STADLER

SUSTAINABILITY REPORT

2023

Sustainability at a glance in 2023

24.4

Order backlog in CHF billion
Previous year: 22.0

5.1%

EBIT margin
Previous year: 5.5%

10.9

Tonnes of CO_2e per CHF million of revenue
Previous year: 11.2

51%

Recycling rate in production
Previous year: 39%

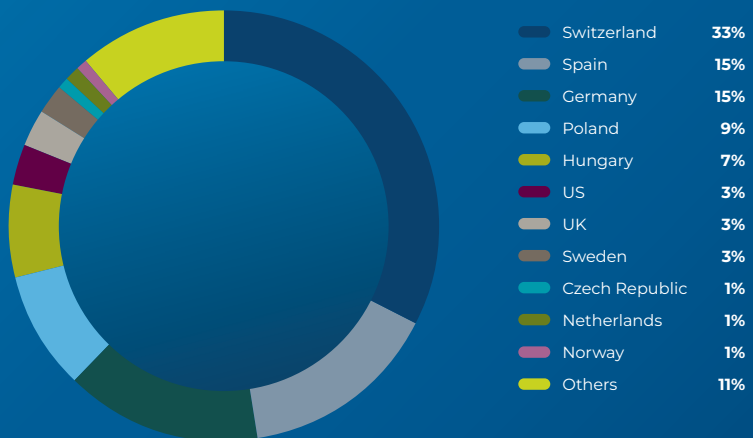
13,944

Employees worldwide
Average FTE 01.01 – 31.12.2023
Previous year: 13,431

0

Confirmed cases of corruption

Employees by Country



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Introduction

Markus Bernsteiner, Group CEO

Dear readers

We are in the fortunate position of being able to develop and build a product that is sustainable and environmentally friendly. Measured in terms of emissions per passenger kilometre, rail is one of the most environmentally friendly means of transport of all. As a society, our goal must therefore be to transport more people from A to B by rail. As a driver of innovation, Stadler is helping its customers to expand their capacities with its sustainable vehicles and integrated mobility solutions, with alternative drive technologies, predictive service solutions and a more efficient driving style thanks to highly advanced technology.

Mobility by rail is an important lever for achieving the agreed climate targets. The ongoing efforts towards decarbonisation are creating exciting growth opportunities for Stadler. We want to shape this growth responsibly and sustainably. Our position as a strong driver of innovation in a growing market requires us to constantly improve our products and our production methods and to use the benefits of digitalisation to increase efficiency.

We are constantly reviewing how we can make our entire value chain more efficient in terms of resources. We have joined the Science Based Target initiative (SBTi) and are working on a science-based reduction plan to help achieve our net-zero target by 2050. We have set ourselves the interim target of halving our Scope 1 and Scope 2 emissions by 2030.

We place the highest demands on ourselves as an employer in order to offer a safe, attractive and forward-looking working environment. Our employees are the key to our success and are crucial to the development of the industry. We are actively counteracting the continuing shortage of skilled workers with our excellent apprenticeship and training programmes. I am particularly pleased that we have been able to transfer our typically Swiss training model to other locations and to the USA, where it has been successfully introduced at our location in Salt Lake City. The dual education system is not very well known or widespread in the USA.

Our sustainability strategy is firmly anchored in the Group strategy. We have further expanded and professionalised our sustainability organisation in order to do justice to the increasing importance of this issue. This report has been prepared in accordance with the GRI standards for the first time.

In short, apart from being a social and ecological necessity, sustainability also makes good business sense. In principle, sustainability means acting in a resource-efficient manner with a long-term perspective, taking into account the impact on the environment and society. It means creating an employee-orientated environment to retain and attract employees for long-term success. And strengthening the communities near our locations thanks to our social commitment. None of this is new, and has long been anchored in our DNA.

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

Markus Bernsteiner
Group CEO

About this report

This non-financial report of Stadler Rail AG ("Stadler"), headquartered in Bussnang, Switzerland, covers the reporting period from 1 January 2023 to 31 December 2023 and was published on 5 April 2024. It supplements the ▸ Annual Report 2023 published on 13 March 2024, 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 third Sustainability Report published by Stadler Rail AG. Stadler published its first two Sustainability Reports in 2020 – for the 2019 reporting year – and 2023 – to cover the 2020/2021 reporting years. Since the previous reports were already based on the requirements of the standards of the Global Reporting Initiative (GRI), this report has now been prepared in accordance with the GRI standards. The Sustainability Report has also been audited by independent bodies for the first time:

– The auditing firm KPMG AG have reviewed selected key figures relating to GRI standards 302, 305, 403, 205 and 206 (see statement on page 65). The assured key figures are marked with a check mark ✔ in the corresponding tables.
– SQS Deutschland GmbH (SQS) has audited the entire report due to the comprehensive process changes introduced this year (see statement on page 64).

The 2023 Sustainability Report contains the information on non-financial matters required by the Swiss Code of Obligations (Art. 964b). Their coverage by the topics identified by Stadler as material can be seen in the CO reference index (see index on page 60).

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

Company profile

Stadler has been successfully building trains for over 80 years. In 1942, Ernst Stadler founded a small engineering office, which has since grown into a global manufacturer with around 14,000 employees. During this time, Stadler has developed from a vehicle manufacturer into a provider of integrated mobility solutions. Stadler supplies vehicles, infrastructure, service and the associated automation technology from a single source, across all segments and with the highest level of innovation.

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

The service locations are situated in areas where Stadler's vehicles are in use. Consequently, this type of location is experiencing the most rapid growth. In 2023, Stadler had over 80 service locations in 22 countries. Stadler offers a full range of services for the maintenance, servicing, repair and replacement of rail vehicles.

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.

The company is conscious of its social responsibility for sustainble mobility and stands for innovative, sustainable and durable quality products. 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 innovative service solutions and signalling technology for its own vehicles, as well as those of third-party suppliers. Stadler has been listed on the Swiss stock exchange since 2019 and reports in the "Rolling Stock", "Service and Components" and "Signalling" segments.

Around 85 percent of Stadler's revenue is generated by the "Rolling Stock" segment. The "Service & Components" segment generates 13 percent of revenue. The remaining revenue is attributable to the rapidly growing "Signalling" segment.

Complex value chain

Stadler sees itself as a driver of innovation in vehicle development. It is also a system integrator. Its competence centres for rail vehicles in Switzerland, Germany, the USA and Spain develop vehicle concepts, which are then manufactured at the eight production plants. Only key components are produced in-house. These include aluminium and steel car bodies or bogies (running gear of the rail vehicle, consisting of a frame, wheel sets and other elements). Raw materials, other components and some subsystems are bought in.

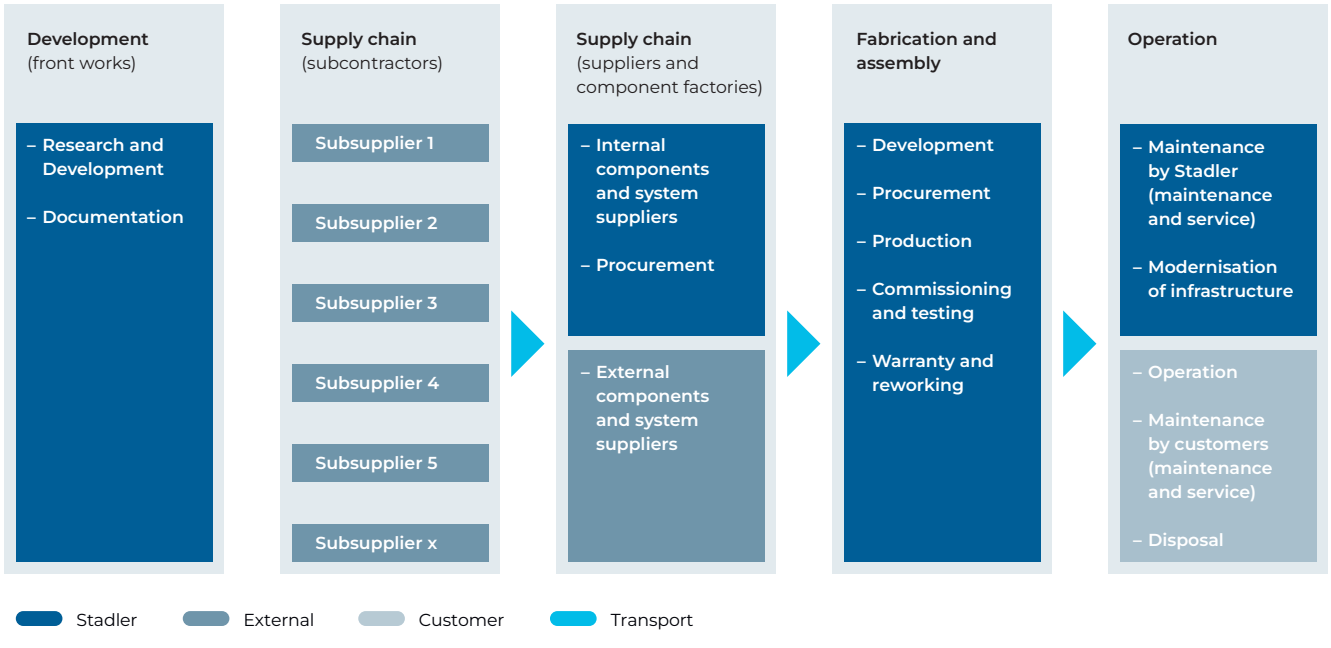
Around 85 percent of a train consists of metals such as aluminium and steel. For these parts, Stadler requires semi-finished products made from raw materials (such as aluminium plates), which are sourced mainly in Europe, as well as other materials such as plastics (polymers), elastomers, electronics, glass and modified organic natural materials. Purchased components also include electronic components, interior materials (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.

The punctual procurement of components of impeccable quality is critical to Stadler's success, as production follows tight and closely synchronised production schedules, and production steps are dependent on the availability of materials and components. Procurement takes place in a decentralised manner at the respective production plants 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. The rail vehicles are designed, built and put into operation in the final assembly plants.

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 (page 52).

Simplified value chain

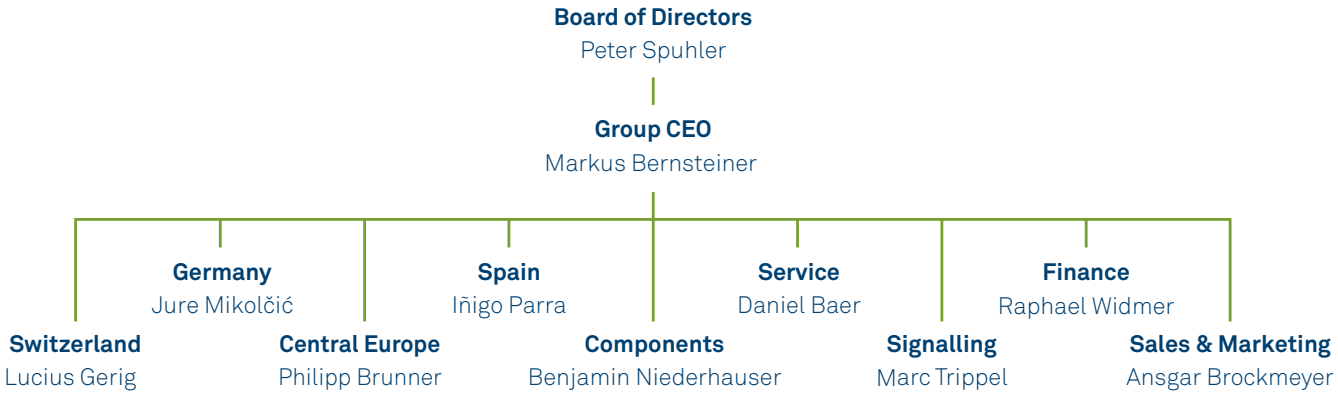


Organisation

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 2023, the Board of Directors consisted of eight members, two 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.

Stadler's Group Executive Board consists of ten members. In the "Rolling Stock" segment, the four strongest geographical markets each account for one seat on the Group Executive Board. The strategic divisions Components, Service and Signalling are also each represented by one member of the Group Executive Board. Two further seats on the Group Executive Board are held by the Group functions Finance and Sales & Marketing.

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 144 billion euros.[1] The relevant market for Stadler has a volume of around 50 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 global market leader in the field of alternative drive systems since 2022[2].

[1] Source: SCI Worldwide Market for Railway Industries (2022)
[2] Same study

Sustainability at Stadler

The mobility of people and goods generates a variety of positive and negative effects on the economy, the environment, society and individuals. It is an undisputed fact that train travel is a sensible choice from an environmental point of view. However, the manufacture of rail vehicles also requires large quantities of critical resources, and the operation of trains uses considerable amounts of energy. Consequently, it is important to have fully responsible corporate governance in place along the entire value chain.

Stadler is aware of the extensive impact associated with the manufacture, operation and disposal of rail vehicles. Within its business activities, the company aims to give balanced consideration to the three dimensions of sustainability – economy, ecology and society. The focus is on taking responsibility for people along the entire supply chain and on protecting the environment. Stadler organises its growth in an ecologically, economically and socially sustainable manner in order to protect the environment and resources in the best possible way. Wherever possible, Stadler measures the impact of its activities on society and the environment, making information transparent for stakeholders.

Overarching principles and standards

"We build trains from our customers' perspective". That is Stadler's guiding principle. This claim is substantiated by five values:

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, because for each and every one of us, our task is far more than just a job.

Quality: All over the world, Stadler stands for first-class quality in everything that we do. We set new industry standards with the high demands we place on our work, because for each and every one of us, good is not good enough.

Reliability: It has always been possible to rely on Stadler's word. We understand what we are talking about and act accordingly, because it is important for us to make promises and to keep them without compromise.

Togetherness: Stadler's success is the common achievement of people who work together. We know that each and every one of us is needed, because we can only move forward together if everyone makes a contribution.

Proactive attitude: Our entrepreneurial thinking and actions are what make Stadler unique. We create solutions where others see problems, because for each and every one of us, there's no such thing as no can do.

Our public commitment to overarching 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 (page 55).

The company's internal sustainability strategy is linked to its corporate values and overall strategy and is guided by the UN's 2030 Agenda and its 17 Sustainable Development Goals. Further information can be found in the section on Materiality and stakeholder groups (page 17).

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, while 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 plants:

Certifications

ISO	9001	22163	14001	45001	50001	27001	ECM1	ECM2	ECM3	ECM4
Final assembly plants										
Stadler Rheintal AG	•	•	•	•		•				From 2024
Stadler Bussnang AG	•	•	•	•		•				From 2024
Stadler US Inc.	•	From 2024	•	•						
Stadler Deutschland GmbH	•		•		•					
Stadler Rail Valencia S.A.U.	•	•	•	•			•	•	•	•
Stadler Kazakhstan LLP [1]	From 2025		From 2025	From 2025						
Stadler Polska Sp.z.o.o.	•	•	•	•			•	•	•	•
CJSC Stadler Minsk	•		•	•						
Component plants [2]										
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 [3]										
Stadler Service AG	•	•	•	•			•	•		•
Stadler Service Nederland BV.	•		•	•					•	•
Stadler Service Norway AS	•		•	•					•	•
Stadler Service Polska Sp. z o.o.	•		•	•						•
Stadler Rail Service UK Ltd.	•		•	•		•				
Stadler Service Sweden AB	•		•	•						•
Stadler Service Italy S.r.l.	•		•	•			•		•	•
Stadler Rail Service Deutschland GmbH	•	•	•	•			•	•	•	•
Stadler Magyarország Kft.	•	•	•	•					•	•

[1] New final assembly plant

[2] The component plants in Germany, Spain and Belarus have the same certificates as the final assembly plants in the same country

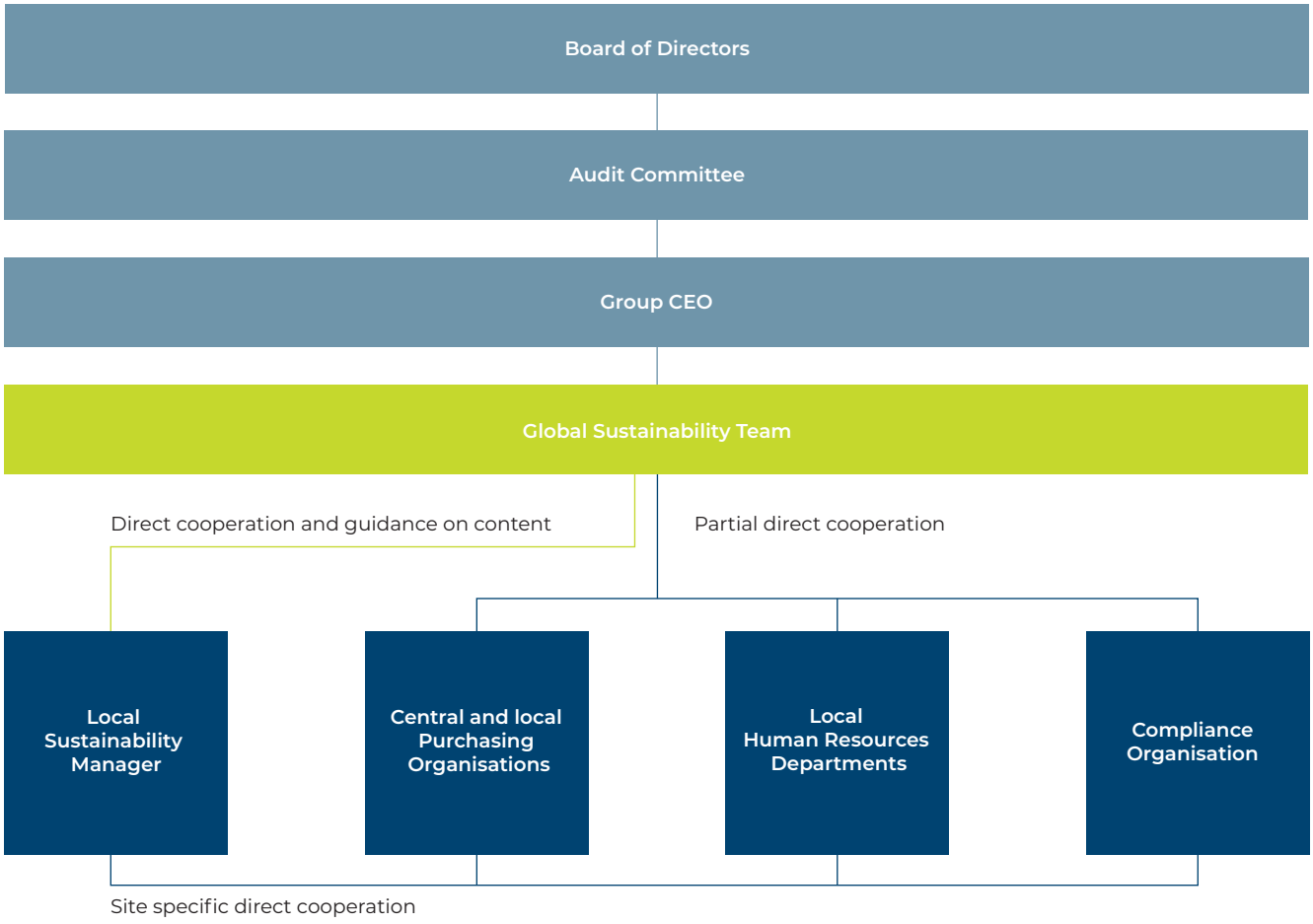
[3] Certification has been indicated as obtained for a country if at least one location in the corresponding country has been certified. Only national companies with >50 employees were taken into account

Responsibilities and organisation

Stadler's Board of Directors defines the general corporate strategy. It is responsible for the sustainability strategy and, since the reporting year, for 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 the area of sustainability. It implements the sustainability strategy and measures to achieve the corporate targets in association with the Stadler locations.

