

# Sustainability Report

JUNKER  
GROUP

Sustainability Report of Erwin Junker Maschinenfabrik GmbH · 2022



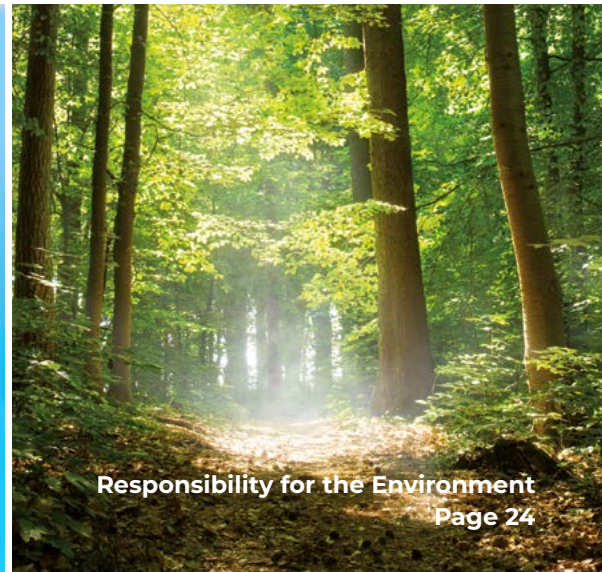
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Gender-neutral pronouns (they/them) are used in our Sustainability Report to improve readability. They include all genders.

# **Sustainable and Future-Oriented Mindset and Conduct**

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# Dear readers,

Even though the term "sustainability" in the sense of ecological, economic and social factors was not in common use when JUNKER was founded 60 years ago, these elements already formed the basis of our conduct to some extent back then.

Sustainability has become more and more important to JUNKER in the last few years. We firmly believe that consistent, sustainable conduct is essential to meeting the challenges of the future, both socially and on a corporate level.

Our first sustainability report reveals all about our strategy, goals, activities, and commitment in the sphere of sustainability.

We look forward to sharing ideas with you.



The Management of Erwin Junker Maschinenfabrik GmbH

**Joachim Himmelsbach**



**Dr. Karsten Schaumann**



**02**

The  
JUNKER Group

JUNKER is the global market leader in the manufacture of CBN high-speed grinding machines. Just under 1,200 employees across the globe work at 13 sites to ensure that the company stays ahead of the pack in terms of technology. Many world-renowned automotive manufacturers and their suppliers, tool manufacturers, and a wide range of other companies rely on JUNKER's innovative grinding concepts. JUNKER grinding machines work accurately, efficiently, and reliably for mass and small series productions. In addition to Erwin JUNKER Maschinenfabrik, the JUNKER Group comprises LTA Lufttechnik GmbH and Zema Zselics Ltda. LTA Lufttechnik GmbH manufactures air filter systems and fire protection systems for trade and industry. ZEMA provides expertise in specialized grinding with corundum.

With a high equity ratio, the JUNKER Group highlights their independence and financial strength, and therefore has the best prospects of continuing to be successful as a global player.

Around 350 people are employed at the headquarters in Germany, which was established in 1962. The final assembly and commissioning of grinding machines takes place there. Other departments are also based at the headquarters in Nordrach, such as Construction, Sales, and Customer Service.

## 2.1 Our Strategy

- The JUNKER Group is an independent, financially self-reliant, international, growing technology leader with new technologies and is an attractive employer for highly qualified employees in the manufacture and servicing of grinding machines and air filters.
- The JUNKER Group operates at a yield of more than 10% in the long term.
- We stand apart from our competitors thanks to our premium technology, our innovative lead, and our global position in consulting, manufacture and services.
- As a reliable partner, we retain our customers through new solutions and end-to-end support, including customer service. We recognize our customers' needs and keep our promises.
- Through innovations, we continuously develop solutions for (new) power trains, services/customer service, RETROFIT / retooling, and machine conversions in our business areas and supplement them with handling systems and tools (development, conditioning, and software ((Industry 4.0))).
- We are continuously advancing the digitalization of the JUNKER Group.
- We stand for intelligent technology: Autonomous, digital, efficient.
- Thanks to our clear structures, short decision-making paths, and motivated, innovative, and responsible employees, we are highly efficient and productive.
- As an employer, our distinguishing features are our global presence, secure jobs, individual development opportunities, flexible working time models, performance-based pay, and optimal knowledge transfer in a breathing organization.
- Our claim to leadership is shaped by trust, commitment, reliability, and consistency, with close contact with employees. We use targets in our management and give employees freedom and independence to achieve them; we communicate this as well as our expectations. We continuously train our managers in our management program.

# Facts and Highlights

**1,200**



employees at the  
JUNKER Group

**6**

training professions

**5**

dual study programs

**>500**

trainees and students  
since 1962

**ISO 14001**

Certified environmental management system since 2017

**Awarded  
silver medal**

for sustainability by Ecovadis



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# 450

machine conversions and modernizations  
in the last 7 years



## 40% energy saving

with JUMAT machine concept  
for machining worm shafts

## Low water consumption

equivalent to the average annual consumption of 30 people in Germany



Between 2018 and  
2021, permanent  
CO<sub>2</sub> reduction of

### 30 t/a

Measures in the 2021–  
2023 environment  
program to reduce  
CO<sub>2</sub>  
by

### 32 t/a

## 2.2 History of the JUNKER Group

1962

Formation of "Erwin Junker Maschinen- und Apparatebau" in an inoperative flour mill

1977

Opening of the company's own sales offices in the USA and Germany

1992

Acquisition of the three Czech sites Mělník, Čtyřkoly, and Strědklůky and formation of the JUNKER Group

1995

Opening of the Technology Center in Nordrach

1998

Acquisition of the Holicse site in the Czech Republic

2003

Formation of a sales and service office in Shanghai, China

2007

Merging of the Czech sites to become Erwin Junker Grinding Technology a.s.

