

Y FUTURE. ENERGIZED BY YOUR POWER



TECHNOLOGIES FOR A CLEANER PLANET



ENERGY
GENERATION



ENERGY
TRANSMISSION



ENERGY
STORAGE



ENERGY
USE

Y FUTURE. ENERGIZED BY YOUR POWER

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PLEASE NOTE

Rounding, typesetting and printing errors cannot be excluded. Projections relating to Miba AG's future performance are estimates that have been arrived at based on the information available at the time this annual report went to press. If the assumptions underlying these projections do not materialize, or if risks occur at magnitudes other than those calculated, the actual results may deviate from projections.

PICTURE SOURCES

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01

THE POWER OF MIBA

We want to grow sustainably – as an innovative solution provider for the demanding challenges of our customers.

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02

COMMITTED TO THE ENERGY TURNAROUND

With our technologies we are making the generation, transmission and storage of energy cleaner and more sustainable.

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03

FULL OF ENERGY FOR THE MOBILITY OF THE FUTURE

We develop and produce solutions for clean, efficient drives. Not just for eMobility, but also for modern, clean conventional drives.

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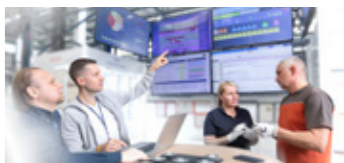


04

THE POWER OF DATA

We are taking advantage of the opportunities from digitalization with smart products, new digital services and the power of networked data.

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05

INNOVATION KNOWS NO BOUNDARIES

Innovation means using our expertise and ideas to create true added value for our customers.

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06

TAKING RESPONSIBILITY AND SETTING OUR COURSE

As a family-owned company with strong values, we stand up for our employees, society, sustainability and protecting the environment.

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07

GROWING TOGETHER

Collaboration and Lifelong Learning are central values of Miba.

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08

MIBA FACTS

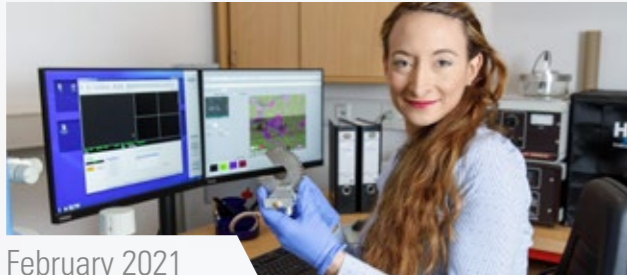
Today financial independence and sustainability are more important than ever.

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HIGHLIGHTS 2021/22

A YEAR FILLED WITH INVALUABLE MOMENTS



February 2021

NUMBER 1 FOR NEW PATENT APPLICATIONS

Miba is one of the most innovative companies in Austria. This has been verified once again by an evaluation undertaken by the Austrian Patent Office: in 2020 Miba applied for more new patents than any other company in Upper Austria.



March 2021

NEW PRODUCTION LINE IN PUNE, INDIA

Miba Drivetec in Pune (India) puts a new, fully automated production line for sintered clutch segments into operation. Entirely in line with the "local-to-local" principle, we are manufacturing them locally for use in tractors and trucks in the rapidly growing Indian market.



April 2021

MIBA STRATEGY 2027

Our new corporate strategy "Miba 100" is presented at a digital convention. This strategy describes our path to sustainable growth up to the 100th anniversary of Miba in 2027.



July 2021

SLOVAKIAN PRESIDENT VISITS MIBA SINTER SLOVAKIA

A high-ranking visitor is welcomed to Miba Sinter Slovakia: at Miba's largest site worldwide, the Slovakian President Zuzanna Caputova finds out about our apprentice training and career opportunities for young people. The program also includes a visit to the new Miba Tooling Center.



October 2021

HERMES BUSINESS AWARD FOR PETER MITTERBAUER

Our former CEO Peter Mitterbauer is awarded the renowned Hermes Business Award for the best entrepreneur. "Austria needs such entrepreneurial personalities as Peter Mitterbauer – personalities who are always on the move, break new ground, and can also always be relied on in challenging times," says Minister of the Economy Margarete Schramböck in her eulogy.



September 2021

LONG NIGHT OF INDUSTRIAL CULTURE

13 companies in the Salzkammergut-Almtal region, including the Miba site in Vorchdorf, open their doors to visitors for an evening during the first Long Night of Industrial Culture. And it is a great success, with around 800 visitors coming to the event in total – and with most (250) coming to Miba.



September 2021

INNOVATION LEADER IN eMOBILITY

A study by the German "Quant IP" institute has analyzed the patents of 150 companies that are members of the German Association of the Automotive Industry (VDA). It comes to the conclusion that of these more than 150 companies (automotive manufacturers and suppliers), Miba's innovations make it the best equipped for the future.



August 2021

VACATION CHILDCARE

For the seventh time we offer a three-week holiday care program for our employees' children at the Miba Forum. 94 children take part.



October 2021

SECOND MIBA PLANT IN SUZHOU (CHINA)

After more than two years of construction work at the site of Miba's second plant in Suzhou near Shanghai, our employees occupy their new workplaces. The additional location doubles Miba's plant area in Suzhou to 48,000 square meters.



October 2021

IMPRESSIVE INNOVATIVE STRENGTH

At the Miba Convention, we award the Franz Mitterbauer Award for the 8th time. The prize is named after the founder of our company, and honors the best Miba innovations of the year. For the first time two development teams receive the award for their new solutions for electric drives.



December 2021

CHRISTMAS CHARITY

In 2021 we support the "Mission Stadtwaldrettung" in Osterode am Harz with the EUR 10,000 we donate every year instead of customer gifts. The money will be used to buy 10,000 resistant deciduous trees for the reforestation of the municipal forest, which has been destroyed by bark beetles.



January 2022

EXPANSION OF BATTERY ACTIVITIES

The battery specialist VOLTLABOR has bought the entire building in which it previously rented one floor. The intention is to create Austria's leading battery factory with an area of more than 3,900 square meters.



21/22
WE ARE PROUD
OF THESE AWARDS
AND SEE THEM
AS MOTIVATION

BAE SYSTEMS

GOLD SUPPLIER AWARDS
 for a 100% quality and delivery rate
 EBG US



AUSTRIA'S BEST MANAGED COMPANIES AWARD

from Deloitte and Raiffeisenlandesbank
 Niederösterreich-Wien
 Miba Group



BEST RECRUITERS AWARD
 in Silver for 2021/22 and 5th place out of 22
 in the sector ranking



BEST QUALITY SUPPLIER
 from HILITE for 2020
 MPCC Sinter



BOSCH GLOBAL SUPPLIER AWARD 2019
 Category: Direct Purchasing - Mobility Solutions
 Miba Sinter



ENX TISAX INFORMATION SECURITY CERTIFICATE
 Miba Sinter Austria



AWARD FROM WEICHAH AND CNHTC
 Category: Golden Supplier of the Year 2021
 MPCC



HERMES BUSINESS AWARD
 as best entrepreneur for Peter Mitterbauer



QUALITY AWARD FROM JOHN DEERE
 Category: Best in Class Quality Performance
 Miba Drivetec Indien



BEST EMPLOYER – QUALITY AWARD
 from the Market-Institut
 Category: Attractive apprentice training
 Miba sites in Upper Austria



HAIRPIN MOTOR SUPPLIER CONTRIBUTION AWARD
 for the year 2020
 MAS China



GREATER SUZHOU BEST EMPLOYER AWARDS
 Category: Most Caring Employer Award
 MPCC



NIO AWARD AS QUALITY PREMIUM PARTNER
 EBG China



KTM SUPPLIER QUALITY AWARD FOR 2020
 Miba Sinter Austria



JIEFANG AWARD
 (HQ of FAW Power including Wuxi and others)
 Category: Supplier of Technical Support
 MPCC



PROVINCIAL TECHNOLOGY CENTER AWARD
 MPCC



MIOSHA COVID-19 WORKPLACE SAFETY AMBASSADORS
 Miba HydraMechanica



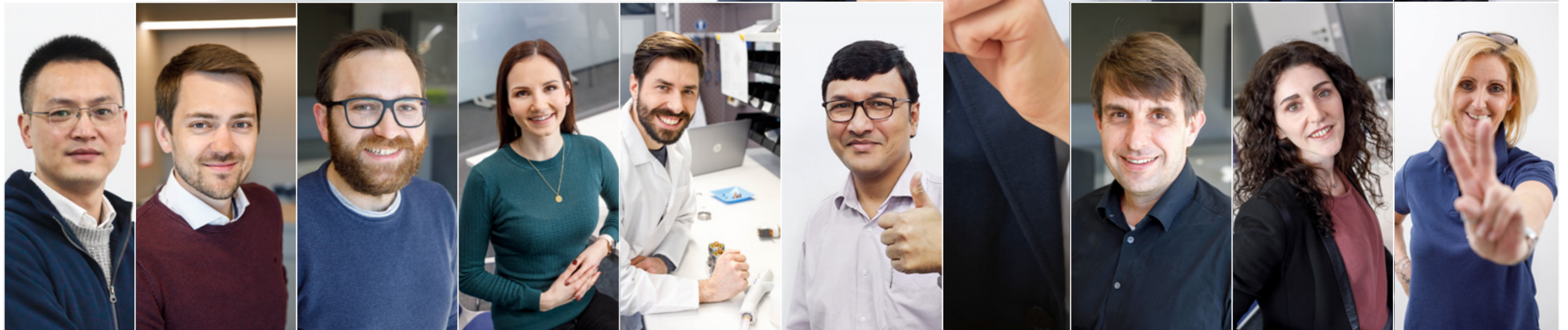
PRATT AND WHITNEY
 Category: Supplier Gold Certification
 Miba Gleitlager Austria



THE POWER OF MIBA

„WHAT DRIVES US: BEING A SOLUTION PROVIDER FOR THE TECHNOLOGICALLY DEMANDING CHALLENGES OF OUR CUSTOMERS.“

F. Peter Mitterbauer, CEO Miba AG



THE POWER OF MIBA

“Our customers worldwide are looking for innovative solutions for their products of tomorrow. What are needed now are innovators, solution providers and future shapers; the kind of people that we have so many of at Miba.”

F. Peter Mitterbauer



Ladies and gentlemen, dear employees,

Miba once again grew significantly in the past fiscal year 2021/22. Our annual revenue increased by 9 percent to EUR 971 million, thus again reaching the same level as before the coronavirus pandemic. It is also pleasing that all Miba's divisions were able to increase their revenues. In the past year too, the aspiration clearly rooted in our mission “Technologies for a cleaner planet”, to make a contribution to greater energy efficiency with Miba technologies, was a driver of growth – as this is a major prerequisite for sustainability and climate protection.

TECHNOLOGIES FOR GREATER ENERGY EFFICIENCY AS DRIVER OF GROWTH

Today 11 percent of our revenue already comes from products for the clean generation and transmission of energy – from technologies for wind energy, hydropower and efficient power grids. In the last year we experienced greater market demand than ever before in our energy-efficient agricultural and construction machinery components business. And we are also utilizing many growth opportunities around electrification – with our battery systems and battery technologies, and our wide product range for environment-friendly drives in the automotive industry.

OUR GROWTH STRATEGY 2027: “MIBA 100”

We want to consistently continue along this successful path with our new corporate strategy “Miba 100”. By 2027, the year in which we will celebrate our 100th anniversary, we want to grow both organically and through acquisitions to reach an annual revenue of EUR 1.5 billion. In doing so, we will focus our attention on developing and producing technologically demanding components along the entire energy value chain.

FINANCIAL INDEPENDENCE CREATES STABILITY AND THE BASIS FOR INVESTMENTS IN OUR FUTURE

The basis for this growth path is the financial independence which we have always stood for. Our equity ratio, which has traditionally been high, increased further in the past financial year to 50.5 percent. As a family-owned company, this means that in challenging times we are creating not only security and stability for our customers and employees, but above all the basis for investments in Miba's future. Thus we have already invested EUR 60 million in developing our eMobility business. We plan further investments of more than EUR 500 million by 2027.

CAREER OPPORTUNITIES FOR INNOVATORS AND FUTURE SHAPERS

To utilize these future opportunities, we need to work in close partnership with our customers to develop and produce innovative solutions for their products of tomorrow. Following our guiding principle “A Place with Freedom to Perform”, there are many career opportunities for innovators and future shapers; we already have many of these people at Miba, and we want to attract more of them to shape the future with us. Miba's fundamental values, such as innovation, entrepreneurship, pioneering spirit, courage, persistence, curiosity and lifelong learning help us develop new solutions and markets jointly for and with our customers, and thus make a substantial contribution to sustainability and climate protection.

I invite you all – customers, employees and partners – to collectively utilize the many opportunities ahead of us and shape the future. Thank you for your interest in Miba and your trust in us.

Yours,

Peter Mitterbauer

F. Peter Mitterbauer
CEO Miba AG

OUR GROWTH STRATEGY 2027: MIBA 100

“Miba 100” has been our new corporate strategy since spring 2021. It describes how we want to continue to grow sustainably through to 2027 – the 100th anniversary of Miba being founded. And we also want to apply this strategy to set our course for the second century of our company history.

The company successfully concluded our previous corporate strategy “Miba 2020 – Dynamic Evolution”: since 2013 sales revenue has grown by half, from around EUR 600 million to almost EUR 900 million. Today Miba employs 2,600 people in Austria, i.e. around 25 percent more than in 2013. Worldwide we have grown from 4,300 to 7,400 employees, and from 21 to 30 production sites. In times of major changes in our markets, it is essential that we continue this growth path with our new strategy and set our course for the future.

MISSION “TECHNOLOGIES FOR A CLEANER PLANET”: A STRONG FOUNDATION FOR “MIBA 100”

With “Technologies for a cleaner planet”, Miba’s corporate mission has already been centered around sustainability and environmental friendliness since 2013. With our technologies we want to make a contribution to a cleaner planet. And we are working constantly on consuming fewer resources in production and administration, and thus creating a smaller CO₂ footprint. This mission is the basis and strong foundation for the strategy “Miba 100”.

TECHNOLOGIES FOR APPLICATIONS ALONG THE ENTIRE ENERGY VALUE CHAIN

The strategy “Miba 100” describes how Miba wants to use growth opportunities on the basis of our corporate mission. We are directing our focus towards technologically demanding niches along the entire energy value chain. In our customers’ applications, we intend our Miba technologies to make the generation, transmission, storage and use of energy even more efficient, and thus more sustainable and more eco-friendly. This is generating huge growth opportunities (the illustration on page 14 – 15 shows where we specifically want to use them).

The corporate mission “Technologies for a cleaner planet” has already been giving us direction and motivation since 2013. With our products and our careful use of resources, we want to make a contribution to a cleaner planet.



We want Miba to grow like a tree, sustainably and healthily. With strong business areas which together constitute Miba’s strength. Reinforced by our values and operating principles, the expertise of our 7,400 employees worldwide, and their passion for success.

SUBSTANTIAL GROWTH ALSO THROUGH ACQUISITIONS

Our objective is to grow to annual sales revenues of EUR 1.5 billion by 2027. To achieve this, by then we want to invest more than EUR 500 million. On the one hand, our growth should come organically from our existing business areas, above all from new products in new markets; but on the other hand, Miba wants to grow substantially through acquisitions. We are looking for companies in promising, technologically demanding niches along the energy value chain which are well established in the market and want to grow together with us under our management.

INNOVATION LEADERSHIP AS THE BASIS FOR FUTURE SUCCESSES

One essential prerequisite for our future success is the spirit of innovation that especially characterizes Miba. It is in our DNA to be a solution provider for our customers. In the future too we want to work proactively and in close cooperation with them, to develop and produce solutions for their technological challenges.



MORE ABOUT THE STRATEGY MIBA 100

<https://www.miba.com/en/company/corporate-strategy-2027-miba-100>

OUR VISION: NO POWER WITHOUT MIBA TECHNOLOGY



We want to grow with products for applications in technologically demanding niches along the entire energy value chain. This is described in our vision “No power without Miba technology” – details of which can be found on pages 14 – 15.

OUR VISION:

NO POWER WITHOUT MIBA TECHNOLOGY

We are striving for product and technology leadership in technologically demanding niches along the entire energy value chain. In our customers' applications, we want our Miba technologies to contribute to making the generation, transmission, storage and use of energy even more efficient, and thus more sustainable and more eco-friendly. This is described in our vision "No power without Miba technology". The illustration shows the areas in which Miba technologies are already making this contribution today, and the product areas we want to increasingly develop in the future.

CRADLE-TO-GRAVE: Miba products accompany the entire cycle of efficient generation,

transmission, storage and use of energy



ENERGY GENERATION

WIND POWER
SOLAR ENERGY
HYDROPOWER
GAS AND DIESEL GENSETS, TURBINES
FUEL CELLS



ENERGY TRANSMISSION

EFFICIENT ENERGY TRANSMISSION
(e.g. high-voltage direct current (HVDC)
transmission / medium voltage direct
current (MVDC) transmission)
SMART GRIDS
(intelligent networking and control
of power grids)
COMPRESSORS AND PUMPS
COMPONENTS FOR CHARGING INFRASTRUC-
TURE FOR ELECTRIC VEHICLES



ENERGY STORAGE

BATTERY SYSTEMS AND MODULES
BATTERY COMPONENTS
(e.g. battery thermal management)
ELECTRICAL SAFETY COMPONENTS
FOR BATTERIES
COATING SOLUTIONS FOR BATTERIES



ENERGY USE

HIGHLY EFFICIENT DRIVE TECHNOLOGY:
■ CONVENTIONAL DRIVES
■ HYBRID DRIVES
■ FULLY-ELECTRIC DRIVES
VEHICLE APPLICATIONS OUTSIDE
THE DRIVE TRAIN
(e.g. auxiliary drives)
INDUSTRIAL APPLICATIONS

WELL-TO-TANK (production and provision)

TANK-TO-WHEEL (dispensing and use)

TOGETHER WE ARE SHAPING THE FUTURE

It is our 7,400 employees all over the world who are shaping the future of Miba with their ideas and their commitment. They are doing this with a very special attitude which we call the Miba Spirit.



