

HIGH CAPACITY | PRECISION | RELIABILITY

Plasser & Theurer

**2021
Sustainability report**

**From the outset
in the service of
the railway**

A MESSAGE FROM THE OWNER



Dear Readers,

Plasser & Theurer is known around the world for the mechanisation, industrialisation and, more recently, for the digitalisation of track maintenance. High capacity, precision, and reliability are its defining characteristics.

As Plasser & Theurer, we have been living out sustainability from the beginning. We wish to demonstrate our dedication to this important topic and raise awareness about it. We as the family owners wholeheartedly embrace the importance of sustainability. For this reason, our strategies of the future will be in line with sustainability because we are continuing to make a sustainable contribution to the railway system.

Our employees see Plasser & Theurer as an exceptionally caring, attractive employer providing job security, with an owner family that is committed to the family business and its values. The well-being of our employees is important to us, and that is something they should see first-hand.

This report illustrates the company's way of living out sustainability, placing a focus on specific points. These points are designed to bolster development, moving towards a sustainable corporate culture.

I hope you enjoy reading this report.

Yours,
Johannes Max-Theurer

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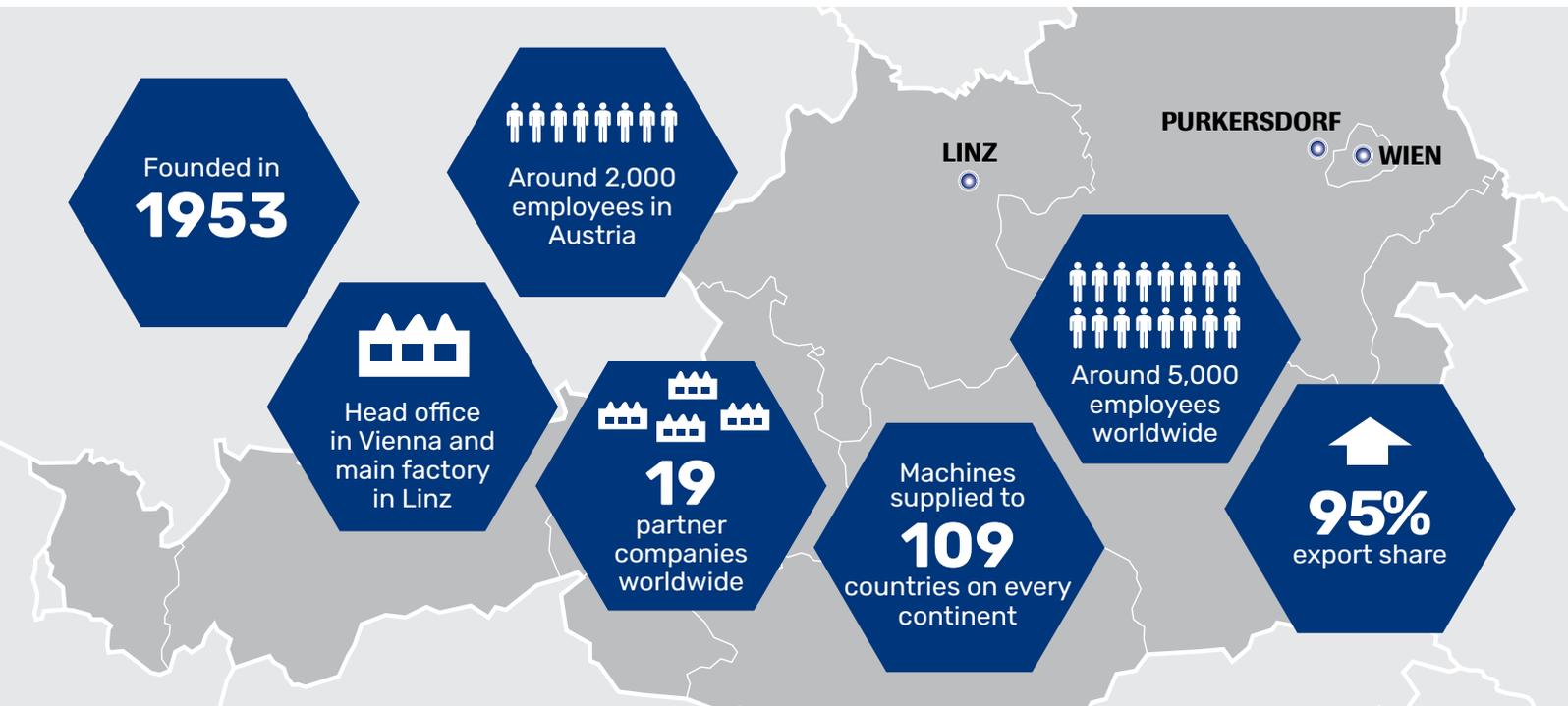


FROM THE OUTSET IN THE SERVICE OF THE RAILWAY

The Austrian family business Plasser & Theurer stands for cost-efficiency and innovation in track construction and maintenance. Since the company was founded in 1953, an ongoing readiness to innovate has led to the development and manufacture of precise, cost-efficient products – always with the aim of ensuring and increasing the cost-efficiency of the railway in the long term. Plasser & Theurer's wide spectrum of technologies, ranging from compact to high-capacity machines, allows it to offer the most cost-efficient solution for a wide variety of tasks while performing high quality work.

ABOUT PLASSER & THEURER

In many areas of work, the trend is shifting from individual machines for specific work sequences to system machines for complete work processes. Plasser & Theurer has contributed significantly to introducing this technology and developing it further, making it possible to tackle even more complex tasks. The company has repeatedly marked technological milestones throughout its history. This extensive spectrum of technologies and machine solutions makes the family company a full-range supplier of track construction and maintenance machines today. Whatever the construction or maintenance work, the company offers the right machine or provides the optimum machine system.



Plasser & Theurer has played a major role in the development of the railway in its company history. That is why the company also sees itself as part of the railway system, contributing to its success from the very beginning.

High capacity – Precision – Reliability

Since 1953, the company has supplied around 16,700 machines to 109 countries. Most of the machines are manufactured in the main factory in Linz. They range from the simplest tamping machines to high-capacity machines that are several hundred metres long. As a full-service supplier with around 2,000 employees in Austria, Plasser & Theurer provides complete customer services:

from training to spare parts supply to technical service. They are provided in cooperation with 19 partner companies worldwide and a total of around 5,000 employees.

Global technology leader

With the introduction of the first fully electric tamping machine, Plasser & Theurer has proven its position as the technology leader in the global market for track construction and maintenance

machines. While the company's founders Franz Plasser and Dr. Josef Theurer ensured that the right decisions were made at the right time, even under difficult conditions, today – under the auspices of CEO and owner Johannes Max-Theurer and a newly established executive board – the company's orientation and working methods are being adapted to a modern industry standard.

Plasser & Theurer has played a major role in the development of the railway in its company history. That is why the company also sees itself as part of the railway system, contributing to its success since the company was founded.

Thanks to the internationally recognised experts at Plasser & Theurer, supported by the services of well-networked, highly qualified and experienced

consultants along with intensive technical sales work, there is a lively exchange of knowledge about the railway system and railway infrastructure, with the main focus on ballasted track.

Competence through Research and Development

Thanks to decades of research work and a specialised orientation, Plasser & Theurer has a high level of expertise – particularly in the core areas of tamping, stabilising, cleaning, renewing and laying railway tracks – which is reflected in the design of cost-efficient machines and system solutions. The world speed record for a railway journey is 574.8 km/h. This was achieved in 2008 in France on a track that had previously been repaired with Plasser & Theurer machines. The company's system expertise in approvals for track construction and maintenance machines is

just as great. Partner companies have acquired special knowledge in the operation, servicing and maintenance of track construction and maintenance machines. For this reason, and due to the fact that employees remain at the company for a long time, there is a unique wealth of experience and an unparalleled understanding of systems in the company: from the design to the construction and servicing of machines to their use. This understanding of systems has been further enriched in recent years through an increasing number of young talents and career changers with excellent qualifications. Furthermore, the number of publications, patents and specialist presentations attest to Plasser & Theurer's unwavering innovativeness.

The world speed record for a railway journey is 574.8 km/h. This was achieved in 2008 in France on a track that had previously been repaired with Plasser & Theurer machines.



THE HISTORY OF THE COMPANY: FROM MECHANISATION TO DIGITALISATION AND GREENING

The way to full mechanisation

In the 1950s, track work was heavy manual labour carried out by an enormous number of staff. To increase both the working output and the quality of work, it was necessary to introduce completely new methods of work – mechanised methods based on the use of specialised machines. In 1953, Plasser & Theurer put

From track worker to machine technician

60 years ago, railway worksites had a large number of labourers. Today they are dominated by construction engineers, track specialists and, above all, qualified operators of complex machines. This results in the enormous productivity increases in railway construction. In the

Automation: track from the assembly line

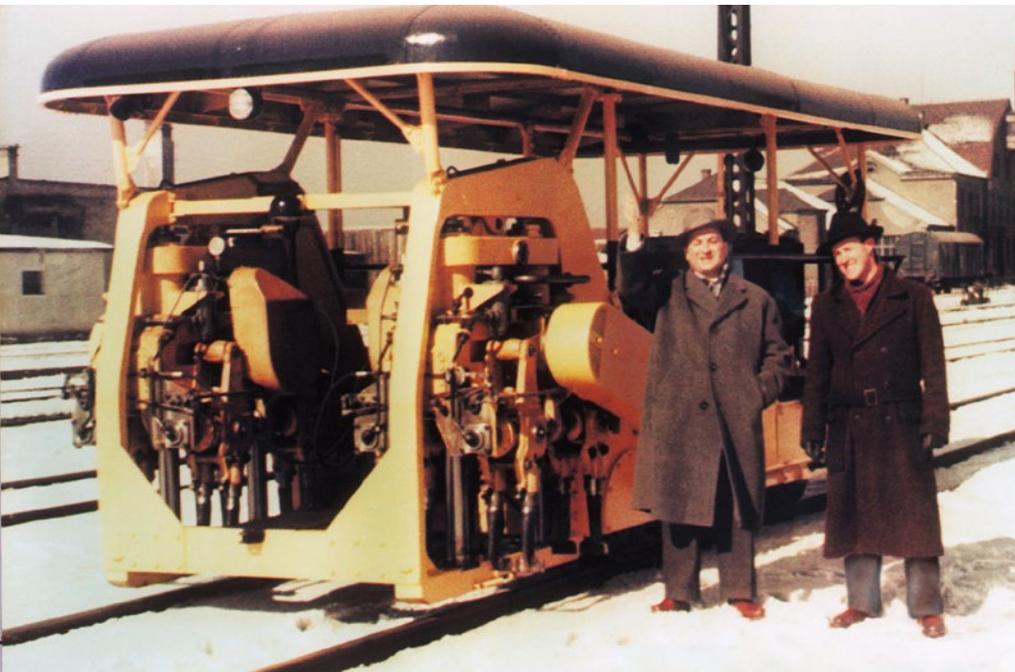
The SUZ 2000 high-speed track renewal train provided a decisive input in 1968. For the first time, it was possible to lay tracks using the continuous assembly-line method – state of the art today.

From cyclic-action to continuous-action tamping

The idea to use the assembly-line method also contributed significantly to the development of tamping machines. For this purpose, it was essential to separate the tamping unit frame from the machine frame. The first Plasser & Theurer tamping machine to work in continuous action was introduced in 1983 and marked the turning point towards significantly increased working speeds and drastically improved ergonomics.

Integration for higher cost-efficiency

Established processes for track maintenance are increasingly integrated into machines based on technical and commercial aspects to form machine systems. As early as in 1960 the processes of levelling, lifting and tamping were combined in one machine. The integration of the continuous-action work stages ballast ploughing, profiling and dynamic track stabilisation set the path for another innovative stage of development. In 2001, Plasser & Theurer presented the 09-3X Dynamic Tamping Express and only four years later the 09-4X variation enabling 4-sleeper tamping.



the first hydraulic track tamping machine into operation and demonstrated the huge potential of the mechanisation of track maintenance. Over the next decades, apart from tamping machines, machines for all types of work were developed. Between 1960 and 1970 mechanisation increased significantly. Today, almost complete mechanisation has been reached. At the same time, the quality performed and output achieved by the machines is optimised continuously.

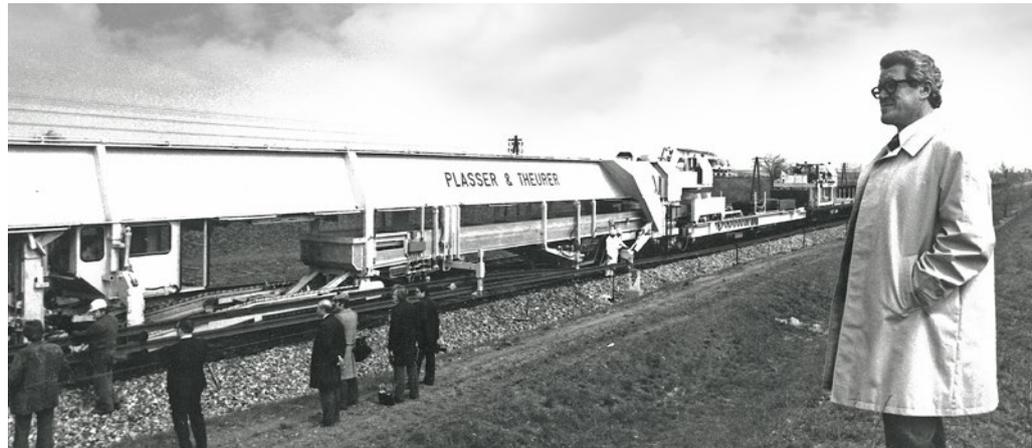
past, maintenance costs were high and productivity rates of workers were low. Today, the high productivity of track construction and maintenance machines lowers the life cycle costs of infrastructure installations while ensuring long-lasting work results. Whereas 60 years ago track construction still involved considerable risks to life and limb, today track workers can rely on the high safety standards of Plasser & Theurer machines.

Enormous savings thanks to continuous working action

In 1990, continuous working action was also introduced for the installation of contact lines. This has made it possible to increase working speed considerably and to reduce track occupation enormously. When this form of working action was introduced, work efficiency was increased, reducing the necessary working time to one fifth of what it originally was.

Digitalisation and greening – environmental protection that pays off

Infrastructure managers, track maintenance contractors and machine manufacturers are facing great challenges to make the railway fit for the future. In addition to environmental protection, the impact on workers



and lineside residences also shapes the general requirements for new track construction and maintenance machines.

Plasser & Theurer's green tech, made in Austria, is in demand around the world. The company is aware that these resource- and energy-efficient technologies create future-proof jobs. It's a win-win situation: contributing significantly to achieving climate goals and turbocharging the national economy.

Plasser & Theurer has a clear answer when it comes to environmental protection: the E³ series – “Economic – Ecologic – Ergonomic”.

As early as in 2015, the company decided to add the E³ series to its machine portfolio. This E³ technology makes machines more efficient, and the use of hybrid technology translates into fewer fossil fuels and lubricants, which has a positive impact on the environment.



CORPORATE BODIES IN AUSTRIA

Plasser & Theurer

Beteiligungs- und Verwaltungsgesellschaft m.b.H (holding company)

Executive Management

- Johannes Max-Theurer

Supervisory Board

- Peter Michaelis
- Michael Enzinger
- Philipp Harmer
- Gerhard Schaler

Shareholders

- | | |
|-------------------------|--------|
| • Elisabeth Max-Theurer | 37.50% |
| • Victoria Max-Theurer | 31.25% |
| • Johannes Max-Theurer | 31.25% |

Plasser & Theurer

Export von Bahnbaumaschinen, Gesellschaft m.b.H.
(operating company)

Executive Management

- Johannes Max-Theurer (CEO)
- Günther Binder (CFO)
- Thomas Schöpf (CSO)
- Daniel Siedl (COO)
- Winfried Büdenbender (CTO)

Supervisory Board

Employer representatives:

- Peter Michaelis
- Michael Enzinger
- Philipp Harmer
- Gerhard Schaler

Employee representatives:

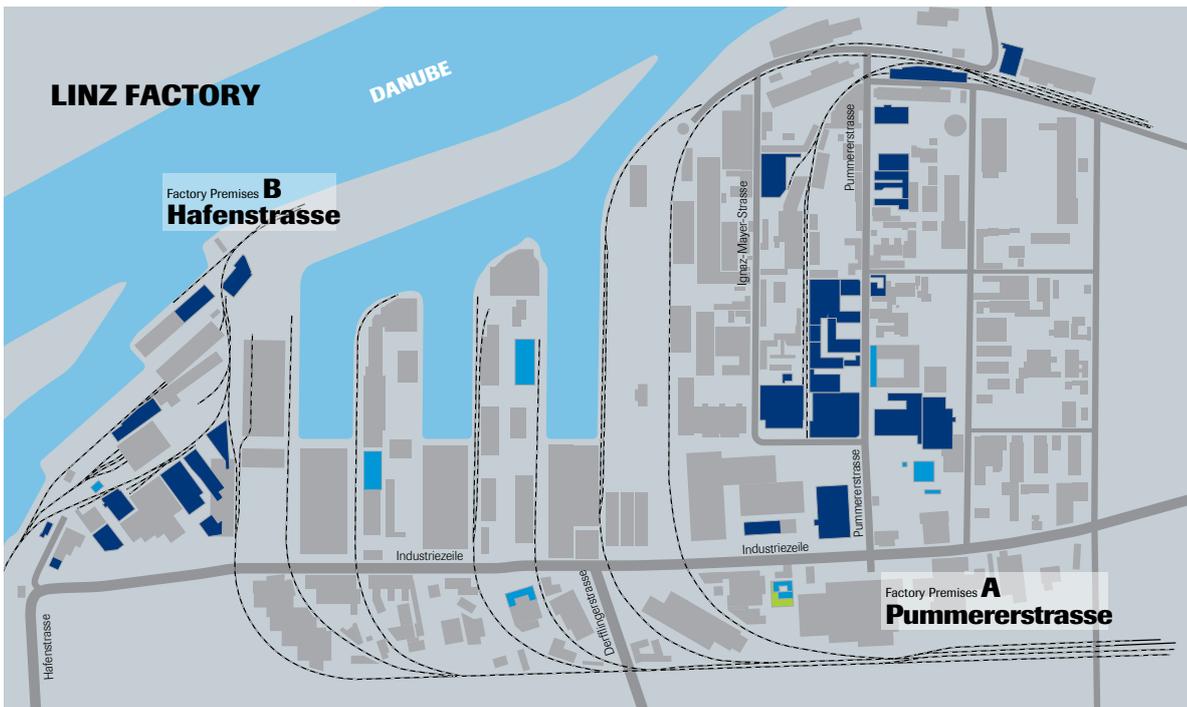
- Andreas Kirchschräger
- Johann Dietz

Shareholders

- | | |
|---|--------|
| • Plasser & Theurer Beteiligungs- und
Verwaltungsgesellschaft m.b.H. (holding company) | 99.20% |
| • Elisabeth Max-Theurer | 0.30% |
| • Victoria Max-Theurer | 0.25% |
| • Johannes Max-Theurer | 0.25% |

LET'S GET TO WORK IN LINZ: A FACTORY MAP AND OVERVIEW

Plasser & Theurer's head office is in Vienna; the main factory is in Linz (approx. 35 buildings/halls/locations), Upper Austria.