Organisation



To ensure that the company has an efficient and effective organisation, sustainability at Group level is organised in a matrix, with local sustainability managers at each production location. Responsibility for the Components, Service and Signalling divisions is defined at divisional level. Cooperation between the global sustainability team and the local sustainability managers allows environmental and other selected key figures to be reported in a standardised manner. Regular exchanges throughout the entire sustainability organisation allow knowledge to be built up and expanded throughout the Group. The global sustainability team manages the Group-wide 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.

Materiality and stakeholder groups

Stadler attaches great importance to focussed, effective sustainability management. Identifying key topics is a crucial part of this. In 2023, suitable issues were identified by means of a double materiality analysis. Selected stakeholder groups, the Group Executive Board and the Board of Directors were involved in the process. The resulting material topics form the basis for the company's strategic sustainability management and for this non-financial report.

Economic developments, climate change and social trends influence Stadler's business performance. Conversely, the company's business activities also have an impact on the economy, environment and society. Stadler carried out a double materiality analysis for the first time in 2023. In doing so, the company was guided by the GRI standards and the requirements of the Swiss Code of Obligations for transparency on non-financial matters (Art. 964b CO). As part of the materiality analysis, topics were identified in which the company has the greatest actual and potential negative and positive impact on the economy, environment and society ("impact materiality"), along with topics which offer the greatest opportunities and risks for Stadler's business success ("financial materiality"). The CO reference index shows the allocation of material topics to non-financial matters in accordance with Swiss law (Art. 964b CO).

Identification and evaluation of impacts and influences
A context analysis was taken as the basis for the materiality analysis. The company's business model was described in detail for this purpose, and the upstream and downstream value chain was presented with the relevant raw materials, materials, processes, products and services. The context analysis helped to identify potentially material topics and to determine their impact.

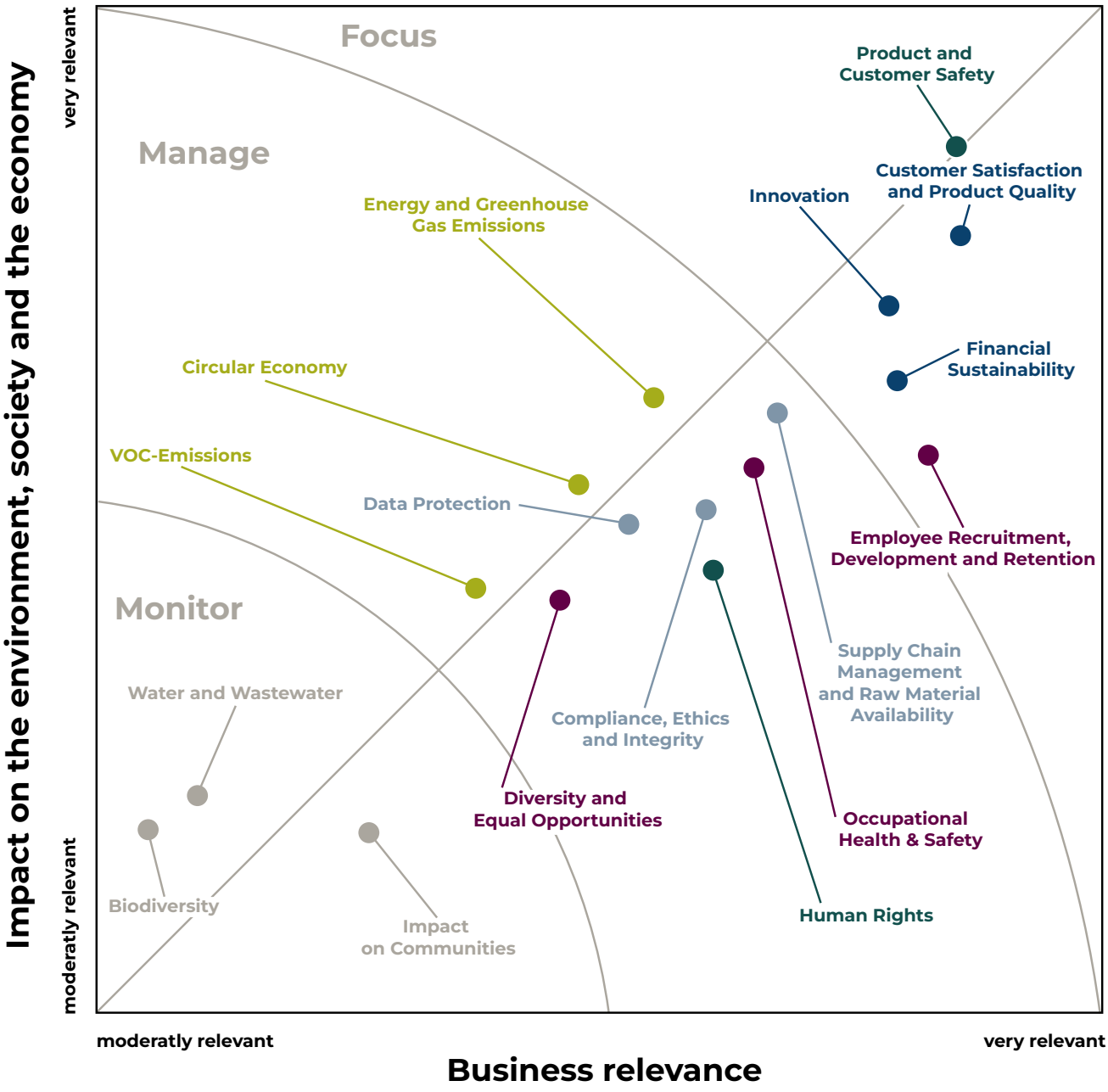
Based on the context analysis, Stadler then defined the relevant sources for potentially material topics. An analysis was conducted of the GRI standards and the standards of the Sustainability Accounting Standards Board (SASB) and European Sustainability Reporting Standards (ESRS), the requirements of the Swiss Code of Obligations and the accompanying documents, eight companies with a similar business model (train manufacturers) and Stadler's material topics to date. The result comprised approximately 90 potentially material topics, which were summarised by subject and consolidated into 18 potentially material topics, taking into account various functional areas. The topics were classed by category: "Economy", "Environment", "Employees", "Social" and "Governance".

For each of these topics, the potential and actual, positive and negative impacts and influences were identified and put down in writing as the basis for an online stakeholder survey. In this survey, the most important stakeholder groups were then asked to rate the relevance of the impact of each topic. Business customers, business partners, suppliers, employees and employee representatives all took part. The Group Executive Board was tasked with assessing the relevance of the influence of these topics on Stadler's business success (opportunities and risks). The results of these surveys were analysed and consolidated into a provisional materiality matrix.

Validation of material topics
A workshop was held with internal decision-makers to validate the materiality matrix. The aim of the workshop was to perform a critical review of the materiality matrix derived from the online survey from a variety of perspectives. The participants in the workshop were chosen to represent various functional areas: CEO, Legal, Investor Relations, Communications, Purchasing, Quality Management, Environmental Health and Safety, Sustainability. In the course of the workshop, the positioning of individual topics was modified slightly so that the materiality matrix accurately represented Stadler as a company. Finally, Stadler's Board of Directors approved the materiality matrix as part of the sustainability strategy.

Stadler currently defines the 14 topics in the "Manage" and "Focus" relevance categories as material topics. The topics in the "Monitor" relevance category (moderate relevance in terms of impact and influence) are not included in either the sustainability strategy or Stadler's sustainability reporting, as they can be addressed in a more focussed manner in individual regions in which Stadler operates, but are not yet highly relevant at Group level. Stadler will validate this assessment on a yearly basis.

Stadler Rail materiality matrix



Key:

- Environmental matters
- Social issues
- Employee issues
- Governance
- Economy
- to be considered in the future

Contribution to the United Nations Sustainable Development Goals
Stadler is convinced that the sustainability commitment of a global company must, at its core, help to overcome global challenges.

Goal 11: Making cities and neighbourhoods inclusive, safe, resilient and sustainable
Transport and mobility are a defining element of cities and communities. Whether, how well and by which means of transport areas are developed affects both the structure and functioning of the economy and society, as well as individual lifestyles. Stadler believes that the high availability of trains for freight and passenger transport is important for the economy, the environment and society. By providing rail vehicles that can be adapted to local conditions and that are safe, reliable and comfortable, Stadler can help make cities and communities more sustainable.

Customer satisfaction and product quality
Innovation

Goal 12: Ensuring sustainable consumption and production patterns
In order for social and economic development to take place within the carrying capacity of ecosystems, the way in which goods are produced and utilised must be fundamentally changed. To produce its trains, Stadler requires large quantities of materials, which have a significant impact during production. The aim must therefore be to keep these valuable materials in use for as long as possible and then to recycle them. Stadler therefore favours eco-design in the construction of its vehicles. This means factoring in the complete life cycle of the trains, even when they have a service life of at least 30 years.

Circular economy
Supply chain management and raw material availability
Innovation

Goal 13: To take immediate action to combat climate change and its effects
The manufacture, operation and disposal of rail vehicles cause significant emissions. In order to make a contribution to climate protection, Stadler is taking measures in its own operations and is investing in the development of rail vehicles that run on low power.

Energy and greenhouse gas emissions
VOC emissions
Circular economy
Innovation

Goal 8: To promote lasting, broad-based and sustainable economic growth, full and productive employment and decent work for all
Stadler employs around 14,000 people worldwide, the majority of whom work in production. Stadler considers it a fundamental task of an employer to offer these people secure work under fair and legally compliant employment conditions. Furthermore, compliance with human rights and labour law is a matter of course for Stadler. The company expects the same from its suppliers.

Employee recruitment, development and retention
Diversity and equal opportunities
Occupational health and safety

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, of the passengers themselves. The stakeholder groups of employees, shareholders and society, which are independent of the industry, are also relevant for Stadler. Stadler's dialogue focuses on the stakeholder groups 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.

"We build trains from our **customers**' perspective". That is Stadler's guiding principle. It explains why dialogue between Stadler and its customers is so intensive. Customers are actively involved in development and production. Once a product has been handed over to the customer, Stadler offers a wide range of services to guide them in their use of Stadler trains. Stadler considers this approach to be crucial for the long-term relationship with its customers, who are generally rail transport operators.

Stadler only manufactures a small proportion of the components required to produce the trains itself. This business model requires reliable **suppliers** who deliver products of impeccable 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.

The company has over 37,000 shareholders alongside the Chairman of the Board of Directors Peter Spuhler who, as a major shareholder, owns a significant proportion of Stadler 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. The requirements for suppliers in this area are correspondingly extensive. The increasing requirements and regulations in the rail transport sector necessitate regular 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 are: interest groups in the transport and rail industry (Swissrail, Verband der Bahnindustrie Deutschland, 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, UNICA and others).

Sustainability strategy

Stadler's strategy is developed in close cooperation between the Board of Directors and the Group Executive Board. New topics are added or adapted in the annual strategy review. Sustainability has been firmly anchored in Stadler's overall strategy as a strategic dimension for the past two years.

The sustainability strategy is geared towards the customer, and helps customers to achieve their own sustainability goals. Societal requirements and the company's own endeavours to remain successful in the long term and to make a positive contribution to the environment and society have also been incorporated into the strategy. The sustainability strategy defines trend-setting ambitions with regard to the economy, the environment, labour, social affairs and governance. Material topics can be assigned to superordinate categories.

ESG strategy and material topics

Economy

- Innovative products and services to increase the attractiveness of rail transport compared to other forms of mobility
- Ensuring Stadler's profitable growth and economic sustainability

Financial Sustainability | Innovation | Customer Satisfaction and Product Quality

Environment

- Net-zero target by 2050 (SBTi-compliant)
- Halving the climate impact for Scope 1 and 2 emissions by 2030

Energy and Greenhouse Gas Emissions | Circular Economy | VOC-Emissions

Employees

- Increasing employer attractiveness
- Securing the long-term existence of the rail industry by promoting young talent

Employee Recruitment, Development and Retention | Occupational Health and Safety | Diversity and Equal Opportunities

Social

- Development, production and maintenance of mobility solutions with the highest safety standards
- Corporate responsibility and respect for human rights in everything we do

Human Rights | Product and Customer Safety

Governance

- Ensuring the transparency and integrity of all group activities vis-à-vis stakeholders
- Fulfill 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	Basis	Progress	Ambition
Environment	Halve Scope 1 and 2 emissions by 2030	2022: **40'817 t CO_2 e**	39'532 t CO_2e (–3.1%)	**– 50%** by 2030
	Net zero emissions by 2050	2022: **40'817 t CO_2 e**	39'532 t CO_2e (–3.1%)	**– 100%** by 2050
	Increase the recycling rate to 60%	2022: **39.5%**	51.4%	**60%** by 2030
	Reduce VOC-Emissions by 15%	2021: **240 t**	255 t VOC (+6.25%)	**– 15%** by 2030
Products and Services	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
Employees	Reduction of the fluctuation rate to below 10%	2022: **12.2%**	10%	**< 10%** by 2025
	Reduction of occupational accidents with days lost by 50%	2022: **LTIR 19.2**	LTIR 18.2 (–5%)	**– 50%** by 2030
Social	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	–	97%	**100%** by 2026
	An in-depth sustainability analysis is carried out for 100% of high-risk suppliers	–	0%	**100%** by 2025

4 150

Trains in operation[1]

830

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

22.7

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

Comparative value: Switzerland's greenhouse gas emissions in 2021 amounted to 45.25 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 v2.1 emission factors for road and rail and passenger transport data

[4] Source: BAFU – Treibhausgasemissionen der Schweiz 1990–2021 (as at 11.04.2023)

Reporting on material topics

Economy

Financial sustainability

Stadler's business activities run in decades. This requires a long-term planning horizon and financial stability. Stadler achieves financial sustainability by means of prudent risk management, conservative accounting principles and moderate profitability targets.

Goals and ambitions
Meet the financial targets set out in the ▸ Annual Report

Significant impacts, opportunities and risks
– Receipt of orders
– Growth, profitability, capital efficiency

Main fields of action
– Forward-looking financial planning with a focus on liquidity
– Conservative accounting
– Opportunity and risk management in key operational processes

Companies operating in the short term represent a risk for almost all relevant stakeholder groups: owners, employees, suppliers and customers.

Reliability and stability are particularly important in the rail vehicle industry. The contracts concluded usually have a horizon of at least five to ten years, and are financed with several hundred million francs of public funds. Contracts in the Service segment can have a term of over 30 years. Both clients and investors prefer providers who are in a good financial position. Consequently, financial sustainability safeguards Stadler's order situation and can help the company to obtain lower financing costs and better access to the capital market.

For Stadler, financial sustainability means ensuring that targets for growth, profitability and capital efficiency are planned and implemented in such a way that financial stability and economic value creation can be guaranteed for all stakeholders. The main challenges lie in the nature of the project business. Production capacities must be expanded or reduced in line with orders with a fixed duration. This requires forward-looking planning to avoid periods of inactivity or shortages of personnel. Liquidity must also be well planned, as there are often differences between cash inflows and outflows.

Concepts and measures
Specifications and guidelines
Stadler applies the Swiss GAAP FER accounting standard.

Focus on foreign currency risks
Foreign currency risks are of great significance for Stadler due to its global business model, the persistently strong Swiss franc and the long duration of orders. Stadler takes various measures to mitigate these risks, such as requesting advance payments and implementing natural hedging or hedging with derivative financial instruments.

Conservative accounting principles
Stadler applies quite conservative accounting principles compared to its competitors, including invoicing according to the percentage of completion, measured in terms of delivery units. Expenses are allocated to contractual services (production, development, project management, etc.) rather than to business functions. A large proportion of development activities can be financed directly by orders and are therefore linked to direct orders.

Sales process
As part of the sales process, the risks associated with potential orders are identified early on by setting various milestones and involving management and senior management on a regular basis. This also guarantees efficient resource planning and production capacity utilisation. In addition, various barriers are placed within the sales process to ensure that sales and engineering capacities are only used for potential orders that Stadler wants to win, that have a balanced risk/reward ratio and that can be successfully completed. Order liquidity is evaluated in the course of Stadler's sales calculations to make sure that offers are only made for orders that make sense for the company in the long term.