1 PIONEERING SPIRIT AND ENTREPRENEURSHIP

Future shapers have dreams and visions. They head into the future full of optimism and confidence. Think in possibilities instead of problems. Assume responsibility and are passionate about success.

3 CURIOSITY

Above all it is people who are interested and open to new things who recognize opportunities. We want to be hungry for knowledge – about our markets, our customers and our competitors. We will succeed in this above all in personal contact, by asking questions and learning.

5 LIFELONG LEARNING

In times that are full of change, it is more important than ever to learn for the whole of our life. Not only will our knowledge and skills grow, but we will also develop personally.

7 TAKING NEW PATHS

Major growth opportunities mainly lie off the beaten track. We want to open the doors to new markets and customers.

2 COURAGE

For us, changes and challenges are one thing above all: opportunities. We want to accept these opportunities and use them – this is what constitutes true pioneering spirit. And in challenging times in particular, at Miba we have always shown courage, seized opportunities and grown.

4 LEAVING YOUR COMFORT ZONE

Successes of the past are one thing above all: inspiration for shaping the future. We want to dare to do new things, go the extra mile, swim against the current, be hungry for success and achievement-focused.

6 PERSISTENCE

Major successes are almost always the result of a lot of work, dedication and stamina. So we want to stick with the topics we excel in. Fight for ideas we believe in. Pursue long-term objectives with just as much commitment as opportunities for rapid success.

MIBA GROUP EXECUTIVE COMMITTEE: “LET’S USE THE MANY NEW OPPORTUNITIES”



“Our corporate mission “Technologies for a cleaner planet” not only gives us drive and motivation for our daily work. It also creates many new growth opportunities with new products which in our customers’ end applications make an important contribution to greater energy efficiency and climate protection.”

F. Peter Mitterbauer | CEO Miba AG



“We want to be digital innovation leaders in our markets. With digital processes, products and services that create added value for our customers. For the success of the digital transformation we need an open, agile corporate culture characterized by freedom.”

Markus Hofer | Miba AG Management Board Member / CFO / CIO



“As managers we have a major task: to fuel the energy and wealth of ideas in our teams. To encourage creativity and commitment, just as much as pleasure in the shared success. Let’s use the many new opportunities!”

Martin Liebl | Miba AG Management Board Member



“New technologies open up new market opportunities. Now more than ever we need to be very close to our customers, understand their challenges and be a solution provider for them, from the development of new products through to serial production.”

Bernd Badurek | General Manager, Miba Sinter Group



“The innovative spirit and innovative strength of our teams are part of our DNA. Taking new approaches, building on the ideas of our teams, and allowing them to create and innovate simply must all be an even stronger part of the way we see ourselves. In this way we want to become a product and technology leader in new markets too.”

Christoph Ederer | General Manager, Miba Bearing Group



“Growing into new markets, with new technologies and products, will change the way we work. Which makes it all the more important to develop new answers in our employee experiences. The Miba Spirit and the expertise of our employees are the basis for innovative strength and product quality.”

Bernhard Reisner | Vice President Human Capital, Miba AG

MIBA LIGHTHOUSE

CLEAR VALUES AND PRINCIPLES GUIDE THE WAY



OUR CLIMATE GOALS

CO₂zero

OUR AMBITION: CO₂-Neutrality by 2040

- Miba wants to become climate-neutral by 2040
- We are striving to halve our CO₂ emissions by 2030

It is not just Miba's products that make an important contribution to a cleaner planet. In production and in our offices too we have been working for many years on consuming fewer resources and causing a smaller CO₂ footprint.

OUR PATH TO CO₂-NEUTRALITY

By 2040 we want to make our production climate-neutral. And by 2030 we want to halve the CO₂ emissions from our own production and from the energy we use (compared to 2019). We are also working

on a plan for reducing the CO₂ footprint of our supplier network. Our clear focus is on achieving our goals by our own efforts, with specific measures on all of Miba's sites worldwide. To complement this we are going to invest in the expansion of production capacities for sustainable energy. With all of this we want to make our contribution to achieving the climate goals of the United Nations and the European Union.

Further information at
www.miba.com/en/co2



**COMMITTED TO THE
ENERGY TURNAROUND**

CONTRIBUTING TO SUSTAINABILITY AND CLIMATE PROTECTION WITH OUR TECHNOLOGY PROVIDES DRIVE AND MOTIVATION

The wind energy team at Miba Bearing Group:
one of many examples of how we want to make the
generation, transmission and storage of energy more
efficient and more sustainable.



MIBA TEAMWORK



DRIVEN BY THE WIND

WORLDWIDE COLLABORATION ON THE DEVELOPMENT AND PRODUCTION OF BEARING SOLUTIONS FOR WIND TURBINES

Wind power is one of the most important sources of clean, renewable energy. Its significance is growing rapidly, and the technological demands on wind turbines are also increasing. Developing solutions for this, and thus helping to shape the energy turnaround, is both an incentive and motivation for the wind energy team at Miba Bearing Group.

Our world needs to become climate-neutral by 2050 – this is the clear goal of the United Nations. An important prerequisite for this is the so called energy turnaround, in other words the switchover to sustainable, renewable energy. In order for wind power to make a major contribution to this, wind turbines are being constructed with ever-higher production capacities – but the installation space remains the same. “Contributing here, helping to shape the sector and developing completely new solutions for our customers’ technological challenges is very motivating”, says the wind energy team at Miba Bearing Group. They already have over ten years’ involvement in the use of Miba bearings in the gearboxes of wind turbines. “Initially there was still not

very much need in the market, but we were convinced by our idea and we kept going consistently. We were also given the freedom and trust to continue our development work in peace, and develop series production”, the bearing specialists tell us. Persistence that has paid off: Miba bearings are now increasingly replacing the traditional roller bearings in wind turbines, and both the business and the team have grown rapidly in recent years. “For us it all revolves around sustainability: with the bearing technology for sustainable wind energy, we are establishing a sustainable business area for Miba”, says the wind energy team proudly. “We are working together globally on this, in close cooperation with the various specialists in Austria, Germany, the USA and China, where the

greatest growth is expected for wind energy in the coming years.” Vigorously exchanging ideas, learning from one another, and at the same time designing new things in an integrated process from development through to production, while seeing themselves evolve along the way: all of this enthuses the team and drives it forward.

DESIGNING NEW THINGS AND SEEING THEMSELVES DEVELOP

The wind energy team does not want to do this only with solutions for wind turbine gearboxes; it is also working on a new concept for rotor main shaft bearings in wind turbines. “Here too, our customers and their technological challenges are our focus”, explains the

wind energy team. Switching to Miba bearing technology makes the maintenance simpler, which saves the wind turbine operators a lot of money. “There is great interest in this in the market. We now need to apply our high commitment and rapidly develop our solution until it is ready for series manufacture, and to develop it to production. We find it hugely motivating to experience this dynamism in the market and contribute to shaping it. And right now there is a demand for people who can apply their enthusiasm and personal responsibility to creating new things for the market and our customers. And above all, people who are always driven by one thing: making a contribution to greater sustainability and climate protection with Miba technology.”

“For us it all revolves around sustainability: sustainable energy and establishing a sustainable business.”



“**PIONEERING SPIRIT** means believing in an idea and sticking with it, and being given the freedom and trust to develop it further.”



MIBA TECHNOLOGIES FOR ENERGY GENERATION

The use of sustainable, clean energy is one of the keys to achieving climate goals. We want to make a significant contribution to this with our technologies for wind power, hydropower and solar energy plants; but gas-fired power plants are also becoming more efficient and more environment-friendly now thanks to our products.



WIND POWER

We want to help shape this sustainable growth market with a broad product portfolio.



Gearbox manufacturers rely on Miba technology BEARINGS MEET EVER-GREATER REQUIREMENTS FOR WIND TURBINE PERFORMANCE

The wind turbines of the future will be designed for more than twice the production output of today, but the installation space is not going to be increased any further. The roller bearings

that have traditionally been used can scarcely cope with these requirements, so manufacturers of gearboxes for wind turbines are switching to Miba bearing technology.



New concept for rotor main shaft bearings EASIER SERVICING REDUCES MAINTENANCE COSTS

Miba bearings can also be used as rotor main shaft bearings in wind turbines – in the form of individual bearing segments. This segmentation enables them to be serviced directly on the tower, thus making expensive cranes unnecessary for replacing bearings. This saves the

turbine operators a great deal of money. With the new concept, therefore, considerable cost savings can be realized for our customers through this simple servicing.

Thanks to Miba friction materials BRAKING WIND TURBINES SAFELY

To increase safety in strong winds and prevent energy overload, the rotors of the approximately 30-ton wind turbines must be slowed down. The safest method for this is to use brakes with friction materials, such as those offered by

Miba. Miba sintered friction materials are characterized by stable friction coefficients and improved wear resistance, due to the use of high-quality materials and state-of-the-art production processes.



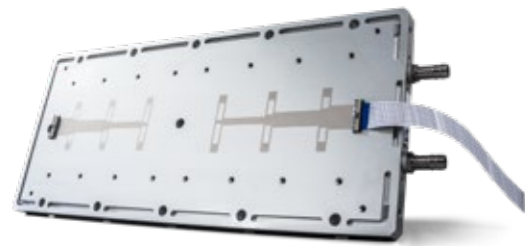
90 PERCENT OF WIND TURBINE MANUFACTURERS use EBG power resistors

Power resistors supplied by the Miba company EBG Resistors are used in wind turbines for current and voltage limitation, harmonic limitation or as measuring resistors for improving the grid quality. This makes the turbines more efficient and longer-lasting, and is

also the reason why around 90 percent of wind turbine manufacturers rely on EBG technology. By the way: thanks to our efficient DAU cooling solutions, not only resistors but also inverters are becoming smaller and require less installation space.



DAU cooling technology THERMAL MANAGEMENT FOR EVER-SMALLER INSTALLATION SPACES



Miba's DAU cooling technology is used to achieve optimum cooling in the ever-smaller installation spaces for power electronics in the control boxes of wind turbines. This technology ensures that the function-critical electronic parts are always kept at the right temperature, and are thus protected. Our cooling

technology will be digitalized in the future to enable precise planning of maintenance cycles. This will not only save users money; it will also prevent damage and unnecessary maintenance work – and thus contribute to achieving greater sustainability and a smaller carbon footprint.

Optimal welded joints for steel pipes MILLING EQUIPMENT FOR THE CONSTRUCTION OF OFFSHORE WIND-TURBINE TOWERS

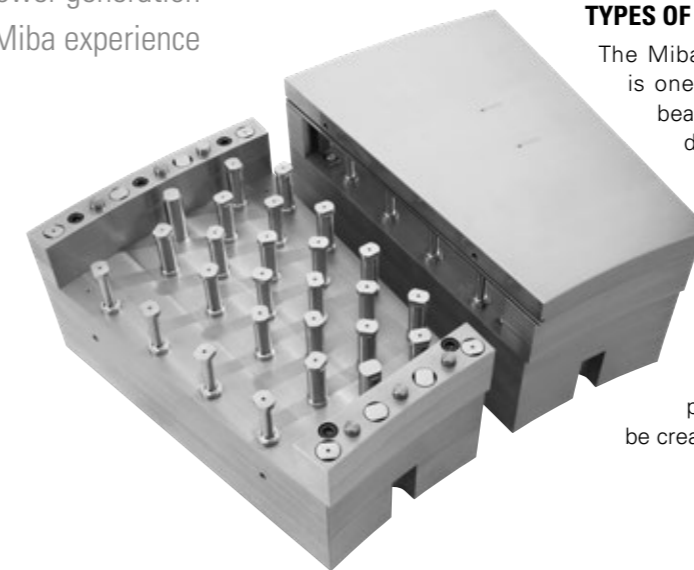
Offshore wind turbines are anchored in the seabed with foundation structures up to 100 meters deep, which consist of steel pipes around 30 meters long. These massive components have to be welded together before they can be erected. This is precisely where Miba Automation Systems (MAS) comes into play. With circular and long seam

milling systems designed and built by MAS, the pipe elements for offshore wind towers off the coasts can be processed with high precision, and an optimal welded joint can be achieved for assembly. Miba is the technological world market leader in this segment and has already sold a large number of such systems in recent years.



HYDROPOWER

Full power generation
with Miba experience



MIBA HYDRO BEARINGS SUITABLE FOR ALL TYPES OF HYDROPOWER PLANTS

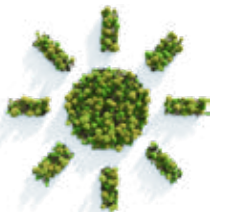
The Miba industrial bearing plant in Cataguases, Brazil, is one of the world's three largest suppliers of hydro bearings, in other words, bearings for turbines in hydropower plants. Miba bearing technology is used in both small (power generation below 30 megawatts) and medium hydropower plants (power generation between 31 and 80 megawatts), as well as large plants (more than 80 megawatts). In addition to Miba Industrial Bearings, our mechanical engineering specialist Miba Automation Systems is also active in power plant construction. Thanks to MAS, which develops and produces CNC machines, turbine components can be created more accurately and efficiently.



SOLAR ENERGY

Soak up the sun
with Miba's expertise

Even today, power resistors from EBG can be found in thick-film technology in the inverters of almost all solar energy plants from well-known manufacturers. They enable the best balance between component size and performance – especially in comparison to wire-wound resistors – as the EBG technology makes it possible to include a greater number of resistors in a single housing. In addition, heat sinks and heat pipes from Miba's subsidiary DAU protect the electronic components in solar energy plants against overheating. The use of new technologies has enabled the efficiency and power density to be increased even further.



GAS-FIRED POWER PLANTS



Bearings for more-efficient
gas-fired power plants

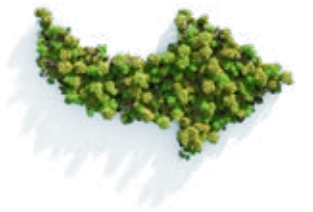
Miba bearings ensure that compressors, gearboxes and turbines in gas-fired power plants can operate more efficiently and productively. Other benefits of Miba's industrial bearing technology include a longer service life and high reliability.





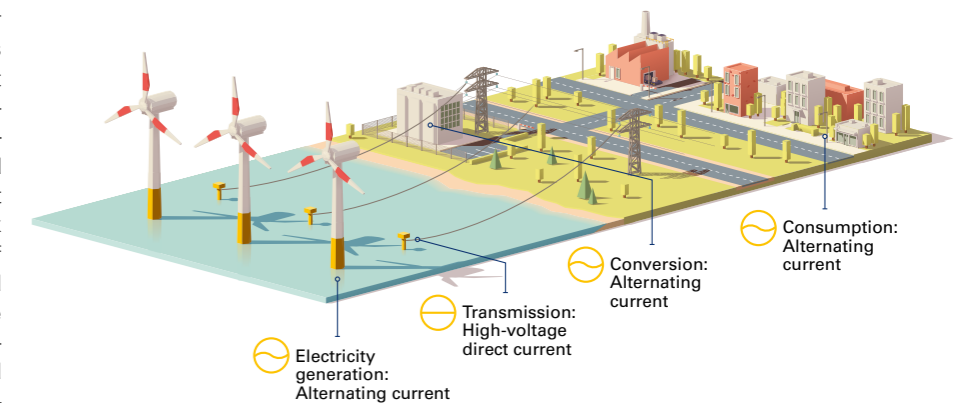
POWER ELECTRONICS FOR EFFICIENT ENERGY TRANSMISSION

Transmitting electrical current with the lowest possible loss and using it as efficiently as possible contributes substantially to energy efficiency. Power electronics developed and produced by Miba companies EBG and DAU play a crucial role in this.



Technologies for HIGH-VOLTAGE DIRECT CURRENT TRANSMISSION

If electricity has to be transmitted over long distances with as little energy loss as possible, then high-voltage direct current transmission – or HVDC technology – is used. For example, the alternating current generated in offshore wind turbines is first converted into direct current for transmission, and then back into alternating current in the region of consumption. EBG power resistors and DAU cooling technologies protect the electronic switches and other applications against voltage fluctuations, and ensure optimum cooling of the function-critical elements.



Intelligent Energy Management OPTIMAL UTILIZATION OF SMART GRIDS



Smart grids are the energy providers' approach to optimally controlling the utilization of the power networks. All parts of the energy system are connected via a communication network, and can

interact with one another. In the USA our technology also supports the energy providers in finding faults in the very extensive grids by using measurement sensors.

EBG power resistors and DAU cooling technology: important components for smart and efficient power grids.

CHARGING ELECTRIC VEHICLES safely and efficiently

EBG's power resistors provide an important protective function in the charging infrastructure of electric vehicles. They are installed in fast and ultra-fast chargers in the power range

from 150 to 350 kilowatts, and ensure that higher power levels are safely dissipated. This enables the power electronics to function smoothly even in the event of a breakdown.





BATTERY TECHNOLOGIES FOR EFFICIENT ENERGY STORAGE

Electrification is gaining momentum ever faster – and along with this, the need for solutions for the sustainable storage of energy is also increasing. Together with Voltlabor, in which Miba has had a shareholding since 2019, we want to establish a global supplier of battery systems and battery components.



Basis for global expansion

VOLTLABOR EXTENDS AUSTRIA'S LEADING BATTERY PLANT

Our battery specialist VOLTLABOR wants to grow strongly in the next few years. For this purpose, the company has bought the whole of the building in which it previously rented one story. Here it is building the "VOLTfactory #01", an office and production site with more than 3,900 square meters of usable space. The objective is to create the leading battery production plant in Austria in terms of technology. The "VOLTfactory #01" will also become the pilot and showcase factory on the basis of which VOLTLABOR wants to expand globally and establish

further battery production sites. For this purpose, the company intends to utilize Miba's market access and factory infrastructure.

