Environmental, Social and Governance Report for 2022

SPRÁVA ŽELEZNIC

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Introductory word by Director General

Railway transport forms an integral part of today's modern society. Its development was associated with the need for a suitable means of transport for large quantities of goods. However, railways were soon able to offer fast and high-capacity passenger transport as well. These advantages have persisted to the present days, when railway transport can compete with aircraft even over longer distances. Modern trains use electricity for propulsion, leaving a much smaller carbon footprint than aircraft engines.

Large-capacity commuter trains have already become an integral part of every major conurbation, not only in our country. They offer fast and comfortable travel to work or school, regardless of increasingly congested roads. It is therefore desirable that the representatives of our country perceive the importance of investments in further development of railways. Thanks to this approach, we have record-breaking amounts of money available for modernisation of both railway lines and stations. The result consists in more comfortable travelling, characterised by shorter journey times and more pleasant access to railway stations and trains themselves. Last but not least, higher operational safety is a direct consequence of the investments.

Although scientists and engineers are constantly dealing with the possibilities of using other types of fuels, electricity is still the main fuel in railway transport. This means that new overhead contact line systems are being installed to other promising railway lines, which are then used by modern electric trains. Travelling onboard such trains is not only environment-friendly, but also faster and quieter. We are therefore looking at other options for expanding our network without having to spend excessive amounts of money. One solution is the so-called simple electrification, which is an interesting alternative for less busy lines which have, however, the potential to attract more passengers. These are often linked to already electrified main lines. There is therefore an opportunity to introduce new direct services also to places which have been dependent on less environment-friendly diesel trains.

We are aware of the fact that quite many ecological projects bring considerable financial benefits with them. This is also true of photovoltaic power plants, which represent an increasingly attractive alternative for electricity production, and therefore we are planning to extend them to suitable sites under our administration throughout the Czech Republic. In addition to railway station buildings, office buildings are also under consideration. We are already checking the possibilities for integration of Správa železnic's buildings to multimodal sustainable transport. These are just some of the routes we are taking.

As you will see on the following pages, there are many more aspects affecting sustainable development in the activities of Správa železnic. This is one of the reasons why we can consider ourselves a modern and socially responsible organisation.

Jiří Svoboda
Director General

Executive summary

E – Environment

We prioritise the **reuse** of materials. **We protect nature, its biodiversity**, water, air, and public health. We continue with the **electrification** of railway lines. We **reduce electricity** consumption. We modify stations and stops to only consume energy when it makes sense. We **minimise unused spaces** and use them for installing photovoltaic power plants. We support the **construction of charging stations** for electric vehicles.

We develop
the railway as one of the most environmentally friendly modes of transportation.

We care
about being socially responsible and transparent as an organisation. The operational efficiency of the railway contributes to sustainable development and overall societal improvement.

S – Social

We are intensively investing in the development of railway infrastructure, prioritising **increased operational safety**. As **one of the largest employers** in the Czech Republic, our focus is on ensuring the satisfaction of our employees, and we welcome the feedback they provide. We aim for our employees to be experts in their field, providing **continuous education**. Engaging in open **dialogue with communities**, we actively contribute to science and research. As a significant recipient of public funds, we are **transparent to the public** and provide information in a user-friendly format.

G – Governance

Our main task is to **ensure the operability** of the railway. We maintain and **modernise** the railway infrastructure. The number of carriers on our network, to whom we **provide capacity without discrimination**, is constantly growing, leading to the rapid **liberalisation** of the Czech railway system. We **conduct our business ethically**, adhering to corporate principles outlined in our Code of Conduct and Compliance Code. In public procurement, we apply **responsible tendering principles**. We actively explore new business opportunities for the commercial use of station buildings.

We implement
our vision and creating conditions to strengthen the position of the railway as an eco-friendly mode of transportation.

E – Environment

We recycle aggregate removed from the track bed by sorting it, cleaning it, crushing it if necessary, mixing it with new material and reusing it. We maintain the greenery along the tracks to minimise the number of incidents. At the same time, we plant trees in the forest nurseries each year. Teams from all our organisational units are involved in the planting process. We reduce the amount of glyphosate used. We prepare installations of animal scarers around the track. We monitor their effect on wildlife behaviour with photo traps to find the best solution for particular locations. When repairing and modernising railway lines, we implement measures to reduce noise and vibration from railway transport. We install continuous welded rails and we change rigid rail fastenings for flexible ones or we install noise barriers, for example. Most effective solutions are not always the most appropriate. Therefore we look for alternative methods of noise reduction, of which we currently use rail absorbers or low noise barriers. We develop line electrification to reduce emissions from railway transport. We offer transport operators the possibility of supplying traction electricity from renewable sources. When renovating buildings, we place emphasis on implementing energy-saving measures. We are preparing pilot projects for implementation of renovations in the form of EPC projects, in which a predetermined level of savings is guaranteed. We will install photovoltaic power plants on rooftops and brownfield sites. To make our activities systematic and efficient, we use the services of an energy consultant. We aim to link railway transport with downstream modes of transport to support electromobility. When renovating buildings, we prepare the infrastructure for the construction of charging stations in adjacent car parks.

S – Social

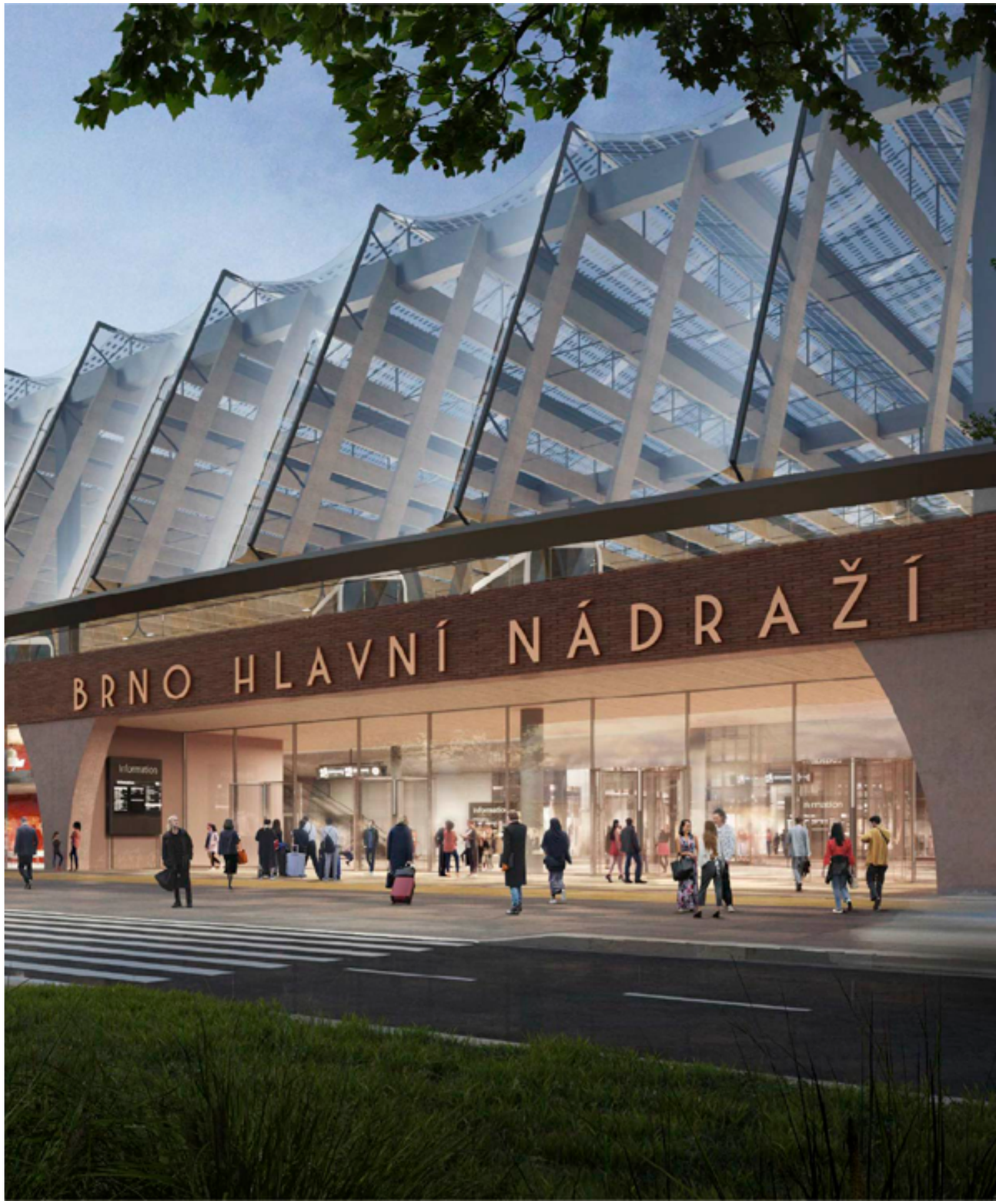
We implement GSM-R and ETCS systems according to the ERTMS plan. Our task is mainly the installation of the trackside part of the system. We also equip our special railway vehicles with on-board ETCS units. We are increasing the level of security at railway level crossings. After careful consideration, we approach the cancellation or replacement of redundant level crossings. We strive to ensure that the railway can contribute to equality of opportunities. We aim for 80 % of railway transport passengers to be able to use accessible railway stations and stops in 2026. As of 31 December 2022, we employ 17,108 people, making us one of the largest employers in the Czech Republic. We strive to keep our employees satisfied because they are the ones upon whom our organisation is built. Through internal questionnaires, we obtain feedback from our employees, providing us with a direct insight into their needs, which we then reflect. We cooperate with secondary schools, colleges and universities. Highly qualified professionals are key to our business. We offer students a student incentive programme, internships, professional excursions, traineeships as well as lectures and conferences and prepare them for the professional examinations focused on railway topics. Building a modern European railway for the 21st century places considerable demands on human, research and investment resources. That is why we are committed to research activities and putting innovative technologies and procedures into practice. We manage the Scientific and Technical Collection Journal. We want to be transparent and open to the public, which cannot be done without the use of modern communication channels. On our website, everyone can access an interactive map showing prepared and completed railway construction projects, the positions of trains, or incidents and traffic railway limitations.

G – Governance

We are guided by a Code of Conduct which contains our core values, principles and objectives. We follow the Code of Compliance. Our Compliance Officer is responsible for setting and monitoring compliance and investigating allegations of improper conduct. We protect personal information and train our employees in this area on an annual basis. Compliance with all legal requirements is overseen by our Data Protection Officer. We respect the principle of socially and environmentally responsible procurement. Our internal regulations define the mandatory elements of responsible procurement. For example, we always require that cleaning products used in the provision of cleaning services meet the criteria for the introduction of the eco-label. When carrying out construction works, we require the supplier to allow student excursions or work experience. We are introducing a qualification system which is to simplify and speed up the procurement process. We purchase traction electricity in a transparent manner on commodity exchanges. We measure the consumption of individual carriers to objectively reflect the actual traction vehicle consumption. When disposing of assets, we act transparently and in a non-discriminatory manner in accordance with the rules laid down by law and internal regulations. We are looking for opportunities to expand the commercial use of railway station premises and to support the implementation of new solutions and concepts. In foreign countries, railway station buildings are gradually transformed into shopping centres of a specific type and we want to follow these trends. We use technologies at railway stations and stops to reduce operation costs, improve passenger service and save energy. For example, we are installing LED lighting, which changes its intensity depending on the level of natural light.

Profile of Správa železnic

Správa železnic was incorporated on 1 January 2003 pursuant to the Act No. 77/2002 Coll. as Správa železnic, státní organizace (Czech Railway Infrastructure Manager, a state-owned organisation). Since 1 January 2020, the current name has been used on the basis of an amendment to the Act No. 77/2022 Coll. Správa železnic ensures, within the meaning of the Rail Systems Act, the operation of the nationwide and regional railways owned by the state, and is responsible for their operability, modernisation and development to the extent necessary for assurance of the transport needs of the state and transport services. It manages the state property which constitutes the railway infrastructure. It allocates the capacity of the transport route and is the manager of more than 3,300 railway station buildings. It looks after approximately 9,400 kilometres of railway lines; 6,700 bridges and 2,600 railway station and stops. The mission of Správa železnic is to take care of safe operations and to ensure that the railway operates as a whole for the benefit of customers and passengers. Správa železnic is a member of the International Union of Railways (UIC), the Community of European Railway and Infrastructure Companies (CER) and other major railway associations.



1.1 Social responsibility of Správa železnic

Správa železnic is a socially responsible organisation which, in pursuit of its core business activities, supports sustainable development, is transparent and generally contributes to the overall improvement of the general condition of the society. Everyone can contribute to environmental protection through their activities. Správa železnic has set out its objectives which are essential and achievable in the context of its activities. The mission of Správa železnic is to manage the Czech railway system in an economically transparent, environmentally exemplary and socially beneficial manner.

1.2 Founder of Správa železnic

The Ministry of Transport performs the founder's function on behalf of the state. The organisation is a legal entity which is capable of acquiring rights and assuming obligations by its own legal acts. The state is liable for its obligations. However, in case of liabilities for financing the costs of construction and modernisation of the railway infrastructure, the state shall be liable only if a special legal regulation provides for such liability. The legal regulations governing the status and legal relations of a state enterprise shall apply to the organisation mutatis mutandis, unless applicable legal regulations provide for otherwise. The organisation was established for an indefinite period of time.

1.3 Mission of Správa železnic

Správa železnic:

- performs the function of an administrator and operator of nationwide and regional railways owned by the state. It shall ensure an operational, safe, high-capacity and competitive railway infrastructure;
- within the framework of modernisation of existing and construction of new railway lines, it performs the function of an investor in order to ensure sufficient capacity for fast, safe, environmentally efficient and available passenger and freight railway transport;
- contributes to the ensuring of safety of railway transport and its management by using modern information technologies;
- plans and establishes timetables for the operated railways and allocates railway capacity;
- strives for the economic use of the entrusted property which is a part of the railway infrastructure;
- takes care of the sustainability of its activities in a responsible manner.

1.4 Vision of Správa železnic

Správa železnic wants to be a modern, flexible and customer-oriented organisation ensuring the development of an operational, technically and technologically advanced, high-capacity, safe and accessible railway network as an integral part of the European railway system. The vision of Správa železnic is to create the necessary preconditions for the strengthening of the position of railway transport within the framework of both the national and European transport markets and for the shift of the increasing transport performance in favour of environment-friendly railway transport. Správa železnic intends to play a central role in strengthening the position and role of railway in order to reduce the carbon footprint of transport and to shift transport outputs towards emission-free mobility with sustainable environmental impacts.

A vision for a green and sustainable railway system:

1. Growth in train transport outputs
2. Digitisation and safety of operations
3. Enlargement of the electric traction
4. Use of renewable energy sources
5. Sustainability objectives (electric traction, electromobility, renewables)
6. Objectives in social relations (relations with communities, attractive employer, requalification policy)
7. Strategic objectives in the field of corporate governance (diversity and equal opportunities, Code of Conduct, Code of Compliance, energy management)
8. Portfolio development (high-speed lines, robustness of conventional railways, unification of the traction power supply system, continuation of line electrification, energy recovery, rail freight corridors and transhipment points, alternative power sources – hydrogen and batteries)

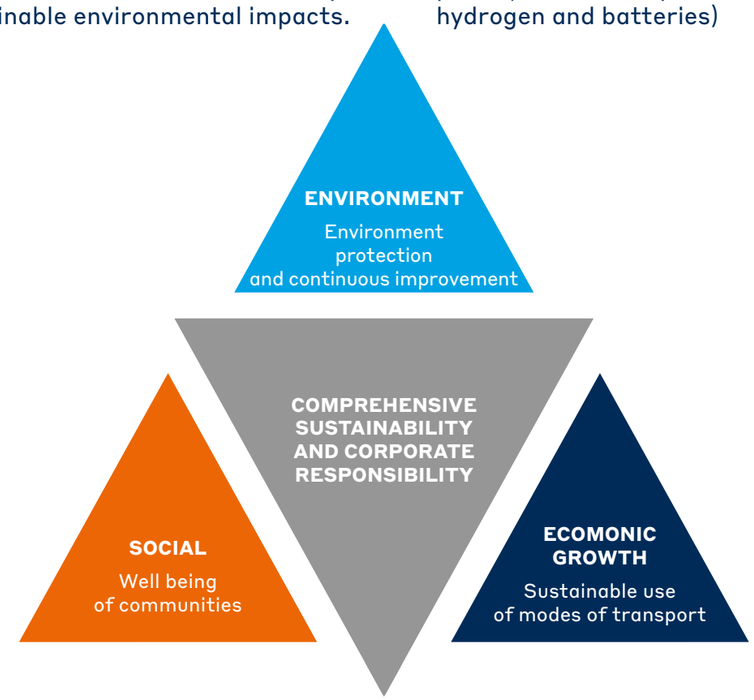


Figure 1. *Diagram of comprehensive corporate sustainability and responsibility*

1.5 Sustainable development strategy of Správa železnic: sustainable mobility for the future

Railway is one of the most sustainable, innovative and safe modes of transport. The greening of mobility in Europe will be based on an efficient and mutually interconnected multimodal transport system for both passengers and freight transport, enhanced by an affordable high-speed rail network and cleaner and more active mobility contributing to the health and well-being of citizens. The European Green Deal ("Green Deal") calls for a 90 % reduction in greenhouse gas emissions from transport, making the EU a climate neutral economy by 2050, while aiming for zero pollution. Electric traction on railways has the potential to take over a part of the road transport volume and to play a key role in a multimodal transport system. In particular, the key is to increase the number of people using railway transport for their journeys, public transport or active modes of transport, as well as to shift significant amounts of freight to railway and to internalise external costs (by implementing "the polluter pays" and "the user pays" principles, in particular through carbon pricing mechanisms and infrastructure charging).

Within the framework of its sustainability strategy, Správa železnic has set out strategic targets in the ESG criteria in relation to the UN Strategic Development Goals:

Sustainable mobility for the future
Strategy of the Správa železnic

ENVIRONMENT

Strategic Development Goal 1
Increasing the share of green electric traction
SDG 9, SDG 12

- Continuation of line electrification
- Unification of the traction power supply system to 25 kV AC 50 Hz according to the national implementation plan
- Better use of energy from recovery processes

Strategic Development Goal 2
Renewable energy sources
SDG 7, SDG 12

- Acceleration of deployment of clean and environment-friendly technologies and processes
- Development of photovoltaic power plants (“PV plants”) on rooftops and brownfield sites
- Increase in the share of renewable energy sources and heat pumps for heating in buildings

Strategic Development Goal 3
Protection of the environment and public health
SDG 3, SDG 11, SDG 12, SDG 13, SDG 15

- Reduction of the proportion of waste deposited in landfill areas through waste prevention, preparation for re-use, recycling or other recovery processes.
- Responsible purchases of goods from sustainable resources
- Responsible purchases of products from suppliers with implemented sustainability
- Reduction of the noise pollution on the population

Strategic Development Goal 4
Emissions related to the organisation’s activities
SDG 3, SDG 11, SDG 13

- Innovative emissions management
- Reporting of direct emissions (scope 1), indirect emissions from energy (scope 2) and other indirect emissions (scope 3)

SOCIAL

Strategic Development Goal 5
Sustainability adapting processes within the organisation
SDG 13

- Analytical part (this part analyses impacts)
- Opportunity and risk assessment
- Summary of recommendations
  - Adaptation measures in the environmental area (E)
  - Adaptation measures in the social area (S)
  - Adaptation measures in the area of organisation administration and governance (G)
  - Adaptation recommendations in the EU taxonomy area (methodology, reporting)

Strategic Development Goal 6
Railway and railway transport safety, digitisation
SDG 9, SDG 11

- ETCS deployment – the way to a single European railway and improved safety
  - Implementation according to the Government Resolution of 13 September 2021 No. 795 on the Plan for Modern Control of the Czech Railway Operation – Implementation of the European Train Control System (hereinafter referred to as “ETCS”).
- Programme for increasing the grade of safety at 500 level crossings with roads
- Remote Control of Signalling (RCS) – the way to a safe and efficient railway
  - Remote control of signalling, telecommunication and heavy-current equipment and other follow-up technologies for the needs of railway operation

Strategic Development Goal 7
Social relations
SDG 3, SDG 4, SDG 8

- Relations with communities
  - Providing all stakeholders with access to sustainable transport systems, improving rail safety with a particular emphasis on the needs of vulnerable people – children, people with impaired mobility and the elderly
  - Contributing to increasing the employment of people disadvantaged in the labour market
  - Increasing the number of barrier-free platforms on the nationwide railway lines
- Attractive employer
  - Increasing the number of trainees with a view to future employment

GOVERNANCE

Strategic Development Goal 8
Corporate Governance
SDG 5, SDG 8, SDG 16

- Diversity and Equal Opportunities Policy
  - Diversity policy applied to the administrative, management and supervisory bodies of the company with regard to aspects such as age, gender, education or professional experience
  - Method of implementation and results achieved during the reporting period
  - Ensuring women’s full and effective participation and equal opportunities to hold leadership positions at all levels of the decision-making process in the organisation
- Code of Compliance
  - Increasing the proportion of employees trained in the Code of Compliance
- Energy management
  - Increasing the proportion of employees trained in the energy management area
- Code of Conduct
  - Increasing the proportion of employees trained in the area of the Code of Conduct

INTRODUCTION OF THE EU TAXONOMY
Strategic Development Goal 9
Implementation of the EU taxonomy within the organisation
SDG 7, SDG 8, SDG 9, SDG 11, SDG 12, SDG 13

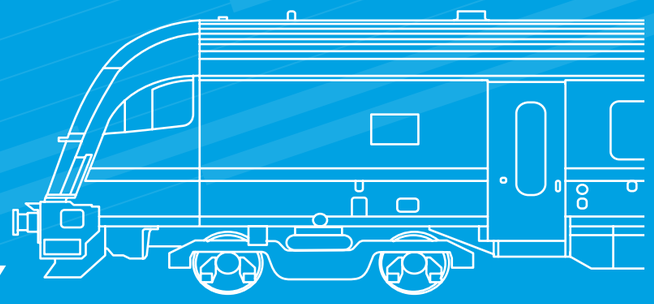
- Sharing the assets, liabilities and capital expenditures of the organisation eligible under the EU taxonomy
- Sharing the costs and revenues of economic activities eligible according to the EU taxonomy:
  - significantly contributing to one or more objectives according to the ESG criteria,
  - not significantly detrimental to any of the ESG objectives,
  - carried out in accordance with the minimum requirements for the sustainability of the organisation's activities

1.5.1 Meeting the UN Sustainable Development Goals

The aforesaid strategic goals in the ESG criteria set out in the Správa železnic's Strategy are linked to the UN Strategic Development Goals, which we are gradually fulfilling.

Figure 2. *Overview of the UN Sustainable Development Goals*

Environmental



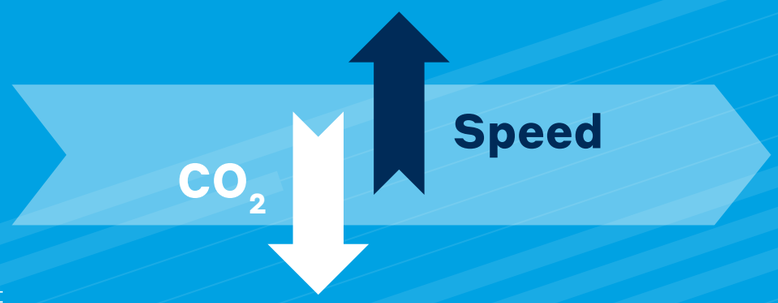
OUR PATH TO SUSTAINABILITY

As an operator of the railway transport network, we endeavour to provide our customers and the general public with the best possible railway transport services, particularly with regard to our social responsibility.

Railway has long been regarded as one of the most environment-friendly modes of mass transport.

Our task is therefore to ensure that this mode of transport is accessible, safe and convenient for the entire society.

One way of how to achieve this goal is to carry out our activities in an environmentally sound manner.



Railway transport will play an increasing role in intercity and shorter international transport in the upcoming years, partially replacing air transport.

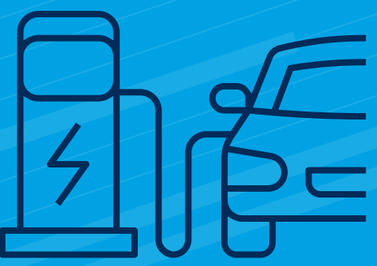
We perceive this gradual and quite fundamental transformation as one of our main tasks in the future, and our steps in railway development are already being taken today with this transformation in mind.