Order processing
At most locations, all orders are discussed once a month in the presence of the site management, the relevant financial managers, experienced engineers and the project managers. These reviews focus on both technical and commercial key order figures, including contract controlling, opportunity and risk management and estimated payment milestones.

Investments
Stadler invests in growth in the form of capacity expansion (e.g. production facilities, equipment and human capital) and new products and product innovations (e.g. locomotives, alternative drive technologies and signalling). Most investments are order-related and are the result of follow-up orders from current customers or new customer business in existing or new markets. Orders are occasionally associated with specific capacity expansion in the target market. Individual strategic developments are financed out of a separate research and development budget.

Developments in the reporting year
Further information can be found in the ▸ Annual Report 2023.

Performance indicators

Financial sustainability	Unit	2022	2023	Δ %
Order backlog	Mio. CHF	21,984	24,414	11%
Net revenue	Mio. CHF	3,751	3,608	(4%)
Capital expenditure	Mio. CHF	185	244	32%
Market capitalisation	Mio. CHF	3,280	3,028	(8%)
EBIT margin	%	5.5%	5.1%	(7%)
Net cash	Mio. CHF	(231)	399	

Innovation

Over the past four decades, a keen spirit of innovation has played a key role in modernising and increasing the efficiency of public transport. Stadler's fields of innovation are efficient and sustainable drives, modern and comfortable passenger compartments, the modularisation of vehicles, innovative maintenance concepts and the further development of signalling solutions.

Goals and ambitions
- Be market leader in terms of quality and innovation
- Offer flexible platform solutions with efficient modularisation
- Develop new vehicle concepts with a time-to-market of less than three years
- Drive forward the digitalisation of rail transport

Significant impacts, opportunities and risks
- Competitive product portfolio
- Alternative drive technologies
- Innovative, cost-effective solutions for greater personal safety, capacity and interoperability

Main fields of action
- Innovative products and services to increase the attractiveness of rail transport
- Wide variety of alternative drives
- Innovative maintenance solutions
- Digitalisation and automation of the rail vehicle industry

Stadler is a supplier of comprehensive, high-quality, economical products that are customised to the needs of its customers. The innovative spirit of company founder Ernst Stadler is still perceptible in the company today. As early as the 1940s, the focus was on high-quality technical solutions that were perfectly adapted to industry operating conditions.

Stadler's innovative strength is reflected in its broad product portfolio, which ranges from multiple units, rack railways and locomotives to sleeper cars and trams. Technical solutions based on the single-decker, modular FLIRT multiple unit (abbreviation for fast, light, innovative intercity and regional train) and the double-decker KISS train (acronym of the German for comfortable, innovative, speedy suburban train) make rail transport reliable, flexible and energy-saving. In addition, the company develops and markets alternative, lower-emission drive technologies that make it possible to dispense with diesel-powered vehicles on non-electrified routes.

In the "Signalling" segment, Stadler is driving forward the interplay between vehicle and infrastructure by means of digitalisation and automation. This will allow the capacity of the rail network to be increased and energy consumption to be optimised. Driving assistance systems can improve the energy efficiency of vehicles, while signalling solutions help ensure passenger safety in rail transport.

Ensuring durability
Extending the service life of rail vehicles and creating added value during their maintenance is a priority for Stadler. The Service Division offers customer-centred, flexible services for this purpose, ranging from "full service", spare parts and support services to vehicle modernisations, refits (e.g. with new automatic train protection technology) and repairs. Innovative maintenance solutions are also available, such as the use of robot technology for vehicle inspections. Condition-based maintenance is used when maintaining vehicles in order to provide precise data about their condition. This targeted diagnosis increases safety and cost-effectiveness, as components are only replaced on the basis of actual wear once wear limits have been reached.

Compatibility of innovation and price sensitivity
Stadler sets itself apart on the market for offering customised, innovative solutions. This strength must be carefully balanced with customer price sensitivity, as standardised solutions can offer cost advantages. On the one hand, technological development enhances the diversification and modernisation of the product portfolio, which leads to higher economic productivity and long-term profitable growth. On the other hand, assisting customers with the transition to sustainable fleets and promoting more sustainable railway operations ensure Stadler's economic viability for the future. Both aspects are ultimately mutually dependent, which is why Stadler's claim to market leadership involves combining the technical development of trains and technological and market dominance in the field of alternative drives with customer friendly marketing.

Concepts and measures

Responsibilities
A Head of Product Development on Stadler's extended Group Executive Board is responsible for the "Strategic Product Development" organisational unit, which manages non supply-related development and innovation projects, such as the creation of new vehicle types. Solutions for optimisations and new developments are often adopted in a needs-oriented manner in consultation with customers, in line with Stadler's strongly customer-centric approach to innovation.

Expertise for all alternative drives
Stadler is striving to achieve market and technological leadership in the field of efficient technologies and digitalisation by winning contracts and offering successful customer solutions.

Stadler's founder and first owner, Ernst Stadler (1908-1981), had already established sustainable drives as part of the company's history. He founded his own company during the Second World War, specialising in rail vehicles for special applications, including battery-powered vehicles.

Today, Stadler is one of the leading suppliers of energy-efficient electric drives for mainline and branch lines, as well as green drives powered by batteries and hydrogen to replace diesel drives. To this end, the company has invested heavily in the development of its vehicle portfolio in recent years. Stadler has always followed the principle of not focussing on just one green solution, but instead offering customers all the available CO_2-neutral drive systems, ranging from electric and battery drives to hydrogen drives, for example using fuel cells. And these drives can in turn be combined with each other as hybrid solutions according to customer requirements.

The following elements contribute to Stadler's market leadership in the field of sustainable and alternative drives:
– 3-level converter to reduce drive losses
– FLIRT H_2 hydrogen multiple unit for regions without sufficient electrification
– 130 battery-only FLIRT AKKU vehicles sold for regions with gaps in electrification
– EURO9000 and EURODUAL hybrid locomotives
– Several hybrid solutions with batteries for storing braking energy and bridging non-electrified sections of route
– Latest-generation EU Stage V diesel motors compatible with operation using synthetic fuels (e.g. HVO) for non-electrified routes

Progress and events in the reporting year
Progress in rail automation
Communication-Based Train Control (CBTC) is a train protection and control system. CBTC relies on data communication between the vehicle and trackside equipment, as well as precise track vacancy detection, which allows travel along dynamic block sections. This maximises the capacity of a route.

Stadler's in-house CBTC solution, which was first put into operation on a branch line in 2022, accumulated successful operating hours in 2023 and became established in the rail network. This will enable Stadler to offer modern, efficient automatic train protection solutions whilst laying the foundations for the first depot automation systems by 2025. Depot automation systems make a significant contribution to increasing the efficiency of rail operations and the safety of employees in shunting areas.

Cooperation on the automation of rail transport with a Swiss railway company (RhB) and the "Verband öffentlicher Verkehr" association was also demonstrated in the reporting year. Tests of the semi-automated vehicle control system (ATO GoA 2) developed by Stadler – including interface functionality with EU standards – were successfully completed.

Approval of GUARDIA in Germany
The European Train Control System (ETCS) is a train protection system that represents an essential component of the future standardised European Rail Traffic Management System ERTMS. In the long term, it is intended to replace the different train protection systems currently used in Europe, of which there are more than 20.

Having obtained approval for its ETCS train protection system GUARDIA in the strategically relevant German market, Stadler has reached a milestone in its cooperation with Deutsche Bahn and the joint venture AngelStar (Stadler and the Italian Mermec Group). This paves the way for a faster ETCS roll-out in Germany. In addition to Germany, the GUARDIA ETCS system is already in use in Switzerland, Poland, Hungary, Slovenia, the Netherlands, Croatia and Austria.

Success with hydrogen drives
Flirt H_2 section divider (page 27)

Customer satisfaction and product quality

Stadler stands out for its customised products, reliable deliveries and durable, safe vehicles that meet high quality standards. Stadler always focuses on customer wishes and requirements in the production of everything from "tailor-made" vehicles to modularisable platform solutions. Stadler's standardised quality standards are guaranteed by tried-and-tested processes and a comprehensive quality management system – representing the basis for satisfied customers.

Goals and ambitions
- Become a leader in terms of customer centricity and customer satisfaction
- Meet reliability requirements in accordance with customer requirements in all projects
- Comply with comprehensive quality standards and certifications at all locations (all locations are ISO 9001 certified)
- Customer satisfaction survey for the Service Division: Target value 8/10, no single value < 7

Significant impacts, opportunities and risks
- Key factor in regional, national and global traffic and transport systems
- Support for environmental protection efforts in the traffic and transport sectors
- Significant cost factor in traffic and transport

Main fields of action
- Durable, reliable and safe rail vehicles
- Compliance with costs and deadlines agreed with customers
- Simple, cost-effective maintenance

The quality and reliability of rail vehicles are not only crucial for Stadler's customers, but also have a significant impact on passengers, public transport systems, the transport industry and large parts of the economy that depend on functioning traffic and transport systems. For Stadler, quality therefore above all means reliability, availability, maintainability and safety (RAMS). Furthermore, the "tailor-made" approach represents a unique selling point for Stadler.

Thanks to its customer-centric approach and fulfilment of the highest quality standards, Stadler aims to work with its customers as a reliable and preferred longstanding partner. This is the basis for the long-term success and survival of Stadler, the safeguarding of jobs, and the preservation and development of the company's product portfolio.

The product portfolio includes railcars, light rail vehicles, locomotives, underground trains, high-speed trains, intercity trains and sleeper cars, as well as customised products, small series and rack railways. This last product allows Stadler to cover an under-served market segment and help to preserve railway lines that would otherwise no longer be in operation.

In the Signalling Division, Stadler pursues a similarly customer-centric approach, offering a wide variety of products, including specialised individual systems.

In the Service segment, Stadler always aims to find a solution tailored to the customer's needs thanks to its flexible offering ranging from full service to selected elements from service contracts.

Concepts and measures

Guidelines

Quality management for the mechanical engineering industry is regulated by numerous certifications (if possible according to ISO standards) and industry-specific standards. When selecting which certifications to apply for, Stadler is guided by industry and sector standards, as well as customer requirements and local conditions.

Management systems

Stadler relies on established quality management approaches. All production facilities are certified in accordance with the world's best-known and most successful quality management system, ISO9001:2015 [3] (Certification matrix, page 11 and Product and customer safety, page 49).

Customer satisfaction is an integral part of each management system, and is therefore a key element of order processing. Customer feedback is obtained on a recurring basis as part of regular customer interactions (e.g. in construction meetings, steering committees and meetings on availability reports). The customer feedback obtained in this manner is incorporated into monthly order discussions. Some Stadler locations and the Service Division carry out standardised customer satisfaction surveys based on questionnaires on a regular basis.

Responsibilities

Initial contact is usually made with the customer by the sales department. This is organised centrally at Stadler, but has a strong local presence. The sales department represents the customer's point of contact right up until the signature of the contract. Once the contract has been signed, the project management department of the processing plant or country (Service) or unit (Signalling) becomes responsible for the order and therefore also for the

[3] Only new locations do not yet meet the certification requirements and will be certified in 2024

customer. The customer remains in contact with the project management department until the start of operations or even beyond. The warranty organisation or service organisation then takes over. The service organisation is decentralised to ensure customer proximity.

Responsibility for compliance with quality standards lies with the individual locations. Stadler's internal quality departments monitor compliance with management processes at the very least. To ensure compliance with the RAMS principles, Stadler has dedicated teams in the engineering departments that ensure that the RAMS specifications indicated by the customer are met and documented accordingly.

In the event of escalations in customer contact or the possibility of legal action and reputational risks, concerns are first raised with the management of the location and the division before being discussed at the monthly Group Executive Board meeting.

Customised solutions
Stadler is positioning itself on the rail vehicle market as a provider of customised solutions that meet high quality standards. This requirement poses a major challenge in tenders due to strong competition and growing price pressure. Stadler therefore endeavours to focus on the benefits of individually designed products. Stadler's main distinguishing features are speed and flexibility. "Tailor-made" is the standard at Stadler, which means that the main challenge is to find a balance between customer requirements and cost-effectiveness. Stadler also attaches particular importance to durability and low maintenance costs, both of which have a positive impact on the total cost of ownership in the long term.

Stadler meets increasing customer requirements and expectations with regard to environmental protection with the same innovative strength and customer focus as in all other areas. Examples include the further development of battery technology and concepts for hydrogen technologies that allow operation on non-electrified routes without conventional drive technologies. If diesel motors are used nonetheless, they are made available in an HVO-compatible version (hydrogenated vegetable oil) to minimise CO_2 emissions.

In order to enable customers to take environmental factors into account when deciding on a vehicle type or drive technology, life cycle assessments can be carried out to analyse the environmental impact along the entire value chain. The proportion of recyclable materials can also be analysed.

Dialogue with customers
Project managers engage in regular dialogue with customers right from the start of the order process as a way of guaranteeing high customer satisfaction and product quality: technical drawings, analyses and specifications can be compared in the course of design reviews. Joint progress checks are organised to ensure that deadlines are met, steering committee meetings are held to allow the management to monitor the progress of each project, and the First Article Inspection enables the customer to view the finished product before series production. Stadler applies four principles when working with its customers:
– Solution-orientated thinking to cater to specific requirements
– Flexibility when creating concepts, planning delivery dates and completing processing
– Short, rapid decision-making processes
– High-quality products (thanks to strong partnerships with suppliers and high quality standards in production).

Progress and events in the reporting year
Successful "FLIRT" concept
Stadler delivered the first models of its "fast, light, innovative intercity and regional train" – or "FLIRT" – to Swiss Federal Railways (SBB) in 2002. FLIRT trains are currently in service in 21 countries worldwide. The sale of the 2,500th FLIRT train was announced in mid-2023.

The FLIRT is an example of Stadler's successful concept: the model has been in constant development for over 20 years. The FLIRT combines intelligent, innovative design with tried-and-tested technology. It is also extremely versatile thanks to Stadler's proven module concept. As well as full electric traction, drive modules are now also available for hydrogen, battery and diesel operation, or using hybrid solutions combining several of these technologies. The FLIRT can also be digitised with signalling technology solutions.
Read more: ▸ Media release from 16 June 2023

Application area of the "EURO9000" locomotive extended
The "EURO9000" is currently the most powerful locomotive on the European market. It allows operation on electrified routes with alternating current and direct current. Thanks to the modular design, which enables up to three different drive systems to be installed together, the same trains can be pulled by the "EURO9000" on non-electrified sections of track. The "EURO9000" also meets TSI specifications and is designed to be equipped with various country packages.

The “EURO9000” has been authorised in Germany, Austria and Switzerland since 2023, and also received type approval for operation in the Netherlands and Belgium in the year under review. An operating licence in Italy is expected to be granted in 2024.
Read more: ▸ Media release from 20 December 2023

Modernisation of German long-distance trains
Since 2019, Deutsche Bahn has operated 17 “KISS” double-decker trains, which had previously been in service for Westbahn in Austria since 2011. The trains underwent a modernisation programme so that they could be used for cross-border long-distance services with Switzerland. Passenger comfort was improved at the same time: a total of 2,116 panes of glass were replaced with radio-transparent insulating glass to improve mobile phone reception in the vehicles. The space available on the trains was also modified, with new multi-purpose areas that now offer more room for bicycles, pushchairs and wheelchairs. Additional luggage racks were installed to provide travellers with sufficient storage space for luggage.
Read more: ▸ Media release from 12 December 2023

Comfortable latest-generation tram
The name “TINA” stands for “Total Integrated Low-floor Drive” and describes the latest tram generation from Stadler. Special attention was paid to passenger comfort during the development of the model. The entire vehicle is accessible throughout. Each vehicle has five multifunctional areas with enough space for two passengers in wheelchairs, pushchairs or for transporting bicycles. The trams are fully equipped with modern HVAC systems. A driver assistance system with a passenger alarm device and blind spot cameras also increases driving safety.
Read more: ▸ Media release from 11 December 2023

Trend reversal: Stadler builds hydrogen trains for the USA, traditionally a car country

Thanks to the delivery of the first hydrogen trains to the USA, Stadler is not only building more trains for America, which is reputed for being a car country, but is also initiating a trend reversal in American rail transport, which is currently almost entirely fuelled by diesel.

The employees of the tech and internet giants in Silicon Valley are building robots with artificial intelligence, working on self-driving cars and revolutionising the Internet. However, their journey to work takes them back to the early days of the railway: smoking diesel locomotives rumble through the country's epicentre of technology.

Nowhere is the gap between the billions in private investment in the digital future and the marginal public funding for the railways more drastic than here. However, a trend reversal is inevitable: from 2030 onwards, California – and many other states – will only be allowed to operate trains that do not emit any pollutants. This can only be achieved with considerable investment in the electrification of the rail network and with new rolling stock. At present, less than one percent of rails in the USA are equipped with overhead contact lines. Almost all rail transport is diesel-powered.

A visionary step

The San Bernardino County Transportation Authority (SBCTA) in California has recognised the signs of the times and taken an important, if not visionary, step towards decarbonising its rail transport by ordering the first hydrogen-powered train from Stadler, the FLIRT H_2. This model is the latest addition to Stadler's portfolio of alternative drive systems.

Following its initial presentation in 2022, the first hydrogen train in American passenger transport is scheduled to be put into service in California in 2024.

The first FLIRT H_2 for SBCTA consists of two electrically-powered end cars and a modular "Powerpack" in the centre. This "Powerpack" contains the fuel cells and hydrogen tanks. The fuel cells convert the hydrogen into electricity. This current is passed on to a drive battery. The battery supplies the vehicle's drives with the power they need. This configuration also allows energy to be recovered during braking. Thanks to this drive solution, the FLIRT H_2 is able to operate all day without refuelling. The train provides seats for 108 passengers and has additional standing room. The vehicle can reach a maximum speed of 130 km/h. The train is also designed for operation at high ambient temperatures of up to 49 degrees Celsius.