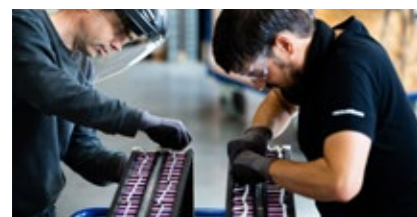
FULLY AUTOMATIC PRODUCTION LINE FOR BATTERIES

VOLTLABOR is the first company in the world to manufacture round battery-cell systems using special laser contacting. The company produces battery systems for vehicles, buses, construction machinery, motorcycles, boats and manned drones on a fully automated production

line – the VOLTjet®. As part of its intensive cooperation with Miba, VOLTLABOR is incorporating the Miba FLEXcooler®, a multi-award-winning and innovative thermal management system, into its batteries. The strong market demand is now creating the basis for the expansion of the VOLTLABOR production site.



The battery specialist VOLTLABOR, in which Miba has a shareholding, bought the entire TGZ building in Bad Leonfelden (Upper Austria), in which it previously rented one story, from the previous owner.



The TERRA Platform was developed in accordance with automotive standards and for automated series production with the highest quality requirements.



Battery solution achieves highest quality requirements VOLTLABOR TERRA PLATFORM

With the TERRA Platform, VOLTLABOR offers customized battery solutions for on-road and off-highway vehicles. Through its modular approach, the battery offers different interconnection options, and can be expanded for larger battery systems by scaling up the battery

packs with serial/partial interconnection. The TERRA Platform was developed in accordance with automotive standards comprising the highest quality requirements (FMEA, APQP, PPAP, R@R), and this ensures the traceability of the installed components.



Compact and mobile energy storage VOLTstation®

The VOLTstation® recently developed by VOLTLABOR is an energy storage device for both stationary and mobile use. With its modular and compact design, the VOLTstation® is easy to transport and simple to operate by means of a

touch screen. The recently launched product offers an environment-friendly alternative to the diesel generator, as it works on electrical energy and is therefore emission-free and quiet.

IPCEI „EuBatIn“ program

MIBA AND VOLTLABOR PART OF INTERNATIONAL NETWORK

Miba and VOLTLABOR are two of only six Austrian companies that have been accepted by the European Commission into the IPCEI (Important Project of

Common European Interest) "EuBatIn" program. The aim of the program is to establish competitive European battery production. Miba's battery specialists

are working on the program together with companies such as BMW, Rimac, Fiat, Northvolt, AVL and Varta.



MIBA FLEXcooler®

WITHOUT GAP FILLERS AND FLEXIBLE

With its flexible shape, the FLEXcooler® developed by Miba adapts perfectly to the battery cells. This makes it the first liquid cooling system on the market that optimally absorbs and dissipates heat due to the close connection between battery cells and cooling. The advantages are on the one hand its low weight, and on the other hand the fact that gap

fillers, materials used to fill the space between the battery cell and the cooling system, are no longer needed. The Miba FLEXcooler® can be used for prismatic, cylindrical and pouch battery cells.



**FULL OF ENERGY FOR
THE MOBILITY OF THE FUTURE**

NEW SOLUTIONS FOR CLEAN DRIVES – WORTHY OF CONTRIBUTING ALL OUR EXPERTISE

With our innovations and products, we want to contribute to shaping the mobility of tomorrow – such as with the safety systems for batteries and fuel cells in electric vehicles which are being developed by a group of specialists in the [Miba eMobility Team](#).

MIBA TEAMWORK

SHAPING OUR WORLD SUSTAIN- ABLY WITH SAFETY

SPECIALISTS IN THE MIBA eMOBILITY TEAM ARE DEVELOPING SYSTEMS TO SAFELY SWITCH OFF BATTERIES AND FUEL CELLS IN ELECTRIC VEHICLES.

In the event of an accident or a fault in the electrical system of an electric vehicle, it is essential that the current flow is immediately switched off and the electrical energy is dissipated safely. This protects not only the vehicle's battery or fuel cells, but also its occupants. A group of specialists in the Miba eMobility team is developing pyrotechnical safety systems for this.

Electromobility is gaining momentum ever faster. Almost seven million electric vehicles were sold in 2021, more than twice as many as the previous year. And the technical demands on electric vehicles are increasing constantly. The Miba eMobility team are convinced that "for people who are enthusiastic about mobility and drive technology, this is a hugely exciting time full of innovation and dynamism. All the well-known manufacturers worldwide are now looking for partners with which they can develop the best solutions for their demanding challenges, and put them into series

production. With our expertise we want to develop new technologies that are meaningful for our customers and create real added value – and also contribute to emission-free mobility."

SOLUTIONS FOR OUR CUSTOMERS' CHALLENGING REQUIREMENTS

One of these technologies is safety systems for batteries and fuel cells in electric vehicles. In the event of an accident or a fault in the electrical system, they interrupt the flow of electricity and dissipate the electrical energy – protect-

ing not only the battery or fuel cells in the vehicle, but also the occupants. A group of specialists in the Miba eMobility team is developing the Miba Power Fuse and the Miba Power Closer for this purpose – solutions which within just a few milliseconds isolate the battery or fuel cell from the vehicle electronics by means of a pyrotechnic explosion and safely dissipate the residual energy from the fuel cells.



"For people who are passionate about mobility and drive technology, these are hugely exciting times filled with innovation and dynamism."



BREAKING NEW GROUND

means relying on cooperation. It is only in the enthusiastic exchange of ideas with customers, research institutes and within the team that you gain deep insights into markets and technologies."

COURAGE AND SELF-CONFIDENCE GROW WITH EVERY SUCCESS

"Developing new approaches like these calls for cooperation and team spirit," say the Miba eMobility experts. "We are closely networked with our customers and with research institutions so that we really understand the specific requirements and technological details from the ground up. And within the team we exchange ideas enthusiastically, and support and motivate one another. All of this is a huge source of inspiration and innovation. Within the

team you can feel the motivation, the buzz and the excitement at breaking new ground and constantly expanding the technological possibilities just that bit more." And there is something else that drives the eMobility specialists too: "Our courage and self-confidence grow with every success." The successes are already happening: well-known customers are interested in the pyrotechnic safety systems the Miba eMobility specialists have created, and in the next few months the first prototype orders will be implemented.



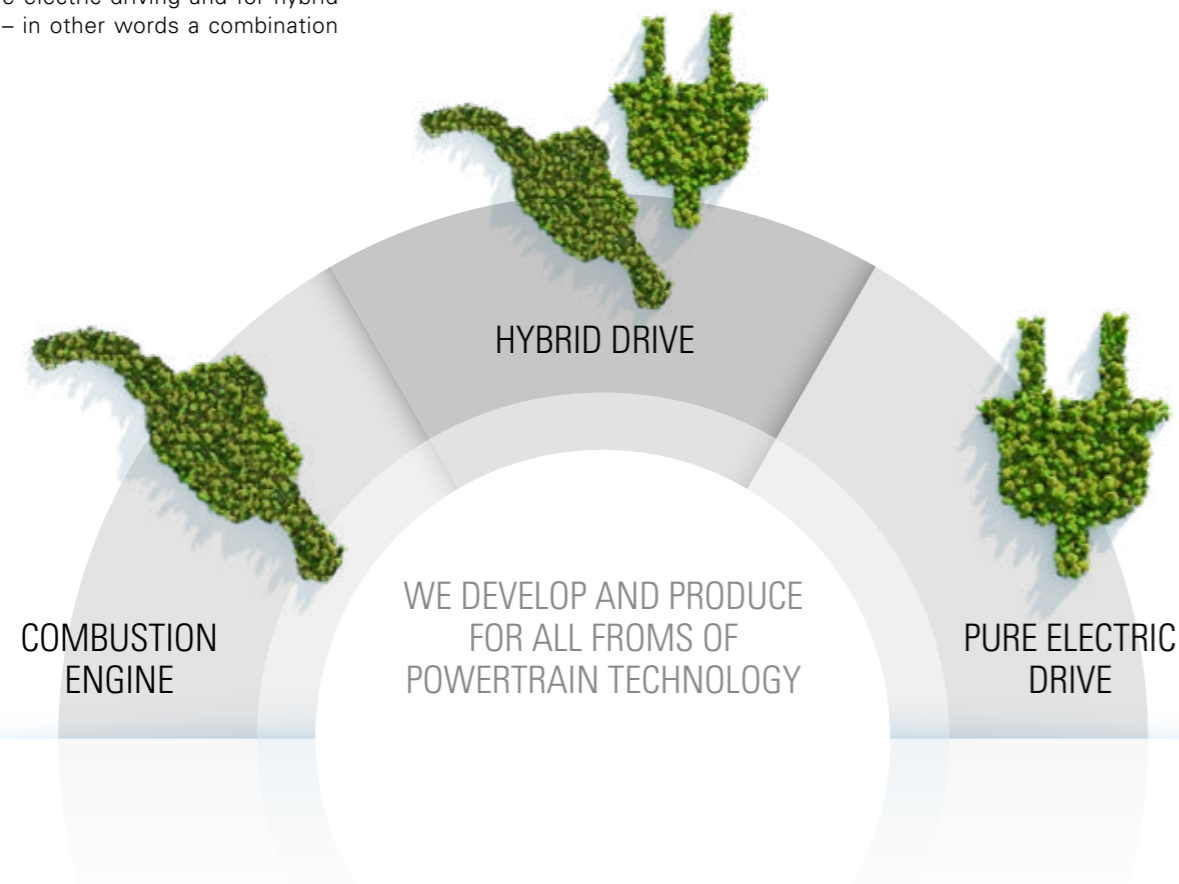
WHAT DRIVES US: SHAPING THE MOBILITY OF TOMORROW

Search for the best solutions

OUR GOAL: EFFICIENT, CLEAN POWERTRAIN TECHNOLOGY

No matter whether it's pure electric driving, hybrid drives or classic combustors: we are certain that in the future every powertrain technology will make a contribution towards clean, sustainable mobility. We see great growth opportunities in electrification, and for this reason we are already developing and producing a series of solutions for pure electric driving and for hybrid drives – in other words a combination

of electric and combustion engines. Alongside this, we are working on further optimizing the conventional drive technology, because we still see further development potential in the combustion engine too. We are doing all of this with one objective: to make drives even more efficient, environment-friendly and quieter.



For more efficient and quieter engines

SINTER TECHNOLOGY FOR CONVENTIONAL AND ELECTRIC DRIVES

Compared to other manufacturing processes, powder metallurgy solutions from the Miba Sinter Group allow the maximum utilization of the material used. This results in a lower weight being achieved for combustion engines – reducing fuel consumption and making them even more environment-friendly. In addition, our powder-metallurgical solutions score over conventional production methods because they produce less waste and consume fewer raw materials.

SINTER TECHNOLOGY IN ELECTROMOBILITY

The comprehensive expertise from the conventional powertrain can also be carried over to applications in eMobility. Our knowledge of NVH (noise, vibration, harshness) and gearing can thus be used for eAxle components such as planetary gears or high-strength actuators, for parking brakes or clutch packs.





In 2020, Miba sputter technology was awarded an Upper Austrian State Prize for Innovation

Used in more than half of all new medium-sized aircraft MIBA SPUTTER TECHNOLOGY MAKES FLYING MORE ENVIRONMENT-FRIENDLY

15 per cent less fuel consumption, 20 per cent less noise and 15 per cent lower CO₂ emissions – the sputter technology developed by Miba contributes to all of these. The gears in the gear-boxes of aircraft turbines are coated



using Miba's sputter process, and the bearing function integrated via the coating requires less installation space and achieves higher efficiency. This makes the turbine more efficient, more environment-friendly and quieter. According to the pilots, the effect is so great that they no longer hear the turbine above a speed of 100 kph; they can only see on their instruments that it is in operation. Gears coated with Miba sputter technology are now installed in the turbines of more than half of all new medium-sized aircraft (single-aisle aircraft) worldwide.

New additive ensures optimum sliding properties ENVIRONMENT-FRIENDLY LEAD-FREE BEARINGS

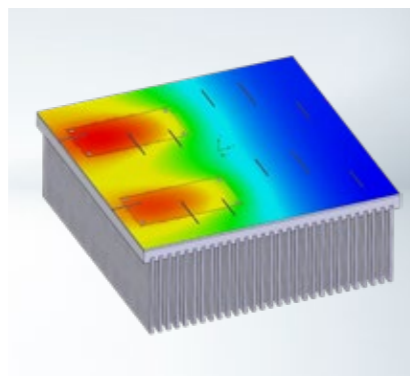
With the current stage of development, Miba has developed a lead-free alloy that uses a new additive to replace the lubricating properties of lead. The lead-free bearing is characterized by high

strength and at the same time has the robustness of leaded bronze. The lead-free product protects not only the environment, but also the health of our employees in production.

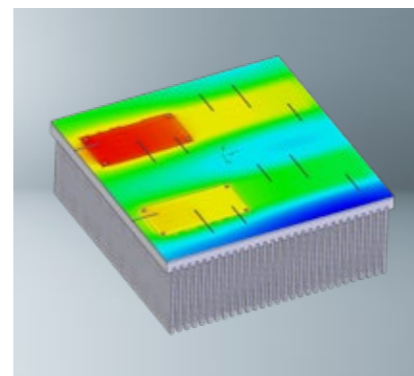


New air-cooling concept delivers many benefits EFFICIENT POWER SUPPLY FOR INDUSTRY AND RAILWAYS

An air-cooling system for semiconductor shells (such as IGBTs) developed jointly by our Styrian company DAU and Miba Sinter Group creates a permanently vacuum-tight "working space" for the heat pipe thanks to the vacuum soldering process used. This delivers many benefits, such as minimized heat transfer resistance and thus better thermal conductivity, an improvement in thermal properties of up to 25 per cent, and a 50 per cent reduction in the need for components.



Thermal distribution without vacuum chamber



Thermal distribution with vacuum chamber

Friction materials for brakes and clutches MIBA PRODUCTS REDUCE INSTALLATION SPACE AND WEIGHT

Friction materials are important elements in clutches and brakes, where they ensure efficient and optimized power transmission. Miba Friction Group's friction material technology is used in tractors, construction machinery, trucks, cars, aircraft and wind turbines. Their use saves installation space and reduces weight, whatever the end application.



Robust, weather-resistant, quiet BRAKE COMPONENTS FOR HIGH-SPEED TRAINS

Miba's high-performance friction materials are used for braking high-speed trains. Even at speeds of around 400 kph, they are characterized by their robustness, weather resistance and noise insulation – thus ensuring safe, quiet trains.

Stepless torque apportionment DRY MULTI-DISK CLUTCHES FROM MIBA FRICTION GROUP PROTECT THE ENVIRONMENT

Multi-disk clutches play an essential role in vehicle drives. Every drivetrain includes gear wheels that transfer torque from one level to the next by means of "positive engagement"; when the vehicle is driven around a corner, the torque is transferred only to a fixed position. In the case of a multi-disk clutch, this can also be done with "slip". This makes it easier to apportion the torque, in a continuously variable manner.

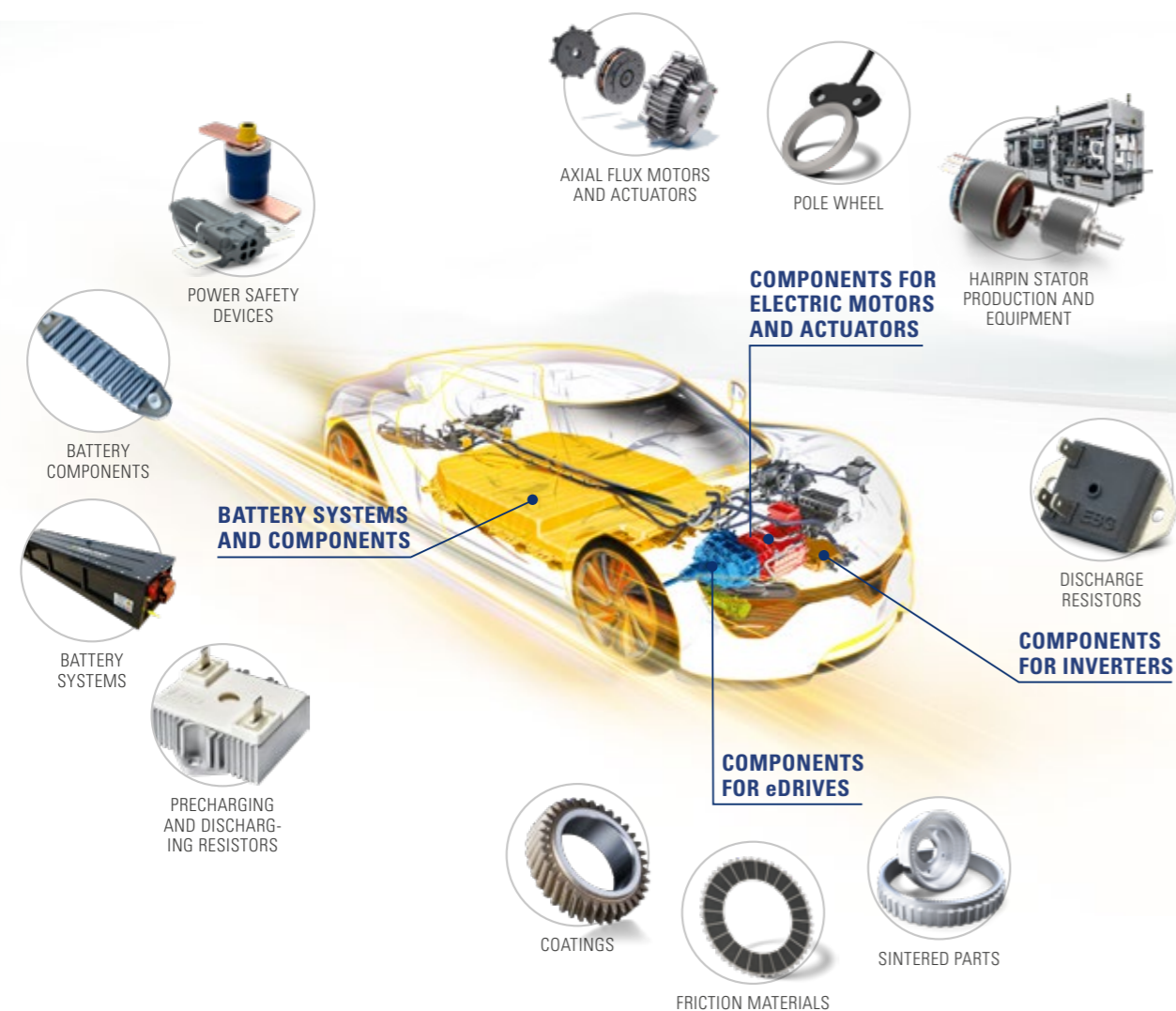
In contrast to the wet, i.e. oil-lubricated, multi-disk clutch, the dry multi-disk clutch entirely dispenses with oil and is also distinguished by its higher efficiency. Another advantage of a dry system is the higher torque density that is achievable, which in turn saves energy.