60th anniversary of  
Erwin Junker Maschinenfabrik GmbH  
in Nordrach, Germany

JUNKER is awarded the  
Top Innovator 2022 seal

30th anniversary of  
Erwin Junker Grinding Technology  
a.s. in the Czech Republic

2022

2021

Market launch of the  
JUMAT for machining  
worm shafts

2003

First CBN high-performance  
grinding machine for the  
complete machining of  
crankshafts in a single  
clamping setup

2020

Launch of the new Platforms  
1 and 6

2008

First JUCENTER CBN high-  
performance grinding  
machine with two stations

2008

Opening of  
a sales and  
service office in Pune,  
India

2011

Formation of  
the sales and  
service office in São  
Paulo, Brazil

2012

The sales and  
service office is  
opened in Yaroslavl,  
Russia

2014

Inauguration of the  
site in Mexico

2015

Majority stake in  
Zema Zselics Ltda.,  
Brazil

2016

Establishment of the  
Erwin Junker  
manufacturer founda-  
tion

2021

Awarded the special  
environmental tech-  
nology prize  
in Baden-  
Württemberg

# 2.3 Current Sustainability Achievements

## EcoVadis 2022

For the second successive year, EcoVadis, an internationally recognized and independent sustainability ratings platform, awarded Erwin Junker Maschinenfabrik GmbH a silver medal in 2022 for its responsible conduct with regard to the environment, working practices, ethics, and sustainable procurement.

EcoVadis analyzes various different categories and rates companies based on 21 indicators relating to environmental protection, labor and human rights, ethics, and sustainable procurement. JUNKER provided EcoVadis with CSR data for a wide variety of activities in these categories. These criteria are based on international CSR standards. At the same time, EcoVadis carried out a 360-degree audit on the basis of external information sources.

With an overall result of 61 points, JUNKER scored much higher than the industry average of 43 points. This places JUNKER among the top 17% of companies rated by EcoVadis. The award affirms JUNKER's long-term commitment to sustainability and recognizes its long-pursued philosophy in relation to economic, social, and environmental factors.

## Top 100 Innovator 2022

In 2022, Erwin Junker Maschinenfabrik GmbH was given the Top 100 award as one of the 100 most innovative SMEs in Germany, in the 200+ employees category. The award was based on an evaluation in five innovation categories: Innovation-promoting top management, a climate of innovation, innovative processes and organization, external orientation/open innovation, and innovation success.

Under the motto "Shaping Our Future," the JUNKER Group is hosting a contest to find new approaches to discover and manage projects within and beyond the world of grinding. Ideas that directly improve sustainability at the Nordrach site also emerged from the ideas contest in 2021.



## 2021 Baden-Württemberg Environmental Technology Prize

The jury of the Baden-Württemberg Environmental Technology Prize gave a special award to Erwin Junker Maschinenfabrik GmbH for its JUMAT machine concept. Hidden behind the name JUMAT is a highly productive, energy-efficient process for mass production of worm shafts, completed in just one machine. The worm shafts produced are used in various gearboxes and drives. Their applications are broad, ranging from electrically driven systems for cars such as steering & brake systems, seat-, mirror-, and hatch- movements; general mechanical engineering, to drives used in hospital beds or camper vans. Some applications are so widespread that the manufacturers produce several million of these worm shafts per year.

The new procedure replaces the manufacturing process whereby the individual worm shaft has to pass through three machines (milling, rolling or whirling, followed by smoothing or finishing and finally deburring), along with the corresponding time and effort required for handling. The worm shaft is ground from solid material out of the blank, which already has a basic geometry and two bearing seats, without even once opening the machine door.

The blank is fed into the fully automated process via a loading system and undergoes two grinding processes, pre-grinding and finished-grinding. The workpiece is then moved to the machine internal deburring station, so that a finished worm shaft comes out at the end. Significant innovations to bring this about include a newly developed tool geometry and an optimized pre-grinding process, which takes over the principal cutting capacity and works at very high feed rates.

"Erwin Junker Maschinenfabrik GmbH has developed not only a new grinding process, but also a comprehensively new approach, which achieves

improvements and savings in many ways. That is what motivated the jury to award the special prize to the JUMAT," says Environment Minister Thekla Walker. In concrete terms, around 40 percent of energy and material resources can be saved applying the JUMAT manufacturing process. In production, extremely long tool lives go hand in hand with reduced space requirements, cycle times shortened by at least 50 percent and energy consumption reduced by around 25 percent – whereas the production processes and their effects can vary significantly. "We were rather conservative in our calculations. However, the values have proved to be realistic. The first customer applications that we were able to support in 2021 have in some cases significantly exceeded our forecasts," says Joachim Himmelsbach, Managing Director of Erwin Junker Maschinenfabrik GmbH.





