for freight services. For context, the last available figures for the EU as a whole were about 390 billion passenger-km and 400 billion tonne-km, respectively. 2023 represented significant growth for passenger transport compared to the 2022 passenger-km of 1,748. 2023 was the first year without significant COVID-19 restriction since 2019. Reasons for growth include a growing economy and increasing national population, which influenced demand for passenger railway services across intercity and commuter services. The state railway operator has responded to additional demand by increasing capacity across many routes. The Irish system is predominantly used for transport of people but, following a long period of decline, it is now expected freight services will expand due to climate action requirements, rail transport efficiency and proposed plans to improve connectivity to ports in Ireland. Freight transport volume in 2023 is comparable to recent years.

There was a substantial increase in significant accidents in Ireland in 2023 (5) compared to 2022 (1). An underlying factor in all significant accidents was trespass on to the railway. The 5 occurrences were made up of 4 fatalities and 1 serious injury. 1 accident led to a serious injury and a fatality. 7 suicides and 2 attempted suicides were recorded in 2023.

Ireland continues to have relatively low accident rates per million train-km. Although it is difficult to pick up on meaningful trends within the CSI data as the values for Ireland are very low, there has been an underlying decline in the five-year rolling average number of reported significant accidents. It is observed from the agency's latest report on Railway Safety and Interoperability in the EU that Ireland is towards the more positive side of comparative data for railway fatality rates in Europe. The overall picture of safety in the rail industry is a good one, with most indicators trending positively.

The Common Safety Indicators (CSIs) for Ireland are provided to European Union Agency for Railways (ERA) using the agency's designated reporting template. The following is an analysis of trends related to CSIs and national safety indicators.

4.2 Number of fatalities/serious injuries (total and relative to train-km)

In 2023, there were 11 fatalities and 1 serious injury involving railway infrastructure and operation where trespass or suspicious death was indicated. This was a notable increase over the previous 5 years, where the number has been consistently in mid-single digits. This metric is being closely monitored by RU's and the IM and their management of safety risk related to these events is a primary topic for Supervision review meetings. Trespass and suicides are the primary factors in these fatalities. To this end, RU's and the IM in Ireland developed a suicide prevention group. The group reviews relevant safety data and implements preventive measures such as coaching staff to intervene with vulnerable people. They are also reviewing the engineering interventions that may be effective.

4.3 Number of significant accidents (total and relative to train-km)

There was a substantial increase in significant accidents in Ireland in 2023 (5) compared to 2022 (1). An underlying factor in all significant accidents was trespass on to the railway. The 5 occurrences were made up of 4 fatalities and 1 serious injury. 1 accident led to a serious injury and a fatality. 7 suicides and 2 attempted suicides were recorded in 2023. See section 4.1.2 for further consideration of related data.

4.4 Overview of safety incidents (CSI precursors to accidents and nationally used accidents)

The total number of precursors is 18 in 2023, compared with 12 in 2022. The notable increase is driven by broken rails and wrong side failures on the signalling system. Broken rail events were observed to be of a higher frequency in 2023. The figure of 5 broken rails within a calendar year is off trend for the previous 10 years of recorded broken rail data. The figure itself does appear as an outlier as the previous broken rail recorded for 2022 is zero. It is an area that was highlighted during reviews of 2023 safety performance and an area to be reviewed and monitored further within 2024 by the Supervision team.

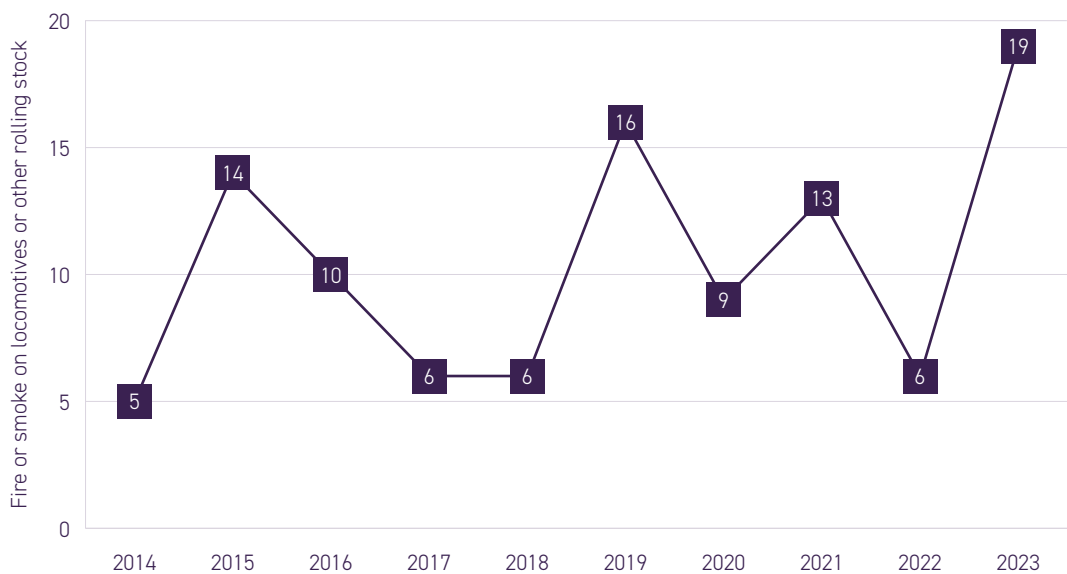
4.5 Overview of safety outputs CSIs, such as level-crossing per type, ATP statistics and other nationally used metrics

The infrastructure remained mostly at steady state in Ireland in 2023, where there continues to be a significant focus on asset renewals and planning for large projects to replace existing signalling and energy systems. Significant progress has been made on a new signalling system and it is expected a small section will open in 2025 for test purposes. The infrastructure manager has changed level crossing designation in several categories due to the installation of a new decision support system (DSS), which provides road users with advice on the presence of an oncoming train.

4.6 Analysis of trends for main safety outcomes per category of accident and user type, safety incidents and safety outputs

Fire and smoke related incidents increased significantly in 2023 to its highest level in some 20 years. Additionally, when considered over a 10-year period, the average number of smoke/fire incidents per year is showing an upward trend. Three of the nineteen incidents were categorised as fires and all occurred on diesel multiple unit trains. There were several causes identified across all instances, which ranged from maintenance errors to component failures, however, a common trend was fuel and oil leaks coming into contact with hot powertrain components. Whilst none of these incidents led to serious injury or damage, they are of concern and are subject to inspection, audit and review meetings with the relevant railway undertaking.