MIBA TECHNOLOGIES FOR eMOBILITY

WIDE PRODUCT RANGE

Today Miba already offers a wide product range for eMobility – for pure electric driving and for hybrid drives. As an innovative partner with decades of automotive experience, we are proactively shaping both the mobility of the future and the market, in close cooperation with our customers.



Investment in production capacities for Europe POWER RESISTORS FOR ELECTRIC VEHICLES

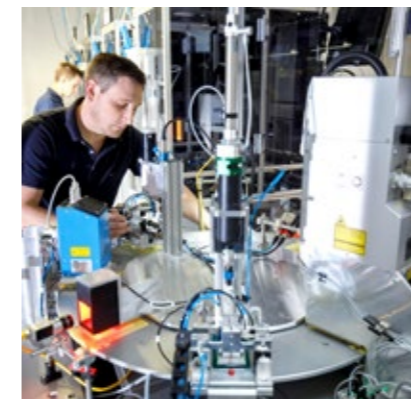
Power resistors from the Miba company EBG Resistors have already been used in electric vehicles for a number of years, so far mainly by Chinese manufacturers. With an investment of EUR 2 million, EBG is now also taking advantage of market opportunities in Europe, and has set up new production facilities in Styria for such resistors in electric vehicles. This investment was triggered by a large order placed by one of the major electric car platforms in Europe, for which EBG was selected to be represented with its discharge resistors. The resistors ensure that the electrical voltage in the system is immediately and safely dissipated when the electric vehicle is switched off, or in the event of an electrical system fault. Production from Kirchbach and St. Stefan will be primarily intended for the European market. With

the new production facilities, more than one million discharge resistors can be manufactured every year. In addition, the EBG production site near Shenzhen is already successfully supplying customers in China.

DIGITALIZED SERIES PRODUCTION THAT MEETS STRICT AUTOMOTIVE INDUSTRY STANDARDS

To gain a foothold as a supplier to the automotive industry, companies have to meet strict standards, which are verified by an IATF certification. The new production facilities in Kirchbach and St. Stefan also meet the latest requirements, and use a great deal of digital high-tech for this purpose. For example, every discharge resistor produced is traceable digitally from its material and production, through to its installation

in the vehicle and use. This is hugely advantageous as it means the product quality can be optimally monitored and evaluated in the long term, and thus continuously improved. Big data applications are also used.



In Styria, Miba power electronics specialist EBG has invested EUR 2 million in production facilities for power resistors in electric vehicles.

Safety systems for batteries and fuel cells POWER FUSES AND POWER CLOSERS FOR ELECTRIC VEHICLES

In the event of a technical malfunction or accident, the Miba Powerfuse® electrically disconnects the battery from the vehicle's high-voltage electrical system. This fast and safe disconnection is triggered not only by a signal from the vehicle safety controller, but also automatically by means of an integrated self-release mechanism. In this way, the Miba Powerfuse makes a significant contribution to the crucial safety of electric vehicles.

EMERGENCY STOP SWITCH FOR HV APPLICATIONS

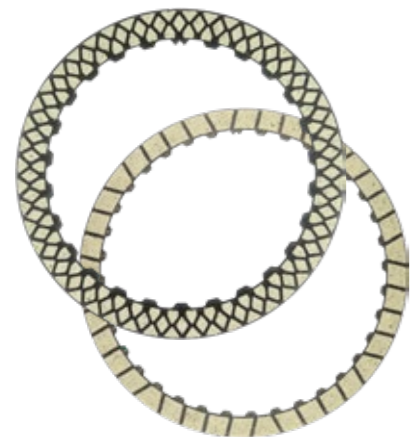
The Miba POWERcloser® ensures that electrical safety is guaranteed in an e-car. The pyro switch closes the discharge path – for discharging the capacities in the e-car or for short-circuiting the fuel cell power – and dissipates the remaining energy of the fuel cell. This keeps the e-car safe in the event of a crash and allows emergency personnel to work on the vehicle without danger.



Miba Friction technology boosts performance FRICTION SYSTEMS FOR 2-SPEED eAXLES

On the whole, fully electric drives (BEV) do not contain a classic-type transmission. However, friction systems will continue to play an important role in the future, as multiple gears will be required for greater range and demands for top speed. This is why Miba Friction Group is working on a 2-speed eAxe together with other industry partners. Miba technologies are available for transmission designs without oil cooling, which can be realized exclusively with the sintered friction material technology PCC (Pro Control Compound), as well as for designs using oil cooling.

Oil-cooled drive units are necessary for applications with high power-density requirements. The oil technology that is required differs significantly from the oils already in use today, due to incompatibilities of individual formulation components and the reduced lubricity. We are in close cooperation with well-known oil and additive manufacturers so that we are able to offer superior solutions here as well.



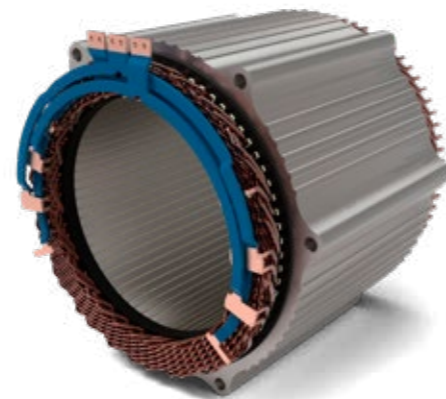
Saving resources in production and application MULTI-PAD DESIGN FOR HYBRID AND DUAL-CLUTCH TRANSMISSIONS

The crystalline structure on Miba friction materials is referred to as a multi-pad design; this design is used on friction materials for hybrid and dual-clutch transmissions. In contrast to the standard design, the multi-pad design reduces drag losses, and thus fuel consumption. Furthermore, the design also enables the oil quantity to be distributed more precisely in the clutches. The advantages are improved performance, reduction of the oil volume, and savings in terms of raw materials.

Increasing the efficiency of electric motors MIBA IS A PIONEER IN THE DEVELOPMENT AND PRODUCTION OF HAIRPIN TECHNOLOGY

When hairpin or flat wire technology is used, a higher copper fill factor and thus higher electric motor efficiency can be achieved by using geometrical exact defined copper bars to produce a winding for electric motor stators. As a comparison: conventional electric motors have a copper filling factor of up to 45 per cent – with Miba technology, this increases to up to 70 per cent. As we are one of the few suppliers to develop

our production lines in-house, we can synchronize the development of both our products and processes, such as the adaptive twisting for our lap-winding design or our inline quality monitoring. Our modular system concept enables the utmost flexibility and productivity of our systems.



First series order for axial flux motors MIBA DRIVE FOR ACTUATORS AND PUMPS

A few months ago, a well-known supplier of hydraulic systems for commercial vehicles placed the first series order for Miba axial flux motors. The start of series production is planned for the second quarter of 2024. The initial investment of EUR 2.4 million in the series plant will not only cover the production capacity needs for the first project, but

will also be available for further customer orders. An electric motor is an electrohydraulic unit characterized by its disc-shaped design, high torque density and quiet running behavior. Together with our customers, thanks to our axial flux motor we successfully reduce the emissions in modern rear-axle steering systems for commercial vehicles, while

at the same time saving installation space and weight. The electrohydraulic system driven by the Miba eMotor actively contributes to reducing fuel consumption, and can also reduce the tire wear of trucks when cornering.



Substantial expertise in gearing and NHV SINTER TECHNOLOGY FOR eDRIVES

Miba sintered components have proven their worth in conventional powertrains for many years, and have been used millions of times over. Miba's extensive expertise in NVH (noise, vibration, harshness) and gearing can also be used for components for eAxeles such as planetary gears, high-strength actuators for parking brakes, or clutch assemblies.

Research into new material concepts, such as aluminum, copper and titanium alloys, is among other things enabling new functionalities with porous components. These are used, for example, in components for hydrogen electrolysis, bipolar plates or heat pipes for optimizing heat management.

High Precision Sensing NEW INNOVATIONS FOR ROTARY ENCODERS

The High Precision Sensing business unit deals, among other things, with coating-based solutions and magnet-based measurement technology in the field of eMobility, concentrating largely on magnetic rotary encoder systems. The polymer-based magnetic rings currently used in the market as signal

transmitters (pulse wheels) have disadvantages in terms of their precision as well as the stability of the temperature and the solvent, and can therefore only be used to a limited extent in electric motors and high-speed systems. The Miba solution: these disadvantages can be overcome by the use of pulse

wheels with hard-magnetic CoSm layers. Temperatures above 200 °C, rotation speeds of more than 30,000 rpm, and advantages in terms of installation space and integration costs are already generating a large, positive response from customers even during the current prototype phase.

THE POWER OF DATA

OUR GLOBAL NETWORK IS UTILIZING THE OPPORTUNITIES OF DIGITALIZATION

With mSolutions® a Miba team from Slovakia, Austria and India is developing a software platform for connecting and optimizing all our production processes.

MIBA TEAMWORK

ONE IDEA AHEAD IN PRODUCTION WITH mSolutions®.

SUCCESS NEEDS IDEAS AND PEOPLE TO IMPLEMENT THEM. A COMMITTED MIBA TEAM HAS DEVELOPED A GLOBAL PRODUCTION PLATFORM TO INCREASE QUALITY AND EFFICIENCY.

Ideas that come from teams at our 30 production sites can often turn into major projects that span the globe. A good example of this is mSolutions®, a smart manufacturing software platform developed by Miba.

mSolutions® creates the basis for digitalizing and optimizing all our production processes. The platform now integrates 14 Miba plants worldwide, representing around 75 percent of our Group revenue. The start of the project was the idea of some of the employees at Miba Sinter Slovakia. "Our aim was to digitalize the team boards in production. These boards display important production data. If these data and the existing real-time machine data are not just digitalized, but also networked, this creates huge added value. The collected and networked data can be used to optimize production processes and quality."

COMBINED EXPERTISE FROM PRODUCTION AND FROM SOFTWARE DEVELOPMENT

The project was realized in the worldwide cooperation which is so typical of Miba. "We combined two strengths – the well-founded expertise in production which we have as an industrial company, and the broad expertise of our IT team. This enabled a team from Slovakia, Austria and India to develop the software within just a few months. "We immediately met with great interest in it from many more Miba plants," the development team explain. To make

it possible for the applications that had been developed to be used and further developed worldwide, in just a few months a global software and hardware infrastructure had been installed (the so-called "Miba Digital Engine"), the expertise had been further expanded and the team reinforced. "We also met with skepticism throughout. Some people immediately did not trust the new solution and called it into question, and some people found our timetables too ambitious. We regarded that as valuable feedback and motivation, and achieved all the targets we had set." Winning the Franz Mitterbauer Award, the prize

Strengths / USPs:

From the Manufacturing industry for the industry:
We are speaking the same language. State-of-the-art infrastructure for highest performance, usability, scalability. Delivered as an elastic, flexible service with minimum IT involvement - a **Software as a Service (SaaS) Platform**.

What is mSolutions®:

mSolutions' is Miba's Industrial Smart Manufacturing Software Platform focused on Shopfloor Execution, Logistics and Scheduling. It's the next generation of **Manufacturing Execution Systems**.

mSolutions' has been developed in the last 3+ years and is currently used in 14 Miba + 2 external sites with **thousands of users** daily - continuous strong growth in scope and reach.

It's build by experienced manufacturers for manufacturers

It's plug and play to get started, easily scalable and very intuitive to use

Accessible anytime, anywhere, with any device (platform independent, responsive design)

Global footprint: Development & support teams in China, India, Europe, US, Brazil

Fastest time to value: We setup and configure the apps within few days

mSolutions' scales with your business at best cost

We connect your people, machines, workplaces, sensors, products, IT systems and supply chains within and beyond your factories

It's all you need to digitize and run your operations at the optimum

Benefits:

- Reduction of cost per piece
- Meet increasing customer & legal requirements
- Real-time information for better decisions making and smart visualization
- Improve CO2 footprint



COURAGE

*"It takes **COURAGE** to strike out in a new direction. If you pursue your goal consistently and regard critical input as valuable feedback, you will be rewarded with success."*

awarded annually for the best innovation at Miba, was an additional incentive. "We were the first prizewinners ever that did not come from the R&D area," says the mSolutions® team delightedly. Meanwhile around 15 apps have been developed, such as an optimal user interface for our employees on the shop floor, the internal logistics and production planning. "Thanks to the plug-and-play properties of our apps, rollouts and scaling become simpler with every new rollout," explains the development team, which has already set itself the next goals. "We will use artificial intelligence to enable the app to learn from

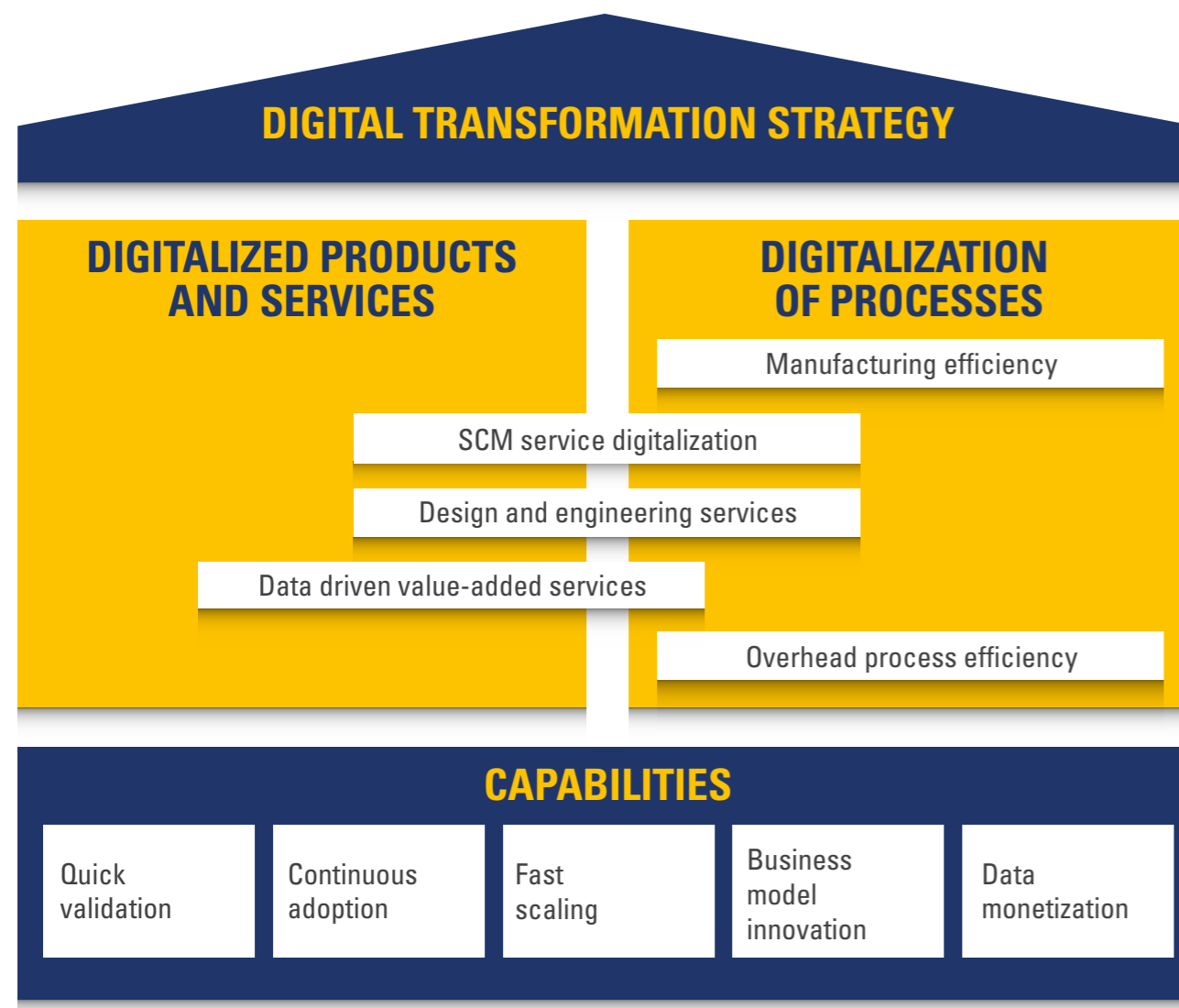
the Miba production planners, so that gradually it will support them ever more effectively in achieving better results in a shorter time." We are also going to make increasing use of our apps at the customer interface.



We combined our strengths in a worldwide development team – with members from Austria, India and Slovakia.

DIGITALIZATION@MIBA

We want to become the digital industry leader in niches along the entire energy value chain, by digitalizing our core processes and developing digital business models.