Circular economy

On a long-term basis, we strive to achieve the highest possible level of efficiency in our activities, e.g., reuse of certain building raw materials, recycling of materials, especially metals, use of energy-saving lighting fixtures in the buildings managed by our organisation, etc.

Microgeneration

We are contributing to our own level of sustainability by producing our own zero-emission electricity, particularly from solar panels installed on a number of railway buildings. We then use the energy produced in this way by ourselves or resell it.



Transport synergy

As it is not possible to replace car transport by railway entirely, the organisation is taking specific steps to promote synergy and continuity between the two elements of mobility in the society, for example by installing charging stands in the car parks of its buildings.

A gentle approach to nature

We also adopt measures which directly aim to protect nature and the landscape or at least to reduce any adverse impacts of our activities, including protection and cultivation of the flora growing around the railway lines, gradual reduction of the use of invasive herbicides, utilisation of low-emission energy sources and many other measures.

Sustainable operation and modernisation of railway lines

2.1 We strive to reuse materials

In the field of railway infrastructure, we aim to reuse the materials recovered from repair work and capital expenditure projects as far as possible during implementation of such work activities. We also aim to maximise the use of secondary raw materials and to avoid waste production during each construction project. In this way, our activities make significant use of circular economy processes. During these activities it is always necessary for the safety impact of these processes to be taken into account.

The term “secondary raw material” is used for the material which is extracted on a construction site and does not become waste but is further used within the framework of the work carried out. We are also dealing with the topic of the recycling of construction and demolition waste, with a short-term target of a minimum of 70 % recycled content. These include in particular track fields, switch structures, concrete or wooden railway sleepers, rails, small-size aggregate, etc. Such re-use also occurs in case of telecommunication and signalling equipment, level crossing structures or electrical engineering.

The materials gained this way are used on the basis of operational needs in the context of repairs and capital expenditure projects in railway infrastructure. Some of the assets which cannot be used for their original purpose, in particular various concrete structures and prefabricated materials, find their application in substructure constructions during renovations. Alternatively, they are sold to other entities for construction use.

Metal waste is also an important part of the secondary material obtained thanks to this approach. In 2022, we sold 43,964 tonnes of steel, 526 tonnes of copper, 68 tonnes of aluminium and 1,747 tonnes of other metals for recycling. We use the funds generated from such materials originating from repairs and maintenance to pay for non-investment projects related to ensuring the operability of the nationwide and regional railways. The requirements for the state’s financial means are reduced by this value. Last year, the volume of material recovered this way amounted to approximately CZK 194 million. By reusing it, financial and environmental savings are achieved.

2.1.1 Waste management

In the area of waste management, Správa železnic is governed in particular by the Act No. 541/2020 Coll., on Waste. Správa železnic is aware of the fact that waste and packaging produced in large quantities can be a risk factor for human health, ecosystems and the environment. This applies not only in terms of excessive waste production, but also during waste management, when non-original substances may be released into the environment and lead to subsequent pollution. That is why Správa železnic seeks to prevent and reduce waste production in its day-to-day activities, see Chart 1. It also ensures that waste is reused as secondary raw material in preference to disposal. Správa železnic follows this hierarchy of waste management:

- waste prevention,
- preparation for re-use,
- recycling of waste,
- other uses of waste, such as energy recovery,
- waste disposal.

Chart 1 shows the trend of the gradual evolution of waste production between 2020 and 2022.

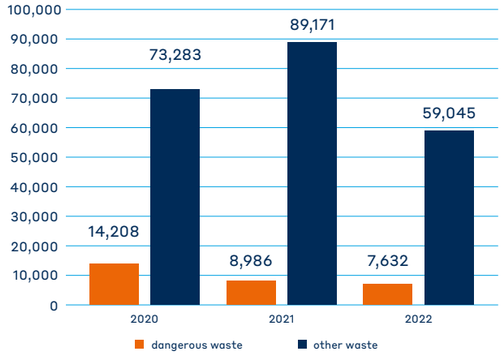


Chart 1. *Waste production per year (for 2020-2022) in tonnes (t)*

Note 1: *Compared to the last report, Správa železnic provides an overall overview of the waste produced unlike the previous report where only mixed waste was listed.*
Note 2: *The spike in 2021 is likely to be caused by the increased demand for disposal of protective equipment under anti-covid measures, and therefore it can be assumed that there has been a sharp increase in the total amount of the waste produced. This trend is also influenced by the fact that Správa železnic is responsible for the disposal of waste from railway stations, platforms and station buildings, i.e., waste from passengers and other members of the general public, where the level of waste production cannot be directly influenced by Správa železnic.*

On the other hand, Správa železnic has managed to increase the share of separated waste components, with Chart 2 showing that metals and metallic waste account for the largest share of the individual components of separated waste, accounting for about 99 % by weight. For 2022, this amounts to 43,284 t. The share of plastics, paper, glass and biodegradable waste then features an order of magnitude lower, see Chart 2.

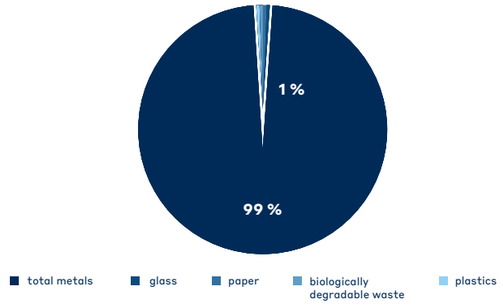


Chart 2. *Percentage of individual components of separated waste in 2022*

Note: *A significant change in the distribution of the proportions of separated waste components compared to the previous report consists in the inclusion of the so-called "metallic waste" gains, handed over to an external company for further processing, which constitutes a significant part of the separated waste of Správa železnic.*

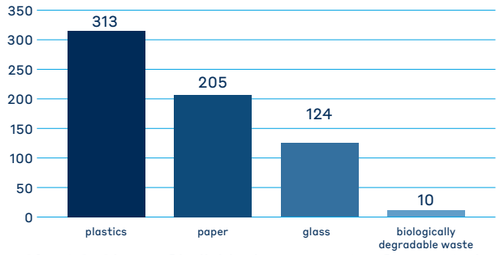


Chart 3. *Share of individual components of separated waste in tonnes in 2022 excluding metal waste*

Another step towards waste prevention is undoubtedly the introduction of take-back of used products. The following selected products are mainly handed over by Správa železnic within the framework of the take-back policy:

- portable, industrial or automotive batteries, other types of batteries, button cells and power packs,
- discharge lamps and fluorescent lamps,
- tyres,
- electrical equipment (e.g., lighting equipment, information technology and telecommunication equipment, small and large appliances, etc.).

The employees of Správa železnic being in charge of purchasing products and equipment are obliged to check with the seller of such products and equipment for information on the take-back policy or separate collection of the product. On the basis of the information found, they then have the option of handing over, in a free-of-charge manner, according to the instructions of the last seller, or they can discuss the possibility of handing over larger quantities of used products directly with the operator of the collection scheme.

Within the framework of the take-back policy, Správa železnic cooperates, for example, with ELEKTROWIN, a.s., EKOLAMP, s.r.o., or ASEKOL, a.s.

2.1.2 Use of recycled aggregate

In order to ensure economic efficiency and respect for nature, we have introduced a system of recycling aggregate gained from the track bed during the preparation and implementation of capital expenditure projects. Recycling is required whenever approximately five thousand tonnes of aggregate are removed within the framework of a capital expenditure projects, which represents the replacement or installation of a track bed on approximately two kilometres of a single-track line. The track-side machinery equipment – such as a machine scrubber – will continuously remove the existing gravel bed, mechanically screening it according to the grain size and returning the compliant parts of the 32/63 mm fraction back to the track bed. In case of rehabilitation of the track substructure, carried out by the so-called continuous rehabilitation machines, the gravel bed and the upper part of the track substructure are removed. The gravel bed is mechanically cleaned, subsequently re-crushed to a lower fraction (e.g., 8/16 mm), mixed with new crushed gravel and used back into the earthworks as a rehabilitation layer of the reinforced sleeper base. This system allows approximately 30 % of the aggregate recovered to be returned back to the track bed.

2.2 We reduce our environmental impact

The environment is regulated by quite extensive European and national legislation. Respecting and complying with legal requirements for environmental protection contributes to minimising negative impacts on the surroundings. In addition to the areas of nature and landscape protection, air, waste and water management, the general issues of plant health care in relation to the application of biocides and the protection of public health from noise and vibration also fall within this area.

Railway transport, or railway system as such, is considered as a transport mode with an environmental competitive advantage. However, it is essential to continue to minimise further its negative environmental impacts such as noise, vibration, dust and air pollution, and to prevent waste production.

	2021	2022
Total non-capital-expenditure costs for the environment	503	841
Total non-capital-expenditure costs for maintenance of buildings	73	49
Total capital-expenditure costs for noise protection measures during line upgrades	223	72

Table 1. *Total capital-expenditure and non-capital-expenditure costs for the environment in 2021 and 2022 (in CZK million)*

In the following subsections, we provide specific examples by individual environmental components of how we strive to improve the state of the environment and achieve sustainable development within the framework of our corporate social responsibility.

2.2.1 Nature and landscape protection

Nature and landscape protection in the conditions of Správa železnic is mainly connected with the maintenance of the accompanying greenery around the railway infrastructure. This usually involves the elimination of non-original wood species of low ecological and aesthetic value, which, if they fall into the passing clearance of the railway line, pose an increased safety risk to the operation of the railway infrastructure operation and railway transport.

Our aim is to prevent incidents arising from these phenomena. The average number of such extraordinary events is 98 per year; we record an average of 884 tree falls or falls of parts of trees which are not the cause of emergencies. This situation may be influenced by the ongoing climate change, which has seen an increase in extreme weather events and an increase in pests, particularly those associated with increasing drought (bark beetle, wood-boring fungi, etc.), where trees are becoming less resistant to external influences.

We are trying to achieve this objective through gradual transformation of the existing vegetation around the railway transport infrastructure into vegetation suitable for safe and smooth operation in accordance with the Strategy for Adaptation to Climate Change in the Czech Republic and also with the possibility of increasing biodiversity. Within the framework of this effort, we are working with the so-called impact distance of individual wood species. It also appears that in the upcoming period it will be necessary to focus more on vegetation on the plots of land of third-party legal entities in the railway protection zone and to look for functional mechanisms leading to a reduction in the level of threat to the railway infrastructure.

In addition to responsible maintenance of green areas, we are involved in other pilot projects having an impact on the maintenance of green areas. These include a study to monitor climatic and weather phenomena with an impact on the railway infrastructure or a programme addressing methodologies and measures for an efficient approach to accompanying greenery. Other sub-projects are discussed in the following subsections.

Measures to eliminate the growth of unwanted vegetation – weeds

A part of the maintenance of vegetation on railway infrastructure is also the removal of unwanted weeds from the track bed, due to overgrowth of the upper surface of the rails, which can subsequently cause slipping or non-braking of powered vehicles. To suppress the growth of vegetation, we mainly use chemical control (glyphosate-based substances) and mechanical control such as mowing and cutting.

Given the current situation and the extension of the authorisation of the use of glyphosate-based substances in the Czech Republic until 2023, we perceive a need to reduce the quantity of application of these substances. Therefore, we favour the use of advanced technologies in the form of so-called selective spraying of lines, which can lead to a reduction in herbicide dosage while maintaining the same effect. With this technology, spraying can be targeted primarily at weed concentration sites and thus significantly reduce the risk of spreading. This results in a saving of up to 30 % of the amount applied. We perceive the application of selective spraying as a way of reducing the quantity of glyphosate used and the costs incurred from a medium-term point of view.

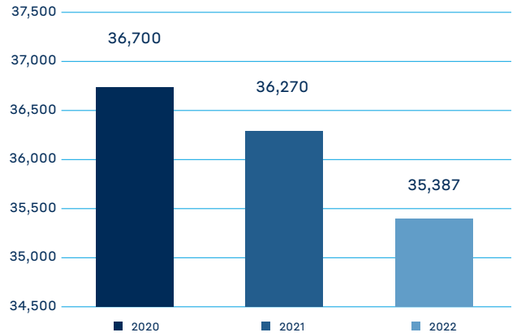


Chart 4. *Consumption of glyphosate-based products from 2020 to 2022 in litres (l)*

2.2.2 Biodiversity protection and restoration

Pilot project Replacement of Glyphosate-based Products on railway infrastructure

In 2022, we continued in the project within the framework of which we validate new knowledge in the field of maintenance of vegetation on railways in the EU, which knowledge could be applied to the railway infrastructure also after 2023, when the extension of the authorisation of the use of glyphosate-based plant protection products will be discussed at the EU level. The aim of the project is to find alternative methods of maintenance of vegetation on railways which are more environment-friendly, with a minimum impact on biodiversity around the railway lines operated.

Long-term care plans and change of landscape character in the surroundings of the railway infrastructure

This project is a part of the pilot project Action Plan for the Maintenance of Greenery along Railway Lines, which forms our conceptual document for management and maintenance of greenery, especially wood species. The aim of this project is to set up regular maintenance of the plots of land belonging to Správa železnic for a period of about

10-15 years through the preparation of long-term care plans, and to gradually shape the landscape in the surroundings of the railway lines to a state which is satisfactory both in terms of safe operation of the rail system and the preservation or direct increase of biodiversity. The landscape thus modelled should then evolve in such a way that it requires only minimal intervention and maintenance in the future.

Demonstration sections of greenery care around railway infrastructure
The project Demonstration Sections of Greenery Care along the Railway Infrastructure is based on the intention to change the management and shape of the forest along the railway lines in order to prevent emergencies caused by falling trees or parts of trees.
The project is planned in four phases, the first of which started in July 2021 by cooperation with all the partners addressed. Subsequently, the project will continue with the selection of specific demonstration sections.
In the next phases, forest management procedure projects are to be developed for the individual sections so that their implementation achieves the desired objective, i.e., the setting up of another way of forest management than economy-focused forest. This will make it possible to reduce the growing height of wood species in the vicinity of the railway, thereby increasing the safety of the railway operated and at the same time promoting biodiversity so that the ecosystems in question are not disturbed.

2.2.3 Water management and protection

In connection with the protection of water and water resources, we are primarily governed by the legislation in force, in particular by the Act No. 254/2001 Coll., on Water, which imposes on everyone who handles water the obligation to take care of its protection and to ensure its economic and efficient use. This is what we try to do during the operation of the station buildings and other facilities where water is handled.

We service and carry out wastewater analyses at more than 50 wastewater treatment plants (so-called domestic treatment plants). We try to arrange water analyses with local companies to minimise the transport of samples to laboratories. We also support the connection of properties to a sewer line terminating at a central treatment plant.

We register 650 wells. In case of drinking water offtakes, we check not only the quantity of water but also compliance with applicable hygiene limits. Compliance with the quantity of water taken in accordance with the permits is a matter of course, even in times of drought. To prevent groundwater pollution in areas where rolling stock is parked, we coordinate the laying of sorption fabrics.
This type of material prevents small drips of operation fluids from these vehicles from reaching the subsoil and subsequently polluting the soil and groundwater sources.

Before starting construction work, we place emphasis on the respecting of the conditions applicable in the protection zones of water sources as well as floodplains.
In accordance with the principle of water retention in the landscape, we prefer the absorption of rainwater rather than the regulated discharge into a combined sewerage system.

2.2.4 Air protection

Within the framework of our obligations in the area of air protection, arising in particular from the Act No. 201/2012 Coll., on Air Protection, we strive to prevent air pollution beyond the relevant legal framework.

The activities related to air protection in the conditions of Správa železnic consist of the following set of specific measures, optimised from the environmental, economic and social points of view:

- Elimination or at least minimisation of negative effects on human health resulting from air pollution by pollutants;
- Elimination or at least minimisation of the adverse impacts of air pollution on the natural environment;
- Fulfilment of the requirements arising from the current, newly adopted and forthcoming Czech and European legislation in the field of air quality assessment and management and related areas;
- Monitoring and reduction of the total air pollution load and the quantities of individual types of emissions produced by stationary sources of air pollution;
- Proposals for measures to reduce the air pollution produced and control of their implementation;
- Renewal and rationalisation of thermal sources of air pollutants using adequate alternatives;
- Renewal and rationalisation of air conditioning systems with emphasis on the prevention of leakage and the protection of the climate and of the ozone layer;
- Gradual elimination of asbestos-containing materials in the buildings of Správa železnic.

In order to be able to comply with the declared measures, we are gradually replacing sources featuring a higher emission load with low-emission sources which comply with the emission class 4 according to the Czech technical standard ČSN EN 303-5. We are also trying to switch to more environment-friendly fuels, such as natural gas, and to use renewable sources.

For illustrative purposes, we provide an overview of the composition of our sources in the total registered number of approximately 3,100 sources in the attached Chart 5. It clearly shows that gas-fired sources are overwhelmingly predominant types of facilities.

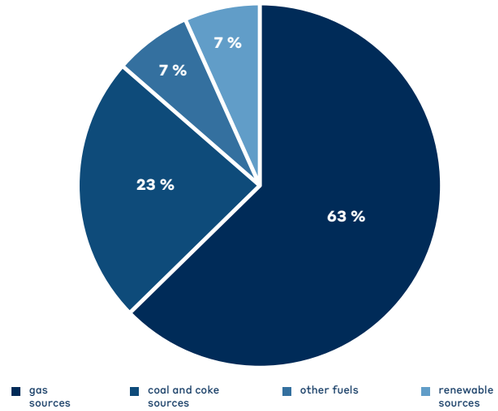


Chart 5. *Overview of the composition of our sources in the total registered number*

In addition, Správa železnic implements, on an ongoing basis, construction and technical surveys of buildings with a focus on the presence of asbestos. The removal of this hazardous material is subsequently carried out within the framework of planned renovations and repair works.

2.2.5 Protection of public health against noise and vibration

Noise and vibrations originating from railway transport are undesirable phenomena affecting

mainly the population living near the railway. Therefore, an integral part of the renovation and modernisation of railway lines is the installation of anti-noise or anti-vibration measures. Although classical noise barriers are the most effective measures in terms of efficiency, their use is often negatively perceived by the general public because of the disturbance to the landscape. Here we are working to develop the materials used and to improve the aesthetics of the barriers built. In some cases, however, the use of a conventional noise barrier is not possible due to space constraints or due to the assurance of safety on the railway – typically in the vicinity of level crossings where it is necessary to maintain appropriate visibility. We are therefore also investigating alternative methods of noise reduction, of which rail absorbers installed directly on the rail web are now commonly proposed. In case of single-track lines, low noise barriers are placed in the immediate vicinity of the track. In exceptional cases, if the necessary noise reduction cannot be achieved by track-side measures, individual noise protection measures are implemented directly on the noise-affected buildings. The choices of specific noise reduction measures or right combinations of measures depend primarily on the required level of noise reduction, local operational conditions and the results of discussions with representatives of the affected municipalities.

One of the recent innovations to minimise the height of noise barriers is the Swedish Wavebreaker noise barrier system. These are modular extension pieces fixed to the top edge of the noise barrier. We were the first railway operator to permit a trial installation of this system on an operated railway corridor line. The future use of this system will be the subject matter of a more general discussion and further development.

In addition to the above noise reduction measures, which are technical in nature, we are also achieving noise reduction through organisational measures implemented in accordance with the European requirements for railway system interoperability. This includes the payment of a bonus to freight operators for the use of upgraded wagons in 2020 and 2021, which was aimed at the support of replacement of cast-iron brake blocks with composite blocks, the operation of which is quieter. Furthermore, following the ongoing update of the TSI Noise, this means the introduction of “quieter lines” on which only freight wagons meeting the requirements for noiseless wagons will be allowed to enter from 8 December 2024. The measure will apply to all railway lines with high freight traffic intensity.

We also place great emphasis on the correct assessment of rail transport noise, as it is in many ways specific unlike other noise sources. To this end, we apply our own manual for the preparation of noise studies and measurements of rail transport noise, which is followed by our design work contractors. We also require a proper assessment of the noise load during negotiations of new constructions by foreign investors in the area of the railway protection zone to avoid increasing the number of people affected by excess noise from rail transport.

Chart 6. *Development of the installation of noise barriers in 1994–2022 (km)*

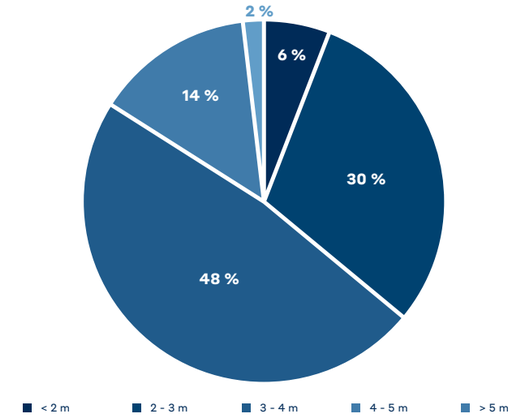


Chart 7. *Percentage of implemented noise barriers according to their height*

2.3 We are the driving entity of the green transformation of railway

We are continuously proceeding with the line electrification of the Czech railway network. In the last 16 years, 258 km of railway lines have been newly electrified.

Railway line number	Railway line / line section	Operation beginning year	Length (km) – rounded
140	Kadaň-Prunéřov – Karlovy Vary	2006	47.0
321	Ostrava-Svinov – Opava východ	2006	28.5
323	Ostrava hl. n. – Ostrava-Kunčice	2007	11.0
024	Letohrad – Lichkov state border	2008	23.6
199	České Velenice state border – České Budějovice	2009	50.7
248	Znojmo – Šatov state border	2009	11.0
291	Zábřeh na Moravě – Šumperk	2010	14.2
232	Lysá nad Labem – Milovice	2010	5.9
279	Studénka – Sedlnice – Mošnov	2014	6.5
251	Hrušovany u Brna – Židlochovice	2020	3.0
134	Louka u Litvínova – Litvínov	2021	1.5
254	Šakvice – Hustopeče u Brna	2021	7.6
240	Brno-Horní Heršpice – Střelice	2021	13.1
290	Olomouc – Uničov	2022	29.2
143	Kadaň-Prunéřov – Kadaň předměstí	2022	5.4
Celkem			**258.2**

Table 2. *Overview of line electrification in 2006–2022*

2.3.1 Development plans for line electrification

In 2020, Správa železnic commissioned an expert[1] evaluation of the potential for CO_2 emission reductions and calculation of energy savings due to the implementation of AC power supply system (AC 25 kV, 50 Hz) electrification of the railway lines on a selected railway network, which should include, by 2030, more than 120 railway lines. One of the important advantages of electric traction compared to diesel traction is the potential for significant energy savings through the use of energy recovery (about 5-10 % for freight transport, between 10-40 % for passenger transport). Another indisputable advantage is the possibility of transmission of high outputs, which is to play a very important role in case of the expected intermodal shifts in freight transport from road to rail. Last but not least, there are benefits of up to several times lower CO_2 emissions, which are set to decrease in the foreseeable future on the basis of a constantly improving energy mix and high efficiency of electric motors.

The most promising railway lines to be electrified in terms of CO_2 savings (related to 2030) are the line No. 071 Mladá Boleslav – Nymburk with a total saving of up to 185 t CO_2/km and the line No. 021 Týniště nad Orlicí – Častolovice – Solnice. A significant role is played here by the large transport outputs related to the transport of passenger cars. Other railways with a high potential for CO_2 savings include, e.g., line No. 323 Ostrava-Kunčice – Frenštát pod Radhoštěm, where passenger transport will save up to 80 % due to very strong suburban traffic. A surprising result may be the line No. 093 Kladno – Kralupy nad Vltavou, which, unlike the above-mentioned lines, does not yet have an approved feasibility study. Due to its strategic location, which allows bypassing the Prague railway junction in the west-north direction, it is very suitable for the future routing of freight transport. In case of electrification, it could be used for transporting aviation gasoline for Prague airport or limestone to the North Bohemian coal-fired power plants.