Figure 3
Fire and smoke-related incidents



4.7 Provide information on national safety targets and underlying safety improvement plans

Ireland currently does not define targets at a national level through legal mechanisms.

5 EU legislation and regulation

Reference to requirement: art. 19 (b) of Directive (EU) 2016/798 and art. 19 (e) of Directive (EU) 2016/798

5.1 Changes in legislation and regulations

5.1.1 Important changes in the implementation of the EU legal framework (e.g., RSD, IOD, other relevant Directives, Regulation and Secondary legislation, including the change in the scope)

On technical harmonisation, the Commission adopted substantial amendments to the technical specification for interoperability regulations (TSI) and legislation on ERA registers in September 2023. The obligations arising from these amendments arise in 2024 and thereafter.

5.1.2 Eventual amendments necessary in order to achieve CSTs (art. 4(1) point f, art. 7(7) of the Directive (EU) 2016/798)

Not required in 2023.

5.1.3 Review of the operational companies' implementation of new EU regulatory framework

(Concerning rolling stock, infrastructure, staff performing safety-critical tasks, staff competencies and training)

For rolling stock, and as referenced in section 4, an increased trend of fire and smoke related incidents indicates there may be issues with implementing CSM SMS requirement. Supervision have engaged with the relevant railway undertaking to obtain further information in relation to the trend being observed and have verified that an analysis is underway by the ECM to develop suitable risk controls and risk mitigation measures to address the issues in the shorter term.

With regards to staff performing safety-critical tasks/safety related competence reviews, 3 activities were commenced in 2023 on IÉ-IM and IÉ-RU. All of these activities commenced in Q4 2023 these inspection activities continued into 2024.

No significant issues identified were identified for infrastructure.

5.1.4 Changes in legislation/regulation following the recommendations and opinions of the Agency pursuant to RSD

(art. 32 of the Directive (EU) 2016/798 and art. 13 of the Regulation EU 2016/796)

Not required in 2023.

5.1.5 Changes in legislation/regulation following the NIB Safety Recommendation

(art. 26(2) of the Directive (EU) 2016/798)

Not required in 2023.

5.1.6 Changes/amendments to the national legal framework relating to railway safety

(Legal acts and administrative regulations)

The following Statutory Instrument was published in 2023:

- S.I. No 267/2023 Railway Safety Act 2005 (Section 26) Levy Order 2023.

5.2 Derogation from RSD system of certification of ECM

5.2.1 Derogations decided in accordance with Article 15 Directive (EU) 2016/798

(Derogations from the system of certification of Entities in Charge of Maintenance (ECM))

No derogations.

5.2.2 Information according to art. 15(3) of the Directive (EU) 2016/798

No derogations.

6 Safety certifications, safety authorisations and other certificates issued by the NSA

Reference to requirement: art. 16 of the Directive (EU) 2016/798, art. 19 (c) of the Directive (EU) 2016/798, art. 24 of the Directive (EU) 2016/797, art.7 of the Commission Regulation No 445/2011, art.14 of the Directive 2007/59/EC and art. 20 of the Directive 2007/59/EC)

6.1 Safety single certificates and safety authorisations

6.1.1 Status and changes to the number and awardees of safety certificates and safety Changes to strategy and procedure related to the process of issuing safety single certificate/safety authorisation

As advised in section 3.1.1.2, the railway sector in Ireland is small with just 1 Infrastructure Manager and 4 railway undertakings operating on the heavy rail network. Consequently, there are very few changes to the number and awardees of safety certificates year or year. The table below illustrates the work completed in 2023 where the CRR was the Authorising Entity.

Status	Change/Detail	Number
Number and awardees (names of the companies) of new safety certificates		0
Number and awardees of renewed safety certificates	<ul style="list-style-type: none"> — Iarnród Éireann – Railway Undertaking — Rhomberg Sersa Ireland 	2
Number and awardees of amended safety certificates, e.g., for extensions or reductions in scope...) and main issues faced		0
Number of revoked safety certificates and main reasons		0
Number and awardees of new safety authorisations		0
Number and awardees of renewed safety authorisations		0
Number and awardees of amended safety authorisations, e.g., for extensions or reductions in scope...) and main issues faced		0

6.1.2 Outcomes of discussions of supervision results with other NSAs in the context of certification/authorisation

There was no activity in this area in 2023.

6.1.3 Changes to strategy and procedure (shall only be included if relevant) related to the process of issuing safety single certificate/safety authorisation

With regards to changes to strategy or procedures related to the process of issuing safety single certificate/safety authorisation, there were two significant changes in the CRR's assessment process. These were in relation to both SSC renewals by Iarnród Éireann and Rhomberg Sersa being assessed against Commission Regulation (EU) 2018/762 rather than against Commission Regulation (EU) 1169/2010. The second significant procedural change was the use of the ERA OSS tool for managing the renewal applications.

In advance of these applications, key CRR staff received OSS training from the ERA enabling the effective use of this new tool. The area of focus for the assessment teams involved was checking that important new aspects such as human and organisational factors and safety culture were adequately covered by the applicant's SMS.

6.2 Vehicle authorisations

6.2.1 Status of the number and awardees of Vehicles Authorisations (VA) during the reporting year

The CRR's guideline CRR-G-009 is the process by which the CRR follow when authorising railway vehicles. There are six stages involved within each discrete authorisation. These are:

- Stage 1: Concept.
- Stage 2: Preliminary Design.
- Stage 3: Detailed Design.
- Stage 4: Testing.
- Stage 5: Interim Operation.
- Stage 6: Service Operation.

The table below lists those projects that were either received or advanced in some way during 2023.

Status	Change	Number
Number and awardees of new issued VA	<ul style="list-style-type: none"> — CRR issued a Stage 4 – 'Testing' letter of acceptance in February 2023 to Iarnród Éireann – Infrastructure Manager for their new track recording vehicle — CRR issued a Stage 4 – 'Testing' letter of acceptance in March 2023 in relation to additional class 22000 intercity diesel multiple units for Iarnród Éireann – Railway Undertaking. — CRR issued a Stage 4 – 'Testing' letter of acceptance in June 2023 to Iarnród Éireann – Infrastructure Manager for their new on-track crane. 	3
Number and awardees of modified and/or renewed VA and main issues faced		0
Number of suspended VA and main reasons		0
Number of withdrawn VA and main reasons		0

6.2.2 Changes to strategy and procedure related to the process of vehicle authorisation

The principal CRR guideline pertaining to Vehicle Authorisation is CRR-G-009 (Revision G) and work commenced reviewing this guidance in 2022. Revision H was republished in May 2023.