PLASSER & THEURER IN BRIEF: FACTS AND FIGURES

- **Founded in 1953**
- **Around 2,000 employees in Austria**
- **Around 5,000 employees in Austria and at 19 partner companies throughout the world**
- **Range of products: machines and systems for laying, installing, renewing and maintaining tracks and overhead contact lines**



SUSTAINABILITY MANAGEMENT AND STRATEGIES FOR THE RAILWAY SYSTEM

The longevity of Plasser & Theurer products translates into customer loyalty: thanks to high cost-efficiency, high-quality materials and proven manufacturing processes, their increased durability has proven itself in the long term. For Plasser & Theurer, sustainability also means that long-term thinking takes precedence over short-term thinking.

The company takes a value-oriented and responsible approach to its resources and strives to create sustainable value through its actions. This serves both the customers, who thus receive the best product for them at the best price, and the company's success, the best guarantee for a successful future. Only a successful company can also be a good employer.

As a family-owned company with numerous governmental and semi-governmental customers, Plasser & Theurer is a role model and stands by its social responsibility. Economic, environmental and social issues therefore have a high priority in the company and in the way Plasser & Theurer conducts its business.

Plasser & Theurer delves into global and local trends and contexts. This ensures that economic activities have a positive impact on the economy, the environment and society. This also requires a constant willingness to develop further and change one's own business models, services and processes. The management addresses these issues in regular strategy development processes.

The sustainable Plasser & Theurer management approach is holistic and encompasses the areas of business, innovation, employees, environment and society. Sustainability affects all employees – from executive management to the works council. In order to drive a sustainability strategy that applies to the entire company, it must be anchored in the overall corporate strategy. Building on this, an implementation plan is created that enables full integration.



Management systems at Plasser & Theurer

Plasser & Theurer is being called upon more than ever to observe and comply with the ever increasing requirements concerning environmental protection, occupational health and safety as well as quality.

For this reason, the integrated management system, or IMS for short, covers the topics of environmental protection and waste, occupational safety, energy and quality. It is incorporated into all of the company's processes. It aligns with the following management standards: ISO 14001 for environment, ISO 45001 for occupational health and safety, ISO 50001 for energy and ISO 9001 for quality. Conformity with standards and the effectiveness of the management system is reviewed annually within the framework of external and internal audits, confirming a globally uniform standard. With such a holistic approach to processes and services, Plasser & Theurer is able to offer continuously improved services.



Quality management system according to ISO 9001:2015

Customer satisfaction and the long-term development of good business relationships are the cornerstones of Plasser & Theurer's corporate activities. Based on customer requirements and expectations, the quality of products and processes is always improved, both internally and externally. Quality awareness and employee participation form an important foundation in customer orientation and in the implementation of quality-enhancing measures.



Environmental management system according to ISO 14001:2015

Corporate environmental protection and the contribution to an environmentally friendly economy are part of our daily business. Environmental management encompasses environmentally oriented and resource-saving planning, control, monitoring and improvement of all operational measures and processes as well as the environmentally conscious management of employees. The long-term goal is to maintain environmental protection at a high level in the company and to successively improve environmental performance.



Occupational safety and health management system according to ISO 45001:2018

The protection and health of employees is an important pillar of corporate responsibility at Plasser & Theurer. In addition to greater legal certainty, SHW management (Safety and Health at Work) primarily focuses on health-promoting measures and preventing accidents at work. Its aim is to actively contribute to the well-being and protection of all employees and to increase safety at the company.



Energy management system according to ISO 50001:2011

Operational energy management is also closely linked to environmental protection. It increases the efficiency of energy-intensive processes and divisions through the systematic analysis and optimisation of energy consumption. At the same time, it also reduces the costs and environmental impact associated with the company's activities.

CORPORATE PRINCIPLES

1. Quality cuts costs

Plasser & Theurer develops, manufactures and services on the basis of a dynamic quality policy. Following the principle of the company's founder, every innovation - from a detail improvement right up to a ground-breaking technology - is seen as a valuable piece of the future. At the same time, a conscious effort is made to use well-proven components in order to avoid unnecessary costs. One of the essential reasons for the cost-efficiency of machines made by Plasser & Theurer lies in this dynamic balance of new and proven components.

2. Innovations create new benefit

Within a few decades, track construction and maintenance had progressed from manual to fully mechanised methods of work. Today it is one of the most efficient and cost-effective processes in modern industry. This development was greatly shaped by the innovative designs introduced by Plasser & Theurer. Each of these technologies led to definite increases in the quality of the work performed and/or its efficiency. Ultimately, this has led to greater customer satisfaction.

3. Part of a forward-looking system

The railway is a cost-efficient, eco-friendly and comfortable means of transport. Plasser & Theurer is fully committed to being a part of this system and continually strives to improve its efficiency. An ongoing dialogue with railway operators, track maintenance contractors, railway consultants, universities and research centres plays an important role. On this basis, machines can be built that meet the true requirements on the line.

4. The only full-range supplier worldwide

Plasser & Theurer is the only supplier in the world that manufactures a complete range of machines for laying and maintaining railway tracks. Initially, the focus was exclusively on machines for track laying, track maintenance and measuring work. In the 1980s, the range was extended to include machines for the installation and maintenance of overhead contact lines. This core competence will be retained in future. However, there are continual improvements and new features in every single machine model aiming to increase efficiency for the operator.

5. Service and support for all regions of the world

Maintenance windows are becoming scarcer due to rising time pressures. Even more efficiency is demanded. Machine reliability continues to gain importance. And the need is also growing for customer service centres and a dependable supply of original spare parts and original wear parts. Therefore, Plasser & Theurer operates a worldwide network of service bases, repair workshops and spare parts warehouses.

OUR CORPORATE POLICY – IN A NUTSHELL

PLASSER & THEURER ...

- makes a sustainable contribution to the railway system
- stands for pioneering spirit and innovative strength
- manages the company responsibly, strategically and purposefully
- ensures occupational health and safety
- supports its staff and promotes their professional development
- promotes and maintains open dialogue with all stakeholders
- respects the social diversity of all
- aims at ensuring the maximum quality of its products and meeting the requirements of its customers
- takes all phases of the product life cycle into account
- requires all stakeholders along the supply chain to comply with the corporate values
- attaches importance to fair and sustainable procurement
- protects the environment and reduces environmental pollution
- improves the energy-related performance of all organisational units
- aims to continuously optimise processes in all corporate areas
- ensures the ongoing improvement of management systems
- complies with legal, administrative and other mandatory requirements

CORPORATE VALUES AND MISSION – IN LINE WITH SUSTAINABILITY

High capacity

Plasser & Theurer stands for pioneering spirit and maximum performance in technology, quality and sustainability. We recognise new requirements and set standards in cost-efficient track construction and maintenance. A long-lasting benefit for the customer and the product have top priority.

Precision

Plasser & Theurer stands for global expertise in track construction and maintenance. This fact, together with our high motivation, enables us to build exactly the machines that carry out all the work with the highest quality, i.e. to make the precise developments that the railway system needs. Absolute precision and accuracy are the values we strive for.

Reliability

Plasser & Theurer stands for high personal commitment to the development of innovative ideas and their fast implementation. We put the success of the company above personal position and personal gain. Lean structures and ongoing improvement allow us to ensure the high level of operational readiness of our products and to optimise their availability. To ensure a sustainable future, we reliably take the right actions and we comply with all laws, regulations and specifications.

Sustainability

As a privately owned company, we are aware of the value of our resources and use them responsibly. We aim to create lasting values through our actions. By doing so, we

provide our customers with the best product at the best price. This contributes to our company's success and ensures a successful future. A successful company is also a good employer.

Corporate responsibility

As a privately owned and owner-managed company, Plasser & Theurer can make entrepreneurial decisions very quickly, and in the spirit of this sustainable future, with short decision-making paths. In terms of sustainability, long-term economic success always takes precedence over short-term profit maximisation.

The entrepreneurial responsibility of the owner family and the managing shareholder as well as the awareness of this responsibility towards customers, employees, society and the environment are an important and essential factor in Plasser & Theurer's values.



As a privately owned company, we are aware of the value of our resources and use them responsibly. We aim to create lasting values through our actions.

COMPLIANCE – TONE FROM THE TOP

Clear rules of conduct for all

Compliance at Plasser & Theurer is a topic that has been strongly pushed and shaped by the chief executive officer (CEO) in recent business years. While Compliance was previously part of the Legal division, the role of a chief compliance officer (CCO) was set up in 2019. The CCO reports directly to the chief financial officer (CFO).

The compliance management system that has been developed pursues the goal of avoiding compliance violations through preventive measures, recognising any misconduct at an early stage, reacting quickly and adequately in the event of confirmed violations and consistently punishing actual misconduct. The compliance programme developed covers all business areas and business processes at the Austrian locations.

In addition, our compliance management system is certified to ISO 37301 and ISO 37001, proving that we are fulfilling our corporate duty of care. The topics of data protection, anti-corruption and antitrust law are a focus for us as well as in the context of the audit, in which Plasser & Theurer scored very well. One reason for this was the cooperation and commitment of all employees and divisions involved: they were trained on anti-corruption issues, among other things.

Finally, with our successful certification, we demonstrate that compliance is firmly anchored in our corporate culture. At the same time, trust is strengthened among our customers and partners, giving us a competitive advantage.

Code of Conduct

There is no way around the Code of Conduct: it informs all employees about the requirements of integrity and ethical behaviour when they join the company. It provides them with the most important rules and principles of conduct, which apply to all employees, management staff and executives.

It serves as a guideline and helps to comply with laws, regulations, and company rules. The topics addressed include working conditions, human rights, health and safety, the environment, relations with business partners, and other relevant aspects.

The Code of Conduct is available on the intranet and can be accessed by external parties via the company website.

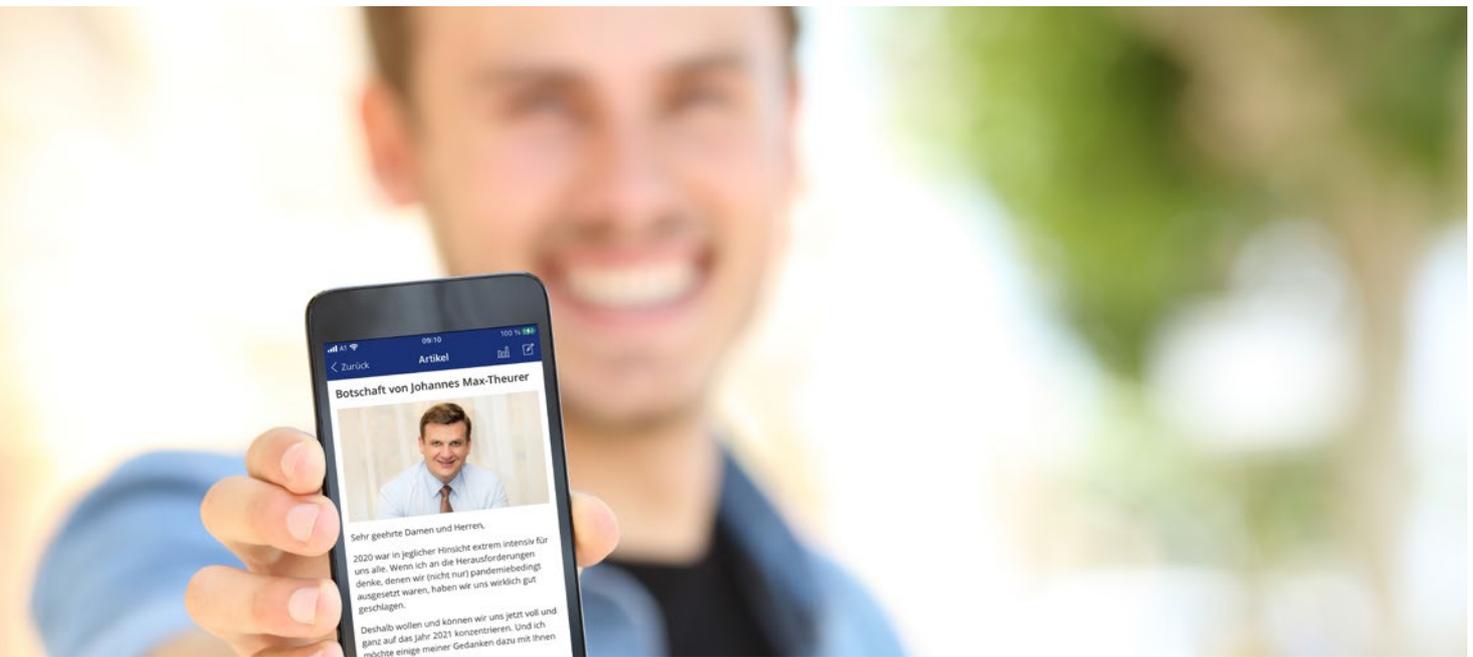
A separate Code of Conduct for business partners is also available in six different languages.

COMPLIANCE GUIDELINES

The internal compliance guidelines govern the following compliance topics:



- Anti-money laundering
- Anti-corruption
- Data protection
- Commercial agents
- Searches of premises
- Import and export control
- Conflicts of interest
- Internal investigations
- Antitrust law
- Protection against discrimination, bullying and sexual harassment
- Social media use
- Whistleblowing



The *einblick* communication tool

Compliance training

The most important preventive compliance tools include face-to-face training as well as e-learning for employees. The e-learning programme starts with a short video statement by the CEO that illustrates the importance of compliance agendas for the company. The training courses conclude with a test to safeguard knowledge and a certificate. In addition, the first refresher course on compliance basics, which also covers the topic of anti-corruption, was introduced in December 2021. In principle, all new employees are trained twice a year on the topic of anti-corruption. Furthermore, all employees at levels 1 to 3 (executive management, division directors, department heads, team leads and specialised unit managers) are trained using e-learning. In addition to the topic of anti-corruption, compliance also focuses on topics such as fair competition and data protection.

There are also training programmes targeting specific groups, such as anti-money laundering training for certain departments.

In 2021, 100% of new employees were trained on compliance issues, and the entire workforce was informed about new anti-corruption policies and procedures. In total, 594 employees (30% of the workforce) received specific anti-corruption training and participated in training on compliance topics. In future the e-learning programme will be successively expanded so that compliance content is available for the rest of the workforce.

The *einblick* app and whistleblowing hotline

All employees have access to the *einblick* communication platform developed for the company. It can be accessed on a PC or as an app on a smartphone, and it regularly provides information on

new features, such as compliance topics, cybersecurity warnings or the external whistleblowing hotline. The hotline was installed in July 2020 and is accessible to all employees via the intranet and internet.

No violations or conflict cases in 2021

From 2019 to 2021, there weren't any confirmed incidents of corruption or legal proceedings due to anti-competitive behaviour, cartel or monopoly formation at the locations in Austria. Accordingly, no fines or non-monetary sanctions were imposed on Plasser & Theurer for non-compliance with social or economic laws and regulations. In 2021, one internal discrimination incident was reported. This was audited internally and found to be substantial. It was dealt with accordingly. In addition, a new information campaign raised awareness about specific topics among all employees. The case was closed in the reporting year.

SUCSESSES AND RESULTS 2021

- **Obtaining compliance certification according to ISO 37301 and ISO 37001**
- **Meaningful evaluations of the performance of compliance training courses**
- **Filling the position of internal auditor**

Risk minimisation at Plasser & Theurer

Another focus in the reporting year was on intensifying internal company activities within the framework of risk management and preventing potential risks. This included, for example:

- Checking business registration certificates in the company
- Legal support for intra-group restructuring processes
- Support for the introduction of customer-relationship management
- Raising awareness through training

In addition, further measures to increase the process quality of contract drafting are planned: examples include revision of the General Terms and Conditions of Delivery and Purchase, or drafting and finalising contracts on the subject of contract manufacturing.

Outlook 2022

In order to further strengthen the topic of compliance within the company, there are plans to expand the e-learning offering in future in order to sensitise new and existing employees through training. Points of contact for data processing and agents are among other groups of people who will receive specific compliance training.

STAKEHOLDER ENGAGEMENT, AN IMPORTANT FACTOR IN SUSTAINABILITY MANAGEMENT

Stakeholder expectations and requirements play a significant role in corporate sustainability management. In a continuous exchange with the relevant stakeholders, Plasser & Theurer maintains various dialogue formats worldwide on current and potential topics for the future. The company's most important stakeholders include its just over 1,000 customers in 109 countries, its employees, partner companies, suppliers and service providers, as well as NGOs, politicians and authorities, residents, associations, trade unions and universities, research institutions and the media.

