EUROPEAN UNION AGENCY FOR RAILWAYS

Making the railway system
work better for society.

NSA Annual Report 2021

Norway

Contents

Definitions and Abbreviations

CSI	Common Safety Indicator
CSM	Common Safety Method
CST	Common Safety Target
EC	European Commission
ECM	Entities in charge of maintenance
EMM	Enforcement Management Model
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
IOP	Interoperability
NIB	National Investigation Body
NoBo	Notified Body
NSA	National Safety Authority
OTM	On Track Machines
PRM TSI	Technical specifications for interoperability relating to accessibility of the Union's rail system for persons with disabilities and persons with reduced mobility
RSD	Railway Safety Directive
RU	Railway Undertaking
SAF	Safety
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

The purpose of this report is to provide information on the safety related results from 2021. It covers the main national railway network, tramways and underground are excluded from the scope. The intended addressees of this report besides the ERA are the National Investigation Body (NIB) and the Ministry of Transport and Communications.

1.2. Main conclusions on the reporting year

The overall risk picture of 2021 based on accident records and results from supervision, shows marginal changes from 2020.

In 2021, the total number of reporting of incidents was about 18851. In 2020 there were 19 244. The average from 2016-2020 is 19 133. The number of significant accidents in 2021 is 24. The average from 2016-2020 is 23. 18 of these accidents in 2021 involved passenger trains, 4 freight trains, 0 while shunting and 2 empty train. 17 of the accidents are classified as impact with object, 15 of these teared down the overhead contact line. 3 of the accidents are classified as derailments. 1 is level crossing accident and 1 collision with persons were reported.

There were some adjustments in the strategy for supervision in 2021 compared with 2020. For 2021, the bases of the supervision program were the following identified risks:

- Weaknesses in the systems of evaluating and controlling risks
- Weaknesses in the systems of monitoring the safety management systems
- Weaknesses in the systems for following-up of reported incidents and accidents (Mainly IM)

NSA Norway executed 19 supervisions, of which 13 were audits, 1 document review, 4 supervision meetings and 1 top management meeting. In general, railway safety is satisfactory, provided necessary corrective actions are taken to close identified non-conformities.

NSA Norway continues to use its own adaptation of the management maturity model and is expecting to gain indications on safety culture in the railway sector.

In 2021 158 train driver licenses were issued, and the total number of valid licenses was 2184 at the end of 2021.

2. English summary

See chapter 1.2 Main conclusion on the reporting year.

3. NSA safety strategy, programs, initiatives and organizational context

3.1. Strategy and planning activities

NSA Norway's Company Strategy (2021-2024) focus on the long term goals given by the Ministry of Transport and Communications that shall ensure a high safety level for the Norwegian railways and also a functioning Railway Market.

In addition, the effect of our work related to three areas are focused. NSA Norway shall be relevant, efficient, and innovative. This is supported by activities in our annual working program.

To support the Company strategy, we have developed a Supervision Strategy and a Strategy for Public Security.

The Strategy for Public Security looks at safety and security from a Civil Protection point of view but is relevant for railway safety as it gives attention to Cyber-security issues and also prevention of major accidents with low probability.

In line with our Supervision Strategy, we have established an annual supervision program. The supervision program includes some defined areas of priority to ensure necessary improvement of important safety related topics in the industry.

The supervision program and the prioritized areas are established using a risk-based model as support for priority. We use a simplified maturity model as a basis for documentation of the NSA's assessment of the safety level of RUs and infrastructure managers (IM). These assessments are updated as part of each audit.

The railway undertakings (RU) are responsible for the safe operation of the railways and that the current safety level, as a minimum, is kept.

Related to international cooperation we have close cooperation with our neighbouring countries, Sweden and Denmark to exchange safety related experiences. We have prioritised participating in the work with CSM ALSP, as Norway already have a well-functioning incident and accident reporting system, which gives the NSA important input to our risk-based supervision activities. It is of strategic importance to us to be able to get this information on a similar level also in the future. The work performed related to winter conditions and the use of composite braking blocks is also a strategically important safety issue for Norway.

To help the industry to follow the established rules and regulations we have comtinued our systematic guidance of the requirements as a supplement to supervision activities. When establishing the risk-based supervision plan, we also use guidance as a tool to ensure that RU's and IM's are in line with the regulations.

NSA Norway arrange an annual safety conference to promote railway safety. In addition, mini seminars on chosen subjects as part of the guidance are regularly organized.

3.2. Safety Recommendations

All recommendations issued by the NIB, are forward to the relevant RU's and IM's. The Ministry of Transport and Communications appoints this task to the NSA. The NSA may demand that the relevant RU's

and IM's give an account on their plans for acting upon the recommendations from the NIB before the recommendation is closed. These plans of actions are also presented to NIB by NSA Norway before recommending closure to the Ministry.