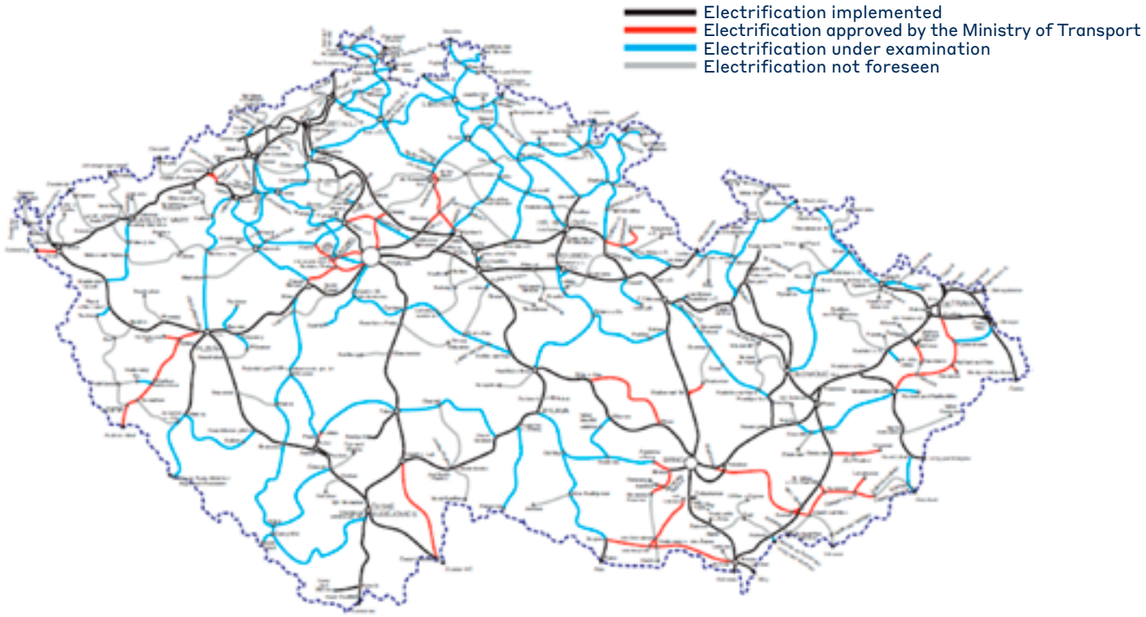


Figure 3. *Prospective electrification proposal (March 2021)*

[1] Centrum dopravního výzkumu (CDV – Transport Research Centre)

The potential to reduce production of CO_2 emissions does not arise only due to electrification itself and consequently more economical operation of railway transport, but also due to the increased attractiveness of railway transport through electrification, a shift of a part of road freight transport to railways is expected. The study therefore counts on a 15 % increase in railway transport output on all railway lines except for those on which an individual increase in freight transport output is defined. The total increase on all railway lines analysed thus amounts to 657.9 million gross tonne kilometres ("grtkm") by 2030. It is possible to suppose that this volume of traffic will be shifted from roads to railways, thereby saving 0.95 % of the CO_2 emissions produced by heavy road freight transport.

Railway line/ section	Energy consumption (D) (2030) [kWh]	Energy consumption (E) (2030) [kWh]	Energy savings [%]	Emissions (D) (2030) [t]	Emissions (E) (2030) [t]	Emission savings [%]	Emission savings [t/km]	Average recovery savings [%]	Financial energy and emission savings [CZK mil.]	Electrification costs [CZK mil.]
Olomouc – Uničov – Šumperk	15,396,786	5,262,161	65.8	3,888	2,333	40.0	27.3	22	32	1,373
Kadaň- -Prunéřov – Kadaň předměstí	3,503,149	763,954	78.2	885	339	61.7	546.0	38	8	8

Table 3. *Completed construction projects in the reporting period 2022*
(Data source: study by the Transport Research Centre (CDV): Options for reducing CO_2 emissions due to the line electrification, 2020)

Note: *The data stated for the line Kadaň – Prunéřov – Kadaň předměstí do not correspond to the data reported in the 2020-2021 ESG Report due to a typist's error in the creation of the 2020-2021 ESG Report.*

Railway line/ section	Energy consumption (D) (2030) [kWh]	Energy consumption (E) (2030) [kWh]	Energy savings [%]	Emissions (D) (2030) [t]	Emissions (E) (2030) [t]	Emission savings [%]	Emission savings [t/km]	Average recovery savings [%]	Financial energy and emission savings [CZK mil.]	Electrification costs [CZK mil.]
(Brno-Horní Heršpice) Střelice – Zastávka u Brna	16,818,333	5,201,119	69.1	4,247	2,306	45.7	84.4	25	36	184

Table 4. *Ongoing construction projects in the reporting period 2022*
(Data source: study by the Transport Research Centre (CDV): Options for reducing CO_2 emissions due to line electrification, 2020)

Railway line/ section	Energy consumption (D) (2030) [kWh]	Energy consumption (E) (2030) [kWh]	Energy savings [%]	Emissions (D) (2030) [t]	Emissions (E) (2030) [t]	Emission savings [%]	Emission savings [t/km]	Average recovery savings [%]	Financial energy and emission savings [CZK mil.]	Electrification costs [CZK mil.]
Častolovice – Solnice	8,788,708	2,776,930	68.4	2,220	1,231	44.5	65.9	18	19	120
Častolovice – Týniště nad Orlicí	7,500,155	2,206,572	70.6	1,894	978	48.3	114.5	30	16	293
Praha-Vysočany – Neratovice	17,593,522	5,326,315	69.7	4,443	2,362	46.8	74.3	25	38	453
Neratovice – Všetaty	3,598,645	1,031,870	71.3	909	458	49.7	75.2	30	8	506
Mladá Boleslav – Nymburk hl. n.	54,285,278	18,399,280	66.1	13,709	8,158	40.5	185.1	17	113	469
Praha-Bubny – Kladno	15,669,259	5,403,152	65.5	3,957	2,396	39.5	50.4	21	32	248
Cheb – Cheb state border	3,046,351	942,900	69.0	769	418	45.7	31.9	25	7	88
Plzeň hl. n. – Domažlice	32,676,268	11,272,557	65.5	8,252	4,998	39.4	55.2	17	67	839
Domažlice – Česká Kubice state border	3,615,293	1,236,270	65.8	913	548	40.0	24.3	22	7	212
Písek – Písek město	386,687	116,159	70.0	98	52	47.3	11.5	27	0.8	32
Boskovice – Skalice nad Svitavou	1,226,912	418,686	65.9	310	186	40.1	24.8	24	2.54	40
Kojetín – Hulín	3,897,596	1,559,475	60.0	984	691	29.8	17.2	7	8	136
Frýdlant nad Ostravicí – Frýdek Místek	26,104,157	8,519,655	67.4	6,592	3,777	42.7	117.3	22	55	249
Frýdlant nad Ostravicí – Ostravice	1,323,671	438,303	66.9	334	194	41.9	20.0	23	2,8	113
Frýdlant nad Ostravicí – Valašské Meziříčí	15,602,848	5,605,083	64.1	3,940	2,485	36.9	36.4	22	32	377
Štramberk – Sedlnice	3,231,012	1,026,686	68.2	816	455	44.2	25.8	24	7	112
Otrokovice – Vizovice	8,212,346	2,784,235	66.1	2,074	1,234	40.5	33.6	19	17	200
Veselí nad Moravou – Blažovice	4,763,163	1,485,417	68.8	1,203	659	45.2	7.8	22	10	789
Kojetín – Hulín	3,897,596	1,559,475	60.0	984	691	29.8	17.2	7	1	136
Veselí nad Lužnicí – České Velenice	19,787,037	6,418,363	67.6	4,997	2,846	43.1	39.1	26	7	440
Chomutov – Březno u Chomutova	2,296,939	723,293	68.5	580	321	44.7	23.6	28	1	88
Heřmanova Huť – Nýřany	489,170	167,564	65.7	124	74	39.9	4.9	36	0.2	80

Table 5. *Railway lines with an approved electrification feasibility study*
(Data source: study by the Transport Research Centre (CDV): Options for reducing CO_2 emissions due to line electrification, 2020)

2.3.2 Unification of the traction power supply system to AC 25 kV, 50 Hz

Most of the railway lines which feature great potential for energy and CO_2 emission savings due to electrification are currently electrified with a direct-current system (DC 3 kV). Their electrification must therefore in many cases first be preceded by the conversion of this network to the alternating-current power supply system (AC 25 kV, 50 Hz). A comparison of the existing 3 kV DC system with the proposed single 25 kV AC, 50 Hz system shows that the losses incurred will be up to 40 % lower if conventional transformers are used to power the alternating-current system. However, the stricter legislation will probably require the installation of static frequency converter (SFC) technology in some new power supply points to avoid adverse impacts on the supervisory power supply system due to non-compliance with the conditions for the load symmetry. Another significant benefit of the use of a static frequency converter is the avoidance of interfering current harmonics from the 25 kV, 50 Hz AC traction system to the supervisory power supply system.

Calculation of energy savings (in MWh/year) and CO_2 savings

For calculation of energy savings, it is necessary to use the comparison of the losses of the two power supply systems:

- The value of the losses increased after implementation of the conversion with the 25 kV AC, 50 Hz power supply system is 41,437 MWh/year.
- The total value of losses of the 3 kV DC system is 111,222 MWh/year.
- The difference in the value of losses after implementation of the conversion will be 69,785 MWh/year.

In addition, the calculated energy savings must be increased by the value of the recovered electricity transferred to the supervisory distributors' network by 4,630 MWh/year. The total energy savings plus the potential for recovery are therefore 74,415 MWh/year. This sum then represents the base value for the final calculation of CO_2 emission savings.

The specific carbon footprint of the electric energy corresponds to the expected energy mix for 2030, the value of which is set at 0.443 kg/kWh. The resulting annual CO_2 emission savings due to the change in the traction system is 0.443 x 74,415 = 32,966 tonnes of CO_2 per year.

The calculations show that implementation of the conversion on a network with a total length of 1,803 km to the single 25 kV AC, 50 Hz system will contribute to a reduction of CO_2 emissions in a total value of 32,966 t/year. This is mainly due to the lower energy demands under the existing conditions of operation of the railway transport, including the benefit of more efficient use of the recovered energy.

Total CO_2 emissions from transport in the Czech Republic amount to about 19,000,000 t/year. Their reduction by 32,966 t/year due to the unification of the traction power supply system to 25 kV AC, 50 Hz on the railway network would represent a decrease of total CO_2 emissions from transport by about 0.17 %.

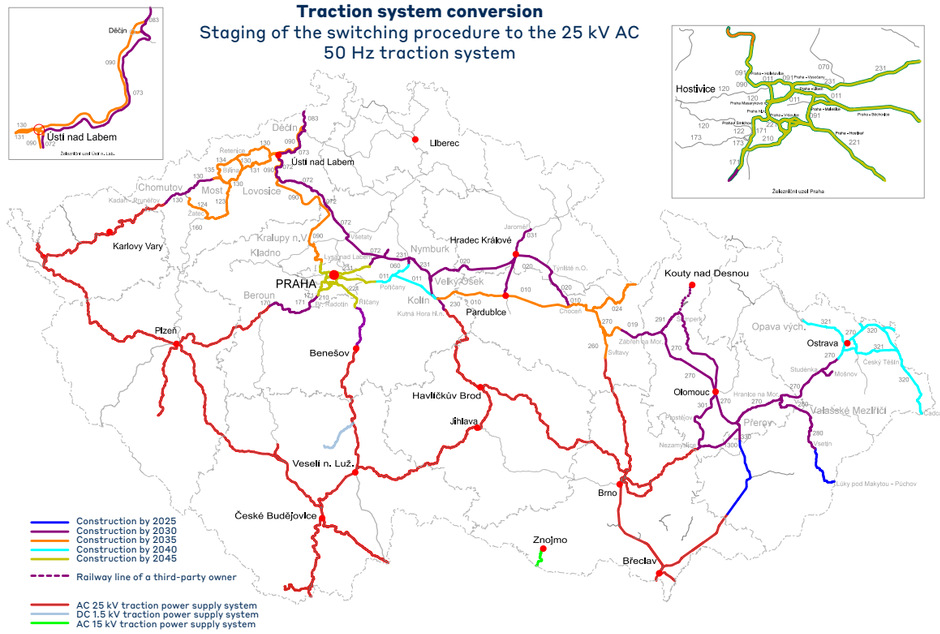


Figure 4. *Unification of the traction power supply system to 25 kV AC 50 Hz*

Pilot project with converter technology for the 25 kV AC, 50 Hz traction system in the Nedakonice – Říkovice section

In connection with the transition of the 3 kV DC traction power supply system to the 25 kV AC system with a frequency of 50 Hz, Správa železnic is building up new traction substations (TNS) in the Czech Republic. With the use of new trends and efficient technologies, the TNS with converter technology (SFC) was implemented as the first European application for a 25 kV system with a frequency of 50 Hz within the framework of the pilot project entitled “Change of the traction system to 25 kV AC, 50 Hz in the Nedakonice – Říkovice section”. The actual implementation of the SFC technology was preceded by more than four years of analysis, preparation and selection of the technical solution for SFC by the Electrical Engineering and Energeticts Department (O24) in cooperation with experts from e.g., Australia, Switzerland, Germany or France. These are a total of three SFC technologies from ABB (now Hitachi Energy), two of which are installed at TNS Otrokovice on 22 kV busbars (distributor EG.D, a.s.) and one at TNS Říkovice on 110 KV busbars (distributor ČEZ Distribuce, a.s.).

Green railway – sustainable mobility

3.1 We improve energy performance of buildings and railway stations

The most significant energy saving projects implemented by Správa železnic have a key impact on improving energy efficiency and also lead to the fulfilment of the energy policy commitments and energy strategy objectives of Správa železnic. For all energy saving measures, the overall reduction in energy consumption and operating costs as well as CO_2 emission savings are identified and evaluated.

3.1.1 Replacement of lighting in railway stations with LED technology

The development of the replacement of conventional lighting (sodium and mercury discharge tubes) with LED technologies with the identification of energy and economic savings, including CO_2 emission reductions, has been monitored since 2015. The following tables show the positive development of the gradual installation of LED lighting at railway stations and stops, where a continuous decrease in electricity consumption, costs and CO_2 emissions can be observed.

	Power input of original luminaires (kW)	Power input of LED (kW)	Savings (kW)	Savings (%)	Number of original luminaires (items)	Number of LED luminaires (items)	Difference LED / original (items)	Electric energy savings (MWh)	Cost savings (CZK)	CO_2 savings (t)
2022	519	263	255	49	2,252	2,767	515	1,031	5,195,340	421

Table 6. *Overview of power inputs, electricity savings, costs and CO_2 emissions in 2022*

Period	Electric energy savings (MWh)	Cost savings (CZK)	CO_2 savings (t)
2015–2017	1,609	4,826,034	785
2018	622	1,864,578	290
2019	943	3,047,126	404
2020	1,416	4,573,987	544
2021	957	3,446,496	373
2022	1,031	5,195,340	421
Souhrn	**6,578**	**22,953,561**	**2,817**

Table 7. *General overview of savings of electric energy, costs and CO_2 for 2015–2022*

3.1.2 Energy savings within the framework of building renovations and new constructions

For renovations, emphasis is placed on appropriate insulation of the building cladding system, replacement and renovation of windows and doors, replacement of the source for heating, cooling or hot water preparation, including distribution systems and the use of measurement and control systems. The replacement of interior and exterior lighting with LED technology includes the installation of motion sensors and daylight-dependent artificial lighting control systems. There is also utilisation of forced ventilation systems with waste heat recovery, the installation of efficient renewable energy sources (heat pumps, PV, thermal solar systems), as well as the introduction of energy management (metering and remote energy readings, installation of thermoregulating valves, etc.).

At the same time, existing buildings in poor technical condition are being replaced with new buildings or entire sites under the current strict legislative conditions. Appropriate Czech and EU subsidy programmes or other co-financing methods are used to co-finance energy saving measures. For these buildings, the savings generated by the reconstruction are quantified in detail on the basis of the energy performance documents prepared (energy assessments, environmental assessments, etc.). The energy-saving measures implemented in the period 2017-2021 will save approximately 4,000 MWh of energy and 1,000 tonnes of CO_2 per year.

Table 8 below shows the passenger station buildings whose renovation has been completed or is underway in 2022. The completion of the renovations of the selected station buildings in 2022 increased the average annual energy savings by more than 50 % compared to the savings generated by the measures implemented in the previous period.

Location	Consumption savings MWh/year	Total energy savings	CO_2 savings t/year	CO_2 savings	Implementation period
Renovations completed in 2022					
Veselí nad Lužnicí	137	40 %	37	44 %	5/2021-5/2022
Havířov	1,656	69 %	1,059	72 %	5/2019-8/2022
Bohumín	442	24 %	88	21 %	4/2020-12/2022
Beroun	605	46 %	65	20 %	8/2020-7/2023
Renovations underway in 2022					
Moravský Beroun	460	84 %	153	84 %	2/2021-3/2023
Opava západ	654	66 %	224	54 %	3/2021-4/2023
Písek	157	70 %	31	37 %	1/2021-7/2023
Planá u Mariánských Lázní	232	71 %	53	72 %	4/2021-9/2023
Chodov	248	90 %	52	86 %	8/2022-10/2023
Plzeň hl. n.	520	40 %	115	12 %	4/2021-11/2023
Tachov	43	35 %	15	55 %	6/2021-11/2023
Kravaře	107	61 %	22	57 %	9/2022-11/2023
České Budějovice	463	23 %	151	23 %	6/2020-12/2023
Bílina	78	43 %	34	32 %	10/2022-12/2023
Světlá nad Sázavou	31	23 %	114	81 %	10/2022-12/2023
Benešov nad Ploučnicí	23	16 %	9	9 %	10/2022-12/2023
Aš	530	95 %	74	67 %	10/2022-12/2023
Bystřice (Bystrzyca)	57	21 %	14	21 %	11/2022-12/2023
Ostružná	110	71 %	36	71 %	9/2022-11/2023
Sokolnice-Telnice	120	56 %	28	52 %	9/2022-12/2023
Krásná Lípa	122	38 %	58	49 %	11/2022-12/2023
Karviná	320	73 %	141	74 %	11/2022-6/2024
Pardubice, 1. etapa	201	16 %	84	17 %	12/2020-6/2025
Teplice v Čechách, 1. etapa	23	9 %	4	2 %	8/2022-12/2025
Souhrn	**7,316**	**X**	**2,657**	**X**	

Table 8. *Overview of total energy and CO_2 savings generated by the renovations – completed (2022) or ongoing implementation*

The following Table 9 shows the station building refurbishment projects which were in an advanced stage of project preparation in 2022.

Location	Consumption savings MWh/year	Total energy savings	CO_2 savings t/year	CO_2 savings
Tábor	328	61 %	105	56 %
Jihlava	328	46 %	156	41 %
Bečov nad Teplou	19	16 %	93	53 %
Hlinsko v Čechách	12	9 %	11	23 %
Valšov	25	49 %	34	60 %
Plzeň-Jižní Předměstí	50	17 %	17	23 %
Jindřichův Hradec	165	46 %	31	39 %
Nepomuk	99	47 %	19	34 %
Hlučín	25	31 %	14	55 %
Chuchelná	118	77 %	25	76 %
Jindřichov ve Slezsku	224	88 %	65	77 %
Senice na Hané	47	55 %	8	42 %
Čáslav	88	82 %	89	82 %
Františkovy Lázně	141	32 %	39	32 %
Souhrn	**1,669**	**X**	**706**	**X**

Table 9. *Overview of total energy and CO_2 savings generated by the renovations – preparation*

3.1.3 EPC projects

The EPC programme was created to achieve the objectives set out in the European Green Deal and the National Action Plan for Clean Mobility in the Czech Republic. One of the methods of implementation and financing is the so-called EPC (Energy Performance Contracting), where the project is only paid back from the savings generated. EPC projects often involve replacing the lighting system or renovation of the heating system. The precondition is to generate savings so that the initial investment can be repaid from the savings. In order to achieve the objectives and as a good manager of state property, Správa železnic has therefore selected the following objects as pilot projects: Benešov u Prahy, Benešov nad Ploučnicí – passenger station, Krásná Lípa, Čáslav, Praha-Libeň – tower, Nymburk hl. n. – signal box. We expect these projects to save financial resources, contribute to the reduction of energy consumption and thus contribute to the implementation of the Energy Strategy of the Czech Republic.

3.2 We install photovoltaic power plants

3.2.1 PV on the roofs

The use of PV as an efficient renewable energy source (RES) is an important point for Správa železnic in terms of implementing the energy strategy. In view of the development of new technologies, legislative requirements for reducing the carbon footprint and increasing the energy self-sufficiency of buildings, Správa železnic places great emphasis on the possible installation of these technologies on the roofs of buildings.

A pilot project in the environment of Správa železnic is the installation of PV on the roof of the Děčín východ station building with an installed capacity of 24 kWp, which was put into trial operation in 2022. The data measured so far show that a total of 24.27 MWh of green energy was produced in 2022, with a total saving of 24.17 tonnes of CO_2.

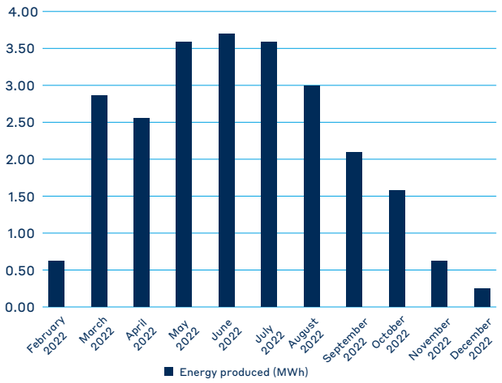


Chart 8. *Monthly overview of Děčín PV electricity production*

Other PV projects are at an advanced stage of project preparation, for which, among others, technical reports, analyses and studies have been prepared for PV power plants with a total installed capacity of 3,084 kWp, annual electricity production of 3,011 MWh and CO_2 emissions reduction of 1,556 tonnes.

3.2.2 PV on the brownfields

In the projects of renovation of railway stations and infrastructure, there are registered so far unused plots of land of Správa železnic, which could be used for installation of PV systems. The green electricity generated will be primarily supplied to the local distribution system of the railway (LDSž). In the first wave, Správa železnic plans to install PV on 18 brownfield sites. The total area to be used for PV installation is 238,371 m^2 with an installed capacity of 51 MWp. The 56,268 MWh of electricity produced would thus represent a CO_2 saving of 65,340 tonnes.

This is the first phase of monitoring the potential for the use of PV power plants on the plots of land of Správa železnic. We plan to further expand PV installations on unused Správa železnic's land.

3.3 We contribute to the development of e-mobility and multimodality

Transport accounts for a quarter of the greenhouse gases produced in the EU and this share is still growing. To achieve climate neutrality by 2050, transport emissions need to be reduced by 90 %. Individual car transport must also contribute to this. That is why there is already a significant increase in the share of electric vehicles on the road. One of the key documents is the European Green Deal. The Czech Republic has also adopted this strategy. In order to implement it, it is necessary to change the policy on clean energy supply throughout the economy. In order to implement these agreements within the framework of cities, we have a strategic objective to build infrastructure for charging electric vehicles and thus connect individual passenger and public railway transport. According to current legislation, Member States should ensure that at least one charging station and cable ducts are installed for at least every fifth parking space in new and substantially renovated non-residential buildings with more than ten parking spaces, in order to enable the installation of charging stations for electric vehicles at a later stage.

This is required in cases where:

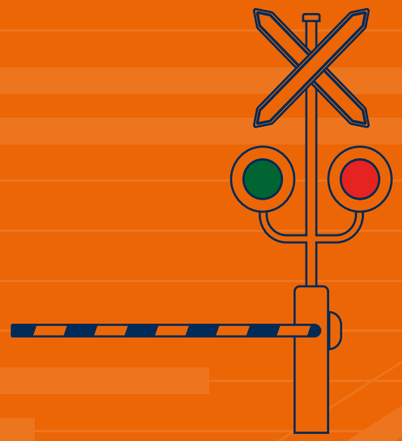
a) the parking area is located inside the building and major renovation measures also affect the parking area or the building's electrical distribution systems; or

b) the parking area is physically adjacent to the building and major renovation measures also affect the parking area or the parking area's electrical wiring.

For this purpose, a document called Infrastructure Development Plan for Electric Vehicle Charging was prepared by Správa železnic, the content of which is the concept and strategy of public parking areas with a certain number of charging stations (points) and their sufficient capacity at railway stations and stops. In order to fulfil the requirement of building the infrastructure, a Framework Agreement on the lease of parts of land for the purpose of installation and operation of electric vehicle charging stations was signed in November 2022 between Správa železnic and ČEZ, a. s.