High international demand

Other countries are also opting for Stadler's hydrogen train for their decarbonisation strategies. The Italian railway operators Ferrovie della Calabria (FdC) and Azienda Regionale Sarda Trasporti (ARST) each ordered six new hydrogen trains for narrow gauge tracks in the reporting year. This makes Stadler the first train manufacturer in the world to produce narrow-gauge hydrogen trains. Both operators have since exercised an option for three more vehicles, meaning that Stadler will supply a total of 18 vehicles for the Italian narrow-gauge market.

Environment

Energy and greenhouse gas emissions

Stadler's commitment to climate protection 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. This reduction in emissions is in line with a reduction pathway from the Science Based Targets initiative (SBTi). The downstream emissions generated during the operation of railway vehicles are more significant. As a technology and market leader in the field of alternative drive systems, Stadler makes a significant contribution to ensuring more sustainble mobility and offers its customers environmentally friendly and economical options. Life cycle assessments covering the entire life cycle of trains and different drives provide a transparent list of all emissions.

Goals and ambitions
- Halve emissions in Scope 1 and Scope 2 by 2030
- Introduce comprehensive accounting of Scope 3 emissions by 2025 and set corresponding reduction targets
- Achieve net zero by 2050 in accordance with SBTi reduction targets to be submitted
- Implement a science-based SBTi emissions reduction pathway by 2025

Significant impacts, opportunities and risks
- Electricity and thermal energy consumption in buildings and plants for the production of vehicles and system components
- Material production
- Vehicle operation: climate impact due to the drive energy required for vehicle operation

Main fields of action
- Renewable energy in production and operations
- Alternative drives
- Ecodesign and life cycle assessment of vehicles

Greenhouse gases are produced along Stadler's entire value chain. The most relevant greenhouse gas is carbon dioxide (CO_2). The emissions of methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFC), perfluorinated hydrocarbons (PFCs) and sulphur hexafluoride (SF_6) caused by Stadler are of minor importance.

According to life cycle assessment studies, the largest share of Stadler's total emissions – over 95 percent – is generated in the upstream and downstream value chain. The main sources of Scope 3 emissions are emissions from the production of materials (particularly aluminium, iron and electronics) and the greenhouse gases generated by the energy supply during the operating phase. Depending on the region, vehicles produce large quantities of harmful greenhouse gases due to the electricity used in the particular country (often based on fossil fuels) or other drive energies (primarily fossil-based).

Stadler's production processes use large amounts of energy and are therefore heavily exposed to rising energy prices. Painting in particular has high thermal energy requirements, and therefore results in significant greenhouse gas emissions when fossil fuels are used. Scope 1 and 2 emissions are caused by electricity and heat consumption in production and office buildings. A rapid increase in the price of fossil fuels – for example as a result of a stricter EU climate policy – would have a direct impact on energy costs. Consequently, energy management and procurement are also important for the company from an economic perspective.

However, the issue of emissions also represents a major opportunity for Stadler's business model. Thanks to decades of experience with flexible and diverse drive systems, the company can meet the increasing expectations of stakeholders with regard to climate protection, especially when customers prioritise lower-emission drives.

Concepts and measures

Guidelines

Stadler's climate protection efforts are based on Swiss and European climate policy and on international climate targets such as the Paris Climate Agreement. For CO_2 balancing purposes, Stadler applies the "Greenhouse Gas Protocol" and will define an emissions reduction path for Scope 1, 2 and 3 in accordance with the "Science Based Targets initiative" (SBTi) to reduce emissions to net zero by 2050.

Internal specifications

A quality, environmental and health and safety policy has been implemented in all areas and countries. This policy is derived from the corporate strategy, the needs of stakeholder groups and the legal requirements. It covers operational environmental protection and the environmental performance of products and services. As well as requiring the development and use of efficient technologies and recycled materials, it calls for a reduction in the energy requirements of sites and products, as well as the construction of vehicles with the longest possible service life.

Management plays a leading role in communicating these principles. The larger production sites outside Switzerland also use similar environmental guidelines and exchange information on processes and the harmonisation of directives.

In addition, an internal specification document, "Compliance with environmental standards", has been in place throughout the

Stadler Group since 2023. It includes a section on Stadler's climate policy with the aim of achieving climate-neutral production by 2050.

Since 2012, Stadler has had a certified environmental management system that supports the systematic collection and evaluation of energy data. It forms an integral part of the quality, environmental and health and safety management system. All larger sites are certified in accordance with ISO 14001 (Certification matrix, page 11).

Stadler uses ISO 14040/14044 and ISO 14067 as a basis for preparing life cycle assessments for its vehicles. The climate impact of the trains is reported separately for all the stages in their life cycle.

Responsibilities
The Board of Directors has responsibility for the sustainability strategy throughout the Group, and is therefore in charge of managing climate issues and meeting the corresponding targets. The implementation of the targets is delegated to the global sustainability team via the Group CEO. In collaboration with local sustainability managers, appropriate measures are implemented to achieve the targets if the locations do not yet have adequate measures in place. The global sustainability team is responsible for consolidating and controlling environmental indicators throughout the Group. Measures are implemented and key figures recorded in a decentralised manner at each location. Responsibility for implementing the relevant management systems (ISO 14001) lies with the location managers and the local sustainability officers and Quality, Environment, Health and Safety (QEHS) departments.

In recent years, Stadler Rheintal has been able to build up the necessary expertise to carry out life cycle assessments. It now represents a competence centre for life cycle analyses within the entire company.

Climate protection in the downstream value chain
As a leading provider in the field of green, low-emission 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 alternative drive systems, Stadler trains are also driving forward decarbonisation on non-electrified routes.

Further information can be found in the Innovation (page 22) section.

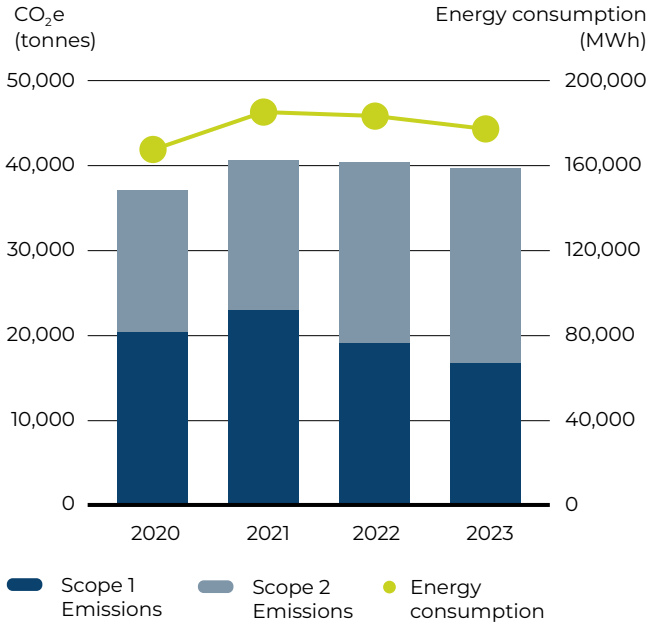
Ecodesign
Stadler plans its products over the entire product life cycle with environmental protection in mind. It focuses on Scope 3 emissions from the materials used and on the environmental impact of the trains during their useful life until their disposal. Emphasis is also placed on recycled materials, for example in aluminium components or seat covers, the economical and careful use of natural resources, the responsible selection of materials and the highest possible recycling rate for trains after they have been decommissioned.

Dialogue with stakeholder groups
Stadler is facing increasing demands from customers with regard to climate protection and greenhouse gas emissions along the entire value chain. Customers want information not only on the energy efficiency of vehicles, but also on the energy utilisation of locations, the material composition of components and the recycled content of the materials procured. Environmental product assessments of vehicles are also increasingly being carried out across the entire life cycle.
In Switzerland, Stadler engages in close dialogue with the Energy Agency for Industry (EnAW), which advises the company on the target agreements concluded and on the climate protection measures to be implemented. Similar cooperation arrangements are also being explored in other countries.

Upstream climate protection measures
Emissions in the upstream supply chain can be minimised by implementing efficient supply chain management (Supply chain management and raw material availability, page 52) or by using recyclable materials or materials with a high proportion of recycled raw materials (Circular economy, page 32).

In-house climate protection measures
At its own plants, Stadler is endeavouring to use more low-emission energy (e.g. electricity from hydropower or district heating with a high proportion of renewable energy), to install photovoltaic systems (PV) and to reduce the use of fossil fuels (natural gas or heating oil), which are currently still predominant. Certain plants rely on country-specific electricity with a very high proportion of fossil fuels, where the following measures can effectively reduce Scope 1 and 2 emissions: installation of heat pumps to replace natural gas heating systems, purchase of green electricity or installation of PV systems to minimise CO_2-intensive electricity.

Greenhouse Gas Emissions Scope 1 and 2



The Scope 1 and 2 emissions for 2020 and 2021 were recalculated using the same calculation methodology and data source for emission factors as for the reporting years 2022 and 2023. This enables an objective comparison of the emissions data over the years. This recalculation results in lower Scope 2 emissions for 2020 and 2021 than was reported in the Sustainability Report 2021. The Scope 2 emissions shown were calculated using the supplier-specific information (explanation of the method in the appendix).

More specifically, several locations have recently commissioned or are planning PV systems (Photovoltaics section divider, page 37).

At its Swiss locations, Stadler coordinates operational climate protection measures via target agreements concluded with the EnAW. Locations receive a list of measures from the EnAW with quantitative information on the energy savings and the associated investment costs. The EnAW reviews the effectiveness of the measures implemented.

Life cycle assessments

In order to design its vehicles ecologically, Stadler identifies the environmental impact by means of life cycle assessments carried out in accordance with ISO standards. The ecological footprint is reported on the basis of a Life Cycle Assessment (LCA) or in an Environmental Product Declaration (EPD).

From 2024, Stadler will increasingly carry out life cycle assessments of vehicles in accordance with ISO 14040 and ISO 14044 and will publish “Environmental Product Declarations” (EPD) in accordance with ISO 14025. The long-term goal is to have a life cycle assessment for each vehicle type, customised according to customer orders.

Developments and events in the reporting year

Systematic data collection

The Group focus in 2023 was on the systematic collection and collation of environmental data. Particular emphasis was placed on Scope 1 and 2 accounting in accordance with the Greenhouse Gas Protocol.

Implementation of reduction measures at numerous locations

A new PV system with an installed capacity of 416 kilowatt-peak (kWp) was put into operation at the Erlen site in 2023. In Bussnang, 58 kWp were added to the existing PV system, expanding it to 440 kWp. In St. Margrethen, 900 kWp of PV modules were installed (on roofs and façades), bringing the current power of the systems to around 2,000 kWp. A small PV system of around 50 kWp was put into operation in Siedlce. A new hybrid furnace was put into operation at Stadler Stahlguss in Biel, which is 30 percent more energy-efficient than the previous system. In Bussnang, the thermal energy for one part of the site is provided by a geothermal probe heat pump. This replaces the previous gas boiler, which consumed 85,000 kWh of natural gas. Energy efficiency measures were taken at various locations and implemented at an organisational level (e.g. raising employee awareness, information campaigns).

Performance indicators

Energy	Unit	2022		2023	Δ %
Thermal energy for heating purposes	**MWh**	**98,816**	✔	**90,131**	**(9%)**
Natural gas	MWh	78,780		65,420	
Heating oil	MWh	1,431		253	
Diesel	MWh	41		0	
Liquid petroleum gas (LPG)	MWh	60		1,184	
District heating	MWh	18,505		23,274	
Fuel consumption for vehicels	**MWh**	**8,964**	✔	**10,240**	**14%**
Gasoline	MWh	1,308	✔	1,998	
Diesel	MWh	6,873	✔	7,674	
Liquefied petroleum gas (LPG)	MWh	783	✔	567	
Electricity	**MWh**	**79,007**	✔	**76,954**	**(3%)**
Purchased electricity	MWh	77,248		75,467	
Own production of renewable electricity	MWh	2,193		1,808	
Feed-in of produced renewable electricity	MWh	434		321	
Share of renewable electricity	%	51%		52%	
Total energy consumption	**MWh**	**186,787**	✔	**177,324**	**(5%)**
Energy intensity in MWh energy per Mio. CHF net revenue	MWh / Mio. CHF	49.8		47.3	

Greenhouse gas emissions	Unit	2022		2023	Δ %
Scope 1	**t CO_2e**	**18,711**	✔	**16,505**	**(12%)**
Fuels for heating purposes[1]	t CO_2e	16,200		13,206	
Fuels for vehicels[1]	t CO_2e	2,334		2,615	
Refrigerants[2]	t CO_2e	118		558	
Other[3]	t CO_2e	59		125	
Scope 2 (location-based)	**t CO_2e**	**23,284**	✔	**22,716**	**(2%)**
Scope 2 (supplier-based)	**t CO_2e**	**22,106**		**23,027**	**4%**
Electricity (location-based)[4]	t CO_2e	20,298		18,442	
Electricity (supplier-based)[4]	t CO_2e	19,121		18,754	
District heating[4]	t CO_2e	2,986		4,274	
Other[5]	t CO_2e	0		0	
Total Greenhouse gas emissions Scope 1 and 2 (location-based)	**t CO_2e**	**41,995**		**39,220**	**(7%)**
Total Greenhouse gas emissions Scope 1 and 2 (supplier-based)	**t CO_2e**	**40,817**		**39,532**	**(3%)**
Emission intensity (Location-based) in t CO_2e per Mio. CHF net revenue	t CO_2e / Mio. CHF	11.2		10.9	

[1] Emission factors according to DEFRA 2022, 2023
[2] Greenhouse potential according to IPCC AR5
[3] Emissions from industrial processes (welding, dry ice cleaning, oxidation of VOCs, etc.) and from the use and replacement of fire extinguishers
[4] Location-based emission factors according to Ecoinvent version 3.9.1 for 2022 data and V3.10 for 2023 data; supplier-based emission factors according to Treeze 2017 and electricity labels from electricity suppliers
[5] Emissions from purchase of steam, refrigeration and compressed air

Circular economy

In Stadler's value chain, waste with a significant environmental impact is generated during the manufacture, utilisation and disposal of rail vehicles. The company intends to continuously reduce the amount of waste it produces. It pays particular attention to the use of materials that are easy to recycle, as well as disposal processes with a high recycling rate. Stadler also favours robust, durable vehicles in order to conserve resources.

Goals and ambitions
- Increase the recycling rate of total operational waste to over 60 percent by 2030
- Increase the secondary share of purchased aluminium, specification of the share in 2024

Significant impacts, opportunities and risks
- Greenhouse gas and pollutant emissions from aluminium and iron production
- Resource depletion
- Hazardous waste from the production of vehicles

Main fields of action
- Use of recycled materials
- Waste separation and reduction
- Responsible handling of chemicals and hazardous waste
- Durable vehicles
- Vehicles with a high recycling rate

The circular economy focuses on the effects of the main materials used and on the waste generated during production and at the end of a product's useful life. Stadler requires large quantities of raw materials for production. 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 in an ecotoxicological sense, which can contaminate the air, water or soil. Other environmental impacts are caused by electronic components such as traction batteries.

At the end of its useful life, each vehicle is dismantled and its individual components are either reused, recycled, incinerated to recover thermal energy or disposed of as residual waste in line with a defined disposal procedure. Due to the high metal content, more than 95 percent of the vehicle mass can be recycled. If incineration for thermal energy recovery is included in the calculation, the recycling rate is around 98 percent [4].
Stadler considers hazardous waste to be a key area of action in its own operations.

Concepts and measures

Stadler takes the circular economy seriously along the entire value chain. The potential areas of influence range from the procurement of recycled materials, the development and manufacture of durable vehicles, the use of recyclable materials and components, and responsible waste management in Stadler's own operations.

Specifications and guidelines

As far as waste management is concerned, Stadler prioritises compliance with legal requirements.
This applies to the entire Group:
- Regulation of the European Parliament and of the Council on shipments of waste (Waste Shipment Regulation – WSR)
- EU chemicals regulation REACH
- Regulation on the European List of Waste

There are also other specific requirements in various countries, including non-EU countries.

Management systems

At Stadler, all larger locations have an environmental management system certified in accordance with ISO 14001 [5]. In addition, Stadler's management of the circular economy as a material issue is based on the "Compliance with environmental standards" internal specification document. This includes a list of waste-related KPIs that are also recorded as part of the Group's non-financial reporting. In addition, the document addresses the identification of environmental risks in the areas of waste and hazardous substances.

Responsibilities

The global sustainability team monitors consolidated KPIs across the Group and is in charge of implementing measures to achieve the targets from the sustainability strategy. The Quality, Environment, Health and Safety department (QEHS) and Facility Management implement the measures at individual locations and are responsible for aligning the measures introduced locally with the Group strategy.

[4] Source: UNIFE Recycling Calculation template
[5] See certicifaction matrix (page 11)

Dialogue with stakeholder groups
Customers are increasingly making demands in relation to the circular economy. These include specifications on the proportion of recycled materials in the components or the recycling rate of an entire train. Customers also expect a REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals) certificate of conformity and require details of the disposal process or information about reusability. Stadler's suppliers must therefore provide evidence of a material and substance declaration for system-relevant components. Certificates for environmentally friendly materials are also often requested (e.g. FSC certification for wood).

The fulfilment of these customer requirements necessitates the prior involvement of suppliers in order to create transparency regarding components and to influence the ecological footprint of the upstream value chain.

Stadler must comply with environmental regulations on the storage and disposal of hazardous waste. This makes dialogue with public authorities crucial. Stadler also works with certified waste disposal companies.

The most effective approach: a long service life
Stadler manufactures vehicles in such a way that they have a service life of at least 30 years. This is achieved by using durable, robust materials that are easily accessible and therefore simple to maintain. Durability significantly reduces negative environmental impacts, because anything that remains in operation does not have to be replaced or disposed of.

Integrating circular thinking into product development
Stadler considers ecodesign principles such as the C2C principle (cradle-to-cradle), an idealised, closed raw material cycle, when planning and constructing its vehicles. For example, 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 their service life (Energy and greenhouse gas emissions, page 28).