Only if a company knows the exact interests and needs of its stakeholders can corporate decisions be even better aligned with their expectations. A continuous exchange helps to define key sustainability issues and to further develop sustainability management.



High-ranking visitor in Linz – hosting Environment Minister Leonore Gewessler

“The machines we need for the mobility system of the future are built here” – with this sentence Leonore Gewessler expressed her enthusiasm about our products during her visit with Plasser & Theurer. In particular, the Unimat 09-4x4/4S Dynamic E³ with its environmentally friendly hybrid drive caused euphoria.

For the Federal Minister, Plasser & Theurer’s innovative products are an example of why the Austrian railway industry “absolutely ranks among the top internationally”. Other aspects such as regional value creation, the associated safeguarding of jobs as well as climate-friendly machines additionally underline the importance of sustainability in Plasser & Theurer’s daily work and the path it has chosen for the future.



From left to right:
Regional Minister **Stefan Kaineder**, CEO **Johannes Max-Theurer**,
Federal Minister for Climate Protection, Environment, Energy, Mobility,
Innovation and Technology **Leonore Gewessler**

A MAJOR IMPACT ON PEOPLE AND THE ENVIRONMENT

Companies can manage sustainability at different depths and to different extents. Sustainability is defined according to three dimensions: economic, environmental and social. In each of these dimensions, companies can make positive contributions and try to reduce their impact on people and the environment as much as possible. A materiality analysis is carried out to identify those topics that are relevant for the company. Potential sustainability issues are identified and prioritised along the value-added chain.

The focus of companies is placed on those issues that, on the one hand, have the greatest positive or negative impact on people and the environment and, on the other hand, are of great value for stakeholders.

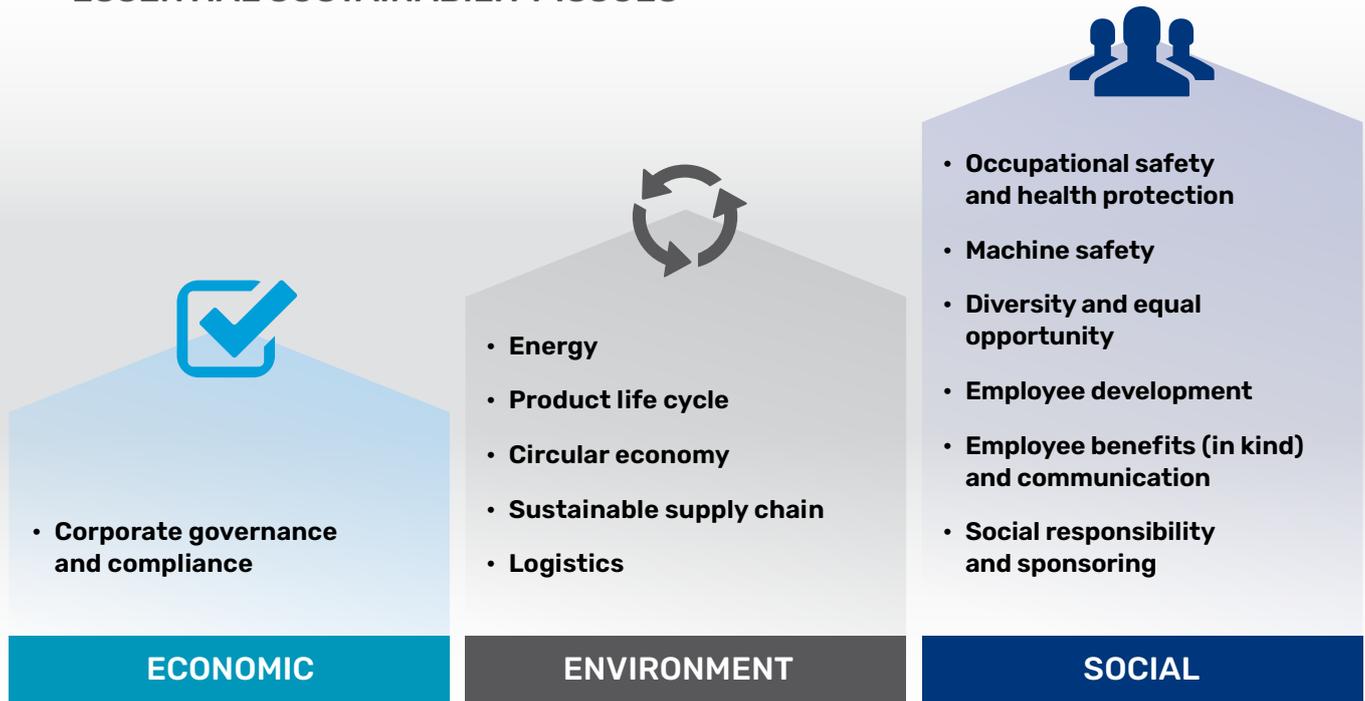
Plasser & Theurer conducted an internal materiality analysis in 2021. The sustainability issues identified were prioritised by internal stakeholders and external sustainability experts. Twelve sustainability issues have emerged as essential. The following list shows the essential

topics for Plasser & Theurer, which also define the scope of this report.

FROM THE OUTSET IN THE SERVICE OF THE RAILWAY

For the year 2021, Plasser & Theurer is planning a detailed materiality analysis that is oriented towards the requirements of the Global Reporting Initiative (GRI) standards. The environmental and social impacts of the company are assessed in detail, and a broad-based survey involves stakeholders in the selection of the essential issues.

ESSENTIAL SUSTAINABILITY ISSUES



CONTRIBUTION TO THE SUSTAINABLE DEVELOPMENT GOALS (SDGs)



The Sustainable Development Goals are a call to all countries to promote prosperity while protecting the planet. They recognise that overcoming poverty must go hand in hand with strategies that build economic growth and address a range of social needs such as education, health, social protection and job opportunities, while engaging in climate and environmental protection. Climate change and scarcity of resources or digitalisation and Industry 4.0 are examples of these challenges. Global sustainability initiatives – such as the climate goals adopted at the UN Climate Change Conference in

Paris in 2015 or the Sustainable Development Goals (SDGs) adopted by the international community – are also issues we are committed to.

17 goals to change our world

With 17 overarching goals and 169 targets, the SDG agenda aims to decisively advance global activities to solve social, environmental and economic development issues by 2030. The individual goals are closely intertwined and influence each other in many ways.

PLASSER & THEURER CAN MAKE A SPECIAL CONTRIBUTION TO ACHIEVING THE GOALS FOR THE FOLLOWING FOUR SDGs:



SDG 9 - Industry, Innovation and Infrastructure:

Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.

Plasser & Theurer's products allow critical infrastructure to be built, maintained and serviced around the globe.



SDG 13 - Climate Action:

Take urgent action to combat climate change and its impacts.

Continuing to improve our machines has more than just an economic effect: greater efficiency means using fewer resources.



SDG 8 - Decent Work and Economic Growth:

Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.

Our employees are the heart of our company. The workplace is improving successively in terms of ergonomic design, lighting and emission protection.



SDG 12 - Responsible Consumption and Production:

Ensure sustainable consumption and production patterns.

Our product philosophy has always entailed threefold certainty. While this may not look like material efficiency at first glance, the service life of our products averages 30 years. Combined with our lifetime spare-parts guarantee, it is an important contribution to sustainable use.

COMMITMENT TO THE UNITED NATIONS GLOBAL COMPACT

Plasser & Theurer takes a global view of sustainability and wishes to support the United Nations Global Compact (UN Global Compact) – a network initiated by the UN – in 2022 in order to shape globalisation socially

and ecologically. This includes integrating the ten principles on human rights, labour standards, environmental protection and anti-corruption into sustainability management.



LONG-TERM PARTNERSHIPS FOR SUSTAINABLE PRODUCTS

THE PLASSER & THEURER WORLD –
PARTNER COMPANY LOCATIONS AND SUBSIDIARIES

From inspection to complete servicing

Plasser & Theurer has proven to be a reliable service partner to our global partner companies for decades. Spare and Wear Parts, Support and Training, and Field Services make up our Customer Services. This wide range of support services attests to our reliability.



PARTNER COMPANY NETWORK

BUSINESS SEGMENTS AND MODELS – IN LINE WITH CUSTOMERS' WANTS AND NEEDS

Business models of the partner companies

The business models of the individual partner companies vary in the range of services they offer and include everything from customer service to sales and local production on-site to contracting. Plasser & Theurer's main business segments are presented below.



MACHINE

MACHINE: UNIQUE IN THE WORLD

Plasser & Theurer's range extends from the simplest tamping machines to high-capacity systems hundreds of metres long. Depending on the customer's requirements, Plasser & Theurer supplies either customised solutions (Individual Design) or machines that are manufactured individually on the basis of a modular system (ModularCustomizing). The advantages of the second option are the shorter delivery time and faster approval.



FLEET

FLEET: OPTIMISING FLEET MAINTENANCE

Cost-conscious operating companies have three main options for optimising their machines' cost-efficiency: ensure or increase machine availability, reduce life cycle costs, and allocate fixed costs flexibly and efficiently. Plasser & Theurer has designed new service packages with these factors in mind so customers can benefit from their large savings potential.



INFRASTRUCTURE

INFRASTRUCTURE: KNOW-HOW AS A COMPETITIVE ADVANTAGE

The digitalisation of railway infrastructure is making headway. We have been part of this process since day one. Today, we offer tools with ground-breaking features: we create tamping machines that deliver a continuous data flow. They provide transparency by documenting the entire process – from the work order to the proof of work. Our track inspection vehicles provide data for modern Building Information Modeling. This creates unprecedented opportunities for infrastructure planning, building and operating. Last but not least, we develop new technologies. A prime example is the URM 700-2: a machine that turns complete turnout maintenance into a service.

BUSINESS SEGMENTS AT OUR PARTNER LOCATIONS



Deutsche Plasser		Plasser India	
Framafer		Plasser Italiana	
Nippon Plasser		Plasser Mexicana	
Plasser American		Plasser Scandinavia	
Plasser Australia		Plasser South Africa	
Plasser do Brasil		Plasser Turkey	
Plasser Canada		Plasser UK	
Plasser Far East		ROBEL	
Plasser Ibérica			

THE MACHINES – A SYSTEMATIC APPROACH TO TRACK TECHNOLOGY

Plasser & Theurer is a full-range supplier of machines and machine systems

- For laying and maintaining a variety of tracks
- For all track gauges in all parts of the world
- For all work processes
- In all sizes and output categories

We prioritise machines and machine systems that are adapted perfectly to one another and therefore also work together with a high level of efficiency and cost-effectiveness.



A sustainable type of economic efficiency

Machines made by Plasser & Theurer are currently operating in more than 100 countries. The harsh conditions on the line call for a certain amount of maintenance and repair not to mention a dependable supply of original spare and wear parts.

Plasser & Theurer has a worldwide service network that

guarantees these services swiftly and reliably. Highly competent technicians are available for every type of machine. All original spare and wear parts are manufactured in accordance with Plasser & Theurer's high quality requirements.

More than 100,000 parts are either in stock, ready for dispatch, or can be manufactured and supplied within a short period of time. This service network makes

it possible for Plasser & Theurer machines to continue operating all over the world without breakdowns and for many years. The result is a sustainable type of economic efficiency.

With a vertical range of manufacture of over 80%, Plasser & Theurer manufactures the majority of components itself, which enables a high degree of customisation.

MACHINES AND MACHINE SYSTEMS



**PLAIN-LINE, UNIVERSAL AND
TURNOUT TAMPING MACHINES**



**RENEWAL AND LAYING OF
TRACKS AND TURNOUTS**



**BALLAST DISTRIBUTING AND
PROFILING MACHINES**



TRACK MEASURING



**BALLAST CLEANING MACHINES
AND SPOIL LOADING**



**TRACK MOTOR VEHICLES
AND ELECTRIFICATION**



**STABILISING AND
COMPACTING MACHINES**



MOBILE RAIL RECTIFICATION



FORMATION REHABILITATION



SPECIAL MACHINES

VALUE-ADDED CHAIN



Retrofit – a synonym for economic efficiency and sustainability

What happens when a machine is no longer technologically up to date? A Plasser & Theurer retrofit is an alternative to buying a new machine which can save costs, time and resources. Retrofitting means modernising a machine while retaining the intact basic machine as much as possible. The machine is renewed or reconditioned only where it is necessary. At the same time, obsolete components are replaced by innovative technologies to increase performance.

RETROFIT SERVICES:

- Modernisation of old machines
- Retains the intact basic machine
- Accurately predefined reconditioning and renewal
- Installation of additional functions
- Improved safety standards

CUSTOMER ADDED VALUE:

- Improved safety standards
- Increased availability
- Increased output
- Improved energy efficiency
- Approval remains valid

THE PRODUCT LIFE CYCLE – A SYNONYM FOR DURABILITY

Many Plasser & Theurer machines have been in use for more than 30 years. This is something extraordinary in these fast-paced times, and it confirms their rock-solid design. It puts us, as the manufacturer, under an obligation to provide a customer support organisation which can support our machines over their complete life cycle, and this worldwide. This worldwide service network will be further expanded in future in cooperation with our partner companies. Regional service hubs will be equipped with improved infrastructure to ensure even better local support. The aim is that, in future, the 500 most important spare parts will be available to customers within two days. Service technicians are assigned to three levels in order to be able to guarantee that the person with the optimal qualifications is available for every job.

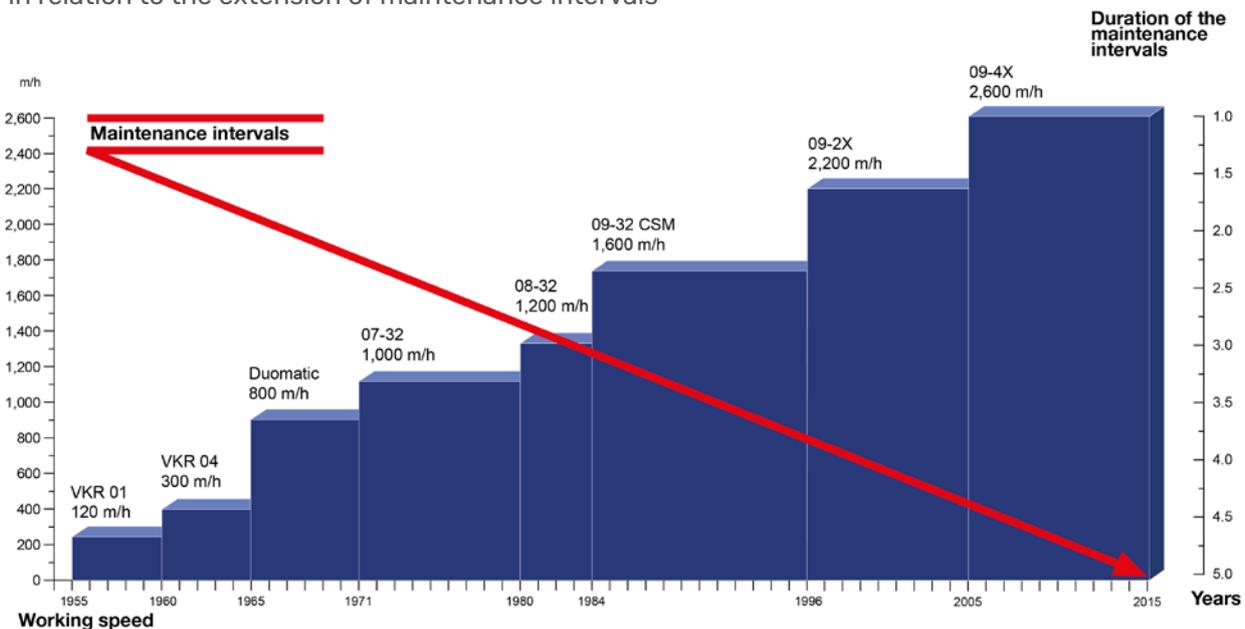
Moreover, we are currently drawing up best practice documentation which will help us to utilise regional expertise worldwide.

Maintenance vs. investment

Currently, the future of life cycle management is extended onto all components of the track system. This is also reflected in research. New methods of analysis for existing data and integration of new data sources with the use of tools such as Big Data or digitalisation, are high on the agenda to make new forecasts possible or existing ones more accurate. Currently, investigations are underway on the significance of fibre optic sensing. The use of power spectral density for specific track components is being analysed, and the use of additional sensors for data collection is being investigated. In future, data that is captured during track maintenance work will help to make more accurate forecasts. All this also requires further efforts for the development of adequate evaluation methods to strengthen the future role of life cycle management as an integral element of the railway (infrastructure).