It covers the 'Application for Authorisation and Application for Acceptance for Heavy Rail Fixed Installations and Vehicles'. It provides guidance and explanation on the European and Irish legal requirements for authorisation of fixed installations and vehicles.

2023 also saw CRR inspectors using the ERA OSS to review vehicle authorisation applications for the first time.

6.3 Entities in Charge of Maintenance (ECM)

The CRR in its role as a certification body for ECM, reports as follows:

6.3.1 Certificates issued, amended, renewed, suspended, and revoked during the reporting year

The CRR conducted no certification activities during the reporting period. Consequently, there have been no certificates issued, amended, renewed, suspended or revoked in 2023.

6.3.2 In case of suspended or revoked certification please describe the main causes/reasons

Nil.

6.3.3 Report of non-conformities which have been detected by the NSA during its surveillance activities

Nil.

6.3.4 Changes to strategy and procedure related to the process of ECM certification

Nil.

6.4 Train drivers

6.4.1 Train driver licenses issued, amended, renewed, suspended, withdrawn during the reporting year (Directive 2007/59/EC, Art.14)

Based on applications received in 2023, the CRR issued 62 train driver licences. 59 were 'first issue', 2 were replacement licences and 1 was an update/amendment. The table below shows the breakdown by railway undertaking.

Railway undertaking	No. of licences Issued in 2023
Irish Rail	51
Rhomberg Sersa	8
Translink NIR	3
Total licences issued	62

Irish Rail (Iarnród Éireann) are the state railway undertaking operating passenger and freight services. Rhomberg Sersa operate and maintain the On-Track-Machine (OTM) fleet for Iarnród Éireann – Infrastructure Manager and Translink Northern Ireland Railways operate in cooperation with Iarnród Éireann cross border services from Dublin to Belfast.

6.4.2 Training centres recognized during the reporting year (Directive 2007/59/EC, Art.20 and Art.23(6))

Currently, there is one recognised training centre in Ireland, which is operated by the national state railway, Iarnród Éireann. They were recognised in March 2020 for a period of 5 years. Consequently, there was no activity in this area in 2023.

6.4.3 Changes to strategy and procedure related to the process of train driver licensing

There were no changes to the CRR's procedures relating to train driver licensing in 2023.

6.5 Other type of authorisation/certifications

6.5.1 Cases where NSA acts as certification body for other type of railway authorisations/certification

As recognition body for Designated Bodies (DeBo's) for the IE network, the CRR undertook the following activity in 2023.

Company	Initial recognition	Modified recognition	Re-recognition	Witnessing	Surveillance
Rina Services S.p.A					■
Certifer HHC DRS B.V					■
Certifer SA		■			
RTV-Denmark ApS				■	

In 2023, there were 6 companies recognised as IE-DeBo.

6.6 Contacts with other National Safety Authorities

6.6.1 Cooperation with foreign safety authorities

In 2022, the CRR signed a Memorandum of Understanding (MoU) with the Department for Infrastructure of Northern Ireland and specifically their Railway Safety Authority. The CRR met with colleagues from Northern Ireland several times in 2023, at which areas of mutual interest covering vehicle authorisation and supervision were discussed.

The other main route to engagement with other NSAs is through the CRR's attendance at ERA NSA Network meetings and other working groups. However, given our small size, the CRR must prioritise our resource in terms of selecting which working groups and task forces to attend.

6.6.2 Outcomes of discussions of supervision results with other NSAs

In terms of Supervision the CRR met with the Railway Safety Authority of Northern Ireland on two occasions post signing of the MoU. Information was shared regarding supervision activity on Northern Ireland Railway and Iarnród Éireann – Railway Undertaking.

6.7 Exchange of information between NSA and railway operators

6.7.1 Exchange of information between the NSA and RU/IM

(describing the scope, the frequency and how the exchange is done)

On a quarterly basis, CRR inspectors from the Approvals & Authorisations Team meet with senior managers from the State RU regarding VA projects and with the State IM regarding Fixed Installations Projects. Project status is discussed along with authorisation strategies together and any questions regarding applications can be discussed.

Similarly, the CRR Supervision Team meet with company executives from 'high priority' railway organisations, including Iarnród Éireann – Railway Undertaking and Iarnród Éireann – Infrastructure Manager. At these meetings, safety performance is reviewed along with discussions on railway accidents/incidents. In advance of these meetings, the railway companies provide Key Performance Indicator data that is then discussed in the meetings.

6.7.2 Topics/critical points exchanges/discussed for the reporting year

The CRR held a 'Sector Stakeholder Day' in May 2023, which was open to key stakeholders including all railway organisations and the Department of Transport (Ministry) officials. More than 140 delegates ranging from CEO and company Directors to project managers and safety assurance personnel from numerous railway companies attended. At this Stakeholder Day, CRR inspectors from both the Approvals & Authorisations Team and the Supervision Team gave presentations on various topics such as vehicle authorisation, train driver licensing and supervision of human factors SMS requirements.

The CRR also liaised closely with sector organisations regarding the 2023 TSI Revision Pack advising of key dates and other requirements.

6.7.3 Relating findings and initiatives

There was no activity.

7 Supervision

(Reference to requirement: art. 19 (d) of Directive (EU) 2016/798 and Commission Delegated Regulation EU 2018/761)

7.1 Strategy, plan, procedures and decision making

7.1.1 Supervision strategy, including how planning (e.g., data concerning CSIs, input from Safety Recommendations, etc.) takes this into account and any relevant changes made as a result of the analysis of safety data along with an explanation of why those changes were made

The CRR's Statement of Strategy, published in 2021 and covering the period 2021–2024 inclusive, is the high-level document (Supervision Strategy) that sets out the Commission's mandate, mission, vision and key priorities in the period. It forms the basis of the Commission's activity across all units, including the Supervision Section. These key priorities, from a supervision perspective, are areas of risk on which the CRR will pay particular attention during the life cycle of the strategy. These are identified based on our knowledge of trends in safety performance, previous audit/inspection findings, NIB safety recommendations and other sources. For the period 2021–2024, the CRR have identified 4 key areas and these are:

- Track worker safety, given an increase in occurrences involving front line workers and contractors, in particular those operating road rail vehicles;
- Level crossings safety, given recent occurrence, NIB safety recommendations and the IM introducing novel technology to assist level crossing users;
- Contractor management, linked to track worker safety, given the increasing prevalence of the use of external contractors for both labour and plant (machinery); and
- Control assurance and risk management, given the roll out of the 4th railway package and associated EU legislation.