To calculate the recycling rate of vehicles, Stadler uses the recycling calculation method of the European railway industry association UNIFE (Union des Industries Ferroviaires Européennes) and prepares declarations on material composition at the customer's request.

Standardised waste management in the company's own operations
Stadler relies on a stringent waste concept with the principle of strict waste separation so that residual materials can be recycled and as little waste as possible has to be disposed of. Waste statistics from all Stadler locations show the benefits of efficient waste separation. For certain metals, waste separation is also worthwhile from a financial point of view, as waste disposal companies then pay any fees due. The following materials are collected separately at Stadler:
– Packaging material (wood, cardboard and paper)
– Metal offcuts (sheet steel, aluminium and cables)
– Material residues from processes (e.g. paint residues from painting or sand from sandblasting).

Paint and varnish waste is incinerated in a high-temperature furnace as standard to recover thermal energy [6].

Stadler also promotes the recycling of plastics and avoids disposing of plastics as residual waste [7]. The ecological and economic added value of recycling plastic film is also being evaluated at various Stadler locations.

Responsible, forward-looking use of chemicals
For painting and cleaning work, Stadler requires chemicals from the aliphatic and aromatic hydrocarbon groups, alcohols, aldehydes/ketones, esters and inorganic substances. Some of these chemicals are not considered completely safe according to the safety data sheets. Stadler continuously checks whether material quantities can be reduced by replacing or saving materials within the scope of possibilities offered by the product specifications [8]. As far as product specifications are concerned, the company is guided by the European Chemicals Regulation on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) and the associated national regulations.

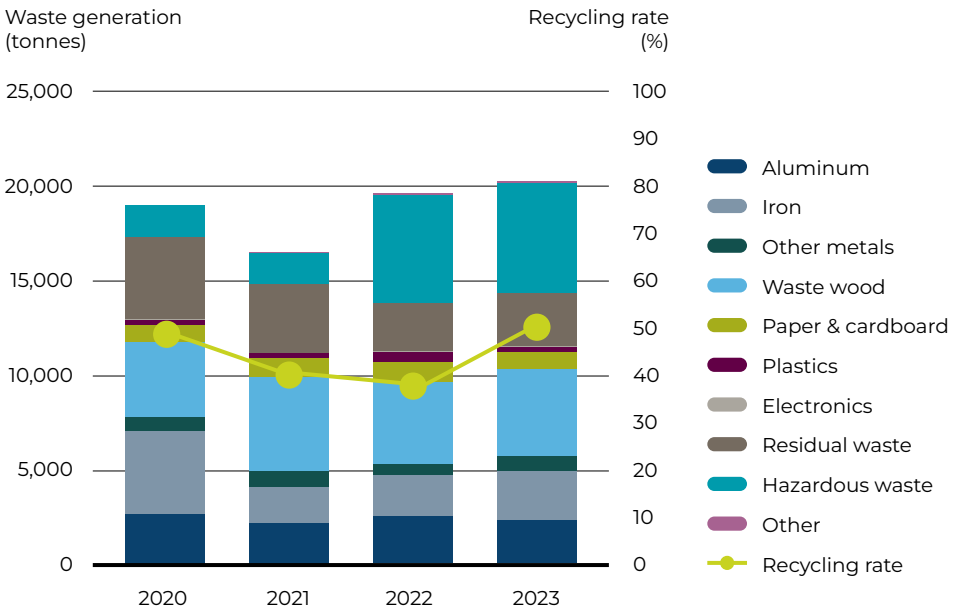
[6] At the Sroda site in Poland, paint waste is recycled using solvent distillation systems.
[7] Soft polyethylene film (LDPE) is collected separately and recycled at the St. Margrethen site
[8] For example, the toluene content of the cleaning thinner (a rinsing solution for cleaning paint spray guns) frequently used at Stadler Rheintal AG was reduced from between 90 and 100 percent to between 20 and 30 percent. Other problematic products such as "Maxolen Corr Protect" have been replaced by the less dubious product "Dinitrol 77b" at the St. Margrethen, Altenrhein, Bussnang and Winterthur sites

Performance indicators

Information on waste generation	Unit	2022	2023	Δ %
Aluminum	t	2,477	2,251	(9%)
Iron	t	2,159	2,639	22%
Other metals	t	584	772	32%
Waste wood	t	4,335	4,569	5%
Paper & cardboard	t	1,035	909	(12%)
Plastics	t	558	264	(53%)
Electronics	t	52	45	(14%)
Residual waste	t	2,496	2,790	12%
Hazardous waste	t	5,720	5,826	2%
Other	t	118	86	(27%)
Total waste volume	**t**	**19,533**	**20,151**	**3%**
Recyclability rate[1]	**%**	**39.5%**	**51.4%**	**30%**

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

Waste generation and recycling rate



The recycling rate for 2020 and 2021 was recalculated using the same material recycling factors as for the reporting years 2022 and 2023. This enables an objective comparison of the rate over the years. The sharp increase in the recycling rate in 2023 compared to 2022 can be explained by a new recycling project for used sand started in 2023 at the site in Biel (Stadler Stahlguss): In 2023, 1500 tonnes of used sand from this site have been sent for recycling. Stadler Stahlguss has the highest volume of waste of all the sites, which means that this site has a major influence on the volume of waste and the recycling rate of the Stadler Group.

VOC emissions

Many paints used in train construction contain volatile organic compounds (VOCs), which can damage health and the environment. Stadler is already minimising the use of solvent-based paints and optimising the management of the remaining VOC emissions in its plants.

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 can be harmful to human health
– VOC emissions play a major role in the formation of ground-level ozone

Main fields of action
– Reduced use of solvent-based paints
– Use of new technologies for dealing with VOC emissions

The paintwork on many internal and external train components is used to add visual distinguishing features to the vehicles and to protect them from environmental influences, corrosion and mechanical stresses such as shocks or impacts. Paint usually consists of one part solvent, which contains volatile organic compounds (VOCs), and one part non-volatile components. The solvent evaporates during drying, while the non-volatile components remain on the painted object as a smooth film. VOCs escape during the application of paint, the drying and cleaning of spray guns, and the storage of paint waste. They can be harmful to human health. People who apply solvent-based paints or work with freshly painted components are particularly exposed. Repeated and long-term exposure to low levels of VOCs can lead to health problems. Stadler has a duty to protect its own employees. VOCs also 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.

Paint waste containing VOCs is linked to VOC emissions and must be disposed of as hazardous waste (Circular economy, page 32).

Concepts and measures

Guidelines

In many countries, directives and ordinances exist to regulate VOC emissions (EU, Switzerland, Belarus) 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). Switzerland has an Ordinance on Air Pollution Control based on the Environmental Protection Act, which defines limit values for VOC emissions to be complied with. In addition, there are cantonal laws on annual VOC mass flows. Stadler prepares a VOC balance sheet for its Swiss production locations in connection with the VOC incentive tax. VOC emissions are determined in line with the methodology specified by the authorities.

The regulations relate to compliance with VOC concentration and mass flow limit values and aim to reduce VOC emissions and immissions. Penalties may be imposed for exceeding limit values or for failing to install waste air purification systems. In order to steer the behaviour of the population and the economy in the desired direction, Switzerland levies an incentive tax of CHF 3 per kilogram of substances containing VOCs. The Stadler sites located in Switzerland are also subject to this incentive tax.

Internal specifications

The environmental policy of the locations where painting takes place also explicitly includes VOC management, with measures to reduce VOCs.

In the reporting year, Stadler drew up an internal specification document on environmental protection. It discusses VOC emissions as a key issue for Stadler and sets the target of reducing VOC emissions across the Group by 15 percent by 2030.

Responsibilities

The global sustainability team monitors consolidated KPIs with regard to VOCs across the Group. It is also in charge of implementing measures to achieve the targets set out in the sustainability strategy. At individual locations, the Quality, Environment, Health and Safety (QEHS) department monitors the legal requirements and implements appropriate measures to meet local requirements and achieve the objectives of the Group strategy.

Methods for reducing VOC emissions

Replacement of solvent-based paints: solvent-free paints or water-based paints with a lower VOC content are available on the market that can be used on train components, provided this is compatible with customer requirements.

Investments in waste air purification systems at individual locations: Stadler is investing more in air purification measures. At the Hungarian site in Szolnok, VOC emissions are reduced by activated carbon filters. Due to official requirements, an increase in waste air

purification capacity is also planned. At the Valencia site, the waste air containing VOCs is oxidised with ozone, which results in an annual reduction in VOC emissions of five to ten tonnes. The St. Margrethen, Bussnang and Erlen sites are also looking into installing waste air purification systems to systematically reduce VOC emissions.

Optimised painting technologies: the multi-component plant in St. Margrethen, which will go into operation in 2022, will have an automatic paint supply that will reduce VOC emissions by up to 30 kilograms per car body.

Dialogue with stakeholder groups
The most relevant stakeholder group for the material topic of "VOC emissions" consists of legislators and local environmental authorities, which specify the requirements for VOC balancing and the reduction of VOC emissions.

Stadler is in discussion with paint suppliers regarding the reduction of the VOC content in the paints it purchases. Stadler has also raised the issue with suppliers of waste air purification systems in order to find a technical solution for reducing VOC emissions.

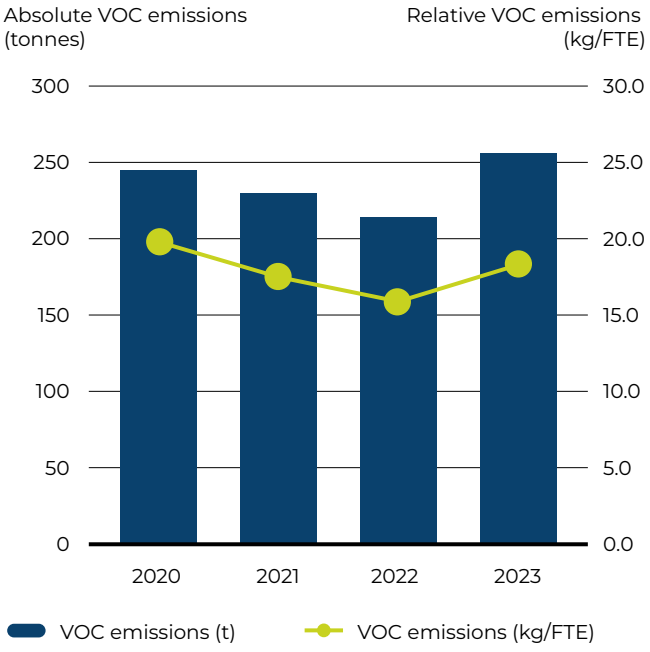
According to the materiality analysis, the issue of VOCs has so far been of secondary importance to customers.

Developments and events in the reporting year
Test with low-VOC clear coat
In Bussnang, Stadler has been testing the use of a clear coat with a low VOC content (< 3 percent) since autumn 2023. The product is expected to be introduced in the third quarter of 2024. In St. Margrethen, around 12 tonnes per year of a clear coat with 4 percent fewer VOCs have already been used since August 2022. This will reduce VOC emissions by several hundred kilograms.

A self-adhesive floor covering was used for a customer order in Berlin-Pankow. This reduced VOC emissions by several hundred kilograms in 2023. If this process is used for further orders and at other Stadler locations in the future, there is a reduction potential of several tonnes of VOCs per year. VOC emissions are also being reduced at the Sroda and Salt Lake City sites thanks to new products and optimised painting technology.

Development of VOC emissions [9]
In 2023, Stadler's business activities generated a total of 255 tonnes of VOC emissions. This corresponds to an increase of 25.6 percent compared to 2022.

Performance indicators



Despite the increasing number of employees, absolute VOC emissions have decreased until 2022. In 2023, however, Stadler recorded an increase in VOC emissions. The higher level of emissions in 2023 is mainly due to the increased production activity at the Valencia site. VOC emissions at this site have more than tripled compared to 2022.

[9] 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 paint waste) and the change in inventories. At other European plants, however, VOC emissions are annualised based on emission measurements

Electricity from solar energy

Stadler has set itself the goal of constantly reducing its energy requirements. Firstly, a large proportion of CO_2 emissions are caused by energy consumption during production. Secondly, this also represents an effective measure to combat rising energy costs.

At its own plants, Stadler is endeavouring to use more low-emission energy, e.g. electricity from hydropower or district heating with a high proportion of renewable energy, to install photovoltaic systems (PV) and to reduce the use of fossil fuels (natural gas or heating oil), which are currently still predominant.

Several locations have recently put PV systems into operation or are planning to do so. The Berlin-Pankow site is just one example: the new logistics centre at the Stadler site in Berlin was officially inaugurated and opened in the reporting year.

Once commissioned, the entire plant will be powered by a photovoltaic system that will cover the site's full electricity requirements and therefore the entire value chain. In addition, the new logistics centre will further consolidate production and warehouse processes, thereby minimising delivery traffic.

One of the largest photovoltaic systems in Berlin

By the end of 2023, a total of 14,000 square metres of modules will have been installed in the course of three construction phases. Once the system is complete, it will produce 3,000 megawatt hours of electricity per year, making it one of the largest photovoltaic systems in Berlin. By way of comparison, the system produces as much electricity per year as the average annual consumption of 750 to 800 single-family homes. The surplus electricity (approx. 20 percent) is fed into the local supply grid.

The measure in Berlin will have a positive impact on the Scope 1 emissions value and will help Stadler to reduce harmful emissions.

Further investments in photovoltaics planned

A PV system will be put into operation at the Winterthur site in 2024 that will produce around 275,000 kilowatt hours of electricity. This is enough to cover around 10 percent of the plant's own electricity requirements. Investments in PV power are also planned at the Polish sites in Siedlce and Sroda. In Siedlce, a PV system with a power output of around 600 kilowatt hours is planned for 2025. In Sroda, there are plans to purchase PV electricity from a ground-mounted PV system that will cover 20 percent of electricity requirements. The PV electricity at the Polish sites will have a particularly positive climate effect, as it will replace CO_2-intensive electricity from coal-fired power plants.

Employees

Employee recruitment, development and retention

First-class trained specialists form the backbone of Stadler and ensure the economic success of the company in highly competitive markets. Stadler therefore aims to be perceived as an attractive employer, both by its 14,000 existing employees and by potential talented new recruits and skilled workers. It seeks to achieve this goal by offering a good working atmosphere and advantageous working conditions.

Goals and ambitions
- Achieve a fluctuation of less than 10 percent
- Be perceived as an attractive employer
- Focus on training and further education and increase training hours for all employees
- Offer permanent employment to around 85 percent of apprentices on completion of their training in Switzerland

Significant impacts, opportunities and risks
- Training of apprentices
- Attractive development and qualification opportunities
- Promotion of internal and external further training

Main fields of action
- Enhanced image as an attractive employer worldwide
- Recruitment of new specialists
- Retention of Stadler employees in the long term; reduction in staff turnover
- Promotion and development of young talent
- Preparation for generational change and greater appeal to young workers
- Expansion of training and development for all employees

The transition to a more sustainable traffic and transport system means that Stadler's order books are likely to be even fuller in the coming years than they already are today. Growth expectations, demographic change and the increasing shortage of skilled workers are presenting Stadler with considerable challenges, as it is difficult to find qualified workers, especially in the highly technical, complex and specialised rail industry. In order to counter this problem, Stadler strives to attract new employees to the company and to ensure the loyalty and further development of existing employees.

Concepts and measures

Responsibilities

The topic of employees is one of the CEO's focal points across the Group. The local HR departments in individual countries are responsible for employees throughout their entire period of employment for the company. Various transnational and cross-divisional collaborations and exchanges have been set up so that experience and knowledge can be passed on between units, best practices can be shared and synergies exploited.

Social dialogue

Stadler advocates social dialogue between employees and employers. Most countries have a works council or similar organisation for this purpose. Stadler also promotes social dialogue by means of cooperation with trade unions. In Switzerland, a collective labour agreement applies, which was negotiated by Stadler with the trade union Unia as its social partner. The ▸ collective bargaining agreement is publicly accessible and governs working conditions such as working hours, remuneration, holiday entitlement and fringe benefits, as well as the right of employees to have a say in the running of the company. Stadler has also concluded collective bargaining agreements in Denmark, Germany, Norway, Sweden, Spain and the UK, and collective agreements exist in other countries (including Poland and Finland). Alternatively, employees are consulted prior to the introduction of collective instructions.

Assignments abroad for knowledge transfer and project implementation

As part of its international business activities, 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 proactive fulfilment of compliance requirements. Thanks to its agile secondment practice, which is continuously evaluated and improved, Stadler takes account of complex, constantly changing requirements and provides employees with comprehensive support for the entire duration of their assignments abroad.

Staff recruiting staff

At many locations, the company rewards employees who help recruit new employees. The principle is based on the fact that Stadler's own employees are those who are most familiar with the needs and culture of Stadler and in the best position to assess which personalities and profiles will be a good fit for the company. A placement bonus is paid on a pro rata basis to anyone referring a new employee once they have successfully completed their probationary period and first year of service.

Managing generational change
As well as addressing the shortage of skilled labour, Stadler is also having to prepare for an imminent generational change in its own workforce. Around 25 percent of employees are currently over 50 years old[10] and will retire from the labour market in the next few years.

To ensure that a sufficient number of young people are recruited to fill these positions in a timely manner, Stadler participates in careers fairs in various countries. It aims to attract young applicants to the company by offering various entry options for school leavers and students, such as apprenticeships, internships, places for working students, trainee programmes or support for final theses with or via Stadler. Stadler already has an excellent reputation as an employer in Switzerland and other countries, but is striving to strengthen this even further.

Training and continuing education
Stadler invests large amounts in the training of highly specialised professionals. It therefore has a great interest in retaining employees for as long as possible and in offering them numerous prospects for their professional advancement within the company. This means that talented individuals are not only able to aim for a career in project management or an executive role, but can also pursue a career as a specialist.