On the basis of this signed Framework Agreement, the project already includes charging stations. A parking place with a charging station is already being prepared in Vsetín within the framework of the implementation of the parking house of Správa železnic, where 2xAC and 2xDC charging stations should be located. The next location, where the implementation is planned for the end of 2023, is Kopřivnice, where a 1xDC charging station should be located. The project documentation already includes and addresses charging stations in the following locations: Dlouhá Míle terminal, the construction of the new Brno Main Station, Benešov nad Ploučnicí, Chodov, Aš, České Budějovice, Písek, Nýřany. Other locations are being investigated within the framework of upcoming projects which are currently under preparation.

Social



SAFETY IS OUR PRIORITY

The work of our organisation has a significant impact on society, both outside and inside our organisation.

Our organisation does so with the utmost effort and care so that these activities are beneficial and positive for all.

Together as a team

Our employees are the cornerstone of our entire organisation, without them Správa železnic would not exist. We try to present our responsibility inside the organisation especially by our approach to our employees. Within the framework of their health support, our employees are, for example, entitled to fitness stays in Czech spa facilities.

In addition, we regularly educate our employees, not only within the framework of our internal policies, but we also try to develop their creativity and transferable competences as much as possible.

Equality of opportunities

Equal opportunities for all our employees and potential employees are an important component; together with our European partners, we are a part of the agreement of the social partners in the railway sector (CER and ETF) – Women in Rail.

SAFETY FIRST

One of the key elements of our work is safety. We are committed to railway transport safety every day, and we are constantly introducing various safety features on the lines to improve the comfort of rail travel.

By introducing line safety systems, ETCS control system, increasing the safety of level crossings, implementing a prevention system, ensuring cyber security and a number of other partial changes, we also support the development of the entire railway network in the Czech Republic from a long-term point of view.

- SAFETY ON THE TRACK
- TRAVEL COMFORT
- CYBERSECURITY
- RELIABLE LEVEL CROSSINGS
- ECTS & PREVENTIVE MEASURES

Transport safety

4.1 We operate the rail system in a safe way

We are investing heavily in the infrastructure development to improve the safety of rail operations. Modernisation includes, among other things, the implementation of GSM-R and ETCS. We are also focusing on increasing safety at level crossings, which are statistically the riskiest places in terms of occurrence of incidents. In the area of safety prevention, we are implementing the Safe Railway project. Its aim is to promote prevention and education in the field of railway safety, to acquaint the public with the basic rules of behaviour in the railway environment and at the same time to draw attention to the fatal consequences of not respecting these rules. Within the framework of the awareness-raising, preventive safety videos were made. In the context of infrastructure, our attention is focused in particular on the modernisation of transit rail corridors and other lines included in the TEN-T system, railway junctions and the modernisation of other lines included in the European railway system. We have also focused on speeding up the passage through some railway junctions. Within the framework of the long-term plan for connectivity, we are working to ensure interoperability on selected lines, primarily through the construction of the GSM-R digital radio system. We are implementing GSM-R and ETCS within the framework of European standards in accordance with the ERTMS implementation plan. The ETCS system has already been applied on a number of backbone lines, and other line sections are under implementation or in preparation. In addition to replacing the railway superstructure and improving level crossing safety, the investments in repairing the railway infrastructure included also repairs of platforms and lighting of stops, bridges and culverts.

4.1.1 Level crossings

In the previous period, the level of safety at level crossings continued to be intensively improved. In 2022, altogether 233 level crossings were reconstructed and modernised within the framework of capital expenditure activities. We intend to continue the rapid pace of level crossing upgrades in the coming years, with 130 level crossings to be reconstructed or upgraded in 2023 alone within the framework of capital expenditure activities. This is based on the government's programme declaration to modernise 500 level crossings by 2025.

One of the ways to improve safety is by removing or replacing level crossings. Level crossings are either abolished through capital expenditure activities or through administrative procedures initiated by the regional directorates of the road administration authorities. The process of removing level crossings is always very individual, it is not implemented in a mass way. On the contrary, any possible cancellation or replacement must be duly discussed with all the stakeholders concerned. Our aim is always to agree terms with the owners and users of the roads in question. The examination of the possibility of cancelling selected level crossings, including the determination of the relevant administrative procedures, follows from the legislation in force. Therefore, verification of the need for a level crossing does not automatically imply its cancellation. The reduction in the number of crossings occurs on underused roads (especially on dirt and forest roads) where there is a possibility of finding an adequate and legally acceptable detour route or building an alternative road.

By optimising the number of level crossings, the safety of rail traffic is strengthened. In 2022, altogether 102 level crossings were cancelled, of which 22 were cancelled within the framework of capital expenditure activities and 67 as part within the framework of cancellation requests to the road administration. In the upcoming period, we anticipate the cancellation of dozens more level crossings.

The amendment to the Act No. 13/1997 Coll. on Roads has significantly helped in the effort to cancel underused level crossings. In particular, the statutory conditions and rules for discussing the cancellation of level crossings have been clarified.

As of 31 December 2022, there were 7,646 level crossings on the railway network.

4.1.2 Safety management

We hold the Railway Operator's Safety Certificate (registration number OSPD/2020/022-1). This certificate proves that the railway operator has set up an internal organisational structure and management system for ensuring the operation of the railway and has established a system for ensuring safety of railway operation, which means a set of organisational and technological measures for the safe operation of the railway.

We are also a holder of the Railway Undertaking's Safety Certificate (OSD/2020/243-1). This certificate confirms the recognition of the safety management system within the framework of the European Union in accordance with Directive 2004/49/EC (replaced by Directive 2016/798) and applicable national regulations.

Taking into account the expiry of both certificates in the first half of 2023 and the recommendation of the Rail Authority to submit applications for new certificates at least 6 months in advance (Methodological Instruction No. 3/2022 "Single Safety Certificate"), the following applications have been processed by the Department of Rail Operation Safety System (O18) in 2022:

1) application for approval in terms of the infrastructure operator safety according to Directive (EU) 2016/798 of the European Parliament and of the Council on railway safety (application for railway operator's certificate according to the Rail Systems Act, Section 19),

2) an application for a single safety certificate (hereinafter also referred to as "SSC") pursuant to Directive (EU) 2016/798 of the European Parliament and of the Council on railway safety (application for a railway undertaking's certificate pursuant to the Rail Systems Act, Section 31a).

These applications were submitted to the Rail Authority, in case of the application for the Single Safety Certificate, the application was submitted through the One Stop Shop (OSS) of the European Union Agency for Railways (ERA). The Rail Authority initiated the administrative procedure for the issue of the Railway Undertaking's Certificate and the Railway Operator's Certificate.

The safety system for the operation of railways and rail transport is ensured at Správa železnic in all the areas of activities affected by the operation of nationwide and regional railways, as can be seen in the following Figure 5.

Figure 5. *Railway operation safety system and railway transport operation*

In 2012, the Department of Railway Operation Safety System (O18) introduced a quality management system in accordance with the ČSN EN ISO 9001:2008 standard, which it subsequently transformed in accordance with the requirements of the ISO 9001:2015 standard and underwent surveillance audits, during which it proved that the management system within the framework of the organisation complies with the requirements of the standard. The audits further showed that the operation of the management system is effective and that the system is correctly maintained in accordance with generally

applicable standards and regulations, and that the related documentation is controlled. The implementation of the quality management system is focused on the main processes – identifying the causes and circumstances of incidents, processing of incident records, investigation of fatal and specified work accidents, ensuring the safety system of railway operation and railway transport.

The O18 Department holds an ISO 9001:2015 certificate, which proves that it has a quality management system in place and that it applies this system effectively.

No deficiencies have been found in the safety system of railway operation and railway transport operation at Správa železnic in the past years by the state administration supervisory bodies, which means that it is up-to-date and fully functional. The safety of railway operation and railway transport operation is consistently at a very high level, and the set safety targets are met. We continue to implement the European Deployment Plan and the National Implementation Plan for ERTMS/ETCS.

Safety management in our organisation is ensured by the top-level management, executive management is delegated to all management levels by the organisational structure and is ensured in accordance with the applicable regulatory provisions. Through a functional system of internal regulations, regular training and knowledge testing, it is ensured that every employee is aware of the importance of ensuring safety in the performance of their activities.

In the area of risk management, a study of safety issues in the railway sector (Vision 0) is under way, the basic orientation of which is:

- describing the risks associated with mortality,
- assessment of such risks,
- designing of measures for the risk elimination.

The study will result in the development of priorities and methods of risk elimination and a proposal of the resulting recommendations.

4.2 We are implementing the European Train Control System (ETCS)

4.2.1 ETCS

The deployment of ERTMS/ETCS in the Czech environment is triggering a change of concept in the approach and overall view of signalling and control equipment, especially in relation to traffic management and related professions. According to the EU 4th Railway Package, it is no longer possible to install non-interoperable elements on the EU railway network, including the railway lines of Správa železnic. Therefore, we are installing signalling equipment and radio communication systems that are compatible with interoperable vehicles (ETCS, GSM-R and its future generational successor FRMCS).

Historically, the railway safety systems developed were primarily based on national needs and practices and were adapted to the local conditions of railway operation. The ETCS system requires adaptation of the existing infrastructure, changes in the regulatory framework and the introduction of new organisational and administrative procedures. We are actively involved in the development of this system and all its components at a European level. This activity is underlined by the recent entry into the ERTMS Users Group (as the first railway infrastructure manager from the former Eastern Bloc) and EULYNX, which establishes uniform interfaces between the control equipment and other types of equipment, e.g., traffic management information systems.

We are primarily dealing with implementation of the ETCS system from the trackside point of view, however, as a carrier we already have vehicles equipped with On-Board Units (OBUs). At the same time, we are in the process of equipping our other special rail vehicles with the ETCS system. With this installation, together with further planned purchases of new vehicles which are to include the on-board part of the ETCS system directly from the factory, we expect sufficient coverage of all railway lines with exclusive operation under the ETCS from 2025.

4.2.2 ETCS – trackside part

We are currently preparing the installation of the trackside part of the ETCS at two levels. Primarily, we are focusing on the lines of European importance (TEN-T), where we are installing Level 2 ETCS based on a radio information transmission. We are also focusing on improving the safety of regional and less congested nationwide lines with the so-called ETCS Regional.

The trackside part of the ETCS Level 2 consists of a radio block centre and Eurobalises. The radio block centre monitors individual trains and communicates with them via the GSM-R digital radio system. The ETCS Regional trackside part uses switchable balises for communication with the train. In both variants, the ETCS system knows the position, direction of travel and speed of the trains and checks, in cooperation with the onboard part, whether the train driver is maintaining the speed and reacting correctly to the situation on the track. It is able to stop the train at the “Stop” signal and thus significantly increases safety on the railway compared to the current situation.

In 2022, the verification operation was taking place on the following sections with the ETCS trackside part:
- Petrovice u Karviné – Hrušky (outside);
- Česká Třebová (outside) – Brodek u Přerova;
- Plzeň (outside) – Cheb (outside);
- Český Brod – Praha-Malešice – Praha-Uhříněves;
- Praha-Uhříněves (outside) – Olbramovice, Votice district;
- Kolín – Česká Třebová – Adamov, Modřice – Břeclav – state border of the Czech Republic / Austria / Slovakia;
- Šakvice – Hustopeče;
- Hrušovany u Brna – Židlochovice.

In 2022, the following construction projects were completed and put into verification operation:
- Electrification and upgrading of the Uničov (inclusive) – Olomouc railway line, including the introduction of the exclusive ETCS operation from 1 January 2023;
- ETCS Ústí nad Orlicí – Lichkov;
- ETCS Beroun – Plzeň, in the Beroun – Ejpovice and Beroun-Závodí section.

The Votice – České Budějovice section was in the implementation phase, with the expectation of completion and commissioning in August 2023 (except for the České Budějovice junction, which is only to be completed in 2024) and the Cheb railway station (expected completion and commissioning in May 2023) was in the implementation phase as well.

Sections with the performed ETCS Regional installation (ETCS STOP variant)
- Březnice (outside) – Blatná (outside);
- Blatná (outside) – Strakonice (outside);
- Nepomuk (outside) – Blatná (outside);
- Studénka (outside) – Bílovec;
- Frýdlant n. O. (outside) – Ostravice;
- Temelín (outside) – Týn n. Vlt.

4.2.3 ETCS – on-board part (special powered vehicle)

The on-board part of the ETCS (OBU) consists mainly of a central computer, a GSM-R radio station for data communication, a display and control unit for the driver (Driver Machine Interface – DMI), a balise reader including an antenna, an odometry system and a recording unit. The on-board part performs the control of the vehicle’s journey on the basis of data from the trackside part.

In 2022, projects were underway to install on-board ETCS parts on several types of special powered vehicles (MVTV 2, MVTV 2.2, MVTV 2.3, MTW and MUV 75). The newly acquired special powered vehicles for maintenance and diagnostics will already include on-board ETCS parts from the production process (e.g., second series of MTW special powered vehicles), second series of new multi-purpose motor trolleys (MUVs), new MVTVs or new special powered vehicles for line diagnostics.

Social and community relations

5.1 We are a responsible employer

As of 31 December 2022, Správa železnic employed 17,108 employees working in 140 professions and in 17 organisational units (Directorate General of Správa železnic and 16 organisational units) operating throughout the Czech Republic.

After 19 years of existence, when the organisation started its activities on 1 January 2003 with only 61 employees, it has become one of the largest employers in the Czech Republic and the largest ever in railway transport.

During 2022, the process of changing the organisational structure of Správa železnic continued, approved by the Management, with the aim of optimising and efficiently setting up individual processes in the organisation, both at the level of the General Directorate and other organisational units. On 1 January 2022, the Regional Directorates of Ostrava and Olomouc were merged into one organisational unit – the Regional Directorate of Ostrava. As of 1 April 2022, the process of centralisation of ICT in the newly arising organisational unit Railway Telematics Administration (SŽT) was commenced in the Director General's Section of Správa železnic and this process was completed on 31 December 2022. Technology and Diagnostics Centre (CTD) also changed its organisational structure as of 1 April 2022; in addition to the creation of a new railway telematics section, activities in the area of mechanisation and technology, non-destructive testing of railway superstructure and metrology were centralised as well. As of 1 October 2022, a new organisational unit, namely High-Speed Lines Construction Management (SSVRT) and the Situation Centre of Správa železnic were established in the Infrastructure Modernisation Section. The activities in other selected areas, e.g., traffic control activities, fire protection at the Fire Rescue Corps (HZS) or Railway Geodesy Administration (SŽG) in connection with the creation of the Digital Technical Map of Railways (DTMŽ) have also been strengthened. On the other hand, the number of employees of the General Directorate of Správa železnic was reduced by 12.8 % on 31 December 2022 compared to 31 December 2021 on the basis of the Management's task. The Regional Directorates of Prague, Plzeň, Brno and Ostrava changed their districts during 2022.

The process of rationalisation and optimisation related to the handover of capital expenditure works to the operation continued, resulting in a reduction of the total number of employees in the operation management by 121 (i.e., by 1.6 %). The number of employees on 31 December 2022 decreased by 174 employees to 17,108 compared to the same period in 2021, see Chart 9. The number of employees on 31 December 2022 by organisational units of Správa železnic is shown in Chart 10. During 2022, severance payments were made to 200 employees.

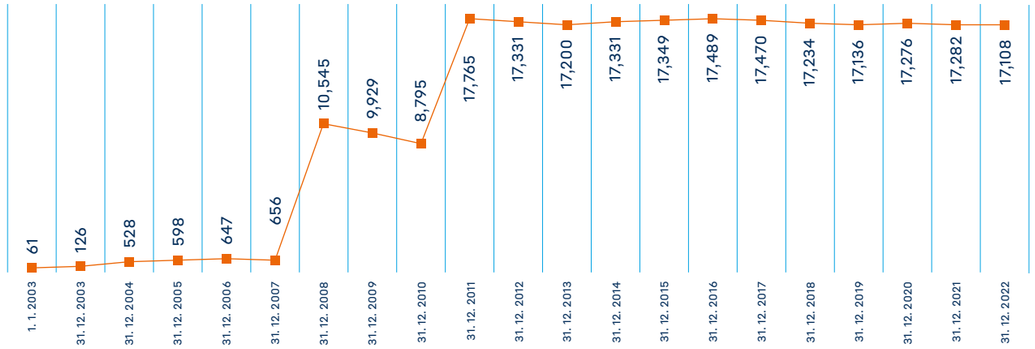


Chart 9. *Evolution of the number of employees in Správa železnic in 2003–2022*

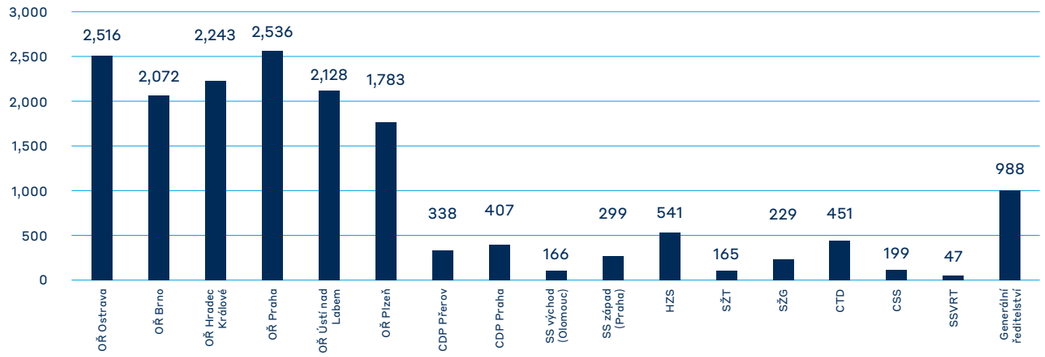


Chart 10. *Number of employees by organisational unit as of 31 December 2022*

Note: *OŘ = Regional Directorate; Generální ředitelství = Directorate General; CDP = Traffic Control Centre; SS východ = Construction Management East; SS západ = Construction Management West; HZS = Fire Rescue Corps, SŽT = Railway Telematics Administration; SŽG = Railway Geodesy Administration; CTD = Telematics and Diagnostics Centre; CSS = Shared Services Centre; SSVRT = HSL Construction Management;*

5.1.1 Qualification structure of employees

The level of the qualification structure of Správa železnic's employees in 2022 has slightly increased compared to 2021. Employees with secondary education with a GCSE certificate predominated in number. The share of employees with primary education did not change over time, while the share of employees with higher vocational, bachelor and university education increased; the details are provided for in Chart 11. In terms of the structure by the highest level of education attained, the share of employees with incomplete, primary and secondary education without a GCSE certificate totals 27.5 % (0.5 % decrease year-on-year), the share of employees with secondary education with a GCSE certificate totals 56.0 % (0.1 % year-on-year increase) and the share of employees with higher vocational education and with a bachelor's, university or doctoral education totals 16.5 % (0.4 % increase year-on-year).

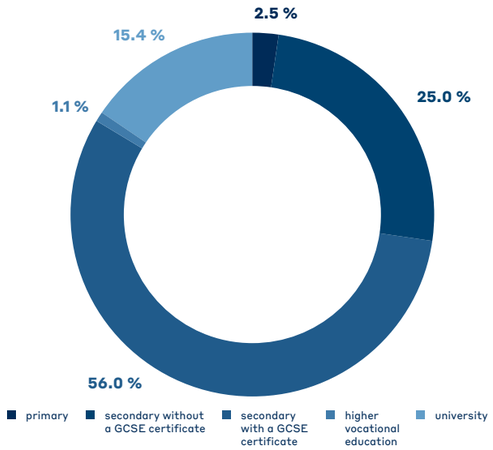


Chart 11. *Structure of employees by the highest level of education at 31 December 2022*

The average number of employees converted to full-time equivalent employees in 2022 was 17,124.57 (a year-on-year decrease by 90.64 employees, or 0.53 %).

The age structure of employees has not changed significantly on a year-on-year basis (see Chart 12), with the average age of a Správa železnic's employee on 31 December 2022 being 48.38 years (year-on-year increase by 0.2 %).

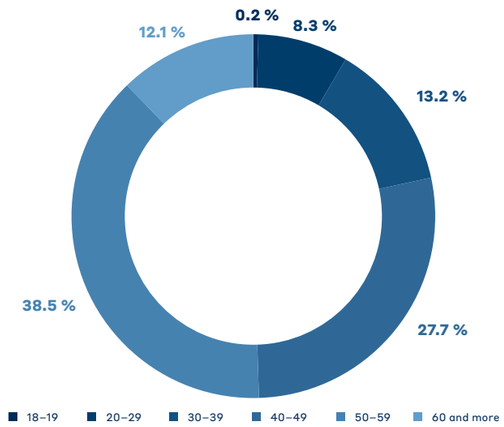


Chart 12. *Age structure of employees as of 31 December 2022*

5.1.2 Ratio of men and women in Správa železnic

Railway transport is one of the most male-dominated sectors. This is confirmed by the continuing predominance of men, which on 31 December 2022 was 72.1 %.

Správa železnic's employees	2021 as of 31 Dec. 2021	2022 as of 31 Dec. 2022
number of Správa železnic's employees on the register	17,282	17,108
of which men	12,462	12,329
share in %	72.1 %	72.1 %
women	4,820	4,779
share in %	27.9 %	27.9 %

Table 10. *Employees*

When comparing 2022 with 2021, there is no increase in the proportion of women relative to men.

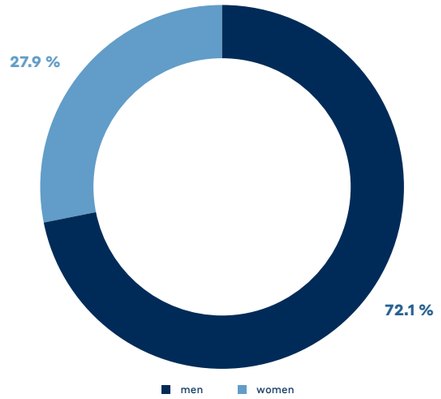


Chart 13. *Gender structure of employees as of 31 December 2022*

5.1.3 Occupational medical services

Occupational medical services for our employees are provided through a contracted provider and, apart from the specified types of examinations (initial, regular, emergency and exit medical examinations), they focus on workplace supervision within the framework of OHS inspections, as well as on the provision of advisory and consultancy services. Job applicants and employees of Správa železnic visit occupational health physicians throughout the Czech Republic. Over 100 doctors provide these services through a contracted provider.

5.1.4 Safety and health protection of employees

Ensuring occupational health and safety (OHS) is a constant priority in the conditions of Správa železnic and a non-negotiable activity on the part of both managerial and ordinary employees. An emphasis is placed in particular on awareness of the risks and hazardous factors encountered, including the determination of appropriate measures to eliminate harm to health, not only to employees but also to external legal entities. An important part of the OHS assurance is formed also of the activities in the form of organising regular OHS inspections, which take place between February and May, when the inspection committees identify even minor deficiencies and insufficient system solutions which could be a source of injury. During 2022, the identified deficiencies and shortcomings were repeatedly addressed with the aim of resolving deficiencies from previous years which, although not immediately endangering the life and health of employees, can still have an adverse effect on the actual performance of work. Improvements to the facilities of permanent workplaces were also carried out within the framework of the OHS work. Particular emphasis is also placed on the condition of sanitary facilities and assurance of the necessary renovations, including appropriate heating systems.

The results of the evaluation and monitoring of the development of the safety culture are an integral part of the information and reports on the status in the respective monitored area (operational, facility, fire protection physical safety including physical security performance). These outputs include:

- OHS Status Report,
- OHS Inspection Report.

Implemented and methodically guided activities which lead to the improvement of the actual safety culture:

- Training of employees and supervisors in the OHS area.

5.1.5 Remuneration of employees

The principles of remuneration and the scope of employee benefits were agreed upon in the currently valid Corporate Collective Agreement for 2022 and its annexes.

The uniform wage system continued to be applied, the tariff and incentive components of wages were strengthened, and some types of allowances and bonuses were newly regulated. Správa železnic fulfilled all its commitments towards employees in the area of remuneration and employee benefits in 2022.
The range of employee benefits provided to strengthen the stabilisation and motivation of employees has been maintained, including the provision of a transport allowance. For example, in addition to working time and holiday benefits, Správa železnic continued to contribute to employees' pension savings and life insurance. The employees working for a specified period of time in physically and mentally demanding jobs are entitled to fitness stays at four contracted spa facilities (Priessnitzovy lázně Jeseník, Lázně Darkov, Lázně Libverda and Lázně Karlovy Vary Astoria). The year 2022 was also affected by the Covid-19 disease pandemic in this area and, in view of the epidemiological situation, it was possible to take advantage of this policy in the form of a home stay. A total of 1,633 employees took part in a fitness stay in the above-mentioned spa facilities, while a further 680 employees used the home stay alternative.