Also identified in our Statement of Strategy are risks associated with Human Factors (HF), e.g., automation and the digitisation and digitalisation of our railways. Moreover, HF integration not only in systems/sub-systems but also into railway organisations SMSs is an area the CRR will focus on.

Taking the above into account, i.e., to address these areas of risk and to supervise the continued application and effectiveness of each RU and IM safety management system, the CRR prepares annual supervision plans for several RU's and the IM. For 2023, these included:

- Iarnród Éireann (IÉ-IM) – Infrastructure Manager.
- Iarnród Éireann (IÉ-RU) – Railway Undertaking.
- Rhomberg Sersa Rail Group (Ireland) – Railway Undertaking.
- Railway Preservation Society of Ireland (RPSI) – Railway Undertaking.
- Northern Ireland Railways (Translink) – Railway Undertaking.

Each railway organisation's supervision plan, that the CRR develop include audits, inspections and a variety of different meetings with senior managers.

These plans are developed by the CRR inspectors at an annual workshop where the safety performance of each individual railway organisation supervised is discussed. This includes review of National Indicators, Common Safety Indicators and additional available safety performance data. Then depending on the railway organisations performance, i.e., if it is an improving or worsening trend the level of supervision activity can increase or decrease.

Additionally, in terms of a plan's execution, each organisation is assigned a risk classification that determines the level of supervision activity they will receive for that year. This means that railway organisations with a higher risk profile can as a result expect a higher level of supervision activities.

With regards to the Infrastructure Manager in 2023, the CRR focused on support, operations and performance evaluation of the CSM within the Signalling, Electrical and Telecoms Department. Additional areas of focus in 2023 on the Infrastructure Manager included inspection of level crossing decision support systems, SET signalling cabins, station inspections, bridge inspections, tunnel inspections and review of safety related competence for the IM.

For Iarnród Éireann Railway Undertaking in 2023, the CRR focused on Operation and Traffic Management TSI – TSI-OPE, wheel turning and release to service, station inspections with an RU focus, major event planning, Chief Mechanical Engineers concession management across multiple depots, review of safety related competence for the RU and IÉ-RU train driver medical and competencies.

On the sole on-track-machine RU – Rhomberg Sersa, the CRR focused on accident investigation and emergency preparedness, review of maintenance and operations of specific OTM's and inspection of Rhomberg Sersa driver medicals.

7.1.2 Decision-making criteria on how the NSA monitored, promoted and enforced compliance with the regulatory framework and the procedure for establishing those criteria

The CRR's supervision activities are based on assessed risk to the safety of passengers, staff and third parties. Safety performance data together with intelligence sources such as previous CRR supervision activities, accidents, incidents and dangerous occurrences, NIB reports etc. collected in the preceding year informs inspectors of areas where their attention may be required and supports the development of the next year supervision plans.

RU's and the IM are assigned a risk profile based on inspector opinion and those organisations with a higher risk profile can expect more supervision than better performing railway organisations.

When it comes to enforcement, CRR inspectors can employ the 'risk gap' technique where they first assess the level(s) of actual risk arising from the railway organisation's activities, in particular the risk to the safety of persons. Inspectors base this judgement on information about risk levels perceived for the issue at hand, using evidence obtained in the inspection and knowledge of best practice within the industry.

Having identified the level(s) of actual risk, the inspector may identify the risk gap, i.e., is it minor, inadequate, absent or extreme. Depending upon the inspectors judgement, together with a peer review, an enforcement action may be taken. The process for doing this is detailed in CRR Guideline RSC-G-023-C and is available on the CRR website.

Relative to the national rail network, Section 76 of the RSA 2005, a request for Improvement Plan was used on 2 occasions in total in 2023. One of these improvement plans was requested from IÉ-IM with further detail summarised below:

This direction for an improvement plan was issued to IÉ-IM where they were found to be non-compliant with an EU regulation relating to 2018/762 Annex II Section 4.4.3, which falls under information and communication. This is in relation to the briefing of safety related information to safety critical staff.

Within 2023, the other improvement plan was issued to Rhomberg Sersa the OTM RU:

This direction for an improvement plan relating to a major non-compliance was issued to RSIE. This outcome was in relation to RSIE OTM drivers undertaking train movements without having had their fitness for duty independently confirmed by an appropriate competent person, contrary to Section 36 of the Railway Safety Act 2005.

7.1.3 Main complaints submitted by stakeholders (if any) on decisions taken during supervision activities and the replies given by the NSA. If there is a negative return, this should be recorded

Following a supervision activity, be that an audit, inspection or meeting, draft reports/minutes are issued for comment to the relevant organisation. The applicable organisation is encouraged to raise any concerns they have and identify any factual inaccuracies that may have been made. These are formally recoded and then responded to by the lead inspector. In most cases, issues are resolved prior to the finalisation of the report/minutes, however, if there are diverging views these are recorded in the report together with CRR reasoning for its decision.

No formal complaints were raised by stakeholders regarding decisions taken during supervision activities or on the replies given by the NSA to any comments or queries raised by CRR inspectors in 2023.

7.1.4 Any changes to the regulatory regime in the member state with impact on supervision strategy, plan or decision making

Nil.

7.2 Supervision results

7.2.1 Number and outcome of inspections and audits carried out during the reporting year

In 2023, CRR inspectors concluded a total of 21 Inspections broken down as follows.

- IÉ-IM: 9 Inspections.
- IÉ-RU: 7 Inspections.
- NIR: 1 Inspection.
- RPSI: 1 Inspections.
- RSIE: 3 Inspections.