An annual qualification interview is held between each employee and their direct manager to evaluate the employee's development and discuss individual measures such as training opportunities. Stadler contributes to the personal development of its employees worldwide, be it financially or by offering flexible working time arrangements. All employees have access to a wide range of internal and external training courses on specialist topics such as railway technology or "soft skills" such as negotiation tactics.

Each local HR department also has an internal personnel development plan and is responsible for finding succession solutions for key positions. Future management talent is recognised at an early stage. These employees benefit from individual development plans to make sure that they will be ready to fill key executive positions. Internal and external management training programmes prepare managers for their tasks.

Focus on junior staff
Stadler maintains good contacts with universities in order to attract young, qualified specialists to the company. Above all, however, the focus is on in-house training of junior staff as an effective measure against the shortage of skilled labour. Stadler employed around 320 apprentices in 2023. The apprenticeship programme provides apprentices with comprehensive training in various professions in the mechanical engineering and metalworking industries. At the Valencia site, Stadler has set up a dual training system to train the younger generations as skilled workers within production.

In Switzerland, Stadler makes a contribution to dual vocational training with vocational training teams at each location and runs its own training workshop at the production sites in Bussnang and St. Margrethen. The company trains young men and women to become system and apparatus engineers, automation technicians, automation fitters, industrial painters, commercial clerks, design engineers, logistics specialists, IT specialists and production mechanics.

Stadler also introduced the Swiss vocational training model at its plant in the USA in 2019. This dual training model combines school-based and practical training.
(Employees section divider, page 45)

Systematic interviews on departure
Interviews with employees who are leaving the company are already systematically organised at most locations. In Germany and Switzerland, a questionnaire is also submitted to these employees to collect a wide range of data on their reasons for leaving, as well as their opinion on the workplace culture, contractual conditions, cooperation and other aspects of their job. This data is analysed at least once every six months, presented to the management of the individual locations and used to determine new measures. Stadler considers systematic departure interviews to be an important tool for finding out about employees' needs and for continuously improving working conditions.

Developments and events in the reporting year
Training for specialist and management careers
In the reporting year, twelve two-day leadership training courses were held in the Switzerland Division for a total of 142 participants. The training course was conducted a further five times in the Service and Signalling Divisions. As part of the leadership training programme, all participants took part in a detailed personality analysis. In addition, two further leadership training courses were held in the Service and Signalling Divisions for the first time. (Potential) managers from over 15 countries took part in these courses.

[10] Generalised on the basis of the age structure of Stadler employees in Germany and Switzerland

Implementation of the "Employee rights & social partners" internal specification document

An internal specification document drawn up in the reporting year sets out the minimum standards in force throughout the Group with regard to employee rights and cooperation with social partners. In principle, Stadler acts strictly in accordance with the provisions of national labour law at all its locations and grants the right to freedom of association and collective bargaining throughout the Group. All locations also have a safety management and health management concept. Employees receive adequate induction, training, assessment and appropriate development opportunities.

In addition, the risks of violations or incidents in regulated areas can be categorised by means of Stadler's risk management system. Once risks have been identified, measures are decided on before being implemented and monitored either by local managers or by a central unit. This process was initially put into practice with selected HR departments. Group implementation is planned for 2024.

Performance indicators

Employees according to employment contract	Unit	2023
Number of employees	FTE	13,944
Full-time employees	Quantity	13,736
Part-time employees	Quantity	913
Apprentices	Quantity	316

Staff turnover and newly hired employees	Unit	2022	2023	Δ %
Number of departures [1]	FTE	1,632	1,397	(14%)
Staff turnover [1]	%	12.1%	10.0%	(17%)
Total number of new hires	FTE	–	2,751	
Rate of newly hired employees	%	–	19.7%	

[1] Not included: Retirements, cases of illness, deaths, maternity, temporary employment, apprenticeship completions and apprenticeship terminations

Training and further education	Unit	2022	2023	Δ %
Investment rate in education and training: Men	CHF / FTE	–	427	
Investment rate in education and training: Women	CHF / FTE	–	501	
Investment rate in education and training	CHF / FTE	394	450	14%

Occupational health and safety

Protecting employees from occupational accidents and health hazards is a top priority for Stadler. Comprehensive safety management in the workplace depends on favourable framework conditions combined with the active involvement of employees. This makes it possible to tackle the common 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
– Management systems for occupational health and safety
– Protection of employees and greater awareness of dangers
– Optimisation of occupational safety by applying systematic concepts
– Reduction in occupational accidents

In some areas of work at Stadler, risks to employees cannot be completely ruled out. These include activities close to the track, in the track field or on signal boxes, as well as work at height or work involving the use of potentially hazardous chemicals. Consequently, it is vital to exercise caution and to take the necessary safety precautions.

Ensuring occupational health and safety is not only part of Stadler's corporate responsibility, but is also a legal requirement in some countries where Stadler operates production sites. At Stadler Szolnok, Stadler Valencia and the Berlin site, for example, there are statutory occupational safety regulations. Failure to implement these regulations may result in criminal prosecution. Serious accidents can also pose a threat to the company's reputation.

Effective protection of the overall well-being of all employees, on the other hand, boosts the company's economic performance because there are fewer absences and greater staff motivation.

Concepts

Guidelines and management systems

A management system for occupational health and safety is used to support the protection of employees at Stadler. The section on overarching principles and standards contains a table listing all the locations that are certified in accordance with ISO 45001 (Overarching principles and standards, page 10). With the exception of new locations, all locations with more than 50 employees have a management system for occupational health and safety.

All management systems include regular hazard and risk analyses at the workplace and ensure consistent, standardised processes. The divisions set annual occupational safety targets for the individual locations. The targets are monitored at all locations by means of systematic key figures.

Most Stadler locations have a quality, environment, health and safety policy in accordance with the relevant ISO 9001, 14001 and 45001 certifications. This stresses the importance of the health and safety of employees and other persons in the company's sphere of influence, and emphasises that all accidents and near misses must be avoided. 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. Finally, Stadler also ensures the legal conformity of the use of hazardous substances at all times.

Responsibilities

Direct responsibility for occupational safety lies with the managers. According to the delegation of duties, all employees are responsible for always acting in accordance with the applicable guidelines and, depending on their area of activity, for wearing protective equipment in order to ensure their health and safety. There is at least one specialist responsible for occupational health and safety in the Quality, Environment, Health & Safety (QEHS) department at each company location. Specially trained occupational safety specialists act as contact points at the locations and ensure that the safety measures are implemented. Individual locations (e.g. Hungary) also rely on an external consultant for occupational safety.

The local HR departments are responsible for the promotion of health within the company.

Measures

Due to the high relevance of the topic, the reduction of occupational accidents is one of the annual targets for all locations. In order to achieve these targets, Stadler takes a number of measures to continuously optimise health and safety in the workplace at all production locations. The most important measures include:

– *Optimum equipment:* employees are given safety-tested tools and personal protective equipment [11]. Personal protective equipment consists of safety goggles, hearing protection, safety shoes and gloves.
Equipment is regularly inspected to improve its protective function and wearing comfort.
– *Employee participation and information:* Stadler encourages its employees to play an active role in the ongoing optimisation of processes and improvement of occupational safety in order to maximise the effectiveness of occupational health and safety. Employees can report any hazards they identify to the occupational safety specialists or their line manager at any time. This information helps Stadler to respond quickly to dangers and to initiate the necessary measures to minimise risks. Employee concerns are regularly discussed in the designated committees. Stadler publishes statistics on occupational safety for internal and external stakeholder groups and provides ongoing information on safety issues via campaigns, instructions, training and the intranet.
– *Training courses:* all employees are given an introduction to occupational safety on their first day at work [12]. Regular workshops to raise awareness of the safety culture are held for all departments and teams. Safety training for supervisors covers topics such as responsibility, legal framework conditions and risk analyses.
– *Occupational health services and promotion of health:* individual locations offer various services such as health checks by company doctors, eye or hearing examinations, vaccinations or courses on mental health. Almost all locations have a wide range of sports on offer. In addition to internal company sports facilities, many locations contribute to employees' fitness subscriptions.
– *Occupational safety along the value chain:* the same safety regulations apply to service providers, trainees and temporary or fixed-term employees as to Stadler employees. Visitors to Stadler's operating sites are informed about the applicable safety requirements.
- *Exoskeleton tests to slow down fatigue:*
Stadler is trialling the use of an exoskeleton in Germany and Switzerland to assist employees when carrying out overhead work. This is intended to slow down muscle fatigue, which is a frequent cause of accidents.

Performance indicators

Occupational health and safety[1]	Unit	2022	2023	Δ %
Number of safety officers per thousand employees	Safety officers / 1000 FTE	–	5.7	
Number of preventive risk analyses	Quantity	–	1,092	
Training hours in the area of occupational safety [2]	Hours / FTE	–	3.3	
Number of work-related accidents	Quantity	–	893	
Number of work-related accidents with days lost (LTI)	Quantity	424	418	(1%)
Accident rate (LTIR)	LTI/(Mio. working hours)	19.2	18.2	(5%)
Days lost due to work-related accidents	Days	–	6,899	
Number of work-related fatalities	Quantity	–	–	
Number of work-related illnesses	Quantity	–	11	
Total number of sick days [3]	Quantity	–	158,683	
Days lost per FTE due to illness or work-related accidents	Days lost / FTE	–	11.9	

[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 disclose the accident and illness figures for contractors due to limited data availability.

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

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

[11] Employees in purely office-based positions are often excluded

[12] See above

Diversity and equal opportunities

Stadler is committed to a corporate culture in which diversity is valued and perceived as enriching. The aim is to offer all employees equal opportunities, regardless of gender, age, nationality, sexual orientation, educational background or religion. Stadler employs people of over 75 nationalities and offers jobs for people with a wide variety of educational backgrounds and CVs.

Goals and ambitions
- Increase the proportion of women by developing a global concept for the advancement of women
- Achieve a 3 percent increase in the proportion of women in the Service Division by 2024

Significant impacts, opportunities and risks
- A wide range of professions for people with different backgrounds
- Predominantly men in technical professions
- Diverse workforce for broader perspectives

Main fields of action
- Clear commitment to diversity and equal opportunities
- Initiatives to target women in the labour market
- Promotion of internal women's networks
- Development of family friendly working models

Stadler considers diversity in the workforce to be enriching for the company, as it opens up broader perspectives and allows greater innovation and competitiveness. In addition to the shortage of skilled labour, the lack of attractiveness of the rail industry[13] and technical professions, especially to women, makes it particularly difficult to ensure a good gender mix. Stadler is therefore actively committed to equal opportunities and equal pay, and promotes diversity at all hierarchical levels and in all job profiles. The company is aware that there is a need to catch up in this area, particularly with regard to diversity on the Group Executive Board. The Group Executive Board currently consists of ten men, and the Board of Directors of six men and two women.

Concepts and measures

Guidelines and voluntary commitments

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 (Compliance, ethics and integrity, page 55).

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.

Responsibilities

Recruitment and development of employees is the responsibility of the line managers. Managers and HR managers undergo regular training to raise awareness of the opportunities offered by a diverse workforce and the risks of breaching equal opportunities requirements. To date, equal opportunities officers have only been appointed in the countries with corresponding legal requirements (Germany).

Equal pay

The most important means of ensuring equal pay is via collective agreements in individual countries. In these collective agreements, salaries are determined according to the tasks assigned to each employee. Fair wages are ensured by collective agreements on employee remuneration. Stadler has also conducted a study at its Swiss locations to review equal pay. This study was carried out by Landolt & Mächler Consultants AG in 2021 and confirmed that Stadler enforces equal pay. The study will be conducted again in 2025.

[13] In relation to the technology sector, but also to areas such as the automotive, health tech and aviation industries

Flexible working conditions
Stadler has identified a need for better access to skilled workers on the labour market. Stadler promotes a good work-life balance among employees by offering part-time work, even for managers. Employees are free to work from home in some cases, depending on the type of work they carry out. This flexibility enables Stadler employees to pursue their careers in a wide variety of circumstances. Further information on ensuring fair working conditions can be found in the Employee recruitment, development and retention (page 38) section.

Targeted measures on the labour market
Stadler is endeavouring to attract a significantly higher proportion of women to its technical apprenticeships. In Germany, Stadler supports various projects such as “Women in Mobility” and “Girlsatec”, which aim to get women interested in technical professions and careers in the rail industry. The formats offered in Switzerland to support career choices – such as the Future Day – are specifically aimed at young women and young people from different backgrounds. In addition, an internal women’s network has been in place at Stadler’s Swiss locations since 2022. It organised two events in the course of the reporting year.

Performance indicators

Diversity and equal opportunities	Unit	2023
Number of employees Male	Quantity	12,587
Number of employees Female	Quantity	2,062
Total proportion of Women	%	14.1%

Training for the mobility of tomorrow

Stadler opened its new LAB training centre in Bussnang in August 2023. The centre was created as a measure to combat the shortage of skilled workers and marks an important step in the training of the next generation of skilled workers in Eastern Switzerland.

The shortage of skilled labour is a major challenge that Stadler has been facing for some time now. In order to tackle the problem at its proverbial roots, in 2023 Stadler hired additional employees in St. Margrethen, Bussnang and Salt Lake City to train apprentices. It also launched the LAB, a state-of-the-art training centre at the Stadler headquarters in Bussnang. The letters LAB stand for "learner", "training" and "laboratory" in German.

Interest from politics and business

The LAB was opened in the reporting year in the presence of representatives from politics and business. It shows that Stadler is investing in attractive framework conditions to train skilled workers in Eastern Switzerland in its capacity as one of the largest employers in the region.
"The opening of the LAB underlines Stadler's commitment to training the next generation and to promoting future specialists within the company. It gives apprentices a unique opportunity to look beyond the boundaries of their profession and to tackle joint projects. This form of cooperation reflects Stadler's values and prepares the apprentices for a versatile and productive professional future," said the head of the Stadler plant in Bussnang at the opening ceremony.

Significant increase in the number of apprentices

The new LAB training centre enabled Stadler to further increase the number of apprentices from around 80 to 150. In the summer of 2023, 41 new apprentices started their vocational training – a new record for Stadler. Apprentices spend a year benefiting from intensive training in the specialised areas of automation, design and mechanics to prepare them for their subsequent assignment in production. The training centre not only offers specialist training, but also strengthens interdisciplinary cooperation between different fields of apprenticeship. One of the greatest advantages of the LAB lies in the cooperation between the various apprenticeship areas. Proximity between the design and production departments is deliberately encouraged in order to achieve a deeper understanding of cooperation and interrelationships.

Retention rate of around 85 percent

In Bussnang, Stadler offers a total of ten apprenticeships leading to a Federal Certificate of Competence (EFZ): system and apparatus engineers, automation technicians, automation fitters, ICT specialists, IT specialists, commercial clerks, design engineers, logistics specialists, polymechanics and production mechanics. The combination of basic training and practical experience in various departments opens up a wide range of development opportunities for apprentices. After completing their training, apprentices at Stadler have a huge variety of prospects. In recent years, the retention rate has always been around 85 percent. In addition to further employment opportunities within the company, apprentices have the option of working at other Stadler locations in Germany and abroad. Stadler also offers ETH students places for their compulsory workshop internships.

Social issues

Human rights

For Stadler, upholding human rights means ensuring the safety of vehicles and applying fair working conditions in its own factories and throughout the supply chain. Internationally recognised standards and principles of action such as the OECD Guidelines for Multinational Enterprises, the UN Guiding Principles on Business and Human Rights, the UN Conventions on the Rights of the Child, the ILO Conventions and the UK Modern Slavery Act form a framework for guidance.

Goals and ambitions
- Conduct in-depth risk analyses on human rights risks in the supply chain
- Implement measures to ensure human rights in the supply chain
- Offer human rights training for the HR and purchasing departments
- Ensure the seamless implementation of measures in the event of confirmed human rights violations

Significant impacts, opportunities and risks
- Health, safety and fair treatment of Stadler employees and the people involved in the supply chain
- Safety of train passengers

Main fields of action
- Commitment to the OECD Guidelines for Multinational Enterprises, the UN Guiding Principles on Business and Human Rights, the UN Conventions on the Rights of the Child, the ILO Conventions and the UK Modern Slavery Act
- Internal specification documents: “Human rights”, “Labour rights and social partners” and “Supplier evaluation and supply chain”
- Fair and safe working conditions for Stadler employees
- Supplier commitment to respect human rights, in particular the prevention of child labour

Stadler’s business model affects the human rights of employees and passengers who use the products manufactured by Stadler. Information on the safety rights of train passengers can be found in the Product and customer safety (page 49) section.

Furthermore, Stadler ensures human rights in its own operations and in its supply chain. According to the UNICEF country classification, the risks outside the company itself, i.e. in the supply chain, are more significant than those within the company.

The main risks of human rights violations in Stadler’s supply chain are child and forced labour. The company itself, the legislator and the key stakeholder groups are committed to ensuring that these risks are identified and avoided and, if they nonetheless occur, that they are remedied by the implementation of appropriate measures. To date, there are no known cases of human rights violations at Stadler.

Concepts and measures

Specifications and guidelines

Stadler is guided by globally recognised provisions and standards for the protection of human and labour rights. More specifically, it observes the OECD Guidelines for Multinational Enterprises, the UN Guiding Principles on Business and Human Rights, the UN Convention on the Rights of the Child and the ILO Conventions. Stadler has also signed the “UK Modern Slavery Act” and is committed to complying with the associated requirements.

In accordance with the UN Guiding Principles on Business and Human Rights, Stadler observes the principles of the “Protect, Respect, Remedy” framework. This involves:
- the prohibition of all forms of (modern) slavery and human trafficking
- the prohibition of child labour
- compliance with occupational health and safety regulations
- compliance with fair labour conditions
- respect for the freedom of assembly of employees
- mutual respect, regardless of age, physical or mental impairment, religion, origin, gender or sexual orientation.

The UN Guiding Principles are anchored in the company’s strategy and processes, and are set out and explained in the internal specification documents on “Human rights”, “Labour rights and social partners” and “Supplier evaluation and supply chain”, as well as in the Code of Conduct.