DEVELOPMENT OF THE PERFORMANCE OF TRACK TAMPING MACHINES

in relation to the extension of maintenance intervals



LONG-TERM PARTNERSHIPS FOR SUSTAINABLE PRODUCTS



Service on track

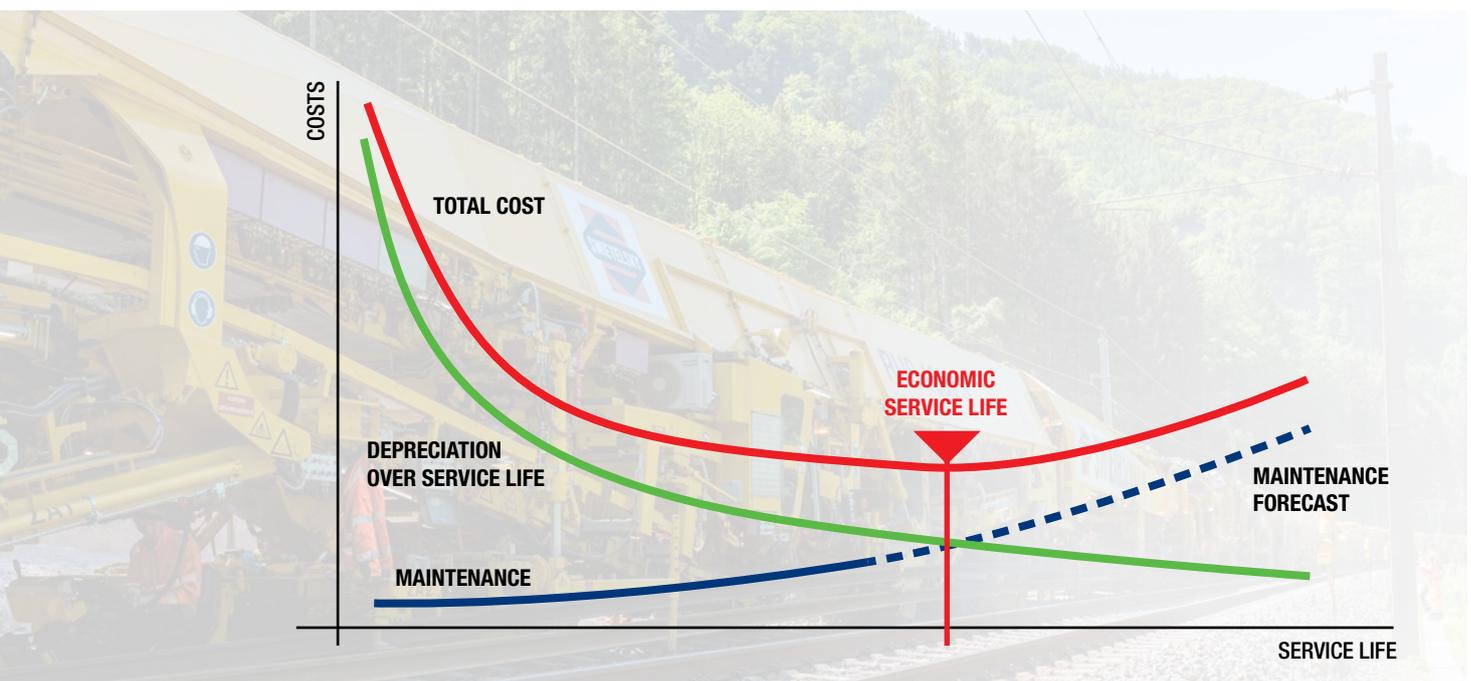
A basic requirement to ensure machines' availability is servicing them carefully. The Datamatic 2.0 family brand encompasses the digital fleet management apps. The MachineMaintenanceGuide (MMG) is a digital service booklet which makes it possible to document servicing and maintenance transparently at any time. It replaces printed service booklets, which got lost or were completed insufficiently. The SmartCatalog app helps find the right part among 60,000 original spare parts and supplies it to any place in the world. The MachineConditionObserver (MCO) cloud application displays the networked fleet data and provides reports suiting the customer's specific requirements.



The "We care about your machine" initiative

The "We care about your machine" initiative is setting a new standard in after-sales services. Expert servicing, refurbishments and the latest technologies, such as frequency control, extend the service life of Plaster & Theurer tamping units significantly. After-sales service packages tailored to customers' needs help companies make the business decision allowing them to take full advantage of their machines' potential and make them fit for the tough conditions on-site.

DETERMINING THE ECONOMIC SERVICE LIFE



Intelligent solutions for an extended service life

Plasser & Theurer focuses on life cycle enhancement services that offer customers the latest technology for existing machines. The retrofit and refurbishment programmes developed extend the service life of machines without compromising performance or availability. Upgrade offerings specially designed for existing machines expand the areas of application and optimise performance at the same time. The solutions offered include RedSafe upgrades to meet the latest safety standards and new tamping units with advanced technologies and digitally integrated systems. SmartALC (automatic guiding computer) and DRP (Data Recording Processor) systems of the latest generation can be integrated as well as complete control system upgrades to increase the machine's ease of use.

To keep up with the evolution of technology, Life Cycle Enhancement offers a complete upgrade of existing systems. The new generation of measuring systems and technologies built into track inspection vehicles offer digital connectivity. In this way, individual functions, such as lasers, can be upgraded. Existing machines can also benefit

from the upgrade to a complete track geometry measuring system. The service offers a complete refurbishment based on an inspection carried out by Field Services experts. Existing fleets are then in a similar condition to when they were first deployed.

MACHINE COSTS IN 30 YEARS OF USE

The machine costs – based on a 30-year service life – are divided among the following factors:

36% Sales price

3% Rev (revision by ECM)

10% OPM (operative maintenance)

Support in the event of damage

38% PEM (preventive maintenance)

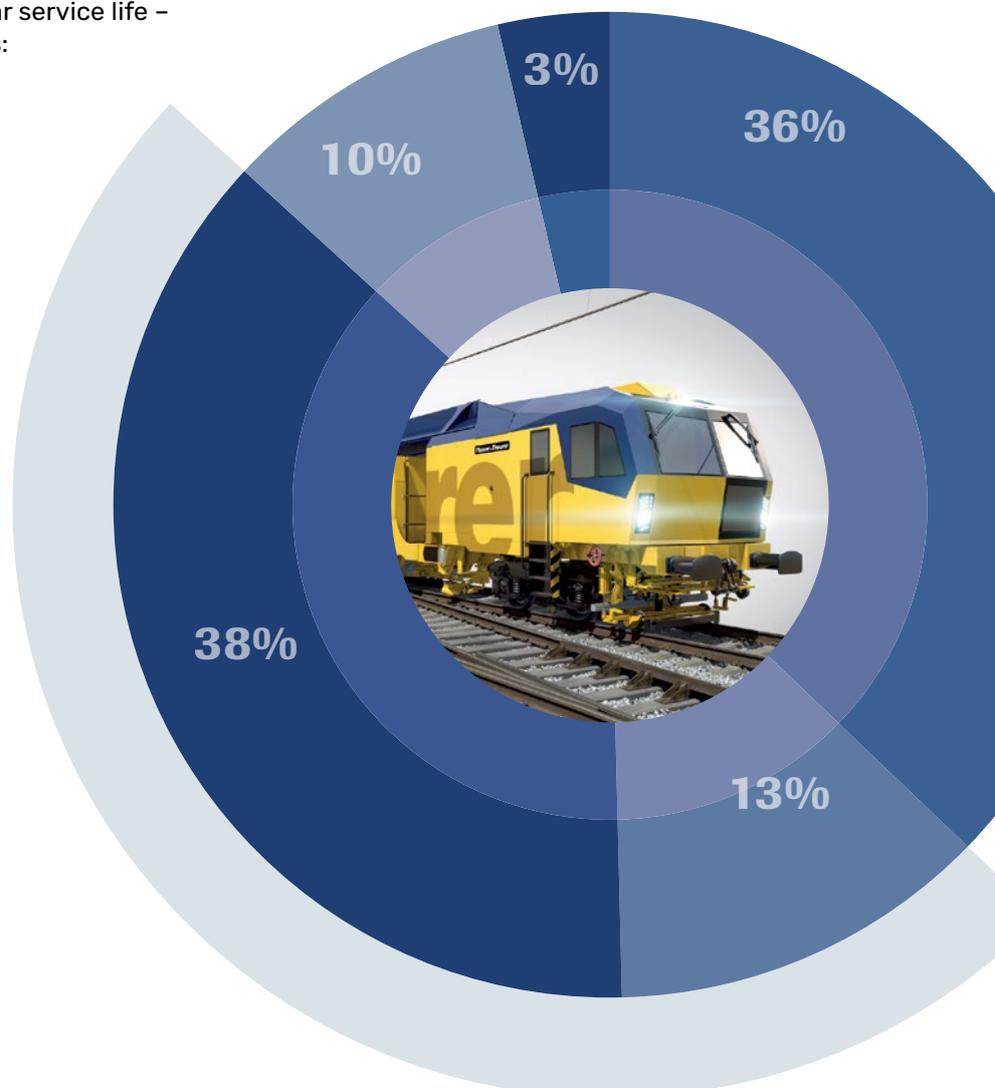
Change of wear parts

13% REM (regular maintenance)

daily, weekly, monthly, biannually with spare parts

per year:

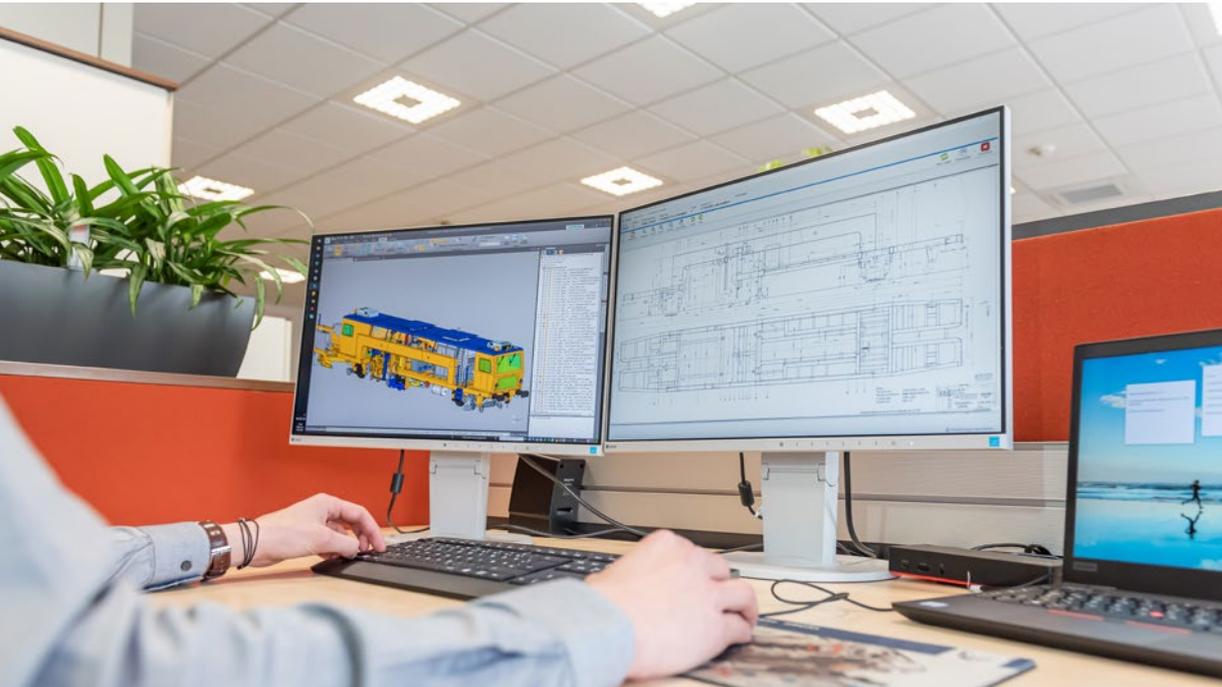
Working hours: 1,000 h
Number of tamping cycles: 250,000
Distance: 15,000 km



LONG-TERM PARTNERSHIPS FOR SUSTAINABLE PRODUCTS

Green, greener, full refurbishment

Besides safety, sustainability is one of the main objectives when designing and producing machines. Customers and machine users are showing greater interest in the environmental impact of machine use. In view of these specific requirements, Plasser & Theurer has developed a specific upgrade offering which, in addition to the possibility of upgrading and retrofitting new equipment or functions, also includes a full refurbishment service that enhances older machines to a significant extent.



TECHNOLOGY AND INNOVATION: DESIGNS FOR DECADES OF USE

Discover the future of track construction and maintenance

The Technology and Innovation division is creating the future of track construction and maintenance today. The Austrian Patent Office has repeatedly ranked Plasser & Theurer among the "Top 10 Inventors" in Austria. In 2019, Plasser & Theurer had 21 patents registered at the Austrian Patent Office. 20 more followed in 2020. In the 2021 financial year, Plasser & Theurer was once again able to prove itself as a company with innovative strength and registered 21 patents. In its 60-year history, the company has registered around 10,000 patents, with around 2,500 patents being currently valid.

Highest eco-efficiency through ballast recycling on board

With the sheer amounts of it required, ballast is one of the most important resources in track construction. For a long time, it was common practice to dump the old ballast from formation rehabilitation and to lay new ballast instead. A highly inefficient approach from both an environmental and an economic perspective. This is because ballast is a limited resource, transports to landfill sites are an environmental burden, and they incur considerable costs. The first step was therefore to reprocess

the old ballast in stationary plants. This was a step forward, but it still required costly transport to and from the landfill site. A more efficient solution was to reprocess the old ballast directly on the track and immediately reinstall the recycled ballast. This was an important step towards the circular economy in the company.

A 360-degree view of track construction

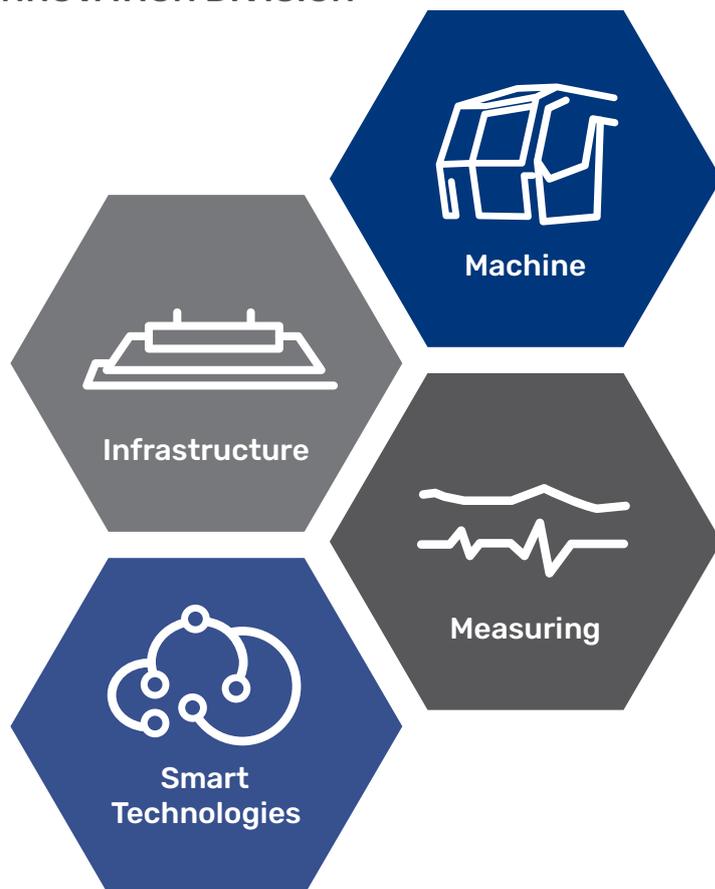
Digitalisation, alternative drive systems and new manufacturing methods are finding their way into track maintenance. To meet the infrastructure requirements of our time, it takes more than mere maintenance machines. We need to develop a global view on track maintenance. Infrastructure managers, track maintenance contractors and machine manufacturers are facing great challenges to make the railway fit for the future. New approval regulations require new machine concepts. Sustainable infrastructure management needs a holistic view of the railway system. Methods for optimised planning, implementing and managing of the railway infrastructure (BIM Building Information Modeling) are increasingly being used. Future machine requirements will go far beyond machine manufacture. Digital technologies and artificial intelligence enable machines to evolve from classic track maintenance machines to smart, fully networked maintenance machines. Smart machines are increasingly becoming sensors that supply data on the infrastructure.

Contribution to basic research

Technology and Innovation cooperates in basic research with universities in Austria as well as in the US and Japan. This cooperation is also with various international railway operators, in order to find the solutions today that will make tomorrow's track construction and maintenance even more efficient, cost-effective and future-proof. Two aspects are typical of the way Technology and Innovation works: Its employees maintain contact with customers in order to incorporate valuable practical experience into development. Work is carried out according to the development principle that the solution that makes sense in the long term is always preferable to the solution with short-term benefits.

In addition to supervising a number of master's theses and dissertations in cooperation with various universities in Austria and abroad, Technology and Innovation can refer to the 22 expert articles published since 2018 and a busy schedule of presentations at congresses and conferences.

KEY TOPICS FOR THE TECHNOLOGY AND INNOVATION DIVISION



CURRENT INNOVATION PROJECTS



The optimisation of drive technologies is an important focus for Technology and Innovation. However, economic efficiency is not always the only trigger for research priorities. Emission reductions – especially CO₂ and noise – are also becoming increasingly important. Current research focuses include, among others, the content listed here and which can be read in depth on the P&T Research website.

It started with the vision of an autonomous tamping machine

The possibilities of data processing and automation of work processes create new opportunities for the solution of future challenges. The potential of increasingly digitised daily work motivates us to reconsider the familiar and to develop new solutions for future applications. The quality and safety requirements require increasingly complex systems and at the same time the availability of specialist staff is falling. One response to coping with all these challenges is the implementation of automated systems.



Plasser & Theurer has taken on this task and developed a turnout tamping assistance system in barely three years from idea to delivery.



Artificial intelligence for more efficient ground-penetrating radar analysis

Ground-penetrating radars measure the condition of track substructure. However, the analysis of this data is very time-consuming. Could the use of AI reduce this effort?

Plasser & Theurer is part of a research group that took on the challenge of answering this question. They discovered that, among other things, a clever application of filters facilitates the analysis.



Ballast condition measurement – tamping tine and ballast team up

Thanks to a brand new measuring and analysis method, it is now possible for the first time to observe the movement behaviour of ballast throughout the entire tamping process. In addition, the method provides an unprecedented level of detailed insight into the ballast condition. The tamping tine is particularly important here: the new method allows for the development of the tamping tine from a working tool to a measuring instrument.



