STADLER

2024

SUSTAINABILITY REPORT

#THE MOBILITY OF THE FUTURE

SUSTAINABILITY AT A GLANCE 2024

12.1

Scope 1 and 2 emission intensity

in tonnes of CO_2e (market-based) per CHF million of revenue

Previous year: 11.0

1,648

Scope 1, 2 and 3 emission intensity

in tonnes of CO_2e (market-based) per CHF million of revenue

Previous year: –

48.3%

Recycling rate

Previous year: 51%

0.18

Tonnes of VOC emissions

per painted car body

Previous year: 0.19

15,203

Employees worldwide

Previous year: 13,944

0

Confirmed cases of corruption

Previous year: 0

Employees by Country

Switzerland	33%
Spain	17%
Germany	15%
Poland	10%
Hungary	5%
US	3%
UK	3%
Sweden	2%
Czech Republic	2%
Netherlands	1%
Norway	1%
Others	7%

CONTENTS

About this report

This non-financial report (hereafter: Sustainability Report) of Stadler Rail AG ("Stadler"), headquartered in Bussnang, Switzerland, covers the reporting period from 1 January 2024 to 31 December 2024 and was published on 19 March 2025. It supplements the ▸ **Annual Report 2024** published on 19 March 2025, which includes the Management Report, the Corporate Governance Report and the Remuneration Report. Unless otherwise stated, this Sustainability Report covers the same scope of consolidation as the Annual Report. This is the fourth Sustainability Report published by Stadler Rail AG. As in the previous year, this report has been prepared in accordance with the GRI standards. Any adaptation of information or new calculation methods are noted directly in the relevant sections. KPMG AG was mandated to perform an independent limited assurance audit of selected key figures in this Sustainability Report. The audit included selected key figures relating to the following GRI standards: 205, 206, 302, 305, 308, 403, and 414 (see **statement on page 74**). The audited key figures are marked with a check mark ✔ in the corresponding tables. The 2024 Sustainability Report contains the information on non-financial matters required by the Swiss Code of Obligations (CO) (Art. 964b). Their coverage by the topics identified by Stadler as material can be seen in the CO reference index (see **table on page 71**). The associated reporting on climate issues is included in the appendix to this report and was prepared on the basis of the recommendations of the "Task Force on Climate-Related Financial Disclosures" (TCFD). Finally, the areas of conflict minerals and due diligence (CO Art. 946j-l) are reported on in the sections on **Human Rights** and **Supply Chain Management and Raw Material Availability**.

Enquiries and comments on this report can be sent to **sustainability@stadlerrail.com** by e-mail.

Markus Bernsteiner, Group CEO

INTRODUCTION

Dear readers,

2024 was a year of climatic superlatives. Records were set for the global average temperature and global emissions. Around a sixth of these emissions comes from the transport sector, with rail being one of the modes of transport with the lowest emissions per passenger kilometre. Rising mobility needs should therefore be met by increasing the capacity for transporting people and goods by rail. As an innovation leader, Stadler promotes the expansion of rail transport by offering alternative drive technologies and producing durable, sustainable vehicles. Comprehensive mobility solutions can be introduced and a more efficient driving style adopted thanks to state-of-the-art technology. Stadler is in the fortunate position of being able to develop and manufacture an environmentally friendly product that is geared to the future. Nevertheless, the company is continuously pushing ahead with its efforts in all three ESG dimensions.

Environmental dimension: Mobility by rail is an important lever for achieving the goals set out in the Paris Climate Agreement. Stadler is making a technological contribution towards meeting these objectives. As early as 1943, company founder Ernst Stadler built and sold a battery-powered vehicle. In 2021 and 2024, world records were set for the longest train journeys with a battery-powered train and a hydrogen-powered train. Stadler is making a significant contribution to further decarbonisation with these environmentally friendly drive technologies, as they allow operation with zero local emissions even on non-electrified railway tracks. This not only helps our customers and socities all over the world to achieve their environmental goals, but also creates sustainable growth markets for Stadler.

Stadler is developing a scientifically-based reduction plan as part of the Science Based Targets initiative (SBTi) to make sure that it will meet its net-zero target by 2050. Stadler's interim goal is to halve Scope 1 and Scope 2 emissions by 2030 in relation to 2022. In 2024, the company drew up a reduction strategy containing specific measures for Scope 1 and 2 emissions in an effort to achieve this objective whilst making a positive contribution to society. Stadler is now expanding its focus to the company's emissions by continuously monitoring the value chain. The aim is to save resources by means of eco-design and efficiency improvements via digitalisation. Stadler also recorded Scope 3 emissions for the first time in the 2024 reporting year. This encourages transparency and indicates pathways for reducing emissions along the entire value chain.

Social dimension: We set the highest standards for ourselves as an employer and for our suppliers in the value chain. Our employees are the key to sustainable entrepreneurship and to Stadler's innovative strength. That is why creating a safe, attractive and sustainable working environment is a priority. We implement training and learning programmes to counter the shortage of skilled workers and to promote diversity. Stadler is helping to ensure that the proven Swiss training model is exported to other countries, such as the USA. The fact that Stadler supports young people and invests in the training of skilled workers is also reflected in the hiring rate of over 80 percent of trainees who have completed an apprenticeship. Stadler holds internal technical courses to introduce newcomers to the profession and the industry to the complex world of rail. It is essential to ensure a high level of expertise

and training quality of our employees in order to guarantee product and customer safety. After all, the well-being, health and safety of passengers is a crucial part of Stadler's product design. It is also important to us that companies in the upstream value chain comply with international human rights and environmental standards. To ensure this, we have made further changes to the review process in accordance with the German Act on Coporate Due Diligence Obligations in Supply Chains (LkSG) and have carried out analyses in greater depth.

Governance dimension: The sustainability strategy is an integral part of the Group strategy. We have professionalised our sustainability organisation even further in order to reflect the importance of sustainability. This report was drawn up in accordance with the GRI standards whilst preparing for the transition to reporting in line with the ESRS standard.

Apart from being of ecological and social necessity, sustainability also makes economic sense. The focus is on ensuring resource efficiency from a long-term perspective, taking into account planetary boundaries and human welfare along our value chains. Based on these core values, Stadler's technological innovation is paving the way for continued and sustainable growth. Qualified employees who enjoy working at Stadler guarantee high product quality and make our business model successful in the long term.

With this in mind, I hope you enjoy reading this report.

Best regards,

Markus Bernsteiner

COMPANY PROFILE

What was founded as a small engineering office by Ernst Stadler in 1942 has since grown into a global manufacturer of mobility solutions with over 15,000 employees. Stadler supplies vehicles, infrastructure, service and the associated automation technology from a single source, across all segments and with the highest level of innovation.

Stadler Rail is headquartered in Bussnang. It also has 16 production locations and component sites. The production locations are situated in Bussnang and Rheintal (Altenrhein and St. Margrethen) (all in Switzerland), Berlin (Germany), Valencia (Spain), Siedlce (Poland), Minsk (Belarus), Salt Lake City (USA) and Astana (Kazakhstan). All these sites have the necessary expertise to launch a rail vehicle fully on the track. The component sites, which manufacture key components such as bogies, car bodies, power converters and wet cells, are located at the production sites in Valencia (Spain), Berlin (Germany), Środa Wielkopolska and Białystok (both in Poland), Winterthur and Biel (both in Switzerland) and Szolnok (Hungary).

As well as developing and manufacturing vehicles, Stadler also offers a wide range of services. The service locations are situated close to the areas where Stadler's vehicles are in use. As the number of long-term service contracts increases, so does the number of sites. In 2024, Stadler had over 80 service locations in 22 countries. At these sites, Stadler offers a full range of services for the maintenance, servicing, repair and replacement of rail vehicles from a single source.

The Group also has several signalling and engineering locations in Europe and the USA. In the field of signalling, Stadler offers solutions for fully and partially automated driving, automatic train protection (European Train Control System, ETCS), classic trackside signalling technology and CBTC solutions for complete systems, as well as interlocking technology and passenger information systems. These activities are spread over several locations in Europe and the USA.

By developing and manufacturing innovative, durable vehicles, Stadler is assuming its social responsibility for sustainable mobility. Its range of rail vehicles includes locomotives, high-speed trains, intercity trains, regional and suburban trains, underground trains, tram trains, trams and rack railways. Moreover, Stadler offers service solutions and signalling technology for its own vehicles, as well as those of third-party suppliers. Stadler Rail has been listed on the Swiss stock exchange since 2019 and reports in the "Rolling Stock", "Service and Components" and "Signalling" segments.

Around 83 percent of Stadler's revenue is generated by the "Rolling Stock" segment. The "Service & Components" segment is responsible for 14 percent of revenue. The remaining revenue is attributable to the rapidly growing "Signalling" segment.

Complex value chains

Stadler sees itself as a driver of innovation in vehicle development. It is also a system integrator. Its vehicle concepts are developed in the competence centres for rail vehicles in Switzerland, Germany, the USA and Spain, which are then manufactured at the eight production sites. Key components such as aluminium and steel car bodies or bogies, particularly the frames, are produced in-house. Raw materials, other components and sub-systems are bought in.

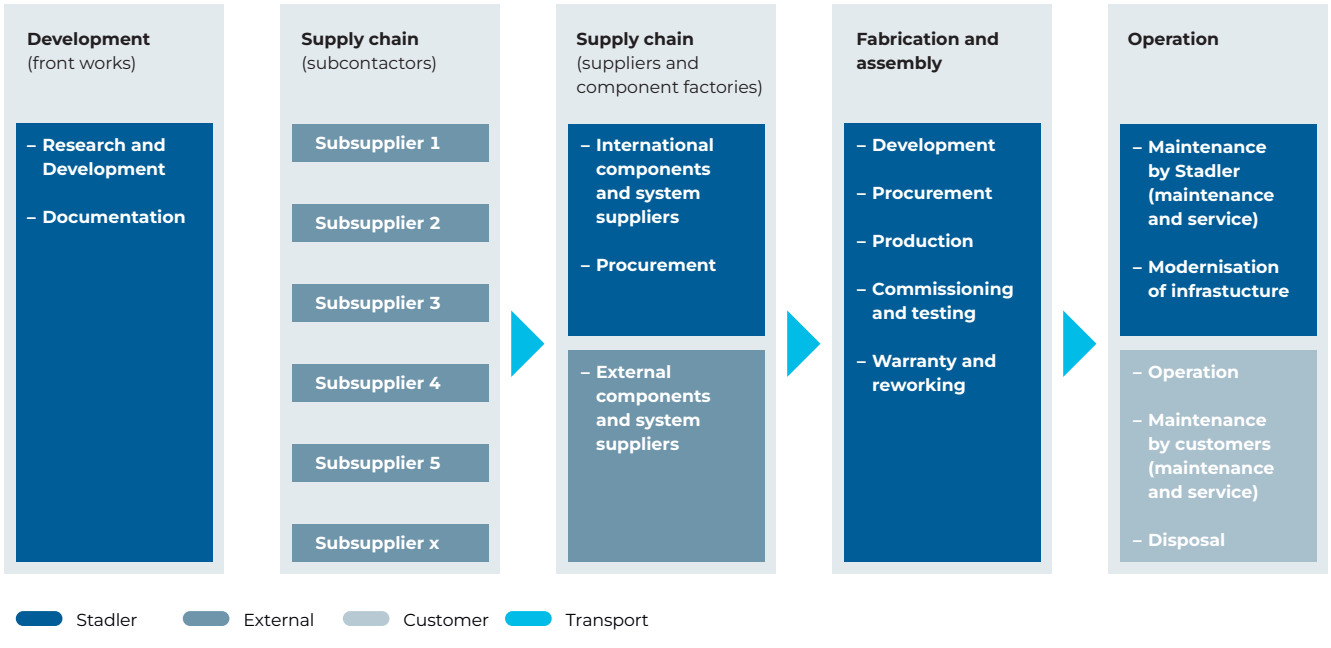
Around 85 percent of a train consists of metals such as aluminium and steel. For these parts, Stadler requires semi-finished products made from raw materials (such as aluminium profiles and plates), which are sourced mainly in Europe, as well as other materials such as plastics (polymers), elastomers, electronics, glass and modified organic natural materials. Purchased components also include electronic components, materials for the interior (such as seats) and subsystems (such as passenger information systems and automatic train protection systems), some of which can also be developed and produced in-house.

Supply chain organisation, and particularly the punctual procurement of components of impeccable quality, is critical to Stadler's success. Closely synchronised production schedules are dependent on the availability of materials and components. Procurement takes place in a decentralised manner at the respective production sites with the help of a central unit that coordinates procurement activities within the Group. Both local production and local procurement have the advantage of ensuring proximity to customers and suppliers with correspondingly agile options for reacting to changes. The rail vehicles are designed, built and put into operation in the final assembly sites.

Stadler's business model does not end when the trains are delivered to the operators, as the company remains on hand for its customers as a service partner. The scope of these services – just like the products themselves – is customised to the needs of the customer. It ranges from the supply of individual spare parts to full-service solutions. The vehicle operators generally carry out operation, maintenance (except in the case of full-service contracts) and decommissioning themselves.

Further information can be found in the section on **Supply chain management and raw material availability**.

Simplified illustration of the value chain

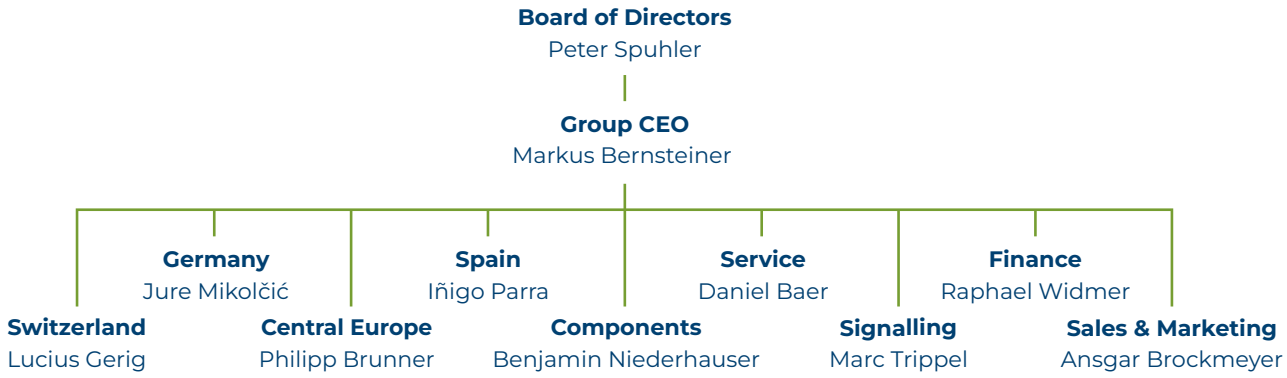


Organisation

Stadler is a public limited company incorporated under Swiss law. Its supreme body is the General Meeting of Shareholders, whose responsibilities include electing the Board of Directors. In 2024, the Board of Directors consisted of ten members, three of whom were women and six of whom were Swiss nationals. The Board of Directors is responsible for supervising the company and issuing the necessary directives. In accordance with the ▸ **Organisational Regulations**, operational management is delegated to the Group Executive Board under the leadership of the Group CEO. The Group Executive Board implements the corporate strategy as adopted by the Board of Directors and ensures that the decisions of the Board of Directors are implemented in accordance with applicable law, the Articles of Association, the Organisational Regulations and the resolutions of the General Meeting. In addition, the Group CEO regularly informs the Board of Directors at its meetings about the current business performance and all significant business transactions, including expected opportunities and risks. These clearly defined, coordinated processes and responsibilities cover both financial and non-financial aspects.

From the beginning of 2025, Stadler's Group Executive Board consists of eleven members. The three key positions of Group CEO, Group CFO and Head of Sales and Marketing each hold one seat. In the "Rolling Stock" segment, the four strongest geographical markets each account for one seat on the Group Executive Board. As of 1 January 2025, these will be supplemented by Martin Ritter, who took over the role of Executive Vice President of the newly created North America Division on this date. The functional divisions Components, Service and Signalling are also each represented by one member of the Group Executive Board.

Further information can be found in the Corporate Governance Report in the ▸ **Annual Report**.



Global customer network and market position

The global rail vehicle market has a volume of around 160 billion euros.[1] The relevant market for Stadler has a volume of around 60 billion euros and includes high-speed trains, intercity trains, regional and suburban trains, underground trains, tram-trains, trams, locomotives and sleeper cars. Stadler's most important sales markets are the DACH region and other Western European countries. The relevant growth markets are America and parts of Asia. Stadler is one of the world's top five suppliers of rail vehicles, and the world market leader in the rack railway segment. Stadler has also been the frontrunner in the field of alternative drive systems since 2022.[2]

[1] Source: SCI Worldwide Market for Railway Industries (2024),
[2] Same study.

SUSTAINABILITY AT STADLER

The mobility of people and goods has a variety of positive and negative effects on the economy, the environment, society and individuals. Train travel is regarded as an environmentally friendly choice. This contrasts with the fact that the manufacture of rail vehicles requires large quantities of resources. This makes comprehensive sustainability management along the entire value chain all the more important in order to minimise these impacts.

Stadler recognises its responsibility to carefully manage the effects of its activities on the environment and society. The main emphasis is on protecting natural resources and respecting the rights of all the parties along the supply chain. For Stadler, growth not only means economic success, but also goes hand in hand with the ambition to make a positive contribution in the long term. This includes providing transparent information about the progress made in order to fulfil stakeholder expectations and build trust.

Overarching principles and standards

"We build trains from our customers' perspective". That is Stadler's guiding principle. This claim is closely linked to our focus topics:

Passion: Stadler's irrepressible drive has its origins in our passion for what we do. We are committed to working hard for our customers and providing ideal solutions. This passion also motivates us to continuously develop innovations that will have a positive impact on climate protection. For us, our task is far more than just a job – it's our contribution to a more sustainable future.

Quality: All over the world, Stadler stands for first-class quality, especially with regard to product safety and customer satisfaction. For us, quality means always setting the highest standards in product development in order to guarantee the safety and trust of our customers.

Reliability: Stadler's reliability is inextricably linked to our commitment to ensure effective supply chain management and the continuous availability of raw materials. Our ability to keep our promises is based on a strong partnership with our suppliers and optimised security of supply.

Togetherness: Stadler's success is the common achievement of people who work together with enthusiasm and team spirit. We know that each and every one of us is needed to help the company to move forward. At Stadler, everyone's contribution is valuable because we can only achieve our goals if we all pull together. A strong work culture and respectful dialogue between employees are the basis for our innovative strength and the continuous growth of the company.

Proactive attitude: At Stadler, we see ourselves as doers who get things done – we adopt an entrepreneurial approach and find solutions, even in the face of challenges. Efficient use of resources enables us to drive forward innovative projects and obtain the best

possible benefits for our customers and the environment. At Stadler, there's no such thing as no can do – we always find a way to implement solutions.

Our public commitment to global principles and the establishment of mandatory behavioural guidelines for employees and business partners are important foundations for Stadler:

– Stadler has issued a statement in favour of the ▸ **OECD Guidelines for Multinational Enterprises** and has drawn up various internal specifications accordingly.
– The ▸ **Code of Conduct** contains essential guidelines for Stadler, its employees and agents.
– The ▸ **Code of Conduct for business partners** ensures that Stadler's business partners, such as suppliers and service providers, assume their responsibilities on an economic, social, ethical and ecological level.
– Stadler published a ▸ **Statement on Slavery and Human Trafficking** in 2022.

Further information can be found in the section **Compliance, ethics and integrity**.

The company's sustainability strategy is closely linked to its corporate values and overall strategy and is guided by the UN's 2030 Agenda with its 17 Sustainable Development Goals. Further details can be found in the section **Materiality and stakeholder groups**.

Stadler relies on management systems and external certifications so that the company can systematically identify, measure and evaluate its impact, risks and opportunities in relation to the environment and society, whilst always ensuring the highest level of quality and standardisation in all its processes. The following chart gives an overview of the certifications obtained by Stadler locations and sites:

Certifications

ISO	9001	22163 / IRIS	14001	45001	50001	27001	ECM1	ECM2	ECM3	ECM4
Final assembly sites										
Stadler Rheintal AG	•	•	•	•		•				•
Stadler Bussnang AG	•	•	•	•		•				•
Stadler US Inc.	•	From 2025	•	•						
Stadler Deutschland GmbH	•		•		•					
Stadler Rail Valencia S.A.U.	•	•	•	•			•	•	•	•
Stadler Kazakhstan LLP	From 2025		From 2025	From 2025						
Stadler Polska Sp.z.o.o.	•	•	•	•			•	•	•	•
CJSC Stadler Minsk	•		•	•						
Component sites										
Stadler Winterthur AG	•		•	•						
Stadler Stahlguss AG (Biel)	•		•	•						
Stadler Szolnok Kft.	•	•	•	•	•					
Stadler Środa Sp.z.o.o	•	•	•	•						
Signalling										
Stadler Signalling AG	•		•	•		•				
Stadler Mannheim GmbH	•		•							
Stadler Signalling Deutschland GmbH	•		•							
Service										
Stadler Service AG	•	•	•	•			•	•		•
Stadler Service Nederland BV.	•	From 2025	•	•					•	•
Stadler Service Norway AS	•		•	•					•	•
Stadler Polska Sp.z.o.o.	•		•	•						•
Stadler Rail Service UK Ltd.	•		•	•		•				
Stadler Service Sweden AB	•		•	•						•
Stadler Service Italy S.r.l	•		•	•			•	From 2025	•	•
Stadler Rail Service Deutschland GmbH	•	•	•	•			•	•	•	•
Stadler Magyarorszag Kft.	•	•	•	•					•	•

Responsibilities and organisation

Stadler's Board of Directors defines the general corporate strategy. It also determines the sustainability strategy and, since the 2023 reporting year, has been in charge of reporting on non-financial matters. This is primarily the task of the Audit Committee.

Responsibility for implementing the sustainability strategy lies with the Group CEO. A Global Sustainability Team has been attached to the CEO since 2023. This team is responsible for reporting and legal compliance in relation to sustainability. It implements the sustainability strategy and applies measures to achieve the defined targets in association with the Group locations.

To ensure that the company has an efficient and effective organisation, sustainability at Group level is organised in a matrix. The Global Sustainability Team manages the Group programme to implement laws and regulations in connection with sustainability, manages the definition of targets, is responsible for Group-wide sustainability controlling and prepares the Sustainability Report. This is done in close cooperation with the Local Sustainability Managers at the Group locations. Responsibility for the Service and Signalling divisions is defined at divisional level. Cooperation between the Global Sustainability Team and the Local Sustainability Managers allows key figures to be reported in a standardised manner. Regular exchanges within the entire sustainability organisation allow knowledge to be built up throughout the Group and expanded in the individual units in this rapidly changing environment. The Global Sustainability Team manages the Group programme to implement laws and regulations in connection with sustainability, manages the definition of targets, is responsible for Group-wide sustainability controlling and prepares the Sustainability Report.

Organisation

Materiality and stakeholder groups

Stadler carried out a double materiality analysis for the first time in 2023. This was based on the GRI standards and the requirements of the Swiss Code of Obligations for transparency on non-financial matters (Art. 964b CO). This resulted in the definition of material topics for the 2024 financial year. The 2023 assessment was considered in the current context and adapted where necessary. As of the 2025 reporting year, Stadler will be subject to the reporting obligation of the Corporate Sustainability Reporting Directive (CSRD) in several EU countries. A Group report in accordance with the CSRD standard is therefore planned for the 2025 reporting year. Changes in the 2024 financial year and the targets set in the 2023 reporting year were also incorporated into the analysis. The results of this updated double materiality analysis are shown in the **materiality matrix on page 16**.

Most important changes in relation to the previous year

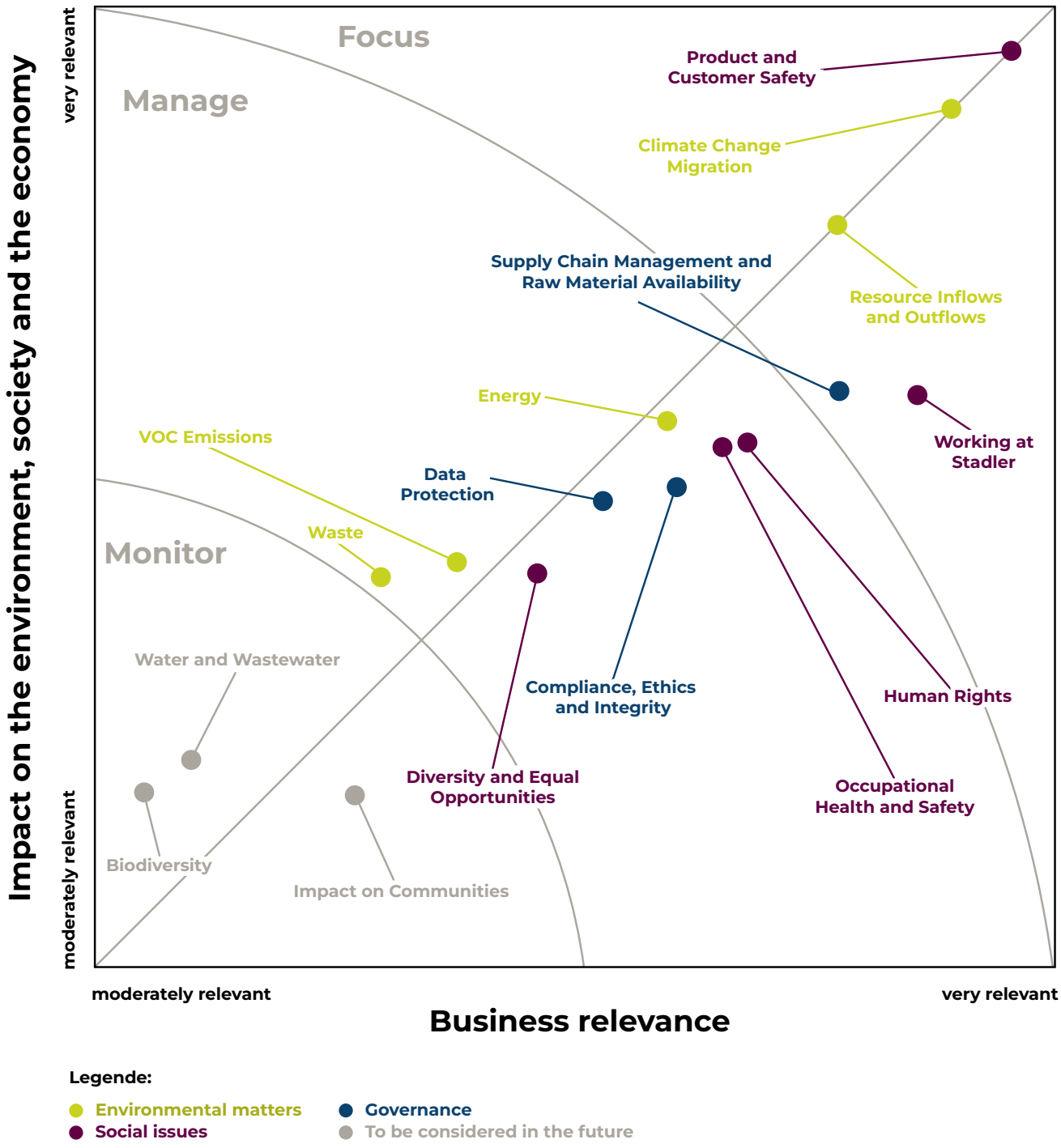
One of the major changes compared to the previous year is the exclusion of the topics “Financial sustainability” and “Customer satisfaction and product quality”, as they are already covered in the Annual Report. The materiality matrix now places an even greater emphasis on issues purely related to sustainability.

Another important change is the upgrading of supply chain issues and human rights, as there were notable improvements in the review of these for the reporting year.