All employees are required to sign the Group-wide Code of Conduct (Compliance, ethics & integrity, page 55). Employees undertake to uphold human rights in their words and actions in accordance with the principles on “Integrity and legality”, “Ethical behaviour” and “Responsibility”.

Several points of contact are available to employees: in accordance with the Code of Conduct, suspected human rights violations can be reported to line managers, the management of the relevant location or the Chief Compliance Officer. The compliance helpline enables employees and external stakeholders to report identified or suspected violations of laws or internal guidelines. Further information on the compliance helpline can be found in the Compliance, ethics and integrity (page 55) section.

The "Code of Conduct for Business Partners" enables Stadler and its suppliers, subcontractors and partners to respond to the different framework conditions in the global market.

If Stadler becomes aware that a violation of human rights obligations has been committed within the company or by a supplier or is imminent, it intervenes to address or prevent the violation, put an end to it, or minimise its consequences and extent by taking remedial action.

Responsibilities
Upholding human rights by means of fair working conditions and the exclusion of child and forced labour primarily affects Stadler's internal human resources management process and external procurement and supplier management.

In 2023, Stadler created the position of a Group-wide Human Rights Officer, which reports to the General Counsel Legal and Compliance functions.

If there are any suspected cases of human rights violations or related concerns, they are dealt with by the Human Rights Officer.

Stadler's purchasing processes were adapted in 2023 to ensure respect for human rights in the supply chain (Supply chain and raw material availability, page 52). Responsibility for these processes lies with the team responsible for coordinating procurement throughout the Group and with the local purchasing organisations. Stadler now intends to continuously expand its expertise in the area of supply chain sustainability.

Measures
Internal specification document on human rights
An internal specification document on human rights summarises Stadler's position on human rights for its own employees. The document lists the UN Guiding Principles and the processes in which particular care must be taken to protect human rights, i. e. HR and purchasing processes. It is intended to serve as a guide for employees. It references the most important measures for protecting human rights: the risk assessment of suppliers, the Codes of Conduct, the reporting process and channels, and the potential remediation process.

Code of Conduct for Business Partners
Stadler signs the Code of Conduct for Business Partners with its suppliers. This document is based on the OECD Guidelines, the ILO Conventions, the ICESCR Pact, and laws and guidelines specific to individual countries. It therefore reflects Stadler's values, "integrity and legality", "ethical behaviour" and "responsibility". By signing the Code of Conduct for Business Partners, suppliers undertake to respect applicable laws and regulations on working conditions, employee rights, the prohibition of child and forced labour, equal opportunities, anti-discrimination and environmental aspects, and to enforce compliance with these laws and regulations by their business partners. Further information can be found in the Supply chain management and raw material availability (page 52) section.

Employee training
The Human Rights Officer works with the relevant functions in the purchasing organisation to provide information on the protection of human rights throughout the company for training purposes. Employees with a special role in the protection of human rights will be trained directly by the Human Rights Officer from 2024.

Progress in the reporting year
Supply chain transparency
In the reporting year, Stadler adapted the supplier process in accordance with the legal requirements of the German Supply Chain Due Diligence Act (LkSG) and the Ordinance on Due Diligence and Transparency in relation to Minerals and Metals from Conflict-Affected Areas and Child Labour (DDTrO). The human rights risks of Stadler operations and some suppliers' operations were assessed for the first time. At the same time, measures were adopted that will be rolled out in 2024 in combination with in-depth risk analyses. Further information can be found in the Supply chain management and raw material availability (page 52) section.

Analysis of human rights risks at Stadler's own locations
In 2023, Stadler began systematically assessing human rights risks in its own company and in the supply chain. Internally, human rights risks (in particular child labour) are monitored using common databases such as Children's Rights (Unicef), Freedom in the World (Freedom House), Global Slavery (Walk-Free) and Rule of Law (World Justice Project). The analysis of the country risk for Stadler locations carried out in the reporting year revealed that there are greater human rights risks in two countries with Stadler locations. In each of these cases, the management of the location was informed of the human rights risks, and written confirmation was obtained from the management that the ban on child labour was respected. This confirmation revealed that there were no reasonable grounds for suspecting child labour in the 2023 reporting year. The Board of Directors confirms that it has taken note of this review.

Minerals and metals from conflict areas and child labour
All locations with purchasing activities that could potentially be affected by the import and processing of conflict minerals and metals were given comprehensive information on the topic in the reporting year. Each Stadler location uses data collection forms to determine whether and how the quantity of imported minerals and metals exceeds the legally defined limits, whenever possible on the basis of the customs tariff numbers in accordance with the DDTrO or EU Regulation 2017/821. These location declarations are

consolidated by the global sustainability team to create a Group statement on the import and processing of conflict minerals and metals. The results of the due diligence assessments with regard to conflict minerals are submitted to the Board of Directors for review. The assessments carried out in 2023 showed that Stadler does not import any conflict minerals specified in the Swiss DDTrO or EU Regulation 2017/821. 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. In 2023, Stadler is therefore exempt from the reporting obligation in Switzerland under the DDTrO.

Stadler uses the Code of Conduct for Business Partners to safeguard against possible cases of child labour in the supply chain. The company has also carried out a risk analysis of suppliers (Supply chain management and raw material availability, page 52). In the future, audits will also be performed at suppliers' premises where appropriate. Furthermore, Stadler reserves the right to terminate business relationships if the use of child labour is identified. The analysis carried out in the reporting year showed that only 1 percent of suppliers are high-risk suppliers. Stadler is exempt from the child labour reporting obligation for the 2023 financial year because no products or services were procured that are reasonably suspected of having been produced using child labour. The relevant checks are documented in accordance with the requirements of the DDTrO.

Performance indicators

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

Product and customer safety

Product and customer safety is a top priority at Stadler and applies to all products throughout their entire life cycle. At Stadler, product and customer safety means passenger safety, and encompasses areas ranging from rail vehicles, services and signalling solutions to the associated passenger safety standards. 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
- Define targets for product and customer safety by the end of 2024
- Ensure continuous further development of automatic train protection and driver assistance systems to increase the safety of rail transport

Significant impacts, opportunities and risks
- Personal safety
- Danger of accidents

Main fields of action
- Strict consideration of safety requirements in accordance with customer demands, legal provisions and standards
- Continuous improvement of internal management systems to ensure quality and safety
- Rapid response to unsafe events and conditions, and prompt rectification of any errors that occur
- Development of 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 quality specifications, and all products are tested before being put into operation.

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.

Concepts and measures

Guidelines

Safety in the rail industry is strictly regulated by laws, standards and specifications which Stadler observes in all its processes. As far as development and production are concerned, these include the CENELEC international standard, comprehensive customer design specifications and other requirements (e.g. fire protection).

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

Stadler products all undergo country-specific approval processes. 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 for to evaluate and assess risks and to ensure the safe design of vehicles and signalling systems. Stadler also takes into account other overarching standards for the construction of safe rail vehicles, including:

- Safety management processes in accordance with official standards for the specification and demonstration of reliability, availability, maintainability and safety (RAMS)
- Commission Implementing Regulation (EU) 2019/77, applicable in all EU countries and in Switzerland
- EN 50129: 2018 Railway applications – Communication, signalling and processing systems – Safety-related electronic systems for signalling

Internal specifications and 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. Further information can be found in the Certification matrix, page 11.

The safety of products, and therefore of passengers, is determined by numerous processes along the entire product life cycle. Engineering processes, procurement processes, production processes, commissioning processes, approval processes and maintenance processes are particularly relevant to safety. The intervention process if irregularities are found in vehicles and systems is also a major factor. It includes Stadler's response following the detection of security-relevant events, as well as communication with customers to analyse and rectify errors.

As part of its approval and commissioning processes, Stadler provides all the necessary safety certificates in accordance with the order specifications. These documents are assessed by external bodies during the approval process. The company attaches great importance to the careful execution of all process steps and the fulfilment of safety requirements (e.g. CENELEC for safety systems). These processes are integrated into 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.

The company makes sure that no products are used that are harmful to health. Compliance with the international REACH chemicals regulation is a key part of this. Certified components and systems are also a priority.

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. This system is certified in accordance with ISO 9001 or IRIS (Certification matrix, page 11). 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.

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.

Responsibilities
In line with Stadler's organisational structure, each plant 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 has a dedicated function that carries out corresponding development activities 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).

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) and the European Railway Agency (ERA)).

Measures 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 & collision warning systems
Signalling solutions (trackside and on-board automatic train protection) make a significant contribution to safe rail traffic 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 automated train protection, 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.

Performance indicators

In 2023, there were no serious accidents due to technical failures involving Stadler vehicles during regular operation.

Corporate governance

Supply chain management and raw material availability

The procurement of components and systems, based on the company's business model as an integrator of systems for finished rail vehicles and solutions, is central to Stadler's business success. This makes suppliers and business partners one of the company's most important stakeholder groups. Consequently, Stadler attaches great importance to sustainable procurement and efficient supply chain management. Stadler places the same high demands on suppliers and business partners as it does on itself in order to deliver reliable, high-quality, 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
- Perform an in-depth sustainability analysis for 100 percent of high-risk suppliers
- Implement systematic, standardised specifications for integrating sustainability aspects into supply chain management for the entire Group
- Push forward digitalisation, the harmonisation of purchasing systems and the standardisation of material classifications

Significant impacts, opportunities and risks
- Availability of components, systems and semi-finished products

Main fields of action
- Long-term supplier relationships
- Development of systematic supply chain verifications with regard to sustainability criteria (particularly respect for human rights and the avoidance of environmental risks)
- Local procurement
- Digitalisation initiative for supplier management

In all of Stadler's business areas, reliable suppliers who are known for their availability, quality and innovative strength are important for maintaining quality and reliability for customers. The biggest risks are supply bottlenecks, a lack of competition and poor quality. The main external factors that can influence Stadler's supply chain management are geopolitical tensions and the availability of materials due to raw material shortages. Increasing regulatory requirements with regard to sustainability also pose new challenges.

Stadler ensures the stability of its supply chains by establishing close, long-term relationships with suppliers. Furthermore, Stadler attaches great importance to local procurement wherever possible. This ensures proximity to suppliers and fulfils legal requirements regarding the local value-added share where necessary.

In 2023, Stadler addressed the issue of sustainability in the supply chain in great depth in order to integrate relevant aspects even more closely into its supply chain management. A global supplier management specification document (supply chain policy) was drawn up to further systematise sustainable procurement at Stadler and to ensure better control of social, ethical and environmental risks.

Concepts and measures

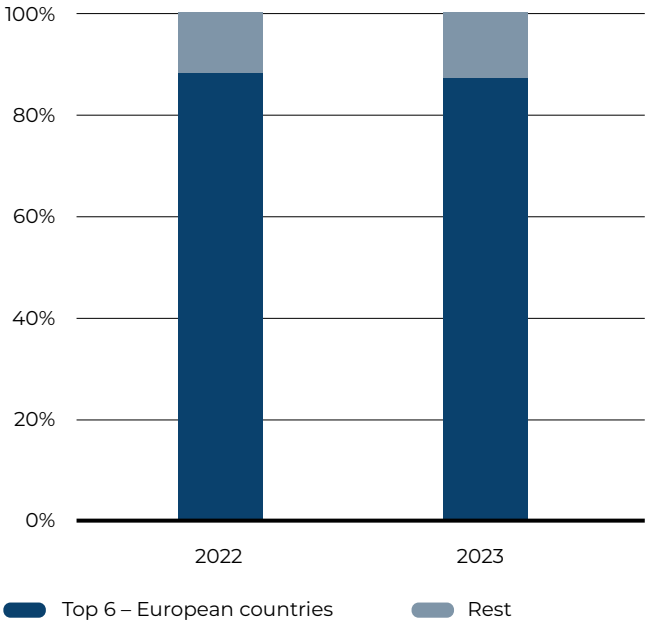
Responsibilities with a strong local focus

Supply chain management is organised on a decentralised basis at Stadler. This is driven partly by organisational factors and partly by strategic concerns. Order processing at Stadler often takes place locally in the country where the order is received, and is designed to be as autonomous as possible. Consequently, responsibility for procurement in relation to orders lies with the plant executing the order.

This decentralised organisation means that the emphasis is placed on long-term supplier relationships with a strong local focus, making it easier to identify potential risks among business partners and to respond accordingly. This approach is also adopted because it allows local supplier relationships to be carefully maintained, and because physical proximity promotes cooperation and quality control.

This strategy also benefits the local economy. Over 85 percent of Stadler's procurement volume is generated with contractual partners from European countries.

Local Sourcing



Stadler also has a central coordination team that implements strategic initiatives and creates and implements Group-wide standards, such as the revision of supplier evaluations according to sustainability criteria (ESG criteria). In addition, the team coordinates local procurement data from all the different systems and ensures systematic monitoring at Group level. Global standards and policies are implemented locally by each individual Stadler location.

Code of Conduct for Business Partners
The Code of Conduct for Business Partners helps Stadler and its suppliers, subcontractors, partners, etc. (hereinafter referred to as "business partners") to respond to the different framework conditions in the global market and to meet the challenges associated with the company's social responsibility. The Code of Conduct for Business Partners is based on the principles of international standards such as the OECD Guidelines, the ILO Conventions, the ICESCR Pact and laws and guidelines specific to individual countries. It reflects Stadler's fundamental values:
– Integrity and legality
– Ethical behaviour
– Responsibility.

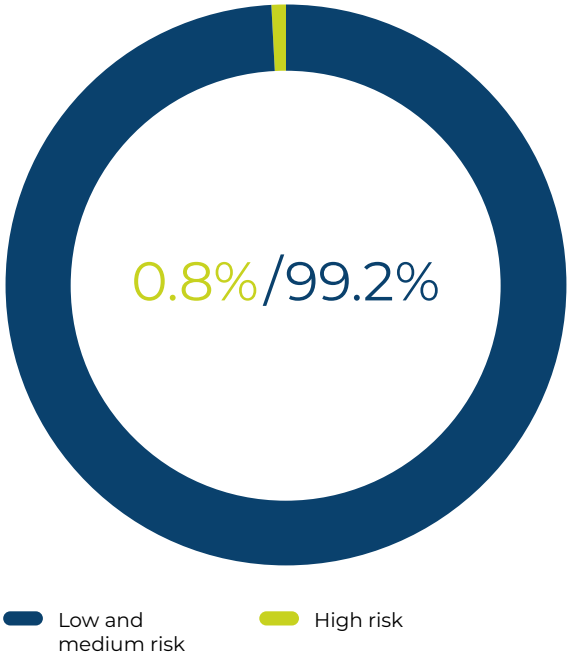
By signing the Code of Conduct for Business Partners, suppliers are obliged to comply with the applicable laws and regulations, as well as the corresponding standards in connection with social aspects such as employment conditions, employee rights, prohibition of child and forced labour, equal opportunities, anti-discrimination or environmental aspects, and to enforce compliance with these standards among their business partners. Signing the Stadler Code of Conduct for Business Partners or an equivalent or stricter code of conduct is a prerequisite for entering into a business relationship with Stadler.

Supplier evaluation specification document
An internal specification document on global supplier management (supply chain policy) was drawn up in 2023. This document stipulates which agreements, data and information must be available from suppliers before a business relationship can be entered into. It also sets out the conditions for the ESG risk analysis and defines when and how in-depth supplier analyses (ESG assessment questionnaires, action plans, audits, etc.) should be carried out for supplier management purposes. In addition, it defines the criteria for suspending a supplier relationship if, for example, the supplier fails to satisfy ethical requirements that are important for Stadler.

Supplier risk analysis
The ESG risk analysis enables sustainability risks to be assessed on the basis of a standardised global process and tool. An ESG risk analysis tool is used to systematically review suppliers in relation to environmental, social and ethical risks. This first analysis was carried out in 2023.

As part of a risk-based approach, more than 2,600 relevant suppliers were initially reviewed using the ESG risk analysis process. The process involves analysing country-specific and product-specific risks. By using standard databases, national risks in relation to human rights (e.g. Children's Right in the Workplace, Freedom in the World, Global Slavery Index, etc.), human rights risks in the industry (e.g. study on human rights risks by the German Federal Ministry of Labour and Social Affairs) and environmental country risks (e.g. Environmental Performance Index) are examined. A total score is calculated on the basis of the risk assessments from individual databases. The result gives the supplier's overall risk classification. Stadler identified a high risk for 0.8 percent of the relevant supplier base in 2023. The next step involves conducting a
detailed analysis of all suppliers identified as high-risk using the ESG assessment questionnaire and, if necessary, drawing up action plans with the suppliers. An in-depth internal review is also carried out for suppliers in the medium risk category in order to minimise further potential risks.

Result ESG Risk Analysis 2023



Dialogue with stakeholder groups
Regular communication and the direct exchange of information with suppliers is an important part of Stadler's supply chain management. Stadler already engages in intensive regular dialogue with suppliers as part of its quality and process audits, supplier review meetings and initial sample inspections. This dialogue will be intensified in order to further develop innovative products in association with suppliers and to help suppliers to meet their commitment to sustainability.

Improving the way in which information is passed on to Stadler's stakeholders is another key part of the sustainability strategy and digitalisation. Training documents on the subject of sustainability will be made available to suppliers in the future to familiarise them with Stadler's requirements. The aim is to make sure that all business partners are aware of the company's values and expectations and that they share them in the long term. Suppliers already have the opportunity to report identified or suspected potential breaches of the law via a reporting centre.

Digitalisation initiative in supplier management
As part of Stadler's digitalisation strategy, the supply chain organisation is designing and implementing a digital supplier platform. As well as making processes more efficient in the future, this initiative will enable ongoing improvement of the newly introduced additional ESG requirements (e.g. data collection, ESG risk analyses, ESG assessment questionnaires and action plans). The supplier platform also increases data quality and will enhance transparency in the supply chain, which will help to improve risk identification.

Performance indicators

Between 85 and 90 percent of Stadler's procurement volume is purchased from contractual partners in European countries. The majority of the order backlog is also processed in these countries.