# 03

## Governance and Compliance

The management of JUNKER represents responsible, sustainable corporate governance. Our principles, long-term customer relationships based on close dialog, and a clear commitment to sustainability in terms of the environment, economy, and social factors are at the heart of every action. The management is responsible for establishing the sustainability strategy and agrees targets together with key individuals and departments, such as HR, Occupational Health and Safety, Purchasing, or Environmental Management. The targets are discussed and target achievement assessed and prioritized in regular quarterly consultations. An annual evaluation of the management system is carried out in accordance with the ISO 14001 environmental management system and VDA6.4 quality management system by way of a further appraisal. This is being extended to occupational health and safety at the start of 2023 to prepare for the certification we are seeking in accordance with ISO 45001, the management system for occupational health and safety. Sustainability factors are also embedded in the internal guidelines of our integrated management system, e.g., in the primary CSR guideline or the guideline for raw material procurement.

JUNKER and the entire JUNKER Group view compliant, responsible conduct as an essential basis for success. This is firmly embedded in the mission statement of the JUNKER Group. Indeed, the JUNKER Group has had a compliance management system in place for years. "Compliance

management system" means all processes and measures that ensure compliance. The JUNKER Group's compliance program not only ensures adherence to all relevant laws, regulations, and provisions, it also includes the stated core values of the JUNKER Group and our internal guidelines, providing a strong set of rules that supports our business activity. By knowing our compliance program thoroughly, training our employees on the compliance principles of the JUNKER Group, and making the specific compliance risks in the JUNKER Group visible as well as monitoring them, we can create a firm basis for legally compliant conduct that meets all rules and regulations.

Another key part of our compliance management system is the annual performance of audits in the compliance organization. The effectiveness of the system is assessed in annual internal audits, which are carried out directly by the management. As in previous years, the system's effectiveness was proven with no significant discrepancies in 2021, the last audit period. There were no compliance breaches at any of the JUNKER Group's sites.

Compliance Management System within the JUNKER Group						
1	2	3	4	5	6	7
Compliance Regulations	Compliance Responsibilities	Compliance Risks	Compliance Culture	Compliance Knowledge	Reporting System	Checks/ Changes/Sanctions
Compliance policy published, including the core values of JUNKER, and communicated to employees	Compliance responsibilities are known and clearly regulated	<p>The company's compliance risks are ascertained and documented through a risk analysis and are assessed on a quarterly basis in terms of the likelihood of occurrence and the extent of potential damage</p> <p>Reporting due to specific events is also established</p> <p>The compliance program is aligned with the compliance risks</p>	<p>Compliance culture is established</p> <p>The management's approach and statements ("tone at the top") are always geared toward compliance with rules</p> <p>The Group management and executives set an example to demonstrate effective compliance</p>	Training	Breaches are reported by employees or third parties / existing reporting system	<p>Immediate investigation if suspicions are raised of legal breaches or irregularities</p> <p>Annual compliance audits to identify breaches</p> <p>Evaluation of the system's effectiveness</p> <p>Assessing whether changes to the system are required</p> <p>Assessing whether sanctions are required</p>

# 3.1

## Our Core Values

### **JUNKER is a "partner for precision" in every sense**

JUNKER supplies its customers with high-quality, custom-developed machines, and the entire working approach of all JUNKER employees is shaped by a high standard of quality and efficiency.

### **JUNKER is committed to complying with all laws**

Compliance with legal provision is mandatory in every case, even when this means avoiding an attractive business opportunity.

### **JUNKER is committed to maintaining a high degree of integrity in its business activities**

We take a firm stance against corruption and avoid any conflict of interest that has even the appearance of improper conduct.

### **JUNKER is committed to maintaining a working environment shaped by good collaboration and to ensuring equal treatment of all employees**

We expect our employees to respect the personal privacy and dignity of others. Discrimination and harassment of any kind are not tolerated.

### **JUNKER is committed to transparency in its decision-making processes**

We document our business transactions fully, precisely, and exactly.

### **JUNKER is committed to ensuring the health and safety of employees in the workplace**

We foster a sense of responsibility for workplace safety. We take measures to identify and eliminate potential hazards. Where applicable, we give warnings about hazards.

### **JUNKER is committed to cooperating with investigating authorities**

We assist official investigations and answer questions posed by investigating authorities. In this way, we ensure that the rights and interest of JUNKER and its employees are maintained.

### **Conduct at JUNKER is rooted in values**

The JUNKER Group places great value on a sustainable corporate culture, which is rooted in shared values. This includes valuing our customers, integrity as the foundation and guiding principle of our conduct, as well as diligence, accuracy, and reliability in everything that we do. These principles are embodied by every JUNKER employee, being conducive to the development of a culture of collaboration amongst employees with customers, suppliers, and other interest groups.