Twice a year, status on all the open recommendations and recommendations closed since last reporting period are given to the Ministry. The NIB is also informed. General meetings with the NIB to share information and gained experience are also held at least twice a year.

3.3. Safety measures implemented unrelated to the recommendations

Not applicable.

3.4. Safety Organisational context

The supervision and authorisation processes are split in two separate departments, strengthening the independence between the two and giving better control of the resources. To ensure that relevant experience is exchanged between the two processes regular coordination has been established. Two teams, one responsible for coordinated guidance and one responsible for coordination of international work were established to meet the strategic ambitions on better guidance and active and efficient participation in international activities.

More competition on the Norwegian railway network has giving more actors on the market. Safety Culture, handling of new interfaces and management of suppliers are still strategic important issues that will require attention.

4. Safety performance

The number of fatalities in Norway is in general low. Most of the fatalities are in connection to level crossings and trespassing.

In 2021, the total number of reporting of incidents was about 19623. In 2020 there were 19244. The average from 2016-2020 is 19133. The number of significant accidents in 2021 is 24. The average from 2016-2020 is 23.

18 of these accidents in 2021 involved passenger trains, 4 freight trains, 0 while shunting and 2 empty train. 17 of the accidents are classified as impact with object, 15 of these teared down the overhead contact line. 3 of the accidents are classified as derailments. 1 is level crossing accident and 1 collision with persons were reported.

Table 1 –Summary of safety indicators in periode 2011-2021

Summary of safety indicators	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Number of significant accidents	35	19	30	28	19	16	16	25	29	24	24
Number of fatalities	5	1	4	1	2	3	3	5	2	1	0
Number of serious injuries to person	5	3	3	4	4	0	0	1	1	0	1
Number of precursors to accidents	134	76	168	161	172	158	139	224	142	149	177
Cost of all accidents in mill NOK (estimated)	33	97	126	77	73	88	81	104	106	144	112

5. EU legislation and regulation

The decision to incorporate the fourth railway package and the underlying legislation, including Directive (EU) 2016/798, into the EEA-agreement was taken in 2021. However, the decision would not enter into force in 2021. Hence, the Norwegian legislation implementing Directive (EU) 2016/798 was not in force in 2021.

6. Safety Certifications, Safety Autorisations and other certificates issued by the NSA

6.1 Safety Single Certificates and Safety Authorisations

The table below show valid safety certificates and safety authorisations in Norway.

Table 1 Valid safety certificates and safety authorizations in Norway

Company name	History	Issuing date	Type of certificate
BLS Rail AB	New	07/04/2020	Type B
CargoNet AS	Renewed	11/03/2021	Type A
CargoNet AS	Renewed	11/03/2021	Type B
Flytoget AS	Renewed	15/01/2021	Type A
Flytoget AS	Renewed	15/01/2021	Type B
Go Ahead Norge AS	New	03/07/2019	Type A
Go Ahead Norge AS	New	03/07/2019	Type B
Green Cargo AB	Renewed	22/11/2018	Type B
Grenland Rail AS	Amended	18/09/2018	Type A
Grenland Rail AS	Amended	18/09/2018	Type B
Hector Rail	Amended	15/06/2018	Type B
LKAB Malmtrafik	Renewed	17/12/2018	Type B
Mantena AS	New	11/10/2019	Type A
Mantena AS	New	11/10/2019	Type B
Norsk Jernbanemuseum	Amended	12/05/2021	Type A
Norsk Jernbanemuseum	Amended	12/05/2021	Type B
OnRail AS	New	20/04/2021	Type A
OnRail AS	New	20/04/2021	Type B
Protrain Trafik AB	Renewed	29/06/2020	Type B
Railcare T AB	New	01/07/2021	Type B
SJ AB	Amended	01/06/2018	Type B
SJ Norge AS	New	01/04/2020	Type B
SJ Norge AS	New	31/03/2020	Type A
Tågåkeriet i Bergslagen AB	Renewed	13/09/2018	Type B
TM Togdrift AS	New	31/03/2020	Type B
TM Togdrift AS	New	31/03/2020	Type A
Vy Gjøvikbanen AS	Renewed	22/10/2020	Type A
Vy Gjøvikbanen AS	Renewed	22/10/2020	Type B
Vy Tog AS	New	18/09/2020	Type B
Vy Tog AS	New	18/09/2020	Type A
Vygruppen AS	Renewed	04/03/2021	Type A
Vygruppen AS	Renewed	04/03/2021	Type B
Bane NOR SF	Amended	28/09/2020	Safety authorisation

When issuing new, amended, and renewed safety certificates and safety authorisations, NSA Norway has noted these main issues:

- Risk analysis and risk assessment
- Competence management
- Safety management regarding outsourced activities (contractors)

The main strategy and procedure for issuing safety certificates and safety authorisations has not changed. However, checklists and internal documentation regarding assessment reports are continuously improved.