These completed inspections in 2023 included IÉ-IM Decision Support System level crossing inspections, inspection of signalling cabins, wheel turning and release to service, RPSI special services operations, station inspections with both IM and RU focuses, bridge inspections, NIR fleet maintenance activities, major station inspections, major event planning, RSIE driver medicals checks, review of IOD signalling projects, wheel lathe inspection, control room management, emergency control panel inspections, train driver licences and IÉ-IM CSI data collection inspection. Major station inspections focused on as part of the 2023 CS&E activities were limited to Pearse Station, Heuston Station and Connolly Station in this activity. Major stations in this instance are those busier and larger stations located within the main cities within Ireland.

These inspections resulted in a multitude of outcomes ranging from 'scope for improvement' where action is determined by the railway organisation to non-compliances where evidence is sought by CRR inspectors to see that action has been taken. Primary results, which include details on the relevant improvements plans required, are summarised in section 7.1.2.

Four audits were completed in 2023 on RSIE (1), IÉ-IM (1) and IÉ-RU (2):

CRR audits finalised in 2023 (4 No)

Railway organisation	Title of audit
RSIE	RSIE Audit: Accident Investigation & Emergency Preparedness – Annex II Criteria P, Q & R etc.
IÉ-IM	Accident Investigation and Emergency Preparedness
IÉ-RU	CME Management of Fleet Risk Registers – (Criterion A)
IÉ-RU	Management of Safety Information (CSM 1158/2010 Annex II Criterion O, P)

The CRR conducts post occurrence activities on accidents and incidents to review compliance with the regulatory framework. 50 such activities were recorded as completed for 2023. Enforcement actions are previously identified in the enforcement element of 7.1.2.

7.2.2 Results of and experience related to the supervision such as how many visits required remedial work from the supervised entity

A total of 44 outcomes (recommendations) across organisations within the scope of this report were made in 2023.

Key findings included:

IM Key findings (IÉ-IM)

- IÉ-IM being found non-compliant with Part 2 Section 8 (8) (b) of SI476 of 2020.
- Identified actions required post an OHLE outage for IÉ-IM.
- Identified actions required within area Accident Investigation and Emergency Preparedness for IÉ-IM.

RU's Key findings (IÉ-RU, NIR, RPSI, RSIE)

- Non-compliance with EU regulation relating to 2018/762 Annex II Section 4.4.3 Information and communication.
- Major non-compliance, with respect to drivers undertaking train movements without having had their fitness for duty independently confirmed contrary to the Railway Safety Act.
- RU non-compliant with 1158/2010 Criterion I (a) through multiple SMS documents exceeding review periodicities.
- ECM not ensuring that yearly reviews of bogie/wheelset and rolling stock risk management processes being undertaken.
- ECM not ensuring risks relating to the safety of the fleet were not risk assessed promptly.
- RU found non-compliant with CSM Regulation 1158/2010 N1 (f).
- RU non-compliant to ensure all records of approved drivers' register, out of hour checks, train drivers returning from work following long absences, receipt of publications and posted safety notices are being kept for minimum of 10 years.
- RU found non-compliant with an internal operating procedure (to keep records for minimum of 10 years).
- Fleet risk register required multiple improvement action.
- Identified actions required within Management of Safety Information Vs CSM 1158/2010 Annex II Criterion O and P for an RU.
- Identified actions required following an Inspection of the wheel lathe for an RU.
- Identified action required following an inspection of Control Room Management an RU.
- Identified actions required following an inspection of level crossing Decision Support System.
- Identified actions required following an audit of an RU's Accident Investigation and Emergency Preparedness – Annex II Criteria P, Q, R etc.
- Identified actions required following an inspection of Major stations inspections of an RU.
- Identified non compliances with their internal emergency plans.
- Identified non compliances with their tabletop emergency preparation exercises.
- Identified non compliances with appropriate training and competence for staff with respect to preservation of evidence.

Actions have or are being taken by railway organisations to address issues found and CRR inspectors actively follow up with the railway organisations to ensure this is being done.

7.2.3 Supervision results by topic of supervision, including supervision of training centres and transport of dangerous goods

No direct supervision activities were formed on the training centres or in relation to transport of dangerous goods in 2023.

In 2023, an inspection activity was concluded in relation to train driver licences and no outcomes were formed against the RU for this activity.

In 2023, an inspection activity was concluded in relation to train driver medicals for an RU and no outcomes were formed against the RU for this activity.

7.2.4 Supervision results of the correct application by RUs/IMs and effectiveness of all processes and procedures in the management system according to Regulation (EU) 1078/2012¹

All RUs and the State IM have an approved SMS, which are assessed as having adequate internal audit standards to monitor the correct application and the effectiveness of their SMS. The CRR meets quarterly with the larger RUs and the IM to review their safety performance in the preceding quarter. A standing item on the agenda at these meetings is to review their progress against their own internal audit/inspection plans, findings and outcomes from these and any actions being taken to address issues found. The CRR lead inspector will sample the relevant railway organisations audits as part of the Safety Performance Review Meetings via requests for information and periodically review the progression of the railway organisations audit plan.

Similarly, following accidents and incidents, railway organisations must conduct investigations to determine immediate, underlying and root causes. Action plans must be put in place and these are sampled by CRR inspectors to seek what actions have been taken. No major concerns were identified for this regulation in 2023.

7.2.5 In relation to the implementation of the 4th railway package, the supervision results for closing out the “type 3 issues” raised during the single safety certification of the SMS by from either ERA or the NSAs for the areas of use

On the 23/03/23, IE-RU were issued an EU single safety certificate IE-RU with expiry on the 22/03/28. On the 08/07/23, RSIE were issued an EU single safety certificate with expiry on the 07/07/28. At the time of drafting this report, Supervision have closed 3 ‘Type 3 issues’ in relation to IE-RU. No ‘Type 3 issues’ for RSIE were closed in 2023.

7.2.6 Evidence obtained in supervision activities, when an ECM is not compliant

Railway Undertaking SMS’s were checked for compliance with SMS requirements, as indicated in earlier sections, but there was no check of ECM’s against ECM management system requirements.

1. Art 1 2(a) to check the correct application and the effectiveness of all the processes and procedures in the management system, including the technical, operational and organisational risk control measures.

7.2.7 Comments on the success of the SMSs in controlling risks

During the course of CRR supervision activities, inspectors, in addition to checking compliance with standards, also check for areas of 'good practice'. The CRR defines 'good practice' as an area highlighted, which, in the opinion of the CRR inspector/auditor, is good practice within the industry.