The topics of “Energy” and “Greenhouse gas emissions” were separated in relation to the ESRS standards. For the same reason, “Innovation” is no longer reported on as a separate topic, but only as part of the climate change mitigation topic. As far as the circular economy is concerned, the sub-topics of “Inflows and outflows of resources” and “Waste” have been analysed separately. The topic of “Employee recruitment, development and retention” has been renamed “Working at Stadler”, but its focus remains the same.

Consequently, a total of 16 topics are presented in the materiality matrix below. Five of these are focus topics and eight are “Manage” topics. These areas are analysed in more detail in this report. The remaining three topics (Impact on communities and the population, Water and wastewater and Biodiversity) are still shown in the “Monitor” section, and are therefore not included in Stadler’s sustainability strategy or sustainability reporting, as they can be dealt with in a more focused manner in individual regions in which Stadler is active, but are not yet highly relevant at Group level.

Materiality matrix Stadler Rail



Legende:

- Environmental matters
- Social issues
- Governance
- To be considered in the future

Contribution to the United Nations Sustainable Development Goals

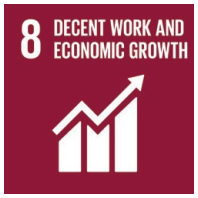
Stadler is convinced that the effective sustainability management of a global company must make a significant contribution to achieving the UN's Sustainable Development Goals and to overcoming global challenges.

Goal 3: Good Health and Well-Being
Stadler rail vehicles are designed to ensure a safe travelling experience, while comprehensive safety management in the workplace protects the health and well-being of the workforce. These efforts reflect Stadler's commitment to promoting a safe and healthy environment in all aspects of its operations.

Product and customer safety
Occupational health and safety

Goal 7: Affordable and Clean Energy
Stadler prioritises the transition to greener energy. By actively reducing its dependence on fossil fuels, increasing energy efficiency and integrating renewable sources, including the use of its own PV systems, Stadler is ensuring that the energy used in its own operations is in line with a clean and sustainable energy future.

Climate change mitigation
Energy



Goal 8: Decent Work and Economic Growth
Stadler considers the promotion of fair employment conditions and the health and safety of all employees to be a fundamental responsibility of an employer. Respect for human rights and compliance with labour law are a matter of course for Stadler, as well as being demanded from suppliers.

Working at Stadler
Occupational health and safety
Diversity and equal opportunities
Human rights

Goal 9: Industry, Innovation and Infrastructure
Stadler endeavours to use resources efficiently and to maintain a sustainable supply chain. Innovation drives the development of advanced railway systems for a sustainable mobility infrastructure. Stadler ensures that the value chains comply with global standards and supports the general transition to sustainable industrial practices.

Climate change mitigation
Supply chain management and raw material availability

Goal 11: Sustainable Cities and Communities
Stadler delivers climate-friendly innovations in rail transport. Sustainable mobility is promoted by developing low-emission vehicles and efficient, adaptive transport solutions for a cleaner, more inclusive urban infrastructure.

Climate change mitigation

Goal 12: Responsible Consumption and Production

Stadler optimises resource efficiency, implements responsible practices in the supply chain and minimises waste. The environmental impact of products is reduced by integrating the principles of the circular economy into production processes and extending the product life cycle.

Inflows and outflows of resources
Waste
Supply chain management and raw material availability

Goal 13: Climate Action

Stadler reduces greenhouse gas emissions, optimises the use of resources and improves energy efficiency. Innovative technologies such as alternative drive systems support global efforts to curb climate change and enable sustainable development.

Climate change mitigation
Energy
VOC emissions
Inflows and outflows of resources

Goal 16: Peace, Justice and Strong Institutions

Stadler promotes integrity, transparency and respect for human rights in its operations and supply chains. The company enforces robust governance frameworks and takes a zero-tolerance approach to corruption to ensure ethical business practices throughout the Group.

Compliance, ethics and integrity
Supply chain management and raw material availability

Stakeholders

Stadler's business model encompasses a large number of stakeholder groups, ranging from the suppliers of raw materials and of components to rail transport operators and public authorities who ensure the safety of systems, and finally, the passengers themselves.

Stakeholder groups outside the industry, such as employees, shareholders and society, also play an important role for Stadler. Stadler's dialogue focuses on the stakeholders who are directly associated with the company:

The **employees** are the key success factor of any company. Taking care of employees is not only a legal obligation, but also a business necessity.

Stadler attaches great importance to maintaining close dialogue with its **customers**, who are actively involved in development and production processes. Even after the delivery of a product, Stadler offers its customers a wide range of services to optimise the operation of Stadler trains. This approach is essential for Stadler in order to establish long-term partnerships. Stadler's customers are generally rail transport companies. "We build trains from our customers' perspective". That is the company's guiding principle.

Stadler only manufactures a small proportion of the components required to produce the trains itself. This business model requires reliable **suppliers** who guarantee deliveries of the highest quality. In addition, increasing demands are being placed on the sustainability management of suppliers. They are part of the value chain and, as such, are the responsibility of the company. As a result, dialogue with suppliers at Stadler has steadily intensified in recent years.

Over 35,000 shareholders have shares in Stadler, including major shareholders who hold a significant proportion of shares. By providing regular, transparent information on its strategy and business performance, Stadler enables shareholders to make investment decisions about the company on a sound basis. In addition, the **shareholders** have the opportunity to make their voices heard and ask questions at the General Meeting, which is held in person.

Rail transport is of great importance to the economy and society. Responsibility often lies with the state. This places high demands on suppliers in the industry. The increasing requirements and regulations in the rail transport sector necessitate continuous dialogue between manufacturers and the **authorities**.

Memberships

Stadler maintains various networks along the value chain in order to pool resources or represent common interests. The company is represented nationally and internationally in over 140 associations and interest groups. These include international memberships in the fields of public transport and international trade, as well as national memberships in the areas of public transport, the rail industry, the mechanical engineering industry, employers' associations, standards organisations and specialist committees. Selected examples can be found below: Interest groups in the transport and rail industry (Swissrail, Verband der Bahnindustrie in Deutschland (VDB), American Public Transportation Association (APTA) and others), general business and trade associations (Camara de Valencia, Polish Chamber of Commerce and others), employers' organisations (IG Metall, Unia and others).

Sustainability strategy

Stadler develops its strategy in close cooperation between the Board of Directors and the Group Executive Board. New topics are added or existing priorities adapted in the annual strategy review. Sustainability has been an integral part of the overall strategy for three years and represents a strategic dimension.

Stadler's sustainability strategy is geared towards helping customers to achieve their own sustainability goals. At the same time, it takes into account the requirements of society and the company's endeavours to remain successful in the long term and to make a positive contribution to the environment and society. Stadler has pioneering ambitions with regard to the environment, social affairs and governance. Material topics are assigned to superordinate categories.

Sustainability strategy and material topics

Environment

- Innovative products and services to increase the attractiveness of rail transport compared to other forms of mobility
- Continuous reduction of environmental impact
- Net-zero target by 2050 (SBTi-compliant)
- Halving the climate impact for Scope 1 and 2 emissions by 2030

Climate Change Mitigation | **Pollution** | **Circular Economy**

Social

- Increasing employer attractiveness
- Securing the long-term existence of the rail industry by promoting young talent
- Development, production and maintenance of mobility solutions with the highest safety standards
- Corporate responsibility and the safeguarding of human rights in everything we do

Employer Attractiveness | **Human Rights** | **Product and Customer Safety**

Governance

- Ensuring the transparency and integrity of all group activities vis-à-vis stakeholders
- Uphold due diligence obligations in the supply chain

Supply Chain Management and Raw Material Availability | **Compliance, Ethics and Integrity** | **Data Protection**

Clear targets have been established in individual areas to make the sustainability strategy achievable and measurable, and to adopt a focused approach. These targets are used to measure progress and are constantly being expanded.

Target achievement 2024

	Target	Basis	Progress	Ambition
Environment	Halve Scope 1 and 2 emissions by 2030	2022: **40,817 t CO_2e**	**39,511 t CO_2e (–3.2%)**	**– 50%** by 2030
	Net zero emissions by 2050	2022: **40,817 t CO_2e**	**39,511 t CO_2e (–3.2%)**	**– 100%** by 2050
	Increase the recycling rate to 60%	2022: **39.5%**	**48.3%**	**60%** by 2030
	Reduce VOC-Emissions by 15%	2021: **240 t VOC**	**292 t VOC (+21.7%)**	**– 15%** by 2030
	Preparation of a life cycle analysis for each combination of train type and drive type of which more than 25 vehicles have been sold for passenger transport	–	**27%**	**100%** by 2030
Social	Reduction of the fluctuation rate to below 10%	2022: **12.2%**	**7.7%**	**< 10%** by 2025
	Reduction of occupational accidents with days lost by 50%	2022: **LTIR 19.2**	**LTIR 13.2 (–31.3%)**	**– 50%** by 2030
	No serious accidents due to technical failure with Stadler vehicles during regular operation	–	**0 serious accidents**	Continuous
	Appropriate measures in every case of a confirmed human rights violation	–	**0 human rights violations**	Continuous
Governance	No confirmed cases of corruption	–	**0 cases of corruption**	Continuous
	No confirmed serious breaches of personal data protection	–	**0 serious breaches**	Continuous
	100% signed codes of conduct for relevant employees	–	**99%**	**100%** by 2026
	An in-depth sustainability analysis is carried out for 100% of high-risk suppliers	–	**100%**	**100%** by 2025

4,850

Trains in operation[1]

970

Millions of kilometers driven with Stadler trains per year[2]

20.3

Million tonnes annual savings of CO_2e through Stadler-trains compared to road transport[3]

Comparative value: Switzerland's greenhouse gas emissions in 2022 amounted to 41.63 Mio. t CO_2e

[1] Own derivation taking into account the turnover figures, the service life of a train and the sales value per train
[2] Own derivation taking into account the annual mileage per train
[3] Own calculation based on mobitool v3.0 emission factors for road and rail and passenger transport data
[4] Source: BAFU – Treibhausgasemissionen der Schweiz 1990–2021 (as of April 2024)

CLIMATE CHANGE

Climate change mitigation

Stadler's commitment to climate change mitigation includes upstream, in-house and downstream greenhouse gas emissions. In terms of its own emissions, Stadler is aiming to halve Scope 1 and 2 emissions by 2030 and to achieve "net zero" by 2050 (reference year: 2022). This reduction is in line with a reduction pathway from the Science Based Targets initiative (SBTi) and is implemented with a CO_2 reduction strategy. However, the downstream emissions generated during the operation of railway vehicles are even more significant. In addition to the reduction strategy, Scope 3 emissions were quantified for the first time in the reporting year. As a technology and market leader in the field of alternative drive systems, Stadler makes a significant contribution to reducing these emissions through more sustainable mobility and offers its customers environmentally friendly and economical options. Life cycle assessments (LCA) capture all emissions during the entire life cycle of trains.

Goals and ambitions
- Set a reduction target for Scope 3 emissions in 2025, based on SBTi criteria
- Preparation of a life cycle analysis for each combination of train type and drive type of which more than 25 vehicles have been sold for passenger transport
- Halve emissions in Scope 1 and Scope 2 by 2030
- Achieve net zero by 2050 in accordance with the SBTi reduction targets to be submitted

Significant impacts, opportunities and risks
- Controlling electricity and thermal energy consumption in buildings and in sites for the production of vehicles and system components
- Producing materials
- Operating vehicles: reducing the climate impact due to the drive energy required for vehicle operation

Main fields of action
- Developing alternative drives
- Opting for ecodesign and carrying out life cycle assessments of vehicles

Greenhouse gases are emitted along Stadler's entire value chain. The most significant greenhouse gas is carbon dioxide (CO_2). Other gases such as methane (CH4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), partly fluorinated hydrocarbons (HFCs), perfluorinated hydrocarbons (PFCs) and sulphur hexafluoride (SF_6) together account for less than one percent of the Scope 1 and 2 emissions and are therefore not shown separately in this report. However, the greenhouse gas inventory of Stadler always refers to equivalent CO_2 emissions (CO_2e) and therefore also includes the above-mentioned greenhouse gases.

Scope 1, 2 and 3 accounting has shown that the largest proportion of Stadler's total emissions is attributable to the upstream and downstream value chain at 99.3 percent. The majority of Scope 3 emissions come from material production (particularly aluminium, iron and electronics) and from the provision of energy for vehicle operation. Depending on the country, large quantities of climate-damaging greenhouse gases are produced because of the electricity or other drive energies used in the relevant country, which are often obtained from fossil fuels.

In Stadler's production process, painting in particular uses especially high volumes of energy. Scope 1 and 2 emissions are caused by electricity and heat energy consumption in production and office buildings. These contribute to climate change and can, locally, also worsen the air quality. For this reason, driving

forward the energy transition within the company is an important lever for to the negative impact on the environment and to make a sustainable contribution.

The topic of emissions also represents an excellent opportunity for Stadler's business model. We have decades of experience with a wide range of different, flexible drive systems that meet the growing expectations of stakeholders with regard to climate change mitigation, especially when customers prioritise lower-emission drives.

Legal framework, guidelines and internal regulations

Guidelines

Stadler's climate change mitigation efforts are based on national and European climate policy and on international climate targets such as the Paris Climate Agreement.

The "Federal Act on Climate Protection Goals, Innovation and Strengthening Energy Security" applies to the Stadler sites in Switzerland. This legislation obliges Swiss companies to become climate neutral by 2050. The reduction strategy for Scope 1 and 2 emissions developed in 2024 in accordance with SBTi, which is described later in this section, is in line with this objective. Furthermore, the law is not only an obligation, but also creates opportunities in the form of subsidies that can help the Swiss locations to implement the energy transition.

Stadler uses the "Greenhouse Gas Protocol" for the purpose of CO_2 accounting, and will extend the previously defined emission reduction targets and reduction paths to Scope 3 by the end of 2025. The targets will be submitted to and validated by the SBTi at the beginning of 2026.

Internal regulation

All the major sites have introduced a quality, environmental and health and safety policy based on the corporate strategy, the needs of stakeholders and the legal requirements. It covers operational environmental protection and the environmental performance of products and services. The regulation calls for the development and application of efficient technologies and reusable materials, and aims to reduce the energy requirements of sites and products whilst promoting the construction of durable vehicles.

Management takes a leading role in communicating these principles. The larger production sites outside Switzerland implement similar environmental policies and exchange information on processes and the harmonisation of guidelines. A Group-wide internal OECD specification document, "Compliance with environmental standards", has been in force at Stadler since 2023. This document contains a section on climate policy and sets the objective of achieving climate-neutral production by 2050.

When carrying out LCAs for its vehicles, Stadler is guided by the ISO 14040/14044 and ISO 14067 standards. The climate impact of trains is reported separately for each life cycle phase.

Internal implementation

Responsibilities

Group-wide responsibility for the sustainability strategy and therefore for the associated climate issues and targets lies with the Board of Directors. Practical implementation has been delegated to the global sustainability team by the Group CEO. In coordination and cooperation with the local sustainability officers, measures are taken to achieve targets if they are not yet in place in the locations. The Global Sustainability Team is also responsible for consolidating and controlling the Group environmental indicators. Data collection is decentralised at the sites, while responsibility for implementing the relevant management systems (ISO 14001) and measures lies with the site managers, the local sustainability officers and the QEHS departments.

Stadler Rheintal has built up the necessary expertise for performing LCAs. The site represents a competence centre for life cycle assessments within the company. As more and more customers are requesting environmental product assessments for their vehicles, it is planned that the Global Sustainability Team will also prepare LCAs to relieve the locations of this task.

In-house climate change mitigation measures

Some sites obtain electricity from fossil energy sources for geographical reasons. Stadler is therefore endeavouring to make greater use of low-emission energy sources and to reduce the current consumption of fossil fuels. The following measures are particularly suitable for effectively reducing Scope 1 and 2 emissions: installing heat pumps to replace natural gas heating systems, purchasing green electricity or installing PV systems instead of using CO_2-intensive electricity. More details on individual projects can be found in the **Energy** section.

In Switzerland, Stadler has an obligation to achieve emission reduction targets based on target agreements entered into with the Federal Government. Support is provided by the Energy Agency of the Swiss Private Sector (EnAW), which identified energy-saving measures and analysed their costs and the amount of energy and CO_2 that can be saved. A list of measures was then made available to Stadler. This list contains detailed information on the ecological and economic efficiency of the measures for a particular location and helps Stadler to decide which steps to take. Stadler used EnAW's services for the first time in the reporting

year for the component location in Środa. With the list of measures prepared for the site, it now has a solid basis for reducing emissions in the coming years. The evaluation process is currently underway for other sites outside Switzerland.

Upstream climate change mitigation measures
The CO_2 footprint in upstream supply chains can be minimised by means of innovative supply chain management and the use of components with a high proportion of recycled raw materials or recyclable materials. For example, Stadler already achieves a share of 42 percent secondary aluminium. This is set to increase in the future. More information on this can be found in the chapter **Resource inflows and outflows**.

Ecodesign
Stadler takes climate change mitigation into account during the planning of the entire product life cycle. It considers Scope 3 emissions from the materials used and from the environmental impact of train operation, as well as recyclability and disposability. Key factors include integrating the alternative drives mentioned above and ensuring that the trains have a long service life of at least 30 years. Further information on ecodesign and the circular economy principle at Stadler can be found in the section on **Resource inflows and outflows**.

Preparation of LCAs
In order to develop vehicles that are more environmentally friendly, Stadler determines their environmental impact in accordance with the ISO standards for LCAs. It calculates their ecological footprint via LCAs or Environmental Product Declarations (EPD).

From 2024 onwards, Stadler intends to increasingly carry out life cycle assessments of vehicles in accordance with ISO 14040 and ISO 14044 and to publish EPDs in accordance with ISO 14025. In the reporting year, Stadler prepared an EPD for a KISS train, for example. The long-term goal is to have an LCA for each vehicle type that can be individually tailored to customer orders.

Climate change mitigation in the downstream value chain
As a leading provider in the field of green, alternative drive systems (electricity, battery, hydrogen or hybrid options), Stadler focuses on the further development of low-emission drive technologies and the minimisation of diesel-powered trains. Thanks to the use of green drives, Stadler trains are also driving forward decarbonisation on non-electrified routes and helping customers to achieve their emissions targets. Stadler is striving to achieve a position as a market and technology leader for energy efficient technologies by successfully participating in tenders and offering appropriate customer solutions.

Stadler's founder Ernst Stadler (1908–1981) had already firmly established the topic of sustainable drive methods within the company. He set up his own engineering office during the Second World War and focused on rail vehicles for special applications, including battery operations. Today, Stadler is one of the leading suppliers in the fields of energy-efficient electric drives for mainline and branch lines, as well as alternative drives with batteries and hydrogen to replace diesel drives. To this end, the company has invested in the development of its vehicle portfolio. The principle of offering customers not just one, but a full range of CO_2-neutral drive systems – ranging from electric and battery to hydrogen, e.g. using fuel cells – has always been a central part of this strategy. These drives can also be combined with each other as hybrid solutions to meet customer requirements.

Stadler is one of the frontrunners in the sale of trains with environmentally friendly drive systems (electric, battery and H_2) in the world. In 2021 and 2024, Stadler demonstrated this market leadership by setting world records for the longest distances travelled by a battery and a hydrogen-powered train respectively without recharging or refuelling. Stadler's battery-powered train covered ▸ **a distance of 224 kilometres**, while the hydrogen-powered vehicle travelled ▸ **a distance of 2,803 kilometres** in the USA. Other elements of Stadler's market leadership in sustainable and alternative drive systems include:
– FLIRT H_2 hydrogen multiple unit for regions without sufficient electrification
– 130 battery-only FLIRT Akku vehicles sold for regions with gaps in electrification
– Several hybrid solutions with batteries for storing braking energy and bridging non-electrified sections of route, such as the RS ZERO model launched in 2024, which can run on hydrogen and battery power
– EURO9000 and EURODUAL hybrid locomotives
– Three-point power converters to reduce drive losses
– Measurements from Free-Stream Anemometers (FSA) that optimise aerodynamics during operation
– Latest-generation EU Stage V diesel motors compatible with operation using synthetic fuels (e.g. HVO) for non-electrified routes

Dialogue with stakeholder groups
Stadler's customers are constantly making more and more ambitious demands in terms of climate change mitigation and reduction in greenhouse gas emissions along the entire value chain. All information is queried, whether it is the energy efficiency of vehicles or the energy mix and energy utilisation of company locations, the material composition of the parts installed or the recycled content of the materials used. Demand is also rising for comprehensive environmental product assessments of vehicles over their entire life cycle.

Scope 1 and 2 accounting

Methodology for data collection

Stadler collected Scope 1 and 2 data using the same methodology as in the 2023 financial year. The entities, emission sources, data sources for emission factors and extrapolation methodology taken into account in the data collection remained unchanged. The emission factors have simply been updated in line with the new version in the databases, i.e.

– DEFRA 2024 for fossil fuels, motor fuels and biogenic CO_2 emissions
– Ecoinvent v3.10.1 for location-based emission factors
– IPCC 6. Assessment Report (AR 6) for the global warming potential of various greenhouse gases

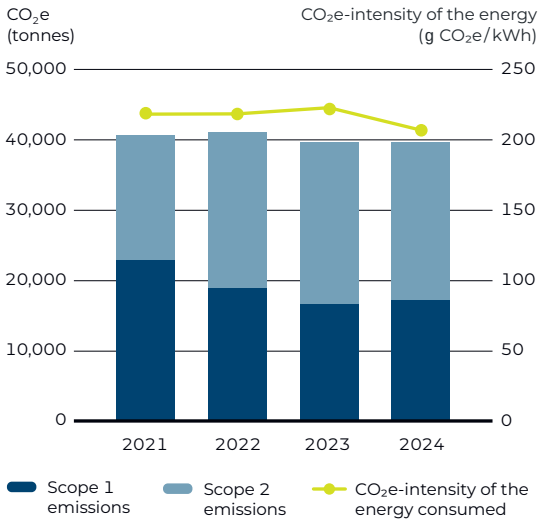
Details of Scope 1 and 2 accounting methods can be found in the ▸ **Sustainability Report 2023 (p. 62)**.

Performance indicators

According to the market-based method, Stadler recorded cumulative Scope 1 and 2 emissions of 39,511 tonnes of CO_2e for the 2024 financial year. This is 21 tonnes fewer CO_2e than in the previous year and corresponds to a reduction of 0.05 percent. Savings of greenhouse gas emissions were lower than in the 2023 financial year. The drop in savings of greenhouse gas emissions should be put into perspective, as there was strong growth in the workforce and greater production activity in 2024. The number of full-time equivalents (FTE) increased by nine percent, while the number of car bodies painted rose by 22 percent. The higher workforce and production activity are reflected in the rise in energy consumption, which increased by 7.7 percent. This data shows that energy consumption per FTE and service unit has decreased. The reduction in CO_2e emissions and the increase in energy consumption have led to a reduction in the CO_2e intensity of the energy consumed. In 2024, this figure stood at 207 grams of CO_2e/kWh, compared with 223 grams of CO_2e/kWh in 2023. Consistent with the reduced CO_2 intensity of the energy consumed, the proportion of renewable energy in relation to total energy consumption increased from 26.8 to 28.2 percent.

In terms of electricity consumption, the share of renewable energies rose from 52.4 to 54.8 percent. This is due partly to the purchase of less CO_2-intensive electricity and partly to an increase in the production of our own PV electricity. At 3,868 MWh, Stadler more than doubled the generation of our own PV electricity compared to the previous year.

Scope 1 and 2 emissions[3]



As shown by the figures, Stadler achieved greater energy efficiency and progress in the decarbonisation of energy sources in the reporting year. Despite these improvements, the effects of growth must be compensated for environmentally in the future to ensure conformity with the SBTi target path. Stadler realised early on that ambitious goals cannot be achieved without targeted measures. It therefore developed a Scope 1 and 2 reduction strategy in the reporting year. This strategy should enable Stadler to meet the annual reduction rates and achieve the defined climate targets. Details of Stadler's reduction strategy can be found in the next section.

[3] In preparation for the change to the ESRS reporting standard, the "Climate mitigation" and "Energy" chapters have already been separated in this year's report. For this reason, the CO_2e intensity of the energy consumed is shown here rather than energy consumption, as it was last year. This makes it possible to track the relative development of emissions and progress in efficiency.

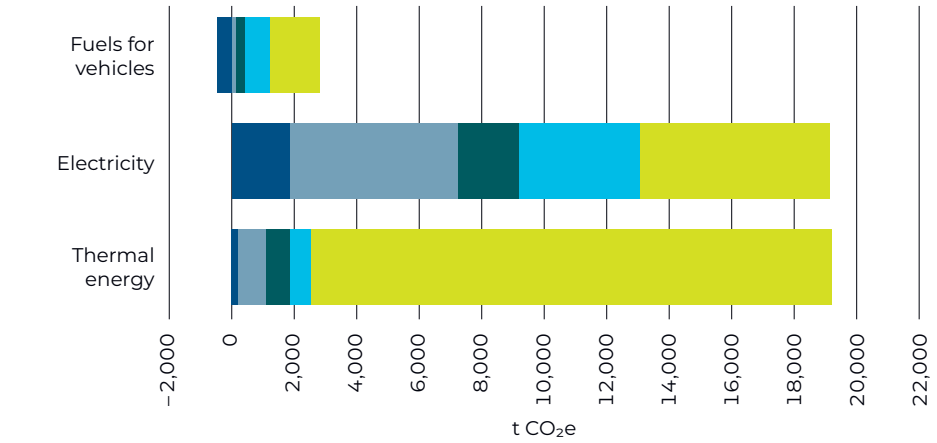
Reduction strategy for Scope 1 and 2 emissions
In January 2024, Stadler signed up to the Science-Based Target initiative (SBTi) and committed to a short and long-term goal. Since registering with SBTi, Stadler has two years to submit the targets to SBTi and have them validated. Registration with the SBTi does not change the previous objective: Stadler remains committed to halving CO_2 by 2030 and to reaching net zero by 2050. Reduction of CO_2 follows the strict principles of the SBTi, i.e. in compliance with the 1.5°C target and only by means of active CO_2 reduction. CO_2 offsetting via compensation projects is not permitted. This ensures an effective, serious reduction of CO_2.

Stadler launched a reduction strategy in the reporting year and presented it to the company locations to confirm the feasibility of the climate targets. A monitoring tool was used to set target values for each site and for the Stadler Group as a whole, based on the emissions data for 2022 (reference year, 40,817 tonnes of CO_2e) and an annual reduction of 6.25 percent by 2030 (cumulative 50 percent reduction in emissions compared to the 2022 emissions inventory; target value: 20,408 tonnes of CO_2e). An action plan was drawn up containing suggested measures collected from the locations, including information on the climate impact (CO_2 savings) and economically relevant data (investment costs, operating costs, energy costs saved, implementation date and duration). This enabled the measures to be evaluated in terms of target achievement and cost efficiency. Based on the assessment of the measures, an agreement was reached with the locations on which measures would be implemented when. An emissions forecast was then prepared for the period from 2025 to 2030 to allow a comparison with the target values.

So far, 83 measures have been collected, which shall achieve cumulative CO_2 savings of 14,770 tonnes of CO_2e from January 2025. Of this figure, 6,400 tonnes of CO_2e are from measures that have already been approved[4], 3,040 tonnes of CO_2e are from economic measures (recommended implementation) and 5,330 tonnes of CO_2e are from uneconomic measures (implementation if necessary). Added to the savings of 1,804 tonnes of CO_2e already achieved in relation to the reference year 2022, Stadler calculates projected emissions of 24,080 tonnes of CO_2e based on the emissions inventory of the 2024 financial year and zero growth by 2030 (see chart below). This corresponds to a target achievement rate of 82 percent and a target gap of 3,670 tonnes of CO_2e to be closed by 2030. Stadler will now identify further measures to be included in the action plan. The company sees particular potential in the further decarbonisation of electricity as an energy source. This could save an additional 6,000 tonnes of CO_2e, but extensive CO_2e savings are also possible from heating energy, e.g. by adopting efficiency measures or replacing fossil-fuel heating systems.

[4] These measures were approved by the respective site management.

