

KAMMAX



**SUSTAINABILITY REPORT
2020**

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NOTE:

For the purpose of better legibility, the following text dispenses with the use of female and male pronouns. We use the male linguistic form (generic masculine), e.g. "the employee." By that, we mean all genders in favor of equal treatment. The shorter linguistic form is exclusively for editorial reasons and is entirely neutral and unbiased.

Date of publication: April 2021

FOREWORD

Dear Readers,

The topic of sustainability has been inextricably linked with our company since KAMAX was established. The Group is still family-owned today and we stand for values such as stability and reliability, innovation and progress. Out of conviction, we support our customers and business partners achieving complex climate goals. While our core business, the automobile industry, is currently undergoing change, we are also evolving continuously, whereby there is one thing we never lose sight of: we want to continue to set standards with sustainable economic and ecological developments.



Our products are the result of innovative research and development – we think ahead and are continuously optimizing. This makes our portfolio more diverse and our fasteners lighter. We develop components for new e-vehicles worldwide, making vehicles significantly lighter, thereby reducing their CO₂ emissions. Particularly in the area of e-mobility, we are a development partner offering our customers lots of new ideas.

This sustainability concept also includes two supplements: With a majority holding in the Robert Schröder Group, we are increasing our range of products, and the establishment of nexineer digital GmbH brings us closer to smart and future-proof business processes. We also offer this service to other companies. Our goal is to do business sustainably and successfully in harmony with nature.

Our first Sustainability Report is now being published after a year of challenges attributable to COVID-19. The Coronavirus has changed our company just as much as it has changed each individual. Within only a few weeks, we were forced to adjust to new situations and we rose to the challenge – from setting up a pandemic team to implementing comprehensive protective measures, restructuring our everyday collaboration on-site to extending opportunities for working from home. The pandemic has accelerated strategic changes as much as the necessary restructuring measures. At the same time, 2020 clearly showed that we are as versatile as we are stable.

Our employees are responsible for the greatest share of success by our company. Accordingly, there are initiatives and programs at all locations which sustainably support and promote our employees both in their working environments and in their personal lives. We offer a wide variety of opportunities for qualification and further training. With our trainee program and our training center, we ensure that young talent is integrated into the company group over the long term. A close and long-term relationship between our employees and our company is a central component of our philosophy.

We are delighted to be able to show you in this report just where we stand: KAMAX is set up in an adaptable and solid manner – the very best conditions for new goals and existing strengths.

A handwritten signature in blue ink, which appears to read 'Jörg Steins'. The signature is fluid and stylized, with the first name 'Jörg' and the last name 'Steins' clearly distinguishable.

Jörg Steins, CEO KAMAX Group



DOING BUSINESS ON A SOLID FOUNDATION – WITH FAR-REACHING PERSPECTIVES

Sustainable business is an absolute must for every company. It is necessary for long-term success and the value of markets for the company. At KAMAX, we create this basis through our responsible, economically viable actions in harmony with the KAMAX values, our innovations and investments, our strengthening of the employee environment, environmental protection, and local commitment at our locations.

In this report, we outline why each of the measures referred to is so important for us. As a responsible company, we plan long-term in order

to grow healthily and sustainably, and to keep our key technologies under one roof.

This is the first edition of the Sustainability Report of the KAMAX Group. We plan to publish an annual report with information from the areas of business, environment, and society. The report will have the goal of offering transparency and attributing a particular focus to our sustainability activities and goals. It is aligned toward all customers, employees, suppliers, partners, and other target groups interested in KAMAX and intent on finding out more about our values and principles. ■

HEADQUARTERS

KAMAX Holding GmbH & Co. KG
Homberg (Ohm), Germany




KAMAX KPIS

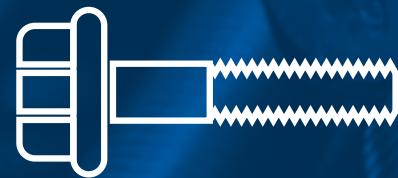
605 
 TURNOVER (IN €M)

3,300 
 EMPLOYEES

10 
 COUNTRIES

 **13** LOCATIONS

 **163,000**
 TONS OF STEEL PER YEAR

 **2,7** BN
 PARTS PRODUCED

40.1 M  **3.9** M
 INVESTMENTS IN INTANGIBLE ASSETS AND
 PROPERTY, PLANT AND EQUIPMENT R&D INVESTMENT VOLUME



CORPORATE PROFILE

CONNECTIONS ARE OUR CORE COMPETENCE

KAMAX is the world's leading technological manufacturer of high-strength fasteners and complex cold-formed parts. With locations in the three major economic regions of Europe, America, and Asia, we are a key supplier for all essential manufacturers and suppliers to the mobility industry and beyond. A comprehensive and unique range of products permits coordinated, tailored solutions for any problem. KAMAX is an independent family-owned company which is now in its third generation and growing as a modern, global corporation – by its own efforts and on an extremely solid foundation. Our company is characterized by a culture of family, dedicated employees, sustainable management, and long-term partnerships with our customers. These attributes will also continue to form the basis for our success in the future.