ATMO – designed for urban environments

With Plasser & Theurer's newly developed rail grinding machine for light rail and trams, rail traffic is easy on the ears: trains travel more quietly on ground rails. The world's first ATMO (Automatic Track Machine Oscillator) was developed as part of Shift2Rail and combines two working methods. The ATMO rail grinding trailer was designed with practical requirements in mind. It is the result of a collaboration between industry partners, university experts, and infrastructure operators. A market study conducted by the Vienna University of Technology as part of Shift2Rail forms the product's theoretical basis. Plasser & Theurer, the industry partner, provided the know-how that shaped its design and manufacture. In mid-2020, the ATMO started its first test phase simulating various conditions on tramway tracks operated by Wiener Linien, the Vienna public transport operator. The European research initiative Shift2Rail (S2R) focuses on any improvement that benefits the wheel/rail system. The Shift2Rail initiative includes the IN2TRACK (I2T) project, which started in 2016. It involves an I2T industry consortium and various partners.



GREEN TECHNOLOGY IN PRODUCT DESIGN

ÖGVS (an Austrian LLC for consumer studies) awarded Plasser & Theurer the GreenTech Award in 2020 for inventiveness demonstrably promoting climate protection or for ideas conducive to adapting to climate change. The company received the award thanks to its numerous patents for innovations that contribute significantly to climate protection. The E³ generation of track construction and maintenance machines uses the electrical energy from the contact wire and battery power for the working drive, reducing local emissions – of both pollutants and noise – to a minimum on the worksite. This is an essential factor, especially in urban areas and in tunnel construction.



Environmental protection pays off

The EU Commission approved EUR 500 million in German public funding to promote energy efficiency in rail transport. Under the scheme, railway companies may be compensated for up to 50% of expenses incurred from energy efficiency measures, such as the acquisition of modern energy-saving rolling stock including hybrid locomotives or automated solutions. This is one of many signs indicating the increasing importance of

environmental protection for future decisions.

Plasser & Theurer has a clear answer when it comes to environmental protection: the E³ series. As early as in 2015, the company decided to add the E³ series to its machine portfolio. The success of the five machines from this series, which have already been put into operation and the two additional machines which are being produced, confirmed the decision.

“ECONOMIC – ECOLOGIC – ERGONOMIC”: EMISSION-FREE, QUIET AND SAFE

E³ machines contribute to achieving the railway’s climate goals in several ways by:

- Reducing the use of fossil fuels
- Feeding energy back into the grid
- Reducing the hydraulic oil needed
- Using nothing but environmentally acceptable oils
- Reducing wear on parts such as brakes
- Reducing noise emissions

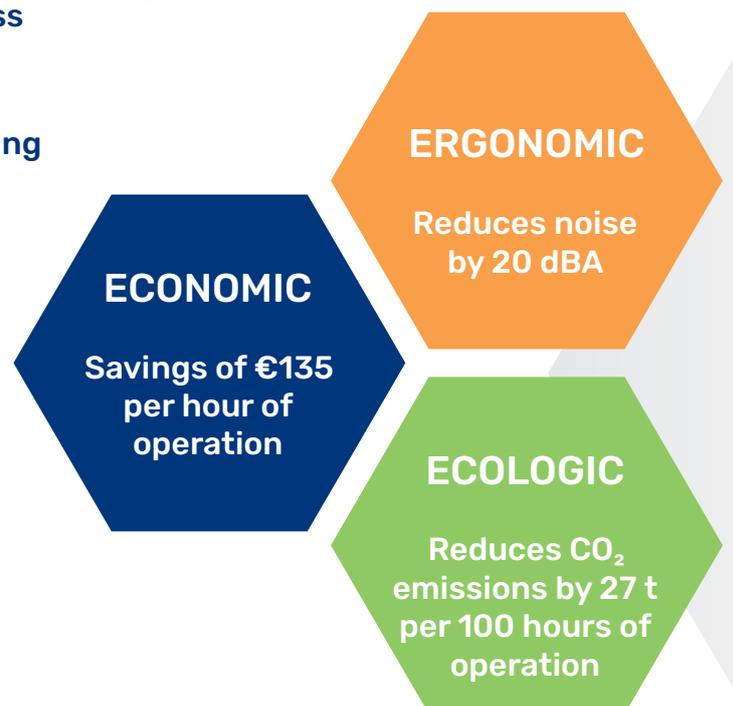


Unlike diesel engines, the use of green traction current causes no CO₂ emissions.

The E³ series enables our partners to meet the challenges of today and tomorrow, including

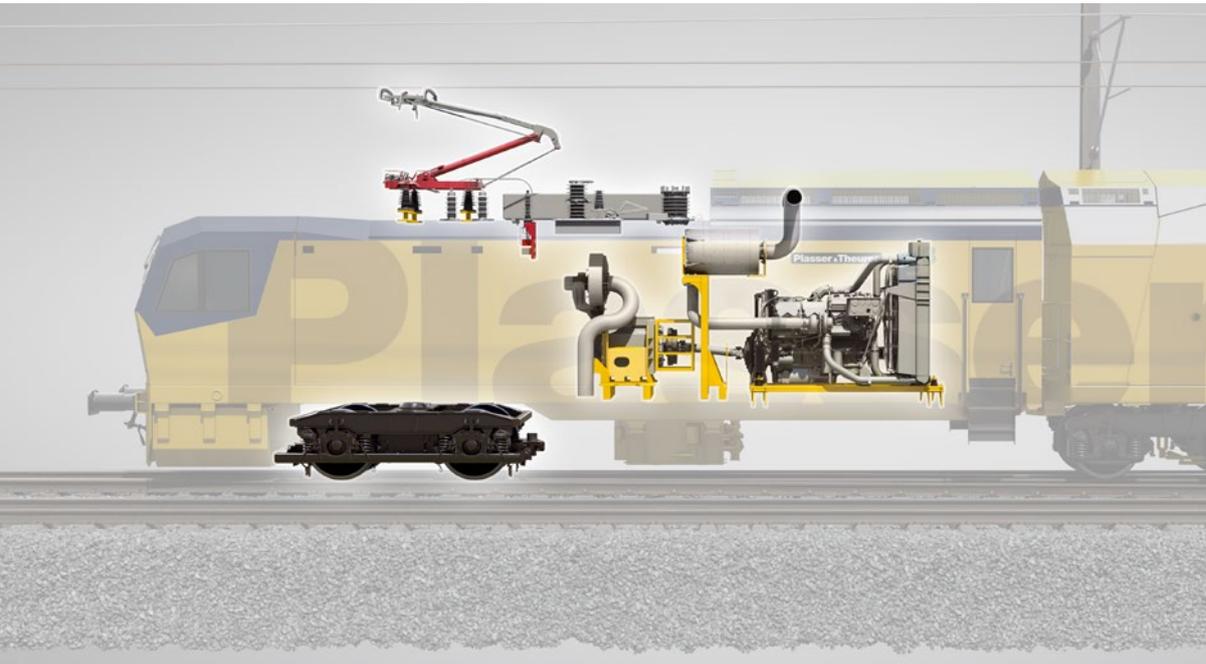
- Employee protection and user-friendliness
- Stricter emission limits
- Lower budgets for operations and operating resources
- Work in tunnels
- Inner-city working operation

E³ MACHINES STAND FOR “ECONOMIC – ECOLOGIC – ERGONOMIC”



LONG-TERM PARTNERSHIPS FOR SUSTAINABLE PRODUCTS

Unimat 09-4x4/4S E³ with electrically powered tamping unit



Unimat 09-4x4/4S E³

The classic tamping machine has been raised to a new level of development with the technology shown. With the Unimat 09-4x4/4S E³, the electrical energy from the overhead contact line is not only used for electrical traction in running mode; for the first time, the tamping unit itself is also powered electrically. If there is no power from the overhead contact line, a diesel-electric generator supplies it instead.

According to an annual assessment carried out in Switzerland, the savings potential is EUR 135 per hour of operation. A study compared a Unimat 09-4x4/4S with hybrid technology and an 09-4x4/4S without hybrid technology. Taking into account the entire costs of operation and servicing of the two machines, the study revealed that the E³ machines can produce a cost advantage of approx. EUR 200,000 per year. Additional features on the electrically powered E³ machines, such as the wear-free electric braking of the satellite, provide additional savings potential.

TIRELESS DEDICATION TO PRODUCT SAFETY

Safety first - machine safety protects people

Plasser & Theurer is synonymous worldwide with safe track construction and maintenance machines. The topics of product safety and health protection for users, risk evaluation and consideration are therefore high on the company's list of priorities. On the one hand, there is an obligation to do so due to the currently applicable directives and standards for machine safety, which must be observed and complied with. On the other hand, it is a central concern for all stakeholders involved to permanently develop and improve this already high level. The aim is to continue to meet these high quality requirements in future under constantly changing conditions.

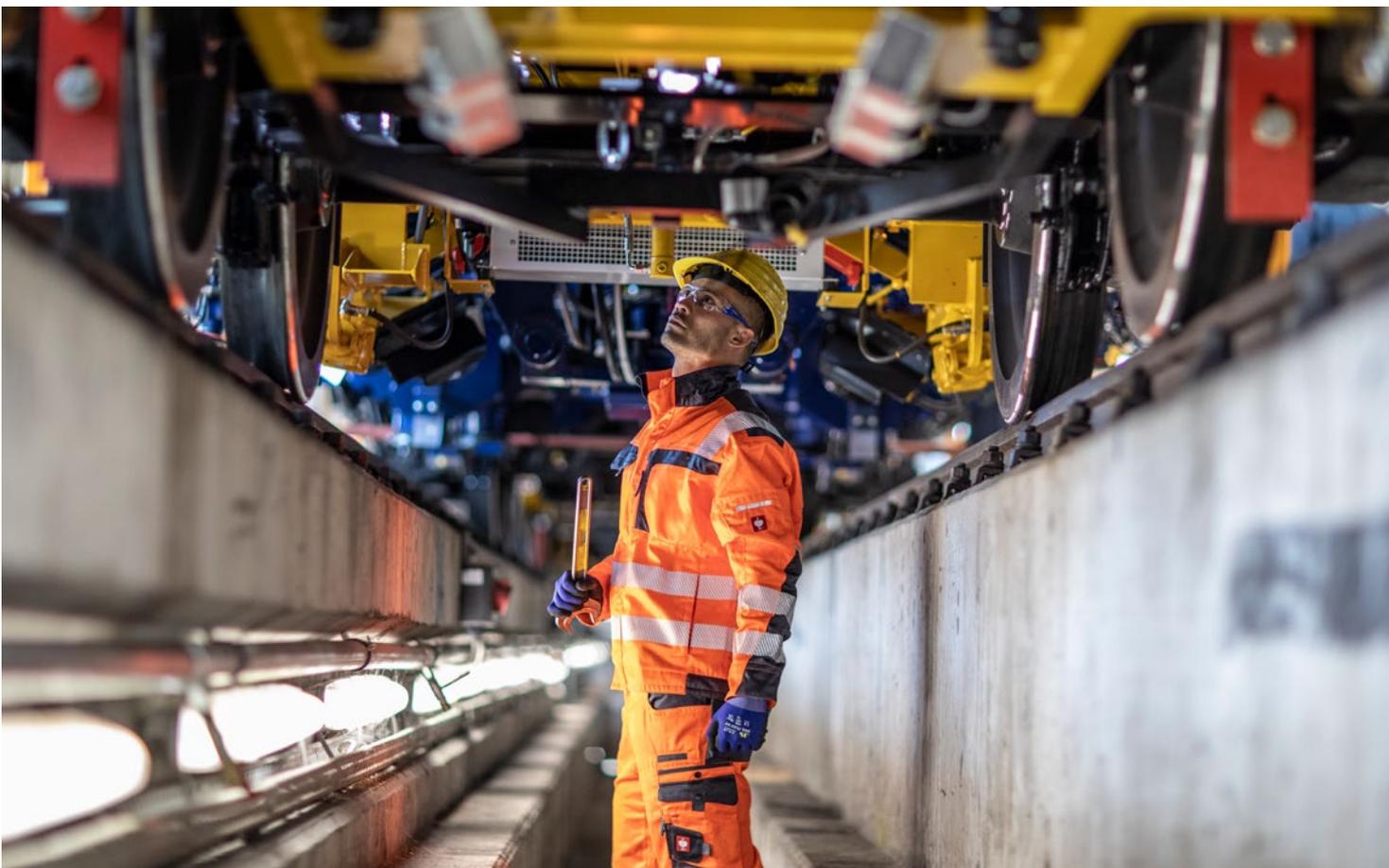
Ensuring safety safely

Plasser & Theurer is required to comply with legal requirements and conditions – applicable to all European machines and vehicles – in two respects: the requirements for implementation of an EU conformity assessment procedure and, at the same time, the requirements for the common methods for evaluation and assessment of risks of the CSM Regulation (Common Safety Method). As vehicles and machines in the special machinery sector have a high degree of individualisation, both the EC conformity assessment procedure and the risk management procedure must be applied to each type of vehicle.

This process includes the following steps:

- 1) **Identifying potential risks**
- 2) **Analysing identified risks**
- 3) **Assessing risks**
- 4) **Setting protective measures to minimise risks**

All machines for the European market are checked through such a process for their impact on safety and health protection with regard to potential for improvement. In the reporting years 2019 to 2021, there were no violations of regulations and/or voluntary codes of conduct related to the impact of products and services on the health and safety of users.



Contribution to the development of standards in the railway sector

Plasser & Theurer has a special status in the railway industry due to its expertise. Practice has shown that industry representatives make a valuable contribution to the practicality of standards development at both the European (EN) and the international (ISO) level.

OVERVIEW OF THE MOST IMPORTANT DIRECTIVES AND REGULATIONS THAT APPLY TO MACHINE SAFETY:

- **2006/42/EC (of 17 May 2006)** on machinery, and amending Directive 95/16/EC (recast)
- **(EU) 402/2013 (of 30 April 2013)** on the common safety method for risk evaluation and assessment and repealing Regulation (EC) No 352/2009
- **2014/30/EU (of 26 February 2014)** on the harmonisation of the laws of the Member States relating to electromagnetic compatibility (recast)
- **2014/29/EU (of 26 April 2014)** on the harmonisation of the laws of the Member States relating to the making available on the market of simple pressure vessels
- **2014/68/EU (of 15 May 2014)** on the harmonisation of the laws of the Member States relating to the making available on the market of pressure equipment
- **(EU) 2016/798 (of 11 May 2016)** on railway safety

The main aims of Safety Management

Creating a holistic safety management approach tops the list of this organisational unit's objectives. Others include realigning, more specifically a systematic and structured approach to, the EU conformity assessment process, implementing a risk management process and continuously improving of safety processes to ensure that all identified hazards and associated risks are kept at an acceptable level. In addition, a claim management system was introduced that enables customers throughout Europe to communicate safety requirements and notices to Plasser & Theurer. In addition, further training for design engineers also aids in placing a greater focus on safety.

IMPORTANT MEASURES AND OUTLOOK

- **Creating a safety management manual by 2023**
- **Introducing a modular system for risk assessments by 2024**
- **Implementing a risk management process by 2022**
- **Ongoing increase in human resources**

Measures

OUR CUSTOMERS ARE OUR PARTNERS

Plasser & Theurer sees customer relationships as partnerships. Our customers are railway companies (operators of high-speed traffic, freight traffic, urban transport authorities, metros) and construction firms that deploy Plasser & Theurer machines.

The global team is committed to helping customers succeed and make positive changes in the nature of infrastructure. In order to ensure this support in the best possible way, five world regions led by regional managers have been defined. They are responsible for the sale of new machines as well as for customer support. The objective is clear: to offer the customer one point of contact for the entire portfolio.

Customer service at the Linz Training Centre

The Linz Training Centre and Technical Service have been providing support and training in the newly built Service Centre since 2018. Every week, at least two groups of trainees come to our main factory in Linz to attend the training courses that form part of a new machine contract. Most of the trainees are our customers' operating staff and maintenance personnel. However, managers are also introduced to the key criteria for handling worksites.

The latest media technologies are available in the Service Centre, enabling efficient and rapid knowledge transfer. A great deal of importance is also attached to the topic of safety. To allow the trainees to familiarise themselves with the workflow on the machine, the basement of the Service Centre houses simulators. They make it possible to efficiently train the work in the front cab and in the work cab of a tamping machine.



Machine simulator at the Linz Training Centre



EXCEPTIONAL PRODUCTS AND SERVICES

• 2014: International Heavy Haul Association

Plasser & Theurer receives an award as a partner of heavy haul railways.

• 2014: 50 years of Shinkansen without personal injury

The award from Japan for Plasser & Theurer's quality is a special one, as Plasser & Theurer was the only foreign company to be honoured with it.

• 2016: Brazilian Award

Plasser do Brasil is chosen as the best supplier of railway construction machinery/equipment.

• 2016: Privatbahn Magazin

For the development of the hybrid universal tamping machine, Unimat 09-32/4S Dynamic E³, the German railway magazine awarded Plasser & Theurer its innovation prize.

• 2018: Award of the Austrian Federal Railways (ÖBB)

By using the ÖBB for business trips, the company reduced its CO₂ emissions by 16.5 tonnes in 2017.

• 2018: klimaaktiv Award

The hybrid machines for Plasser & Theurer and Franz Plasser Vermietung use electricity that is 100% renewable energy.

• 2020: GreenTech Award

Plasser & Theurer receives the Top Innovator Award in the field of climate protection technologies.



A young man with dark hair, wearing safety glasses and a blue work shirt, is focused on his work in a workshop. He is leaning over a red workbench, possibly using a tool. In the background, there are shelves with various tools and equipment, and a poster with technical diagrams. The overall scene is a professional and educational environment.

**EMPOWERING AND
ENCOURAGING
PEOPLE**



Employees are the most important factor when it comes to ensuring the long-term success of a company. The family business has a high percentage of long-term employees who form the backbone of the company. Their expertise, know-how, commitment and creativity with regard to innovative solutions are the essence of Plasser & Theuer. Therefore, promoting the professional development of employees, from apprentices to specialists and managers, is crucial. Fair, performance-related pay and pensions, health and safety as well as flexible working time models all help to maintain a work-life balance.