Good practices were cited in two audits undertaken in 2023. These good practices were in relation to the following:

- IÉ-RU CME introducing a good practice in the review and grading of calls between CME staff and drivers.
- IÉ-RU and their introduction of SBUD's by the Chief Traction Executive and delivered by District Traction Executives to IÉ-RU drivers. Driver feedback having high regard for the relevance of their content and their delivery.

7.2.8 Any specific interventions with the operational companies on specific topics, why these took place and results

See section on enforcement in 7.1.2.

7.3 Coordination and cooperation

7.3.1 Outcomes of discussions of supervision results with other NSAs

The CRR has a memorandum of understanding (MoU) with the Department for Infrastructure (DfI), the NSA in Northern Ireland. The CRR held periodic meetings with DfI-NI in 2023 to periodically review activities that were being undertaken on NIR and ultimately to avoid duplication of supervision activities/duplication of effort. These meetings are planned to continue at a frequency of approximately 3 times per year and relevant planning of activities on NIR are co-ordinated within and outcomes shared between both NSA's.

8 Application of relevant CSMs by RUs and IMs

Reference to requirement: art. 19 (f) of Directive (EU) 2016/798

8.1 Application of the CSM on Safety Management System

8.1.1 Analysis of the application of the CSM on SMS by RUs and IMs

[e.g., if through an evaluation of the EMM the NSA identifies for RUs and IMs the need of specific training to develop safety culture and/or address human and organisational factors].

Application and experience of this CSM remains at an early stage in Ireland, with just 3 railway organisations (2 RUs and 1 IM) having their SMSs assessed against this CSM. As stated in earlier sections, there are just 4 RUs and 1 IM operating on the heavy rail network and given SSCs and SAs are typically granted for 5 years there is limited opportunity for gained experience to date.

One organisation was authorised in mid-2022, with a further two completed in 2023. Nonetheless, one area of particular interest to us is human and organisational factors (HOF) given the depth of competence and resources of some railway organisations is limited. Consequently, there will be an early focus on their ability to satisfy legal requirements through our supervision activities.

8.2 Application of the CSM for Risk Evaluation and Assessment

8.2.1 The changes of the sector maturity with the understanding of the CSM and the increase or the decrease of its application

Application of this CSM has remained broadly consistent amongst the sector in Ireland, albeit several significant projects are now under development. These include the construction of a new National Train Control Centre including the rollout of a new traffic management system, the rollout of ETCS and GSM-R both trackside and on-board, to name but two.

In our experience, project teams are applying the CSM REA in terms of assessing a projects 'significance', albeit they are more reliant upon qualitative as opposed to quantitative analysis. Nonetheless, the interpretation by sector organisations of the CSM is improving and as more projects commence further detailed understanding will develop.

8.2.2 The differences of experience and application between big and small companies, newcomer and incumbent railway companies, RUs, IMs and ECMs

There were no newcomer railway companies in 2023 and, as stated in our 2022 report, the quality of application of the CSM by big and small companies is not noted to be substantially different. Clearly the larger companies, i.e., IÉ-IM and IÉ-RU have more projects that require assessment against the CSM and, as such, have more experience in its application compared to smaller railway organisations. Newcomer railway companies in Ireland would not occur on a frequent basis with the last most relevant example being when Rhomberg Sersa (RSIE) entered the Irish market as the OTM maintainer for IÉ-IM.

8.2.3 The differences in the assessment of technical, operational and organisational changes, including the actor who plays the role of CSM assessment body for operational and organisational changes

As stated in 8.2.1, experience to date would suggest that railway organisations are more reliant upon qualitative as opposed to quantitative analysis when undertaking significance tests. That said, there is a wealth of competent engineers supported by an increasing number of safety assurance experts in both IÉ-IM and IÉ-RU.

Familiarisation and understanding of the application of standards, codes of practice and national rules to demonstrate project compliance is improving year on year. The CRR are not aware of any significant organisational change that took place in 2023, albeit our experience to date would be that such changes rely on more simplistic qualitative risk assessment rather than quantitative risk assessment approaches.

8.2.4 Coordination (or lack of) with the actors involved in the change/project for a joint identification and joint management of the risks shared across the interfaces between them, including the way the relevant information is exchanged between them

Experience of management of interface risks during a change project is generally good. As the system in Ireland is not large and SMS's are quite integrated, the number of interfaces is not considered substantial.

8.2.5 Availability in the companies of sufficient qualified and competent resources in the risk assessment and risk management fields

Objectively assessing if relevant practitioners within companies are qualified is a difficult task as NSA-IÉ has observed some difficulty in interpreting competence management requirements in CSM-CA and CSM SMS; railway organisations have worked together in Ireland to develop competence management guidance which was implemented in 2022. Evaluation on the effectiveness of this guidance began in Q4 2023 on IÉ-IM and IÉ-RU in tandem. Both of these activities will continue into 2024, with more detailed feedback expected thereafter. Q4 2023 also included an inspection activity focusing on IÉ-RU train driver medicals and competencies checks which continued on into 2024. In practical terms, it is generally noted that most projects have a safety and compliance expert involved who generally ensures the project meets relevant SMS and legal requirements.

8.2.6 Combined use of the CSM for risk assessment and CSM for monitoring for a proactive and controlled management of changes, including the identification of information for the monitoring during the operation and maintenance of the railway system and the effectiveness of predictive measures from risk assessments

CSM MON is observed to be embedded in the SMS's in the sector in Ireland, the Plan-Do-Check-Act cycle is accepted as an important principle for safety management. CSM MON is typically applied automatically following a project where CSM REA is relevant. Significant projects in Ireland are expected to embed monitoring systems to check the safety of the change at all points in lifecycle of the system being changed. When the CSM REA process is concluded, risk assessments are required to be embedded into the register of risk for that company; the effectiveness of how this is done in practice is uneven. It is expected that enhance guidance emanating from the latest SMS requirements will clarify further what is expected of involved organisations.

8.2.7 The overall railway sector experience in the country, including the moment when the risk assessment is done (e.g., from the beginning or at the end) in the project and the quality of the risk assessment documentation (real proactive risk management or purely cosmetic paper work)

Projects assessed as significant typically have the NSA's APIS (Authorisation to Place In Service) process applied hence are subject to elevated scrutiny by NSA-IE. The experience is observed to be acceptable and the quality of risk assessment is mostly adequate. Deficiencies have been observed in inspections and further improvement is considered possible.