Compliance, ethics and integrity

In all its business activities, Stadler operates unconditionally 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
– Zero confirmed cases of corruption throughout the Group
– 100 percent of the relevant employees have signed the Code of Conduct

Significant impacts, opportunities and risks
– Fair market conditions

Main fields of action
– Comprehensive compliance programme
– Code of Conduct with three core principles: integrity and legality, ethical behaviour and responsibility
– Implementation of 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 its 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.

Concepts and measures

Implementation of the OECD Guidelines for Multinational Enterprises

Stadler is committed to the OECD Guidelines for Multinational Enterprises on Responsible Business Conduct. In the reporting year, Stadler drew up five 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. These specification documents outline information such as:
– Existing departmental directives, specifications and processes
– 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 ensure that the Stadler's business practices and service providers always comply with the applicable laws and internal directives.

Stadler's compliance programme comprises the following elements:
– Compliance directive
– Compliance organisation
– Code of Conduct of the Stadler Group
– "Compliance – Agents in the Stadler Rail Group" directive
– Awareness-raising and training
– Compliance helpline
– All related guidelines, sample contracts and checklists.

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.

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.

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 are:

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.

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 treat their counterparts with respect, tolerance and courtesy. Discrimination and all other forms of dismissive behaviour will not be tolerated.

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 sections on Human rights (page 46) and Supply chain management and raw material availability (page 52).

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.

Anti-corruption

To combat bribery and corruption, Stadler is bound by the applicable local laws and is guided by the relevant international standards, such as the OECD Guidelines for Multinational Enterprises on Responsible Business Conduct. 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.

Responsibilities

The compliance organisation at Stadler consists of the Chief Compliance Officer (CCO), the Local Compliance Officers (LCOs) in the individual divisions and the overarching 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 the relevant division. Among other things, the LCO's are 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.

Performance indicators

Compliance, ethics and integrity	Unit	✔ 2023
Total number of confirmed incidents of non-compliance with anti-corruption and anti-trust laws by employees and agents	Quantity	0
Percentage of members of the governing body who have been made aware of and trained in anti-corruption policies and procedures	%	100
Total number of operating sites[1] that are checked for corruption risks	Quantity	42
Percentage of relevant employees with external contact who have been trained on anti-corruption policies and procedures[2]	%	91
Percentage of employees that the organisation's anti-corruption policies and procedures have been communicated to[3]	%	97
Total number of confirmed incidents of employees dismissed or cautioned for corruption	Quantity	0
Total number of confirmed incidents of suspension or termination of contracts with business partners due to anti-corruption violations	Quantity	0
Total number of public law proceedings initiated against Stadler or its employees in the areas of corruption and competition law	Quantity	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. More detailed information cannot yet be provided due to data availability

[3] Percentage determined on the basis of a sample test from June 2023 for signed and correctly stored Code of Conduct. Relevant employees: see footnote 2. More detailed information cannot yet be provided due to data availability. The disclosure in relation to business partners (GRI 205 – 2c) is not yet reported due to data availability

Data protection

Stadler attaches great importance to handling personal data 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 New Federal Act on Data Protection (nFADP) 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 of confidential information about customers, business partners and employees

Main fields of action
– Data protection directive that is mandatory throughout the Group
– Compliance with legal requirements
– Awareness-raising of employees

Stadler processes the personal data of customers, business partners and, to a particularly large 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, it can have 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 New Federal Act on Data Protection (nFADP) 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.

Concepts and measures
Specifications and guidelines
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 New Federal Act on Data Protection (nFADP) and the European Union's General Data Protection Regulation (GDPR). Among other things, the data protection directive defines the data protection organisation, 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.

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.

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. In addition, the plants in Bussnang, St. Margrethen, Prague and Liverpool have individual certification, as does Signalling Switzerland (Certification matrix, page 11). 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.

Responsibilities
Stadler's data protection organisation consists of the Group Data Protection Officer (Group DPO) and the Local Data Protection Officers (Local DPO) 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. Among other things, the Group DPO is responsible for the implementation and further development of the data protection programme throughout the Group, for the development of organisational and technical tools, and for the planning and implementation of data protection training courses.

Each division appoints a Local DPO responsible for it. The responsibilities of the Local DPOs include implementing the data protection programme and taking additional measures to ensure compliance with local laws. If necessary, the Local DPOs may also call in external lawyers.

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.

Events and progress in the reporting year
Data protection directive and deletion concept
The data protection directive that came into force in 2021 already took into account the New Federal Act on Data Protection and was expanded again in 2023 to include the new deletion concept.

Continuous further development and updates
Registers of processing activities were maintained, 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
Total number of confirmed serious personal data breaches	Quantity	0

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	Energy and greenhouse gas emissions
	Circular economy
	VOC emissions
Social issues	Product and customer safety
	Data protection
	Human rights
Employee-related issues	Employee recruitment, development and retention
	Occupational health and safety
	Diversity and equal opportunities
Respect for human rights	Human rights
Combating corruption	Compliance, ethics and integrity

Stadler's business model (requirement pursuant to Art. 964b, para. 2, item 1) is covered in the section Company profile (page 7).

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 subject to approval by the General Meeting of Shareholders.

For the Board of Directors:

Peter Spuhler
Executive Chairman of the Board of Directors

Bussnang, 3 April 2024

Appendix

Method description

The “operational control” consolidation approach was adopted for greenhouse gas accounting, i.e. the activities taken into account are those that Stadler controls directly. Consumption data (i.e. activity data) for the Scope 1 categories “Fossil fuels to power heat sources”, “Fossil fuels for service and logistics vehicles”, “Refrigerants”, “Industrial processes” and “Fire extinguishers” was consulted. To determine Scope 1 emissions, the activity data was multiplied by the emission factors from the DEFRA database (for fossil fuels) and by the global warming potential of greenhouse gases from the IPCC Fifth Assessment Report (AR 5) (for fugitive emissions from refrigerants and fire extinguishers). Scope 2 emissions were analysed in the categories “electricity procurement”, “district heating procurement” and “purchase of heating, cooling and compressed air” and reported using the dual reporting method, i.e. the activity data was multiplied by both the location-based and the supplier-based emission factors and reported as two different Scope 2 totals. The location-based emission factors were taken from the Ecoinvent database, When calculating Scope 2 emissions according to supplier-specific information, the composition of energy sources reported by the supplier was used for electricity and district heating, without taking into account any contractual instruments, and the emission factors used are typical energy source emission factors from a study by the life cycle assessment company Treeze. In the future, Scope 2 emissions will be reported in accordance with the market-based method of the GHG protocol.

The recycling rate is the quotient of the amount of material recovery and the total amount of waste. The amount of material recovery is calculated by multiplying the amount of waste per waste category by the corresponding material recycling factor. The material recycling factors are taken from the UNIFE Recycling Calculation template or using average values from the European Union.

If specific emission factors were indicated to Stadler by the energy supplier, or if material recycling factors were provided by the waste disposal company, these values were taken into account for the calculation instead of the “standard factors” mentioned above.

All locations with at least 50 employees were included when collecting data for the environmental and employee key figures. Any data missing for individual locations was taken into account by extrapolation to the Group, resulting in a coverage rate of 100%. The total values of the reported data were divided by the data collection rate.

Supplementary tables on environmental data

Greenhouse gas emissions	Unit	Fossil CO_2e	Biogenic CO_2e
Scope 1	**t CO_2e**	**16,505**	**184**
Fuels for heating purposes[1]	t CO_2e	13,206	137
Fuels for vehicles[1]	t CO_2e	2,615	47
Refrigerants	t CO_2e	558	0
Industrial processes	t CO_2e	120	0
Fire extinguishers	t CO_2e	5	0
Scope 2 (location-based)	**t CO_2e**	**22,716**	**3,118**
Electricity[2] (location-based)	t CO_2e	18,442	1,351
District heating[2]	t CO_2e	4,274	1,767
Purchase of steam, refrigeration, compressed air	t CO_2e	0	0
Total Scope 1 and 2	**t CO_2e**	**39,220**	**3,303**

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

Assurance Statement SQS

Verified Sustainability Report

Stadler Rail AG

Ernst-Stadler-Strasse 1
9565 Bussnang
SWITZERLAND

An independent and impartial audit has demonstrated that the company has a very good performance in accordance with the GRI standards. The content and principles of the report were externally assured in accordance with the international AA1000 Assurance Standard (AA1000AS v3), the world's leading method for sustainability-related assurance engagements, in accordance with TYPE 2 moderate.

The organization is authorised to bear the following TRUST mark:

Trusted Assurance Statement

Certificate registration no:	**ST-BS-202 TRUST**
Date of certification:	**20 March 2024**
Valid until:	**27 March 2025**

global TRUST by SQS

Dr. Sied Sadek
Managing Director, LCSAP

SQS Deutschland GmbH
Bücklestraße 3
78467 Konstanz
Germany

Konstanz, 20 March 2024

future worth living

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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 selected Sustainability Information of Stadler Rail AG and its subsidiaries (hereinafter «Stadler») in the Sustainability Report 2023 for the period January 1st 2023 – December 31st, 2023.

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

Our assurance engagement does not extend to information in respect of earlier periods or to any other information included in the Sustainability Report 2023 or linked to from the Sustainability Information or from the Sustainability Report 2023, including 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» and «Anti-competitive Behavior». 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.

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» and «Anti-competitive Behavior» is not prepared, in all material respects, in accordance with the GRI (SRS) and the Sustainability Information in the area «Occupational Health & Safety» is not prepared in accordance with the criteria, as disclosed in the sustainability report.

We do not express an assurance conclusion on information in respect of earlier periods or to any other information included in the Sustainability Report, Annual Report or any other Report, including any images, audio files or embedded videos.

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 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 2023.

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

Silvan Jurt

Licensed audit expert

Theresa Tiersch

Zürich, April 3, 2024

GRI Index

Stadler has reported in accordance with the GRI Standards for the period of 1 January 2023 to 31 December 2023. For the Content Index – Essentials Service, GRI Services reviewed that the GRI content index has been presented in a way consistent with the requirements for reporting in accordance with the GRI Standards, and that the information in the index is clearly presented and accessible to the stakeholders. This service was provided for the German version of the report.

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.7 – 9, Annual Report 2023 p.6 – 7	
	2 – 2 Entities included in the organization's sustainability reporting	p.6, Annual Report 2023 p.111 – 112	
	2 – 3 Reporting period, frequency and contact point	p.6	
	2 – 4 Restatements of information	p.6	
	2 – 5 External assurance	p.6, p.64 – 67	
Activities and workers			
GRI 2: General Disclosures 2021	2 – 6 Activities, value chain and other business relationships	p.7 – 9	
	2 – 7 Employees	p.40	
	2 – 8 Workers who are not employees		Information unavailable/ incomplete Standler systematically extends the collection of HR data in the future.

Governance			
GRI 2: General Disclosures 2021	2 – 9 Governance structure and composition	Annual Report 2023 p.50 – 54	
	2 – 10 Nomination and selection of the highest governance body	Annual Report 2023 p.47	
	2 – 11 Chair of the highest governance body	Annual Report 2023 p.51	
	2 – 12 Role of the highest governance body in overseeing the management of impacts	p.12	
	2 – 13 Delegation of responsibility for managing impacts	p.12, Annual Report 2023 p.54	
	2 – 14 Role of the highest governance body in sustainability reporting	p.61	
	2 – 15 Conflicts of interest	p.56	
	2 – 16 Communication of critical concerns	p.56	
	2 – 17 Collective knowledge of the highest governance body	p.12, Annual Report 2023 p.51 – 52	
	2 – 18 Evaluation of the performance of the highest governance body	Annual Report 2023 p.53	
	2 – 19 Remuneration policies	Annual Report 2023 p.64 – 67	
	2 – 20 Process to determine remuneration	Annual Report 2023 p.64 – 67	
	2 – 21 Annual total compensation ration	Annual Report 2023 p.67	
Strategy, policies and practices			
GRI 2: General Disclosures 2021	2 – 22 Statement on sustainable development strategy	p.5	
	2 – 23 Policy commitments	p.10 – 11, p.46 – 48, p.55 – 57	
	2 – 24 Embedding policy commitments	p.46 – 48, p.55 – 57	
	2 – 25 Processes to remediate negative impacts	p.55 – 57	
	2 – 26 Mechanisms for seeking advice and raising concerns	p.56	
	2 – 27 Compliance with laws and regulations	p.57	
	2 – 28 Membership associations	p.16	
Stakeholder engagement			
GRI 2: General Disclosures 2021	2 – 29 Approach to stakeholder engagement	p.16	
	2 – 30 Collective bargaining agreements	p.38	

* Page numbers refer to the Sustainability Report 2023 unless otherwise stated. The Annual Report 2023 can be accessed via this link https://www.stadlerrail.com/media/pdf/stadler_rail_gb_2023_web_en.pdf

Material Topics

GRI Standard/ other source	Disclosure	Reference/ Information*	Omission
GRI 3: Material Topics 2021	3 – 1 Process to determine material topics	p.13	
	3 – 2 List of material topics	p.14	
Economy			
Financial Sustainability			
GRI 3: Material Topics 2021	3 – 3 Management of material topics	p.20 – 21	
GRI 201: Economic Performance 2016	201 – 1 Direct economic value generated and distributed	p.21, Annual Report 2023 p.2 – 3	
Innovation			
GRI 3: Material Topics 2021	3 – 3 Management of material topics	p.22 – 23	
Customer satisfaction and product quality			
GRI 3: Material Topics 2021	3 – 3 Management of material topics	p.24 – 25	
Economy			
Energy and greenhouse gas emissions			
GRI 3: Material Topics 2021	3 – 3 Management of material topics	p.28 – 30	
GRI 302: Energy 2016	302 – 1 Energy consumption within the organization	p.30 – 31	
	302 – 3 Energy intensity	p.31	
GRI 305: Emissions 2016	305 – 1 Direct (Scope 1) GHG emissions	p.30 – 31	
	305 – 2 Energy indirect (Scope 2) GHG emissions	p.30 – 31	
	305 – 4 GHG emissions intensity	p.31	
Circular economy			
GRI 3: Material Topics 2021	3 – 3 Management of material topics	p.32 – 33	
GRI 306: Waste 2020	306 – 1 Waste generation and significant waste-related impacts	p.32 – 33	
	306 – 2 Management of significant waste-related impacts	p.32 – 33	
	306 – 3 Waste generated	p.34	
	306 – 4 Waste diverted from disposal	p.34	
VOC emissions			
GRI 3: Material Topics 2021	3 – 3 Management of material topics	p.35 – 36	
Own Disclsoures	VOC emissions	p.35 – 36	

Employees

Employee recruitment, development and retention			
GRI 3: Material Topics 2021	3 – 3 Management of material topics	p.38 – 39	
GRI 401: Employment 2016	401 – 1 New employee hires and employee turnover	p.40	
GRI 404: Training and Education 2016	404 – 2 Programs for upgrading employee skills and transition assistance programs	p.38 – 39	
Own Disclsoures	Investment in education and training	p.40	
Occupational health and safety			
GRI 3: Material Topics 2021	3 – 3 Management of material topics	p.41	
GRI 403: Occupational Health and Safety 2018	403 – 1 Occupational health and safety management system	p.41	
	403 – 2 Hazard identification, risk assessment, and incident investigation	p.41 – 42	
	403 – 3 Occupational health services	p.42	
	403 – 4 Worker participation, consultation, and communication on occupational health and safety	p.42	
	403 – 5 Worker training on occupational health and safety	p.42	
	403 – 6 Promotion of worker health	p.42	
	403 – 7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	p.42	
	403 – 8 Workers covered by an occupational health and safety management system	p.42	
	403 – 9 Work-related injuries	p.42	
	403 – 10 Work-related ill health	p.42	
Own disclosures	Accident Rate	p.42	
Diversity and equal opportunities			
GRI 3: Material Topics 2021	3 – 3 Management of material topics	p.43	
GRI 405: Diversity and Equal Opportunity 2016	405 – 1 Diversity of governance bodies and employees	p.43 – 44	

Social

Human rights			
GRI 3: Material Topics 2021	3 – 3 Management of material topics	p46 – 47	
GRI 408: Child Labor 2016	408 – 1 Operations and suppliers at significant risk for incidents of child labor	p.47 – 48	
GRI 409: Forced or Compulsory Labor 2016	409 – 1 Operations and suppliers at significant risk for incidents of forced or compulsory labor	p.47 – 48	
Own disclosures	Human rights violations	p.48	
Product Safety and Customer Safety			
GRI 3: Material Topics 2021	3 – 3 Management of material topics	p.49 – 51	
GRI 416: Customer Health and Safety 2016	416 – 1 Assessment of the health and safety impacts of product and service categories	p.49 – 50	
	416 – 2 Incidents of non-compliance concerning the health and safety impacts of products and services	p.51	

Governance

Supply chain management and raw material availability			
GRI 3: Material Topics 2021	3 – 3 Management of material topics	p.52 – 54	
GRI 204: Procurement Practices 2016	204 – 1 Proportion of spending on local suppliers	p.53 – 54	
GRI 308: Supplier Environmental Assessment 2016	308 – 1 New suppliers that were screened using environmental criteria	p.53 – 54	
GRI 414: Supplier Social Assessment 2016	414 – 1 New suppliers that were screened using social criteria	p.53 – 54	
Compliance, ethics and integrity			
GRI 3: Material Topics 2021	3 – 3 Management of material topics	p.55 – 57	
GRI 205: Anti-corruption 2016	205 – 1 Operations assessed for risks related to corruption	p.57	
	205 – 2 Communication and training about anti-corruption policies and procedures	p.56 – 57	
	205 – 3 Confirmed incidents of corruption and actions taken	p.57	
GRI 206: Anti-competitive Behavior 2016	206 – 1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	p.57	
Data protection			
GRI 3: Material Topics 2021	3 – 3 Management of material topics	p.58	
GRI 418: Customer Privacy 2016	418 – 1 Substantiated complaints concerning breaches of customer privacy and losses of customer data	p.59	

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