CO_2 savings: Implementation of reduction strategy



- CO_2 savings 2022 & 2023
- CO_2 savings – Implementation of measures definitive
- CO_2 savings – Implementation of measures recommended
- CO_2 savings – Implementation of measures if necessary
- Remaining emissions

Stadler will use the latest emissions data from the reporting and newly suggested measures to continuously update the forecasts and compare them with the target figures. If the forecasts are above the target figures, additional measures will be included in the action plan. The aim is to achieve a controlled reduction in emissions in line with the CO_2e reduction pathway and to ensure that the 2030 target can be reached. As required by the SBTi, Stadler will report publicly on the progress made towards achieving its objectives.

Scope 3 accounting

Methodology for data collection

Stadler accounts for Scope 3 emissions according to the GHG Protocol, which divides emissions into 15 categories. The relevant Scope 3 categories were determined in advance by means of a materiality analysis. This analysis includes a site survey, a competition analysis and an indicative assessment by the Global Environmental Manager to determine a score for each category. If the score exceeds the set threshold, the category is considered relevant. For Stadler, emissions from seven Scope 3 categories were found to be material, six of which are in the upstream value chain and one in the downstream value chain. However, the non-relevance of a category does not automatically result in its exclusion from the data collection. Stadler voluntarily collects data for additional Scope 3 categories. In total, data is collected for ten Scope 3 catego-

Performance indicators

Greenhouse Gas Emissions Scope 1 and 2	Unit	2022	2023	2024	Δ %
Scope 1	**t CO_2e**	**18,711**	**16,505**	✓ **16,986**	**2.9%**
Fuels for heating purposes[1]	t CO_2e	16,200	13,206	13,737	
Fuels for vehicels[1]	t CO_2e	2,334	2,615	2,802	
Refrigerants[2]	t CO_2e	118	558	229	
Other[3]	t CO_2e	59	125	219	
Scope 2 (location-based)	**t CO_2e**	**23,284**	**22,716**	✓ **23,268**	**2.4%**
Scope 2 (market-based)	**t CO_2e**	**22,106**	**23,027**	✓ **22,525**	**(2.2%)**
Electricity (location-based)[4]	t CO_2e	20,298	18,442	18,022	
Electricity (market-based)[4]	t CO_2e	19,121	18,754	17,279	
District heating[4]	t CO_2e	2,986	4,274	5,246	
Other[5]	t CO_2e	0	0	0	
Total Greenhouse gas emissions Scope 1 and 2 (location-based)	**t CO_2e**	**41,995**	**39,220**	**40,254**	**2.6%**
Total Greenhouse gas emissions Scope 1 and 2 (market-based)	**t CO_2e**	**40,817**	**39,532**	**39,511**	**(0.05%)**
Emission intensity (market-based) in t CO_2e per Mio. CHF net revenue	t CO_2e / Mio. CHF	10.9	11.0	12.1	
Emission intensity (market-based) in g CO_2e per kWh	g CO_2e / kWh	218.5	222.9	206.9	
Emission intensity (market-based) in t CO_2e per FTE	t CO_2e / FTE	3.0	2.8	2.6	

[1] Emission factors according to DEFRA 2022, 2023, 2024

[2] Greenhouse potential according to IPCC AR5, AR6

[3] Emissions from industrial processes (welding, dry ice cleaning, oxidation of VOCs, etc.)

[4] Location-based emission factors according to Ecoinvent version 3.9.1 for 2022 data, V3.10 for 2023 data, and V3.10.1 for 2024 data; market-based emission factors according to Treeze 2017 and electricity labels from electricity markets

[5] Emissions from purchase of steam, refrigeration and compressed air

ries, which together make up the total inventory of Scope 3 emissions (see the table below). Data is collected in accordance with the methods recommended in the GHG Protocol guidelines. For each category, mainly physical or mainly financial data is analysed, taking into account the availability of data.

The following table shows the Scope 3 categories relevant to Stadler, how they are taken into account when collecting data, the underlying calculation methodology and the emission factors used for the calculation.

Spatial system boundary
Scope 3 accounting was carried out for the same entities as Scope 1 and 2. Entities for which insufficient data was available or whose share of emissions was categorised as negligible were not included in the data collection.[5] In the same way as for Scope 1 and 2 accounting, their emissions were taken into account in the Group figures by extrapolation based on the number of FTEs. This avoids any underestimation of emissions. The extrapolation factor for Scope 3 is only 1.019 percent, which corresponds to a weighted data query of 98.1 percent.

Calculation of Scope 3 emissions
To calculate Scope 3 emissions, physical data (e.g. kg of material, kWh of energy and passenger kilometres) was multiplied by emission factors from Ecoinvent v3.10 and DEFRA 2024 (unit: kg of CO_2e per kg of material, energy unit or passenger kilometre). For

[5] These are primarily smaller service and signalling sites with fewer than 50 FTEs.

Scope 3 Categories	Name	Relevance according to materiality analysis	Inclusion in data collection	Calculation method	Emission factors
3.1	Purchased Goods and Services[1]	Yes	Yes	Average based method, spend-based method	Ecoinvent v3.10, DEFRA 2024, Exiobase 2019
3.2	Capital Goods	Yes	Yes	Spend-based method	DEFRA 2024, Exiobase 2019
3.3	Fuel and Energy-related Emissions[2]	Yes	Yes	Consumption-based method	Ecoinvent v3.10, DEFRA 2024
3.4	Upstream Transportation and Distribution[3,4]	No	Yes	Distance-based method	Mobitool v3.0
3.5	Waste Generated in Operations[5]	Yes	Yes	Waste-type-specific method	Ecoinvent v3.10, DEFRA 2024
3.6	Business Travels[6]	Yes	Yes	Distance-based method	Mobitool v3.0, DEFRA 2024
3.7	Employee Commuting[7]	Yes	Yes	Distance-based method	Mobitool v3.0
3.8	Upstream Leased Assets[8]	No	No		
3.9	Downstream Transportation and Distribution[8]	No	Yes	Distance-based method	Mobitool v3.0
3.10	Processing of Sold Products[8]	No	No		
3.11	Use of Sold Products[9]	Yes	Yes	Consumption-based method, distance-based method	Ecoinvent v3.10
3.12	End-of-Life Treatment of Sold Products[10]	No	Yes	Waste-type-specific method	Ecoinvent v3.10, DEFRA 2024
3.13	Downstream Leased Assets[10]	No	No		
3.14	Franchises[10]	No	No		
3.15	Investments[10]	No	No		

[1] Goods from external suppliers
[2] Activity data from Scope 1 and 2 data collection
[3] Supplied goods from external and internal suppliers
[4] The non-relevance of this Scope 3 category is based on a low score in the materiality analysis (combination of the assessment of the locations, the Global Environmental Manager and the relevance assessment of Stadler's competitors) conducted in preparation for the Scope 3 data collection. In some cases, locations have nevertheless voluntarily recorded their emissions. In no case did the calculated emissions contribute significantly to the total emissions of the location, which confirms the actual irrelevance of this category.
[5] Activity data from Scope 1 and 2 data collection
[6] Travel routes incl. hotel accommodation
[7] Data collection through employee mobility survey (3920 responses; 27 percent response rate)
[8] The non-relevance of this Scope 3 category is based on a low score in the materiality analysis (combination of the assessment of the locations, the Global Environmental Manager and the relevance assessment of Stadler's competitors) conducted in preparation for the Scope 3 data collection. In some cases, locations have nevertheless voluntarily recorded their emissions. In no case did the calculated emissions contribute significantly to the total emissions of the location, which confirms the actual irrelevance of this category.
[9] Calculation of operational emissions from vehicles delivered in the financial year: emissions (kg CO_2e) = specific energy consumption (kWh/km) x mileage (km/year) x service life (years) x emission factor (kg CO_2e/kWh)
[10] The non-relevance of this Scope 3 category is based on a low score in the materiality analysis (combination of the assessment of the locations, the Global Environmental Manager and the relevance assessment of Stadler's competitors) conducted in preparation for the Scope 3 data collection. In some cases, locations have nevertheless voluntarily recorded their emissions. In no case did the calculated emissions contribute significantly to the total emissions of the location, which confirms the actual irrelevance of this category.

categories 3.1 (Purchased Goods and Services) and 3.2 (Capital Goods), financial data was taken into account in the calculation in addition to physical data if sufficient physical data was not available. Financial data was calculated using emission factors from DEFRA 2024 and Exiobase 2019 (e.g. kg of CO_2e/CHF). For transport-related emissions, the distance-based method was applied in each case using the emission factors from mobitool v3.0 (kg of CO_2e/tkm or kg of CO_2e/pkm).

Limited data availability and measures to improve data accuracy

It is especially difficult to record greenhouse gas emissions in Scope 3, as these emissions largely result from activities along the value chain and are therefore not under Stadler's direct influence. Primary data on the emissions from the products and services purchased by Stadler, capital goods, as well as the associated logistics and other categories can currently only be provided by a few entities.

For this reason, the locations mostly reported financial data for categories 3.1 and 3.2, which meant that emissions had to be calculated using the output-based method. However, this calculation method is associated with a high degree of uncertainty. This is because the output-based emission factors for a material or activity required for the calculation vary greatly depending on the database (e.g. DEFRA, Exiobase) and the geographical area (country, region). A significant role is played by the different sales prices of products, which represent a complex combination of material, production, personnel and marketing costs and, not least, depend on profit margins. This can mean that goods produced in a similar way with an equivalent environmental impact can have considerably different prices and therefore also different output-based emission factors.

For this reason, Stadler has linked the output-based emission factors for the most important materials used in train construction – aluminium and steel – to the Ecoinvent emission factors via the material prices. This not only helps to ensure greater data accuracy, but is also consistent with Stadler's efforts to calculate Scope 3 emissions solely on the basis of physical data in the future. It will therefore also facilitate the comparability of current emissions data with future data.

The product LCAs already carried out provide information on the material composition of Stadler's vehicles and certain sub-assemblies. This ensures a more accurate estimate of the material composition of purchased goods.

In category 3.4, some locations did not have sufficient physical data on the volume of goods transported or the transport distances. This category is closely correlated to category 3.1, as the delivery date of the goods is taken into account for both categories. This enables a comparison of data with category 3.1. If there is insufficient physical data in category 3.1, the output figures were converted into weight data on the basis of typical ratios between material price and weight. The availability of data was much better for the transport of goods internally within the company, which is also part of category 3.4. This means that the volume of goods transported for category 3.4 could be determined more precisely using the distance-based method.

For category 3.11, very little measured data was available for the energy consumption of the vehicles delivered. Simulations of energy consumption were used whenever measured data was insufficient. In a few cases, the energy consumption of vehicles had to be estimated. In relation to the total emissions, a low level of uncertainty can be assumed.

Various discrepancies were resolved by carrying out plausibility checks and holding validation meetings with the locations. This helped to significantly improve data quality.

Performance indicators

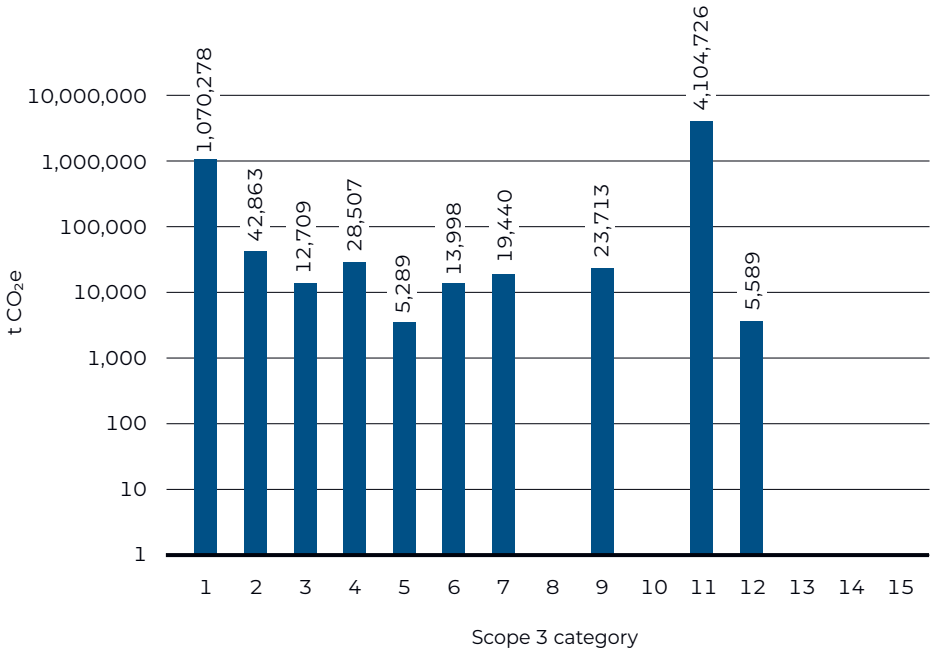
Stadler's total Scope 3 emissions amounted to 5.33 million tonnes of CO_2e in the reporting year. Category 3.11 (use of sold products) is the most significant Scope 3 category, with 77 percent of emissions, followed by category 3.1 (purchased goods and services), with 20 percent of emissions. The remaining Scope 3 categories are responsible for just three percent of emissions. In terms of business activities, this means that the provision of energy (vehicle operation) and production of materials (particularly aluminium and steel) account for the majority of upstream and downstream emissions. The procurement of capital goods, the transport of goods and people, and the disposal of waste play only a minor role in Stadler's Scope 3 emissions inventory.

The dominant role of category 3.1 (material production) and 3.11 (vehicle operation) had already been established in product LCAs. As an industrial company in the mechanical engineering sector, Stadler manufactures material-intensive products that require high volumes of energy to produce. Consequently, the production of these materials causes substantial CO_2e emissions. The vehicles consume a great deal of energy during operation, even if they are energy efficient. Due to the number of kilometres travelled by the vehicles (up to 300,000 km/year) and their long service life (up to 40 years), large volumes of energy are consumed over the entire life cycle. In many countries where Stadler trains operate, electricity is decarbonised to a low degree, which leads to high CO_2 emissions while operating the trains. Compared to the industry average, however, Stadler is likely to achieve relatively lower emissions in category 3.11. This is due to its high market share in Switzerland, where trains operate particularly climate-friendly. This is reflected in the emission factor shown for the Swiss rail electricity mix, which is less than 10 grams of CO_2e per kilowatt hour. In Europe, on the other hand, the average figure is 329 grams of CO_2e for the production of one kilowatt hour of electricity (Ecoinvent v3.10).

The calculation of emissions in category 3.11 is limited to vehicles delivered in 2024. The operation-related emissions of these vehicles include the emissions in the subsequent years until the end of their service life (30 to 40 years). For methodological reasons, this leads to higher emissions compared to considering the emissions in the financial year of the vehicles actually in use. The reason for this is that Stadler, as a growing company, delivered more vehicles in 2024 than on average over the last 30 to 40 years. However, this does not change the dominant position of category 3.11 for the Scope 3 inventory.

The sum of Scope 1, 2 and 3 emissions differs only slightly from Stadler's Scope 3 emissions inventory, which highlights the importance of Scope 3 emissions. These emissions account for 99.3 percent of Stadler's total emissions inventory.

Scope 3 emissions per category



Outlook

Thanks to the Scope 3 inventory, Stadler now knows not only the amount of its own Scope 3 emissions, but also where they come from. The relevant activities, categories and locations are identified in the inventory. This detailed understanding of upstream and downstream emissions will serve as a basis for defining a Scope 3 reduction target and developing a corresponding reduction strategy in 2025. Stadler will work with its suppliers and other stakeholders to determine the reduction potential, to collect suggestions for possible measures to be taken and to check their feasibility. The knowledge gained and decisions made will result in an implementation plan to ensure that the goals can be achieved. Stadler will report on its Scope 3 reduction strategy in the next Sustainability Report.

Thanks to this Scope 3 emissions data, Stadler is not only establishing a good starting position for subsequent Stadler projects in the ESG sector. This information will also help Stadler's business partners to prepare or check the plausibility of their greenhouse gas inventories. Stadler's reduction measures based on the SBTi principle will help its business partners to reduce their Scope 1, 2 and 3 emissions and therefore to achieve their own reduction targets more easily.

Furthermore, Stadler is constantly striving to improve the accuracy of its Scope 3 emission calculations. One way of doing this is to increase the availability of primary data. The availability and quality of supplier-specific data play an important role. In order to improve both these factors, Stadler will increasingly include its suppliers in the calculation of Scope 3 emissions in the future.

There is also potential for optimising the harmonisation of data storage and processing systems, which would allow a uniform calculation methodology to be applied. Scope 3 emissions should be calculated using physical data whenever possible. The information systems already in use will serve as data sources. Centralised, more highly automated collection of data will relieve the burden on the locations and improve the homogeneity of the data set.

Performance indicators

Greenhouse gas emissions	Unit		2024	%-share of total balance sheet
Sope 1	t CO_2e	✓	16,986	0.3%
Scope 2 (market-based)	t CO_2e	✓	22,525	0.4%
Scope 3	t CO_2e	✓	5,327,112	99.3%
Total greenhouse gas emissions (Scope 1, 2 and 3)	**t CO_2e**		**5,366,623**	**100.0%**
Scope 1, 2 and 3 emission intensity in tonnes of CO_2e (market-based) per CHF million of revenue	t CO_2e / Mio. CHF		1,648	

Energy

With a total energy consumption of 191,003 MWh and an energy consumption of 58.7 MWh per million francs of net revenue, Stadler's production activities use high volumes of energy. Depending on the energy mix, this can lead to high emissions and dependency problems. A rapid increase in the price of fossil fuels – for example as a result of geopolitical events or stricter EU climate policy – would have a direct impact on energy costs. Consequently, energy management and procurement are not only important for the company from an environmental perspective, but also for financial reasons.

Goals and ambitions
- Increase Stadler's own production of renewable electricity
- Increase the share of renewable energies in total energy consumption
- Reduction of the energy intensity

Significant impacts, opportunities and risks
- Managing price fluctuations for fossil fuels
- Ensuring price stability, security of the energy supply and reducing costs while switching to renewable energy

Main fields of action
- Using renewable energy in production and operations
- Using the company's own infrastructure for low-emission electricity production

The energy-intensive production of Stadler contributes to climate change and can locally add to air pollution through the emissions caused by the energy sources. Stadler is counteracting these realities. With a renewable share of 28.2 percent of total energy consumption (+5.4 percent) and a decreasing CO_2e intensity of the energy consumed, the company is on the right track despite an increasing energy intensity. Stadler further advanced these efforts in the reporting year and systematised them in its reduction strategy for Scope 1 and 2 emissions (see chapter **Climate change mitigation**).

Legal framework, guidelines and internal regulations

Guidelines

Stadler's efforts with regard to energy are guided by Swiss, European and international energy and climate policy (e.g. the Paris Climate Agreement).

Internal regulation

Since 2012, Stadler has applied a certified environmental management system that has systematised the collection and analysis of energy data. This is a key component of the integrated management system for quality, the environment, health and safety. All larger sites are certified in accordance with ISO 14001 (see the **Certification matrix on p. 13**).

Internal implementation

Responsibilities

As with climate change mitigation, ultimate responsibility for the sustainability strategy and energy issues lies with the Board of Directors, and implementation with the Group CEO. The Group CEO has delegated this task to the Global Sustainability Team, which defines appropriate measures in association with the local sustainability officers. The implementation and collection of data to track progress has been completely decentralised, while the Global Sustainability Team consolidates and evaluates key figures.

Increasing energy efficiency

Reducing energy consumption whenever possible is the most effective approach for protecting the environment and increasing economic efficiency. Stadler is therefore focussing on energy efficiency measures at its locations. One example is the hybrid furnace that Stadler Stahlguss has put into operation in Biel, which consumes 30 percent less energy than the previous system. A geothermal probe heat pump produces some of the heating energy required for the Bussnang site. This is not only more energy efficient, but also saves 85,000 kWh of natural gas used by the old boiler.

Switching to renewable energy sources

Stadler is switching to renewable energy sources within the company to complement energy efficiency measures in areas where consumption cannot be optimised any further. In many cases, this is worthwhile not only for the environment, but also for the company. The Swiss sites in Erlen, Bussnang and St. Margrethen have already had PV systems on their roofs and facades since 2023. These systems have a combined output of 2,800 kilowatt-peak (kWp). Several PV projects have already been implemented outside Switzerland. Further PV projects are planned in the next few years. The increased in-house production of PV in other countries is particularly effective for climate change mitigation reasons, as CO_2-intensive electricity can be replaced with PV electricity.

New measures in the reporting year

Savings in energy consumption

If energy savings are possible, they should be given priority over switching to renewable energy sources from an environmental and economic perspective. Various locations have therefore implemented energy-saving projects. The logistics centre at the Berlin-Pankow site has been integrated into the existing production halls, for example. This restructuring reduces the amount of heat energy required thanks to efficiency gains, resulting in planned savings of up to 480 tonnes of CO_2e per year.

Stadler Szolnok implemented two projects in 2023 which started showing an impact in 2024. Firstly, the site reduced its consumption of the natural gas used for heating by lowering the internal temperature in the production halls. As part of another project, the same site reprogrammed its painting booths to reduce the temperature and fan output during the preparation phase. These changes will lead to a planned reduction in energy consumption of around 300 MWh.

Taken together, these three projects represent a planned, absolute reduction of almost 700 tonnes of CO_2e or a relative reduction of just under two percent compared to the Scope 1 and 2 emission values for the reference year 2022.

Expansion of solar power systems

In 2024 and across all Stadler sites, six new PV systems were built in various countries. The site in Valencia has commissioned a 2,000 kWp solar installation on its roof with an expected annual production of 2,500 MWh. A PV system with an output of 3,000 kWp has been built on the roof of Stadler Pankow in Berlin. Its electricity production in the reporting year totalled 2,500 MWh in 2024. More recently, a service centre in Hungary has installed 804 panels on 2,500 m^2 of roof space. These panels have an installed capacity of 350 kWp and are expected to produce 415 MWh of electricity each year. The predicted reduction in emissions from the six projects is over 1,100 tonnes of CO_2e, which represents 2.7 percent of the emissions from the reference year.

Performance indicators

In 2024, the share of renewable energy sources represented 54.8 percent of total electricity consumption (+2.8 percentage points compared to 2023). Of this, 3,870 MWh (8 percent) were produced internally.

Energy	Unit	2022	2023	2024	Δ %
Thermal energy for heating purposes	**MWh**	**98,816**	**90,131**	**92,831**	**3.0%**
Natural gas	MWh	78,780	65,420	66,078	
Heating oil	MWh	1,431	253	991	
Diesel	MWh	41	0	207	
Liquid petroleum gas (LPG)	MWh	60	1,184	1,703	
District heating	MWh	18,505	23,274	23,852	
Fuel consumption for vehicels	**MWh**	**8,964**	**10,240**	**10,957**	**7.0%**
Gasoline	MWh	1,308	1,998	2,290	
Diesel	MWh	6,873	7,674	8,121	
Liquefied petroleum gas (LPG)	MWh	783	567	410	
Electricity	**MWh**	**79,007**	**76,954**	**87,216**	
Purchased Electricity	MWh	77,248	75,467	85,172	
Own production of renewable electricity	MWh	2,193	1,808	3,868	
Feeding of produced renewable electricity	MWh	434	321	1,824	
Share of renewable electricity	%	51.0%	52.4%	54.8%	
Total energy consumption	**MWh**	**186,787**	**177,324**	**191,003**	**7.7%**
Share of renewable energy of the total energy consumption	%	–	26.8%	28.2%	
Energy intensity in MWh energy per Mio. CHF net revenue	MWh / Mio. CHF	49.8	49.1	58.7	

POLLUTION

VOC emissions

The paints used in the railway construction industry often contain volatile organic compounds (VOCs), which have negative effects on the environment and human health. Stadler has already taken steps in this area and is constantly analysing new measures to minimise the use of solvent-based paints and to optimise the handling of the remaining VOC emissions in the sites.

Goals and ambitions
– Achieve a 15 percent reduction in VOC emissions across the Group by 2030 in relation to 2021

Significant impacts, opportunities and risks
– VOC emissions play a major role in the formation of ground-level ozone

Main fields of action
– Reducing the use of solvent-based paints
– Using new technologies for dealing with VOC emissions

Painting train components adds visual distinguishing features and protects the trains from environmental influences, corrosion and mechanical stresses. A paint usually consists of a solvent, which contains VOCs, and of non-volatile components. During the drying process, the solvent evaporates, while the non-volatile components adhere to the painted objects as a smooth film. VOCs are emitted during the application of paints, during the drying process, during the cleaning of spray guns and during the storage of paint waste. Repeated and long-term exposure to small amounts can lead to health problems. VOCs have a negative impact on the environment, as they act alongside nitrogen oxides (NO_x) as a precursor substance in the formation of ozone – a secondary pollutant and strong oxidising agent. Working with substances that contain VOCs produces waste containing VOCs, which is disposed of as hazardous waste (see the chapter on **Waste**).

Legal framework, guidelines and internal regulations

Guidelines

In EU countries, Switzerland, the USA and Belarus, there are directives and ordinances to regulate VOC emissions due to the risks to people and the environment. The VOC Directive 1999/12/EC applies in the EU, and Stadler is also guided by the Decopaint Directive (Directive 2004/42/EC). In Switzerland, the Ordinance on Air Pollution Control based on the Environmental Protection Act defines limits for VOC emissions. This legislation is supplemented by cantonal laws that govern VOC concentration and mass flow limits and aim to reduce VOC emissions and immissions.

In addition, the Federal Government levies a steering tax of three francs per kilogramme of VOC on substances containing VOCs in order to create a financial incentive to reduce VOC emissions. The Stadler sites located in Switzerland are subject to this tax. To ensure the compliance of its locations, Stadler prepares annual VOC inventories and calculates VOC emissions according to a methodology specified by the authorities.

Internal regulation

In 2023, Stadler drew up an internal OECD specification document on environmental protection. This document defines VOC emissions as a material issue for the company and sets the target of reducing VOC emissions across the Group by 15 percent by 2030 in relation to 2021. In order to meet this target, Stadler will start the development of a Group-wide VOC-reduction strategy in the current year. It will include an action plan for the production sites.

Internal implementation

Responsibilities

The Global Sustainability Team monitors Group-wide progress towards reducing VOC emissions by analysing key figures and coordinates the implementation of measures to achieve the goals set out in the sustainability strategy. The Quality, Environment, Health and Safety department (QEHS) on each site observes the legal requirements, collects data, and plans and implements measures to comply with local regulations and achieve Group targets.

Replacement of substances containing VOCs

Although water-based paints with a low VOC content, and even completely solvent-free paints, are available on the market, these products cannot be used for all painting layers on train components. For example, water-based primers and paints to protect against stone chipping are not yet able to satisfy customer requirements.

In St. Margrethen, around 12 tonnes of a paint with a four percent lower VOC content have been used each year since August 2022. This reduces VOC emissions by several hundred kilograms. In 2023, the Berlin-Pankow site installed a self-adhesive floor for a customer order. This led to a comparable reduction in VOC emissions. The introduction of similar measures is being examined on an ongoing basis for multiple locations.

Automated painting technologies

A multi-component system has been in operation at the St. Margrethen site since 2022. This allows paints to be applied automatically, reducing VOC emissions per painted car body by 30 percent.

Investments in waste air purification systems

Stadler is constantly reviewing and increasing its investments in air purification measures. Activated carbon filters are used to reduce VOC emissions at the Hungarian site in Szolnok, where further steps are also planned for the future. At the Valencia site, the oxidation of air containing VOCs with ozone reduces VOC emissions by a third, which corresponds to around 40 tonnes fewer VOC emissions in absolute terms.

Dialogue with stakeholder groups

Legislators and local environmental authorities are the primary stakeholders, as they define the requirements for VOC accounting and reduction. Stadler is engaging in dialogue with paint manufacturers in an effort to reduce the VOC content of the paints it purchases. It is also in discussion with the suppliers of waste air purification systems in order to find a technical solution for reducing unavoidable VOC emissions. According to the materiality analysis, the topic of VOCs has so far been of little concern to customers.