From the cultural and social needs fund, Správa železnic, in accordance with the management principles and the approved budget agreed upon with the trade unions, provided a contribution to employee meals, cultural and sporting activities, including participation in international events of railway organisations or in regional or national qualifications. Employees received cash gifts on the occasion of life and work anniversaries and on the first termination of employment after becoming entitled to a retirement or invalidity pension. In serious cases, Správa železnic provided employees with social assistance or interest-free social loans. Employees and their family members were also able to benefit from contributory recreation.

In accordance with the negotiated Collective Agreement, in order to supplement the number of employees in long-term shortage occupations (railway infrastructure electrical engineer, communication and signalling engineer, dispatcher and employees who are holders of a train driver licence), the recruitment allowance continued to be provided to employees recruited for these positions. A total of 165 new employees were paid the recruitment allowance in 2022 after passing the specified professional examinations.

5.1.6 Employee education

We regularly educate our employees in the field of relevant legislation, including such areas as the environment and anti-corruption, and we familiarise them with the core values of our internal policy, which we regard as binding. We prevent corruption through anti-corruption programmes and mechanisms. We address complaints about breaches of our ethical values through our Code of Conduct.
We regularly review compliance with legislation and ethical standards. The basic principles of sustainable development of Správa železnic include a process-based training system which reflects current trends and enables employees to use the acquired knowledge not only in their professional but also in their personal lives. There is a rapidly growing need to develop creativity, innovation and transferable competences (digital literacy, language skills, cognitive abilities, practical skills), which are taken into account in the annual education plan.

5.2 Dialogue with trade unions

Správa železnic has nine trade union organisations, both multi-professional and those representing only professional groups of employees. We meet regularly with their representatives and develop a dialogue.

Správa železnic conducts a dialogue with the following partners: the Trade Union of Railway Workers (OSŽ), the Association of Trade Unionists and Transport Services (SOSaD), the Alliance of Railway Operations (ADP), the Federation of Train Crews (FVČ), the Union of Railway Employees (UŽZ), the Federation of Railway Workers of the Czech Republic (FŽ ČR), the Federation of Rolling Stock Foremen (FV), the Democratic Union of Trade Unionists (DUO), the Federation of Train Drivers of the Czech Republic (FSČR). The aim is, among other things, to negotiate a valid Corporate Collective Agreement which is available to all our employees.

The main pillars of this binding document, whose content is always in accordance with the Labour Code, are:
- social area and protection of health at work,
- remuneration rules,
- benefits programme.

5.3 Dialogue with professional associations and unions

We conduct a continuous dialogue with the Czech Chamber of Commerce, the Confederation of Industry of the Czech Republic, the Transport Association, the Association of Railway Freight Carriers (ŽESNAD.CZ) and the Association of Passenger Railway Carriers (SVOD Bohemia).

5.4 We have an open dialogue with communities

Through our activities and cooperation, we increase our positive impact on society from a long-term point of view and are perceived as a beneficial, responsible and ethical partner by all the stakeholders.

5.4.1 Regional government, local communities, public

We act fairly and communicate transparently in our dealings with public authorities and with the public, and we strive to unify the liberalised railway transport market through our activities.

5.4.2 Supporting small and medium-sized enterprises (SMEs) as subcontractors

Správa železnic's approach to public procurement is to facilitate as far as possible the participation of SMEs in its public contracts, both at the level of the procurement contractors and at the level of subcontractors. Supporting SMEs is part of responsible procurement, and within the framework of the Catalogue of Elements of Responsible Procurement, Správa železnic has introduced several elements which directly target the support of SMEs.

The most commonly used element to support SMEs is their support in the role of subcontractors, specifically by contractually requiring the application of the same payment terms for subcontractors as the main contractor has agreed with us. This element was the most frequently used element of the entire Catalogue of Responsible Procurement elements, having been used in a total of 332 cases in 2022.

Another element used quite frequently was the division of the procurement projects into smaller parts to allow for greater participation of SMEs. This element was used in a total of 50 cases in 2022.

The introduction of a qualification system, which is the subject of a separate chapter in this Report, is also linked to the support of SMEs. The aim of the qualification scheme is to reduce, as much as possible, the administrative burden on suppliers, which will should bring most benefits just to small and medium-sized enterprises. The system is then structured so that smaller enterprises can also meet the conditions for inclusion in the various categories of the system and can gradually acquire the qualifications necessary to perform more financially demanding and complex contracts. For more information on the qualification system, see the chapter on the introduction of the qualification system.

5.4.3 Cooperation with schools

We know that the core activities and operations of our organisation depend on highly qualified professionals, whom we also obtain through close cooperation with secondary, higher vocational and higher education institutions, including universities. We offer their students a motivational student programme, internships, professional excursions, mentoring, practical training, topics for bachelor and diploma theses, lectures, conferences, HR consultancy and prepare them for professional railway examinations. In addition, we organise open days at the railway, actively participate in company days and job fairs, partner in professional seminars or conferences and other educational events organised by schools, with the aim of popularising technology in the Czech Republic. All projects and programmes for students are published on the student website spravazeleznic.cz/studenti. In addition, we are available around the clock via a special e-mail box studenti@spravazeleznic.cz.

5.5 Communication with the media

Mutual understanding and building up public trust are largely based on professional communication with the media. We communicate with journalists across the board on a daily basis. On an ongoing basis, we proactively identify and raise issues of importance to our community.

We build relationships with journalists through a supportive and constructive dialogue, taking into account the needs of their audience or the local conditions of the region. We develop relationships with communities, suppliers and business partners through a wide range of channels.

We pay particular attention to long-term goals such as the presentation of high-speed lines or effective communication within our organisation.

5.6 Our employees help

Not only Správa železnic as an employer, but also our employees took an active part in helping refugees from Ukraine. This assistance was provided in several areas – assistance with transport from the war-affected territory, collection and import of humanitarian material directly to Ukraine, providing assistance to refugees in the Czech Republic. In addition to their work duties, our employees provided basic accommodation for refugees – mostly to mothers with children. The collection of food, hygiene items, clothes or toys took place at most of workplaces of Správa železnic.

5.7 Allocating railway capacity in a responsible way

As of 31 December 2022, there were 120 carriers (including the carrier Správa železnic) on the network of Správa železnic. The aim of the organisation is to be a reliable business partner for carriers and to create friendly conditions for passengers. We strive to offer products and services which are demanded by carriers and which we are able to provide in the required quality and quantity. We create a pleasant environment and facilities for passengers when staying within the rail system perimeter. The result of these efforts is a consistently high number of carriers operating on the network of Správa železnic compared to other countries.

5.8 We sell electricity to customers

The sale of electricity to customers respects all the rules of the Energy Act and its accompanying decrees. Správa železnic issues a Blue Energy Price List for customers, usually for a period of one year.

Communication with customers is also possible remotely via the web interface of the Customer Portal (energie.spravazeleznic.cz). A continuous service for reporting faults and power supply failures is set up for customers. Správa železnic respects all requirements for the quality of electricity supplies according to the legislation in force and continues to develop systems for monitoring these parameters, including the recording and evaluation of fault conditions.

In accordance with the requirements of the legislation, Správa železnic reports the relevant statements concerning the performance of licensed activities to the Energy Regulatory Office (ERÚ).

Science, research, innovation

6.1 We engage in research, development and innovation

Thanks to the central coordination of research and development, Správa železnic carries out activities in this area in an optimal way by addressing projects across the organisation with targeted use of synergies and available resources. Emphasis is placed primarily on areas and topics with significant application potential and, with an increasing emphasis, also on reducing the environmental impact of rail operations. Research and development activities naturally reflect current and expected trends in digitisation and smart solutions.

6.1.1 International projects with participation of Správa železnic

In 2022, Správa železnic continued, within the framework of a consortium of researchers, to participate in the S2R-OC-IP2-02-2019 project: Support for the development of a demonstration platform for traffic management, funded by the Shift2Rail Joint Technology Initiative of the EU Horizon 2020 Framework Programme.

Správa železnic participates as an application guarantor in the international research and development project Regional Hydrogen Trains TO01000324, dealt within the KAPPA programme of the Technology Agency of the Czech Republic (TA ČR), which is implemented in the years 2021-2024 with state support and focus on the Energy and fuels area. The aim of the project is to analyse railway lines and localise areas where hydrogen trains would be a better technical, economic and environmental-friendly solution compared to other technologies. The results will enable the identification of preferred areas for the possible deployment of hydrogen trains and replacement of diesel trains on non-electrified railways.

Správa železnic has fully engaged in international activities by joining the ERTMS Users Group (EUG) in 2022, while completing the necessary steps to join the EULYNX initiative from 2023. The EUG brings together most of the major infrastructure managers within the framework of the EU (as well as Switzerland and the United Kingdom) and aims to be a partner to the European Commission and other EU bodies. The membership will enable the state-owned organisation to understand the ERTMS specifications, including a significantly greater ability to push its own ideas on their future design, to be an equal partner with the industry and also to draw on the expert implementation experience of other infrastructure managers.

6.1.2 National projects

Správa železnic is an active member of the National Technological Platform Interoperability of Railway Infrastructure, whose aim is to actively and concretely contribute to achieving compliance of construction, production and maintenance of railway infrastructure with requirements of the EU legislation. The flagship project entitled High-Speed Lines – Future of Sustainable Mobility in the Czech Republic was funded from the Operational Programme Enterprise and Innovation for Competitiveness (OP PIK).

Within the framework of the 4th public tender of the Programme for Support of Applied Research, Experimental Development and Innovation THÉTA TK04010081, Správa železnic, together with the Technical University of Ostrava (VŠB-TUO), continued to deal with the project Reduction of Energy Consumption and Negative Environmental Impacts of Rail Transport Through the Preparation of Infrastructure for Trains with Alternative Propulsion. The presentation of the project's progress so far and the achieved outputs took place at an expert seminar in Ostrava on 29 November 2022. The results of the project will enable the identification of preferred areas for the deployment of battery or hydrogen trains in relation to the energy source.

Through the Transport 2020+ programme of the Technology Agency of the Czech Republic (TA ČR), Správa železnic will participate in the years 2020-2023 as an external application guarantor in the CK01000098 project Unique Fibre-Optic Sensor for Rail Vehicle Detection led by the Faculty of Electrical Engineering and Informatics of VŠB-TUO. The result of the project will be a functional sample of the micro-motion sensor, a microprocessor signal processing unit and another functional sample – the housing of the micro-motion sensor.

In the programme of public procurement in applied research and innovation for the needs of the state administration BETA2 of the TA ČR, Správa železnic submitted, through the Ministry of Transport, an initiation plan for the TITDMD219 programme project entitled Creation, Validation and Digitisation of Procedures for Assessing Psychological Competence for the Performance of Selected Jobs in Správa železnic.

In the role of an application guarantor, Správa železnic cooperated with the principal investigator, the Faculty of Transport of the Czech Technical

University in Prague, in the preparation of the bid for the TK05010045 project Affordable Electricity for Trains in the Czech Republic under the 5th public tender of the THÉTA programme (Modernisation of the Energy Sector, Including Research in the Public Interest and Energy Strategies) of the TA ČR. In December 2022, both the entities organised a workshop focused on affordable electricity for the Czech railway network.

Správa železnic cooperated in the role of an application guarantor with the principal investigator (Transport Research Centre) to prepare the bid for the TN02000007 project National Centre for Hydrogen Mobility within the framework of the National Centres of Competence for Support of Applied Research, Experimental Development and Innovation programme of the TA ČR, which announced in November 2022 that it expects to conclude a contract on the provision of a support for the project. For the TN02000081 project Railways 2030 National Centre of Competence, which brought together the railway infrastructure sector, the TA ČR does not foresee the conclusion of a support contract, although the project has been recommended for support, but due to the size of the allocation for this public tender it will not be funded.

Within the framework of a joint project with the Faculty of Nuclear and Physical Engineering and the Faculty of Electrical Engineering of the Czech Technical University in Prague, Správa železnic cooperates with the Brno Cybersecurity Innovation Hub in cooperation with the OpenQKD consortium. The subject matter of the cooperation is the testing of two competing technologies for quantum cryptography in a real environment. OpenQKD is a consortium of universities, research institutions, technology centres and mainstream and quantum telecommunications companies (openqkd.eu). The mission of OpenQKD is to popularize and demonstrate that quantum communication is possible with existing technologies and infrastructure. The project is intended to raise awareness of advances in the country and also to provide device performance data which would be useful for a large-scale infrastructure. Quantum cryptography devices use conventional optical communication links, but because they generate and transmit quantum states of light, they are significantly more sensitive than conventional communications. There is still a lot to know about how they work in real-world situations. Given that most existing fibre optic cables run alongside railway lines, it is particularly interesting to test this technology in these environments and the participation of Správa železnic is appreciated by the researchers. The main objective of the test will be to use the equipment from two major global manufacturers, namely Toshiba and ID Quantique, and to test their performance on the same section.

Within the framework of the EU's efforts to build up an infrastructure for alternative fuels and on the basis of a signed framework agreement in cooperation with ČEZ, a.s., Správa železnic is building up the electric vehicle charging infrastructure around passenger stations across the Czech Republic.

In 2022, Správa železnic submitted altogether 30 applications for co-financing of Photovoltaic (PV) rooftop power plants in the 1st call of the Photovoltaic Systems with/without Storage programme (2.3 Transition to cleaner energy sources) from the National Renewal Plan and the REPowerEU initiative. Furthermore, Správa železnic is progressively applying for all buildings the screening and subsequent implementation of PV power plants, especially on the roofs of buildings. The project already includes, for example, the placement of PV systems on the multifunctional hall of diagnostic vehicles of the CTD in Pardubice, where it is expected that the surplus from the PV power plant will be used in the local distribution system (LDS) of Správa železnic. Správa železnic in cooperation with ČEZ ESCO is carrying out an analysis of the PV system placement on already renovated buildings. For example, the following objects are being examined: railway station passenger building in Kolín, railway station passenger building in Břeclav, railway station passenger building in Šumperk, railway station passenger building in Staré Město u Uherského Hradiště, railway station passenger building in Lysá nad Labem. Správa železnic has also launched a pilot project with ČEPRO regarding the identification of one site/roof in the railway station of Poříčany with an area of 1,217 m^2 and a brownfield site in the railway station of Rudoltice v Čechách with an area of 40,500 m^2 where an analysis of the PV system installation will be carried out. Within the framework of the modernisation of the Česká Třebová railway junction, the project includes the construction of a PV power plant and the use of the generated electricity in the LDS of Správa železnic.

In 2022, the long-term partnership between the Jan Perner Transport Faculty of the University of Pardubice and Správa železnic was further developed. Among a number of activities, it is possible to mention e.g. research projects, in which Správa železnic acts as an application guarantor. These are the projects Turnout 4.0 and Non-destructive Determination of Mechanical Stress in Continuous Welded Rail, both supported by the TA CR. In the form of a letter of intent, other research projects solved in the period mentioned above at the Jan Perner Transport Faculty – Predictive Maintenance of Rail Transport Infrastructure and Increasing the Efficiency of Railway Transport within the Framework of Energy Optimisation of the Multimodal Mobility System – were also supported by Správa železnic. Cooperation was also continued in the ensuring of the subject Professional Practical Training in Railway Transport, in the follow-up phase of which students can take professional examinations for the positions of railway point turner (OZ D-03) and train dispatcher (OZ D-07) and can undergo preparation for the extension examinations for the job position of the railway line traffic controller.

We can see great potential for future cooperation in sharing high expertise in the field of research, development and innovation in order to accelerate the transfer of the latest knowledge into operational practice. This involves the use of exact knowledge in the field of network flow modelling and the apparatus of optimisation tasks, which can help to maintain the necessary network throughput during demanding closure works on sections of backbone corridor lines. Within the framework of its strategic development, Správa železnic envisages the application of modern solutions, predictive diagnostics, automation with self-correction capabilities or stabilisation in the event of degradation. These are cutting-edge innovative high-tech technologies in which we will appreciate and make use of the sharing of know-how and expertise with research, development and innovation institutions.

6.2 We manage the Scientific and Technical Collection Journal

In 2019, our organisation took over the responsibility for the editing of the Scientific and Technical Collection Journal from České dráhy, a. s. In connection with the strengthening of the railway's reputation, we can see the role of the Scientific and Technical Collection Journal in the dissemination of knowledge concerning the latest technology. We appreciate the support of the general professional public and institutions in cooperating in its production. The Journal provides a suitable platform for experts from various fields of the railway sector to share their discoveries, findings and experiences. At the same time, not only people from everyday operations, but also experts from cooperating companies and organisations and prospective future employees from among students of vocational secondary schools and universities can draw new information from it. It is the ambition of all involved to maintain the status of the Journal as a major professional publication across all railway disciplines, irrespective of affiliation to any business firm, government organisation or scientific and educational institution.

Scientific and Technical Collection Journal (www.spravazeleznic.cz)

We support diversity and stand for equal opportunities

7.1 Equal opportunities

Together with other European railways, we have signed the European-wide agreement of the railway social partners (CER and ETF) – Women in Rail and are working to implement it in our organisation. The agreement supports equal opportunities, promotes equal treatment, non-discrimination and similar factors which we need for success in the current as well as future society.

7.2 Barrier-free railway

The continued development of the level of accessibility of railway stations to people with impaired mobility and orientation (PIMO) is a core topic for Správa železnic. In developing this topic, we cooperate with organisations representing persons with disabilities and we also organise the platform for meetings of representatives of the Czech National Disability Council, passenger carriers and Správa železnic, which was established in 2019. In 2022, the Platform was held under the auspices and with the participation of Martin Kupka, Minister of Transport of the Czech Republic.

The actual level of barrier-free accessibility of railway stations and stops is continuously increased mainly by planned capital expenditure activities. The development and level of barrier-free accessibility are shown in Chart 14.

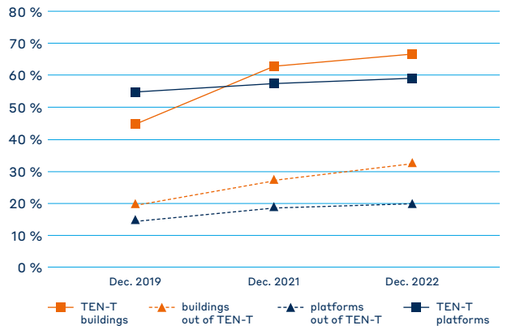


Chart 14. *Development of accessibility of sites according to passenger throughput*

Správa železnic pays attention to increasing the level of barrier-free accessibility. We also consider it significant that 65 % of all passengers travel through railway stations and stops with at least one accessible platform. This level should increase to 83 % of all passengers by the completion of the planned actions starting by 2027, while maintaining the availability of resources.

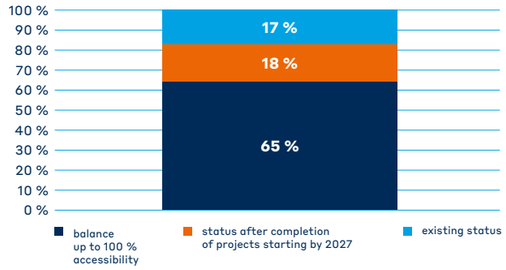


Chart 15. *Level of accessibility of sites according to passenger throughput*

The provision of assistance on the part of Správa železnic for PIMO started at the end of 2019, at 327 stations. Around a year later, the introduction of the mobile crew system increased the reach of assistance to 869 stations. This assistance mainly represents the assistance escorting for PIMO passengers from the forecourt area to the platform and back, or between platforms in case of transfers in the area. This type of assistance is linked to the service provided by the carrier, namely boarding or exit from the vehicle. PIMO passengers can request this assistance within the framework of their travel order. In 2022, this service was provided to almost 14,500 passengers, which means an increase by more than 50 % on a year-on-year basis.

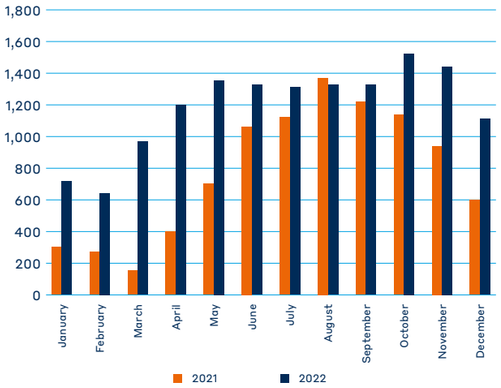


Chart 16. *Development of assistance to PIMO passengers in railway stations provided by the employees of Správa železnic for the years 2021 and 2022*

In the area of accessibility, the topic of mobile lifting platforms was further developed with the aim of facilitating access to platforms for passengers of all carriers, and thus further improving accessibility of rail transport for people with impaired mobility.
On the basis of previous preparations, a framework agreement for the supply and related servicing of mobile lifting platforms was tendered in 2022, on the basis of which 31 ZP4 platforms were ordered and delivered by the end of the year to 13 locations – Brno hl. n., Ostrava-Svinov, Olomouc hl. n., Ostrava hl. n., Hranice na Moravě, Přerov, Plzeň hl. n., České Budějovice, Praha hl. n., Kolín, Praha Masarykovo nádraží, Beroun, Ústí nad Labem hl. n. with the date of commissioning on 1 January 2023.

Figure 6. *ZP4 mobile lifting platform*

We are useful for the society

8.1 Prevention and safety campaign

We have a long-standing capital expenditure programme aimed at operational and level crossing safety and we also recognise the importance of prevention and educating the public regarding responsible behaviour in the vicinity of the railway.

Every year we actively participate in the ILCAD global preventive safety campaign, which focuses on safety rules at level crossings. This year, we have internally evaluated and thoroughly analysed our existing prevention activities and we have started preparations for a new long-term safety communication campaign.

8.2 Crisis communication

We communicate professionally, being aware of our responsibility for the organisation's image in society. We work within the framework of clearly defined organisational structures with transparent policies and responsibilities. Our core values are openness, accountability, professionalism and respect.

We therefore communicate fairly and quickly in a crisis. The precision and speed are aided by the crisis manual which we have developed, which identifies possible crisis scenarios, including their resolution and the sequence of steps. Designated persons are aware of how to behave in crisis situations and who is authorised to speak or act for the organisation.

8.3 Information centres

8.3.1 Contact centre

This year there has been a clear confirmation of public interest in using the contact centre, particularly through the information line 800 21 00 21. Operators provide information to the public on weekdays from 7:00 to 20:00. Most often, they provide specific information about rail operations, upgrades or current traffic restrictions and repairs. They can also help with finding connections.

Passengers can also use the contact centre to report faults, breakdowns or disorder at railway stations. Operators record specialised questions via the contact form and then they send a reply either by e-mail, conventional mail, data box or by means of a return phone call.

8.3.2 Information centres

In 2022, we opened a second information centre in Ústí nad Labem, following the example of the Prague main railway station, but this time dedicated directly to high-speed lines. Trained staff, information panels or a 3D model present all aspects of the preparation of the cross-border HSL Prague – Dresden, including the Ore Mountains Tunnel. The general public will learn not only about the preparation of individual sections, but also about the future environmental and economic impacts of high-speed lines.

In the information centre at the Prague Main Station, the public can continue to get acquainted with the profile of our state-owned organisation via large interactive panels, find the current location of trains in the GRAPP application or obtain information about upcoming and completed construction projects in the Interactive Map application. The staff members of the information centres also provide assistance services for blind fellow citizens.

8.4 Presentation of constructions

Every year, we carry out hundreds of constructions of different scope and complexity on the Czech railway network – from the modernisation of international corridors to, for example, repair of switches in a station on a local railway line or repairs of station buildings. An overview of most investment projects with basic information about them is available on the Interactive Map of Správa železnic (mapy.spravazeleznic.cz). Many of the buildings listed on the map have their own information leaflet, which is gradually updated.

Key projects have their own presentations on the Správa železnic website (modernisation of the railway from the centre of Prague to Kladno, including the new railway line to Václav Havel Airport, preparation of new high-speed lines or modernisation of the Pardubice railway junction), some others have their own web presentations (Výtoň Bridge, Fanta's Building at the Prague Main Station).

Certain buildings are also presented to the public in the form of open building days.

8.5 Interactive map

The interactive map on the Správa železnic's website was launched already in 2019 to provide the public with insight into projects across the Czech railway network. It contains information on major investment and repair works, including upcoming high-speed lines. Interested parties can also search for construction projects by co-financing, for example. In many cases, the construction pages also contain links to additional information, such as videos on YouTube or social networks.