1		A+D
1	SK40	63
	SK30	200
2	SK40	500
	SK30	1600

EMPLOYEE DEMOGRAPHICS

In Austria, the company had 2,005 employees at the end of 2021 (2020: 1,865), of which around 13.66% were women. In 2021, Plasser & Theurer employed 58 apprentices (2020: 57). Due to their years of service with the company, the percentage of employees over 50 is around 25%.

EMPLOYEES

Master data (head count) as of 31 December

	Category	2019		2020		2021		Development
Employees by gender	Female	232	13%	250	13%	274	14%	
	Male	1,544	87%	1,615	87%	1,731	86%	
Employees by age	< 30 years	335	19%	402	22%	421	21%	
	30-50 years	948	53%	1,001	54%	1,095	55%	
	> 50 years	493	28%	462	25%	489	24%	
Total Employees	Total	1,776	100%	1,865	100%	2,005	100%	



THE PIONEER

In 2021, Melina Bachhuber (15) made history in our company's apprenticeship programme. She started an apprenticeship as a machining technician, making her our first female apprentice.

APPRENTICES

(head count) as of 31 December

	2019	2020	2021
Number of apprentices	58	57	58

It is essential to retain existing know-how and to keep promoting it. Retaining existing employees is therefore just as important as creating an attractive scheme to attract new employees. Plasser & Theurer employs a small number of temporary workers who mainly work when there are order peaks.

100% of employees in Austria are subject to collective bargaining agreements.

Almost all employment contracts are permanent. 8% of employees work part-time.

EMPLOYEES

by employment contracts and full-time/part-time employment
(head count) as of 31 December

	Category	2019	2020	2021
Permanent employees	Female	230	248	274
	Male	1,542	1,613	1,727
	Total	1,772	1,861	2,001
Temporary employees	Female	2	2	2
	Male	2	2	2
	Total	4	4	4
Full-time employees	Female	148	149	166
	Male	1,499	1,575	1,680
	Total	1,647	1,724	1,846
Part-time employees	Female	84	101	110
	Male	45	40	49
	Total	129	141	159

DIVERSITY IN LEADERSHIP FUNCTIONS

(head count) as of 31 December

	Category	2019	2020	2021
Executive Management	Female	0%	0%	0%
	Male	100%	100%	100%
	< 30 years	0%	0%	0%
	30-50 years	40%	40%	40%
	> 50 years	60%	60%	60%
Division Director	Female	20%	20%	14%
	Male	80%	80%	86%
	< 30 years	0%	0%	0%
	30-50 years	76%	76%	50%
	> 50 years	24%	24%	50%
Department Head	Female	3%	9%	12%
	Male	97%	91%	88%
	< 30 years	3%	4%	2%
	30-50 years	62%	66%	70%
	> 50 years	35%	30%	28%

EMPLOYEE DEVELOPMENT – INVESTING IN THE FUTURE



The employment trend is an important indicator for Plasser & Theurer in order to be able to derive measures for managing the employee structure from the developments in a year-on-year comparison or over longer periods of time. Demographic change, increasing internationalisation and the shortage of skilled workers are challenges that have an impact on human resources.

Fair and timely remuneration and performance management guarantee competitive remuneration packages and benefits.

The company recruits a large number of new employees every year, which means that optimising recruitment processes and retaining employees are also essential for the future. Fair and timely remuneration and performance management guarantee competitive remuneration packages and benefits.

Examining market trends and international best-practice models ensures that the company attracts, motivates and retains highly qualified talent.

TRAINING AND PROFESSIONAL DEVELOPMENT

Plasser & Theurer focuses on professional and personal expertise. It strives to create a suitable environment to promote the key competences of its employees with a wide range of employee development measures and tailor-made training programmes.

In 2021, performance appraisals were conducted with 91% of employees and almost 100% of managers. Using the employee competence survey filled out for the appraisal, Human Resources - Employee Development and

the Training Centre create a training course catalogue based on employee needs. The qualification matrix is used as an additional source as regards professional training. Managers and Human Resources revise it at regular intervals and check its execution.

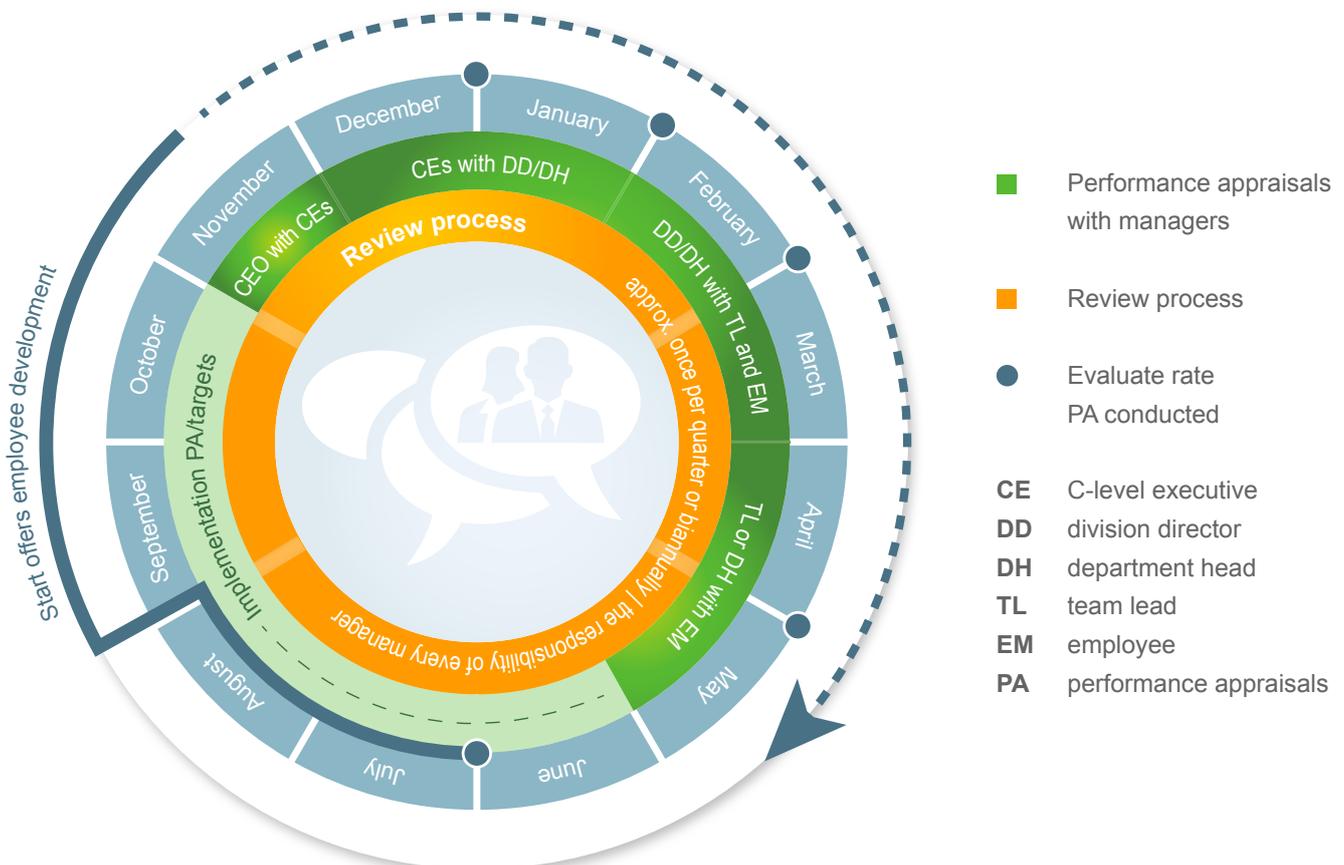
In addition, goals and development plans are defined with the employee's direct superiors.

In 2020, many new courses and online content was offered for the development of professional,

business, personal and leadership skills. In 2021, an average of 6.9 hours per employee was spent on internal training and professional development via the Training Platform.

Performance appraisals for workers are still being developed and are expected to start in 2023.

PERFORMANCE APPRAISALS IN THE ANNUAL CYCLE



THE TRAINING AND PROFESSIONAL DEVELOPMENT PROGRAMME
at the Training Centre is based on three educational pillars:

- 1 P&T Training Platform**
- 2 Training via external providers**
- 3 Personal development – P&T Education 4 You support programm**

PROMOTING TRAINING AND PROFESSIONAL DEVELOPMENT THROUGH THE NEW LEARNING MANAGEMENT SYSTEM

In the 2021 reporting year, Plasser & Theurer introduced a Learning Management System (LMS) to further promote the potential of employee training and development. To that end, a new department was set up, new employees were hired and processes and KPIs (key performance indicators) were defined to achieve the goals. At the same time, the training courses offered were enhanced by developing new training according to KPI specifications and setting up a digital training platform including a course catalogue. For the coming year, the plan is to continue to expand and optimise the system already integrated in the company in order to be able to offer all employees professional development opportunities that are as widely encompassing as they are specific. This includes, among other things, consolidating the department, coordinating training, expanding the course programme and achieving set goals.

TOPICS OF THE TRAINING PROGRAMME



EMPLOYEE BENEFITS (IN KIND)

Plasser & Theurer offers its employees a wide range of attractive additional benefits and allowances. These benefits are available to full-time and part-time employees. For example, the company provides meal vouchers that can be used in the canteens on the factory premises or in participating locations. Healthcare benefit allowances include, for example, support for dental treatments and for the purchase of corrective lenses. An important aspect of professional human resources work is offering training and professional development opportunities. Therefore, an allowance of 10% of the cost of course fees is available for professional development training or language courses.

An important concern is to create a healthy, safe, productive and positive working environment. An important priority is a good work-life balance for employees. To that end, the company sport club offers a wide range of sporting opportunities: from Bavarian curling, skiing, and track and field to beach volleyball, football, tennis and various health and exercise programmes.

In addition, employees can benefit from discounts on purchases by means of goods vouchers, preferential conditions or permanent discounts. Company employees also benefit from holiday childcare and holiday opportunities for families. The company management makes the lakeside houses

Strandschlössl and Wulfenia in Pörtschach am Wörthersee available for a family holiday for a small contribution to the costs.

Group insurance

The group insurance available to employees is known as endowment and life insurance. All employees who have been with the company for at least five years qualify. The employer pays a fixed amount to the insurance company per employee per year. When employees leave, they receive the amounts paid in from the insurance company.

SAFETY FIRST

24/7

Plasser & Theurer adheres to the highest standards in order to provide a safe workplace for its own employees as well as those of contractors. In addition to occupational safety, the company is also committed to the safety of the machines it manufactures and the machine technicians who operate them (see the chapter “Tireless dedication to product safety”). Safety management for Plasser & Theurer employees includes risk management, managing hazardous substances and systematically investigating incidents.

OCCUPATIONAL HEALTH AND SAFETY, ACCIDENT PREVENTION

Risk mitigation measures are the order of the day to avoid accidents and, in the event of incidents, to minimise the negative impact on people and the environment.

Internal guidelines prescribe mandatory risk assessments for non-routine activities, but also for reviews of risk assessments of existing manufacturing equipment. For this purpose, an occupational safety committee, which is made up of employees from different divisions, meets regularly.

The company is aware that the risk of serious accidents during assembly work is significant and that such accidents can have serious consequences for the people involved and the environment. Living out a strong

safety culture is therefore the foundation of business and its relationships with contractors. At Plasser & Theurer, 100% of employees and contractors are covered by the occupational safety management system.

Clear responsibilities and commitments

This classic management process, Plan-Do-Check-Act, is accompanied by an analysis of the organisational context, i.e. the requirements and expectations of employees as well as other external and internal issues. Leadership plays a central role for occupational safety as a whole, and it is anchored in the organisation through clear responsibilities and commitments.

At Plasser & Theurer, 100% of employees and contractors are covered by the occupational safety management system.



With the implementation of the internationally recognised ISO 45001 certification in June 2020, Plasser & Theurer is doing everything it can to demonstrably reduce the risk of injuries, accidents and work-related illnesses among its employees – and is continuously improving its occupational health and safety using appropriate methods and tools as part of the management system.

COMPONENTS OF THE OCCUPATIONAL SAFETY MANAGEMENT SYSTEM
(according to ISO 45001)



OCCUPATIONAL SAFETY PERFORMANCE

Plasser & Theurer invests continuously in state-of-the-art training for its employees and safe technology. With the help of an internal occupational safety organisation and regular workplace evaluations, it is ensured that risks are identified at an early stage and that preventive measures can be taken to remedy the situation. In accordance with the safety guidelines, clear roles and responsibilities are defined for all management and staff.

In 2019 and 2020, there was one accident each with long periods of lost time. In 2021, an occupational accident involving an employee of a subsidiary occurred on a machine outside the factory premises. Specifically, a track inspection vehicle

derailed and a staff member was injured. There have been no work-related fatalities in the last three years.

Occupational safety continued to be highly important in 2021, as reflected by its prominence in internal media channels. Communication focused on the internally applicable rescue chain, eye injuries or the increased coverage on accident reporting obligations, among others. In this context, the increasing number of work-related injuries can be attributed to the in-depth information campaigns and the resulting awareness raising; this has reduced the number of unreported occupational accidents.

OCCUPATIONAL SAFETY PERFORMANCE (2019-2021)

	Category	2019	2020	2021
Number of work-related injuries ¹⁾	Employees	58	62	95
	Contract workers	11	10	22
Number of work-related injuries with serious consequences ²⁾	Employees	1	1	0
	Contract workers	0	0	0
Number of work-related fatalities	Employees	0	0	0
	Contract workers	0	0	0
Number of lost days due to injury	Employees	753	672	570
Number of average lost days per injury	Employees	11.4	9.3	4.8



¹⁾ All reportable and non-reportable injuries regardless of the lost days

²⁾ Injuries with severe consequences result in absences with more than 180 lost days. To date, this indicator has not been reported according to GRI requirements and corresponds to a basis we have selected for calculating the reported data.

AVERAGE LOST DAYS PER INJURY

Mild injuries with fewer lost days were also reported, which significantly increased the total number of reported accidents as well as the related rate.



Outlook 2022

- Establishing a company first-aid service and employing a company paramedic
- System setup and preparation for implementation and internal rollout of occupational health and safety software

NUMBER OF WORK-RELATED INJURIES

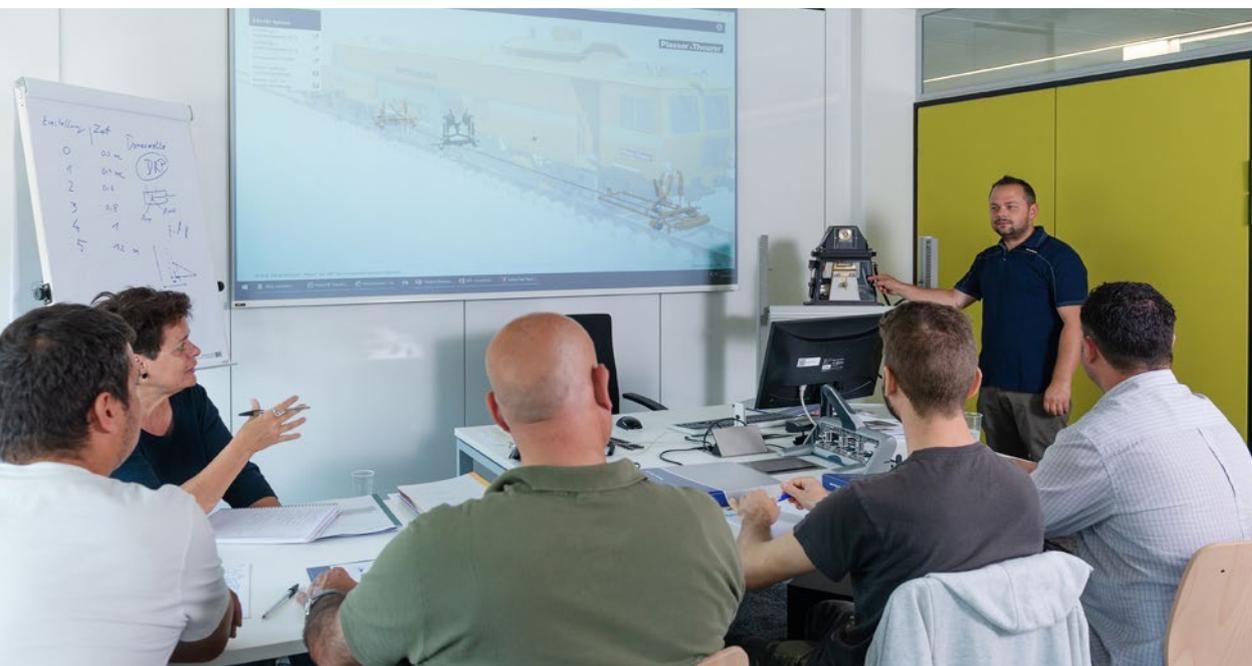


PRIORITISING PREVENTION AND TRAINING FOR EMPLOYEES

Plasser & Theurer exceeds the quota of 30% first-aiders required by the Occupational Health and Safety Act. In order to qualify new first-aiders, first aid courses are held regularly in cooperation with rescue organisations.

Education and training are important tools to inform staff and managers about workplace hazards and the appropriate control mechanisms. Plasser & Theurer exceeds the quota of 30% first-aiders required by the Occupational Health and Safety Act. In order to qualify new first-aiders, first aid courses are held regularly in cooperation with rescue organisations. During regular inspections in all parts of the company, there are checks to see that all regulations are complied with and whether risks exist. In addition, the company trains safety representatives, fire wardens and evacuation assistants who inform the workforce about their specific area of responsibility and conduct awareness work.