New measures in the reporting year

Testing an air purification system in St. Margrethen

VOC emissions are increasing due to the growing number of car bodies being produced. Stadler is curbing this development firstly by reducing the solvent content of paints and hardeners. Secondly, it has implemented technical measures on the St. Margrethen site, including the installation of a multi-component system for paints with the highest solvent content.

In order to explore further potential measures, practical tests have been carried out on the site with a pilot system for waste air purification. The process selection took into account the varying concentrations of VOC content and the different waste air volumes produced during the painting process. The system is operated autothermally, which means that the energy consumed comes from the combustion of the waste air constituents. The use of an iron oxide catalytic converter allows the oxidation of impurities at relatively low temperatures, which prevents the formation of nitrogen oxides (NOx). The waste air ventilation of the pilot system is connected to the painting booth. This means that the system remains constantly in operation when painting is being carried out. Tests have already begun, but the evaluation process is not yet complete. The applicability of the system for other Stadler locations that use similar processes is also being investigated.

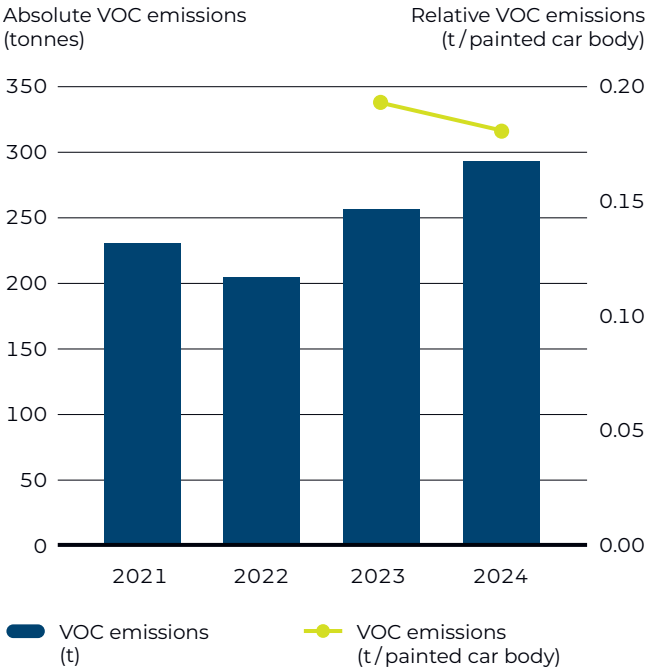
Strict separation of paint waste

As early as 2023, Stadler Rheintal AG launched a waste concept for the strict separation of waste containing VOCs. Since then, waste with a high VOC content has been collected separately from waste with a low VOC content, and its VOC content is analysed. This measure is intended to enhance the plausibility of the VOC analysis data, which will improve the data quality of the reported VOC emissions.

Performance indicators

In 2024, Stadler's business activities generated a total of 292 tonnes of VOC emissions.[6] This corresponds to an increase of 14.5 percent compared to 2023. This increase is no doubt related to the higher painting activity in the reporting year. 1,611 car bodies were painted in 2024, which was 290 (or 22 percent) more than in 2023. VOC emissions per painted car body decreased slightly. In order to achieve the reduction target of 15 percent by 2030 (in relation to 2021), a reduction strategy is needed that includes large-scale technical measures. With the pilot site in St. Margrethen, the company has already taken a step in this direction.

VOC emissions[7]



Performance indicators

VOC emissions	Unit	2021	2023	2024	Δ %
VOC emissions	t	240	255	292	14.5%
VOC emissions / painted car body	t	–	0.19	0.18	(6.1%)

[6] Due to official requirements, VOC emissions at Stadler are not determined using a standardised method across the Group. In Switzerland, VOC emissions are quantified on the basis of the difference between VOCs purchased (individual substances and products), VOCs disposed of (via hazardous coating waste) and the change in inventories. At other European plants, however, VOC emissions are annualised based on emission measurements.

[7] VOC emissions are mainly caused by painting work. For this reason, the FTE figure used in the Sustainability Report 2023 has been replaced by the number of painted car bodies. This is because it is a better benchmark than FTEs for tracking the relative development of VOC emissions and progress in efficiency.

CIRCULAR ECONOMY

Resource inflows and outflows

The topic of resource inflows and outflows focuses partly on the effects of the main materials used in production. Stadler's other focus is on the end products it delivers, which leave the company and are used in the downstream value chain.

Goals and ambitions
– Increase the secondary share of purchased aluminium to 50 percent by 2030

Significant impacts, opportunities and risks
– Greenhouse gas and pollutant emissions from aluminium and iron production
– Resource depletion

Main fields of action
– Using recycled materials
– Producing durable vehicles
– Ensuring that vehicles have a high recycling rate

In terms of resource inflows, Stadler requires large quantities of raw materials to produce its trains. Around 80 percent of these are of metallic origin, particularly aluminium and iron. The car bodies of multiple units are predominantly made of aluminium, while those of trams are made of steel. Steel is also the main material for running gear and is a frequent component of other train components. The mining of the underlying ores and the production of both metals result in greenhouse gas emissions and environmental pollutants, which can lead to global warming and ecotoxicological effects. Other environmental impacts are caused by electronic components such as drive batteries.

At the same time, these components help to ensure a good balance of resource inflows and outflows. This is because aluminium is highly resistant, which results in a long service life and makes the trains repairable. In addition, metals and other components such as batteries have the potential to be highly recyclable. This enables secondary materials to be used in production and ensures that the components can be reused at the end of the product life cycle.

The company's efforts in the area of resource inflows and outflows also have a positive effect on the reduction of Scope 3 emissions. By drawing up a Scope 3 inventory, Stadler has not only fulfilled an important prerequisite for reaching the net-zero target, but has also put itself in a good starting position for contributing to a sustainable circular economy. Stadler's Scope 3 emissions from material procurement are high, but can be influenced relatively easily compared to other Scope 3 categories. It therefore gives priority to Scope 3 reduction measures in material procurement, as this then also promotes a sustainable circular economy.

The close relationship between the circular economy and greenhouse gas emissions is particularly evident in the case of aluminium – a key material in train construction. While primary aluminium produces approx. 10 kilogram of CO_2e per kilogram, secondary aluminium causes around ten times fewer emissions. Stadler therefore intends to focus specifically on the recycled share of aluminium in its Scope 3 reduction strategy.

Legal framework, guidelines and internal regulations

Guidelines

Country-specific requirements form the basis for resource inflows and outflows. In addition, Stadler pays particular attention to the REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals) chemicals regulation at European level in its resource management. This regulation obliges companies to declare compounds of concern if they are contained in the products that they manufacture and sell. Stadler meets this obligation and informs its customers about declarable substances in train components. The aim is to replace any substances of concern with more harmless substances wherever possible.

Internal regulation

All major sites have introduced a quality, environmental and health and safety policy based on the corporate strategy, stakeholder needs and legal requirements. It sets out principles such as the development and application of efficient technologies and reusable materials, and aims to reduce energy consumption in products and to manufacture durable vehicles. Management takes a leading role in communicating these principles.

Internal implementation

Responsibilities

The Global Sustainability Team consolidates and monitors KPIs across the Group and coordinates measures to ensure that the targets from the sustainability strategy are reached. This requires close cooperation with the Quality, Environment, Health and Safety departments (QEHS) and other stakeholders (e.g. engineering teams or the Group Procurement Team) at each site. This is because they are responsible for coordinating any planned steps with the Group strategy and for implementing the measures decided on.

Resource inflows – proactive handling of chemicals

For painting and cleaning work, Stadler requires chemicals from the aliphatic and aromatic hydrocarbon groups, alcohols, aldehydes/ketones, esters and inorganic substances. Safety data sheets classify some of these chemicals as harmful. Stadler is therefore constantly looking for ways to reduce the quantities of these materials by replacing or using less of them. For example, Stadler Rheintal AG was able to reduce the toluene content of a frequently used rinsing solution for cleaning spray guns from 90–100 to 20–30 percent. The St. Margrethen, Altenrhein, Bussnang and Winterthur sites have replaced products, which are harmful to health, such as “Maxolen Corr Protect” with “Dinitrol 77b” as a safer alternative.

Resource inflows and outflows – integration of circular thinking into product development

Stadler takes ecodesign principles into account in the planning and vehicle production processes. The C2C principle (Cradle to Cradle), which advocates a closed raw material cycle, plays a crucial role, for example. As part of this, material mixtures in components are avoided right from the design stage in order to facilitate the process of dismantling, sorting and collecting these materials at the end of a product’s service life. Emphasis is also placed on the economical and prudent use of natural resources and the careful selection of materials. This involves using recycled materials for aluminium components or seat covers (e.g. e-leather), as well as choosing materials that guarantee the highest possible recycling rate for the trains once they have been taken out of service.

To this end, Stadler calculates the recycling rate of vehicles using the recycling calculation method of the European railway industry association UNIFE (Union des Industries Ferroviaires Européennes) and prepares declarations on material composition if so requested by the customer, which is increasingly the case.

Resource outflows – ensuring a long service life

Longevity minimises negative environmental impacts: anything that remains in operation does not have to be replaced, recycled or even disposed of. To put this principle into practice, Stadler makes sure that its vehicles have a service life of at least 30 years. The company also opts for durable, robust materials that are easily accessible and simple to maintain.

Dialogue with stakeholder groups

Customers are increasingly making demands in relation to the circular economy, for instance concerning the proportion of recycled materials in components or the recycling rate of an entire train. Customers also expect to receive a REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals) certificate of conformity and require details of the reusability of the materials used. In addition, certificates for environmentally friendly materials (e.g. FSC certification for wood) are being requested more and more frequently.

If these customer requirements are to be met, suppliers need to be involved in the process. This creates transparency about components and influences the ecological footprint of the upstream value chain. Stadler’s suppliers must complete a material and substance declaration for system-relevant components, for example.

New measures in the reporting year

The RS ZERO: an alternative drive combined with recyclable materials

The main feature of the RS ZERO prototype presented at Innotrans 2024 is its hybrid, environmentally friendly and flexible drive system. These features contribute to the outflow of resources, as they enable the train to be operated even on non-electrified regional lines. This allows resources to be saved in terms of electrifying the rail network. Fossil energy resources can also be saved as rail operators switch from fossil-fuel trains to lower-emission alternatives. This counteracts the depletion of resources.

However, the RS Zero also represents progress as far as resource inflows are concerned thanks to the high proportion of sustainable materials. As well as the easily recyclable metals used as standard in the prototype, particular emphasis was placed on opting for recyclable materials for the interior fittings. The flooring is made from approx. 98 percent of renewable raw materials and does not contain any synthetic rubber or plasticisers, for instance. The side wall panelling is also made from recycled materials (e.g. PET bottles), and the HVAC system contains a climate friendly refrigerant. All these measures help to ensure that the train has a lower ecological footprint in the upstream and downstream value chains.

Performance indicators

Stadler did not systematically collect any data or key figures on resource inflows and outflows in the reporting year. Following the changeover to the ESRS reporting standard, this information will be collected for the next Sustainability Report. Stadler already had some data and information available, which is presented in qualitative form below.

With regard to resource inflows, Stadler is endeavouring to increase the proportion of recycled aluminium. Of the 8,676 tonnes that Stadler procured in 2024 from its largest aluminium supplier, 42 percent was recycled. The recycled aluminum reduces the negative effects in several environmental impact categories. Among other things, there is no soil or water pollution thanks to the avoidance of bauxite mining, and the impact on the climate is reduced because less energy is consumed in the production phase. Production-related energy consumption can be up to 95 percent lower with secondary aluminium, as the recycling processes require less energy than would be necessary for primary aluminium due to the extraction of raw materials.

At the end of its useful life, a vehicle is dismantled. The individual components are then either reused, recycled, recovered as energy or disposed of as residual waste in line with a defined disposal procedure. Thanks to the high metal content, more than 95 percent of the vehicle mass can be recycled. If thermal recovery is included in the calculation, the recycling rate is around 98 percent.[8] Recent calculations for customer orders have confirmed these figures. These measures, combined with ensuring maximum service life, illustrate Stadler's commitment regarding resource outflows.

[8] Source: UNIFE-Recycling Template.

Waste

Stadler's production activities generate considerable amounts of waste, which contain a high proportion of hazardous waste due to painting and cleaning work. Stadler endeavours to continuously reduce the volume of waste in general and the amount of hazardous waste in particular. At the same time, Stadler has set itself the goal of increasing the recycling rate of operational waste. The company has drawn up a three-point plan for achieving these objectives. Stadler's philosophy is firstly to adopt a resource-saving approach in its own production in order to reduce the waste flows it generates. Secondly, it aims to use as many easily recyclable materials as possible. Thirdly, it applies optimised waste separation principles to help increase the recycling rate. Professional waste disposal is a matter of course for Stadler.

Goals and ambitions
– Increase the recycling rate of total operational waste to over 60 percent by 2030

Significant impacts, opportunities and risks
– Hazardous waste from the production of vehicles

Main fields of action
– Separating and reducing waste
– Ensuring responsible handling of chemicals and hazardous waste

Stadler's manufacturing processes generate waste that is highly relevant to environmental protection. The company is constantly seeking to reduce the volume of waste and the associated environmental impacts and risks. Stadler also considers hazardous waste to be a key area of action, as proper disposal is particularly important in order to prevent environmental damage such as soil and air contamination.

Legal framework, guidelines and internal regulations

Guidelines

As well as observing country-specific requirements, Stadler complies with the following legal requirements for waste management at European level:
– Regulation of the European Parliament and of the Council on shipments of waste (Waste Shipment Regulation – WSR)
– Regulation on the European List of Waste
– EU chemicals regulation REACH

Management systems

All major sites operate an environmental management system certified in accordance with ISO 14001 (see **Certification matrix on p. 13**). Furthermore, the internal OECD specification document "Compliance with environmental standards" defines a list of waste-related KPIs, which are also recorded in the Group's non-financial reporting. Finally, the document identifies environmental risks of waste and hazardous substances.

Internal implementation

Responsibilities

The Global Sustainability Team consolidates and monitors KPIs across the Group in the same way as for resource inflows and outflows. It also coordinates measures to ensure that the goals from the sustainability strategy are achieved. These goals are developed and coordinated with the Group strategy with the help of the QEHS departments at each site, which are also responsible for their implementation.

Standardised waste management in the company's own operations

Stadler has adopted a comprehensive waste concept and observes the principle of strict waste separation so that residual materials can be recycled and only the smallest amount of waste has to be disposed of. The waste statistics underline the advantages of this type of system. For certain metals, waste separation is also financially worthwhile, as the waste disposal companies pay to recover it. Stadler collects the following materials separately:
– Packaging material (wood, cardboard and paper),
– Metal offcuts (sheet steel, aluminium, cables), and
– Material residues from processes (e.g. paint residues from painting or sand from sandblasting).

Paint and paint waste is incinerated in a high-temperature furnace as standard to recover thermal energy. At the Środa site in Poland, paint waste is recycled using solvent distillation systems. Stadler also encourages the recycling of plastics and avoids the disposal of plastics as residual waste. At the St. Margrethen site, low density polyethylene film (LDPE) is collected separately and recycled. Various Stadler sites are currently investigating whether the ecological and economic added value of recycling plastic film is worthwhile.

Dialogue with stakeholder groups

Customers expect to receive a confirmation of conformity in accordance with REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals) and require information on the disposal process. Stadler's suppliers must therefore provide a material and substance declaration for system-relevant components.

Liaising with the authorities is vital, as Stadler has to comply with environmental regulations on the storage and disposal of hazardous waste. Stadler also works with certified waste disposal companies.

New measures in the reporting year

Awareness-raising among employees and partners

In order to complement existing measures such as an effective waste separation system, Stadler increased awareness among its employees in the reporting year. For example, the Service Division organised training courses and campaigns for its employees to draw attention to the topic of waste and recycling. Stadler Szolnok trained not only its own employees, but also the employees of its waste logistics company. The aim was to optimise coordination between the Szolnok site and the service provider to improve disposal processes and disposal rates for a wide range of materials. In general, these measures are helping to optimise waste separation, ensuring proper disposal and promoting recycling. As a side effect, there is also an increase in awareness of the issue as a whole, which encourages more mindful use of resources in all company processes.

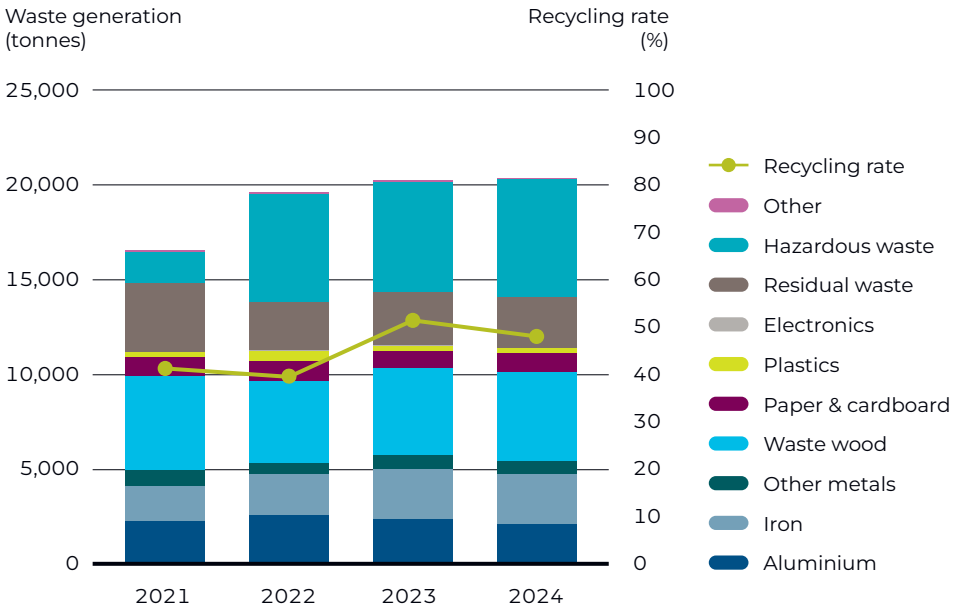
Performance indicators

The total volume of waste increased by 125 tonnes (0.6 percent) in the reporting year. This is mainly due to higher production activity and the larger workforce. The amount of waste per car body produced and per full-time equivalent (FTE) decreased by 25.2 and 7.7 per cent respectively. The relative improvement in terms of waste shows that Stadler's efforts in the areas of preventative selection of materials, careful resource management and optimised production processes are paying off, despite the company's growth.

An above-average increase of seven percent was recorded in the volume of hazardous waste, which is related to the higher volume of painting work.

The recycling rate decreased by three percentage points in relation to 2023 (relative: six percent). However, with a ratio of 48.3 percent, the company has improved by nine percentage points (relative: 22 percent) compared to the reference year 2022. The decline in the recycling rate is not only due to the higher volume of hazardous waste, but is also caused by official regulations. Used sand at the Biel site could not be recycled as originally planned. This is due to a change in the limit value for chromium VI (Stadler reported on this recycling project in the ▸ **Sustainability Report 2023, p. 34**). As large quantities of used sand are involved, this regulatory change has a direct and noticeable impact on the recycling rate for the entire Group.

Waste generation and recycling rate



Performance indicators

Information on waste generation	Unit	2022	2023	2024	Δ %
Aluminum	t	2,477	2,251	1,971	(12.5%)
Iron	t	2,159	2,639	2,657	0.7%
Other metals	t	584	772	670	(13.2%)
Waste wood	t	4,335	4,569	4,720	3.3%
Paper & cardboard	t	1,035	909	998	9.8%
Plastics	t	558	264	247	(6.6%)
Electronics	t	52	45	43	(3.3%)
Residual waste	t	2,496	2,790	2,662	(4.6%)
Hazardous waste	t	5,720	5,826	6,220	6.8%
Other	t	118	86	88	2.4%
Total waste volume	**t**	**19,533**	**20,151**	**20,276**	**0.6%**
Waste volume per car body	t / car body	–	12.7	9.5	(25.2%)
Waste volume per FTE	t / FTE	1.5	1.4	1.3	(7.7%)
Waste forwarded for disposal	**t**	**11,818**	**9,793**	**10,489**	**7.1%**
Recyclability rate[1]	**%**	**39.5%**	**51.4%**	**48.3%**	**(6.1%)**

[1] Calculated using material recycling factors from UNIFE Recycling Template

Climate change: trains are part of the solution

Trains are considered to be particularly climate friendly compared to other means of mass transport. They are the most climate friendly alternative available, especially to cars and aeroplanes. This is because trains emit significantly fewer greenhouse gases per passenger kilometre. Electric trains in particular, which are powered by renewable energies, are almost CO_2-neutral to operate. The same will apply to cars once the transformation from combustion engines to electric vehicles is complete for individual road transport. However, even in this future scenario, train travel would still have a much lower carbon footprint than electric cars because trains have a much higher vehicle performance and passenger transport capacity. In other words, emissions in the upstream supply chain are calculated down to many more passenger kilometres for rail than for cars, resulting in a much lower CO_2e/pkm value.

Some countries are increasingly focussing on replacing domestic and short-haul flights with rail connections. This shows that Stadler trains are part of the solution to climate change. The more energy efficient they are to operate, the better for the environment – and the carbon footprint of the operators. A significant part of Stadler's research and innovation activities is geared towards optimising alternative drive options even further and to enabling all rail operators to switch from diesel to more sustainable and, above all, politically desirable types of drive. Stadler offers hydrogen or battery-powered vehicles whenever electric-only operation is not possible.

Besides drive technologies, Stadler has other levers to make the operation of its vehicles even more sustainable. There are various approaches that can be taken in the areas of digitalisation and automation in order to improve vehicle efficiency. Stadler's driver assistance systems can maximise the energy-saving potential during acceleration and braking, for instance. The railway operator decides to what extent the assistance systems should intervene. It is also technically possible to operate trains fully automatically.

More unusually, Stadler engineers are using a new type of anemometer that can measure data to optimise aerodynamics during vehicle operation. The Free-Stream Anemometer (FSA) is a device with two laser beams that can measure the wind speed and direction in front of a train. Aerodynamics engineers have been trying to measure the wind speed in front of trains since the 1970s. Most tests were carried out by attaching weather vanes to the end of long poles. However, it was only possible to measure the area that was already influenced by the moving train. With a FSA, the wind speed can now be measured in the area behind the train. Every cyclist is familiar with the annoying phenomenon of headwinds. Trains are also influenced by wind speed and wind direction, i.e. by driving resistance. The driving resistance accounts for around 80 percent of the energy required to operate an intercity train. If the driving resistance can be measured accurately, the precise energy consumption can be predicted and the driving style adjusted to increase efficiency. This has an impact on the train's required drive power, achievable speed and journey time.

In conclusion, trains are an essential part of sustainable mobility and can make a significant contribution to reducing CO_2 emissions. Strengthening rail transport around the world is an important step towards achieving climate targets and promoting the transition to a more environmentally friendly transport infrastructure.

At 2,803 kilometres, the FLIRT H_2 set the world record for the longest distance a hydrogen-powered passenger train can travel without refuelling or recharging in 2024.

OWN WORKFORCE

Working at Stadler

First-class trained specialists form the backbone of Stadler's success and ensure that Stadler can hold its own in a highly competitive market. Stadler attaches great value to being perceived as an attractive employer, both by its current team of over 15,000 employees and by potential talented new recruits and skilled workers. It seeks to achieve this goal by offering a positive working atmosphere and advantageous working conditions that promote personal growth and professional development.

Goals and ambitions
- Achieve a fluctuation rate of less than 10 percent
- Be perceived as an attractive employer
- Focus on training and further education and increase training hours for all employees
- Ensure the highest possible retention rate of apprentices on completion of their training

Significant impacts, opportunities and risks
- Training apprentices
- Offering attractive development and qualification opportunities
- Promoting internal and external further training

Main fields of action
- Enhancing Stadler's image as an attractive employer worldwide
- Recruiting new specialists
- Retaining Stadler employees in the long term; reducing staff turnover
- Promoting and developing junior staff to prepare for the generational change
- Fostering a strong and sustainable management culture
- Expanding training and continuous education for all employees

Legal framework, guidelines and internal regulations

Stadler adheres to the applicable national labour laws at Stadler locations. These legal requirements are supplemented by internal regulations that aim to improve working conditions even further and ensure the highest standards of fairness, safety and employee satisfaction.

Both Group-wide guidelines and country-specific regulations apply within the company in order to satisfy the various requirements. The "Employee rights & social partners" OECD specification document defines the minimum standards for all locations within the Group. It guarantees the right to freedom of association and collective bargaining throughout the Group and sets clear requirements for health and safety management. This framework forms the basis for uniform high standards whilst promoting a fair and safe working environment for all employees. A structured risk management system and specific procedures are in place internally, including a centre for reporting breaches and incidents that is accessible to all employees.

Internal implementation

Responsibilities

The employees of Stadler are given highest priority at Group level and are a key concern of the CEO. The local HR departments are responsible for looking after employees throughout their employment. All managers also actively contribute to this process and play a key role in the implementation and further development of HR strategies. Thanks to collaboration between different countries and divisions, the knowledge and experience of the various units can be harnessed to share best practices and to promote synergies.

Social dialogue
Stadler is actively committed to maintaining social dialogue between employees and employers. In most countries, this dialogue is supported by works councils or similar organisations. Stadler also encourages cooperation with trade unions in order to create fair working conditions. A collective labour agreement negotiated with the Unia trade union is valid for employees in Switzerland. This publicly accessible ▸ **collective labour agreement** governs key aspects such as working hours, remuneration, holiday entitlement, additional benefits and employee co-determination.

Stadler has also concluded collective labour agreements in countries including Denmark, Germany, Norway, Sweden, Spain and Great Britain. In other countries such as Poland and Finland, collective labour agreements exist or employees are consulted before the introduction of collective regulations in order to take due account of their interests.

Training and continuing education
Stadler faces the challenge of attracting qualified specialists and retaining them in the long term, particularly in the light of the current shortage of skilled labour and demographic changes. In order to meet this challenge, Stadler invests large amounts in the continuous development of its employees. The company offers numerous internal and external career and development opportunities, both in management positions and in specialised careers.

Individual further training measures are defined in the course of annual qualification meetings. These measures are facilitated via flexible working time models and financial support. Stadler also offers a wide range of internal and external courses, ranging from specialised training to soft skills.

Each local HR department implements an internal personnel development plan and ensures succession planning for key positions. Potential managers are identified at an early stage before being prepared and offered support for taking on these key positions thanks to personalised development plans. Both internal and external management training courses prepare managers for their future tasks as effectively as possible.

Focus on junior staff
Stadler is dependent on recruiting young, qualified junior staff in order to counteract the shortage of skilled labour. To this end, Stadler maintains good contacts with universities in order to inspire talented young people to work in the rail industry. Beyond this, however, the main focus is on the in-house training of junior staff. In the reporting year, Stadler employed around 300 apprentices in various professions in the mechanical engineering and metalworking industries, and operates its own training workshops in Bussnang and St. Margrethen. In 2024, 85 percent of apprentices at the Stadler sites in Bussnang and 90 percent in St. Margrethen were offered permanent positions at the end of their apprenticeships. Vocational training is also proving to be very successful internationally. In the USA, where the Swiss vocational training model was adopted in 2019, preparations are underway for recruiting the sixth intake of apprentices. Former apprentices have been taken on as permanent employees in the USA as well.

At the Valencia site, Stadler has also set up a dual training system for training the younger generations as skilled workers in production. More information on supporting junior staff can be found in the ▸ **Annual Report**.

Assignments abroad for knowledge transfer and project implementation
Stadler sees the secondment of employees abroad as an important way of strengthening knowledge transfer, global cooperation and relationships with partners around the world. Stadler introduced comprehensive secondment regulations in 2019 to ensure a seamless transfer to the host country, the smooth and rapid handling of any social security and tax issues, and the fulfilment of all compliance requirements. Thanks to its practical secondment regulations, which are continuously evaluated and updated, Stadler takes account of constantly changing requirements and provides employees with the best possible support for the entire duration of their assignments abroad.