MIBA HOUSE OF DIGITALIZATION

The digital transformation offers us a multiplicity of opportunities. We want to create true added value for our customers with digital products and services, and we want to become even more quality-focused and efficient by digitalizing our processes and using the power of networked data. The Miba House

of Digital Transformation describes the areas in which our company wants to utilize the opportunities arising from digitalization, and it also shows what the requirements for this are.

To inspire and support Miba in the digital transformation, and push ahead with digital ideas, we founded the Digital

Innovation Hub and established it in Munich.



DIGITALIZATION CREATES ADDED VALUE FOR CUSTOMERS

Miba Application Engineering Tool WORLDWIDE DATA NETWORKING FOR FRICTION MATERIAL DESIGNS

The value of the data available within the company is illustrated by an example from Miba Friction Group. With the Application Engineering Tool, we have developed an application which net-

works the expertise and data from friction material designs worldwide. In this way, Miba's friction material experts, together with their customers, can draw on the experience of previous projects

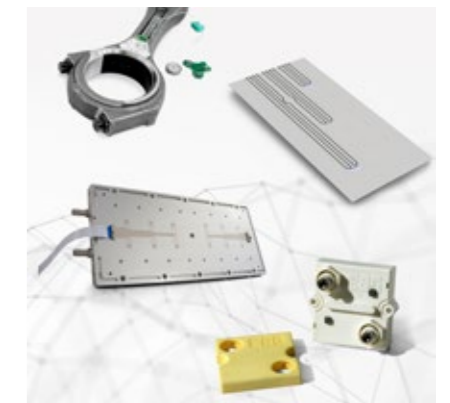
and find the ideal solution for new friction material applications more easily and rapidly than before.

Sensor technology for Miba products SMART COMPONENTS OPTIMIZE CUSTOMER APPLICATIONS

We want to use intelligent components to make our customers' products even better and more efficient. As an example, equipping bearings with sensors means that the condition of the bearings can be measured continuously, thus providing important information on the ideal time for maintenance. This saves unnecessary work and money.

Intelligent power resistors monitor and optimize how the resistor functions, and also identify important information for the entire system electronics. We are

also working on equipping our cooling technology for batteries, the Miba FL-EXcooler®, with sensors, thus making it smart. These sensors will collect important information about the temperature distribution in the battery, and its functioning can then be controlled and optimized during operation. This will increase the performance and service life of the battery. In addition, the temperature data obtained will form the basis for new digital offerings, such as early service warnings or analyses of the battery data via cloud solutions.



Quality assurance THROUGH VISUAL INSPECTION AND ARTIFICIAL INTELLIGENCE



If the scrap rate in production is reduced, then it is not just the quality costs that can be lowered; this also saves raw materials and energy. An important starting point for this is visual inspection. By using image recognition systems and contactless measurement systems, errors can be identified and optimizations initiated in the ongoing

production process. For this, Miba has assembled a specialist team, which is also involved in the use of Artificial Intelligence and deep-learning methods in quality optimization.



INNOVATION KNOWS NO BOUNDARIES

FOR US, BEING INNOVATIVE MEANS CREATING TRUE ADDED VALUE FOR OUR CUSTOMERS.

Being a solution provider for the challenges facing our customers – this is what drives not only the team at our power resistor specialist EBG Resistors, but the whole of Miba worldwide.

MIBA TEAMWORK

INTERDISCIPLINARY, INTERNATIONAL AND INNOVATIVE.

THE SPECIALISTS AT EBG WORK TOGETHER WITH THEIR CUSTOMERS ON NEW MARKET-FOCUSED SOLUTIONS FOR POWER RESISTORS.

“Nothing is impossible”, was the guiding principle of our company founder Franz Mitterbauer. When we are looking for the best solution for our customers, we always want to achieve more. This innovative spirit also drives the team at Miba’s company EBG Resistors.

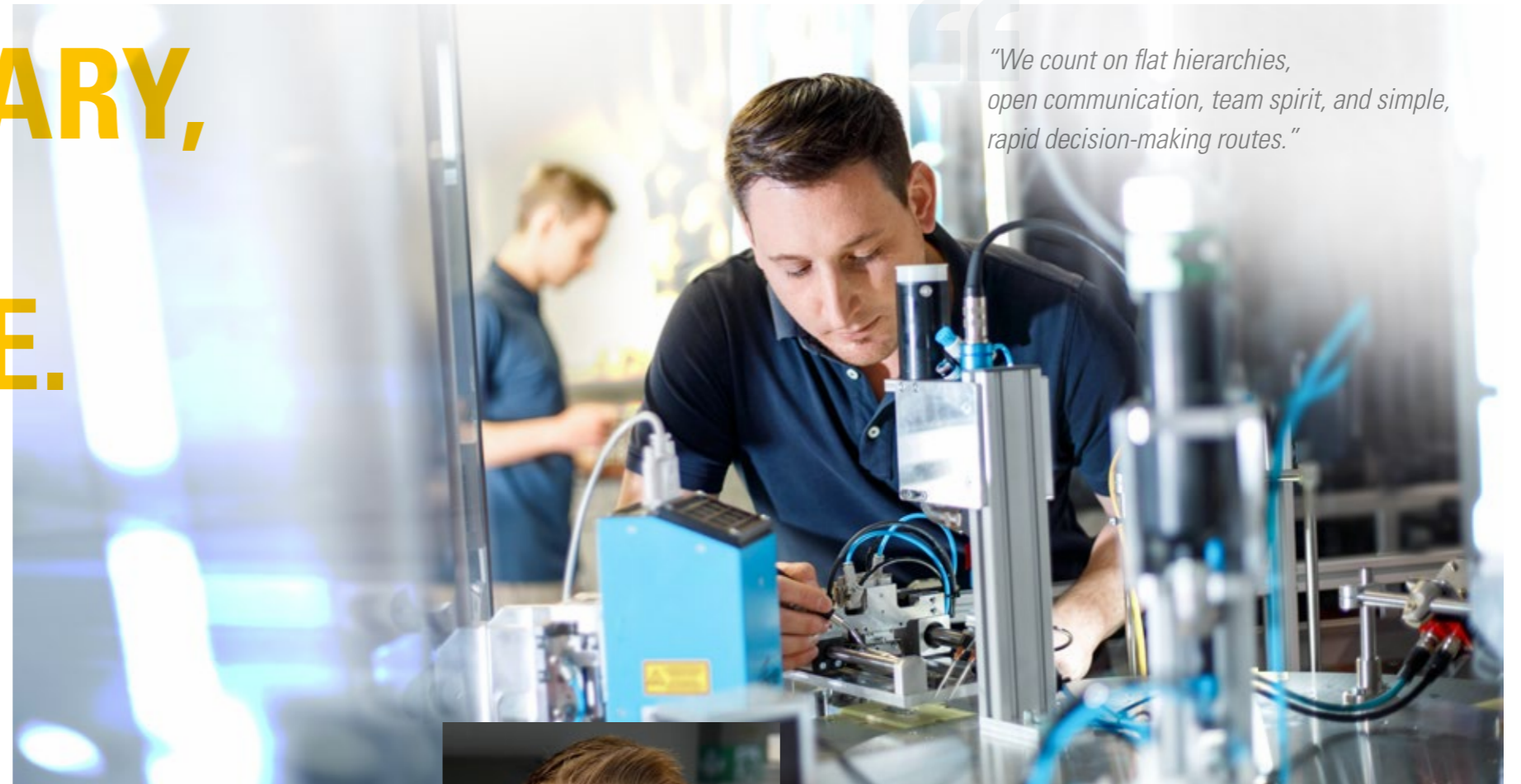
They are the specialists at Miba in developing and producing power resistors: the employees of our subsidiary EBG Resistors. Its products can be found worldwide, for instance in power plants, electricity grids, railway vehicles or medical technology. But EBG power resistors are also used for eMobility, and are already in serial production at many electric vehicle manufacturers. “For this whole range of possible applications, we want to supply products that our customers will use to solve their challenges and achieve their goals,” explains

the EBG development team. “Innovation for us means never being satisfied with what we have achieved, but continuously developing our technology and taking it to its limit. Finding, testing and optimizing new ideas and approaches is a challenging and fascinating task.”

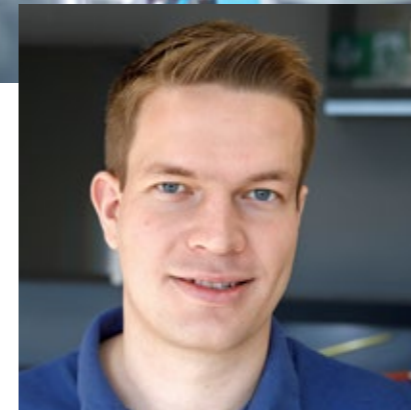
PERSONAL EXCHANGES ENHANCE INNOVATION

Collaboration is the most important basis for innovation. “Firstly, this applies to our customers – we want to

be very close to them and frequently exchange ideas with them personally. In this way we can understand their markets and challenges even better, and develop ideas jointly with them,” says the EBG team. “But it is also important that we frequently share ideas within the company, especially between development and sales.” And the co-operation throughout the Miba Group is also important to the employees at EBG. “Particularly when expanding the business with power resistors for electric vehicles, it has proved to be an



“We count on flat hierarchies, open communication, team spirit, and simple, rapid decision-making routes.”



“CURIOSITY is the fundamental requirement for innovation. We want to be a solution provider for the challenges our customers face.”

advantage when we are able to draw on the automotive expertise of our colleagues in other areas of the business.” EBG recently concluded a EUR 2 million investment in new production facilities for power resistors in electric vehicles at both of the Styrian sites in Kirchbach and St. Stefan (for more information about this see page 41).

FLAT HIERARCHIES AND TEAM SPIRIT

The right corporate culture is also an essential requirement for innovative

spirit and a wealth of ideas. “At EBG as throughout Miba we count on flat hierarchies, open communication, team spirit, and simple, rapid decision-making routes,” say the employees at EBG. And one thing is clear to them: “Innovation creates added value in a variety of ways: for the customers through products that fit their requirements perfectly, for the company as we utilize new opportunities and grow, and for the employees because they can contribute their ideas and thus enter new territory.”



Miba leads Upper Austria in terms of innovation FIRST PLACE FOR NEW PATENT APPLICATIONS

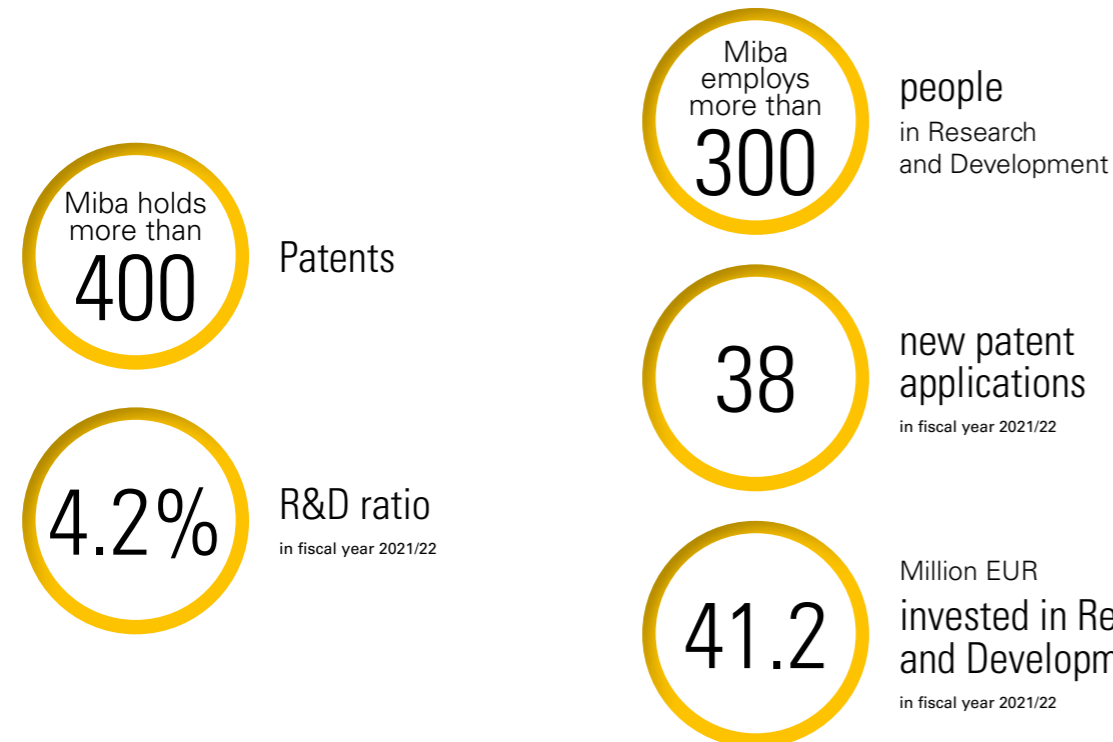
The Austrian Patent Office regularly ascertains the most innovative companies in the country. The most up-to-date evaluation is available for 2020. With 58 new patent applications, the Miba Group takes the number 1 place among Upper Austria's most innovative companies. Miba's new patent applications came from all our business areas.

German study analyzed 150 companies MIBA BEST EQUIPPED FOR ELECTROMOBILITY IN TERMS OF ITS INNOVATIVE STRENGTH

The German analysis company "Quant IP" analyzed the patents of all the companies that are members of the German Association of the Automotive Industry (VDA) and are currently active in developing solutions for electric engines. The result: of these more than 150 companies (automotive manufac-

turers and suppliers), Miba's innovations make it the best equipped for eMobility. The basis of the study is an algorithm which analyzes and evaluates huge amounts of patent data. As well as the actual number of patents and new patent applications in 2020, above all it is a patent quality score which goes to

make up the evaluation; this forecasts the future success potential of innovations. On the basis of all these data, the study forecasts how well equipped for the future a company is with its innovations.



INNOVATION

THE BASIS FOR GROWTH IN NEW MARKETS

For robotics, household appliances or medical technology NEW APPLICATIONS FOR MIBA SINTER TECHNOLOGY

In the past, powder-metallurgical components from Miba Sinter Group were used primarily in the automotive industry. But the benefits of the technology can also be utilized in many other products.

Therefore we are now passing on our many years of experience in materials and production processes to our customers in the industrial sector.

Sinter technology enables lighter and more efficient solutions. Powder metal is the ideal application for parts that require a complex geometry design and simultaneously also cost efficiency. These components are used in household appliances, conveyor technology, medical technology and fitness equipment.



New business area for High Tech Coatings COATING TECHNOLOGIES FOR THE PRODUCTION OF HIGH TECH MICROCHIPS

The manufacture of state-of-the-art microchips by means of EUV lithography, for instance for 5G cellphones, autonomous driving and Artificial Intelligence require optical systems with mirrors. It is precisely these that HTC in Vorchdorf coats. These microchips are indeed smaller than a fingertip, but they contain circuits which map the capacity of up to 15 billion transistors – in other words, small switching elements. EUV (Extreme Ultraviolet) lithography technology is used to produce them, with an EUV lithography machine imaging the tiniest structures on the microchips by means of extremely short-wave UV light.

COATING UNDER CLEANROOM CONDITIONS

Optical systems with mirrors are required for directing the extremely short-wave UV light for EUV lithography to the right places. And this is where Miba's

coating technology comes into play. Under cleanroom conditions and in a high vacuum, a silicon layer is applied to the mirrors. The mirrors then undergo elaborate further processing by the manufacturers of the complete optical systems for the EUV lithography machines.



**TAKING RESPONSIBILITY
AND SETTING OUR COURSE**

OUR STRENGTH LIES IN STANDING TOGETHER AND MASTERING CHALLENGES JOINTLY.

The coronavirus testing team at Miba Steeltec show how important it is for us to take responsibility: for our employees, for society and for the environment.



MIBA TEAMWORK

BETTER SAFE THAN SORRY. PROACTIVE APPROACH TO THE CORONAVIRUS PANDEMIC.

CORONAVIRUS TESTS BY EMPLOYEES FOR EMPLOYEES IN SLOVAKIA

A team of volunteers at the Miba plant in Vrable, Slovakia, set up a dedicated coronavirus test center for the employees. The certificates are officially recognized, and more than 10,000 tests have been carried out since the facility was launched.