Support for occupational health
Plasser & Theurer employees have a company doctor on-site as a regular point of contact. The doctor can perform mandatory examinations or other preventive check-ups: from corrective lenses for screens to vaccinations, employees can get preventive advice and treatment during working hours. Occupational diseases, such as hearing loss or back problems, are countered by appropriate educational work. If health impairments nevertheless occur, a constructive solution is found together with the employees, the manager, the company doctor and the HR department in order to eliminate the causes and symptoms.



THE COVID-19 PANDEMIC AND CORPORATE STABILITY

The Covid-19 pandemic has presented Plasser & Theurer with a challenge unprecedented in the company's history. From the beginning, it was crucial that the company focused on clarity and transparency in communication. Numerous precautionary and preventive measures have helped to maintain operations. Safety measures ranged from an internal Corona hotline, in-house testing facilities, partner labs for PCR testing, new communication tools such as Corona News, FAQs, a vaccination info campaign, vouchers for testing, a Corona bonus and others.

Operations at Plasser & Theurer could continue during the pandemic thanks to the following factors: our employees' dedication, the quick and widespread implementation of remote working, avoiding business trips and introducing shift work.

Numerous initiatives were planned for 2021 to stop the spread of the Corona virus and protect employees. All employees were provided with officially recognised self-tests and FFP2 protective masks. The large-scale vaccination drive for all employees started in June 2021 and marks the largest milestone in the fight against Covid-19 to date.



SAFETY MEASURES FOR 2021

- **Increasing the number of safety representatives – one person per building per shift**
- **Renewing and expanding fire prevention equipment**
- **Obtaining prevention suggestions from employees**
- **Monthly accident reporting obligation**

Measures

SOCIAL RESPONSIBILITY HAS MANY SHAPES

Plasser & Theurer is committed to contributing to the positive and sustainable development of society. Sustainability management therefore also addresses the company's social responsibility. There is a company-wide policy on donations and sponsorships to avoid conflicts of interest, to set binding rules for benefits in the form of donations and sponsorships and to ensure that the funds provided by the company are used as intended.

THE FIELDS OF ACTION OF SOCIAL RESPONSIBILITY



Around EUR 100,000 per year is made available for a "lighthouse project" the company is particularly committed to in the long term.

The focus of Plasser & Theurer's activities is on implementing projects in five fields of action: children's development and welfare as well as support for projects related to health, education, sport and animal welfare. Currently, an annual budget of EUR 50,000 is made available for small donations. In addition, Plasser & Theurer defines a "lighthouse project" the company is particularly committed to in the long term. Around EUR 100,000 is made available annually for this purpose. Marketing and Communications checks, distributes and releases individual earmarked contributions. This applies to donations that are tax deductible

in accordance with the Federal Ministry of Finance's list of beneficiary organisations.

Donations may not be offered or granted to business partners or related third parties. The sponsorship budget is approved annually by the executive management as part of the budget process and amounted to EUR 160,000 in the past financial year. Individual sponsorships are approved and managed by Marketing and Communications. Donations and sponsorships are granted exclusively on the basis of a written contract setting out the objective and purpose of the donation or sponsorship.



**Projects
for education**

**Projects
for sport**

**Projects for
animal welfare**

**5
fields of action
of social
responsibility**

**Children's
development and
welfare**

**Projects
for health**

THE SOCIAL BACKBONE OF SUSTAINABILITY: PARTNERSHIPS AND LIGHTHOUSE PROJECTS

CAPE10 social project – a future of social inclusion

In 2019, the foundation stone was laid for the construction of the modern “CAPE10” social and health centre at Vienna Central Station. The CAPE10 Foundation aims to make people aware that health should not be a privilege and that society needs to show solidarity. People in need through no fault of their own, especially if they have fallen on hard times due to illness, receive support here. CAPE10 stands for the principle of hope, for optimism through new thinking and for a new interpretation of social responsibility. CAPE10 creates a space where different social groups meet under one roof and learn with and from each other. The project was completed in 2020.

The building will be occupied as of January 2021. In addition to numerous sponsors from the arts and culture sector, Plasser & Theurer is a long-standing partner of this project.



CAPE10 - House of the Future and Social Innovation

The large donation for this lighthouse project is made up of three components:

- 1. Financial support**
- 2. Contributions in kind**
- 3. Employee activities which make additional donations possible**



**Max & Lara go on holiday –
a CAPE10 Foundation initiative**

The CAPE10 Foundation's child development project "Max & Lara" aims to empower disadvantaged children and young people and provide them with equal opportunities in the areas of education, sport and leisure. The social advancement project supports children from families at risk of poverty at the University Clinic for Paediatrics and Adolescent Medicine at the Medical University of Vienna/Vienna General Hospital.

Plasser & Theurer's support makes it possible for "Max & Lara" to send sick children on holiday with their families. The company supports this campaign

by making the holiday home in Pörtschach available for one week in the summer where families can enjoy an all-inclusive holiday.



OUR RESPONSIBILITY: CLIMATE PROTECTION AND ENVIRONMENTAL IMPACTS

The railway system meets all the criteria for sustainable and thus forward-thinking mobility. This entails using mineral and energy resources sparingly, reducing emissions and protecting the environment and nature. As part of the railway system, Plasser & Theurer contributes to the environmentally friendly mobility of the future. Its innovative Technology and Innovation division – with its numerous patents relevant to environmental and climate protection – contributes to reducing environmental pollution. However, as an industrial manufacturing company, production also has an environmental impact: in the extraction of resources, energy consumption in processes and transport and through air pollutant emissions.





ENVIRONMENTAL MANAGEMENT IN PRACTICE

Until 2019, Plasser & Theurer's Quality Management department was responsible for energy and environmental management. To highlight the increasing importance of this topic, the new Integrated Management Systems division was created. It comprises several departments and is entrusted with handling internal system, process and specialist audits as well as external audits.

The environmental policy is based on the prevention principle for the precautionary avoidance of damage and pollution and takes into account all legal requirements. The environmental management system is understood as a continuous improvement process in which environmental aspects are evaluated on the basis of materiality analyses. These analyses are used to determine aspects requiring action. In addition, all employees will

successively receive training on environmental and climate protection. The project was already rolled out in 2020 with training for managers in Production. In addition to technical knowledge, the focus is on sensitising and raising awareness among participants about climate and environmental protection.

Potential environmental hazards are assessed according to a risk assessment process in terms of their probability of occurrence and extent of damage. If necessary, the company takes appropriate measures to minimise or eliminate risks. One infrastructural challenge is that there is no connected factory site, but that the company has grown over the past six decades to more than 30 buildings at different locations in the main factory in Linz alone.

ENVIRONMENTAL AND ENERGY MANAGEMENT SYSTEMS

ENERGY CONSUMPTION DATA FOR AUSTRIA
(Linz, Vienna, Purkersdorf)

	2019	2020	2021
District heating (MWh)	16,184	16,339	18,557
Electricity (MWh)	10,470	9,417	9,608
Heating oil (MWh)	33	33	0
Natural gas (MWh)	4,632	4,137	4,688
Diesel (MWh)	6,568	6,916	7,806
Petrol (MWh)	0	1	322 ¹⁾
TOTAL (MWh)	37,886	36,843	40,981
Fossil fuel (MWh)	11,233	11,087	12,816
Renewable fuel (MWh)	0	0	0
Purchased energy (MWh)	26,653	25,756	28,164
TOTAL (MWh)	37,886	36,843	40,981

¹⁾ Due to the widespread introduction of fuel cards for the vehicle fleet, the data situation regarding petrol consumption has improved considerably.

Plasser & Theurer has been certified according to ISO 14001 environmental management and ISO 50001 energy management since 2014. These two management systems are the company's central control instruments for the environment, and they are being expanded on an ongoing basis. Through internal audits, risk assessments, regular evaluation of environmental aspects and deriving improvements from them, the company ensures that environmental impacts are kept as low as possible. For example, in 2020 the compressed air system was checked for leaks and further measures were implemented to reduce energy consumption through compressed air.

Energy consumption trends

Energy consumption is made up of the consumption of fuels (natural gas, diesel, petrol and heating oil), purchased district heating and purchased electricity. In 2021, Plasser & Theurer consumed a total of 9,608 MWh of electrical energy and 31,373 MWh of thermal energy, resulting in a total energy consumption of 40,981 MWh.

Various fuels are used in the factories and office buildings. Natural gas is used to heat office buildings as well the paint shop. In 2021, a total of 4,688 MWh of natural gas was purchased for this purpose.

In the current reporting year, 8,128 MWh of diesel and petrol were required to fill and operate diesel machines and to refuel company cars.

About one third of the diesel used is consumed by the company itself, with the rest being shipped together with the machines. In total, Plasser & Theurer consumed 12,816 MWh of fuels in the reporting year. This figure has been relatively constant over the past three years.

District heating is obtained from the local district heating network to heat the company buildings. 18,557 MWh of district heating was purchased in 2021.

One of the most significant sources of emissions for the company is electricity consumption. Plasser & Theurer purchased 9,608 MWh of electricity in the reporting year. Between 2019 and 2021, electricity consumption could be reduced by approximately 8%. With the help of the ISO-certified energy management system, which was converted to the current ISO 50001:2018 standard in the course of a recertification in 2021, processes and procedures are continuously evaluated and optimised with regard to their energy efficiency. Various energy-efficiency measures, such as energy-saving LED lighting or efficient air conditioning units, are intended to reduce energy consumption even further in future. Plasser & Theurer has also set a goal for itself: to make the composition of its electricity - the electricity mix - more environmentally friendly in the coming years and to increase the amount of green electricity.

Sharp decline in business trips

The Covid 19 pandemic has seen the company experience an 80% decrease in business trips in the 2020 financial year. Due to the IT infrastructural renewals, a considerable number of business trips can also be replaced by video calls in future.

**INTENSITY INDICATORS
PLASSER & THEURER**

	2019	2020	2021
Energy consumption (MWh)	37,886	36,843	40,981
Turnover (T€)	476,109	581,531	500,640
ENERGY INTENSITY (MWh/turnover)	0.0796	0.0634	0.0819



CIRCULAR ECONOMY, RECYCLING, WASTE MANAGEMENT

Focusing on waste in environmental management

In the reporting year 2021, the focus of environmental management at Plasser & Theurer was on waste quantities. The aim was to reduce them using a comprehensive measures programme. This also had an immediate effect: in 2021,

the amount of waste could be reduced by 10%. More than 90% of the waste generated is non-hazardous. However, it is different with the remaining 10%, which includes paints, coolants, lubricants and oil-contaminated solids. All waste is disposed of properly.

WASTE (t)



In-house waste and recyclables collection centre

An important environmental innovation kicked off at the end of 2020: at the Linz site, an internal waste and recyclables collection centre was built in the inner courtyard area. Waste and recyclable materials can be separated and deposited in this 400 square metre area. Construction costs amounted to about EUR 200,000 and are an important investment for environmental protection.

The circular economy is a high priority

Metal chips are produced during milling, drilling or turning. These chips are collected in all production facilities either automatically or manually. A specialised disposal partner processes them, separating precious metals, metals and plastics from each other and removing liquids. The processed metal is returned to the industry. For decades, our company has had partnerships with companies specialising in recyclables and the disposal of old materials, back when the circular economy was not yet a priority in Austrian industry. With this kind of environmental cooperation, companies can be the driving





force behind the transition to a circular economy. Goods and resources can thus be shared efficiently while having a positive environmental impact at the same time.

The aim is to adapt the waste management concept, which previously applied to the entire company, to the individual buildings and locations in order to be able to increase the efficiency of the measures.

Disposal of used cutting fluids

Cutting fluids for all machine tools can be used between three and six months. In order to extend the operating times, these machining centres are equipped with filter systems that continuously remove foreign matter and floating tramp oil

from the cooling medium. At the same time, coolant management is in place to keep the cost-intensive feedstock as stable as possible. The focus here lies on relevant factors (germs, bacteria, fungi, nitrite, concentration, pH value). At the end of the operating time, the cutting fluids are collected in tanks. Finally, a disposal partner separates the emulsion, which consists of water and oil. The water is recycled. This costly disposal of the emulsion represents a significant cost factor within the scope of production.

Environmentally friendly paint shop

Plasser & Theurer only uses low-solvent paints for colouring parts and components. Furthermore,

the exhaust air from the paint shop is cleaned on the basis of a catalytic process. The heat generated in the process is used to heat factory buildings.

PLASSER & THEURER'S CARBON FOOTPRINT

In cooperation with an external partner, Plasser & Theurer has compiled a carbon footprint report for the last three years (2019–2021). This calculation according to the Greenhouse Gas (GHG) Protocol includes both Scope 1 and Scope 2 emissions at the company's locations in Austria (Vienna, Linz, Purkersdorf).

Direct emissions (Scope 1) occur directly in the operation itself, such as the use of fossil fuels, or during the production process. The survey of indirect emissions (Scope 2), on the other hand, includes the amount of purchased electricity and district heating or cooling for use in operational processes.

We have calculated our corporate carbon footprint to pursue the following goals:

- **Status quo concerning Plasser & Theurer's carbon footprint according to GHG protocol as a basis for the years to come**
- **Increased networking within the company regarding sustainability, as carbon savings and the underlying measures are a joint effort**
- **Basis for strategically controlling CO₂ emissions as well as taking control of the challenges and potential associated with that**

CORPORATE CARBON FOOTPRINT

The Corporate Carbon Footprint (CCF) is calculated according to the Greenhouse Gas Protocol. It examines a company's direct and indirect greenhouse gas emissions, which are expressed in t CO₂eq per year. As the Plasser & Theurer calculation shows, Scope 1 and Scope 2 are seen as a reporting minimum. Relevant Scope 3 categories will also be included by Plasser & Theurer in future.

Double reporting (location-based vs. market-based)

Companies should report their emissions using both the "location-based" and the "market-based" method.

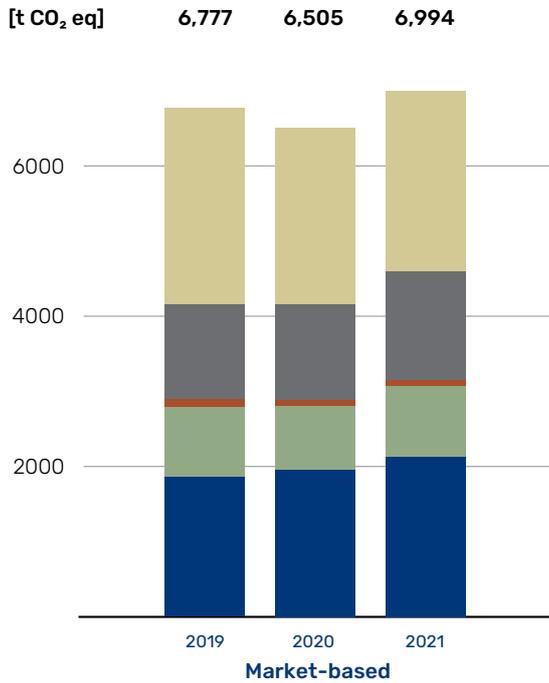
Location-based method:

- Disclosure of Scope 2 emissions based on country/region-specific emission factors (electricity mix).

Market-based method:

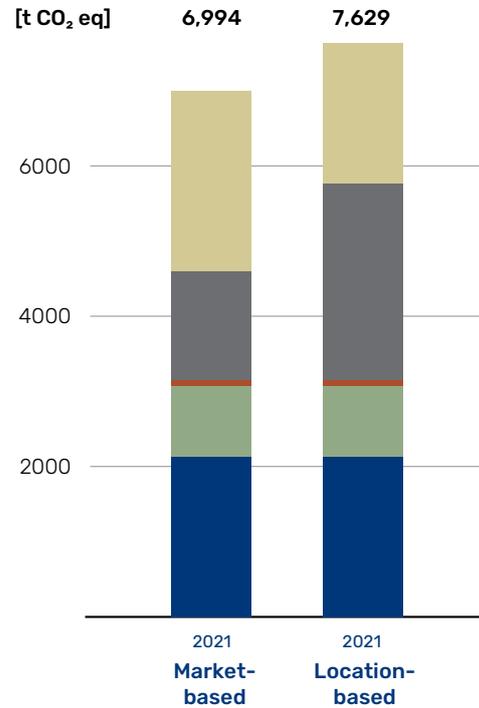
- Disclosure of Scope 2 based on supplier-specific emission factors (from supplier contracts, if available)
- Alternatively: Residual mix emission factor (if available) or country-specific emission factor (for locations where no supplier-specific EF is available)

**TOTAL EMISSIONS
CCF 2019-2021 SCOPE 1, 2
(market-based)**



- Electricity
- District heating (market-based)
- Process emissions
- Coolant
- Thermal and process heat
- Fuels/Transport

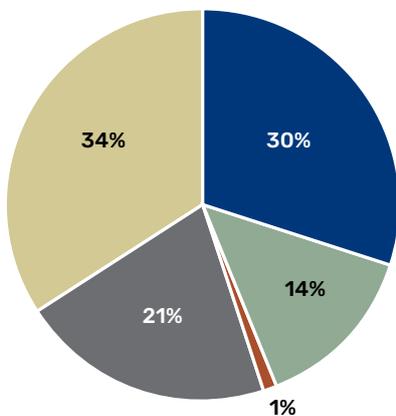
**TOTAL EMISSIONS
CCF 2021 SCOPE 1, 2
(market-based vs. location-based)**



Total emissions

Purchased electricity makes up a large part of our carbon footprint. In addition, the emissions resulting from the purchase of district heating come exclusively from the production site in Linz, such as 84% of the total emissions in 2021. Finally, electricity is the largest source of emissions, accounting for 34% of total emissions (Scope 1 and 2), closely followed by fuel consumption.