8.2.8 The proper use of the concept of significant change or misuse of the concept to escape the obligation to appoint an independent CSM assessment body (lack of trust). In the second case what is the quality of the demonstration of a correct control of the risks arising from non-significant changes when Annex I of the CSM is not used by RUs, IMs and ECMs

The 'test' for significant change is considered to have numerous interpretations that are compliant, hence there is little evidence of 'misuse' of the concept. A more precise definition of the concept would be helpful. Railway organisations in Ireland tend to apply the same basic safety principals to significant and non-significant projects, although the level of verification in significant projects is typically higher.

8.2.9 The most positive experience found with the use of the method and the main remaining problems

The most positive experience is the greater degree of standardisation that CSM REA has provided, and all primary problems have been discussed in previous sections.

8.2.10 In relation to the implementation of the 4th railway package, the actions for closing out the 'type 4 issues' raised during the single safety certification of the SMS by from either ERA or the NSAs for the areas of use

No type 4 issues have been raised by the NSA that required closing out. The relevant CSM was applied first in mid-2022.

8.3 Application of the CSM for Monitoring

8.3.1 Any changes of the sector maturity with the understanding, correct application of the CSM, and improvement of documentary evidence
No changes observed in 2023.

8.3.2 How the companies set out the strategies, priorities and plans for monitoring activities among the following options

The following options were provided by the agency in the guidance for this report:

- a) Proactive monitoring as part of the SMS that checks the effectiveness of the SMS processes, procedures and risk control measures, based on priorities (i.e., areas of greatest risk); or
- b) Monitoring everything; or
- c) Proactive monitoring based on expertise and results from previous monitoring activities to identify what to monitor, but unclear links to SMS;
- d) Reactive monitoring strategy based on lessons learnt from accidents and incidents investigations in order to prevent similar occurrences.

Safety strategies and plans are guided by a legal principle in Ireland that it is the general duty of an RU/IM to ensure, in so far as is reasonably practicable, the safety of persons during railway operation. As such, the approach to monitoring combines options a, c, and d. Option b is not used as it is accepted that it is not practical to continually monitor everything. For option a, the NSA requires annual plans to be produced and presented at the beginning of each year, where these plans are reviewed quarterly with the NSA. Options c and d are considered reactive but important to implement when unplanned or unexpected events occur. For example, RUs are expected to implement additional interim risk control measures in the event of vehicle fire whilst the cause of the fire is being determined.

8.3.3 In relation to the implementation of the 4th railway package, monitoring of the OPE TSI for any key issues that arise

No issues were observed or reported in the application of CSM MON to the implementation of the fourth railway package or OPE TSI.

8.3.4 Availability in the companies of sufficient qualified and competent resources in the risk assessment and risk management fields

Objectively, assessing if relevant practitioners within companies are qualified is a difficult task as NSA-IÉ has observed some difficulty in interpreting competence management requirements in CSM-CA and CSM SMS. Railway organisations have worked together in Ireland to develop competence management guidance which was implemented in 2022. Evaluation on the effectiveness of this guidance began in Q4 2023 on IÉ-IM and IÉ-RU in tandem. Both of these activities will continue into 2024, with more detailed feedback expected thereafter.

8.3.5 Any differences with respect to the monitoring of operational processes and procedures vs. organisational and technical risk control measures (e.g., effectiveness or quality of documentary evidence)

No major differences are observed as focus in the Irish sector is on monitoring the process used to ensure the safety of an asset/process rather than just the end result.

8.3.6 Any differences of experience and application between big and small companies, newcomer and incumbent railway companies, RUs, IMs and ECMs

None observed.

8.3.7 Proper coordination (or lack of) with other stakeholders (including the suppliers and sub-contractors) for monitoring the effectiveness of control measures for the risks shared across the interfaces, in particular reporting to manufacturers of defects and non-conformities or malfunctions of technical equipment

Processes for checking control of supplier of services and suppliers of components require improvement within the sector in Ireland. Several minor compliance issues have been observed where service providers are not properly assessed for competence and component suppliers do not always provide a product to the correct specification. NSA-IE has prioritised inspection of related compliance requirements.

8.3.8 Combined use of the CSM for risk assessment and CSM for monitoring for a proactive and controlled management of changes, including the identification of information for the monitoring during the operation and maintenance of the railway system the effectiveness of predictive measures from risk assessments

CSM MON is observed to be embedded in the SMS's in the sector in Ireland, the Plan-Do-Check-Act cycle is accepted as an important principle for safety management. CSM MON is typically applied automatically following a project where CSM REA is relevant. Significant projects in Ireland are expected to embed monitoring systems to check the safety of the change at all points in lifecycle of the system being changed. When CSM REA process is concluded, risk assessments are required to be embedded into the register of risk for that company; the effectiveness of how this is done in practice is uneven however, and NSA-IE is in discussion with regulated entities about how to further improve transfer of risk from the project to operation. Additional guidance on how to assess and transfer risk is one measure being considered.

8.3.9 In relation to the implementation of the 4th railway package, the actions for closing out the 'type 4 issues' raised during the single safety certification of the SMS by from either ERA or the NSAs for the areas of use

No type 4 issues have had to be closed in Ireland. The relevant CSM was applied first in mid-2022.

8.3.10 The sector perception of the CSM for monitoring on whether it is considered as a proactive tool protecting the company business and enabling to optimise the company costs and competitiveness or seen just as a legal obligation
The sector has not reported such concerns to the NSA regarding CSM MON. Discussion generally indicates its requirements are appropriate.

8.3.11 The use of results from monitoring by the company top management and middle management to identify the necessary action plans and review the monitoring strategy, priorities and plans

Top management in the sector are made aware of results from monitoring. There is some concern regarding how top management track the effectiveness of action plans; it has been observed that lagging indicators are the main measurement type applied but this is not always the case as leading indicators are sometimes used.

8.3.12 The overall railway sector experience in the country with the method in using it proactively to prevent accidents and incidents, or just as purely cosmetic paper work

The experience of the regulation is good and is expected to improve further when with further maturity of regulatory changes related to the fourth railway package.

8.3.13 Any areas for improvement

NSA-IE propose the agency develop a guide that shows how CSM REA and CSM MON may be integrated, similar to the guideline 'Taking Safe Decisions' from the UK Railway Safety and Standards Body.