Partner for  
precision

Compliance with  
laws

High degree of  
integrity

Equal  
treatment

Transparency

Health and safety

Cooperation  
with authorities

Shared values

## Core Values





04

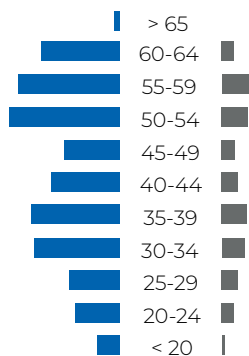
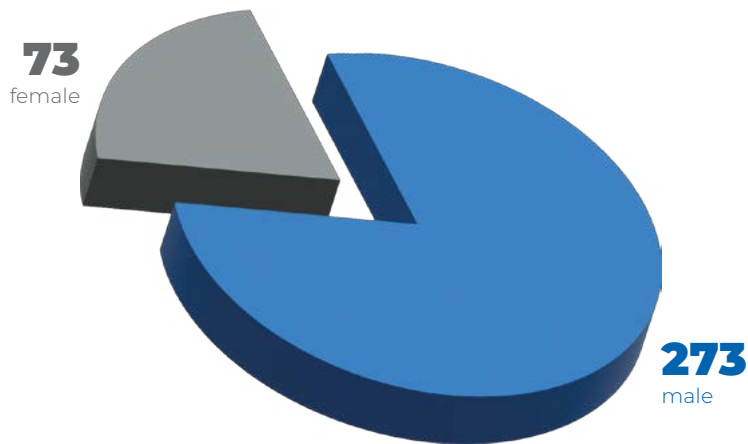
Responsibility for  
Employees

Since its foundation in 1962, the JUNKER Group has developed into an internationally successful grinding machine manufacturer. Committed, qualified employees have been an essential element of this right from the start. The future of the JUNKER Group will be shaped and safeguarded by them too. That's why, for JUNKER, it is important to foster the strengths and motivation of employees and to remain an attractive employer. Loyalty, mutual support, respect, tolerance, openness, and fairness are embedded in our principles for working together and are put into practice every day.

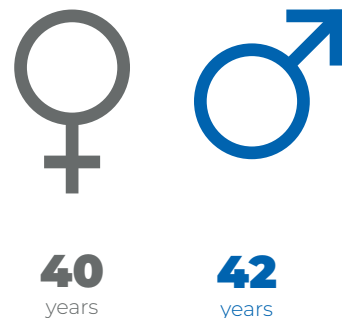
We train our employees purposefully. Managers and employees pinpoint professional development potential and agree on training measures in joint meetings held at least once a year. We are also committed to this systematic approach due to our certification to the VDA 6.4 quality management system. In addition, employees have the opportunity to choose training courses from an internal range covering more than 100 different subjects.

Uniform management principles are important to us. We ensure they are put into practice, for example through shared, uniform training for our managers. We set up a development program for our young talent in 2021, comprising internal and external training.

The fact that employees stay at JUNKER for 17.1 years on average shows they value us as an employer. The proportion of women is low at 21% of the total staff, which is typical of the industry. This figure is to be increased in the medium term through measures such as improving the balance between career and family.



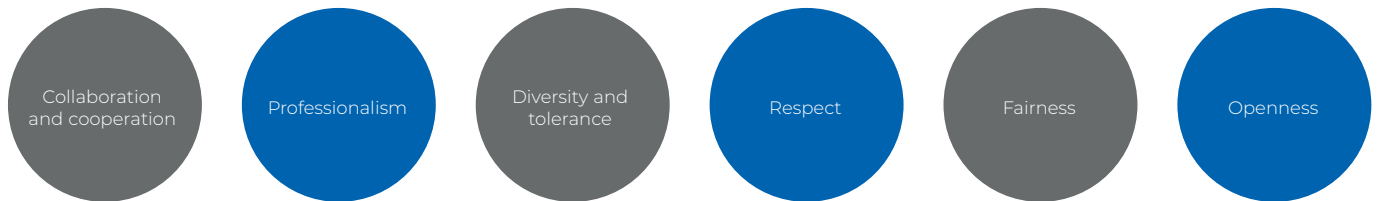
Age chart



Average age

# 4.1

## Our Guiding Principles for Working Together



### Collaboration and Cooperation

- Employees help one another and can count on their colleagues' support when they need it

### Professionalism

- Tasks are approached and completed in a target-oriented manner. Parallel to this, the best possible solution is always sought
- The quality of work at JUNKER always meets the highest standards

### Diversity and Tolerance

- The individuality of JUNKER employees is an integral element of JUNKER's corporate culture and a key factor in creating a positive working environment
- The corporate culture of JUNKER is based on tolerance. Different religious beliefs, ideological views, and sexual orientations are treated with respect
- Discrimination fundamentally contradicts JUNKER'S core values and is therefore prohibited

### Respect

- JUNKER employees respect one another

### Fairness

- The principles of fairness are observed and upheld

### Openness

- Openness and integrity are vital to a positive corporate culture. These values create an environment of trust and help to prevent misunderstandings.
- The giving and receiving of regular, open, honest, and constructive feedback is integral to the fulfillment of this objective

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# 4.2 Traineeships and Continuing Professional Development

## **Traineeships**

Traineeships were undertaken for the first time at the Nordrach site as early as the year in which Erwin Junker Maschinenfabrik GmbH was founded. Since then, more than 500 young people have established a solid basis for their professional career with a traineeship or study program.



As a strong partner, JUNKER offers traineeships in six technical and commercial professions as well as five different dual study programs. JUNKER usually goes on to employ (at least temporarily) those who have successfully completed a traineeship or study program.

During the training period, trainees undergo a structured induction program with a direct point of contact within the various departments. The JUNKER Group encourages young talent to do an international internship in Europe or the USA. This gives trainees technical and commercial insights into the production sites in the Czech Republic

and the sales office in Elgin, USA. Not only is JUNKER on board right from the start of a career, it also offers continuous support throughout the learning process and beyond, along with a range of opportunities for promotion and continuing professional development.