New measures in the reporting year
Professionalisation of interviews on departure
Interviews with employees who are leaving the company are already systematically organised at most locations. As these interviews are an important tool for analysing staff turnover, the departure process was professionalised at many locations this year. The aim is to gain valuable insights and to derive targeted measures to reduce staff turnover. Stadler considers systematic departure interviews as an essential tool to help understand the needs of employees and continuously improve working conditions. As a growing company, the focus in 2024 was also on recruiting and retaining employees. The fluctuation rate was reduced even further compared to the previous year and was below the target value of 10 percent in 2024.

Management training

Further training for managers is a key area of action at Stadler to promote a positive work culture. In the Switzerland, Signalling, Service and Components Divisions, around 300 managers were again trained in a total of 24 two-day leadership training courses in the 2024 reporting year. In these annually recurring training sessions, all the participants take part in a detailed personality analysis and are taught valuable information on leadership and on the corporate culture. The interdisciplinary, transnational discussions between participants from over 15 countries are particularly noteworthy.

In addition, a management development programme to promote a strong and sustainable management culture was introduced in Germany in the reporting year. Following kick-off workshops at the beginning of the year, managers took part in a total of over 80 advisory workshops, which encouraged discussions about everyday management topics and strengthened cross-divisional cooperation. A needs-based training programme on relevant HR topics such as labour law and absence management was also put in place. The insights gained will be taken into account alongside feedback and survey responses to ensure the continuous development of the programme and to set priorities for 2025.

Further development of employees

Training and continuing education are an important focus at all locations. Stadler's training centre in Valencia has two specific objectives, for example: to ensure the availability of new employees with the necessary qualifications and to promote continuous learning among employees. The number of people receiving training has risen steadily since the opening of the centre. In the reporting year, 244 training programmes reached 2,322 employees and over 50,000 hours were invested. In Hungary, too, a strong emphasis was placed on talent development in 2024, and a local training programme was created for future managers and technical experts. More information about the development of Stadler employees can be found in the **section divider: Stadler offers training and continuing education for its specialists**.

Staff recruiting staff

At many locations, Stadler rewards employees who help recruit new employees. This is because Stadler's own employees are those who are most familiar with the culture and needs of Stadler and in the best position to assess which personalities and profiles will be a good fit for the company. In order to further strengthen this tool for attracting and retaining qualified specialists, the placement bonus in Switzerland was increased in the reporting year.

Performance indicators

Employees according to employment contract	Unit	2023	2024	Δ %
Number of employees	FTE	13,944	15,203	9.0%
Full-time employees	Quantity	13,736	15,130	10.1%
Part-time employees	Quantity	913	1,285	40.8%
Apprentices	Quantity	260	292	12.3%

Staff turnover and newly hired employees	Unit	2022	2023	2024	Δ %
Number of departures[1]	FTE	1,632	1,397	1,165	(16.6%)
Staff turnover[2]	%	12.1%	10.0%	7.7%	(23.5%)
Total number of new hires	FTE	–	2,751	3,587	30.4%
Rate of newly hired employees	%	–	19.7%	23.6%	19.6%

[1] Not included: Retirements, cases of illness, deaths, maternity, temporary employment, apprenticeship completions and apprenticeship terminations
[2] The definition has changed from 2023 to 2024, as only the departues initiated by employees are now considered.

Training and further education	Unit	2022	2023	2024	Δ %
Investment rate in education and training: Men	CHF / FTE	–	427	441	3.3%
Investment rate in education and training: Women	CHF / FTE	–	501	425	(15.3%)
Investment rate in education and training	CHF / FTE	394	450	433	(3.8%)

Occupational health and safety

Protecting employees from occupational accidents and health risks is a top priority for Stadler. Effective safety management in the workplace is based on appropriate framework conditions and the responsible commitment of all employees. The interplay between these two elements makes it possible to pursue the shared goal of continuously reducing the number of occupational accidents.

Goals and ambitions
– Achieve a 50 percent reduction in occupational accidents with days lost by 2030 (in relation to 2022)

Significant impacts, opportunities and risks
– Activities where risks to the safety of employees cannot be completely eliminated
– Work near tracks, in the track field, on signal boxes, at height or with chemicals
– Physically demanding activities

Main fields of action
– Introducing management systems for occupational health and safety
– Protecting employees and ensuring greater awareness of dangers
– Optimising occupational safety by applying systematic concepts
– Reducing occupational accidents

In some areas of work, employee hazards cannot be completely avoided, for instance for work near the tracks, in the track field or on signal boxes, as well as work at a height or with potentially dangerous chemicals. It is essential to work with care and to take appropriate protective measures. Ensuring occupational health and safety is not only part of our corporate responsibility, but is also a legal requirement in some countries with Stadler production sites. For example, binding occupational safety regulations apply at the sites in Szolnok, Valencia and Berlin, and failure to comply with them can result in criminal prosecution. What is more, serious accidents can jeopardise the company's reputation. Effective employee protection, on the other hand, helps to reduce sickness-related absences and boost motivation, which strengthens the company's economic performance in the long term.

Legal framework, guidelines and internal regulations

The majority of Stadler's employees are covered by management systems for occupational health and safety. Most Stadler locations have a quality, environment, health and safety policy in accordance with the relevant ISO 9001, 14001 and 45001 certifications. An overview of ISO-certified locations is shown as a table in the section on **Overarching principles and standards**. With the exception of new locations, all operating sites with more than 50 employees have an appropriate management system in place. These systems include regular hazard and risk analyses in the workplace and ensure consistent, standardised processes. In accordance with this safety policy, employees are familiarised with the safety regulations, learn everything they need to know to ensure safe work processes, and are provided with suitable work equipment and personal protective equipment. The divisions also set annual occupational safety targets for the individual sites. Target achievement is monitored at all locations by means of systematic key figure monitoring.

The same safety regulations apply to service providers, trainees, fixed-term workers, temporary employees just as to Stadler employees. The applicable safety regulations are explained to people visiting Stadler sites.

Internal implementation

Responsibilities

Responsibility for occupational safety lies directly with the managers. As part of their duties, all employees are obliged to comply with the applicable guidelines and, depending on their area of activity, to wear the necessary protective equipment to protect their own health and safety. At least one specialist responsible for occupational health and safety is appointed in the Quality, Environmental, Health and Safety (QEHS) department at each company location. Specially trained safety specialists act as contact persons and ensure that the necessary protective measures are implemented. Certain locations, for instance in Hungary, also call in external consultants on occupational safety. The local HR departments are responsible for the promotion of health within the company.

Due to the importance of this topic, the reduction of occupational accidents is an integral part of the annual targets at all locations. In order to fulfil this requirement, measures are continuously implemented to improve health and safety at the production sites. The most important measures include:

Optimal equipment
Employees are equipped with safety-tested tools and personal protective equipment including safety goggles, hearing protection, safety shoes and gloves. Equipment is regularly checked in order to optimise its protective function and wearing comfort. New technologies are also constantly tested in order to provide the best possible equipment. Stadler recently tested exoskeletons in Germany and Switzerland for this purpose. At the Steinach site, employees have reported positive experiences of using this equipment specifically for lifting work to relieve the strain on their backs.

Employee participation and information
Stadler encourages its employees to play an active role in the ongoing optimisation of processes and improvement of safety in the workplace in order to maximise the effectiveness of occupational health and safety. Any hazards that they identify can be reported to the occupational safety specialists or their line manager at any time. The whistleblower system enables Stadler to respond quickly to potential dangers and to initiate the necessary measures to minimise risk. Employee concerns are regularly discussed in the designated committees. Stadler also publishes statistics on occupational safety for internal and external stakeholder groups and raises awareness by means of targeted measures such as campaigns, instructions, training courses and intranet posts.

Training
All employees receive an introduction to occupational safety on their very first day at work. In addition, regular workshops to raise awareness of the safety culture are held for all departments and teams. Safety training courses for managers cover topics such as responsibility, adherence to legal frameworks and conducting risk analyses. The younger generation is also introduced to the most important safety topics in a fun way as part of the induction week for apprentices in August.

Occupational health services and promotion of health
Various health services are provided at the sites, including health checks by company doctors, eye and hearing examinations, vaccinations and mental health courses. In addition, almost all locations offer a wide range of sports activities. In addition to in-house sports facilities, many locations subsidise fitness subscriptions for their employees.

New measures in the reporting year
Safety campaigns
Safety campaigns are an integral part of accident prevention at Stadler locations, and new campaigns are organised individually in each country every year depending on the focus topics. In the reporting year, comprehensive occupational health and safety measures were reinforced at the Bussnang site, for example. Measures included eye protection and skin protection campaigns to draw attention to specific hazards and to promote preventive protective measures. These campaigns were based on detailed accident statistics, which were analysed to identify the most frequent types of accident. The number of accidents and the accident rate were significantly reduced in 2024.

Global safety team
To strengthen occupational safety even further, Stadler set up a global safety team in the reporting year. The team is made up of representatives from all locations. The aim is to define standards applicable to all Stadler sites and to exchange best practices. This holistic approach is intended to reduce accidents and raise additional awareness about the importance of safety in the workplace.

Mental health
The mental health of employees is a high priority at Stadler, and carefully targeted initiatives are being implemented in several countries. A survey and a workshop on mental health were conducted at Stadler Germany in the reporting year, for example. Difficulties in everyday working life were discussed and targeted measures were developed for managers. The approaches adopted are intended to help raise awareness about mental stress and to promote a supportive working environment.

Performance indicators

Occupational health and safety[1]	Unit	2022	2023	2024	Δ %
Number of safety officers per thousand employees[2]	Safety officers / 1000 FTE	–	5.7	5.8	3.0%
Number of preventive risk analyses	Quantity	–	1,092	833	(23.7%)
Training hours in the area of occupational safety[3]	Hours / FTE	–	3.3	11.3	241.1%
Number of work-related accidents	Quantity	–	893	✓ 905	1.3%
Number of work-related accidents with days lost (LTI)	Quantity	424	418	✓ 350	(16.2%)
Accident rate (LTIR)	LTI / (Mio. working hours)	19.2	18.2	✓ 13.2	(27.3%)
Days lost due to work-related accidents	Days	–	6,899	9,665	40.1%
Number of work-related fatalities	Quantity	–	0	✓ 0	0.0%
Number of work-related illnesses	Quantity	–	11	✓ 11	0.0%
Total number of sick days[4]	Quantity	–	158,683	165,131	4.1%
Days lost per FTE due to illness or work-related accidents	Days lost / FTE	–	11.9	11.4	(4.2%)

[1] The key figures are reported on the basis of the available key figures and may deviate in part from the information required by GRI Standard 403. Accidents with serious consequences are not reported separately, as this definitions currently varies at Stadler sites due to country specifics. The LTIR is based on accidents with at least one day of absence as this is the relevant performance indicator for Stadler and across the industry. It is not possible to separately disclose the accident and illness figures for employees who are not permanent staff due to data availability.

[2] For this KPI, the number of safety officers is now recorded in FTEs and no longer as the number of employees.

[3] Cumulative number of training hours in the area of occupational safety (e.g. safety training, track access course, forklift training...) based on the number of FTEs in the areas of production, logistics and commissioning.

[4] All absences due to illness, whether or not they are due to work-related illness or accident.

Diversity and equal opportunities

Stadler promotes a corporate culture that values diversity and sees it as enriching for the company. The aim is to provide equal opportunities for all employees – regardless of gender, age, origin, sexual orientation, educational background or religion. Stadler creates an inclusive and diverse working environment with employees from over 75 nations and a variety of educational backgrounds and walks of life.

Goals and ambitions
- Increase the proportion of women by developing a global concept for the advancement of women
- Increase the proportion of women in the Service Division by 3 percent in 2025

Significant impacts, opportunities and risks
- Offering a wide range of professions for people from different backgrounds
- Countering the predominance of men in technical professions
- Establishing a diverse workforce to open up broader perspectives

Main fields of action
- Making a clear commitment to diversity and equal opportunities
- Introducing initiatives to target women in the labour market
- Promoting internal women's networks
- Developing family-friendly working models
- Organising internal training and events to raise employee awareness

Stadler sees diversity within the workforce as a valuable asset for the company, as it helps to broaden perspectives and enhances innovative strength and competitiveness. However, the comparatively low attractiveness of the rail transport industry[9], especially for women, makes gender equality difficult. This is exacerbated by the current shortage of skilled labour.

Stadler is therefore taking active steps in favour of equal opportunities and equal pay and is promoting diversity at all hierarchical levels and in all job profiles. This starts with the trainees. In 2024, at least one woman was hired in every apprenticeship profession at the Bussnang site for the first time, for example. At the same time, there is a need for action with regard to diversity on the Group Executive Board. It currently consists of eleven men (100 percent), while the Board of Directors comprises seven men (70 percent) and three women (30 percent). The targeted promotion of women to management and executive positions will therefore be a key issue for Stadler in 2025.

Legal framework, guidelines and internal regulations

As well as observing the Code of Conduct that is applicable throughout the Group, all employees undertake to respect and promote a working environment that is free of discrimination, belittlement and conflict, and that encourages equal opportunities and mutual respect. The Code of Conduct also calls on all employees to treat other stakeholders with respect and dignity (see the chapter **Compliance, ethics and integrity**).

The ▸ **collective labour agreement** that is valid for all employees in Switzerland aims to promote the well-being of employees and the company by establishing progressive labour relations. In addition to minimum wages and protection against dismissal for older employees, this agreement also stipulates the relevance of the advancement of women, equal treatment and the integration of employees from different backgrounds, as well as the promotion and inclusion of employees with disabilities. Similar regulations can be found in the collective labour agreements of the other locations.

Internal implementation

Responsibilities

Recruiting and promoting employees is the responsibility of line managers. Executives and HR managers regularly take part in training courses in order to raise awareness of the opportunities offered by a diverse workforce and to minimise the risks of breaching equal opportunities guidelines. A Group-wide "Unconscious Bias" training programme was carried out as part of this commitment. This will form an integral part of management training in future. To date, equal opportunities officers have only been appointed in countries with corresponding legal requirements, such as Germany.

Equal pay

For Stadler, equality begins with fair and non-discriminatory remuneration. Collective labour agreements in individual countries form the basis for ensuring equal pay. They set salaries based on the tasks assigned to employees to ensure that they are remunerated fairly. In addition, Stadler regularly checks compliance with equal pay at its Swiss locations by means of independent studies. An analysis carried out in 2021 by Landolt & Mächler Consultants AG confirmed the principle of equal pay. The next review is planned for 2025.

[9] Compared to the technology industry, but also to sectors such as automotive, health tech and aviation

Flexible working conditions
Stadler endeavours to position itself as an attractive company that can continue to attract and retain talented specialists in the future. In order to fulfil this requirement, modern and innovative working methods that are appropriate for the company and appeal to both existing and potential employees are constantly being tested. The promotion of flexibility in the workplace is a key part of this strategy. For example, Stadler offers part-time work, even for managers, to make it easier for employees to achieve a good work-life balance. In addition, employees have the opportunity to work from home part of the time, provided their job allows it. These measures help to provide employees in different situations in life with the best possible support and to take their needs into account. Further information on measures to ensure fair working conditions can be found in the section **Working at Stadler**.

Targeted measures on the labour market
Stadler is actively committed to increasing the proportion of women in technical apprenticeships. In Germany, the company is involved in various initiatives such as "Women in Mobility" and "Girlsatec", which aim to spark women's interest in technical professions and activities in the rail industry. In Switzerland, programmes to provide new perspectives on career opportunities – such as the "National Future Day" – remain specifically designed for girls and boys from a variety of backgrounds in order to give them an understanding of technical professions. In 2024, Stadler expanded these measures in a targeted manner and participated in industry-specific networks in order to develop joint solutions to ensure the greater advancement of women in the rail industry.

New measures in the reporting year
"Unconscious Bias" training
In the current reporting year, Stadler implemented several targeted initiatives to strengthen diversity and inclusion even further within the company. A key step was the implementation of "Unconscious Bias" training for HR managers in all countries and divisions, led by an external trainer. These training courses aim to recognise and eliminate unconscious bias. This is essential to ensure a fair and inclusive corporate culture. From 2025, these courses will be firmly integrated into management training to ensure that managers at Stadler are made aware of this important topic.

Inclusive job advertisements
In addition, Stadler's job advertisements were analysed. This resulted in a checklist of formulations and components designed to appeal to women in particular. The first signs of success can already be seen in the increased number of applications from female candidates for corresponding positions.

Programmes for the advancement of women
A comprehensive strategy for the advancement of women has been developed within the Service Division. It includes targeted measures in the areas of "learning", "inspiring" and "networking", as well as the establishment of basic framework conditions to ensure a diverse working environment. Initial projects included an open day for female students and systematic analyses of the proportion of women working in teams, which led to the introduction of a recruitment guideline for all team leaders. Further measures are in the process of being implemented, including the promotion of the internal women's network and a mentoring programme to ensure targeted talent development in order to recruit women for management positions. These measures are intended to make a specific contribution to the goal of increasing the proportion of women by three percent by 2025.

Various measures were also introduced at other locations. In the USA, for example, Stadler cooperates with a non-profit organisation that supports women returning to work after maternity, a divorce, imprisonment or other changes in their lives. Stadler US takes part in careers fairs, offers advice on job interviews and CVs, and introduces the company to potential female candidates.

Performance indicators

Diversity and equal opportunities	Unit	2023	2024	Δ %
Number of employees Male	Quantity	12,587	13,868	10.2%
Number of employees Female	Quantity	2,062	2,547	23.5%
Total proportion of Women	%	14.1%	15.5%	10.2%

Stadler offers training and continuing education for its specialists

After the shortage of skilled labour in Switzerland had reached new record levels according to the Swiss Skills Shortage Index, it fell slightly in the reporting year due to an economic downturn. Nevertheless, the unmet demand for skilled labour remained higher than before the coronavirus pandemic. Stadler has been affected by the shortage of skilled labour for years. Thus, the company decided early on to address the problem at its roots and to train and develop its own skilled workers.

In response to the acute shortage of skilled workers, new training centres for apprentices were set up in Bussnang and St. Margrethen following the coronavirus pandemic. In total, Stadler and Stadler Stahlguss offer 16 apprenticeships in Switzerland.

Stadler has also taken the dual training model, which is firmly established in Switzerland, to America. An appreciated exchange currently takes place between the sites in Switzerland and the USA. The programme is a very welcome opportunity for trainees to gain experience abroad and broaden their horizon.

The two training centres in Bussnang and St. Margrethen shall help to increase the number of apprentices in Switzerland to 300. The idea of the training workshops and Stadler's future train builders are presented in more detail in the Annual Report published at the same time as this Sustainability Report.

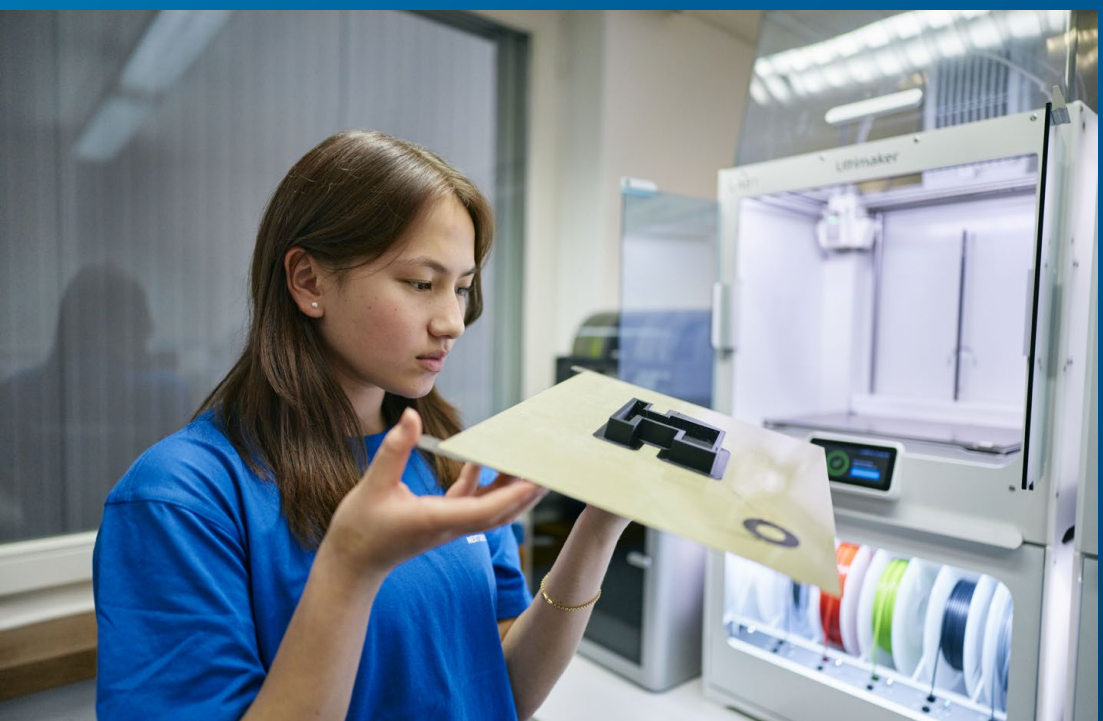
In addition, an engineering centre has been opened in Vienna. So far, it hosts 50 engineers and the possibility of adding similar locations is currently being examined. Whenever possible, Stadler also supports local projects that aim to introduce boys and girls to technical professions at an early age.

Another measure against the shortage of skilled labour, which is not directed at apprentices but at all employees, is Stadler's popular railway technology course.

The course lasts from spring to autumn and comprises around 15 evening sessions. Its content ranges from the basics of the railway system for non-technicians to topics such as brakes, tracks, air conditioning, drive options and automatic train protection systems. Railway law and track planning are also covered, partly by experts from within the company and partly by guest lecturers from outside Stadler.

As there is no traditional training for railway technicians in Switzerland, the internal railway technology courses are very popular. "The aim of the course is to convey basic knowledge from selected disciplines in railway technology and the industry as a whole," explains Elena Steinmann, HR specialist and one of the organisers of the course. The participants come from a wide variety of departments. Most of them have vocational training in a technical field, some even have a technical degree.

This specially designed internal training programme for Stadler employees contributes to the company's established social goals and ambitions. These include achieving a fluctuation rate of less than ten percent, being perceived as an attractive employer, focussing on training and continuing education, increasing training hours for all employees and ensuring the highest possible retention rate for apprentices after they have completed their training.



Laura is currently completing the second of four years of her apprenticeship as a design engineer.

WORKERS IN THE VALUE CHAIN

Human rights

For Stadler, respecting human rights means ensuring both the safety of its vehicles and implementing fair working conditions in its own operations and along the entire supply chain. The company is guided by internationally recognised standards and guidelines such as the OECD Guidelines for Multinational Enterprises, the UN Guiding Principles on Business and Human Rights, the UN Convention on the Rights of the Child, the ILO Conventions, the UK Modern Slavery Act and the German Supply Chain Due Diligence Act.

Goals and ambitions
- Carry out detailed risk analyses to identify human rights risks in the supply chain
- Implement targeted measures to ensure compliance with human rights in the supply chain
- Offer human rights training for employees in the HR and purchasing departments
- Consistently implement measures in the event of proven human rights violations

Significant impacts, opportunities and risks
- Protecting the health and safety and ensuring fair treatment of our own employees and of everyone along the supply chain

Main fields of action
- Committing to international standards such as the OECD Guidelines for Multinational Enterprises, the UN Guiding Principles on Business and Human Rights, the UN Convention on the Rights of the Child, the ILO Conventions, the UK Modern Slavery Act and the German Supply Chain Due Diligence Act (LkSG)
- Applying internal guidelines such as “Human rights”, “Labour rights and social partners” and “Supplier evaluation and supply chain”
- Ensuring fair and safe working conditions for our own employees
- Obliging suppliers to respect human rights

Stadler is strongly committed to protecting human rights both within the company and along the entire supply chain. The UNICEF country classification shows that there are much higher risks outside the company, particularly in the global supply chain.

One of Stadler’s main focuses is on preventing child and forced labour, which have been identified as material risks in the supply chain. The responsible procurement of raw materials, and particularly the issue of conflict minerals, also plays an important role. The mining and trading of conflict minerals such as tin, tantalum, tungsten and gold can be associated with serious human rights violations, forced labour and the financing of armed conflicts. Stadler works actively to minimise these risks by conducting targeted risk analyses and ensuring close cooperation with suppliers.

Stadler is committed to recognising potential human rights violations at an early stage, preventing them and, if necessary, taking appropriate measures to remedy them. To date, no cases of human rights violations, including the use of conflict minerals from unsafe sources, have been reported within the company. However, Stadler remains vigilant and is continuously seeking improvement to ensure compliance with human rights and ethical standards throughout the value chain.

Legal framework, guidelines and internal regulations

Stadler is guided by internationally recognised standards and guidelines for the protection of human and labour rights. These include the OECD Guidelines for Multinational Enterprises, the UN Guiding Principles on Business and Human Rights, the UN Convention on the Rights of the Child, the ILO Conventions and the German Supply Chain Due Diligence Act (LkSG). Stadler has also signed the "UK Modern Slavery Act" and is committed to complying with the requirements laid down in it.

The UN Guiding Principles on Business and Human Rights followed by Stadler can be summarised as follows:

Principles: "Protect, Respect, Remedy"
- Prohibition of modern slavery and human trafficking:
  Implementing clear measures against all forms of forced labour and exploitation.
- Prohibition of child labour:
  Consistently adhering to age limits in accordance with international standards.
- Occupational health and safety:
  Establishing and ensuring safe working environments.
- Fair working conditions:
  Ensuring fair pay and conditions that protect the dignity of workers.
- Respect for the freedom of assembly of employees:
  Supporting the rights of employees to form unions for the protection of their interests.
- Mutual appreciation:
  Promoting equal treatment regardless of age, disability, religion, origin, gender or sexual orientation.

Stadler has integrated the UN Guiding Principles on Business and Human Rights into its strategy and corporate processes. The main requirements are set out in the internal documents on "Human rights", "Labour rights and social partners", "Supplier evaluation and supply chain" and in the Code of Conduct. These guidelines form the basis for the protection and promotion of human rights within the company and along the entire supply chain.

All employees are required to sign the Group Code of Conduct, which is explained in detail in the **Compliance, ethics and integrity** section. This code lays down the company's main principles regarding integrity and legality, ethical behaviour and responsibility. This means that all employees undertake to actively uphold human rights and to express this commitment both in their behaviour and in their decisions.

Several channels are available to employees who wish to report suspected cases of human rights violations:
- Reporting to direct superiors
- Contact with the management or the Chief Compliance Officer
- The compliance reporting centre, which offers both employees and external stakeholders the opportunity to anonymously report violations of laws or internal guidelines.

Further information on the reporting centre can be found in the **Compliance, ethics and integrity** section.

If Stadler becomes aware of a violation of human rights obligations within the company or in the supply chain, the company will take immediate action. The aim is to prevent violations, put an end to them or minimise their impact by introducing appropriate remedial measures.

An internal guideline on human rights defines Stadler's attitude and raises employee awareness about the protection of human rights in particularly sensitive areas such as HR and purchasing processes.

This guideline offers advice and lists the most important measures:
- Risk assessment of suppliers
- Codes of Conduct
- Reporting processes and channels
- Remedial processes

Stadler requires its suppliers to sign the Code of Conduct for Business Partners. This is based on international standards such as the OECD Guidelines, the ILO Conventions and the ICESCR Pact, as well as on national and international laws and guidelines. The Code reflects the core values of integrity and legality, ethical behaviour and responsibility.

By signing the Code of Conduct, business partners undertake to comply with applicable laws and regulations on topics such as:
- Working conditions
- Employee rights
- Prohibition of child and forced labour
- Equal opportunities and anti-discrimination
- Corruption, unfair competition and money laundering
- Environmental

aspects.