"A friend in need is a friend indeed," runs a Slovakian proverb. And many examples from the whole of Miba showed how true this is during the coronavirus pandemic in particular. One of these is the dedicated coronavirus test center for the employees of Miba Steeltec, our friction materials production site in Slovakia. The facility was established by an 8-person team of employees, two women and six men, who voluntarily signed up for this task and carried out the test with great commitment and a high degree of professionalism, often during their own leisure time. "Our aim was to create a safe working environment and thus protect our colleagues from infection as well as possible," explains the team. "In Slovakia, for a long time a negative test result was needed for a whole series of everyday things, such as

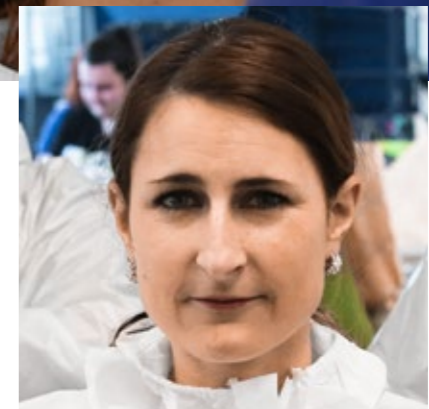
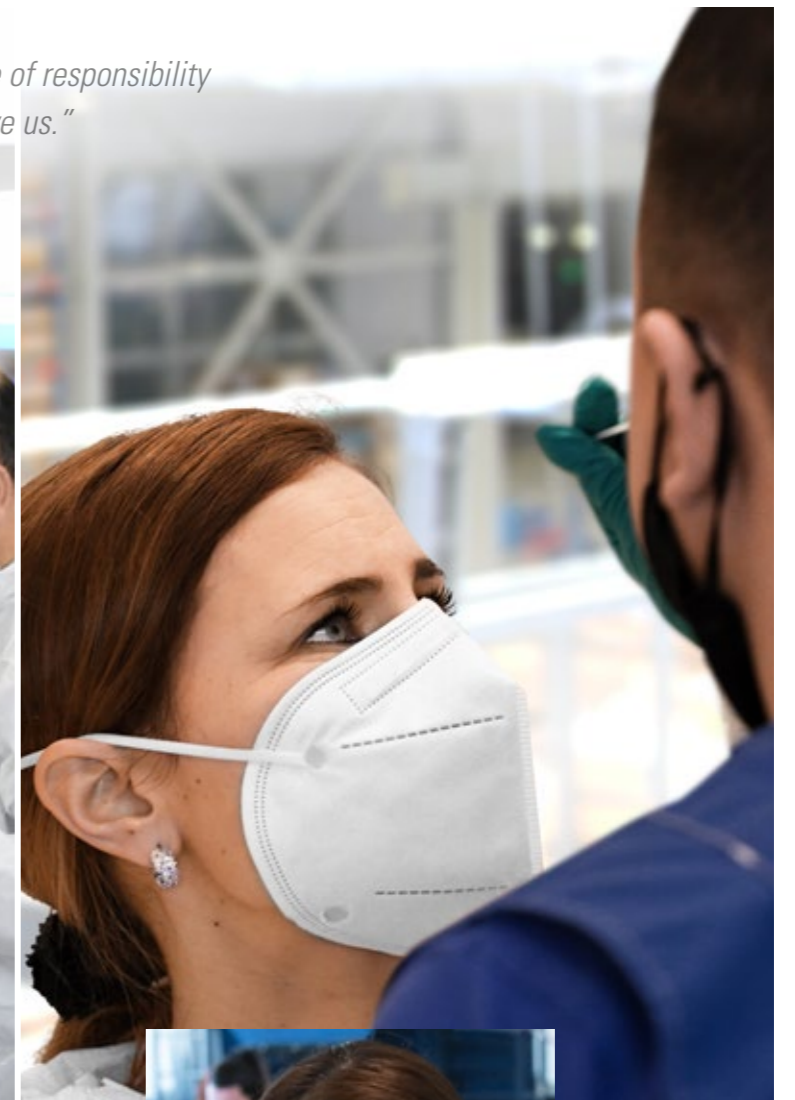
in many shops or for traveling between different regions of the country. And a negative test was also a requirement for being able to come to work at all. So we felt two things were particularly important: to make it as easy as possible for our colleagues to access coronavirus tests, and to issue certificates that are officially recognized."

IMPELLED BY A SENSE OF RESPONSIBILITY

The coronavirus tests at Miba Steeltec were offered once a week, although at the height of the coronavirus pandemic there were two weekly time slots organized. "It is solidarity, a sense of responsibility and friendship that drive us," says the test team. "It was also important to us that the test appointments were well

integrated into the work processes at the plant and our colleagues' daily working life." Incidentally, since the scheme for the employees at Miba Steeltec started, more than 10,000 coronavirus tests have been carried out – with an average of two infections a day being discovered. "So we also found many asymptomatic cases, and just because of that we were able to protect our colleagues well," the test team concludes happily.

"It is solidarity, a sense of responsibility and friendship that drive us."



OUT OF YOUR COMFORT ZONE

means that even in difficult times we are there for our colleagues, and we are there with great commitment for other people too."

RESPONSIBILITY

FOR OUR EMPLOYEES

One thing is totally clear to us at Miba: it is our employees who make a major contribution to our success with their expertise and commitment. So it goes without saying that we assume responsibility.

Workplace safety and health programs are just as much a part of this as our strong involvement in creating a balance between family life and work.



A major focus of our work – and not just during the coronavirus pandemic: WORLDWIDE ACTIVITIES FOR HEALTH AND FITNESS



“Healthy people – healthy company.” This guiding principle also shaped our actions during the second year of the coronavirus pandemic. Our aim is to protect our employees as well as possible from infections, and at the same time safeguard our production and delivery capabilities. We succeeded in this in 2021 as well. To make it as simple as possible for our employees to access coronavirus tests, we offered these directly at Miba plants in Austria and Slovakia. We also organized coronavirus vaccinations for our employees at our sites in Upper Austria. Around 500 people took up this offer. And the Miba site in McConnelsville, Ohio, also organized its own vaccinations.

But it is not just during the coronavirus pandemic that activities to protect and maintain our employees' health and fitness are a major focus of Miba's work. So we train our employees on avoiding potential hazards and accidents at work, ensure that all areas are particularly clean and tidy, and ensure that workplaces are ergonomically designed. In addition, we have established preventive company healthcare programs in Austria and worldwide. The most extensive of these is “MiMi – Miba for employees – Employees for Miba.” The program combines fitness and health promotion activities at the Miba sites in Upper Austria, and was also awarded the BGF Seal of Quality again for the years 2021 to 2023.



More than
1,000

Coronavirus vaccinations
directly on our sites in Upper Austria

BALANCE BETWEEN FAMILY LIFE AND WORK

An important contribution to equal opportunities

With our actions to ensure the optimal balance between family life and work, we want to achieve one thing above all: equal career opportunities for women and men. This is why alongside flexible working hours, we also offer our employees childcare facilities directly on-site at Miba.

MIBA CRECHE

In Laakirchen we set up a company creche for our employees' children aged between one and three. We run this together with the Oberösterreichisches Hilfswerk. 24 children can be looked after in the premises directly on the Miba site.



kids in Motion **Miba**

24

Places
available at the Miba creche
in Laakirchen

Offered for the seventh time: THREE-WEEK VACATION PROGRAM for employees' children aged between four and 14

At nine weeks, the summer school vacation in Austria is very long. To support its employees with their childcare during this period, in summer 2021 Miba organized a three-week vacation program for employees' children for the seventh time in succession. As in



previous years, the vacation program in 2021 took place in cooperation with Otelo, the Open Technology Lab. The children were divided into different age groups ranging from four to 14, and enjoyed a fun way of approaching technical and scientific topics. In addition, this year too the Miba Forum in Laakirchen was transformed into a room for workshops, experiments and exciting group activities. 94 children took part.

94

Children aged between four and 14
used the three-week
vacation program in the
Miba Forum in 2021

RESPONSIBILITY

FOR SOCIETY

As a family-owned company with strong values, we take our responsibility to give something of our success back to society. For this reason, we support both educational programs and social and cultural initiatives.

EDUCATIONAL PROGRAMS

Investment in young people's future

For young people, a good education is the key to a successful future, which is why we sponsor initiatives for greater equality of opportunities in education

and training. And we also support programs to encourage young people who want to achieve something very special.

teachforaustria

FOR GREATER EQUALITY OF OPPORTUNITIES

Equal opportunities in the education system – that is the goal of “Teach for Austria”. The initiative's focus is directed towards schools in disadvantaged areas. University graduates become temporary teachers there, and thus offer additional support.



HIGH-QUALITY ADDITIONAL TRAINING FOR STUDENTS

The Delta Akademie at the Leoben University for Mining, Metallurgy, and Materials is an additional program that selected students of this university can pursue in parallel to their studies. The central idea behind the Delta Akademie is to support the career prospects of 20 to 25 selected students per year, and to determine the potential of responsible young managers for companies.



SCHOLARSHIPS FOR COMMITTED SCHOOL STUDENTS WITH A MIGRATION BACKGROUND

The integration of committed young people with a migration background is very important to Miba – and in particular those with a refugee background. This is why we support the START initiative, which awards scholarships primarily for language courses and further education programs.



TALENT PROGRAM OF THE VIENNA UNIVERSITY OF TECHNOLOGY

The talent program of Vienna University of Technology offers students a platform for getting to know successful companies, contacting them, and in this way developing a professional network. Students receive support for this from the TU Career Center. In addition, we also support the Vienna University of Technology eRacing Team.



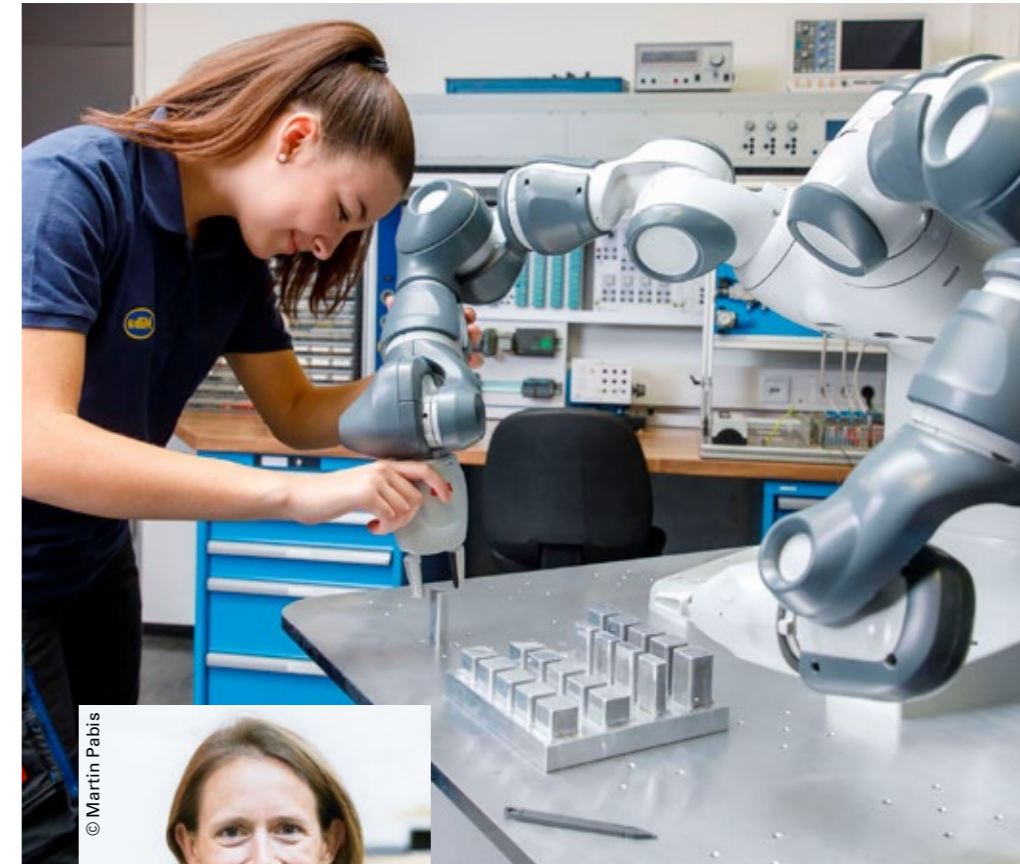
PROJEKT ALPHA – HELP WITH READING DISORDERS

Under this initiative, volunteer reading coaches accompany and support children with reading disorders as a supplement to their school education. We support the project for the districts of Gmunden and Vöcklabruck.



12 COMPANIES FOSTER WOMEN IN TECHNOLOGY

The MINT area in particular (Mathematics, IT, Natural sciences and Technology) offers outstanding job opportunities, very good pay and exciting career prospects. But there is still too little interest from many girls and women in technical training and jobs. Only a quarter of all science and technology jobs in Austria requiring a high level of qualifications are occupied by women. To ensure that this changes, on Miba's initiative 12 Austrian companies and lobbying groups have together set up the new MINTality Foundation. EUR 1.2 million is available for projects annually.



© Martin Pabis



MINTality initiator Therese Niss is a Board Member of Mitterbauer Beteiligungs AG



MECHATRONICS APPRENTICESHIP ALONGSIDE UPPER SECONDARY SCHOOL

This initiative enables school students to complete a fully-fledged mechatronics apprenticeship in parallel to the upper cycle of their secondary schooling. The training takes place every 14 days – on Friday afternoon and Saturday – at the WIFI in Linz, and finishes with an apprenticeship certificate shortly after the secondary school leaving exam. In addition, a holiday work placement and management courses are mandatory.



OTELO FUTURESPACE – UNDERSTANDING DIGITAL INNOVATION

In cooperation with Otelo, the “Open Technology Lab”, we created the educational format “Otelo futurespace – the digital playground”. The futurespace provides a digitalization playground with various labs and tasks.



SCIENCE HANDS-ON

The KinderUni Upper Austria offers exciting workshops and excursions for 5- to 18-year-olds during the summer vacation. The children acquire new insights into science, technology, art and culture. We support the program as a general sponsor.

SOCIAL RESPONSIBILITY

Support for charitable initiatives and sustainability projects



EUR 100,000 TO AID UKRAINE

Shortly after the start of the new fiscal year 2022/23 we donated EUR 100,000 to the Red Cross Ukraine relief action. We want to act immediately and effectively when there is such great humanitarian need – to help the people in Ukraine and the hundreds of thousands fleeing from there. This is also an expression of our great hope that the war and all the suffering can soon be ended.



MIBA CHRISTMAS CHARITIES – SUPPORT FOR PROJECTS AT MIBA SITES WORLDWIDE

Instead of Christmas gifts for our customers, every year since 2008 we have supported an important social project in a Miba region. Last year we donated EUR 10,000 to the "Mission: Stadtwaldretung" in Osterode am Harz, the location of our German industrial bearing branch. This association has set itself the task of reforesting the municipal forest in Osterode am Harz, which has already been more than 80% destroyed by a bark beetle infestation as a result of climate change, by planting deciduous trees that are more resistant. Our donation will enable 10,000 trees to be planted.



ELIJAH – SUPPORT FOR ROMA FAMILIES IN ROMANIA

For several years Miba has been supporting the projects of Father Georg Sporschill SJ, including the ELIJAH Association, which helps families and children of Roma residents in Romania to cope with their difficult situation and build a future.



KAKIHE – RUNNING FOR WATER WELLS IN CAMBODIA

Miba is a partner of the KAKIHE Association founded by two employees. Year after year, it organizes the Five Bridges Run along the Traun. The entry fees for this run go toward providing better access to drinking water.

SPONSORSHIP OF ART AND CULTURE

Art and culture enrich our lives – so we support initiatives in Upper Austria and in the USA.



SALZKAMMERGUT FESTWOCHEN GMUNDEN

Miba was founded in the Salzammergut more than 90 years ago. Today we employ around 2,600 people here. Especially as a family-owned business with such strong regional roots, we consider it important to support and promote special cultural initiatives such as these festival weeks. As part of the partnership, free tickets are made available to our employees.



WIENER KONZERTHAUS

VIENNA KONZERTHAUS

In addition to its range of classical offerings, the Vienna Konzerthaus is also a venue for contemporary music and a stage for international jazz – so there is something for everyone.



THE CLEVELAND ORCHESTRA

CLEVELAND ORCHESTRA

The Cleveland Orchestra is one of the five largest symphony orchestras in the United States. Miba is represented by seven production sites in the USA, the largest of which is in Ohio – the best possible reason for us to actively support the orchestra.



RESPONSIBILITY

FOR THE ENVIRONMENT

With “Technologies for a cleaner planet”, since 2013 Miba has had a corporate mission which places sustainability and responsibility for the environment center-stage.

Firstly, we want to fulfil this mission with our products – when used in our customers’ end applications they make a substantial contribution to greater efficiency and thus to reducing CO₂. And secondly, in our production and in our offices we

have been consistently working for many years to consume fewer resources and cause a lower CO₂ footprint – with a clear goal: we want to be climate-neutral by 2040 (see also Page 19). We achieved a lot again here in the fiscal year 2021/22.

EFFICIENT ENERGY USAGE

Our goal is to increase our efficiency in using energy by around one percent per year. We have already succeeded in doing this for a number of years. In the past financial year as well, by means of various improvement measures we were able to improve energy efficiency across all of our locations by 1.2 percent or 3.123 MWh – equivalent to the energy you would need to charge 85,000 electric cars, or drive once around the world with an electric car.

85,000 ELECTRIC CARS
could be charged with the energy we saved in the past fiscal year.



1.5 MILLION LITERS OF WATER SAVED

At Miba we also attach particular value to using water sustainably and protecting it as a resource. We want to save 0.2 percent of our water consumption every year – last year once again we far and away exceeded this goal with 3.1 percent. We saved 1,156,000 liters of water, with which you could fill 10,500 bathtubs.

800 TONS LESS WASTE

Preventing waste is a major contribution to protecting the environment. Last year we substantially exceeded our annual goal of saving 0.2 percent of waste by saving 3.1 percent, or almost 800 tons. This quantity would fill 32 large 40-ton articulated trucks, each with a loading capacity of 25 tons.

10,500 BATH-TUBS
is equivalent to a saving of 1.5 million liters of water in the last year.



32 OF THE LARGEST ARTICULATED TRUCKS
weighing 40 tons each would be needed for the quantity of waste we prevented last year.



350 SINGLE-FAMILY HOUSES
could be supplied with the energy produced by the solar energy systems Miba installs in Upper Austria.

SOLAR ENERGY SYSTEMS for Miba plants in Upper Austria and India

Miba is equipping the roofs of the production plants in Laakirchen, Vorchdorf and Roitham with around 4,300 solar panels, creating the largest solar energy system in the Salzkammergut. With this, we will be able to produce up to 1.5 megawatts of electricity, equivalent to the consumption of around 350 single-family houses. The area of the solar panels mounted on the Miba hall roofs will be around 7,800 square meters. As

a comparison: large football fields like the one at the Allianz Arena in Munich or the Ernst Happel Stadium in Vienna are around 7,100 square meters – so somewhat smaller. In spring 2022 our friction materials plant in Pune, India, put a solar energy system into operation with an area of around 1,500 square meters. 390 megawatt hours of clean electricity will be generated there every year, saving 230 tons of CO₂.



GROWING TOGETHER

WE TAKE COLLABORATION WITHOUT BORDERS LITERALLY – WE WORK TOGETHER WORLDWIDE.

The employees of our two plants in Suzhou (China) show how to make collaboration and Lifelong Learning your creed – with great enthusiasm.