In 2022, the Interactive Map has been enhanced with a number of new features, illustrated for example by the useful link sharing function, where for each piece of information displayed there is a generated link which can then be shared via any channel.

The map also shows the current location of passenger trains on the rail network, including all information about the train set. As in case of buildings, there is a function to dynamically display a table of trains in the area. Deeper integration has now been added with information boards for individual railway stations and stops, which point users to the train in question on the map.

Emergencies and traffic restrictions
Particular attention is paid to planned and operational traffic restrictions in the context of public information. Emergencies are available both via the Interactive Map and in the newly improved responsive orange information bar, the so-called "crawl". Depending on the severity of the emergency, in addition to the afore-mentioned crawl, information is also posted to the automated Datel social media account on Twitter.

In 2022, preparations for a new mobile application of Správa železnic were launched, which will further expand the possibilities of passenger orientation on the Czech railway network. In addition to a wide range of useful information, the emphasis is placed on greater user-friendliness, which will be made possible, for example, by the function of tracking incidents on individual sections using notifications. The public applications are planned to be launched on both Android and iOS platforms next year.

8.6 Open data

We publish information in a way which allows remote access in an open and machine-readable format. Access is conditioned by a contractual relationship as we are a critical infrastructure operator.

8.7 Support for people disadvantaged in the labour market

8.7.1 Support programme for people disadvantaged in the labour market

Správa železnic is significantly involved in the field of support for people disadvantaged in the labour market (PDLM). We are one of the most active contracting authorities in the Czech Republic, and these activities have been presented to European institutions or representatives of the professional public at the conference of the Office for the Protection of Competition. A pillar of the current practice of supporting people disadvantaged in the labour market is the consideration of the involvement of these people in the evaluation of sub-limit sectoral public contracts for repair and maintenance work. This practice was introduced in November 2021. Within the framework of the evaluation of tenders, a contractor who undertakes to involve disadvantaged persons in the labour market to a specified minimum extent in the performance of a public contract is bonused.

The data for 2022 show that this strategy has been very successful, with suppliers committing to involve disadvantaged people in the performance of the public contract in a total of 103 cases over this period. Total involvement of disadvantaged persons in the performance of the public contract occurred in 248 cases in the reporting period, with a total of 179 persons involved. Správa železnic thus made a significant contribution to the inclusion of disadvantaged people in the labour market in everyday life during this period.

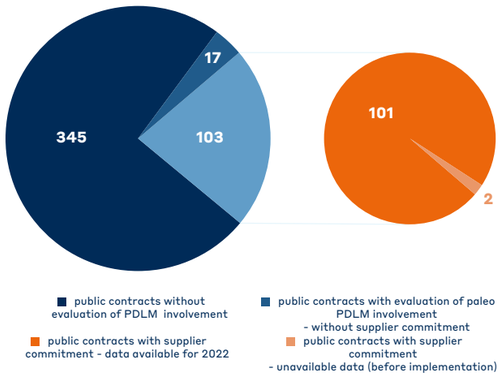


Chart 17. *Public contracts with support applied*

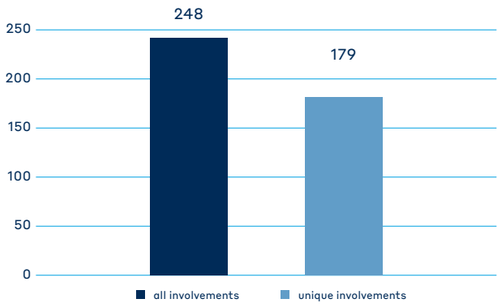


Chart 18. *Number of involvements of people disadvantaged in the labour market (PDLM)*

In addition to the evaluation of the involvement of disadvantaged persons, Správa železnic applies other procedures to selected contracts which have a positive impact on disadvantaged persons on the labour market.

8.7.2 Future plans – Social categories of the qualification system

As of 1 June 2022, Správa železnic introduced the Qualification System, which allows the sectoral contracting authority to sort the supplies requested by the sectoral contracting authority into categories and to set qualification criteria for them.

In the area of employment of disadvantaged persons, a special category will be created in 2023 for those suppliers who specialise in the employment of such persons. The principle of this category consists in the fact that suppliers who would otherwise not be able to be classified in the other categories of the scheme because they do not have the necessary qualifications can be classified just in this category.

The social category will be a category focused on simple construction works and services not requiring special qualifications, e.g., simple repair works on buildings, which are not interesting enough to contractors classified in the other categories of the scheme. This will give classified contractors the opportunity to work for Správa železnic and to work progressively towards the qualifications required for inclusion in the standard categories of the qualification scheme, both at the contractor's level and at the level of individual employees.

In order to qualify for the social category, suppliers will only be required to submit an affidavit of basic and professional competence in accordance with the Public Procurement Act and a commitment to involve people disadvantaged in the labour market in the public procurement contract. The category rules are consulted with the Ministry of Labour and Social Affairs and the Ministry of Regional Development. The introduction of the social category will take place at the beginning of 2023.

8.8 Caring for railway heritage

Správa železnic is a partner of events to commemorate important anniversaries of the opening of the railway lines for operation. Based on the initiative of the Director General in 2019, Správa železnic is systematically taking care of the railway heritage assets. One of the particular results is the renovation of the Tatra and Warszawa track inspection cars and the Tatra engine carriage.

8.8.1 Museum exhibition

Within the framework of its responsibility for railway heritage and in close cooperation with the National Technical Museum, Správa železnic operates the Museum Exhibition of Telecommunication and Signalling Technology in Hradec Králové, which represents a unique collection of elements and equipment of telecommunication and signalling technology at a European level, from the early days of the railway up to the end of the 20th century. The uniqueness of the exhibition is also enhanced by the fact that, with the exception of a single hall (furnished as a transport office from the beginning of the 20th century), you can move among the exhibits and try out their function with your own hands.

Since November 2005, the museum exhibition in Děčín on the 'North' signal box 15 has been open to professional circles as well to the general public with a thematic focus on the development of the Děčín railway junction and electrodynamic interlocking equipment. The signal box was the most sophisticated system for assurance of safety of train transport in Europe in the first half of the twentieth century.

Museum (www.spravazeleznic.cz ctd/muzeum)

8.8.2 Cooperation with the National Technical Museum and the National Heritage Institute

On the basis of the concluded cooperation agreement with the National Technical Museum of 4 August 2020 and the memorandum of mutual cooperation with the National Heritage Institute of 1 December 2021, Správa železnic declared its interest in contributing to the preservation and cultivation of the historical heritage and to the creation of a high-quality contemporary stage based on the current requirements of railway modernisation through a joint and coordinated approach.

Governance

RESPONSIBLE MANAGEMENT AND COMPLIANCE

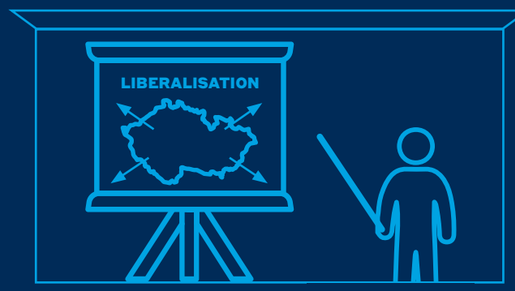
Obstacles

Competence

None of our environmental or social objectives could be achieved without the effective management of the organisation, based on our vision of a green railway.

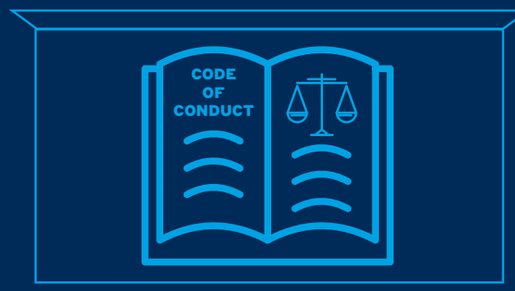
The organisation imposes a number of obligations not only on its employees but also on management and senior management of the organisation, which everyone must comply with.

These obligations can be found in the Code of Conduct, which is binding for everyone within the organisation, and can also be observed in the vertical application of obligations in such areas as handling of data, reporting various inconvenient situations (whistleblowing), but also in our procedure for selecting suppliers, responsible procurement, commodity purchases on the stock exchange and in the choice of how to implement innovations within the organisation.



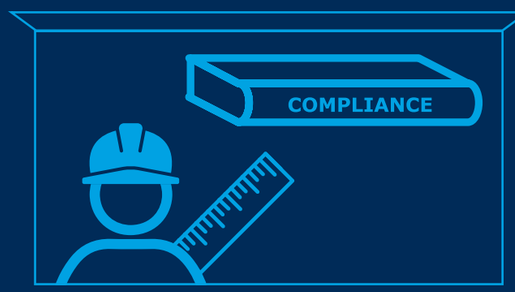
Liberalisation of railways

Every year, the number of carriers to whom we sell railway capacity is increasing. In 2021, a record 126 railway carriers were our customers, marking an increase of nearly 20 % compared to 2019.



Code of Conduct

We have established and adhere to corporate principles and a policy of ethical conduct, embodied in our Code of Conduct.



Code of Compliance

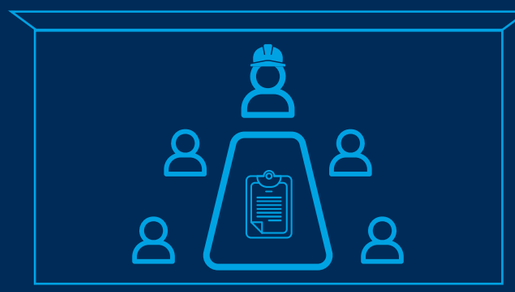
We have implemented the Code of Compliance. Our Compliance Officer oversees the establishment and monitoring of compliance rules.

Protection of personal data

We prioritise the protection of personal data. Our employees participate in annual e-learning training sessions on GDPR (General Data Protection Regulation).

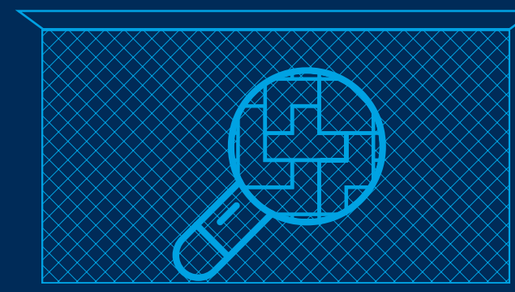
Sustainability management

Sustainable railway development and the responsible functioning of our organisation are top priorities. We focus on the social impact of our activities.



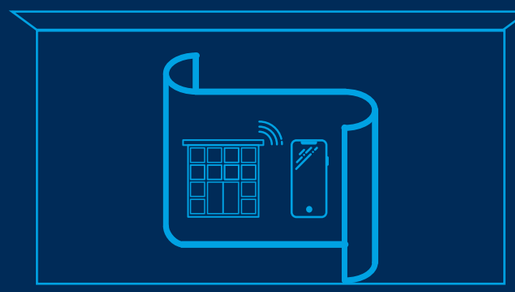
Responsible input

When bidding for public contracts, we prioritise socially and environmentally responsible procurement, requiring suppliers to protect the environment and ensure fair treatment of their employees.



Transparency

We prioritise transparency, allowing public access to information such as an interactive map showing ongoing construction, track restrictions, and train locations.



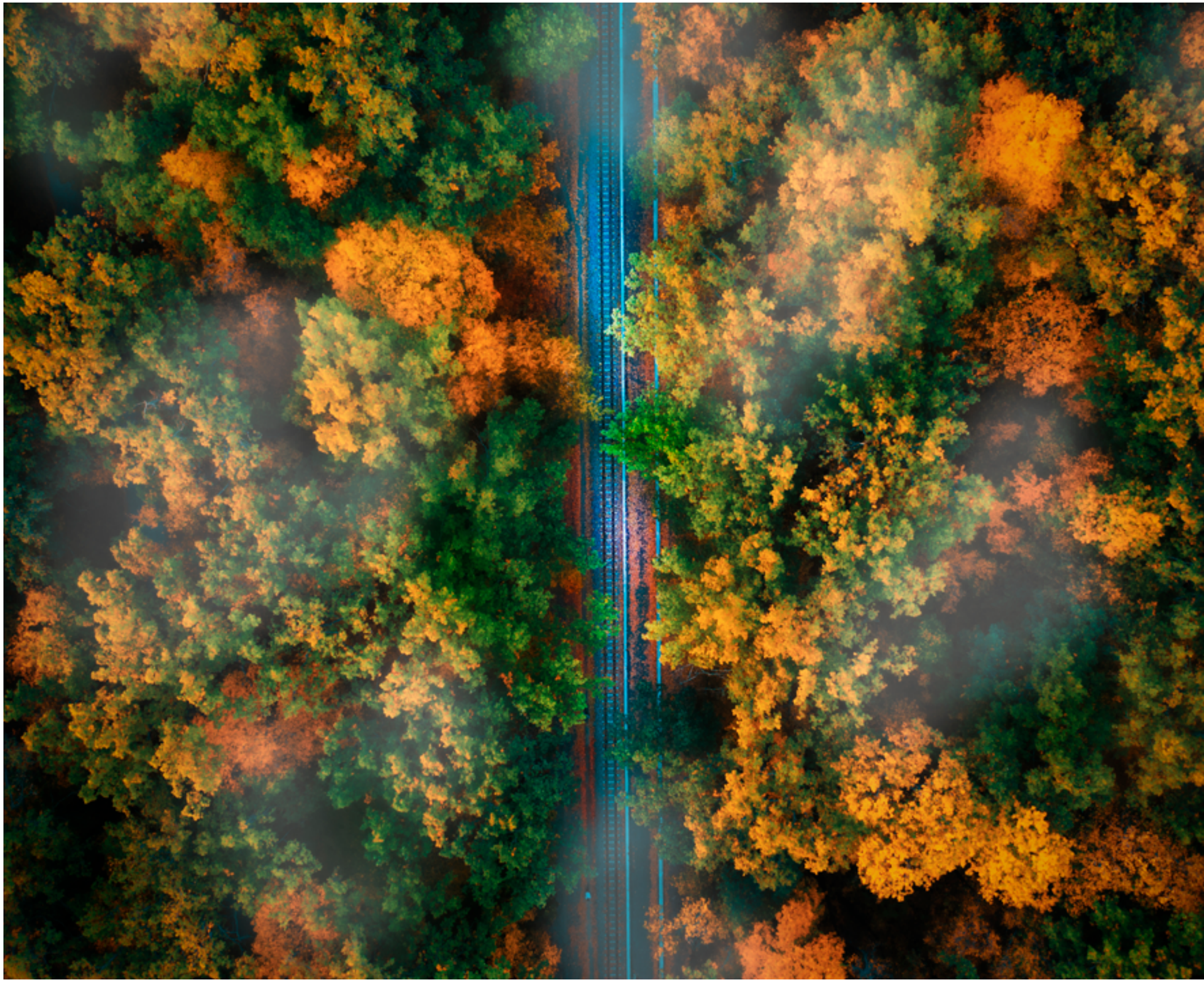
Innovation

We strive to expand the usability of railway buildings, transforming them into fully functional public spaces offering a diverse range of services. We are also digitising our processes.

Management activities of Správa železnic

9.1 Sustainability management at Správa železnic

Sustainability in our organisation is based on the Green Rail Vision, the Strategy of Správa železnic and the Organisation's Sustainability Strategy. With regard to the requirement of systematically assessing and reporting the environmental, sustainability, social and governance (ESG) impacts of the organisation's activities and capital expenditures, the Director General of Správa železnic established a management team and working group to implement sustainability reporting in ESG criteria as of 1 September 2021.



We ensure rail operability

10.1 Selected quantitative and qualitative operational performance indicators in the 2022 reference period

The main subject matter of our activity is the operation of the railway infrastructure, including the operation of the rail system and in particular ensuring its operability and maintenance, i.e. assurance of the prerequisites for smooth and safe railway transport. Throughout the entire period of 2022, we have been operating the railway transport route by using our own capacities, except for three railway line sections which are leased on a long-term basis.

The following activities are a part of the rail operability assurance:

- repairs and maintenance of nationwide and regional railways in the sectors of railway lines (superstructure and substructure), constructions of substructures, bridges and tunnels, buildings and ground structures, electrical and power engineering facilities and telecommunication and signalling equipment under its administration,

- repairs and maintenance of real property assets at railway stations, including cleaning and security in these buildings.

For this purpose, we use both our own personnel, mechanical or technical capacities (mainly organisational units – regional directorates and specialised units) and contractual relations with suppliers operating on the relevant market. The selection of these suppliers is carried out by means of public procurement. In the period under review, the provision of the above-mentioned activities was covered by the budget of the State Fund for Transport Infrastructure (SFDI), which provides us with non-investment means, and by the revenues generated from rents from land, buildings and non-residential premises or from revenues for services and external performances related to this segment.

We have established principles to ensure the proper technical condition, development and modification of railway infrastructure facilities. The management and diagnostics of the technical condition of the operated rail system are based primarily on the analysis of the outputs of the diagnostic tools of the Technology and Diagnostics Centre (CTD) and the Regional Directorates (OŘ), on the basis of which repair and maintenance plans are drawn up to ensure all the obligations of the railway operator.

Monitoring and evaluation of the indicators of railway operability (not exceeding the limit values of railway line speed limits, so-called slow runs introduced due to inadequate technical condition of the infrastructure):

- The target limits set for 2022 were met, despite a decrease in the financial resources allocated for railway line repairs compared to previous years.

In 2022, 272 targeted repair projects were being prepared or implemented with the aim of eliminating the substandard condition of parts of the infrastructure or maintaining the existing parameters of the railway infrastructure or achieving their improvement; of which:

- 169 projects with costs over CZK 10 million,
- 20 projects with costs over CZK 100 million.

Within the framework of the implementation process of cyclic maintenance, the cyclic maintenance project in the Děčín-Prostřední Žleb – Dolní Žleb section was completed. The cyclical maintenance includes in particular the verification of the system set-up in terms of monitoring the life cycle of selected infrastructure elements, the frequency of faults and breakdowns; by the way, the entire first railway transit corridor is monitored in this way. A web application has been developed to monitor the implementation and evaluation of the pilot projects. From the available data it can be noted that cyclical maintenance has a positive impact on the capacity of the railway, with fewer traffic restrictions and shorter duration.

Other significant construction projects implemented

- on the TEN-T network (95 repair projects): e.g., repair of the railway line in the Velim – Kolín section; repair of signalling equipment at the Liběchov railway station or the repair of the overhead contact line in the Ústí n. L. západ – Světec section;

- outside the TEN-T network (177 repair actions): e.g., repair of the railway line in the Chlumec n. C. – Městec Králové section; repair of the railway line in the Samechov – Ledečko section or repair of the Moravské Bránice – Moravský Krumlov railway line.

These and similar projects subsequently help to eliminate the historical under-maintenance of the railway infrastructure and enable railway carriers to carry out passenger and freight transport without unnecessary restrictions. They

thus promote railway transport as a sustainable mode of transport.

Elimination of the sections with reduced speed limits:
In 2022, a total cumulative length of 22.934 km of the sections featuring reduced speed limits were removed from the base allocation (lower than in 2021) for assurance of the operability of the rail system.

Prevention of incidents at level crossings:
- continuous improvement of level crossing safety according to the conceptual document entitled "Programme for improving level crossing safety 2020-2030";
- implementation of innovative projects in the field of signalling and telecommunication technology (obstacle detectors, completion of the preparation and implementation of the extension of the use of camera systems to include automatic detection of offences, etc.);
- cancellation of 102 level crossings in 2022, of which
  - 22 within the framework of capital expenditure activities,
  - 67 in administrative proceedings initiated by Správa železnic,
  - 13 temporary level crossings;
- approval of the conceptual document entitled Modifications of roads and their traffic signs near level crossings in February 2022; this is a supplementary conceptual document to the document Concepts of reducing the occurrence of accidents on the level crossings of Správa železnic.

Increase in the level of technical condition of bridges:
- reducing the number of bridges rated at the worst level 3 to 3.80 % at the end of 2022;
- elaboration of the update of the Stable Operability Programme for Railway Bridges in 2023-2028, which set the objectives and trends in the field of improvement of the condition of bridges;
- continuation of the implementation of a superior scope of diagnostics and recalculations for selected railway bridges, as an essential safety guarantee of operationally exposed bridges with long bridge lengths (32 bridge constructions in the project known as Diagnostics and Recalculations of Strategic Bridges).

Launch of the project entitled Creation and development of digital technical maps (DTM) and mapping of technical infrastructure:
In the second half of 2022, the implementation of the Digital Technical Map of Railways (DTMŽ) project was launched, whereby Správa železnic joined the project of implementation of the Digital Technical Map of the Czech Republic, which is to become an integral part of the digitisation of the construction, zoning and land-use planning agendas. Intensive collection of data on infrastructure and preparation of the relevant information system were initiated. DTMŽ brings a new quality to the existing description of the railway network. For the entire railway network, previously fragmented, incomplete or multiple data will be unified, completed and made available. The project is co-financed by PIK Operational Programme.

Modernisation projects of mechanisation for increasing efficiency of maintenance and vehicles for the railway infrastructure diagnostics:
- completion of the delivery of 3 two-way excavators with a wide range of accessories for multi-purpose use
- beginning of routine operation of the new MVŽSv2 railway superstructure measuring vehicle for measuring speeds up to 200 km/h and the new EM100 track inspection and measuring car;
- selected major ongoing projects:
  - equipping 98 special traction vehicles of Správa železnic with the onboard part of the ETCS system (completion in 2023);
  - delivery of six new special traction vehicles for inspection and maintenance of overhead contact lines of the MTW type series (completion in 2024);
  - bridge Inspection Unit (MIJ) intended for inspection and expert work on bridge structures (completion in 2023);
  - mobile BTS (completion in 2023).

Improved passenger comfort during the reporting period:
- refurbishment of toilets according to the newly set standards (including installation of turnstiles or electronic door lock automatic systems with cashless payment option) at 27 selected major railway stations;
- implementation of repair works on more than 50 railway station buildings;
- provision of assistance to persons with impaired mobility under the single fare system at railway stations by our staff; preparation of the development of the level of assistance through the acquisition of mobile lifting platforms to enable boarding and exit to/from trains.

Revitalisation of the facilities of the Fire Rescue Corps of Správa železnic and beginning of the second wave of equipment renewal:
In 2022, a VEA FORD Ranger command vehicle was acquired for the Cheb Fire Protection Unit. Altogether 7 tanker trucks, 4 recovery vehicles, 5 automotive cranes, 9 container carriers and 13 technical containers were successfully deployed in the call-out activities, which were acquired in 2021 within the framework of the renewal of firefighting equipment. In March 2022, a complete renovation of the Ostrava fire-fighting station was completed in accordance with the current needs of the fire unit's call-out activities. In addition to the aforementioned projects, the constructions of new fire-fighting stations in Nymburk, Cheb, Česká Třebová and Plzeň are in the intensive preparation phase.

10.2 Costs of ensuring the operability of the rail system and selected quantitative indicators

The total costs, excluding depreciation, incurred to ensure operational availability, including the relevant share of centrally managed costs, amounted to CZK 17.3 billion in 2022.

Indicator	Measurement unit	Quantity 2022
adjustment of the track geometric position	km	1,256
adjustment of the switch geometric position	item	717
bed cleaning – tracks	km	82
bed cleaning – switches	item	137
continuous welded rail, welding – tracks	km	221
continuous welded rail, welding – switches	item	305
replacement of rails	km	293
replacement of sleepers	item	172,121

Table 11. *Selected activities to ensure the operability of the railway*

Indicator	Measurement unit	Quantity 2022
total length of railway lines	km	9,355
length of electrified lines	km	3,215
3 kV DC traction system	km	1,738
25 kV AC 50 Hz traction system	km	1,438
1.5 kV DC traction system	km	24
15 kV AC traction system	km	14
length of normal gauge railway lines	km	9,333
length of narrow-gauge railway lines	km	23
length of single-track lines	km	7,287
length of double-track and multiple-track lines	km	2,068
total construction track length	km	15,102
number of switch units	item	21,615
number of bridges	item	6,733
number of tunnels	item	169
total length of bridges	m	156,110
total length of tunnels	m	55,942
number of level crossings	item	7,646

Table 12. *Basic characteristics of the railway network*

Indicator	Measurement unit	Quantity 2022
number of buildings	item	8,036
built-up area	m^2	1,720,046
enclosed volume	m^3	12,762,803

Table 13. *Basic characteristics of the buildings managed by Správa železnic*

Statistical yearbooks (www.spravazeleznic.cz)

We act ethically and adhere to corporate principles

11.1 Code of Conduct

The Code of Conduct of Správa železnic contains the core values, principles and objectives which we follow in the conduct of our activities. By respecting and following the principles of the Code of Conduct, we effectively prevent undesirable behaviour. The Code of Conduct is binding on employees.