Business partners are also required to enforce these standards among their own suppliers. Further details can be found in the **Supply chain management and raw material availability** section.

Internal implementation

Ensuring fair working conditions and the exclusion of child and forced labour are key concerns at Stadler and affect both internal HR processes and external procurement and supplier management.

The function of Group Human Rights Officer has been established since 2023. This role, which reports directly to the General Counsel for Legal and Compliance, is responsible for handling suspected cases of human rights violations and related concerns.

In addition, the purchasing processes have been enhanced since 2023 in order to strengthen the protection of human rights in the supply chain in the long term. Responsibility for this task lies with the central procurement coordination centre and the Global Sustainability Team. Stadler is striving to continuously expand and improve its expertise in the area of supply chain management.

In cooperation with the Compliance department, the Human Rights Officer provides training materials and information on the subject of protecting human rights. In 2024, employees with relevant responsibilities received targeted training on human rights. This included making all Local Compliance Officers aware of the current requirements and best practices in the area of human rights, who in turn passed this knowledge on to their subsidiaries.

In the coming year, the training programmes will be expanded to ensure that all employees develop a basic understanding of the importance and protection of human rights.

The supplier process that had already been revised in 2023 was optimised even further in the reporting year and modified to take account of the requirements of the German Supply Chain Due Diligence Act (LkSG) and the Swiss Ordinance on Due Diligence and Transparency (DDTrO). On completion, the process was rolled out and implemented throughout the Group.

As part of these efforts to ensure transparency, a comprehensive LkSG report was prepared for all German subsidiaries for the first time in order to document and further strengthen compliance with legal requirements.

Further information can be found in the section **Supply chain management and raw material availability**.

Stadler continued to systematically assess human rights risks in its own company and in the supply chain in 2024. The previous focus on child labour was expanded to include topics such as forced labour, working conditions, cooperation with social partners, corruption, fair competition and dealing with conflict minerals.

To conduct its analysis, Stadler takes information from 15 recognised data sources, ten of which analyse human rights (see chapter **Supply chain management and raw material availability**).

This comprehensive approach ensures that Stadler can identify potential risks at an early stage and take appropriate measures to further strengthen the protection of human rights in all areas. The assessment of human rights risks at Stadler locations carried out in the reporting year revealed that there is an increased risk in two countries. The management in each country was informed of the problems identified and asked to confirm in writing that the prohibition of child labour was being strictly observed. Following their confirmation, no specific indications of child labour were identified in 2024. The Board of Directors was informed of the results of these verifications.

In the 2024 reporting year, all locations that carry out purchasing activities were comprehensively informed about the risks associated with the import and processing of conflict minerals and metals. The sites use data collection forms and customs tariff numbers in accordance with the Swiss Ordinance on Due Diligence and Transparency (DDTrO) and EU Regulation 2017/821 to identify any potentially affected materials. The data collected was analysed centrally by the Global Sustainability Team to ensure a Group-wide assessment. The analysis showed that Stadler does not import any conflict minerals. This is due partly to the fact that checks are carried out via customs tariff numbers, and partly to the fact that Stadler hardly ever buys materials in raw form, but instead processes mostly semi-finished products. This means that the company remains exempt from the reporting obligation in Switzerland for 2024. The results of these verifications were presented to the Board of Directors for inspection.

To ensure human rights standards in the supply chain, Stadler implements a Code of Conduct for Business Partners and carries out continuous ESG supplier risk analyses (see chapter **Supply chain management and raw material availability**). From 2025 onwards, Stadler plans to conduct unannounced spot checks to verify suppliers' compliance with these standards. These spot checks will take place in addition to the previous scheduled audits. If any breaches are found, Stadler reserves the right to immediately terminate its relationship with the suppliers concerned.

The ESG risk analysis carried out in the reporting year revealed that only 1.5 percent of suppliers were classified as high-risk. For the 2024 financial year, there are no indications of child labour within the supply chain, meaning that Stadler is also exempt from the associated reporting obligation in accordance with the DDTrO. All relevant measures and controls were carefully documented in accordance with the regulatory requirements.

New measures in the reporting year

In 2024, Stadler carried out targeted training and awareness-raising measures to draw attention to ESG issues within the Group and along the supply chain.

Special emphasis was placed on training selected employees at management level to integrate strategic ESG aspects into decision-making processes. In addition, training courses on ESG supplier risk analysis were held at all locations, particularly for the Purchasing and QEHS (Quality, Environment, Health and Safety) departments.

In order to strengthen the reporting system for compliance violations even further, the anonymous whistleblower system was once again placed centre stage. Specific awareness-raising measures were taken to inform employees and relevant stakeholders about its importance and potential uses.

Raising awareness among suppliers with an increased human rights risk was also a priority. By means of targeted communication, Stadler ensured that these suppliers were made more aware of their due diligence obligations in relation to human rights and checked that they were properly integrated into sustainable supply chain practices.

These measures underscored Stadler's ongoing commitment to responsible corporate governance and to sustainable supply chain processes.

Performance indicators

Human rights	Unit	2023	2024	Δ %
Total number of confirmed human rights violations	Quantity	0	0	0.0%
Total number of confirmed incidents of suspension or termination of contracts with business partners for human rights violations	Quantity	0	0	0.0%
Total number of public legal proceedings initiated against Stadler or employees in connection with human rights violations	Quantity	0	0	0.0%

CONSUMERS AND END USERS

Product and customer safety

Product and customer safety is a top priority at Stadler and applies to all products throughout their entire life cycle. This concerns passenger safety in particular, and includes rail vehicles, services and signalling. To strengthen these standards, Stadler has invested extensively in automatic train protection technology and driver assistance systems in order to keep the number of serious accidents down to zero.

Goals and ambitions
- Prevent any serious accidents due to technical failure with Stadler vehicles during regular operation
- Ensure continuous further development of automatic train protection and driver assistance systems to increase the safety of rail transport

Significant impacts, opportunities and risks
- Ensuring personal safety
- Reducing the risk of accidents

Main fields of action
- Showing strict consideration for safety requirements in accordance with customer demands, legal provisions and standards
- Continuously improving internal management systems to guarantee quality and safety
- Responding rapidly to unsafe events and conditions, and promptly rectifying any errors that occur
- Developing products and solutions to make train journeys even safer

As a provider of mobility solutions on and around the rails, Stadler is aware of its great responsibility for passengers, employees, railway operators and passers-by, and takes this responsibility very seriously. Product safety is essential to safeguard the existence of the company in the long term.

This safety awareness is also the cornerstone for the development of new rail vehicles and their commissioning. This is done by strictly adhering to legal requirements, standards and standardised processes in vehicle design and by providing safety documentation. The manufacture of rail vehicles is subject to strict quality specifications, and all products are tested prior to commissioning, and are only put into commercial operation if approval is obtained in accordance with the applicable standards. This minimises the risk of accidents and their impact on passengers, employees, passers-by and the environment.

Safe rail transport promotes confidence in public transport. By proactively preventing cases of personal injury or other incidents, Stadler avoids reputational damage, regulatory sanctions and other legal action.

The fulfilment of all customer requirements, legal provisions, standards and norms related to safety is therefore given maximum priority in the company and is non-negotiable.

Legal framework, guidelines and internal regulations

Guidelines

Rail vehicles and signalling systems are subject to strict regulations and must be approved before they can be used commercially. Numerous international and national laws, standards and specifications provide the necessary legal framework. These include standards for the strength of car bodies, wheel sets and bogie frames, regulations on collision safety, fire protection requirements and electromagnetic compatibility. Stadler observes these requirements in all

its processes and makes sure that it develops and manufactures rail vehicles and signalling technology that comply with the latest standards.

As part of these approval processes, Stadler carries out safety assessments in accordance with the recognised CSM RA (Common Safety Methods for Railway Application) regulation and the EN 50126 standard (specification and demonstration of reliability, availability, maintainability and safety for railway applications). This widely used, legally prescribed safety method is used to evaluate and assess risks and the safe design of vehicles and signalling systems. Stadler applies safety management processes in accordance with the official standards for the specification and verification of reliability, availability, maintainability and safety (RAMS).

In addition, a whole series of other application-specific higher-level standards is taken into account, including:
– ECM: amended Implementing Regulation 2019/77; this applies in all EU countries and Switzerland
– EN 50129: 2018 Railway applications – Communication, signalling and processing systems – safety-related electronic systems for signalling

Responsibility for the safety of transport during operation lies with the vehicle operators, taking into account the railway operating regulations applicable in each country.

Internal regulation

Standardised processes

Common certifications and standards represent guidance for product safety at Stadler and are implemented at all locations by means of integrated management systems. These systems are certified according to ISO 9001 or IRIS. The strict application of standardised quality and inspection methods, as well as measures to detect and prevent faults, ensures maximum safety. This also includes the rapid identification and elimination of any variations in quality. Stadler engages in close dialogue with suppliers in particular. This is the only way to ensure that rail vehicles meet the highest quality and safety requirements throughout the entire product life cycle. Further information can be found in the **Certification matrix (p. 13)**.

The safety of products, and therefore of passengers, is determined by numerous processes along the entire product life cycle. The key processes along the value chain concern engineering, procurement, production, commissioning, approval and maintenance. The intervention process takes effect if any vehicle or system anomalies are found. It includes responding to events during operation, paying special consideration to safety-related events, as well as analysing and rectifying errors and communicating with customers.

As part of its commissioning and type testing processes, Stadler provides all the safety certificates required for approval in accordance with the order specifications. These documents are then assessed by external bodies. The company attaches great importance to the careful execution of all process steps and the fulfilment of safety requirements. These processes are an integral part of the management system and are audited internally and externally on a regular basis. Stadler ensures that its employees receive appropriate training so that they are able carry out the necessary processes professionally.

Maintaining the highest level of safety in Stadler vehicles goes hand in hand with observing the highest quality standards. For this reason, the company applies an integrated management system at most locations.

Quality, environmental and health and safety policy

Stadler's quality, environmental and safety policy requires all employees, suppliers and contractors to actively commit to quality and product safety. In accordance with the safety policy, Stadler expects all those involved to take responsibility for helping to ensure the flawless quality of products in order to fulfil the high and rapidly evolving requirements and expectations of customers. An overview of the certifications obtained by Stadler locations can be found in the **Certification matrix (p. 13)**.

Internal implementation

Responsibilities

In line with Stadler's organisational structure, each site and location is responsible for ensuring product safety. This allows the company to respond locally to national requirements and to implement the necessary measures and standards in line with local conditions in order to ensure product safety at all times.

Each location that carries out corresponding development activities has a dedicated function to ensure that products are designed safely, to prepare the associated documentation and to perform the necessary verifications. At many locations, this function corresponds to Safety Management. At locations where Stadler maintains vehicles in operation, a corresponding function is defined in line with the ECM (Entity in Charge of Maintenance).

Risk analyses to ensure safety

Stadler uses vehicle-specific risk analyses to ensure that all the necessary measures have been taken to minimise potential risks for trains. It is essential that the various components and systems components demonstrably comply with the technical specifications, as well as the applicable standards, laws and the state of the art. Stadler continuously monitors the market in order to improve the operational and functional safety

of its vehicles and products by implementing new technologies and to fulfil the high demands placed on the development of safe, robust products. If safety-critical events occur during operation, the causes are analysed and appropriate countermeasures are devised.

Safety and comfort of passengers
Stadler implements national standards or international TSI requirements (Technical Specification for Interoperability) to address its passengers' most important concern: safety. As well as ensuring their safety, Stadler wants to allow passengers to travel in comfort. It designs its vehicles with comfortable seats, HVAC systems and pleasant lighting concepts, as well as step-free boarding and alighting options so that all travellers can move easily between the platform and train.

Standardised approval procedures
Stadler ensures that its rail vehicles, signalling systems and other products comply with the relevant standards and regulations and are safe to use by implementing extensive design specifications and by carrying out tests, product inspections and comprehensive approval procedures, as well as commissioning and test runs.

Maintenance
In the Service business segment, Stadler continues to focus on the preventive and corrective maintenance of rail vehicles, even after the warranty phase has ended. Constant technology-based monitoring of trains in operation (Rail Data Services) enables potential risks to be recognised and eliminated at an early stage.

Awareness-raising and training
It is essential to maintain open, constructive dialogue between employees and business partners regarding vehicle and product safety and to discuss the relevant requirements of the quality management system. Stadler promotes awareness and helps to ensure that safety requirements are implemented in a professional manner by providing regular internal training and appropriate instructions during daily work.

Signalling and collision warning systems
Signalling solutions (trackside and on-board automatic train protection systems) make a significant contribution to safe rail transport and facilitate operations.

Stadler offers in-house solutions and is continuously helping to improve the general safety of rail transport with innovative developments. In recent years, in addition to the established trackside and on-board automatic train protection systems, a dedicated collision warning system has been developed that is integrated into the driver assistance system to warn the driver of potential dangers in traffic. As the basis for automatic train control, a collision warning system can also initiate preventive braking in the vehicle, which significantly increases personal safety, especially in urban traffic. Thanks to this in-house development, all Stadler trams will be equipped with collision warning systems in the coming years.

Dialogue with stakeholder groups
In order to make its own processes and rail vehicles as safe as possible, Stadler analyses safety-relevant events in the industry and internationally.

Stadler also engages in open dialogue with national approval bodies and railway regulatory authorities (e.g. the Federal Office of Transport (FOT), the German Federal Railway Authority (EBA) and the European Railway Agency (ERA)).

Stadler employees are also represented on various committees for the further development of standards and regulations. This enables Stadler to make an active contribution to enhancing the safety of rail transport.

New measures in the reporting year
Stadler is constantly working to make rail transport even safer thanks to continuous product and process improvements.

Performance indicators
In 2024, there were no serious accidents due to technical failures involving Stadler vehicles during regular operation.

BUSINESS CONDUCT

Supply chain management and raw material availability

As a system integrator for rail vehicles and rail-based solutions, Stadler is dependent on the reliable procurement of components and systems, which represents a crucial factor for business success. This makes suppliers and business partners one of the company's most important stakeholder groups. Stadler attaches great importance to sustainable procurement and efficient supply chain management. It places the same high demands on its partners as it does on itself. The company strives to deliver high-quality, reliable, sustainable solutions for customers and end customers.

Goals and ambitions
- Ensure that 100 percent of new suppliers sign the Code of Conduct for Business Partners by 2026
- Push ahead with digitalisation, continue to harmonise purchasing systems, and finalise the standardisation of material classifications
- From 2025 conduct at least five on-site ESG audits without cause of randomly selected suppliers each year
- Expand the ESG supplier risk analysis tool to cover additional supplier levels (tiers)

Significant impacts, opportunities and risks
- Maintaining long-term supplier relationships
- Enhancing systematic supply chain sustainability reviews, particularly with regard to human rights and environmental risks
- Strengthening local procurement and optimising regional supply chains
- Digitalising supplier management for greater efficiency and transparency

Main fields of action
- Ensuring stable and trusting cooperation with suppliers
- Improving systematic supply chain analysis with regard to sustainability aspects
- Strengthening the advantages of specific locations and reducing dependencies by promoting local procurement and optimising regional supply chains
- Expanding digital processes in supplier management to increase efficiency, transparency and traceability

Reliable suppliers that are readily available and offer a high level of quality and innovative strength are essential in all of Stadler's business areas to ensure delivery capability and product quality for customers.

Geopolitical tensions and material availability remain the main external factors that can influence supply chain management, as the effects of global trade conflicts and new export restrictions in particular are being felt more acutely. In addition, increasing regulatory requirements in the area of sustainability are gaining in importance and require even closer monitoring of supply chains.

Stadler is strengthening the stability of its supply chains by expanding long-term partnerships with suppliers. At the same time, the emphasis remains on promoting local procurement in order to shorten supply routes, minimise risks and meet the legal requirements regarding the local value-added share.

In 2024, Stadler strengthened its commitment to sustainability in the supply chain in order to establish sustainable principles even more firmly within supply chain management. The finalisation and Group-wide implementation of the global supply chain process and the ESG supplier risk analysis tool represented a significant milestone, defining clear standards for

supplier management. This has further systematised sustainable procurement at Stadler and raised awareness of social, ethical and ecological risks.

Legal framework, guidelines and internal regulations

Guidelines

Stadler is guided by globally recognised standards and specifications for responsible supply chain management. These include the OECD Guidelines for Multinational Enterprises, the ILO Conventions, the German Supply Chain Due Diligence Act (LkSG), the Swiss Ordinance on Due Diligence and Transparency (DDTrO) and other relevant international guidelines. Stadler has also signed the "UK Modern Slavery Act" and is committed to complying with the requirements laid down in it.

The principles of the supply chain guidelines followed by Stadler can be summarised as follows:

"Prevent, Monitor, Act"

– Responsible procurement:
  Ensuring sustainable and ethical supply practices along the entire value chain.
– Risk management:
  Identifying, assessing and minimising environmental, social and ethical risks within the supply chain.
– Transparency & traceability:
  Strengthening the traceability of materials and products to fulfil regulatory requirements.
– Compliance with environmental and social standards:
  Promoting processes to conserve resources and the application of fair working conditions by suppliers.
– Supplier responsibility:
  Obliging business partners to comply with the defined sustainability standards.
– Continuous improvement:
  Supporting a sustainable supply chain by means of audits, training and close cooperation with suppliers.

Internal regulation

Code of Conduct for Business Partners

The Code of Conduct for Business Partners helps Stadler and its suppliers, subcontractors and partners (hereinafter referred to as "business partners") to respond to the diverse challenges of the global market and to fulfil their social responsibility. It is based on internationally recognised standards, including the OECD Guidelines, the ILO Conventions and the ICESCR Pact, as well as on relevant national laws and guidelines. The Code reflects Stadler's core values:

– Integrity and legal compliance
– Ethical behaviour
– Responsibility

By signing the Code of Conduct, business partners undertake to comply with all applicable laws and regulatory requirements. These include, in particular, social standards such as fair working conditions, the protection of employee rights, the prohibition of child and forced labour, equal opportunities and measures against discrimination, corruption, unfair competition and money laundering. Stadler's business partners also undertake to comply with environmental standards and to pass these requirements on to their own business partners. Signing the Stadler Code of Conduct or an equivalent or stricter code is a fundamental requirement for working with Stadler.

Supplier evaluation specification document (Supply Chain Policy)

The internal specifications for global supplier management drawn up in 2023 were defined in more detail and implemented in 2024. They determine which agreements, data and information must be available from suppliers before a business relationship can be entered into. They also govern the sustainability supplier risk analysis (ESG supplier risk analysis) and specify when and to what extent in-depth supplier checks – such as ESG assessment questionnaires, action plans or audits – are required.

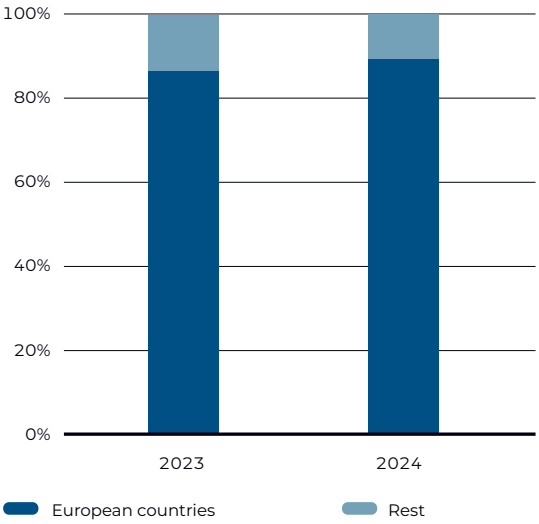
Particular emphasis was placed on the consistent application of these specifications as part of the further development of supplier management. In addition, the criteria for the possible suspension of a supplier relationship were specified in more detail, particularly in the event of breaches of essential ethical, social or environmental standards. This illustrates how Stadler is strengthening the sustainable management of its supply chain and increasing transparency and due diligence in the procurement process.

Internal implementation

Responsibilities with a strong local focus

Supply chain management at Stadler is organised on a decentralised basis. This was a conscious decision made both for organisational reasons and as part of the corporate strategy. As orders are often processed locally and as independently as possible in each order country, procurement responsibility lies directly with the site carrying out the order.

Local Sourcing



This decentralised structure encourages long-term, local supplier relationships and enables early identification and targeted management of potential risks posed by business partners. It also strengthens cooperation with local suppliers, facilitates quality control thanks to physical proximity and helps to support the local economy. Around 90 percent of the procurement volume is handled with contractual partners from European countries.

Furthermore, a central Global Sustainability Team at Stadler manages strategic initiatives and develops Group-wide specifications. This includes the further development of supplier evaluations according to sustainability criteria (ESG criteria). The central team also coordinates local procurement data, ensures systematic monitoring at Group level and ensures that global requirements are implemented efficiently at individual locations.

ESG supplier risk analysis

The ESG supplier risk analysis enables Stadler to systematically assess sustainability risks using a globally standardised process and tools. Suppliers are analysed specifically to identify environmental, social and ethical risks with the help of the ESG supplier risk analysis tool. Since its launch in 2023, the tool has been continuously developed, improved and implemented throughout the Group.

The first step – an abstract risk analysis – was to analyse more than 2,800 relevant suppliers using the ESG supplier risk analysis process as part of a risk-based approach. In 2024, Stadler added 325 new suppliers to the system, 100 percent of which were analysed for environmental and social criteria ✔. In addition, 22 inactive suppliers were removed from the system. In addition, some suppliers that already existed in the 2023 reporting year were analyzed in 2024.

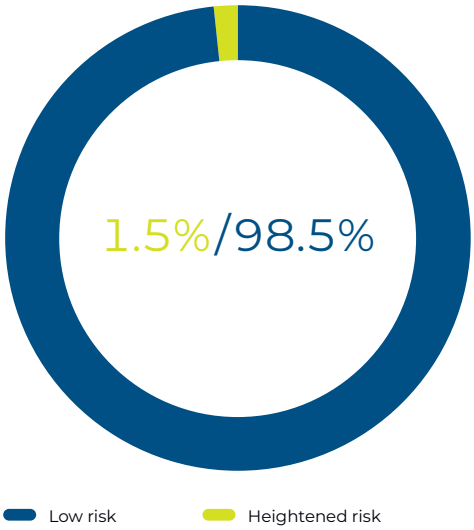
Both country-specific and product-specific risks are evaluated in the course of the analysis. Stadler uses recognised data sources to analyse risks relating to human rights and the environment. Seven additional databases were integrated in 2024, allowing an even more precise supplier evaluation to be carried out.

The supplier evaluation is based on 15 databases:
- Children's Rights in the Workplace Index (UNICEF)
- Childhood Index (Save the Children)
- Freedom in the World (Freedom House)
- Global Slavery Index (Walk Free)
- Global Gender Gap Index (World Economic Forum)
- Minimum Wage Index (OECD)
- Global Rights Index (International Trade Union Confederation)
- Rule of Law Index (World Justice Project)
- Conflict-Affected and High-Risk Areas (TDi Sustainability)
- Study on human rights in the value chain (BMAS Germany)
- Intensity of Mercury Emissions (UNEP)
- Mercury Imports (WITS)
- Intensity of Hazardous Waste (Eurostat)
- Global Waste Index (Sensoneo)
- Environmental Performance Index (Yale Center for Environmental Law and Policy & CIESIN)

An aggregated score is calculated based on the evaluations of the individual databases. This gives the supplier's overall risk classification. Suppliers are divided into five categories: no, low, medium, high or very high risk.

Suppliers classed as medium risk or higher are subject to further verifications, i.e. they must undergo a specific risk analysis. Regardless of the risk, the same applies to suppliers who provide Stadler with critical materials (e.g. batteries or lighting).

Result of ESG supplier risk analysis 2024



In 2024, risks regarded as medium at the very least were identified for 1.5 percent of the relevant suppliers. The next step consisted in evaluating these potential risk suppliers in more detail using an ESG assessment questionnaire. The questionnaire covers key topics such as internal guidelines (e.g. Code of Conduct), employee rights and working conditions, cooperation with social partners, protection of human rights, prevention of corruption and competition, conflict minerals and environmental standards.

If the risk analysis still indicates critical points after the questionnaire has been analysed, targeted action plans are drawn up with the supplier concerned. The measures in the action plans range from demanding specific improvements to blocking the supplier. In 2024, initial measures were taken for two suppliers, which will be consolidated in 2025. There was no need to block any suppliers.

Digitalisation initiative in supplier management
As part of Stadler's digitalisation strategy, the central supply chain organisation has developed a digital supplier platform that has already been implemented at various initial locations. This platform not only increases process efficiency, but also facilitates the continuous development of ESG requirements, including data collection, ESG risk analysis, the ESG assessment questionnaire and action plans. What is more, it improves data quality and creates greater transparency in the supply chain, enabling risks to be recognised at an early stage and targeted measures to be taken.

As a next step, the Global Sustainability Team is planning to fully integrate the ESG supplier risk analysis tool into the supplier platform to ensure an even more comprehensive and efficient assessment of sustainability risks.

Dialogue with stakeholder groups
Regular communication and direct dialogue with suppliers remain essential components of supply chain management for Stadler. Stadler continues to focus on establishing close and trusting relationships with its business partners by means of quality and process audits, supplier review meetings and initial sample inspections. This dialogue was strengthened even further in 2024, particularly to allow the joint development of innovative products and to help suppliers to implement sustainability measures.

Providing stakeholders with transparent information is becoming increasingly important due to the sustainability strategy and progress of digitalisation. Since 2024, suppliers have been made specifically aware of potential risks. This approach will be pursued in more depth in 2025 by providing comprehensive training documents. This will allow Stadler to ensure that ESG requirements are clearly communicated and that all business partners are working towards the same sustainability goals in the long term. At the same time, the possibility for suppliers to report potential or suspected breaches of the law via the reporting centre will continue to be actively encouraged in order to strengthen transparency and compliance within the supply chain in the long term.

New measures in the reporting year

In the year under review, Stadler continued to make its supply chain management systematically more sustainable and progressive. The revision of the Code of Conduct for Business Partners, which all new suppliers are expected to sign by 2026, was a vital step forward. This establishes clear and binding standards for ethical, social and ecological behaviour.

In parallel, Stadler has continued to drive forward digitalisation in purchasing. The harmonisation of purchasing systems, the standardisation of material classifications and the optimisation of digital data collection will make the supply chain even more efficient and transparent. The next step will be to integrate the ESG supplier risk analysis tool into the supplier management system so that sustainability risks along the entire supply chain can be assessed and monitored even more precisely.

To ensure high sustainability standards, Stadler has also enhanced the process for regular supplier audits and review meetings. As well as conducting event-driven audits, the aim is for at least five ESG audits without cause to be conducted on the premises of randomly selected suppliers each year.

In addition, the training programme for suppliers was expanded even further in order to raise awareness of sustainability requirements and to promote their implementation in an even more targeted manner.

By implementing these measures, Stadler is sending out a clear signal in favour of responsible and sustainable supply chain management.

Performance indicators

Supply chain management and raw material availability	Unit	2023	2024
Suppliers in Europe	%	86.5%	89.4%
Suppliers outside Europe	%	13.5%	10.6%
Number of suppliers	Quantity	2,559	2,862
Human right risks at suppliers[1]	%	0.8%	1.5%
Environmental risks at suppliers	%	0.8%	0.9%
Low risk according to abstract risk analysis	%	99.2%	98.5%
Heigthened risk according to abstract risk analysis	%	0.8%	1.5%
Low risk according to concrete risk analysis[2]	%	–	99.9%
Heigthened risk according to concrete risk analysis[2,3]	%	–	0.1%

[1] Duplication possible if supplier presents both human rights and environmental risks.
[2] Concrete ESG supplier risk analysis 2023 was carried out in 2024.
[3] The definitive conclusion of the concrete risk analysis is still pending for three suppliers, which is why their increased risk could not yet be corrected downwards or confirmed.

Compliance, ethics and integrity

In all its business activities, Stadler operates within the framework of all local, national and international laws, guidelines and regulations. The Group is also committed to high ethical principles and assumes its social responsibility.