MIBA TEAMWORK

TOGETHER WE ARE SUCCESSFUL ACROSS BORDERS

IT COULD WELL BE AN OLD CHINESE SAYING, BUT IT IS A PHILOSOPHY THAT HAS BEEN BROUGHT TO LIFE AT MIBA: TEAMS ARE SIMPLY MORE SUCCESSFUL THAN LONE WARRIORS.



"The more different ideas, experiences and knowledge there is in a team, the better we can reach our joint goals together."

When you work together, you simply reach your goals better.

Which is why at Miba we work together worldwide, across national borders, departments and divisions. The Miba team at our two production sites in Suzhou (China) show what it all comes down to.

The Miba family is a colorful and diverse one, with 30 production sites on four continents. Two of our plants are in Suzhou in China, a city near Shanghai. Around 800 Miba employees work here, and one thing is clear for them: "Strong teams are simply more successful than lone warriors. The more different ideas, experiences and knowledge there is in a team, the better we succeed in reaching our joint goals together." For our colleagues in Suzhou, successful cooperation is made up of five essential success factors: mutual respect, empathy, an open approach to other people and their ideas, clear communication that is easy to understand, and a sense

of responsibility for the company and its employees.

LEARNING FROM ONE ANOTHER AND GROWING TOGETHER

The team at our two production sites in Suzhou produces a wide range of Miba technologies for the Chinese market: sintered components and bearings, friction materials and coatings. The colleagues at both sites work together in a variety of ways: "In a successful company, all the employees, functional areas and departments complement each other. We want to exchange ideas

and learn from one another – because other people's experiences in particular help us to understand our markets, customers and technologies even better and in greater depth, to use opportunities and grow together. So we not only work together intensively at our plants in Suzhou, but also with our colleagues within the individual business areas and throughout the Miba Group."



CURIOSITY
is the desire to learn, understand new things and know how they work. It is the driving force for
LIFELONG LEARNING."

DIVERSITY IS A DRIVER OF INNOVATIONS

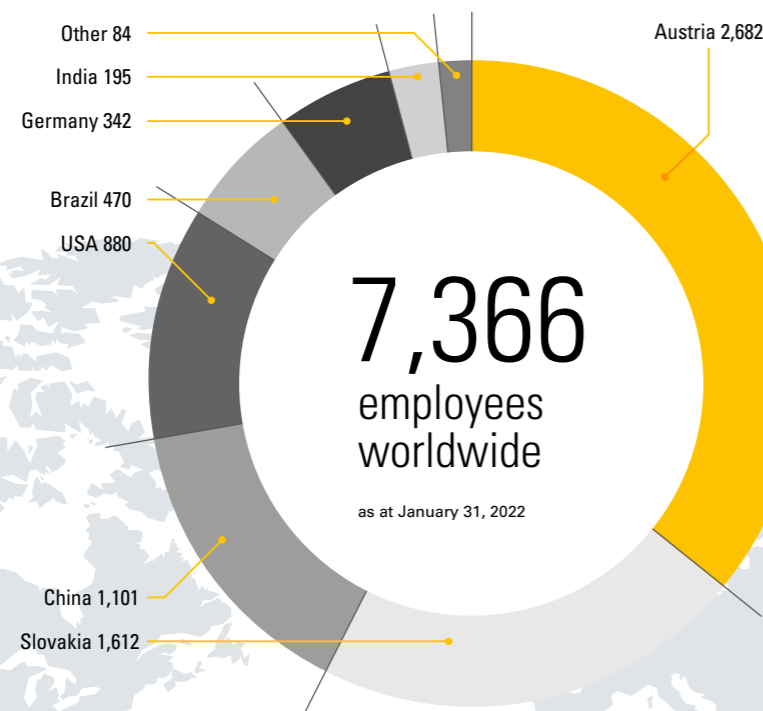
Teams with a broad spectrum of expertise and experience on the basis of different living environments, views and attitudes are one thing above all: drivers of innovation. "The convergence of different mentalities and cultures allows completely new, innovative and brilliant thoughts to emerge," say the Miba

employees in Suzhou with certainty. So for our company, diversity and variety are not just a matter of figures and statistics; instead they describe an attitude to which we are committed at Miba. We count on the strength of varied teams and are aware that different approaches and ideas are an important prerequisite for being able to work in an even more innovative and customer-focused way.

We are convinced that as a result of this, the Miba of tomorrow will be even more diverse and global – with the best experts from every industry working and learning from each other globally.



Miba employees by country



A PLACE OF MULTICULTURAL EXCHANGES AND COOPERATION THE MIBA FORUM

The Miba Forum, opened in 2017, is a headquarters, customer center, learning center and innovation center all in one – a place for meeting and working together.



The open architecture and the many spatial possibilities are designed to encourage creativity and innovation. In an area of more than 4,000 square meters you will find office areas, meeting and training rooms, spaces for intensive teamwork and peaceful havens for individual work, as well as generously laid-out cafe areas. In the Miba Forum you can find the right work environment depending on the task you are currently working on.



Architecturally the Miba Forum is a modern interpretation of the square farmyards that are prevalent in Upper Austria, so it combines Miba's regional roots and origin with our innovative spirit and focus on the future.

We believe in (Y)OUR POWER OUR CORPORATE CULTURE IS SHAPED BY POSITIVE LEADERSHIP

Miba builds upon a corporate culture which is centered around positive leadership. We concentrate on our employees' strengths, not their weaknesses. We invest in the specialist training and personal development of the people who collectively make Miba what it is – because we are convinced that they are creative and proactive, can develop, and are seeking a deeper meaning in their work and in life. So we regard it as a clear leadership task to activate their

positive energy and encourage their intrinsic motivation. We place long-term success above short-term profits. And we agree that the benefit to everyone always comes before the interests of individuals.

MIBA COLLABORATION & LEADERSHIP PRINCIPLES

- We spread **purpose and meaning**
- We give **focus and orientation**
- We shape **trusting relationships**
- We foster **empowerment and ownership**
- We drive **a high-performance culture**
- We have **courage to lead change**
- We enhance **diversity and inclusion**
- We **reflect and grow**

THE BASIS FOR INNOVATION

LIFELONG LEARNING

The expertise, experience and personal commitment of our employees are essential prerequisites for Miba's innovative strength, technology leadership and high product quality.

So we invest heavily in education and training: in the past fiscal year alone, the figure was EUR 1.6 million worldwide. Our programs are tailored to the personal needs of our employees. As well as the Miba Leadership Academy, which is our global training program for specialists and managers, we also attach great importance to our apprenticeship training and customized basic training courses for individual locations.



Training and development EMBEDDED IN MIBA'S EMPLOYEE DEVELOPMENT CYCLE

We see the working relationship between our employees and the company as a journey we are taking together, and on which Miba and the people who work for it will grow together. So it is important to us that we support our employees with individually tailored tools for their development. The training and development we offer are an important building block in this – as are the customized onboarding processes, feedback and development meetings, and career planning measures.



MIBA LEADERSHIP ACADEMY (MLA)

Since 2003, the Miba Leadership Academy (MLA) has offered our specialists and managers a global training program focusing on leading people, leading business, and leading oneself. The acquisition of new specialist and interpersonal skills provides our employees with active support on their career paths.

MLA PROGRAM ALSO CONTINUED IN 2021

While numerous companies cancelled their training activities during the pandemic, Miba continued to focus on enabling people to meet in person. Some training courses were held and were able to make up lost ground while still complying with all the coronavirus protection measures. But in the MLA we also make extensive use of digital formats, and a mix of external trainers and internal experts.

ONLINE LEARNING COMMUNITIES

Since the outbreak of the pandemic many employees have been networking in groups they organized themselves via MS Teams. In the online seminars, we make plenty of space for sharing knowledge with one another, so as to guarantee a successful transfer of practical knowledge. Language courses continue to be very popular.



million

invested in our employees' training and development

Fiscal year 2021/22

More and more girls in technical skilled professions APPRENTICES ARE OUR SPECIALISTS OF TOMORROW

Apprentice training is especially important to Miba. We offer apprenticeships both in Austria, and in other countries in a form adapted to the regional needs.

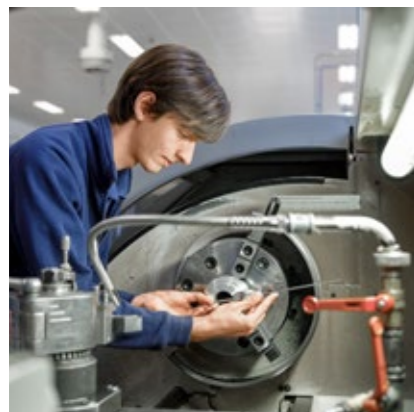
We mainly train our apprentices to become specialists in process technology, metal technology, electronic engineering, surface technology, mechatronics technology and IT. The training incorporates state-of-the-art learning and simulation programs as well as robots. And that's not all: as well as sound specialist training, we also offer our apprentices language courses, placements abroad, personal development and outdoor training courses. And it is especially pleasing that around a third of the new apprentices in Upper Austria last year were girls – more than ever before.

ADDITIONAL SCHOOL-LEAVING CERTIFICATE ALONGSIDE AN APPRENTICESHIP

In Austria the apprentices can supplement their apprenticeship with a school-leaving certificate (Matura) in cooperation with the KTLA (Kremstaler Technische Lehrakademie). There are currently eight young apprentices following this training. The “Young Star” project at Miba Steeltec in Vrable (Slovakia) also offers its apprentices the opportunity of combining their apprenticeship with a higher secondary school certificate.

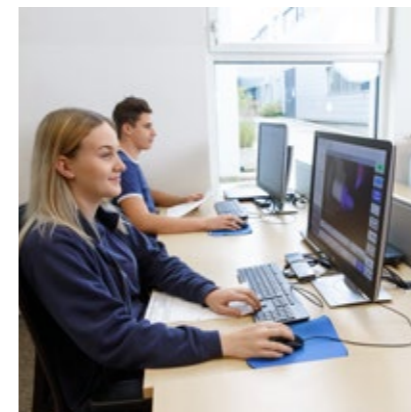
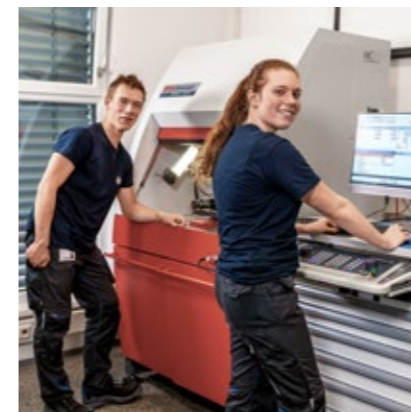
AN APPRENTICESHIP AS “UPSKILLING OPPORTUNITY”

In cooperation with the WIFI Linz, since 2015 Miba has offered its production workers who want to qualify as skilled metalworkers the chance of taking a corresponding apprenticeship. The training is undertaken in parallel to their full-time job, and last four semesters – to date 36 employees have already completed it successfully.



MIBA OFFERS THE FOLLOWING APPRENTICESHIP PROFESSIONS IN AUSTRIA:

- Operating logistics clerk
- Office clerk
- Chemical laboratory technician
- Buyer
- Electrical engineer
- Industrial clerk
- Mechatronics technician
- Metal technician
- Surface technician
- Process technician



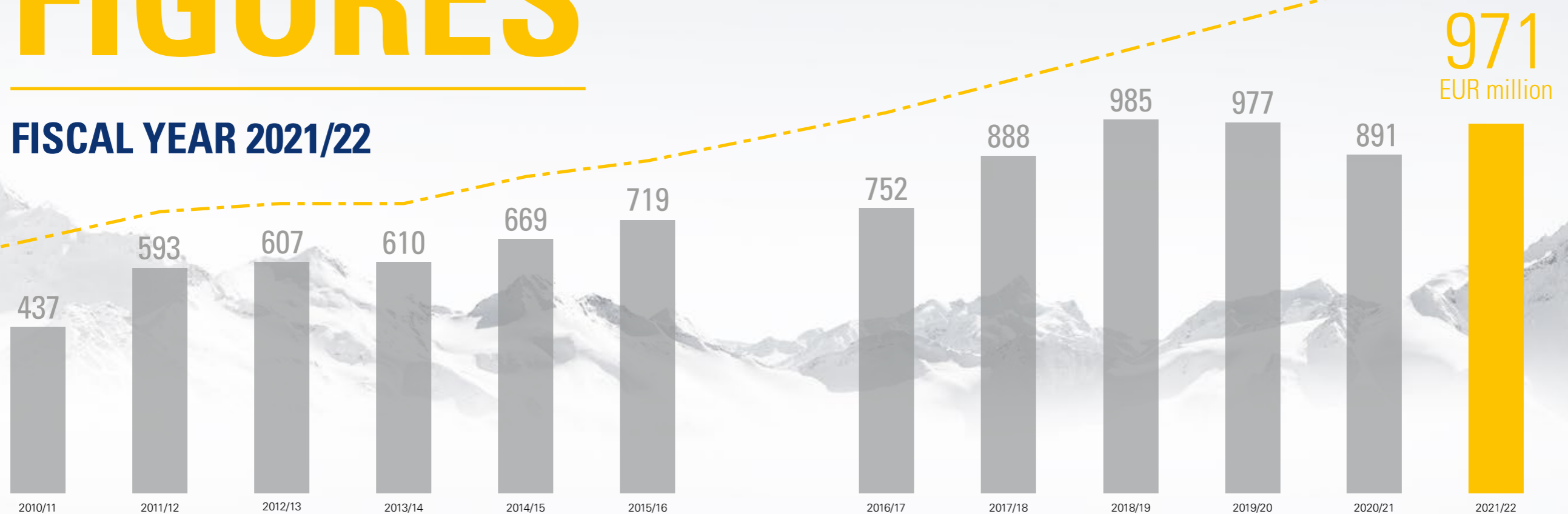
MIBA FACTS

WE MEASURE OUR SUCCESS IN LONG-TERM VALUES, NOT SHORT-TERM PROFIT.

Nowadays financial independence and sustainability are more important than ever. As a family-owned company, we stand for long-term, profitable growth. Our entrepreneurial success creates the basis for sustainable investments in our future: in this way we can establish new markets and develop the existing business.

KEY FIGURES

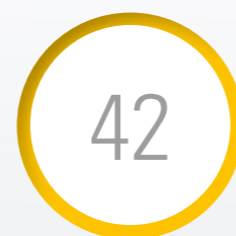
FISCAL YEAR 2021/22



Revenue in EUR million



employees
(as at January 31, 2022)