## **Continuing Professional Development**

There is an extensive professional development program in place at JUNKER in 2022. We also train our managers within our extensive management development program and prepare our young talent for new tasks in our young talent development program.

# 4.3

## Work-Life Balance

JUNKER knows the importance of a good work-life balance and supports it through

- a flexi-time system for all employees, which has been made even more flexible in 2022
- the option for mobile working by agreement with the employee's line manager
- part-time models by agreement with the employee's line manager and the HR department (currently 15% of our employees work part time)



JUNKER expressly welcomes the statutory regulations on parental leave and also supports male employees to take up this opportunity. In 2021 and 2022, almost 50% of our employees who took parental leave were men.

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# 4.4 Occupational Safety and Health Management

Guaranteeing and improving health and safety in the workplace is a top priority for JUNKER; the company goes beyond legal requirements in this respect. For this reason, we are currently establishing a management for occupational safety and health protection, which we are having certified to ISO 45001 in 2023.

The choice of figures used for occupational safety and health management is being restructured and will include current targets from the management in 2022. This includes, for example, figures for workplace accidents, the sickness rate, or coverage with current risk assessments.

The figures are evaluated quarterly by the occupational safety committee, and if necessary additional measures are established.

At less than 10 notifiable accidents per 1 million working hours, our workplace accident rate is much lower than the industry average of 20. Nevertheless, our intention is to further reduce the number of accidents.

The provision of personal protective equipment is a matter of course for JUNKER, for example personally adjusted hearing protection and the assumption of costs for screen-work spectacles.

A photograph of a dense forest with tall, slender trees and a thick canopy of vibrant green leaves. Sunlight filters through the branches, creating a dappled light effect on the forest floor. The overall atmosphere is bright and natural.

**05**

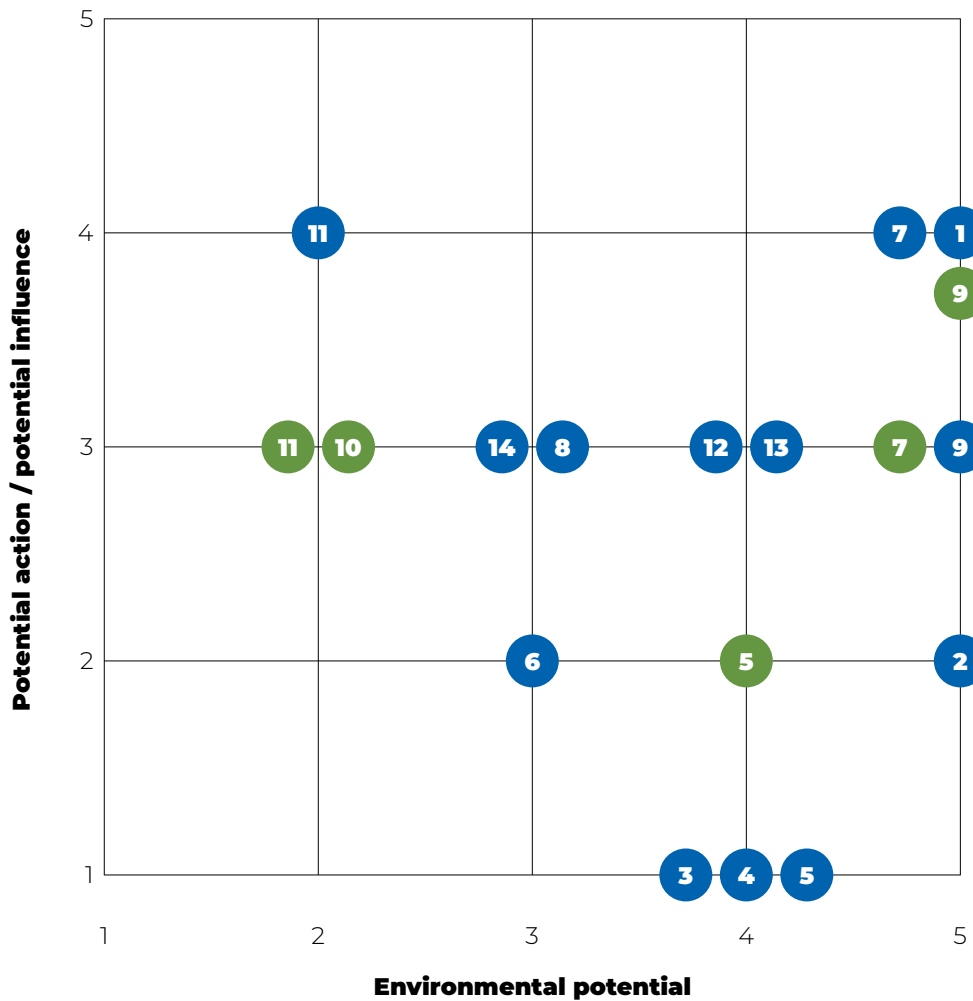
Responsibility for  
the Environment



As a premium manufacturer, JUNKER Group intends to lead the way on sustainability. The protection of resources and energy is reflected on various levels at the JUNKER Group: At sites, in working processes, in ultra-modern grinding machines and filtration systems, and in the development of future technologies and applications. The environmental management system implemented at sites in Germany and the Czech Republic has been certified to ISO 14001 since 2017. Regular energy audits in line with DIN EN 16247 are also carried out.