Goals and ambitions
– Avoid any confirmed cases of corruption anywhere in the Group
– Ensure that 100 percent of relevant employees sign the Code of Conduct

Significant impacts, opportunities and risks
– Ensuring fair market conditions
– Strengthening trust in the Stadler Group

Main fields of action
– Applying a comprehensive compliance programme
– Enforcing a Code of Conduct with three core principles: integrity and legality, ethical behaviour and responsibility
– Implementing the OECD Guidelines for Multinational Enterprises on Responsible Business Conduct

Stadler's business conduct is of great relevance to a large number of stakeholders. Rail vehicles are largely financed from public funds, which is why high requirements for legally compliant and ethical business practices are applied when awarding contracts. An impeccable reputation is a prerequisite for participants in these procurement processes. This is even more true because Stadler is exposed to such a high risk of corruption, bribery and anti-competitive behaviour both due to the specific characteristics of the industry and to the fact that it has so many locations worldwide.

Stadler's good reputation is an asset that the company preserves and protects worldwide by implementing compliance, ethics and integrity as a responsible partner. This good reputation is also a prerequisite for maintaining the trust of the company's various stakeholder groups and for establishing long-term business relationships. Combating corruption throughout the industry also helps to create equal, fair conditions for all market participants.

As part of the compliance programme, particular attention is paid to the agents who work for Stadler. In the sales process, Stadler works with local agents who have been carefully selected and checked beforehand. This is necessary due to the international nature of its business and to the knowledge required of local conditions. A separate, Group-wide directive governs the handling and constant monitoring of these agents throughout the entire business process in order to ensure transparency.

Legal framework, guidelines and internal regulations

Guidelines

Stadler is committed to the OECD Guidelines for Multinational Enterprises on Responsible Business Conduct. Stadler also complies with all applicable local, national and international laws (e.g. the Norwegian Transparency Act and the UK Slavery Act).

Internal implementation

OECD Guidelines for Multinational Enterprises

Stadler has drawn up the following internal specification documents on corruption and competition, employee rights and social partners, protection of human rights, supply chain and supplier evaluation, and compliance with environmental standards in accordance with the OECD Guidelines for Multinational Enterprises on Responsible Business Conduct. These specification documents outline information such as:
– Existing departmental directives, specifications and processes
– The risks that have been identified and assessed
– Measures to ensure compliance with relevant requirements
– Procedure for violations of the law and internal guidelines
– KPIs for measuring progress towards target achievement

Compliance programme

Stadler's success and good reputation are based partly on the trust placed in the company on all sides. This begins with shareholders and employees, and continues with stakeholders such as customers, suppliers, consultants or agents and the relevant authorities, right through to the general public. Stadler aims to live up to this trust in every respect by using its compliance programme to preventively and actively seek to ensure that the business practices implemented by Stadler and its service providers always comply with the applicable laws and internal directives. Stadler's compliance programme comprises the following elements:
– Compliance directive
– Compliance organisation
– Group Code of Conduct
– "Compliance – Agents in the Stadler Rail Group" directive
– Awareness-raising and training
– Compliance helpline
– All related guidelines, sample contracts and checklists

Compliance directive
The Compliance directive defines the compliance organisation, responsibilities and reporting in the area of compliance. It also sets out the most important principles of compliance training.

Compliance organisation – responsibilities
Stadler's compliance organisation consists of the Chief Compliance Officer (CCO) and the Local Compliance Officers (LCOs) in the individual divisions, as well as the superordinate Audit Committee (Board of Directors' Committee).

The CCO assists and advises the Group CEO, the Audit Committee and the LCOs on all issues relating to the compliance programme. Among other things, the CCO is responsible for the implementation and enhancement of the compliance programme throughout the Group, for the development of organisational and technical tools, and for the planning and implementation of compliance training courses.

Each division appoints an LCO responsible for it. Among other things, the LCO is in charge of implementing the compliance programme and for applying additional measures to comply with local laws. The Audit Committee provides input for the further development of the compliance programme and the compliance organisation, and monitors compliance checks as part of the internal control system (ICS).

Stadler's auditors also carry out compliance checks as part of their risk assessment of the ICS.

The relevant management team is responsible for conveying information on and monitoring compliance with the Code of Conduct.

Code of Conduct
The Code of Conduct is the principal guide for Stadler, its employees and agents. The document is available in nine languages and is distributed to the following functions, at the very least: employees with a managerial role, employees in purchasing, sales and approval, and project managers. The Code of Conduct standardises Stadler's business principles and values at all locations.

The core principles of the Code of Conduct are:
a) INTEGRITY AND LEGALITY
Stadler recognises and complies with all applicable legislation and internal regulations. This applies in particular, but not only, to legal requirements relating to corruption, antitrust law and money laundering. Soliciting or accepting ("passive corruption"), promising or granting ("active corruption") undue advantages is strictly prohibited, as are all forms of unfair or, for example, anti-competitive business practices. Moreover, employees must also avoid conflicts of interest. Conflicts of interest can arise when a person's personal interests conflict with or compete with those of Stadler. The Code of Conduct instructs employees to avoid situations that could give rise to conflicts of interest and to report any conflicts of interest to their line manager or the CCO in good time. Confidential information must be treated as such.

Anti-corruption
Compliance risks, including those relating to corruption and competition law, are assessed as part of the annual risk analysis and reported to the Board of Directors.

Both the Code of Conduct for Employees and Agents and the Code of Conduct for Business Partners strictly prohibit the solicitation or acceptance ("passive corruption") and the promise or granting ("active corruption") of undue advantages. The Code of Conduct for Employees also defines rules for accepting and giving gifts. The rules regarding corruption are explained during compliance training. Every employee and agent is also personally asked to help enforce the principles set out in the Code of Conduct and to report any breaches to their line manager, the relevant management or the CCO. The external auditors carry out checks during their annual audit to ensure that the compliance management system is being observed. Any breaches are mentioned in the report to the Board of Directors.

Fair competition
According to the principles enshrined in the Code of Conduct, business practices that are unfair or are proscribed under competition law are forbidden. Market and price agreements are prohibited in particular, as is unfair competitive behaviour.

b) ETHICAL BEHAVIOUR
Stadler not only creates connections in a geographical sense, but it also wants to encourage harmonious partnerships at an interpersonal level. Stadler employees are expected to treat others with respect, tolerance and courtesy. Discrimination and all other forms of dismissive behaviour will not be tolerated.

c) RESPONSIBILITY
Stadler is aware of its responsibility towards its employees, business partners and shareholders, as well as towards the environment. Stadler is a reliable business partner that fulfils its obligations conscientiously and on time. All employees contribute to this positive overall impression.

The Code of Conduct is also an integral part of every contract that an agent concludes with Stadler. Stadler pursues a zero-tolerance policy with regard to violations of applicable law or the Code of Conduct.

Code of Conduct for Business Partners
The Code of Conduct for Business Partners ensures that Stadler's business partners, such as suppliers and service providers, assume their responsibilities on an economic, social, ethical and ecological level. It takes account of the challenges posed by Stadler's global business environment, such as country-specific legal requirements and the complexity of the value chain. Further information can be found in the **Human rights** and **Supply chain management and raw material availability** sections.

Compliance – Agents directive
The "Compliance – Agents in the Stadler Rail Group" directive defines the processes for approving and monitoring Stadler agents. A compliance check by an independent third party is one of the components of the directive.

Compliance training for employees
Regular mandatory training is an important pillar of Stadler's compliance programme. This enhances employees' awareness of compliance issues. The Group-wide online training programme is supplemented by topic-specific classroom training. The CCO regularly informs the Audit Committee about the training courses organised.

Compliance helpline
In the event of suspected violations of laws or Stadler's compliance programme, or if there are any doubts about the interpretation of individual provisions, employees can contact their line manager, the relevant Local Compliance Officer (LCO) or the Chief Compliance Officer (CCO). They can also choose to contact the helpline, which is available on both the intranet and the Internet. The helpline can be used by internal and external stakeholders alike.

Compliance reports and enquiries are handled by the CCO or the LCOs, and may include information on known or suspected violations of laws or internal regulations, human rights or environmental risks. All reports are treated confidentially and can also be submitted anonymously. Unless a report is submitted anonymously, the reporting person will receive confirmation of receipt and – if possible and legally permitted – information on the measures taken. Possible outcomes of investigations include recommendations for disciplinary action or other remedial measures.

Performance indicators

Compliance, ethics and integrity	Unit	2023		2024	Δ %
Total number of confirmed incidents of non-compliance with anti-corruption and anti-trust laws by employees and agents	Quantity	0	✓	0	0.0%
Percentage of members of the governing body who have been made aware of and trained in anti-corruption policies and procedures	%	100%	✓	100%	0.0%
Total number of operating sites[1] that are checked for corruption risks	Quantity	42	✓	44	4.8%
Percentage of relevant employees with external contact who have been trained on anti-corruption policies and procedures[2]	%	91%	✓	99%	8.8%
Percentage of employees that the organization's anti-corruption policies and procedures have been communicated to[3]	%	97%	✓	99%	2.1%
Total number of confirmed incidents of employees dismissed or cautioned for corruption	Quantity	0	✓	0	0.0%
Total number of confirmed incidents of suspension or termination of contracts with business partners due to anti-corruption violations	Quantity	0	✓	0	0.0%
Total number of public law proceedings initiated against Stadler or its employees in the areas of corruption and competition law	Quantity	0	✓	0	0.0%

[1] Companies with >51 percent shareholding listed in the annual report
[2] Relevant employees: Employees with a management function, employees in purchasing, employees in sales, employees in authorisation and project managers; who receive the CoC with their working contract and are trained regularly. The sample serves as a control procedure. Due to data unavailability, more detailed information cannot be published yet.
[3] Percentage determined on the basis of sample test from June 2024 for signed and correctly stored Code of Conducts. Relevant employees: see footnote 2. Due to data unavailability, more detailed information cannot be published yet. For the same reason, the disclosure in relation to business partners (GRI 205 – 2c) is not reported yet.

Data protection

Stadler attaches great importance to handling personal data responsibly and to protecting the privacy of employees, customers and other data subjects. In order to comply with the relevant data protection regulations, Stadler has implemented a Group data protection policy based on the Federal Act on Data Protection (FADP) and the European General Data Protection Regulation (GDPR). Awareness is continuously raised among employees, and data subjects are given transparent information about the use and processing of their personal data.

Goals and ambitions
– Prevent any confirmed serious violations of the protection of personal data

Significant impacts, opportunities and risks
– Processing confidential information about customers, business partners and employees

Main fields of action
– Applying a mandatory data protection directive throughout the Group
– Ensuring compliance with legal requirements
– Raising awareness among employees

Stadler processes the personal data of customers, business partners and, to a larger extent, employees. This data includes contact details, bank details and sometimes more sensitive data such as health information. If this data is not adequately protected and the data subjects are not provided with transparent information, there can be a variety of negative consequences for the individuals concerned and for Stadler.

Stadler considers compliance with both the European General Data Protection Regulation (GDPR) and the Federal Act on Data Protection (FADP) to be mandatory in order to protect the company's good reputation as a business partner and employer. Stadler must also comply with the local data protection laws and requirements of the countries in which it operates.

Legal framework, guidelines and internal regulations
Stadler's data protection programme is designed to fundamentally and preventively ensure that the processing of personal data is carried out in accordance with the applicable laws and that the privacy of data subjects is protected accordingly. The data protection programme comprises the following elements:

– Data protection directive
– Data protection organisation
– Awareness-raising and training
– Data protection reporting channel (compliance helpline)
– All related guidelines, sample contracts and checklists.

In specific terms, the data protection directive is based on the Federal Act on Data Protection (FADP) and the European Union's General Data Protection Regulation (GDPR). Among other things, the data protection directive defines the data protection organisation and specifies the conditions to be met for the lawful processing of personal data, the obligations of Stadler and its employees with regard to data processing, and the rights of data subjects. It also includes a deletion concept for Switzerland, which serves as the basis for the deletion concepts of the other divisions.

In the event of data protection incidents or breaches of Stadler's data protection programme, employees can contact the relevant Local Data Protection Officer (Local DPO) or the Group Data Protection Officer (Group DPO). The same applies if data subjects wish to make enquiries or to raise data protection concerns. They can also choose to contact the compliance helpline, which is available on both the intranet and the Internet.

In addition, the directives on information security and the use of IT resources apply to all employees of the Stadler Group. They contain regulations and implementation rules that aim to protect the Stadler network, computer systems, the databases managed by the company and any other information against misuse from inside and outside Stadler, and to guarantee the legal requirements with regard to data security. Technical and organisational measures to ensure a level of security appropriate to the risks are in place and are reviewed regularly.

Internal implementation
Responsibilities
Stadler's data protection organisation consists of the Group Data Protection Officer (Group DPO) and the Local Data Protection Officers (Local DPOs) in the individual divisions, as well as the superordinate Audit Committee (Board of Directors' Committee).

The Group DPO assists and advises the Group CEO, the Audit Committee and the Local DPOs on all matters relating to the data protection programme. Their tasks include the implementation and further development of the data protection programme throughout the Group, the development of organisational and technical tools, and the planning and implementation of data protection training courses.

Each division appoints a Local DPO responsible for it. The responsibilities of the Local DPO include implementing the data protection programme and taking

additional measures to ensure compliance with local laws. If necessary, the Local DPO may also call in external lawyers.

Management systems
In 2021, Stadler also certified the Group's corporate functions in accordance with the ISO 27001 standard for information security for the first time. The sites in Bussnang, St. Margrethen, Prague and Liverpool were certified separately, as was Signalling Switzerland. Since November 2024, ISO27001 certification has been extended to all vehicle production and service locations within the EU to ensure the fulfilment of NIS2 requirements (**Certification matrix, p. 13**). Identical requirements apply to non-certified locations due to the certification of corporate functions and the centralisation of IT within the Group. The ISO 27001 standard specifies the requirements for the information security management system as far as the company's general business risks are concerned. The standard also contains specifications on the introduction of security controls to safeguard information assets. Stadler's ISO 27001 certification defines systematic rules for information security at Stadler, which can be consolidated and continuously improved throughout the Group.

To ensure the highest level of information security, Stadler's IT security systems are also continuously adapted in line with the latest findings.

Employee training
Stadler employees regularly receive, use and pass on personal data. Their actions and decisions therefore have a considerable influence on the lawful processing of this data. For this reason, Stadler provides employees with information and raises awareness of IT security and data protection by means of recurring mandatory training courses. The Group DPO regularly informs the Audit Committee about the training courses organised.

New measures in the reporting year
Conclusion of an Intra-Group Data Transfer Agreement
An Intra-Group Data Transfer Agreement (IGDTA) was drawn up and implemented to ensure compliance with data protection regulations. This governs intra-group data transfers, order processing and data processing activities under joint responsibility.

Continuous further development and updates
Registers of processing activities were maintained and updated, associated data protection declarations and order processing contracts were drawn up and implemented, and data protection impact assessments and transfer impact assessments were carried out. Existing processes were revised based on the findings from past data protection incidents.

Monitoring of breaches of data protection
To evaluate the effectiveness of data protection concepts and measures, Stadler identifies and analyses officially reported or known breaches of data protection. There were no confirmed serious violations of the protection of personal data in the reporting year.

Performance indicators

Data protection	Unit	2023	2024	Δ %
Total number of confirmed serious personal data breaches	Quantity	0	0	0.0%

APPENDIX

CO reference index

This Sustainability Report covers reporting on non-financial matters in accordance with the Swiss Code of Obligations. The table below shows the allocation of Stadler's material topics to non-financial matters. These contents are subject to the approval of the Board of Directors and the General Meeting.

Non-financial matters in accordance with Art. 964b CO	Material topic at Stadler
Environmental issues	Climate change mitigation
	Energy
	VOC emissions
	Resource inflows and outflows
	Waste
Social issues	Human rights
	Product and customer safety
	Data protection
Employee issues	Working at Stadler
	Occupational health and safety
	Diversity and equal opportunities
Respect for human rights	Human rights
	Supply chain management and raw material availability
Combating corruption	Compliance, ethics and integrity

Stadler's business model (requirement pursuant to Swiss Code of Obligations (CO), Art. 964b, para. 2, item 1) is covered in the **Company profile** section. Reporting on climate-related matters (in accordance with CO Art. 964a-c) can be found in the **Appendix** to this report and is based on the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD). Finally, the areas of conflict minerals and due diligence (in accordance with CO Art. 946j-l) are reported on in the sections on **Human rights** as well as **Supply chain management and raw material availability**.

Declaration of the Board of Directors

The Board of Directors of Stadler Rail AG is responsible for the preparation of the report on non-financial matters in accordance with the Swiss Code of Obligations.

The report is submitted to the General Meeting of Shareholders for approval in a consultative vote.

For the Board of Directors:

Peter Spuhler
Executive Chairman of the Board of Directors

Bussnang, 18 March 2025

Supplementary table on environmental data

Biogenic greenhouse gas emissions	Unit	2023	2024	Δ %
Scope 1	**t CO_2e**	**184**	**267**	**45.2%**
Fuels for heating purposes[1]	t CO_2e	137	188	
Fuels for vehicels[1]	t CO_2e	47	79	
Refrigerants	t CO_2e	0	0	
Others	t CO_2e	0	0	
Scope 2 (market-based)	**t CO_2e**	**3,118**	**2,973**	**(4.7%)**
Electricity[2] (market-based)	t CO_2e	1,351	1,666	
District heating[2]	t CO_2e	1,767	1,307	
Others	t CO_2e	0	0	
Total Scope 1 and 2	**t CO_2e**	**3,303**	**3,240**	**(1.9%)**

[1] Emission factors from DEFRA 2023 and 2024
[2] Emission factors from DEFRA 2023; BAFU 2018, 2024

Assurance Statement KPMG

Independent limited assurance report on selected sustainability information of Stadler Rail AG

To the Board of Directors of Stadler Rail AG, Bussnang

We have undertaken a limited assurance engagement on Stadler Rail AG's (hereinafter "Stadler") and its subsidiaries (the Group) following selected Sustainability Information in the Sustainability Report for the year 2024 (hereinafter "Sustainability Information").

Our limited assurance on selected Sustainability Information consists of key performance indicators in the areas «Energy», «Emissions», «Occupational Health & Safety», «Anti-corruption», «Anti-competitive Behavior» and «Supplier Assessment» for the year 2024, which are marked with a checkmark.

Our assurance engagement does not extend to information in respect of earlier periods or future looking information included in the Sustainability Report 2024, information included in the Financial Report 2024, information included in the Business Report 2024, information linked from the Sustainability Report 2024, information linked from the Financial Report 2024 or any images, audio files or embedded videos.

Our Limited Assurance Conclusion

Based on the procedures we have performed as described under the *'Summary of the work we performed as the basis for our assurance conclusion'* and the evidence we have obtained, nothing has come to our attention that causes us to believe that the Sustainability Information in the areas «Energy», «Emissions», «Anti-corruption», «Anti-competitive Behavior» and «Supplier Assessment» is not prepared, in all material respects, in accordance with the GRI (SRS) and the Sustainability Information in the category «Occupational Health & Safety» is not prepared in accordance with the self-developed criteria.

We do not express an assurance conclusion on information in respect of earlier periods or future looking information included in the Sustainability Report 2024, information included in the Financial Report 2024, information included in the Business Report 2024, information linked from the Sustainability Report 2024, information linked from the Financial Report 2024 or any images, audio files or embedded videos.

Understanding how Stadler Rail AG has Prepared the Sustainability Information

The GRI Sustainability Reporting Standards (GRI SRS) have been used as criteria references for the disclosures in the areas «Energy», «Emissions», «Anti-corruption», «Anti-competitive Behavior» and «Supplier Assessment». For the Sustainability Information in the area of «Occupational Health & Safety» the criteria as disclosed in the sustainability report were applied. Consequently, the Sustainability Information needs to be read and understood together with the criteria.

Inherent Limitations in Preparing the Sustainability Information
Due to the inherent limitations of any internal control structure, it is possible that errors or irregularities may occur in disclosures of the Sustainability Information and not be detected. Our engagement is not designed to detect all internal control weaknesses in the preparation of the Sustainability Information because the engagement was not performed on a continuous basis throughout the period and the audit procedures performed were on a test basis.

Stadler Rail AG's Responsibilities
The Board of Directors of Stadler Rail AG is responsible for:

- Selecting or establishing suitable criteria for preparing the sustainability information, taking into account applicable law and regulations related to reporting the sustainability information;
- The preparation of the sustainability information in accordance with the criteria;
- Designing, implementing and maintaining internal control over information relevant to the preparation of the sustainability information that is free from material misstatement, whether due to fraud or error.

Our Responsibilities
We are responsible for:

- Planning and performing the engagement to obtain limited assurance about whether the Sustainability Information is free from material misstatement, whether due to fraud or error;
- Forming an independent conclusion, based on the procedures we have performed and the evidence we have obtained; and
- Reporting our independent conclusion to the Board of Directors of Stadler Rail AG.

As we are engaged to form an independent conclusion on the Sustainability Information as prepared by the Board of Directors, we are not permitted to be involved in the preparation of the Sustainability Information as doing so may compromise our independence.

Professional Standards Applied
We performed a limited assurance engagement in accordance with International Standard on Assurance Engagements 3000 (Revised) *Assurance Engagements other than Audits or Reviews of Historical Financial Information*, issued by the International Auditing and Assurance Standards Board (IAASB).

Our Independence and Quality Control
We have complied with the independence and other ethical requirements of the *International Code of Ethics for Professional Accountants (including International Independence Standards)* issued by the International Ethics Standards Board for Accountants (IESBA Code), which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality, and professional behavior.

Our firm applies International Standard on Quality Management 1, which requires the firm to design, implement and operate a system of quality management including policies or procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Our work was carried out by an independent and multidisciplinary team including assurance practitioners and sustainability experts. We remain solely responsible for our assurance conclusion.

Summary of the Work we Performed as the Basis for our Assurance Conclusion
We are required to plan and perform our work to address the areas where we have identified that a material misstatement of the Sustainability Information is likely to arise. The procedures we performed were based on our professional judgment. Carrying out our limited assurance engagement on the Sustainability Information included, among others:

- Assessment of the design and implementation of systems, processes and internal controls for determining, processing and monitoring sustainability performance data, including the consolidation of data;
- Inquiries of employees responsible for the determination and consolidation as well as the implementation of internal control procedures regarding the selected disclosures;
- Inspection of selected internal and external documents to determine whether quantitative and qualitative information is supported by sufficient evidence and presented in an accurate and balanced manner;
- Assessment of the data collection, validation and reporting processes as well as the reliability of the reported data on a test basis and through testing of selected calculations;
- Analytical assessment of the data and trends of the quantitative disclosures included in the scope of the limited assurance engagement;
- Assessment of the consistency of the disclosures applicable to Stadler with the other disclosures and key figures and of the overall presentation of the disclosures through critical reading of the Sustainability Report 2024.

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had we performed a reasonable assurance engagement.

KPMG AG

Toni Wattenhofer
Licensed Audit Expert

Silvan Jurt
Licensed Audit Expert

Zürich, 18 March 2025

GRI Index

Stadler has reported in accordance with the GRI Standards for the period from 1 January 2024 to 31 December 2024.

Applicable GRI 1	GRI 1: Foundation 2021		
Applicable GRI Sector Standard	None		

General Disclosures

GRI standard / other source	Disclosure	Reference/ Information*	Omission
The organization and its reporting practices			
GRI 2: General Disclosures 2021	2 – 1 Organizational Details	p. 9 p. 11	
	2 – 2 Entities included in the organization's sustainability reporting	p. 5	
	2 – 3 Reporting period, frequency and contact point	p. 5	
	2 – 4 Restatements of information	p. 5	
	2 – 5 External assurance	p. 74 – 77	
Activities and workers			
GRI 2: General Disclosures 2021	2 – 6 Activities, value chain and other business relationships	p. 9 p. 10	
	2 – 7 Employees	p. 47	
	2 – 8 Workers who are not employees		Information is unavailable/ incomplete. Stadler systematically extends the collection of HR data in the future. Disclosure is planned for the Report 2025.
Governance			
GRI 2: General Disclosures 2021	2 – 9 Governance structure and composition	p. 11 AR p. 55 – 59	
	2 – 10 Nomination and selection of the highest governance body	p. 11 AR p. 51	
	2 – 11 Chair of the highest governance body	p. 11 AR p. 55	
	2 – 12 Role of the highest governance body in overseeing the management of impacts	p. 14 AR p. 58 – 59	
	2 – 13 Delegation of responsibility for managing impacts	p. 14 AR p. 59	
	2 – 14 Role of the highest governance body in sustainability reporting	p. 72	
	2 – 15 Conflicts of interest	p. 67	
	2 – 16 Communication of critical concerns	p. 68	
	2 – 17 Collective knowledge of the highest governance body	p. 14 p. 68 AR p. 55 – 57	
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	2 – 19 Remuneration policies	AR p. 68 – 71	
	2 – 20 Process to determine remuneration	AR p. 58 – 59 AR p. 68 – 71	
	2 – 21 Annual total compensation ratio	AR p. 71	

Strategy, policies and practices			
GRI 2: General Disclosures 2021	2 – 22 Statement on sustainable development strategy	p. 7 – 8	
	2 – 23 Policy commitments	p. 12 – 13 S. 24 S. 35 S. 41 S. 45 S. 54 – 55 S. 62 S. 66	
	2 – 24 Embedding policy commitments	p. 24 S. 35 S. 41 S. 45 S. 54 – 55 S. 62 S. 66	
	2 – 25 Processes to remediate negative impacts	p. 66 – 68	
	2 – 26 Mechanisms for seeking advice and raising concerns	p. 67 p. 68	
	2 – 27 Compliance with laws and regulations	p. 66	
	2 – 28 Membership associations	p. 20	
Stakeholder engagement			
GRI 2: General Disclosures 2021	2 – 29 Approach to stakeholder engagement	p. 19	
	2 – 30 Collective bargaining agreements	p. 46	

* The page numbers refer to the Sustainability Report 2024, unless otherwise stated. The abbreviation 'AR' refers to the **Annual Report 2024** of Stadler, which is published separately but at the same time as this Sustainability Report.