Code of Conduct (spravazeleznic.cz)

11.2 Code of Compliance

The Code of Compliance of Správa železnic, approved and effective from September 2020, covers not only corruption offences and anti-corruption measures, but all acts and offences for which our organisation may be held criminally liable, not excluding corruption, or which may have a negative impact on our corporate culture (i.e., also unethical and immoral behaviour). The Compliance Officer is an employee who is responsible not only for setting the rules of the compliance program, but also for monitoring compliance with those rules and for properly investigating any submissions made regarding reports of unethical or unwelcome conduct or suspected unethical conduct. An e-learning training session is held annually in conjunction with the Compliance Officer for all employees and newly hired staff members of Správa železnic.

In 2022, several dozen notifications were communicated or received by the Compliance Officer, of which eight were relevant to the investigation of whether or not a criminal offence or misdemeanour had occurred. In none of the cases was a violation of criminal law evidenced. The other notifications were referred to for investigation or dealt with jointly with the Compliance Officer or did not fall within the scope of compliance at all and the individual concerned was directed to another effective solution to their complaint.

However, even if there was no violation of the law in any of the notifications, the Compliance Officer drew the attention of the concerned departments of Správa železnic to some rather ethical and personnel conceptual problems and asked for their elimination in the future.

The notifications investigated included allegations of mismanagement of the organisation's property, violations of generally binding regulations and internal rules, undesirable conduct of senior employees and their professional erudition, duplication of the attendance system, allegations of sexual harassment which, after thorough investigation, were found to be unproven or the possible deficient condition was immediately corrected, and undesirable employee turnover in exposed sectors within the framework of the organisation.

	Number
Total notifications	8
Total anonymous notifications	3
Forwarded to the administrative authorities competent to hear or otherwise act under the Code of Administrative Procedure	0
Notified to the public prosecutor or police authority	0
Investigation in progress	0
Completed investigations	8

Table 14. *Total number of relevant compliance notifications in 2022*

We protect personal information and data

12.1 Protection of personal data

As a data controller, we fully respect the right to privacy and the protection of personal data which we process for legitimate purposes, and only on the basis of a demonstrable legal reason for processing personal data in accordance with the relevant legislation:

- Act No. 110/2019 Coll., on the Processing of Personal Data;
- Regulation (EU) 2016/679 of the European Parliament and of the Council on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (GDPR).

Information on the processing of personal data (spravazeleznic.cz)

12.2 GDPR training

An e-learning training session is organised every year in cooperation with the Data Protection Officer and it is intended for all staff, especially newly recruited staff members.

12.3 Data Protection Officer

The Data Protection Officer of our organisation

a) is actively involved in assurance of the protection of personal data in accordance with the GDPR and in accordance with the Act No. 110/2019 Coll;

b) covers the personal data protection agenda, keeps records of personal data processing activities;

c) provides recommendations and information to our employees on the protection of personal data in accordance with the GDPR and the Act No. 110/2019 Coll;

d) informs our employees and suppliers on how to secure the personal data we process;

e) informs our employees of their obligations under the GDPR and Act No. 110/2019;

f) monitors our organisation's compliance with the GDPR and the Act No. 110/2019;

g) regularly performs personal data protection audits in accordance with the internal regulation SŽDC SM113 – Conduct of Internal Control Activities and SM097 - Personal Data Protection;

h) spreads awareness and trains responsible persons in our organisation on personal data protection;

i) informs and makes recommendations in the assessment of the impact on the protection of personal data and in the processing of the balance test in our organisation;

j) acts as a point of contact for the Office for Personal Data Protection, reports to the Office for Personal Data Protection the occurrence of data protection incidents, investigates, records and reports the same to the Director General;

k) draws the attention of the Director General to deficiencies and potential risks in the area of personal data protection in our organisation.

We award contracts in a responsible way

Správa železnic is a public as well as sectoral contracting authority according to the Act No. 134/2016 Coll. on Public Procurement. Therefore, Správa železnic is subject to the obligation of responsible procurement expressed in the principles set out in Section 6 of the Act, which were added to the Act at the beginning of 2021.

Správa železnic has been applying the principles of responsible procurement since 2020, when the first methodological guide on responsible procurement in the organisation was published, which contains a catalogue of mandatory and optional elements of responsible procurement. In the area of responsible procurement, Správa železnic has made significant progress in 2022 both in the methodological and practical field in the award of specific public contracts. A number of steps have been taken to expand the proper application of responsible procurement within the organisation.

In 2021, the obligation to complete a Responsible Procurement Checklist for the implementation of each procurement procedure was introduced, thus achieving a widespread consideration of the issue of responsible procurement within the organisation.

In addition, a detailed record of the use of responsible procurement within the framework of the organisation has been prepared to provide the necessary statistical information on the extent and use of responsible procurement elements within the organisation. This registration system will allow both detailed reporting on responsible sourcing inside and outside the organisation and an assessment of the success of responsible sourcing. The evaluation will be followed by steps to further improve procurement practice in this relatively new area, which is still dynamically evolving.

13.1 Application of the elements of responsible procurement

The elements of responsible procurement used in the organisation are defined in the Catalogue of Elements of Responsible Procurement, which contains both a description of the elements divided into individual areas and model provisions for their application in specific public contracts. The elements of responsible procurement are divided into a total of 11 groups according to the type of performance required or the focus of the elements. The responsible procurement elements used are recorded in an internal information system. The implemented registration of used elements of responsible procurement throughout the whole organisation is unique in the Czech environment and will serve for further improvement of responsible procurement practice at Správa železnic.

The records show that during 2022 a total of 964 responsible procurement elements were applied within the organisation. This impressive figure is the result of Správa železnic's long-term efforts to apply the elements of responsible procurement across the board, i.e. to ensure that our practice has the greatest possible impact on society and the environment. The most frequently applied elements are listed below:

Responsible procurement element applied	Number of uses in 2022
Support for small and medium-sized enterprises as subcontractors – equal payment terms	332
Compliance with labour-law legal regulations and prohibition of illegal work	151
Evaluation of the number of disadvantaged people in the labour market involved in the public contract implementation	120
Promotion of decent working conditions and safety at work	114
Student excursions	55
Requirement to involve a specified number of disadvantaged people in the labour market involved in the public contract implementation	54
Support for small and medium-sized enterprises – division of public contracts into smaller parts	50
Remuneration above the minimum level set by applicable law	46
Requirement for certification of the goods supplied or products used by the service provider	27
Requirement to recycle aggregates recovered from the track bed	15

Table 15. *Responsible procurement elements applied*

As evidenced from data above, the aspects of responsible procurement relating to socially responsible procurement and support for SME were used extensively. The environmental aspects were not as prioritized, mainly because the supply in question is usually purchased centrally for a longer period. There are therefore significantly fewer public contracts where these elements can be applied. However, this is compensated by the large volume of supplies which are procured from these centrally competed public contracts. The impact of these individual procedures is therefore also significant.

Responsible procurement within the organisation is also dealt with in the chapters dealing with support for small and medium-sized enterprises and support for people disadvantaged in the labour market.

13.2 Introduction of a qualification system

V roce 2022 zavedla Správa železnic a qualification system which is to be used in the future to compete sublimit sectoral public contracts which are not awarded in a tender procedure under the Public Procurement Act.

The main reason for introduction of the qualification system is the expected simplification and acceleration of the procurement process. The contracting authority shall identify from its procurement portfolio the individual typical supplies for which it intends to introduce a qualification system and shall classify them into categories to which suppliers may apply for inclusion. The suppliers included in the system then no longer prove their qualifications in the procurement itself, since they have demonstrated the necessary qualifications when they were included in the qualification system.

In June 2022, we started accepting applications from suppliers for inclusion in the qualification scheme. The applications for inclusion are submitted via the software tool ISKD (Information System for Supplier Qualification), which is available at iskd.spravazeleznic.cz. The ISKD is then also used for further communication with suppliers and contains all the necessary functions on the contracting authority's side to assess applications and the subsequent management of suppliers included in the system.

A total of 174 suppliers are registered in the Information System for Supplier Qualification. Since June 2022, when the system began accepting applications for categories, we have received over 220 applications, with the majority of applications still under review. The majority of applications were received in the last quarter of 2022, when the specific rules for each scheme category were updated following suggestions from contractors. A pilot operation of the qualification system is set to start in early 2023, during which pilot procurements will be launched in system categories which are filled with a sufficient number of suppliers. The organisation aims to assess the remaining applications received by the end of the second quarter of 2023, when full-scale tendering of the qualification system should begin.

Figure 7. *Information System for Supplier Qualification*

We pay attention to the quality standards of our suppliers

14.1 Quality care of products and services for the railway infrastructure

In connection with ensuring the safety of rail system operation, we have a long-established system of quality assurance of products and services intended for the railway infrastructure.

This system has been regulated by the following instruments:

- SŽDC Guideline No. 34 – Guideline for the commissioning of products which are parts of telecommunication and signalling equipment and electrical and power engineering equipment on the railway infrastructure owned by the state through state-owned organisation Správa železniční dopravní cesty as amended by Amendment No. 1, No. 21783/07-OP;

- SŽDC Guideline No. 67 – Quality care system in the field of line management, Ref. S35410/11-OTH;

- SŽDC Guideline No. SM 08 – Conditions for acquisition of products for verification of safety and functionality of their use in railway infrastructure, Ref. 63669/2019-SŽDC-GŘ-013.

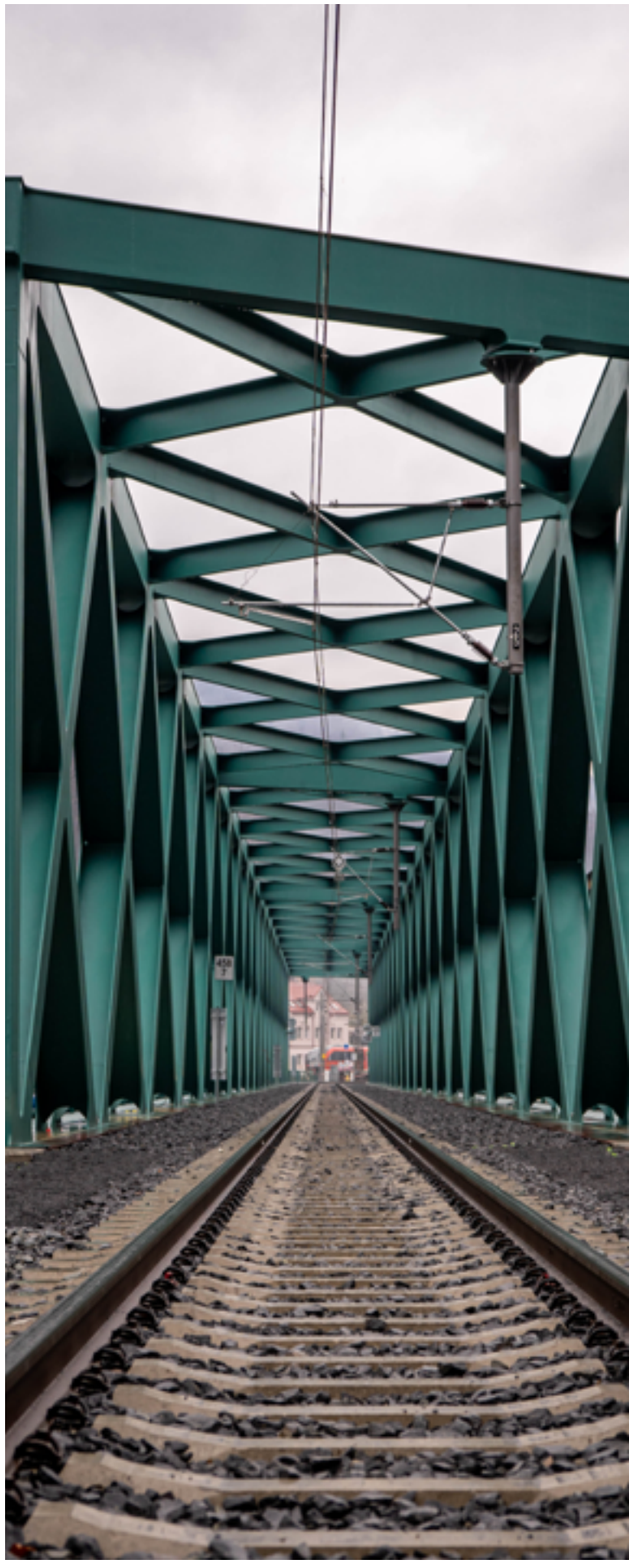
It is also taken into account in the technical quality conditions of the state railway constructions, the SŽDC S3 regulation and other internal regulations.

Within the framework of the quality care system, we publish the requirements for the products and services which we use in the railway infrastructure and in its repair and maintenance. This is carried out in the form of technical specifications or general technical conditions. Experts from our specialised departments assess the characteristics of the products and services offered by external bodies for use on the railway infrastructure, their operational reliability, compatibility with existing designs and equipment, and the suppliers' compliance with legal requirements for placement on the market.

For products which pass the assessment, we conclude the technical terms and conditions with the supplier. These then serve as binding technical specifications for future purchase contracts. Compliance with provisions of technical specifications is verified on a long-term basis. The form of verification is specified in technical specifications and depends on the level of the quality management system applied by the supplier and the impact of the relevant product on the safety of rail operation. Quality control of each delivery, audits in production plants, etc. are applied. These activities are carried out by employees of the General Directorate and CTD.

The expert working group continues to harmonise the systems of the different sectors and to translate the requirements of the EU 4th railway package into the internal rules of Správa železnic. The new guideline SM008 System for the assessment of the impact of products and services for the railway infrastructure on the safety of the rail system operation will replace all the above-mentioned documents.

As a contracting authority, we also set the rules for quality control of the work to be carried out, including requirements for products, equipment and technology, in the technical conditions of the tender documents. The rules set do not create barriers to the placement of products on the market, but only provide for a transparent, predetermined and open process for all. This ensures and verifies the compatibility, efficiency and usability of products and services, taking into account the specific conditions of the railway operator. In the context of capital works, maintenance or repairs, only such products from the track management, electrical and energy engineering and telecommunication and signalling equipment sectors that comply with predefined requirements may be put into service on the railway infrastructure. The system in place established thus makes a full contribution to the safety of rail system operation.



We purchase and distribute traction electricity in a responsible way

15.1 Purchase and distribution of electricity

Správa železnic ensures purchase and sale of electricity including all related activities both for its own use and for supply to customers connected to the local distribution system of the railway (LDSž). All processes comply with the requirements of the Act No. 458/2000 Coll., on the Conditions of Doing Business and on the Exercise of State Administration in the Energy Sectors and on Amendments to Certain Acts (Energy Act), and its implementing decrees, in particular No. 408/2015 Coll., on the Rules of the Electricity Market, and Decree No. 16/2016 Coll., on the Conditions of Connection to the Electricity System.
The requirements of the Act No. 406/2000 Coll., on Energy Management, are ensured by the regional directorates of Správa železnic within the framework of ensuring the operation and maintenance of the LDSž.

A separate chapter is the supply of traction electricity for the operation of dependent traction, which takes place outside the regime of the Energy Act and is carried out under the supplementary service regime pursuant to the Act No. 266/1994 Coll. on Rail Systems. LDSž is defined at the entry by the transfer points between the networks of LDSž and the parent distribution systems of ČEZ Distribuce, a. s., EG.D, a. s., and PREdistribuce, a. s. The transfer points between these networks are implemented at the voltage levels of low voltage (LV), medium voltage (MV) and high voltage (HV). The supply area of LDSž is defined mainly in the locations of individual railway stations and the interface between the parent distribution system and the traction substation. The overhead contact line itself is no longer part of the LDSž.

Správa železnic is, within the meaning of the Energy Act, partly the final consumer of electricity and partly the operator of the local distribution system and electricity trader, which supplies electricity to external entities on the railway.

15.1.1 Licences for trade, distribution and production of electricity

Správa železnic has been granted licences by the Energy Regulatory Office for electricity trading and electricity distribution. The process of obtaining electricity production licenses is ongoing for individual production plants (PV installations only). Ensuring all relevant electricity distribution and sales activities in the LDSž is a major priority for all concerned units of Správa železnic.

Purchase of electricity	Volume [MWh]
Power electricity (MV)	167,384
Power electricity (LV)	48,557
Power electricity (MV, HV) – electrical traction	1,320,344
Total	**1,536,285**

Table 16. *Electricity volumes by voltage level 2022*

Energy source	% share
Coal-fired power plants	35.84 %
Nuclear power plants	44.94 %
Gas-fired power plants	12.48 %
Renewable energy sources	4.27 %
Secondary energy sources	0.01 %
Other sources	2.46 %

Table 17. *Share of individual energy sources in the total fuel mix of the electricity supplier in 2022*

15.2 Purchase of electricity for traction purposes

The supply of traction electricity is carried out in a transparent manner with the use of the possibility of auction systems on commodity exchanges in accordance with the Public Procurement Act. The auction is carried out by competing the criteria of the supplier's commercial surcharge under predefined conditions by Správa železnic for the supply of electricity. After the conclusion of the contract (contract note via the commodity exchange) with the electricity supplier (trader), a sequential purchase or fixing of the commodity price according to the reference product traded on the wholesale market follows. This achieves an objective market price over a longer time period and eliminates the risk of a current price fluctuation when auctioning for delivery at one point in time.

The auctions are conducted separately for electricity supply at the MV level (so-called wholesale supply) and for electricity supply at the LV level (so-called retail supply). The resulting electricity price is created by the successive fixation of the price of the reference product on the wholesale market.

15.3 Electricity supply to carriers in electric traction

Správa železnic has been providing traction electrical energy (TEE) consumption billing since 1 January 2019 and to improve this service it has implemented a new method of determining TEE consumption on electric traction vehicles and electric power units (ETV/EUs) using the traction electricity metering system (EMS) in combination with the use of specific consumptions for unmetered trains. These specific consumptions have been newly determined by using measured consumption data for individual train types and therefore reflect more objectively the actual consumption at the traction vehicle collector, including the traction type differentiation. They are further adjusted by a number of coefficients taking into account, for example, technical losses or the season.

Správa železnic, unlike most foreign railway infrastructure managers, integrates all parts of this service by means of its own equipment (control and telecommunication unit including electrometer, GSM-R antenna and GPS), which it installs in coordination with the carriers on the ETV/EU. The same is true for the collection of data from electricity meters and GPS receivers (DCS system), the calculation module for determining train consumption (Hybrid Model), the system for exchanging energy data with foreign partners (Exchange) and the SAP IS-U billing system, all of which are owned by Správa železnic.

All of these systems are developed and operated in compliance with national legislation, but also with internationally recognised UIC, CENELEC and ISO standards and, last but not least, European Commission regulations. Správa železnic is part of the international working groups which compile, revise and support these documents.

Thanks to its own systems and international cooperation, Správa železnic is one of the leading European infrastructure managers ensuring the billing of TEE.

15.4 Other energy and selected commodities (non-tractive, water)

15.4.1 General

Správa železnic is the manager of the facilities and buildings (right to manage state property) used for the operation of its activities (administrative buildings, operational buildings, passenger station buildings and technological buildings).

Správa železnic has a certified energy management system according to ČSN ISO 50001:2018 (EnMS), which is evaluated annually within the framework of the EnMS surveillance audit and certified in a three-year cycle based on the results of the EnMS certification audit.

Within the framework of this system, the fuel and energy consumption of the entire energy management of Správa železnic is monitored; the system is focused in detail on selected buildings with higher energy consumption and buildings with planned and implemented reconstruction (150 buildings in 2022, categorised as station, operational and administrative buildings).

Licence for the production and distribution of thermal energy

Správa železnic holds licences from the Energy Regulatory Office for the production and distribution of thermal energy:

- Thermal energy production: operations in Český Těšín – operational building; Praha hl.n. – passenger station building.
- Thermal energy distribution: defined area of the Karviná railway station, Ostrava-Svinov passenger building, Hradec Králové administrative building, Pardubice administrative building, Plzeň Fire Rescue Corps building.

Supply of thermal energy on the basis of licences in 2022	MWh
Český Těšín, operational building	50
Praha hl. n., passenger building	276
Karviná-Fryštát, Karviná hl. n. railway station	39
Ostrava-Svinov, passenger building	74
Hradec Králové, administrative building	175
Pardubice, administrative building	735
Plzeň, Fire Rescue Corps building	127

Table 18. *Supply of thermal energy on the basis of licences in 2022*

15.4.2 Purchase of other energies and selected commodities

The purchase of natural gas is centrally secured through exchange trading. The supplier of gas is Pražská plynárenská, a. s., and the contractual arrangements (contract notes) are negotiated for a group of consumption points managed by individual organisational units of Správa železnic, separately for the category of small consumption and the category of large and medium consumption.

Thermal energy is purchased from regional suppliers (traders) on the basis of contractual arrangements for individual consumption points.

Water (water consumption and sewerage use fees) is purchased from regional suppliers on a contractual basis for individual consumption points. In some cases, water is supplied from wells.

Contractual commitments towards energy suppliers are centrally managed, monitored and regularly reviewed to achieve favourable terms in compliance with the organisation's energy policy.

15.4.3 Supply of other energy and selected commodities

1) Contractual obligations of Správa železnic within the framework of lease relations:
The Správa železnic's contractual obligations for energy consumption are largely linked to contracts for the lease of flats and non-residential premises – agreements for the provision of services in connection with the lease:
   - supply of thermal energy (purchased thermal energy and thermal energy from the organisation's own sources);
   - supply of centralised hot water;
   - supply of natural gas (usually the tenant's secondary gas meter);
   - water supply (shared sanitary facilities and secondary water meters).

2) Contractual obligations of Správa železnic in other relationships:
The supply of water and natural gas is in some cases also carried out to the premises of foreign entities, usually in the premises of railway stations (secondary water and gas meters).

   The supply of thermal energy to the premises of other owners is carried out:
   - on the basis of a licence for the production of thermal energy and a licence for the distribution of thermal energy;
   - without a licence on the basis of the exemption provided by the Energy Act, Section 3(4b);
   - unlicensed internal heat consumption equipment (structurally and technologically connected buildings).

Direct supplies of natural gas to external tenants are carried out individually from different traders, usually in cases where there is no central source of thermal energy in the building (liberalised market).

These direct supplies to external tenants (or the consumption of these commodities) are not recorded by Správa železnic (separate contractual relations/ tenant consumption points).

15.4.4 Consumption of other energies and selected commodities

Consumption of Správa železnic is recorded, monitored and evaluated at the level of organisational units and by the Department of Electrical Engineering and Energy within the framework of the Energy Management System (EnMS).

Consumption of other energies and selected commodities	MWh
Natural gas	67,326
Other fuels (coal, lignite, coke, briquettes, propane, light heating oil)	6,888
Thermal energy	85,653
of which: purchased	26,556
generated	59,097
Water (water consumption, sewerage use fees) m³	547,768

Table 19. *Consumption of other energies and selected commodities*

We act in a transparent and non-discriminatory manner

16.1 Commercial use of assets

The procedure and rules for the temporary use of state property managed by Správa železnic are set out in internal regulations with maximum emphasis on transparency and non-discrimination. The basic instrument for this activity is a public tender, the definition of which takes into account the satisfaction of passengers' needs. In case of passenger buildings in the category 'A' stations, the evaluation of tenders may include an evaluation criterion of sustainability with a guarantee according to the ESG criteria. The non-financial benefits of the temporary use of public property are assessed in the context of the public interest.