8.4 Participation and implementation of EU projects

NSA-IE is not involved in any such projects.

9 Safety culture

9.1 Safety culture evaluation and monitoring

9.1.1 Evaluation and monitoring of the development of safety culture at the national level

No specific safety culture evaluation and monitoring activity took place in 2023, at least none at a national level. The CRR did receive two public representations relating to safety culture aspects in two Railway Undertakings which were investigated and responded to.

The CRR held a Stakeholder Conference in May 2023 and one session during the day was on the topic of human and organisational factors and safety culture. This session included educating those present on what is meant by safety culture and what the CRR would expect to see in a company's SMS to satisfy specific CSM SMS requirements.

The CRR also attended and contributed to the ERA task-force on safety culture oversight.

9.1.2 Use of safety culture models or conceptual frameworks to support regulatory oversight of safety culture

As reported above, no specific safety culture evaluation and monitoring activity took place in 2023. The CRR have not undertaken any auditing of SMS compliance in relation safety culture and consequently have not yet used any models in the field. That said, CRR inspectors are aware of the ERA Safety Culture Model and have been encouraged to review and use it in their everyday engagements with railway organisations.

9.1.3 Evaluation method to oversee safety culture of RUs and IMs

To date, no discrete supervision activity undertaken by the CRR has focused on safety culture. In 2023, two RUs had their SMS assessed against the requirements of (EU) 2018/762, including those new HOF and safety culture requirements. That said, inspectors have used the 'picture building' method of evaluating a railway organisations safety culture. Through our interactions with railway staff, i.e., what we observe, hear and have reported to us provides data that helps build a picture of where a company's safety culture is.

Given the IM and 2 RUs comply with the CSM SMS, a 'regulation' based approach can begin and it is planned that more formal supervision of safety culture aspects will commence.

9.1.4 Summary of activities relating to safety culture included in the planning and execution of supervision and results of those activities

No dedicated safety culture activities were undertaken on railway companies in 2023, other than those activities referenced above.

The CSM on Safety Management Systems (EU) 2018/762 is still early days in its implementation. Over the authorisation/certification lifecycle, it is planned that the requirements relating to safety culture will be formally audited. The same will be true of all RUs once they have been certified to the new CSM. Moreover, it will likely feature in other supervision activities such as inspections and in quarterly meetings.

9.2 Safety culture initiatives/projects

9.2.1 Initiatives/projects undertaken by the NSA or within the national sector which contribute to the development of a positive safety culture

As advised in our 2022 annual report, the CRR established a Rail Human and Organisational Factors Sector Group open to all railway organisations operating within the state. Two further meetings were held in 2023, the first discussing the topic of fatigue risk management and the second covering human factors in rolling stock design. The latter also involved a site visit to a railway depot in which a full-scale mock-up of Iarnród Éireann's new DART Fleet was available to explore. Both meetings were attended by more than 20 railway professionals, with representatives from all the heavy and light railway organisations.

Participants ranged from heads of safety to engineering/operations managers all with an interest in HOF. Feedback from the meetings was very positive, with a real willingness to share openly and learn from each other which is encouraging.

9.2.2 If safety culture is a separate project for the NSA, description of the project carried out

Nothing to report.

9.2.3 Initiatives implemented within the NSA to improve its own safety culture

Nothing to report.

9.3 Safety culture communication

9.3.1 Communication activities to the public/stakeholders relating to the safety culture activities performed

As stated in 9.1.1 above, the CRR held a Stakeholder Conference in May 2023 at which a presentation on human and organisational factors and safety culture was delivered. The purpose of this session was to educate attendees on Human factors and safety culture SMS requirements and what the CRR expects an SMS to contain.

10 Theme chapter

The activities of the NSA in Ireland have been described in Section 1–9. No other significant activities are completed.

Annex: Progress with interoperability, 2023

Please refer to the Appendix for definitions.

1.	Lines excluded from the scope of IOP/SAF Directive (end of year)	
1a	Length of lines excluded from the scope of application of the IOD Directive [km]	0
1b	Length of lines excluded from the scope of application of the SAF Directive [km]	0
2.	Length of new lines authorized by NSA (during the reporting year)	
2a	Total length of lines [km]	0
3.	PRM adapted stations (end of year)	
3a	PRM TSI compliant railway stations	2
3b	PRM TSI compliant railway stations – partial TSI compliance	9
3c	Accessible railway stations ('step-free' access to platforms)	115
3d	Other stations (i.e., where all or part of station is not 'step-free')	31

Note: the above data is as reported from the IÉ-IM's Annual Report to the CRR.

4.	Train driver licenses (end of year)	
4a	Total number of valid European licenses issued in accordance with the TDD	831
4b	Number of newly issued European licenses (first issuance)	47

Note: the above figures in Table 4 are the total number of licences issued up to the 31.12.2023, not the number of licenses issued in 2023. In 2023 a total of 62 licences were issued (see section 6.4.1 for further details).

5.	Number of vehicles authorized under the interoperability Directive (EU) 2008/57 (during the reporting year)	
5a	First authorization – total	0
5aa	Wagon	0
5ab	Locomotives	0
5ac	Hauled passenger vehicles	0
5ad	Fixed or pre-defined formation	0
5ae	Special vehicles	0
5b	Additional authorization – total	0
5ba	Wagon	0
5bb	Locomotives	0
5bc	Hauled passenger vehicles	0
5bd	Fixed or pre-defined formation	0
5be	Special vehicles	0
5c	Type authorization – total	0
5ca	Wagon	0
5cb	Locomotives	0
5cc	Hauled passenger vehicles	0
5cd	Fixed or pre-defined formation	0
5ce	Special vehicles	0
5d	Authorizations granted after upgrade or renewal – total	0
5da	Wagon	0
5db	Locomotives	0
5dc	Hauled passenger vehicles	0
5de	Fixed or pre-defined formation	0
5df	Special vehicles	0
6.	ERTMS equipped vehicles (end of year)	
6a	Tractive vehicles including trainsets equipped with ERTMS	0
6b	Tractive vehicles including trainsets – no ERTMS	0
7.	Number of NSA staff (full time equivalent employees) by the end of year	
7a	FTE staff involved in safety certification	3
7b	FTE staff involved in vehicle authorization	1
7c	FTE staff involved in supervision	8
7d	FTE staff involved in other railway-related tasks	4

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