Material topics

GRI standard / other source	Disclosure	Reference/ Information*	Omission
GRI 3: Material Topics 2021	3 – 1 Process to determine material topics	p. 15	
	3 – 2 List of material topics	p. 16	
Environment			
Climate mitigation			
GRI 3: Material Topics 2021	3 – 3 Management of material topics	p. 23 – 32	
GRI 305: Emissions 2016	305 – 1 Direct (Scope 1) GHG emissions	p. 26 – 28	
	305 – 2 Energy indirect (Scope 2) GHG emissions	p. 26 – 28	
	305 – 3 Other indirect (Scope 3) GHG emissions	p. 28 – 32	
	305 – 4 GHG emissions intensity	p. 28	
	305 – 5 Reduction of GHG emissions	p. 27 – 28 p. 32	
Energy			
GRI 3: Material Topics 2021	3 – 3 Management of material topics	p. 33 – 34	
GRI 302: Energy 2016	302 – 1 Energy consumption within the organization	p. 34	
	302 – 3 Energy intensity	p. 34	
	302 – 4 Reduction of energy consumption	p. 33 p. 34	
Waste			
GRI 3: Material Topics 2021	3 – 3 Management of material topics	p. 41 – 42	
GRI 306: Waste 2020	306 – 1 Waste generation and significant waste-related impacts	p. 41 – 42	
	306 – 2 Management of significant waste-related impacts	p. 41 – 42	
	306 – 3 Waste generated	p. 43	
	306 – 4 Waste diverted from disposal	p. 43	
	306 – 5 Waste directed to disposal	p. 43	

Resource inflows and outflows			
GRI 3: Material Topics 2021	3 – 3 Management of material topics	p. 38 – 40	
GRI 301: Materials 2016	301 – 1 Materials used by weight or volume		Information is not available/ incomplete. Stadler will expand the systematic recording of key figures on materials in the future.
	301 – 2 Recycled input materials used		Information is not available/ incomplete. Stadler will expand the systematic recording of key figures on materials in the future.
VOC emissions			
GRI 3: Material Topics 2021	3 – 3 Management of material topics	p. 35 – 36	
GRI 305: Emissions 2016	305 – 7 Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	p. 37	
Employees			
Working at Stadler			
GRI 3: Material Topics 2021	3 – 3 Management of material topics	p. 45 – 47 p. 53	
GRI 401: Employment 2016	401 – 1 New employee hires and employee turnover	p. 47	
GRI 404: Training and Education 2016	404 – 1 Average hours of training per year per employee		Information is unavailable/ incomplete. Stadler systematically extends the collection of HR data in the future. Disclosure is planned for the Report 2025.
	404 – 2 Programs for upgrading employee skills and transition assistance programs	p. 45 – 47	
Own Disclsoures	Investment in education and training	p. 47	
Occupational health and safety			
GRI 3: Material Topics 2021	3 – 3 Management of material topics	p. 48 – 49	
GRI 403: Occupational Health and Safety 2018	403 – 1 Occupational health and safety management system	p. 13 p. 48	
	403 – 2 Hazard identification, risk assessment, and incident investigation	p. 48 – 49 p. 50	
	403 – 3 Occupational health services	p. 48 p. 49	
	403 – 4 Worker participation, consultation, and communication on occupational health and safety	p. 49	
	403 – 5 Worker training on occupational health and safety	p. 49 S. 50	
	403 – 6 Promotion of worker health	p. 49	
	403 – 7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	p. 48 – 49	
	403 – 8 Workers covered by an occupational health and safety management system	p. 13 p. 48 p. 50	
	403 – 9 Work-related injuries	p. 50	
	403 – 10 Work-related ill health	p. 50	
Own Disclsoures	Accident Rate	p. 50	
Diversity and equal opportunities			
GRI 3: Material Topics 2021	3 – 3 Management of material topics	p. 51 – 52	
GRI 405: Diversity and Equal Opportunity 2016	405 – 1 Diversity of governance bodies and employees	p. 51 p. 52	

Social

Human rights

GRI 3: Material Topics 2021	3 – 3 Management of material topics	p. 54 – 57	
GRI 408: Child Labor 2016	408 – 1 Operations and suppliers at significant risk for incidents of child labor	p. 56 – 57 p. 64	
GRI 409: Forced or Compulsory Labor 2016	409 – 1 Operations and suppliers at significant risk for incidents of forced or compulsory labor	p. 56 – 57 p. 64	
GRI 406: Non-discrimination 2016	406 – 1 Incidents of discrimination and corrective actions taken	p. 57	

Product and customer safety

GRI 3: Material Topics 2021	3 – 3 Management of material topics	p. 58 – 60	
GRI 416: Customer Health and Safety 2016	416 – 1 Assessment of the health and safety impacts of product and service categories	p. 59 – 60	
	416 – 2 Incidents of non-compliance concerning the health and safety impacts of products and services	p. 60	

Corporate governance

Supply chain management and raw material availability

GRI 3: Material Topics 2021	3 – 3 Management of material topics	p. 61 – 65	
GRI 204: Procurement Practices 2016	204 – 1 Proportion of spending on local suppliers	p. 62 – 63 p. 65	
GRI 308: Supplier Environmental Assessment 2016	308 – 1 New suppliers that were screened using environmental criteria	p. 63	
	308 – 2 Negative environmental impacts in the supply chain and actions taken	p. 63 – 64	
GRI 414: Supplier Social Assessment 2016	414 – 1 New suppliers that were screened using social criteria	p. 63 – 64	
	414 – 2 Negative social impacts in the supply chain and actions taken	p. 63 – 64	

Compliance, ethics and integrity

GRI 3: Material Topics 2021	3 – 3 Management of material topics	p. 66 – 68	
GRI 205: Anti-corruption 2016	205 – 1 Operations assessed for risks related to corruption	p. 68	
	205 – 2 Communication and training about anti-corruption policies and procedures	p. 66 – 68	
	205 – 3 Confirmed incidents of corruption and actions taken	p. 68	
GRI 206: Anti-competitive Behavior 2016	206 – 1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	p. 68	

Data protection

GRI 3: Material Topics 2021	3 – 3 Management of material topics	p. 69 – 70	
GRI 418: Customer Privacy 2016	418 – 1 Substantiated complaints concerning breaches of customer privacy and losses of customer data	p. 70	

Task Force on Climate-related Financial Disclosures (TCFD) Report

Stadler's report on climate-related risks and opportunities in accordance with the guidelines of the Task Force on Climate-related Financial Disclosures (TCFD) can be found below. To avoid repetition, information that can already be found in other parts of this report is listed here:

– A description of Stadler's organisation can be found in the **Company profile** section.
– Details of targets can be found in the **Sustainability strategy** subsection, while climate indicators are given in the tables in the chapter **Climate change mitigation** and energy indicators are shown in the table in the chapter **Energy**.

Governance

The following statements supplement the information in the chapters **Responsibilities and organisation** and **Sustainability strategy**. Stadler's Board of Directors and Audit Committee are regularly informed about climate-related issues. In addition, specific climate-related topics, including strategic impacts and regulatory developments, are presented to the Board of Directors as required. This ensures that the Board of Directors can effectively monitor and manage the sustainability strategy of Stadler. The Board of Directors monitors progress in achieving climate-related goals and targets through the sustainability report, key performance indicator analyses and the review of the implementation of key measures as part of risk management and corporate strategy.

The Head of Global Sustainability acts as the central point of contact for all sustainability issues within the company. The regular assessments of environmental dependencies, impacts, risks and opportunities are collated in his function. He ensures their effective management and monitors environmental policy and targets, as well as progress in their implementation. He is also responsible for strategic plans on climate change and reporting to ensure sustainable corporate governance.

Risk management

Stadler Rail has implemented a comprehensive risk management system that aims to identify and assess potential risks at an early stage and manage them by taking appropriate measures. This systematic approach ensures continuous monitoring and adaptation to changing risk landscapes. Climate change was recognised as a key risk in the previous financial year. This decision was significantly influenced by the severe weather events experienced in 2024, which highlighted the need for effective risk minimisation. Stadler's focus is on reducing potential financial risks by means of preventive measures whilst ensuring greater financial sustainability at the same time.

The pervasive and complex nature of climate change means that it can act as an amplifier of other risks, such as environmental incidents, access to water, employee health and safety, government regulations and social acceptance of business operations.

The Head of Global Sustainability is responsible for monitoring risks and opportunities and for tracking key performance indicators. Stadler is committed to further developing the assessment of physical and transition risks and to promoting their integration into the company's global risk management. This will be done in collaboration with the scientific community by using climate models with a higher spatial resolution in the future to identify weak points and support adaptation measures. The identification, assessment, prioritisation, management and monitoring of climate-related opportunities and risks is harmonised with global risk management and integrated into corporate risk management.

Climate-related risks and opportunities are analysed in terms of their probability of occurrence and their financial impact using established classification frameworks to assess the relative importance of climate-related risks compared to other business risks. Decisions on managing these risks – whether through mitigation, transfer, acceptance or control – are made on the basis of a materiality analysis. This analysis ensures that the most significant risks for the company are managed proactively. Climate-related risks are embedded in the company-wide risk management system and are regularly reviewed to ensure that Stadler Rail is not only prepared for regulatory and physical changes, but also makes a proactive contribution to decarbonisation. The risk management process, which covers climate-related risks and opportunities, is described in detail below:

Risk identification

Potential risks in all areas of the company are recorded at regular intervals. This includes climate-related risks. The expertise of key internal functions is harnessed to identify these climate-related opportunities and risks. The aim of risk identification is to find, recognise and describe risks that could prevent Stadler from achieving its objectives.

Risk categories

Stadler uses categorisation to identify different types of risk. With regard to climate-related risks and opportunities, Stadler focuses on the risk categories recommended by the TCFD.

Risk analysis
The aim of risk analysis is to identify the type of climate-related opportunity or risk aspect and its characteristics. Above all, this includes the direct and indirect effects on Stadler's various business segments, as well as the allocation of opportunities and risks to the upstream or downstream value chain or to the company itself. The primary financial impact of the opportunity or risk aspect is also analysed.

Risk assessment
The aim of risk assessment is to prioritise risks and to help with decision-making. Risk assessment is based on the evaluation criteria "probability of occurrence" and "extent of damage" or "potential for opportunities". The materiality of an aspect is derived from this assessment. If the climate-related opportunity or risk aspect exceeds the company-specific threshold, a detailed analysis is performed and further categorisation is carried out. Risk minimisation measures are then developed. Aspects that are not categorised as material are included in an extended list and their relevance is updated at regular intervals.

Monitoring
Regular reviews are planned in the future in order to assess the effectiveness of the planned measures for Stadler's most significant risk and opportunities and to make adjustments where necessary.

This structured approach will allow Stadler to ensure that risks are managed proactively and that the company's goals can be achieved despite potential uncertainties. Stadler has expanded the management of climate-related risks even further, given the increasing importance of and focus on this type of risk.

The management's response to the individual climate-related opportunities and risks categorised as material in the context of climate change can be found in the "Strategy" section.

Stadler's categorisation of climate-related opportunities and risks follows the recommendations of the TCFD framework, which suggests dividing climate change risks into physical and transition risks. A distinction should be made between the following types of transition risks: Policy and Legal, Technology, Market Risks, as well as Reputational and Brand Risks. "Product & Service Risks" was introduced as an additional category for this analysis to help differentiate between risks:

– TR – Policy & Legal: the "Policy & Legal" transition risk comprises financial and operational risks due to changes in the political and legal framework, such as stricter climate protection laws, CO_2 pricing or extended reporting obligations, which could lead to higher costs or legal consequences.
– TR – Technology: the "Technology" transition risk comprises risks arising from the transition to new, climate friendly technologies, such as high investment costs, technical uncertainties, disruptive innovations or loss of competitiveness due to delayed adaptation to technological developments.
– TR – Market: the "Market" transition risk comprises risks arising from changing market conditions, such as a shift in demand towards climate friendly products, rising costs for emission-intensive raw materials or the loss of market share to competitors who respond more quickly to sustainable trends.
– TR – Reputation & Brand: the "Reputation & Brand" transition risk comprises risks arising from the loss of trust among customers, investors or other stakeholders if a company is perceived as insufficiently climate conscious, for example due to inadequate sustainability measures or non-compliance with climate targets.
– TR – Product & Services: the "Product & Services" transition risk comprises risks that arise if existing products and services no longer meet the requirements of a low-carbon economy. This can lead to a loss of market share, drop in demand or the need for cost-intensive product adjustments.

Physical risks can be divided into acute and chronic risks:

– PR – Acute: the "Acute" physical risk refers to risks arising from extreme weather events such as storms, floods, heatwaves or forest fires, which can have a direct impact on operating sites, supply chains, employees and business activities.
– PR – Chronic: the "Chronic" physical risk comprises risks arising from long-term, gradual changes in the climate, such as a sustained rise in temperature, rising sea levels or permanent changes in weather and precipitation patterns, which can have a negative impact on infrastructure, production capacities and supply chains.

Strategy
Climate change had a noticeable impact on Stadler's operating business in the 2024 reporting year. At the Valencia site, unusually heavy rainfall and flooding caused considerable difficulties for production processes, including temporary interruptions and the need for additional measures to protect equipment and materials. At the same time, Stadler had to contend with climate-related disruptions in the supply chain, which caused delays in the supply of materials. The site of the most important aluminium supplier "Constellium" in Sierre was affected by climate-related risks when persistently heavy rainfall led to partial flooding of the production site, for example.

These events highlight the growing importance of proactive climate risk management in order to strengthen the resilience of locations and supply chains to climatic influences. Consequently, climate-related opportunities and risks were identified based on the recommendations of the TCFD in order to strengthen Stadler's resilience to climate change and to ensure a systematic approach.

Stadler recognises that, if left unchecked, climate change will potentially have a very significant impact on society and the global economy. Stadler is committed to achieving net-zero greenhouse gas emissions by 2050 and to halving Scope 1 and Scope 2 emissions by 2030. This ambitious path is geared towards a science-based reduction path of the Science Based Targets initiative (SBTi). By signing and submitting the SBTi Commitment Letter in January 2024, Stadler has further underpinned its commitment to these goals and clearly acknowledged its climate-friendly corporate strategy. As well as setting out a CO_2 reduction strategy for Scope 1 and 2 emissions, Scope 3 emission accounting was the second major environmental project carried out in the reporting year.

Stadler is conscious of its role and has identified three key areas of action. As a technology and market leader in the field of alternative drive systems, Stadler makes a significant contribution to ensuring more sustainable mobility and offers its customers environmentally friendly and economical options. In addition, Stadler is increasingly focussing on renewable energies in its production and operations to promote the net-zero transition. It is making an important contribution by incorporating ecodesign and LCAs into its vehicles.

Trains of Stadler are built to last. Its products are designed to run safely, reliably and efficiently for decades. This is precisely why it is crucial for the company to not only focus on short-term developments, but also to consider possible climate and economic changes in the medium and long term, in accordance with the TCFD report. By adopting a classification according to different time horizons, Stadler ensures that risks and opportunities are identified throughout the entire service life of the trains and that suitable measures are taken at an early stage to ensure the company's future viability. Opportunities and risks were evaluated for the short, medium and long term.

These periods are defined as follows:

Time horizon	Description	Description
Short-term	In the next three years, from fiscal year 2025 to 2027	In line with the management period.
Medium-term	Until the 2030 fiscal year	Timeframe for Stadler's long-term environmental targets for the year 2030.
Long-term	Until the 2030 financial year	Timeframe for Stadler's long-term environmental targets for the year 2050. In line with the life expectancy of our trains (30 years +).

In the 2024 financial year, Stadler carried out Group-wide scenario development and analysis for the first time.

Risks and opportunities were identified at Group level for both climate scenarios – the "Paris Alignment & Transition" scenario and the "Resignation" scenario. To this end, key internal functions from the Group took part in a TCFD workshop on business impacts. Climate-related opportunities and risks identified in advance were specified in more detail by the key functions, and further aspects were added. A comprehensive list of climate-related risks and opportunities was identified as part of this process. A further step involved assessing the pool of identified aspects on a simplified quantitative scale (1 – 5) using the criteria "probability of occurrence" and "extent of damage" or "potential for opportunities". Both factors were multiplied together to calculate an overall score for each aspect. This overall score formed the basis for prioritising individual risks and opportunities. This allowed the most relevant aspects to be identified and specifically integrated into the further analysis and decision-making process.

For the sake of clarity, the opportunity and risk aspects listed below for each scenario only include the three greatest risks and opportunities for Stadler with regard to both scenarios. A second table contains details of the other risks and opportunities that were also identified according to the TCFD categories.

"Paris Alignment & Transition" scenario
The "Paris Alignment & Transition" scenario describes a rapid transition to a lower-carbon society, based on the IPCC scenario RCP 2.6. It envisages halving global greenhouse gas emissions by 2030–2035 and peaking by 2025–2030. Global warming is limited to a maximum of 2°C by 2100. Policies, taxes and regulations promote large-scale renewable energy projects, technological advances and the development of sustainable infrastructure, including public transport, car sharing and cycle paths.

The industry is focussing on low-emission technologies such as hydrogen and sustainable production processes. Advances in battery technologies will facilitate the electrification of passenger and freight transport whilst improving air quality, health and employment. The transport sector is making progress, but will probably need negative emission technologies to reach net zero.

The scenario requires a rapid economic transformation in order to achieve global greenhouse gas reductions. Although natural hazards will increase by 2040, limiting global warming to 1.5–2°C would significantly reduce damage to ecosystems and human systems.

"Resignation" scenario
The "Resignation" scenario corresponds to abandoning climate protection efforts and is based on the IPCC scenario RCP 8.5. It expects slow social change, while companies continue to rely heavily on fossil fuels. This will lead to persistently high emissions and a temperature rise of around 4°C by 2100. Political climate initiatives will remain unsuccessful, international co-operation will be low, and efforts to reduce emissions will largely fail. The consequences will be increased physical climate risks, in particular periods of drought, rising sea levels, more frequent forest fires and other extreme weather events that place a heavy burden on everyday life and the economy. Heatwaves and unusually hot periods will become the norm, affecting people's health and limiting the functionality of infrastructures. The possibility of climate tipping points being activated with unforeseeable consequences cannot be ruled out. The increasing unpredictability of the climate will lead to a risk of loss of control for humanity. At the same time, species extinction will accelerate, resulting in the destabilisation of global ecosystems. The depletion of natural capital and the resulting decline in ecosystem services will threaten the basis for sustainable development and the well-being of future generations.

In the transport sector, no technological changes will be made and there will not be a greater focus on sustainability. Economic growth with the simultaneous use of fossil fuels will be seen until 2040. Humanitarian crises will intensify in the Global South in particular, leading to rising numbers of climate refugees. From the second half of the 21st century onwards, the consequences will be catastrophic: ecosystems will collapse, harvests will regularly fail, and the planet will no longer be able to support the current population size.

The underlying sources for the scenarios are based on information from the Intergovernmental Panel on Climate Change (IPCC), the International Energy Agency (IEA), national environmental agencies and other scientific journals.

A comprehensive list of risks and opportunities was identified as part of this process. The following table lists Stadler's three most significant risks for the 'Resignation' scenario and the three most significant opportunities for the 'Paris Alignment & Transition' scenario. The risks and opportunities largely correspond to the other scenario and only differ in their scores, which are indicated in the footnotes. Similarly, the only opportunity that represents a deviation is noted in a footnote.

Climate-related risks under the "Paris Alignment & Transition" and "Resignation" scenarios:

	Risk[1]	Risk[2]	Risk[3]
Name	Complicating the delivery and operation of Stadler trains.	Disruption of upstream supply chains due to the effects of climate change, leading to production delays or cancellations at Stadler.	Sudden and extreme weather events at individual Stadler locations.
Description	Rising temperatures in the long term can have a particular impact on the downstream supply chain. For example, extreme heat can lead to damage to the train infrastructure (track network) or other transport infrastructure and cause defects in trains. The delivery and operation of Stadler products may be negatively affected as a result.	This is particularly true in the case of greater dependence on individual, sometimes highly specialised suppliers whose production facilities are more vulnerable to extreme weather events.	In particular, the risk of heat waves, heavy rainfall and flooding. Flood risk particularly relevant for individual locations in the immediate vicinity of bodies of water and above-average regional temperature increases.
Damage potential (DP) (0 – 5)	4.7	4.3	4.3
Probability of occurrence (PO) (0 – 5)	4.7	4.7	4.7
Total score (TS)	21.78	20.22	20.22
Primary potential impact	Revenue	Expenditures – OpEx	Assets – Tangible
Time horizon	Medium to long term	Short to long term	Short to long term
Impact on financial situation / financial consequence	Not yet quantified	Not yet quantified	Not yet quantified
Management response	Sharing	Modification	Modification

[1] The values for the scenario "Paris Alignment & Transition" are as follows: 4 (DP), 4.3 (PO) and 17.33 (TS).
[2] The values for the scenario "Paris Alignment & Transition" are as follows: 3.7 (DP), 4.3 (PO) and 15.88 (TS).
[3] The values for the scenario "Paris Alignment & Transition" are as follows: 3.7 (DP), 4.7 (PO) and 17.11 (TS).

Climate-related opportunities under the "Paris Alignment & Transition" and "Resignation" scenarios:

	Opportunity[1]	Opportunity[2]	Opportunity[3]
Name	Shift in consumer preferences: Selling products that contribute to decarbonisation.	National regulations and high carbon prices for special mobility solutions will increase, making the train the preferred mode of transport for domestic journeys.	Utilisation of lower-emission energy sources and use of more secondary materials.
Description	Stadler is a leader in the sale of innovative products (e.g. Flirt Akku, Flirt H_2). In the context of increased relevance for 'sustainable' products, Stadler can expect increased sales as the market leader.	Stricter national regulations and rising CO_2 prices for special mobility solutions, especially for domestic flights, create a competitive advantage for rail transport. Trains are seen as an environmentally friendly alternative and are becoming the preferred option for domestic journeys.	Switching to lower-emission energy sources in our own operations is a key element in reducing our environmental footprint. Renewable energy sources offer more stable and often lower prices in the long term compared to fossil fuels. Lower CO_2 emissions lead to lower costs for CO_2 certificates or taxes in regions with emissions trading systems or CO_2 prices. The increased use of secondary materials are also important elements for a more sustainable future in the rail industry. The circular economy approach not only offers the opportunity to reduce Stadler's ecological footprint, but also to achieve long-term economic benefits and fulfil legal requirements.
Damage potential (DP) (0 – 5)	4.3	4	3.7
Probability of occurrence (PO) (0 – 5)	5	4.3	4.7
Total score (TS)	21.67	17.33	17.11
Primary potential impact	Revenue	Revenue	Expenditures – OpEx
Time horizon	Short to long term	Medium to long term	Short to medium term
Impact on financial situation / financial consequence	Not yet quantified	Not yet quantified	Not yet quantified
Management response	Maintaining our good positioning Further expansion of innovative and sustainable solutions.	Maintaining co-operation with the government and regulatory authorities and continuous monitoring of market developments.	Great CO_2 reduction potential for electricity at many locations. Stadler has set itself the goal of increasing the recycling rate for its locations.

[1] The values for the scenario "Resignation" are as follows: 3.7 (DP), 4.3 (PO) and 15.88 (TS).
[2] Instead of this opportunity, the scenario "Resignation" includes the opportunity 'More flexible working time models' with the following values: 3.3 (DP), 4.7 (PO) and 15.55 (TS).
[3] The values for the scenario "Resignation" are as follows: 3.7 (DP), 4.3 (PO) and 15.88 (TS).

– Rising cost of raw materials:
  Scarcity of raw materials and climate impacts can make access to important resources, especially metals, more difficult. Stricter environmental and health and safety regulations can spark rising costs for production and components, especially for rare materials in electronic components.
  Stadler is endeavouring to implement increased use of alternative materials, the use of secondary materials, optimised procurement strategies and long-term supply contracts in order to ensure long-term security of supply and cost stability.

– Stricter customer requirements for products (specific emission limits):
  Increasing customer requirements in relation to sustainability (especially GHG emissions), customisation and technological innovations can pose efficiency risks for Stadler. Additional costs can reduce profit margins, while high CO_2 penalty prices for non-compliance with emission limits for Stadler products represent a potential financial risk.
  Stadler is meeting stricter customer requirements for products proactively by investing in low-emission technologies, innovative drive systems and efficient production processes in order to comply with specific emission limits whilst ensuring competitiveness at the same time.

– Decline in market demand and uncertainty in market signals:
  Changes and uncertainties may occur at national level due to new political trends. In the medium to long term, however, the trend is shifting towards increased rail transport, in line with the defined climate targets.
  Stadler is reacting to a possible decline in market demand and uncertainties in market signals by flexibly adapting its market strategy and actively benefiting from long-term trends towards an increase in rail transport.

– Delays in the timely marketing of effective and sustainable Stadler products:
  Competitors who position their products more actively as “green” and future-proof could jeopardise Stadler’s status as an innovation leader for sustainability. Inadequate communication can also be criticised or perceived as a lack of commitment to climate protection and make investments appear less attractive.
  Stadler is countering delays in the marketing of sustainable products proactively by making targeted investments in research and development, promoting agile product development processes and increasingly communicating about its innovation leadership in relation to sustainability.

– Complexity of CO_2 regulations in different markets:
  Different CO_2 specifications and standards in the markets require customised technical solutions for different regions. This can lead to higher costs for research, development and customisation of vehicles, as well as greater testing and certification expenditure, which can extend the development period.
  Stadler is actively responding to the complexity of CO_2 regulations in various markets by maintaining close cooperation with the government and regulatory authorities.

– Introduction or tightening of a CO_2 tax:
  The possible introduction of a CO_2 tax in countries where there is currently no tax and an increase in the price of CO_2 can lead to rising costs for raw materials that underlie an energy-intensive manufacturing process. Stadler’s energy-intensive locations could also experience rising costs.
  Stadler is responding proactively to the possible introduction or tightening of a CO_2 tax by optimising production processes, expanding the use of renewable energies at its sites and implementing measures to reduce the company’s CO_2 footprint.

– Cost of the transition to lower-emission technologies to achieve Stadler’s climate targets
  The transition to low-emission technologies, such as the electrification of certain production processes or the substitution of fossil fuels, is associated with costs.
  Stadler is countering the cost of the transition to lower-emission technologies by scrutinising the economic viability of every investment decision and by making sure that it has a global network of experts to help the company make informed decisions.

– Delays in the development of innovative technologies:
  Insufficient investment in research and development (R&D) and the lack of specialised personnel could mean that new technologies for reducing CO_2 emissions (e.g. hydrogen, battery or fuel cell technologies) are not ready for the market in time.
  Stadler is responding to potential delays in the development of innovative technologies proactively by investing in research and development in a targeted manner, by establishing strategic partnerships with academia and technology providers, and by developing expertise in pioneering areas such as hydrogen, battery and fuel cell technologies.

– Development and delivery of innovative and more energy efficient rail vehicles:
  Stadler is a leader in the development of efficient and sustainable drives. Customers are also focussing on the energy efficiency of their vehicles in order to keep operating costs low and to achieve their own sustainability targets.
  Stadler is strengthening its position by continuing to drive forward the development and production of state-of-the-art drive technologies such as hybrid, battery and hydrogen solutions.

– Increasing energy efficiency in the company:
  By working with national energy agencies, the scientific community and local partners, efficiency measures can effectively help to reduce energy consumption per production unit.
  Stadler is striving to increase energy efficiency within the company by working with strategic partners and optimising operational processes.

– Utilisation of lower-emission energy sources:
  Switching to renewable energies and, in particular, expanding the company's own renewable energy capacities reduces CO_2 emissions and leads to more stable and often lower energy costs in the long term compared to fossil fuels.
  Stadler aims to utilise lower-emission energy sources by investing more in renewable energies and expanding its own generation capacities globally.

– Use of public funding:
  Access to subsidies and funding for research and development projects, low-emission technologies and energy-efficient production methods. It is also possible to take advantage of tax breaks.
  Stadler endeavours to maintain close, positive cooperation with the government and regulatory authorities.

– CO_2 reduction targets at national level and in the transport sector:
  In order to achieve climate targets, many countries are focusing on reducing CO_2 emissions in the transport sector by introducing quotas for public transport, e.g. minimum shares for rail transport.
  Stadler is reinforcing its own ambitions to reduce greenhouse gas emissions by setting scientific and ambitious targets and is endeavouring to continuously evaluate the market situation and political interests.

TCFD roadmap

Stadler's TCFD roadmap forms the framework for the continuous improvement of the integration of climate-related opportunities and risks into the business strategy. Based on the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD), the company has defined a clear approach in order to improve transparency about governance, strategy, risk management, key figures and targets even further. By continuing to implement the TCFD roadmap, Stadler is ensuring a systematic approach to managing climate-related risks and opportunities within the company.

Section	Measures	FY24	FY25	FY26
Governance	Strengthening the overview of the Executive Board and management of climate-related risks through the Sustainability Committee of the Executive Board.		X	
	Establishment of a cross-functional TCFD steering committee chaired by the Head of Global Sustainability.		X	X
Strategy	Implementation of scenario development and identification of climate-related risks and opportunities for each scenario.	X		
	Determination of climate-related risks and opportunities at company level.		X	X
	Publication of Scope 3 strategy		X	
Risk Management	Implementation of climate-related elements in the supplier evaluation.		X	X
	Comprehensive implementation of climate-related risks in global risk management		X	
Metrics and Targets	Disclosure of Scope 1 and 2 emissions	X		
	Definition of boundaries and methods for reporting Scope 3 emissions	X		
	Disclosure of Scope 3 emissions	X		
	Improving the data quality of the most important Scope 3 categories		X	
	Establishment Indicator: Percentage of real estate, infrastructure or other assets in an area exposed to flooding, heat stress or water stress.			X

PUBLICATION DATA

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