6.2. Vehicle Authorisations

8 locomotives authorizations are given to locomotives.

6.3. Entities in Charge of Maintenance (ECM)

Not applicable.

6.4. Train drivers

In 2021 158 train driver licenses were issued, and the total number of valid licenses was 2184 at the end of 2021. No driver license was renewed. NSA Norway suspended several licenses on a temporary basis due to medical issues, meaning that the medical requirements were not satisfied. There have been no changes in the strategy or procedure for issuing train driver licenses.

6.5. Other type of authorisation/certifications

NSA Norway may grant authorizations for placing in service new and upgraded infrastructure. The authorizations may be for the whole system or for separate subsystems.

6.6. Contacts with other National Safety Authorities

NSA Norway has a cooperation agreement on supervision and safety certification with the NSAs in Sweden and Denmark. The cooperation includes meetings and exchange of experience with respect to safety certification and supervision processes.

NSA Norway has requested information on RUs having a part A certificate in Sweden. The content of the contact and data provided is general information on how the safety management is perceived, last date of supervision, findings/issues, and the time schedule for the NSA to renew part A certificates in order for NSA Norway to issue renewed part B certificates. NSA Norway must await the part A certificate to be issued before issuing a renewed part B certificate. Likewise, NSA Norway must wait for Sweden to get the certificates registered and validated in ERADIS before the registration of the new part B certificates.

6.7. Exchange of information between NSA and railway operators (Geir Rune)

Due to the COVID-19 situation physical meetings and conferences were limited in 2021.

The Norwegian NSA hosted one sector meeting. The topic for the sector meeting was risk assessment. The main purpose of these sector meetings is to focus on guidance within topics that we see that the RU/IMs struggle with. In addition, several guidance meetings were held. Most of these meetings were held on digital platforms.

The physical safety conference for 2021 was cancelled. The safety conference is an annual meeting point for the sector with the same purpose as the sector meetings, but more comprehensive. To compensate for this an initiative called SJT TV was introduced. This was 5 video episodes available through our website covering

safety and security, risk assessment and market surveillance. The feedback from this initiative was very positive. Texted versions of the videos were also shared with the NSA Network in a NSA Network Bulletin.

We have the intention to continue with the annual safety conference in 2022.

7. Supervision

7.1. Strategy, plan, and decision making

There were some adjustments in the strategy for supervision in 2021 compared with 2020. For 2021, the bases of the supervision program were the following identified risks:

- Weaknesses in the systems of evaluating and controlling risks
- Weaknesses in the systems of monitoring the safety management systems
- Weaknesses in the systems for following-up of reported incidents and accidents (Mainly IM)

Expected benefits for the supervision plan were:

- To ensure sufficient following-up of reported incidents and accidents (IM)
- Investigate all Rus/IM to clarify the extend of use of risk evaluation
- To ensure that risk evaluation is the tool for controlling risks, through use of accept criteria, methods for performing risk evaluations, and that top management is using risk evaluations as a tool for making decisions

The supervision plan was executed with only minor adjustments during the year.

NSA Norway there has an increased focus on guidance in interpretation of the regulations as supplement to supervision. There has been set up meetings open for all RUs and IM, on regularly basis for information and guidance about important topics as for example emergency preparedness and risk management system.

There is also implemented earlier warning about coercive fines for those who do not follow up within the decided time frames.

As mentioned above, NSA Norway check the correct applications and effectiveness of the safety management systems. We consequently require the companies to identify the root causes of non-compliances identified in other supervisions. NSA Norway frequently also investigate follow up of incidents related to the topic of the audits including how the company has identified the root causes, executed corrective actions related to the root causes and how the effect of the actions has been evaluated.

In 2021, NSA Norway did not receive any complaints on decisions from supervision activities.

7.2. Supervision results

NSA Norway executed 19 supervisions, of which 13 were audits, 1 document review, 4 supervision meetings and 1 top management meeting.

In general, railway safety is satisfactory provided, necessary corrective actions are taken to close identified non-conformities.

Emergency preparedness

- There are some improvements shown by the IM, but there is still a need to follow up
- There is still a need to improve analysis as a basis for emergency plans
- As a result of the audit, the IM was given a coercive fine for not having taken actions within the set time frames.