Investments in
property, plant and
equipment in EUR
million



Equity ratio in %



Patents held
by Miba



R&D expenditure in
EUR million



R&D ratio in %

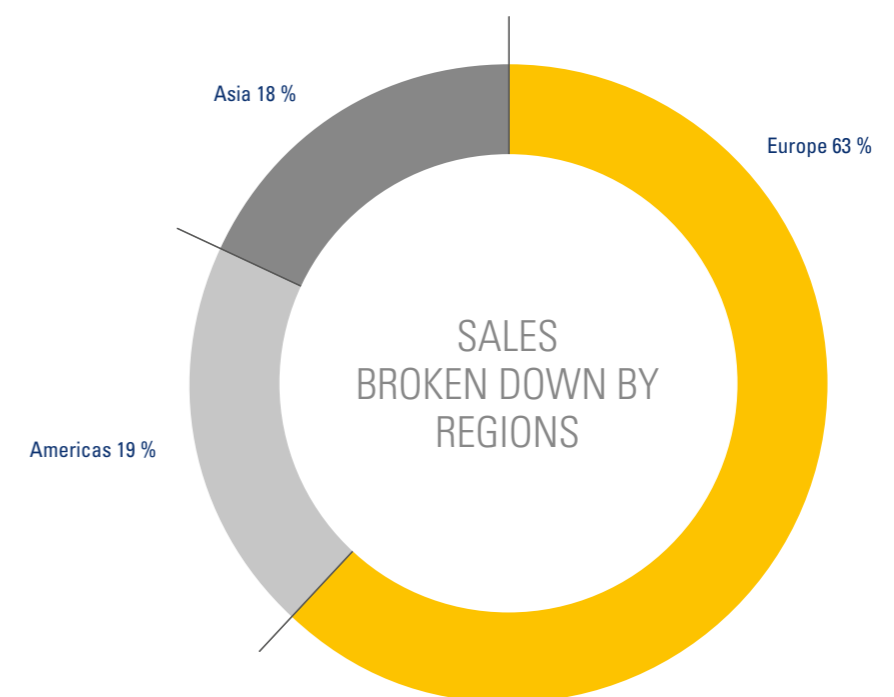
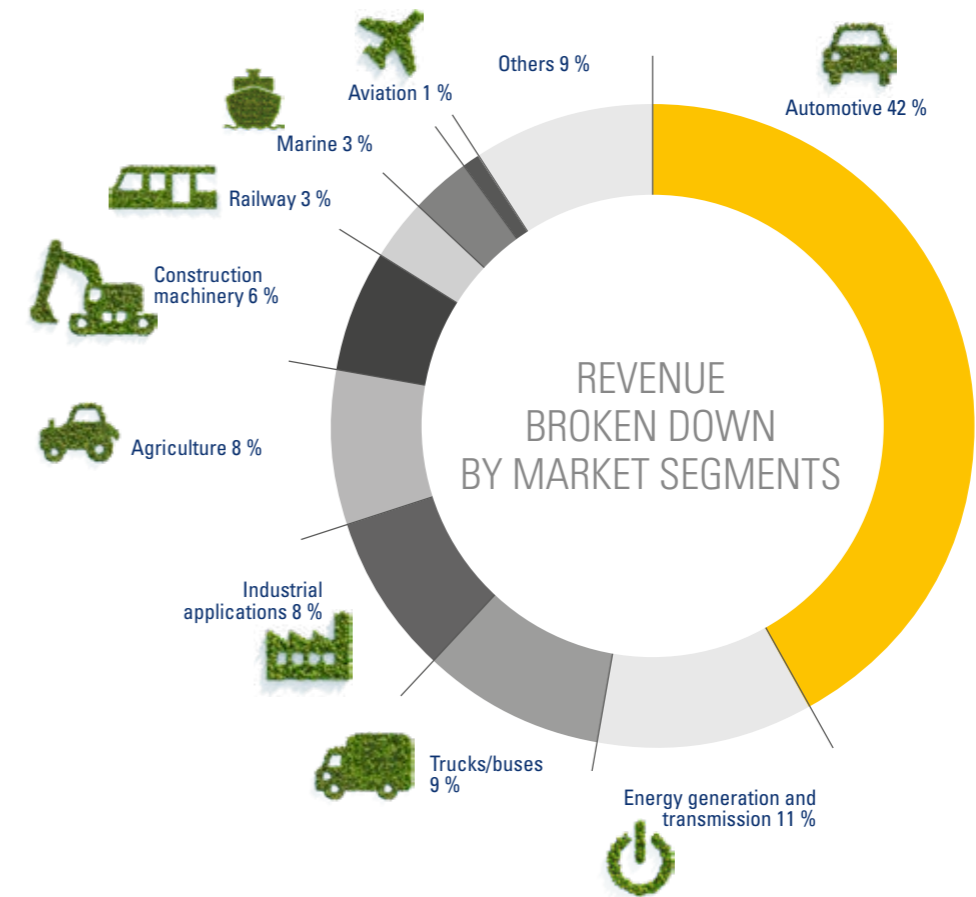
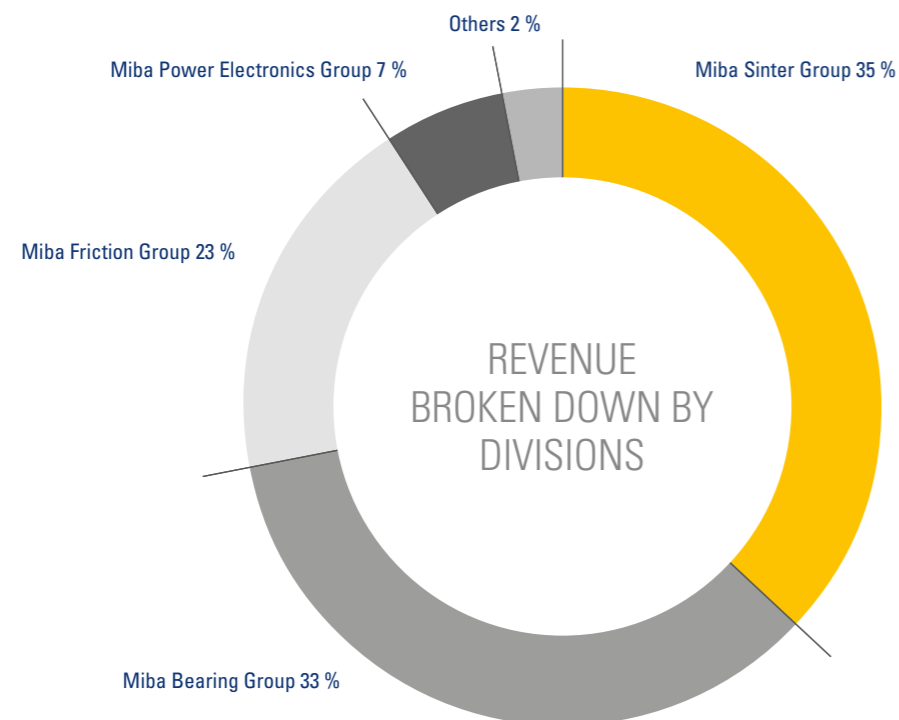
DEVELOPMENT OF MIBA'S BUSINESS

DEVELOPMENT OF THE MIBA GROUP



In the fiscal year 2021/22, the Miba Group generated revenue of EUR 970.8 million, an increase of around EUR 80 million or around 9 percent compared to the previous year. Revenue thus again reached the same level as before the start of the coronavirus pandemic. It was also evident once again in the last fiscal year 2021/22 that with its broad product portfolio and focus on many regional markets, Miba is very well equipped for volatile developments in individual market segments. The difficult mar-

ket environment in the automotive industry caused by the chip supply problems was offset by development characterized by stable growth in other business areas. In the past fiscal year, Miba made major investments in the company's future: we invested EUR 42 million in property, plant and equipment, EUR 41 million in Research and Development, and EUR 1.6 million in training and development.



DEVELOPMENT OF THE MAIN BUSINESS AREAS

The **MIBA SINTER GROUP** made a strong start to the fiscal year 2021/22, with marked increases in revenue following the coronavirus crisis year 2020. From spring onwards, the effects of the worldwide chip supply bottlenecks in the automotive industry were a major challenge, but nonetheless Miba Sinter Group was able to grow in comparison to the previous year.

MIBA SINTER GROUP	2021/22
Sales revenue (EUR million)	344
Production sites (worldwide)	6
Employees (as at the reporting date January 31, 2022)	2,494

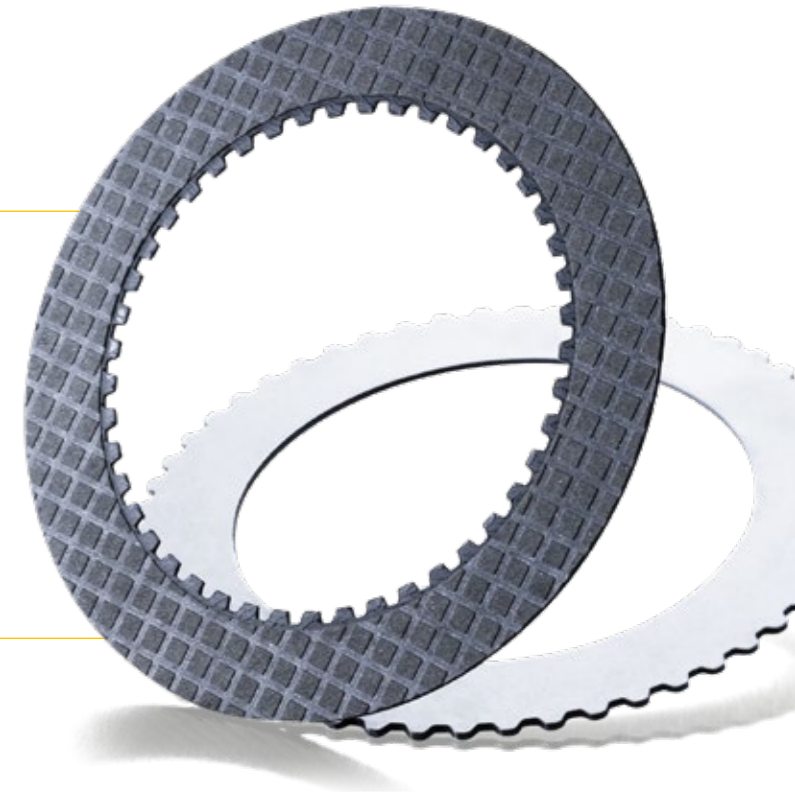


The **MIBA BEARING GROUP** comprises the business for engine and industrial bearings. The group's revenue picked up again in comparison to the previous year. In the last fiscal year, the group was also able to make good use of new business opportunities in wind power. The occupation of the new plant in Suzhou (China) also set an important course for the future.

MIBA BEARING GROUP	2021/22
Sales revenue (EUR million)	326
Production sites (worldwide)	12
Employees (as at the reporting date January 31, 2022)	2,051

The business of the **MIBA FRICTION GROUP** was characterized by strong growth and by greater market demand than ever before in the off-highway segment – in other words, the business in components mainly for agricultural and construction machinery. Overall the group was able to grow strongly.

MIBA FRICTION GROUP	2021/22
Sales revenue (EUR million)	220
Production sites (worldwide)	6
Employees (as at the reporting date January 31, 2022)	1,604



The **MIBA POWER ELECTRONICS GROUP** also grew strongly, with all regions and business areas recording growth. In the area of power resistors the group is able to make very good use of the opportunities from eMobility – and as well as EBG products already being used in large numbers in electric vehicles in China, in future they are also going to be used for a major electric vehicle platform in Europe. For this reason EUR 2 million was invested in new production facilities at the Miba sites in Styria.

MIBA POWER ELECTRONICS GROUP	2021/22
Sales revenue (EUR million)	69
Production sites (worldwide)	5
Employees (as at the reporting date January 31, 2022)	617

MANAGEMENT BOARD

MARTIN LIEBL
Management Board Member
of Miba AG

Also responsible for: Miba Friction Group,
New Business Development Decarbonization /
eMobility Team, Strategic Unit Miba Automation
Systems and Quality

MARKUS HOFER
CFO of Miba AG

Also responsible for:
Finance and Controlling, IT/Digitalization,
Legal and Compliance

SUPERVISORY BOARD

DKFM. DR. WOLFGANG C. BERNDT
Chairman of the Supervisory Board

Independent, member of the Supervisory Board of Miba AG since June 27, 2008

DIPL. BW. ALFRED HEINZEL
Vice Chairman

Independent, member of the Supervisory Board of Miba AG since June 4, 2003

PROF. KR ING. SIEGFRIED WOLF

Independent, member of the Supervisory Board of Miba AG since June 25, 2015

DR. THERESE NISS

Independent, member of the Supervisory Board of Miba AG since July 17, 2018

JOHANN FORSTNER
Delegated member

Member of the Supervisory Board of Miba AG since 2009

ELFRIEDE SCHÖBER
Delegated member

Member of the Supervisory Board of Miba AG since 2016, member of the Financial Committee

DI DR. HC. MULT. PETER MITTERBAUER
Honorary Chairman

F. PETER MITTERBAUER
CEO of Miba AG

Also responsible for: Miba Sinter Group,
Miba Bearing Group, Miba Power Electronics
Group, Communications, Human Capital, Strategy,
Innovation and Technology and Internal Audit

30 PRODUCTION SITES AND 7,400 EMPLOYEES WORLDWIDE

WE DEVELOP AND PRODUCE IN ALL THE MARKETS THAT ARE IMPORTANT TO OUR CUSTOMERS

As at: January 31, 2022, employee numbers rounded

MIBA BEARING GROUP*

ENGINE BEARING BRANCH

Miba Gleitlager Austria
Laakirchen, Austria

Miba Bearings US
McConnelsville, OH, USA

**Miba Precision Components (China) –
Bearing Branch**
Suzhou, China

Miba Bearings Materials
Aurachkirchen, Austria

ABM Advanced Bearing Materials**
Greensburg, IN, USA

BHW Plain Bearings
Braunschweig, Germany

INDUSTRIAL BEARING BRANCH

Miba Industrial Bearings Germany
Göttingen, Germany

Miba Industrial Bearings U.S.
Grafton, WI, USA

Miba Industrial Bearings U.S.
Columbus, NE, USA

Miba Industrial Bearings U.S. (Houston)
Deer Park, TX, USA

Miba Industrial Bearings Germany
Osterode, Germany

Miba Industrial Bearings Brasil
Cataguases, Brasil

AMERICAS

1,300 employees
9 production sites

EUROPE

4,800 employees
16 production sites

ASIA

1,300 employees
5 production sites

MIBA STRATEGIC UNITS

STRATEGIC UNIT COATING

HighTech Coatings
Vorchdorf, Austria

Miba Coatings U.S.
McConnelsville, OH, USA

**Miba Precision Components (China) –
Coating Unit**
Suzhou, China

STRATEGIC UNIT MIBA AUTOMATION SYSTEMS

Miba Automation Systems
Aurachkirchen, Austria

STRATEGIC UNIT EMOBILITY

Miba eMobility GmbH
Laakirchen, Austria

Voltlabor**
Bad Leonfelden, Austria

MIBA POWER ELECTRONICS GROUP

EBG Elektronische Bauelemente
Kirchbach, Austria
St. Stefan, Austria

DAU
Ligist, Austria

EBG China**
Qinqxi, China

EDMS
Šentjernej, Slovenia

MIBA FRICTION GROUP

Miba Frictec
Roitham, Austria

Miba Steeltec
Vráble, Slovakia

Miba HydraMechanica
Sterling Heights, MI, USA

Miba Drivetec India
Pune, India

**Miba Precision Components (China) –
Friction Branch**
Suzhou, China

Fibertec Štětí
Štětí, Czech Republic

MIBA SINTER GROUP

Miba Sinter Austria
Vorchdorf, Austria

Miba Sinter Slovakia
Dolný Kubín, Slovakia

Miba Sinter USA
McConnelsville, OH, USA

**Miba Precision Components (China) –
Sinter Branch**
Suzhou, China

Miba Sinter Brasil
Indaiatuba, Brasil

Sintercom India**
Pune, India

* Miba holds 74.9 percent of the shares and has the industrial lead
** Companies in which Miba has shareholdings: Advanced Bearing Materials (75%), Sintercom (26%), EBG China (55%), Voltlabor (25.1%)

PRODUCT PORTFOLIO

OUR TECHNOLOGIES FOR A CLEANER PLANET

SINTERED COMPONENTS

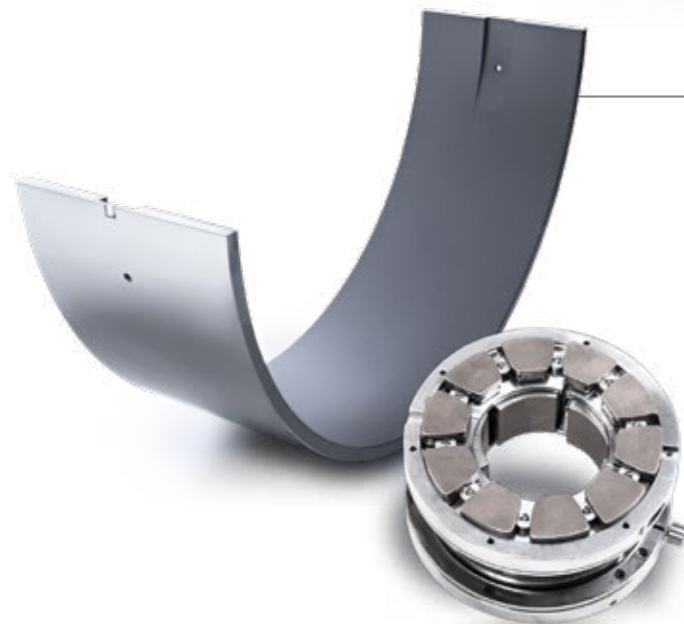
Miba's sintering technology is characterized by a complex design that integrates several functions in one component, high precision and strength, as well as low weight. Our powder metallurgical components are used in engines, transmissions and the electric steering systems of cars, where they make an important contribution to increasing efficiency and saving fuel. In addition, there are many uses for Miba sintered components in industrial applications, such as household appliances or air-conditioning equipment, leisure equipment (fitness equipment, eBikes), conveyor technology, medical technology and trucks.



BEARINGS

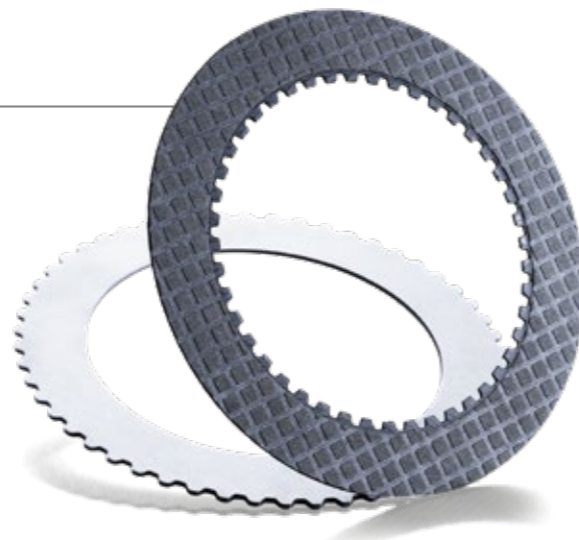
Engine bearings are components in internal combustion engines that play a role in determining the function and service life of the engine. They are used to support crankshafts and camshafts, minimize friction during operation, and protect the engine from damage or failure. Bearings from the Miba Bearing Group withstand higher ignition pressure and thus increase the engine efficiency. The bearings are used in the diesel and gas engines of ships, trucks, locomotives and in energy generation, for example in wind power.

Industrial bearings: Miba produces hydrodynamic bearings. These are used in rotating equipment and are a critical part of the machine to support radial as well as thrust loads. The bearings are used in turbomachinery such as compressors, gas and steam turbines, generators or pumps and are designed for the most demanding applications with high sliding speeds.



FRICTION MATERIALS

Friction materials are crucial to the performance of clutches and brakes, in which they are used to optimize speed and power. Components from the Miba Friction Group reduce both the weight and size of transmissions and axles. Miba friction materials are fitted in tractors, construction machinery, trucks, cars, high-speed trains, motorcycles, aircraft, and also in wind turbines.



POWER ELECTRONICS COMPONENTS

The Miba Power Electronics Group continuously works on solutions for power electronics, which are tailored directly to the respective customer. DAU heat sinks and EBG resistors contribute to the efficient generation, transmission and use of electrical energy. In addition, EBG's power resistors are used in electric vehicles.



COATINGS

Miba develops individual coating solutions for the finishing of functional surfaces. The core technologies are polymer and anti-friction coatings, electroplated coatings and PVD coatings. Our coatings are distinguished by optimum functionality and maximum service life. They are used in components for engines and transmissions, as well as for industrial applications.

SPECIAL MACHINERY

Special machinery from Miba is used for high-precision and high-speed machining of small to very large components. Miba Automation Systems is a leader in bearing technology, robotics and automation, as well as in mobile and stationary special machinery. In addition, the wind power industry is one of the company's most important markets. The extensive product range also includes the design and development of prototypes, as well as the construction of production facilities for electric motor stators.



SOLUTIONS FOR eMOBILITY

We develop and produce a multitude of solutions for eMobility. In this way we aim to proactively help shape the market. A comprehensive overview of Miba technologies for eMobility can be found on Page 40.