**TOTAL EMISSIONS
CCF 2021 SCOPE 1, 2
(market-based)**

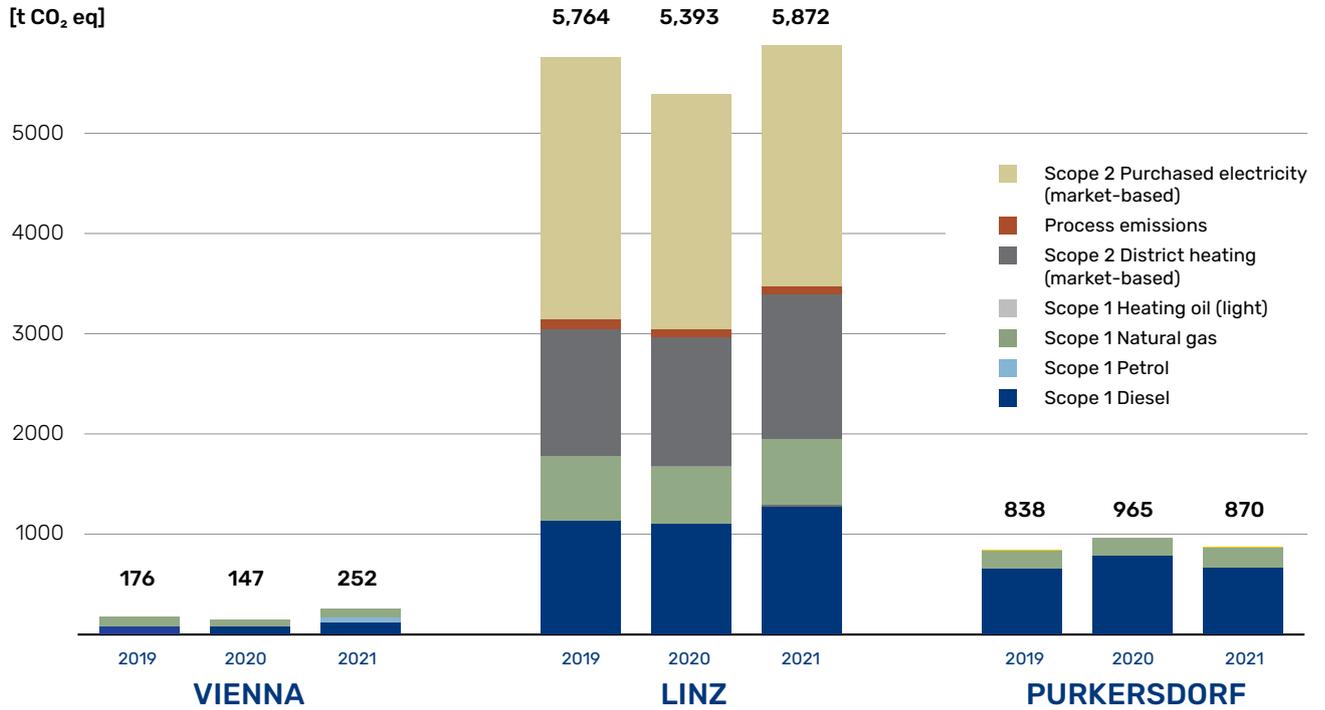


Location overview

The graph of Scope 1 and Scope 2 emissions per location provides a clear picture: the site in Linz is responsible for a large part of the emissions. In particular, this relates to emissions from purchased energy (Scope 2) and from fuel consumption (Scope 1). Since the carbon footprint at the Vienna and Purkersdorf locations is smaller, there is particular savings potential in Linz. Scope 1 also includes, for example, process emissions from paint post-combustion.

The location-specific analysis shows that the Scope 1 and Scope 2 emissions in Vienna increased year-on-year. In Linz, on the other hand, total emissions in 2020 are slightly lower than in 2021. In Purkersdorf, more emissions were emitted in 2020 than in 2021, with a large part of this being due to diesel consumption.

EMISSIONS
CCF 2019-2021 SCOPE 1, 2
(per location)



With the largest order in the company's history to supply low-emission machines to its business partner ÖBB, Plasser & Theurer is following its vision on the path to climate neutrality and laying the foundation for additional innovation-driven projects:

"A major reason the contract went to Linz is the largely emission-free propulsion system. The vehicles with battery power or power from the overhead contact line and – as a backup – with a diesel generator are climate-friendly and suitable for future technologies, such as the ETCS train control system, and for new lines, such as the Semmering base tunnel and the Koralm railway. On the Koralm railway, the new vehicles are to be used as early as 2023."

Johann Dumser, Director of Global Marketing and Communications

In addition, Plasser & Theurer's modular, hybrid machines support their partners in increasing durability and efficiency, the safety of work on installations and, ultimately, in achieving their own climate goals.

INTENSITY INDICATORS PLASSER & THEURER

	2019	2020	2021
CO ₂ emissions (CO ₂ t)	6,777	6,505	6,994
Turnover (T€)	476,109	581,531	500,640
INTENSITY CO₂ EMISSIONS (CO₂ t/turnover)	0.0142	0.0112	0.0140

Scope 3

In addition to the data collected for Scope 1 and Scope 2 emissions, Scope 3 emissions are also to be calculated and approximated in future. Innovative approaches and projects already allow us to reduce our energy use and CO₂ emissions today. This includes upstream and downstream activities such as:

- Selecting short transport routes for outbound machine logistics and preferred transport by rail
- Modular design, platform building and designing new machine generations in preparation for alternative propulsion systems (fuel cells etc.)
- The majority of emissions in the operation phase (approx. 30 years) – Replacing components through a retrofit programme increases longevity through innovative technology (e.g. machine parts with high energy consumption or CO₂ emissions)
- The majority of emission-intensive parts are from other suppliers from the immediate vicinity (voestalpine Stahl GmbH etc.)

Outlook 2022

For the following year 2022, the focus is on achieving the greatest energy savings in Plasser & Theurer's history:

- Switch from a predominantly fossil-based electricity mix at the main factory in Linz to an environmentally friendly electricity mix with a high percentage of renewable energies
- Raising employee awareness regarding our carbon footprint and the associated savings potential

Measure	Time horizon
LED light replacement at the Linz site	from 2020 onwards
Change in electricity mix	from 2022 onwards
Transparency and employee education on CO ₂ consumption	from 2022 onwards
Examination of potential options for alternative energy generation	from 2021 onwards
Annual survey of CO ₂ emissions	from 2022 onwards

Measures



PRIORITISING RAIL FOR TRANSPORTATION

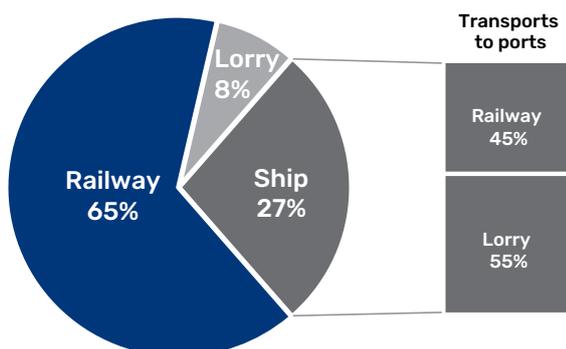
No railway without tracks and no tracks without track construction and maintenance machines, which are predestined to make the railway the preferred means of transport. However, due to their track gauge, individual machines must be shipped by lorry. In order to keep these transport routes as short as possible, three of our own low-loader wagons were developed and manufactured. They make it possible to load and transport narrow-gauge machines by rail.

Plasser & Theurer is pursuing the goal of pushing for more rail transport and optimising these routes from both an environmental and economic

perspective. By opting for special train travel, the company has chosen the less cost-efficient option in order to reduce the number of lorries on roads. In 2021, 27% of the machines were transported by rail, 65% by ship and 8% by lorry. Of the 65% transported by ship, 55% of the machines were transported to the port by lorry and 45% by rail. In particular, the majority of transports within Europe were carried out by rail wherever possible. This meant that the goals set could be met despite a tense market situation due to, among other things, capacity bottlenecks as well as shipping delays and cancellations.

When selecting forwarding agents, Plasser & Theurer makes sure that essential environmental and safety aspects are taken into account during transport. The forwarding agents are required to submit certificates accordingly (e.g. ISO certifications), and statements are available. First and foremost, the focus was on long-term supplier relationships, in conjunction with knowledge of product requirements for our machine transports in 2021, in order to ensure optimal and efficient planning and handling of the transport routes. This concerns, for example, unusual export markets such as Myanmar or the dimensions of our machines and deadline requirements. In future, the plan is to gather detailed information on the CO₂ emissions from transports as well as to document and evaluate it in order to be able to develop targeted measures to reduce transport emissions.

METHODS OF TRANSPORT USED IN 2021



Preventing lorry journeys through MFS units

When track construction and maintenance machines are used in different areas, considerable quantities of material are required

for the track bed: primarily ballast in different grain sizes. To avoid the lorry transports required for this and the resulting exhaust and noise emissions, Plasser & Theurer uses MFS material conveyor and hopper units.

With these special wagons, the material can be collected directly at the worksite and transported away in large quantities by rail. The combination of

modern machines for formation rehabilitation and MFS units can save approx. 1,000 lorry journeys per rehabilitated track kilometre.

In order to reduce the emissions of MFS units even further, the engine of the MFS 120 has been redimensioned and equipped with an improved engine management system. In addition, the engine is automatically switched off after loading.

OUTLOOK 2022

In future, Plasser & Theurer will also strive to see rail as a prioritised means of transport and to exploit its potential in this respect.

To that end, plans are being drawn up not only for the current use of the company's own low-loader wagons, but also for alternative modes of transport offered by various rail providers. In addition, potential challenges are constantly being evaluated with regard to transport routes, paths and possibilities for used machines and retrofits.

Measures

LOWER NOISE POLLUTION FOR LINESIDE RESIDENTS AND STAFF

All construction work creates noise. In track construction, this primarily affects the staff. However, it may also be irritating for lineside residents. Plasser & Theurer has therefore been involved in the construction of suitable noise control solutions for decades. Today, fully sound-insulated tamping machines are used, especially in Japan, with noise emissions of only 76 dB (A) at a distance of seven metres, whereas this value is usually 84 dB (A). In order to better protect the staff working against noise, several measures can be taken with these machines:

- **Noise absorbing inner panels and resilient bearings of the driver's and work cabs**
- **Sound insulation for engines**
- **Sound dampened supply and discharge of cooling air via the machine roof**
- **Exhaust systems with silencers**
- **Resilient bearings of the tamping units which are shielded by synthetic covers**
- **Widespread rollout of adapted hearing protection**



REDUCED EXHAUST EMISSIONS AT WORKSITES

Exhaust emissions from construction vehicles that stand in one place for a long time with the engine running are a nuisance for the staff working there. Machines are equipped with diesel particulate filters to reduce them. These filters capture around 98% of the particulate matter. They

are completely self-regulating systems, so that even with the strongest pulsations in the exhaust gas flow, the exhaust gas cleaning performance remains constant. The filters are also cleaned automatically. After about ten hours of operation, the system activates and the particles are burned in the filter.

Environmentally friendly vehicle fluids

It is the customers' decision to use environmentally friendly vehicle fluids. However, it is Plasser & Theurer's responsibility to offer customers the optimum alternatives and to ensure that the machines also perform to their full capacity with these vehicle fluids.

- Biodegradable hydraulic oil

Hydraulically operated components are at the heart of the machines. A larger machine has between 1,200 and 2,000 litres of hydraulic oil on board. Since mineral oil leaks can cause damage to the soil and groundwater, Plasser & Theurer recommends the use of biodegradable hydraulic oil in the interest of environmental protection.

- Vegetable lubricants

Vegetable lubricants are also biodegradable. Their use is particularly recommended where exposed machine parts come into contact with ballast bed material, e.g. the excavating chains of ballast cleaning machines.

- Vegetable fuels

Diesel engines can of course also be operated with vegetable fuels. The exhaust gases from engines optimally matched to the biofuel are practically sulphur-free and achieve good to better emission values for nitrogen oxide, carbon monoxide, hydrocarbons and their derivatives. Tests have proven that the drive units run perfectly with vegetable fuels even if no technical modifications are made.



PRIORITISING SUSTAINABILITY IN PROCUREMENT

As the first step in the value-added chain, procurement plays an important role in the selection of materials and suppliers. Sustainable procurement integrates social, ethical and environmental criteria into the supplier selection process. It is therefore Plasser & Theurer's goal to make responsible procurement an even more integral part of purchasing and supplier management.

The foundation of the Code of Conduct defines the framework for procurement and dealings with suppliers and business partners. It aims to ensure that all suppliers comply with sustainable business practices. In future, Plasser & Theurer will ensure that divisions and departments involved in procurement take sustainability criteria into greater account when procuring goods and services.

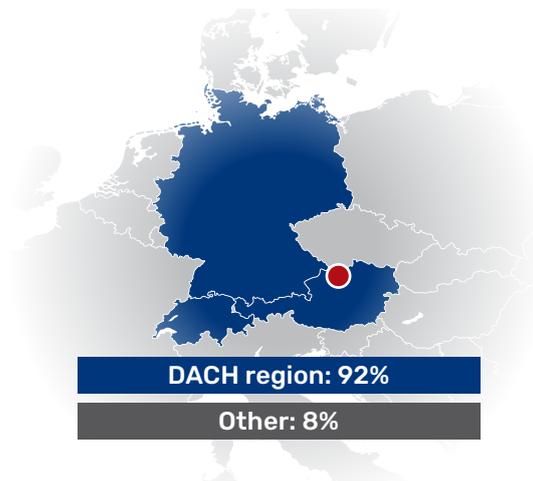
Focusing on the region

An important procurement indicator for Plasser & Theurer is focusing on regional procurement. In 2021, 92% of suppliers came from the DACH region [i.e. Germany, Austria, Switzerland]. In addition to the focus on regional procurement, the company relies on the values of delivery reliability and long-term partnerships. These premises have a positive impact on business. For example, Plasser & Theurer was named Deutsche Bahn's Supplier of the Year in 2018. This strategy proved its worth last year, as it did in 2020, as regional cooperation maintained supply under the challenging conditions of the

Covid crisis. Consequently, international supply chain disruptions did not have a major impact on Plasser & Theurer. In the end, regional procurement and short transport routes also benefits the environment, which also allows us to keep transport emissions low.



FOCUSING ON REGIONAL PROCUREMENT





High machine availability

Why did you choose Plasser & Theurer as supplier?

"In the tender procedure of DB AG, Plasser & Theurer's offer stood out from the competition. So, the decision was made in favour of a supplier who has been in a successful business relationship with DB for more than 50 years. Plasser & Theurer is listed as a Q1 supplier of DB and has the expertise required to develop, manufacture and supply maintenance vehicles.

Plasser & Theurer's experience made it possible to implement many of the requirements for standard railway vehicles also for auxiliary vehicles. The professional and cooperative implementation of the project has confirmed that

Plasser & Theurer is a competent partner for the supply of sophisticated auxiliary vehicles, forming part of our international supplier portfolio."

Jürgen Guss,

Head of Projects, Regional Multiple Units and Special Vehicles,
DB AG München

Focus on e-mobility

E-mobility plays a central strategic role not only in our products, but also in the company fleet and in internal factory transport. Electric and hybrid cars accounted for 40% of vehicle orders in 2021, bringing the total share to 18.5% of the fleet. In addition to the ongoing electrification of company vehicles, a further nine e-charging stations were set up at the Linz site (28 in total). The use of floor conveyor vehicles, such as electric forklifts or electric hoists in production, highlight the company's focus on reducing its own emissions.

Outlook 2022

For the coming year, the plan is to push ahead with the digitalisation of business processes in procurement, such as introducing SAP or preparing for e-procurement. As partnership-based cooperation is an important driver for Plasser & Theurer, we will continue to bolster our international partner network in order to optimise transport routes and to collaborate in a manner that is as efficient and uses resources as sparingly as possible, among other things.

Finally, as concerns sustainability, the focus lies on optimised energy and environmental monitoring or changing to alternative heating systems as well as installing photovoltaic systems in order to further promote both awareness and development within the company.

- **Supplier screening with regard to environmental and social criteria during the course of supplier assessment**
- **Building more e-charging stations**
- **Completing the recyclables collection centre**
- **Electrifying the vehicle fleet**
- **Generating the carbon footprint for all Austrian locations**

Measures

ANNEX

ABOUT THIS REPORT

This is the first sustainability report of Plasser & Theurer, Export von Bahnbaumaschinen, Gesellschaft m.b.H. for the public. With this report, we wish to present our activities and our performance in terms of sustainability, give our stakeholders a transparent insight into our business activities and show what we stand for, what we are working on and where we want to go. The report contains information and data on the main activities of Plasser & Theurer, Export von Bahnbaumaschinen, Gesellschaft m.b.H. and its three locations in Austria (Linz, Vienna and Purkersdorf). In the report, the company name is always used in abbreviated form as "Plasser & Theurer".

The key performance indicators are presented in consolidated form for all three locations. Compared to the main factory in Linz, Vienna and Purkersdorf are smaller or office locations. Therefore, they have a lower environmental impact.

The reporting period for the indicators and descriptions published essentially comprises the 2021 financial year, i.e. the period from

1 January to 31 December 2021. Various content and indicators are also reported for 2019 and 2020 where possible.

This report was prepared in accordance with the Global Reporting Initiative (GRI) standards, the "Core" option. Indicators and management approaches are thus oriented towards the GRI standards. We are endeavouring to fully comply with the GRI standards in the 2022 financial year. In this report, measures are in some cases only described qualitatively. A sustainability strategy and an associated sustainability programme are being planned and will be presented in detail in the follow-up report for the 2022 financial year.

The plan is to publish a sustainability report annually from the 2021 financial year onwards. If you have any questions specifically about this report or more generally about sustainability issues at Plasser & Theurer or social responsibility, please contact:

sustainability@plassertheurer.com



www.plassertheurer.com