Risk evaluation

- All RU/IMs have procedures in place to ensure that risk analysis is being performed

- The management uses the results from risk evaluations to outline their risk picture
- Performed supervisions and the investigation demonstrate that IM/Rus carry out risk evaluation because it is a requirement in the regulations more than as a mean to document that identified risks are managed
- The majority do not have a distinct system for prioritizing and implementation of actions as a result of risk evaluations
- In four of the supervisions there were not established suitable criterias for risk acceptance to use in deciding the need of safety measures

Follow-up of reported incidents and accidents

- Most RU/IMs following-up of incidents and accidents is to some extent insufficient to prevent reoccurrence, and incidents/accidents are mostly subject to analysis one by one, and not sufficiently subject to overall trend analysis
- Incidents and accidents are not fully investigated to find the real root causes

7.3. Coordination and cooperation

NSA Norway have a cooperation agreement on supervision and safety certification with NSA in Sweden and Denmark. The cooperation includes meetings and exchange of experience with respect to safety certification and supervision processes.

8. Application of relevant CSMs by RUs and IMs

8.1. Application of the CSM on Safety Management System

CSM on SMS were not implemented in Norwegian legal framework in 2021.

8.2. Application of Regulation 402/2013 on the CSM for risk evaluation and assessment

In general, the sector, and in particular the national IM, have applied the regulation as expected. And the risk assessment of large projects is satisfactorily. When it comes to smaller projects the quality of the risk assessments varies, but it is improving. The sector, in general, demonstrates satisfactorily performance within the area of risk assessments when it comes to competence. But there is still room for improvement, especially when it comes to system descriptions and consistent use of risk acceptance criteria. There is no evidence within SMSs of combined use of CSM RA and CSM Monitoring.

8.3. Application of Regulation 1078/2012 on the CSM for monitoring

The CSM on monitoring overlap to some extent with existing national legislation within safety management, but the sector still struggles with working sufficiently proactive regarding safety management. The sector tends to work proactive, and without any proper cooperation or coordination. There are no differences in application between smaller or bigger companies.

8.4. Participation and Implementation of EU projects.

No information available.

9. Safety culture

9.1 Safety culture evaluation and monitoring

NSA Norway has no separate activity regarding evaluation of safety culture within the sector.
NSA Norway continues to use its own adaptation of the management maturity model and is expecting to gain indications on safety culture in the railway sector. There is still need for more experiences before get sufficient data to make any conclusions.

9.2. Safety culture initiatives/projects

No ongoing separate work on this topic.

9.3. Safety culture communication

Some of the biggest companies focus on this topic, but we have not had any supervision activities with this as a topic. The Norwegian NSA has not had any communication activity to the stakeholders on this topic.

Annex A: Progress with Interoperability

ANNEX: Progress with Interoperability

Please provide the following information as it is at the 31st December of the reporting year (2020).

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 IOP Directive [km]	0
1b	Length of lines excluded from the scope of application of the SAF Directive [km]	0

Please provide the list of lines excluded:

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	0
3b	PRM TSI compliant railway stations - partial TSI compliance	2
3c	Accessible railway stations	127
3d	Other stations	205

4. Train driver licenses (end of year)

4a	Total number of valid European licenses issued in accordance with the Directive 2007/59/EC (as amended)	2184
4b	Number of newly issued European licenses (first issuance)	158

5. Number of vehicles authorized under the interoperability Directive (EU) 2016/797 (during the reporting year)

5a	**First authorization - total**	
5aa	Wagon	NA
5ab	Locomotives	NA
5ac	Hauled passenger vehicles	NA
5ad	Fixed or pre-defined formation	NA
5ae	Special vehicles	NA
5b	**Additional authorization - total**	
5ba	Wagon	NA
5bb	Locomotives	NA
5bc	Hauled passenger vehicles	NA
5bd	Fixed or pre-defined formation	NA
5be	Special vehicles	NA
5c	**Type authorization - total**	
5ca	Wagon	NA
5cb	Locomotives	NA

5cc	Hauled passenger vehicles	NA
5cd	Fixed or pre-defined formation	NA
5ce	Special vehicles	NA
5d	**Authorizations granted after upgrade or renewal - total**	
5da	Wagon	NA
5db	Locomotives	NA
5dc	Hauled passenger vehicles	NA
5de	Fixed or pre-defined formation	NA
5df	Special vehicles	NA

6. ERTMS equipped vehicles (total fleet, end of year)

6a	Tractive vehicles including trainsets equipped with ERTMS Level 1	NA
6b	Tractive vehicles including trainsets equipped with ERTMS Level 2	NA
6c	Tractive vehicles including trainsets – no ERTMS installed	NA

7. Number of NSA staff (full time equivalent employees) by the end of year

7a	FTE staff involved in safety certification	2
7b	FTE staff involved in vehicle authorization	3,5
7c	FTE staff involved in supervision	5,4
7d	FTE staff involved in other railway-related tasks	3