# Identification of Potential Action

Through activities at our sites and during on-site service calls to customers, we have a direct impact on the environment, e.g., through energy consumption and the associated CO<sub>2</sub> emissions in production. In addition, our products have an impact when in use by customers. Our environment program is derived from a materiality analysis, in which environmental factors were evaluated in terms of their relevance to the environment and their potential for action, taking into consideration feedback from all stakeholders. The following image shows the analysis in terms of the relevant factors.



**Emissions**

- 1 CO<sub>2</sub>
- 2 VOC
- 3 Dust, vapor
- 4 Odor
- 5 Noise
- 5 Noise
- 6 Light

**Resource consumption**

- 7 Energy (e.g., electricity, fuel)
- 7 Energy (specifically electricity)
- 8 Water
- 9 Compressed air
- 9 Compressed air
- 10 Material for product

**Waste & hazardous substances**

- 11 General waste
- 11 Waste at disposal
- 12 Hazardous waste
- 13 Hazardous substances

**Biodiversity**

- 14 On the premises

1: very low | 2: low | 3: medium | 4: high | 5: very high |

● Site-related characteristics |

● Product-related characteristics

# 5.1 Environment Program 2021 to 2023

Through our activities at our sites and during on-site service calls, we have a direct impact on the environment, e.g., through energy consumption and the associated CO<sub>2</sub> emissions in production. In addition, our products consume energy when used by our customers. That's why we have evaluated the processes and situation with regard to emissions, resource consumption, waste and hazardous material, and biodiversity in a materiality analysis. It shows environmental relevance and potential action for these factors.

On the basis of this analysis, our top priority is to reduce CO<sub>2</sub> emissions and cut down on waste and hazardous materials. We will also reduce the energy consumption of our machines when they are in use. Our environment program was developed on this basis.

## **Goal 1: To Reduce** CO<sub>2</sub> Emissions and Energy Consumption

- JUNKER aims to reduce production-related CO<sub>2</sub> emissions ("Scope 1" and "Scope 2" emissions, excluding fuel consumption) at the Nordrach site by at least 5% by the end of 2023 compared with 2018.

## **Goal 2:** To Increase the Transparency of CO<sub>2</sub> Emissions

- The fuel consumption for on-site service visits and business trips are part of "Scope 1" emissions. The allocation of fuel consumption to service vehicles and the classification is to be increased by the end of 2022 through the introduction of a system for allocating and analyzing fuel consumption. This will enable JUNKER to more effectively analyze a significant portion of "Scope 1" emissions and to derive measures to reduce CO<sub>2</sub> emissions in the future.
- In general, staff awareness of CO<sub>2</sub> emission reductions is to be raised. To this end, JUNKER will communicate key figures and progress in the environment program to employees biannually.

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## **Goal 3:** To Reduce Waste and Hazardous Materials

- JUNKER will increase the recycling rate at the Nordrach site. To this end, the implementation of the current waste plan is being reviewed and optimized. Separation of waste is to be expanded and practiced 100% in all production and office areas by the end of 2022. Employees and waste disposal companies will be actively included in the optimization plans.
- To minimize the use of hazardous waste and hazardous substances, the number of existing hazardous substances in production will be reduced from 145 (2021) to a maximum of 140 different products by the end of 2023.

## **Goal 4:** To Reduce the Energy Consumption of Products

- A significant portion of compressed air consumption in grinding machines is accounted for by the blast air consumption of spindles. For all new spindle designs and design modifications, the compressed air consumption is to be reduced by at least 25% compared with previous comparable spindle types. Evidence must be provided for the attainment of this target for every newly constructed or modified spindle type for the years 2021 to 2023.

# 5.2 CO<sub>2</sub> Emissions and Energy Consumption

We have a full picture of the breakdown of our energy consumption and the associated CO<sub>2</sub> emissions. The table shows consumption and the CO<sub>2</sub> equivalent for various energy sources. The consumption and CO<sub>2</sub> emissions have fallen slightly since the start of our environment program in 2021 compared with 2020, but are above the comparable values for 2018 in terms of production hours. The number of production hours at the Nordrach site fell sharply in 2020 and 2021 due to the coronavirus pandemic and its aftermath. Therefore production-related standard energy consumption had a major influence on the relative figures/production hours.

		2018	2019	2020	2021
<b>Electricity</b> (building and production process)	Consumption [kWh]	2,301,534	2,097,637	1,233,731	1,589,183
	CO <sub>2</sub> emissions [t]	570.78	480	480	348.03
<b>Wood chips</b> (building heating)	Consumption [kWh]	1,321,290	1,424,640	1,288,960	1,320,760
	CO <sub>2</sub> emissions [t]	35.67	38.47	34.80	35.66
<b>Light fuel oil</b> (building heating)	Consumption [kWh]	89,858	148,007	127,520	150,641
	CO <sub>2</sub> emissions [t]	23.90	39.37	33.92	40.07
<b>Acetylene</b> (production process)	Consumption [kWh]	214	135	135	135
	CO <sub>2</sub> emissions [t]	0.05	0.03	0.03	0.03
<b>Sum</b>	Consumption [kWh]	3,712,896	3,670,419	3,670,419	3,060,719
	CO <sub>2</sub> emissions [t]	630.41	558.23	338.94	423.79
	CO <sub>2</sub> emissions / production hours [kg / production hour]	4.96	4.96	8.73 *	6.83 *

\* The rise is due to the fact that production at the site was not at full capacity because of a slump during the coronavirus pandemic and its aftermath, therefore the production-related standard energy consumption at the site had a significant influence on the figure.