16.2 Sale of assets

When dealing with immovable property owned by the Czech Republic, which our organisation has the right to manage, we proceed in accordance with generally binding regulations, in particular the Act No. 77/2002 Coll., on the Joint Stock Company České dráhy, on the State-owned Organisation Správa železnic and on the Amendment to the Act No. 266/1994 Coll., on Rail systems, as amended, the Act No. 77/1997 Coll., on the State Enterprise, as amended, and internal regulations implementing generally binding regulations into the environment and activities of our organisation. When dealing with passenger railway station buildings, we proceed further in accordance with the strategic material of the Ministry of Transport, Concept for dealing with passenger station real estate, which is binding for our organisation. Compliance with the established obligations and procedures ensures equal and non-discriminatory access to those interested in the purchase or transfer of immovable property and at the same time maximum transparency of this process, with priority satisfaction of the public interest in the future use of immovable property by the new owners. This applies to transfers to local self-government units, other state organisations or organisational units of the state. A prescribed standard approval process ensuring compliance with the requirements of equal, non-discriminatory access and maximum transparency:

- ascertainment of the permanent unnecessity of the immovable property for the operation and operability of the railway infrastructure, also in terms of future prospects and its transferability through an internal company consultation;
- publication on the Public Administration Portal;
- approval of the Management of Správa železnic;
- discussion at the Ministry of Transport;
- approval by inter-ministerial comment procedure;
- consent of the Government in the form of a resolution;
- local action groups are informed of the intention to transfer ownership to local self-government units or in a public tender.

The basic methods of alienation of immovable property are:

- transfers of ownership for consideration: direct alienation to natural or legal persons in compliance with precisely defined conditions; to local self-government units in the public interest;
- gratuitous transfers to local self-government units or their associations when the legal conditions are met;
- public tenders for the most suitable offer, if the conditions for the above-mentioned methods of disposal are not met, carried out in cases of disposal of immovable property with a price of CZK 1 million or more by electronic auction;
- transfers of the right to manage state property, both gratuitous and non-gratuitous, pursuant to Sections 17c and 17e of the Act No. 77/1997 Coll., on a State-owned Enterprise, to organisational units of the state, state organisations or enterprises.

Innovations

17.1 New solutions in business activities

During 2022, Správa železnic further developed the activities started in the field of lease of commercial premises during 2021 with the aim of increasing their relevance and success. A clear prerequisite for fulfilment of this goal is (also in the area of railway transport) a satisfied customer – the passenger who uses this mode of transport. But this is not all. The transition from road transport to "green railway", for which we are actively creating the infrastructure prerequisites, is only possible if the railway is able to appeal attractively not only to the current passenger, but also to the potential future passenger who still prefers the car to the train. This logic makes it clear that a successful business does not only bring better business yield and overall project economics. Better business services which intentionally target the passenger have a major impact on the attractiveness of rail passenger transport as a whole.

Activities during 2022 can be summarised in the following areas for ease of illustration:

- **Strengthening the nationwide cooperation** of regional directorates to address current key issues in a unified and rapid manner, including effective sharing of experience.
- **Strong customer focus and knowledge of customer needs**, including behaviour. The passenger survey continued this year on the Prague Main Station site, where the complexity of needs, which according to the research are related not only to the railway station itself, but also to its connectivity to the surrounding area or to other modes of transport, is well demonstrated.
- **Starting strategic meetings with key business partners.** Mutual sharing of development directions between Správa železnic and key business partners.
- **Scope and direction for upgrading specific station buildings.** In addition to the actual architectural design and basic economic considerations, the future business potential of not only the station building itself but the whole area adjacent to the station must increasingly be evaluated over a minimum horizon of 20 years.
- **Measuring business activity.** According to the results of 2022 Financial Business Report, a year-on-year increase in rental income of approx. CZK 18 million was achieved, despite the negative impact of the pandemic and the difficult economic situation in the country. In addition to automation of reporting, the target lies in the use of data relating to occupancy of individual buildings. We monitor the increase in passenger numbers in key station buildings. There are various technologies available to set up the measurements in order to achieve a meaningful result. Pilot passenger flow measurements are already underway in selected railway stations in the Czech Republic.

Praha Main Station – Central Corridor: 13 July 2022

Visitor metrics

31,921
Total visitors

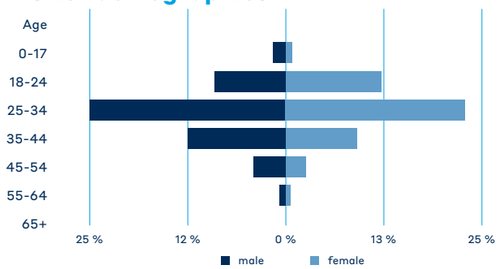
1,330
Average visitors per hour

52 %

48 %

Average visitor demographics

Visitor demographics



Incoming visitors over time

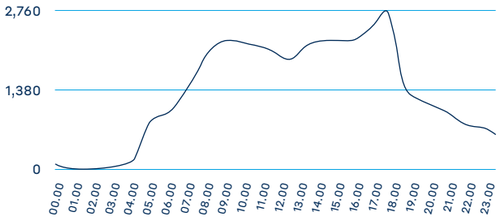
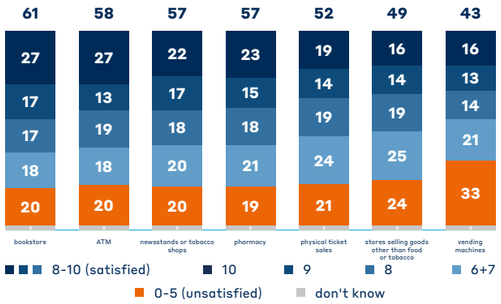


Chart 19. *Example of a pilot passenger flow measurement – Prague Main Station – central corridor*



How satisfied are you in general with the services you use at the station? (Please respond to each item if you use the respective service)

Chart 20. *Satisfaction with services at Prague Main Station*

Satisfaction with services

17.2 Development of new service facilities

In October 2020, a cross-cutting working group on the design of service facilities was established by decision of the Director General. Its main task is to conceptually cover the handling of station facilities as defined by the Decree No. 76/2017 Coll. on the Content and Scope of Services Provided to Carriers by the Rail System Operator and by the Operator of Service Facilities. The aim is a uniform approach to each type of service facilities with clearly defined rules and criteria for their implementation and development. At the same time, emphasis is placed on ensuring that the use of service facilities is comfortable for passengers, carriers and station users and at a level corresponding to current technological standards. In 2022, work continued on the development of conceptual material which will cover the remaining types of service facilities not included in the documents issued so far, in particular on the Concept for the Management of Passenger Railway Station Real Property, which covers the passenger information system, passenger ticket offices, waiting rooms and sanitary facilities for passengers. In the context of passenger transport, the new material will mainly concern luggage storage facilities and lifting platforms for persons with impaired mobility.

In the area of providing luggage storage services, we have successfully verified the operation of combined storage and dispensing boxes in Liberec and Ostrava hl. n. railway stations in a pilot operation. By supplementing the functionality of a regular drop box with the possibility of storage (depositing and collecting stored luggage), there is a greater chance of extending this service to places where the use of single-purpose storage boxes would not be effective.

17.3 Smart technologies

We demonstrate our social responsibility, among other things, by striving to use smart technologies and processes aimed at improving the efficiency of railway station management and operation, reducing operating costs, improving and speeding up service to passengers and all station users. The projects which are currently being implemented or are in the process of being implemented include modern tools and technologies which are fully automated and remotely controllable. An important aspect of this automation is not only the data collection itself, but also the subsequent real-time evaluation of the data.

In the field of energy consumption, one of the main projects is the remote metering of energy consumption (water, electricity, natural gas, heat). The subsequent evaluation of the measured data will allow more efficient management with the aim of reducing overall energy consumption. The savings are estimated at 7 % based on similar and already implemented projects.

Other elements under consideration are as follows:

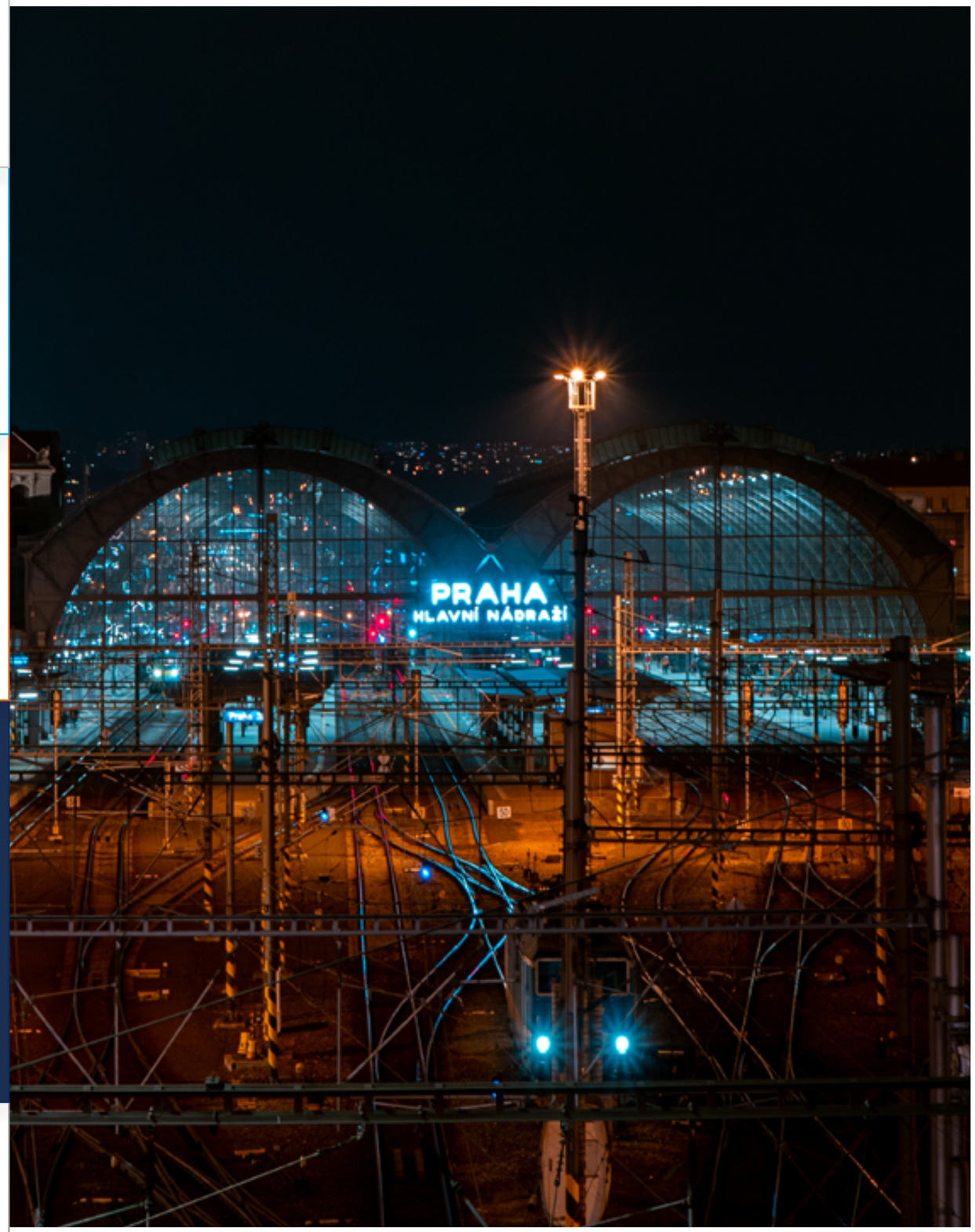
- Installation of photovoltaic power plants on the roofs of operational or passenger buildings. From this step we hope to reduce the amount of electricity purchased for the operational needs of the buildings;
- Installation of heat pumps, which can significantly help with heat supply and in the heating of waiting areas;
- Dynamic LED lighting which responds to the intensity of natural daylight in combination with the movement of people in the illuminated area;
- Rainwater traps – captured water which would otherwise drain into the public sewer system will be further used to irrigate flowers, plants or turf planted and placed at the station. It may also be used for flushing toilets or as other service water.

In addition to the technologies aimed at reducing energy consumption, we are trying to use the potential of the network of railway stations and stops and to increase its degree of connection to other public or individual modes of transport, such as the construction of P+R, K+R or shared parking facilities for bicycles, e-bikes and e-scooters with the possibility of charging near the railway station. Furthermore, we are gradually installing information systems informing, for example, about the nearest departures of connecting buses and public transport or information kiosks not only for finding connections, but also for intermediation of information provided by other entities, such as municipalities and cities and their information and tourist centres.

The decision to install a technology in a particular location is preceded by an analysis which indicates whether the proposed technology is suitable for the location from several different points of view: number of passengers, physical layout of buildings and surrounding land, conservation, etc.

We are currently already implementing the following projects:

- Photovoltaic power plant installations (see above).
- Electromobility – a plan for the development of infrastructure for charging electric vehicles in the environment of Správa železnic is being prepared. It includes a plan to acquire a fleet of electric vehicles and to build up a system of charging stations for the operational needs of our organisation. In the next step, the construction of charging stations for the public is also being considered. The Electric Vehicle Charging Infrastructure Development Plan describes how we will proceed with the development of public charging infrastructure.
- Public toilet access control and fee collection system – self-service entry systems (turnstile or door lock machine) including cashless payment options are in operation in more than 120 locations.
- Interactive map – the map presented on our organisation's web site allows easy and intuitive display of information on assistance provision, building and platform accessibility and other station information.
- Passenger Passage Metering – a pilot project to measure how many passengers pass through a given location in a monitored area, or how specific public premises are used. The results can then be used to target the development of an adequate range of services for passengers in a given passenger building.



Selected awards won and granted

18.1 ‘Mosty’ Award (PIMO)

The twentieth edition of the MOSTY (‘BRIDGES’) ceremony was held with the financial support of the Office of the Government of the Czech Republic. Out of 48 nominated projects, activities, acts and personalities, Správa železnic received the MOSTY 2022 Award in Category I – Public Administration Institutions, for implementation of the project for the replacement of lifting platforms at railway stations without barrier-free platforms. In 2022, 31 new platforms were installed. Another 34 platforms will be put into service in 2023 and 2024. The award was received from the hands of Livia Klausová, former First Lady and Ambassador of the Czech Republic to Slovakia, by Jiří Svoboda, Director General of Správa železnic.

18.2 Railway Construction of the Year

Every year, Správa železnic organises the Railway Construction of the Year competition, which selects the best implemented railway constructions in the past period. The evaluation also includes such constructions which, due to their complexity, are implemented in several construction seasons. In individual categories, railway constructions implemented both on the backbone network, corridors and regional lines are evaluated. Emphasis is placed in particular on their operational, economic and social contribution. In 2022, these awards were presented for the fourth time in a total of 10 categories, with one construction winning the Director General’s Award. The Railway Construction of the Year project is a unique event of a modern format, which highlights the best railway constructions commissioned and invested by Správa železnic in an eye-catching way. Under the guarantee of the Management of Správa železnic, the most successful projects are selected by an expert committee headed by the Director General of Správa železnic.

Railway Construction of the Year (www.spravazeleznic.cz)

ESG non-financial data 2022

ESG Evaluation	ESG	Indicator name	Section of the Report for 2022	ESG Priority	
Resource Use Score	E	Waste production for individual years 2020-2022 in tonnes	2.1.1	We reduce environmental impacts	Sustainable operation of rail systems
		Proportion of individual components of separated waste	2.1.1	We reduce environmental impacts	Sustainable operation of rail systems
		Share of individual components of separated waste in tonnes for 2022 excluding metal waste	2.1.1	We reduce environmental impacts	Sustainable operation of rail systems
		Use of recycled aggregates	2.1.2	We reduce environmental impacts	Sustainable operation of rail systems
		Nature and landscape protection	2.2.1	We reduce environmental impacts	Sustainable operation of rail systems
		Consumption of glyphosate-based substances from 2020 to 2022 in litres	2.2.1.1	We reduce environmental impacts	Sustainable operation of rail systems
		Water management and protection	2.2.3	We reduce environmental impacts	Sustainable operation of rail systems
Emission Reduction Score	E	Overview of the composition of our sources by fuel type in the total number of recorded sources (%)	2.2.4	We reduce environmental impacts	Sustainable operation of rail systems
		Development of noise barriers installation between 1994 and 2022 (km)	2.2.5	We reduce environmental impacts	Green railway - Sustainable mobility
		Frequency of noise barriers implemented by height	2.2.5	We reduce environmental impacts	Green railway - Sustainable mobility
		Overview of line electrification between 2006 and 2022	2.3	We are driving the green transformation of the railway	Green railway - Sustainable mobility
		Prospective electrification proposal	2.3.1	We are driving the green transformation of the railway	Green railway - Sustainable mobility
		Completed construction projects in the reference period 2022	2.3.1	We are driving the green transformation of the railway	Green railway - Sustainable mobility
		Ongoing construction projects in the reference period 2022	2.3.1	We are driving the green transformation of the railway	Green railway - Sustainable mobility
		Railway lines with an approved electrification feasibility study	2.3.1	We are driving the green transformation of the railway	Green railway - Sustainable mobility
		Unification of the traction power supply system to AC 25 kV 50 Hz	2.3.2.1	We are driving the green transformation of the railway	Green railway - Sustainable mobility
		Replacement of lighting in railway stations with LED technology: overview of power inputs, savings of electricity, costs and CO_2 emissions in 2022	3.1.1	We improve the energy performance of buildings and stations	Sustainable operation of rail systems
		Replacement of lighting in railway stations with LED technology: overall overview of electricity, cost and CO_2 savings in 2022	3.1.1	We improve the energy performance of buildings and stations	Sustainable operation of rail systems
		Energy savings within the framework of building renovations and new constructions	3.1.2	We improve the energy performance of buildings and stations	Sustainable operation of rail systems
		Photovoltaic power plants on rooftops	3.2.1	We improve the energy performance of buildings and stations	Sustainable operation of rail systems
		Photovoltaic power plants on brownfield sites	3.2.2	We improve the energy performance of buildings and stations	Sustainable operation of rail systems
Innovation Score	E	Total investment and non-investment costs for the environment	2.2	We reduce environmental impacts	Sustainable operation of rail systems
		EPC projects	3.1.3	We reduce environmental impacts	Sustainable operation of rail systems
		Research, development and innovation projects	6.1	We support research and development	Development of innovations
		Issuing of the Scientific and Technical Collection Journal	6.2	We support research and development	Development of innovations
		Smart technologies	17.3	We change railway stations and stops to “Smart”	Smart and intelligent technologies

ESG Evaluation	ESG	Indicator name	Section of the Report for 2022	ESG Priority	
Workforce Score	S	Development of the number of employees on the register	5.1	We are a responsible employer	Social and community relations
		Number of employees by organisational unit	5.1	We are a responsible employer	Social and community relations
		Structure of employees by highest level of education achieved	5.1.1	We are a responsible employer	Social and community relations
		Age structure of employees	5.1.1	We are a responsible employer	Social and community relations
		Male/female ratio	5.1.2	We are a responsible employer	Social and community relations
		Occupational health services	5.1.3	Care for employees	Social and community relations
		Health and safety at work	5.1.4	Care for employees	Social and community relations
		Remuneration of employees	5.1.5	Care for employees	Social and community relations
		Employee training	5.1.6	Care for employees	Social and community relations
		Dialogue with trade unions	5.2	Care for employees	Social and community relations
		Assistance to refugees	5.6	Our employees help	Social and community relations
Human Rights Score	S	Development opportunities	7.1	Corporate Principles and Ethical Conduct Policy	Social and community relations
		Railway accessibility	7.2	We promote diversity and equal opportunities	Social and community relations
		Public contracts with applied support for people disadvantaged in the labour market	8.7.1	We promote diversity and equal opportunities	Social and community relations
		Number of participation of people disadvantaged in the labour market	8.7.1	We promote diversity and equal opportunities	Social and community relations
		Social categories of the qualification system	8.7.2	We promote diversity and equal opportunities	Social and community relations
Community Score	S	Dialogue with trade unions and associations	5.3	We promote sustainable mobility	Green railway - Sustainable mobility
		Dialogue with communities	5.4	We support cooperation with communities	Social and community relations
		Support for small and medium-sized enterprises	5.4.2	We support cooperation with communities	Social and community relations
		Cooperation with schools	5.4.3	We innovate our recruitment strategy	Social and community relations
		Prevention and safety campaign	8.1	We are beneficial for society	Social and community relations
		Crisis communication	8.2	We are beneficial for society	Social and community relations
		Contact centre	8.3.1	We are beneficial for society	We bring useful solutions to carriers and passengers
		Information centres	8.3.2	We are beneficial for society	We bring useful solutions to carriers and passengers
Product Responsibility Score	S	Intensive improvement of the level of security at level crossings	4.1.1	We operate the rail system in a safe way	Transport safety
		Safety system for rail operation and rail transport	4.1.2	We operate the rail system in a safe way	Transport safety
		European Train Control System (ETCS)	4.2	We operate the rail system in a safe way	Transport safety

ESG Evaluation	ESG	Indicator name	Section of the Report for 2022	ESG Priority	
Management Score	G	Selected quantitative and qualitative operational performance indicators	10.1	Governance and management of the organisation	Organisation administration and management - Governance
		Costs of ensuring the operability of the railway	10.2	Governance and management of the organisation	Organisation administration and management - Governance
		Code of Conduct	11.1	Corporate Principles and Ethical Conduct Policy	Organisation administration and management - Governance
		Code of compliance	11.2	Corporate Principles and Ethical Conduct Policy	Organisation administration and management - Governance
		Personal data protection	12.1	Corporate Principles and Ethical Conduct Policy	Organisation administration and management - Governance
		Application of elements of responsible procurement	13.1	Corporate Principles and Ethical Conduct Policy	Organisation administration and management - Governance
		Electricity volumes by voltage level	15.1.1	Governance and management of the organisation	Organisation administration and management - Governance
		Share of each energy source in the total fuel mix by electricity supplier	15.1.1	Governance and management of the organisation	Organisation administration and management - Governance
		Thermal energy supply by licence	15.4.1.1	Governance and management of the organisation	Organisation administration and management - Governance
		Consumption of other energy and selected commodities	15.4.4	Governance and management of the organisation	Organisation administration and management - Governance
Shareholders Score	G	Founder	1.2	Founder	Organisation administration and management - Governance
CSR Strategy Score	G	Social responsibility	1.1	Governance and management of the organisation	Organisation administration and management - Governance
		Sustainability management	9.1	Governance and management of the organisation	Organisation administration and management - Governance
		Caring for railway heritage	8.8	Social responsibility of the organisation (CSR)	Organisation administration and management - Governance
		Mosty Award	18.1	Social responsibility of the organisation (CSR)	Organisation administration and management - Governance

List of abbreviations

AC	Alternating Current
BIM	Building Information Management
BTS	Base Transceiver Station
CER	Community of European Railways and Infrastructure Companies
CENELEC	European Committee for Electrotechnical Standardisation
CO_2	Carbon dioxide
CTD	Technology and Diagnostics Centre
DC	Direct Current
DCS	Distributed control system
DTMŽ	Digital Technical Map of Railways
ETV/EU	Electric Traction Vehicle/Electric Unit
EnMS	Energy management system
EPC	Energy Performance Contracting
ERTMS	European Rail Traffic Management System
ERÚ	Energy Regulatory Office
ESG	Environmental, Social, Governance
ETCS	European Train Control System
ETF	European Transport Workers' Federation
FRMCS	Future Railway Mobile Communication System
GDPR	General Data Protection Regulation
GCSE	General certificate of secondary education
GSM-R	Global System for Mobile Communications – Railway
HR	Human Resources
HSL	High-speed line
HV	High voltage
HZS	Fire Rescue Corps
ICT	Information and communication technologies
ILCAD	International Level Crossing Awareness Day
kW	Kilowatt, unit of power
kWh	Kilowatt-hour, unit of work
LDSž	Local distribution system of the railway
LV	Low voltage
MoT	Ministry of Transport of the Czech Republic
MU	Emergencies (accidents and incidents)
MV	Medium voltage
OBU	On-Board Unit
PIMO	Persons with impaired mobility and orientation
RES	Renewable energy sources
PDLM	People disadvantaged in the labour market
P+R	Park & Ride (car parking area)
PV	Photovoltaic power plant
RFC	Rail Freight Corridor
SFC	Static frequency converter
SFDI	State Fund for Transport Infrastructure
SG	Strategic goal
SME	Small and medium-sized enterprise
SNCF	Société nationale des chemins de fer français
SSV	Construction Management East
SSZ	Construction Management West
SSVRT	High-Speed Lines Construction Management
SŽG	Railway Geodesy Administration
SZCZ	Správa železnic, státní organizace
TA CR	Technology Agency of the Czech Republic
TEE	Traction electrical energy
TEN-T	Trans-European Network – Transport
TSI	Technical Specifications for Interoperability
UIC	International Union of Railways
UN	United Nations
ŽESNAD.CZ	Association of Railway Freight Carriers of the Czech Republic

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