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# 5.3

# Electricity Consumption

Electricity consumption in the various operating areas is recorded in full and constitutes a significant proportion of CO<sub>2</sub> emissions. This is made up of electricity for production-related standard consumption and for commissioning grinding machines. To reduce consumption, various measures have already been taken in the last few years, resulting in a nominal reduction of 139,247 kWh per year and thus approx. 30 t of CO<sub>2</sub> per year between 2018 and 2021. In the current environment program, measures are set out up to 2023 that aim to save 145,700 kWh per year, equivalent to a further saving of approx. 32 t of CO<sub>2</sub> per year.

## Measures Taken

### Assembly hall lighting

- 165 metal halide lamps swapped for 156 LED hall lights
- Saving of 87,064 kWh/a | 19.1 t CO<sub>2</sub> per year

### Server structure

- Upgrade of the server structure with modern IT components
- Saving of 42,048 kWh/a | 9.2 t CO<sub>2</sub> per year

### Telephone system

- Replacement of the existing telephone system with a more modern one
- Saving of 10,135 kWh/a | 2.2 t CO<sub>2</sub> per year

## Measures Planned by the End of 2023

### Modernization of air-conditioning equipment

- Replacement of old air-conditioning equipment with energy-saving air-conditioning
- Saving of 51,600 kWh/a | 11.3 t CO<sub>2</sub> per year

### Office lighting

- Retrofitting of two office floors
- Saving of 18,100 kWh/a | 4.0 t CO<sub>2</sub> per year

### Modernization of cooling system

- Retrofitting of central cooling system for coolant / grinding oil
- Saving of 62,000 kWh/a | 14.2 t CO<sub>2</sub> per year

### Reduction of compressed air requirement

- Separation of the existing compressed air system into two sub-systems
- Reduction of the target pressure in a system
- Saving of 14,000 kWh/a | 3 t CO<sub>2</sub> per year

# 5.4 Heating Buildings

The proportions of different energy sources are shown in the following table. The heating requirement at the site is largely covered by a wood chip system. The proportion accounted for by this CO<sub>2</sub>-neutral energy source is approx. 90%.

2021	
Energy source	Consumption [kWh]
Light fuel oil	150,641
Wood chips	1,320,760

# 5.5 Water Management

Absolute water consumption at JUNKER is comparatively low. At 1,375 m<sup>3</sup>, it was approximately equivalent to the consumption of 30 people in Germany in 2021. In addition, we barely use any water in the production process.

	2018	2019	2020	2021
Consumption [m <sup>3</sup> ]	2171	1961	1073	1375
[l/prod. hr.]	17.09	17.35	27.62 *	22.16 *

\* The rise is due to the fact that production at the site was not at full capacity because of a slump during the coronavirus pandemic and its aftermath.

# 5.6 Waste Management

The main waste types such as wood, paper, metal chips, and special waste are collected in separate bins and disposed of properly at the site. We implemented waste separation when we introduced our environmental management system, but would like to expand it further. We have set out further measures for this in our environment program.

Hazardous Waste	2019	2020	2021
Sum [kg]	100,207	100,207	72,873
[kg/prod. hr.]	1.77	2.69	2.35

Non-Hazardous Waste	2019	2020	2021
Sum [kg]	106,610	48,120	67,730
[kg/prod. hr.]	1.89	2.48	2.18

## Measures Planned by the End of 2023

### 100% implementation of recycling

- Expansion of waste separation in office areas in particular
- Measures to increase acceptance

### Reduction of the number of hazardous substances

- Reduction of hazardous substances from 145 (2021) to 140 different products by means of substitution
- Side benefit: Reduction of risk of disasters and uncontrolled VOC emissions.



**06**

Responsibility for  
the Product



# 6.1 Resource-Optimized Products

JUNKER is continuously reducing the ecological impact of grinding machines. A significant factor is the reduction of energy and media consumption when our products are used by customers, which is being achieved by permanently developing the hardware and software of the machines.

The development of our new, highly productive, energy-efficient machine concept for grinding worm shafts stands out in particular. In concrete terms, around 40% of energy and material resources can be saved in the manufacturing process.

Erwin Junker Maschinenfabrik GmbH was awarded the environmental technology prize by the state of Baden-Württemberg for this in 2021; see Chapter 2.

## Measures Taken

### **Eco mode**

The grinding machine automatically switches to energy-saving mode if the workpiece supply is interrupted. The main consumers are switched off step by step, including the coolant, grinding wheels, pneumatics, hydraulics, and machine lighting.

### **Frequency-regulated pumps in the cooling lubrication system and hydraulic system**

Savings of up to 75% are achieved through the frequency-regulated cooling lubrication system and hydraulic pumps.

### **Reduction of the amount of cooling lubrication required by cooling the grinding process using needle nozzles**

The needle nozzles enable targeted process cooling with higher flow rates. This achieves energy savings of up to 50%.

### **Optimized spindles**

Because spindles are constructed and produced in house, the electricity and compressed air requirements for their use in grinding machines are being optimized.

## 6.2 Prolonging the Service Life

Since 2011, JUNKER's RETROFIT business area has been offering its customers the option of upgrading their JUNKER machines to the latest energy-efficiency standard and adapting them optimally to new component geometries. This extends the service life of the machines.

Around 450 machines have been modernized in the last 7 years.

Typical steps that produce energy savings in operations are:

- Replacement of pneumatic and hydraulic components such as cylinders, valves, maintenance units, pumps, etc.
- Optimization of grinding processes
- Replacement of worn components (e.g., accessories in contact with the workpiece, control system)
- Upgrade to preventive maintenance



RETOOLING

RENEWAL  
OVERHAUL

UPGRADES  
Control

UPGRADES  
Process

UPGRADES  
Energy

UPGRADES  
Measure

UPGRADES  
Preventive

PRE-OWNED

# RETROFIT





**07**

Responsibility in  
the Supply Chain

For JUNKER, observance of and compliance with high ethical and ecological standards is of great importance. This is also taken into consideration when we select suppliers.

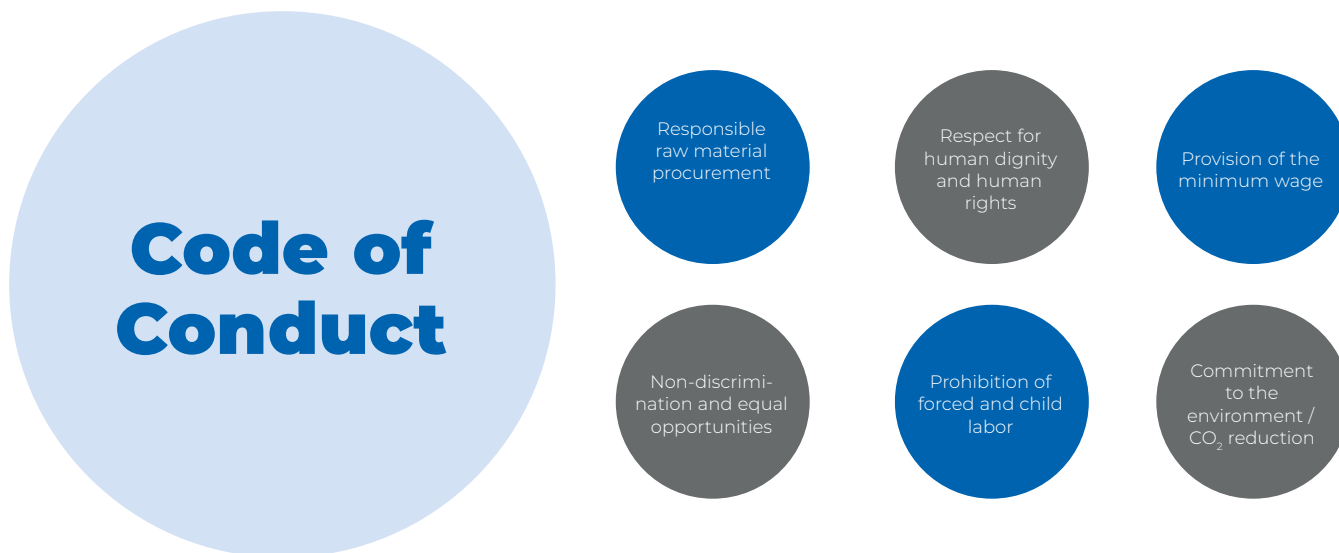
Suppliers are obligated to comply with our Code of Conduct, which requires binding adherence to our sustainability criteria.

Implementation of the Code is checked during annual, random supplier audits, which are required under our VDA 6.4 certification.

When reviewing suppliers in 2019, 90% of suppliers were based in the EU, meaning the same legal basis applies regarding sustainability factors.



## Our Code of Conduct for Suppliers comprises:





# 08

## Responsibility for the Community



Beyond its corporate affairs, the JUNKER Group considers itself to be a committed, responsible corporate citizen. In the last two years, JUNKER has donated more than 50,000 euros to charitable causes.

As part of its sociopolitical responsibility, JUNKER engages with charitable institutions, projects, and activities.

This includes close collaboration with universities, colleges, and institutes, through which JUNKER helps to drive forward research and advance the state of the art.

JUNKER also supports regional retirement and care homes through annual donations.

Retaining ties with former employees is also important to us. For example, we organize annual parties for retirees, enabling them to maintain contact with the company even after they have retired.

In 2016, the "Erwin Junker Altenpflege Stiftung" (Erwin Junker Elderly Care Foundation) was founded with the aim of supporting care for the sick and elderly, particularly in the regions in which JUNKER operates. The foundation has donated more than 25,000 euros in the last two years.

When artisan work is carried out, such as renovation work on buildings, we give priority to regional service providers to help strengthen local small businesses.

**>50,000  
euros  
for charitable  
causes**



**Publication Details**

Publisher  
Erwin Junker Maschinenfabrik GmbH  
Junkerstraße 2  
77787 Nordrach, Germany

Tel: +49 (0) 7838 84 0  
Fax: +49 (0) 7838 84302  
info@junker.de  
www.junker-group.de

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24, 36, 38, 39)  
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