JOINT VENTURES

FACIL is a joint venture with the French company **ARaymond**. As an international expert for fastener and assembly solutions, the ARaymond Network invents, develops, and produces clip systems, fluid connections, and adhesive systems. FACIL was one of the first suppliers on the market to establish a full-service concept: fastening



technology for the passenger car and utility vehicle industry, combined with a comprehensive service for the areas of engineering, quality, purchasing, and logistics. ■

HOLDINGS

4fastening is a 100 % subsidiary of the KAMAX Group. This logistics company makes it possible for its cross-sector customers to consolidate sources, bundle small series requirements, aftermarket requirements, and spare parts requirements, as well as reducing process costs. In addition to the KAMAX product portfolio, 4fastening also avails of a global network of qualified and certified



partners in the area of fasteners and complementary goods. Accordingly, the company ensures its supplies and offers a simplification of the supply chain while simultaneously maintaining the requisite standards and specifications. ■

COLLABORATING WITH RSW TO GENERATE ADDED VALUE



With an 85 % stake in the Robert Schröder Group, the KAMAX Group extended its product portfolio to include new areas and applications in February 2021.

Robert Schröder is a manufacturer of precision parts within and outside the automobile industry. The owner-managed group of companies with sites in Germany, Poland, and the USA specializes in processing cold-formed parts through turning, milling, grinding, interlinking, and assembly. Furthermore, the company also has capacity and expertise in the manufacturing of cold-formed parts for large series.



Robert Schröder GmbH & Co. KG Manufacturing, Wuppertal

With this cooperation, we want to make a wider range available to our mutual and new customers as well as continue to grow sustainably. The employees in both companies also benefit from this: KAMAX, for example, in the further development of production of formed parts that are new to us at the Homberg site, while Robert Schröder is offered a long-term perspective through its affiliation with a global group of companies.

In recent years, various forms of electrically powered or supported forms of mobility have been launched onto the market. Electric drives account for a steadily growing share of mobility today. The number of vehicles with electric or hybrid drives is also increasing in road traffic. As e-mobility gains in popularity, we will also be able to tap new markets. ■

The acquisition of technical and theoretical competencies also strengthens our corporate strategy in terms of e-mobility, e.g., in the manufacturing of components for e-bike drives.



Bottom bracket shaft for e-bikes

"WE ARE DELIGHTED AT THE OPPORTUNITY TO CONTINUE TO DEVELOP ALONG WITH OUR NEW PARTNER. KAMAX IS THEREBY EXTENDING ITS COMPETENCIES AND ITS OFFER TO OUR CUSTOMERS IN ACCORDANCE WITH OUR NEW CORPORATE STRATEGY."

Jörg Steins, CEO, KAMAX Group

THE DIGITAL ACCELERATOR OF THE KAMAX GROUP



The digital future has long begun at our locations. With the establishment of our 100 % subsidiary nexineer digital GmbH, we will drive the digital transformation in our group of companies even more consistently and faster.

The goal is to support our core competence, i.e., the manufacturing of fasteners, with digital solutions in the production and business processes over the long term. If a pilot is successfully developed, these solutions will be implemented in our production plants worldwide. In doing so, we demonstrate courage, break new ground and also learn from projects that are not continued. The innovation process involves consistent phases from the idea through roll-out with validity of the project being reviewed at every stage along the way.

nexineer digital will act as an independent business unit with the aim of increasing development speed and making solutions for administration and production available faster. Over the long term, we have plans for nexineer to support our end customers in their transformation process with its innovative digital products, services, and business models. nexineer is an important component with which we wish to realize our transformation to a “digitized company.” Many more are sure to follow. ■

DIGITIZATION WITH SMART.SHOPFLOOR

The smart.shopfloor digitization project digitizes the processes on the KAMAX shop floor. The goals are to minimize manual and offline activities, proactive production steering via an assisted live view of production (basis for multi-machine operation), and the gradual automation of manufacturing processes. Apart from quantitatively measurable efficiency effects, smart.shopfloor will also have a positive impact on the quality of collaboration in all areas of manufacturing. There are plans to deploy the smart.shopfloor project for the first time at the Homberg site throughout 2021, with global application to follow in coordination with the individual plants. ■

OUR EMPLOYEES — OUR FUTURE



OUR EMPLOYEES ARE THE KEY TO OUR SUCCESS. THEY ARE PROVIDERS OF IDEAS, MOTIVATORS, AND TEAM PLAYERS. BY OFFERING FURTHER TRAINING, PROMOTION, AND SOCIAL PROGRAMS, WE ENSURE THAT EVERYONE CAN DEVELOP THEIR TALENT AND ACHIEVE THEIR POTENTIAL.

ATTRACTIVE WORKING CONDITIONS FOR QUALIFIED EXPERTS – OF ALL AGES

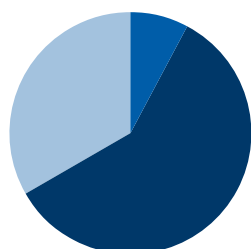
A sense of responsibility, support, fairness – this is what our corporate culture is based on. Collaboration and trust represent the essential aspects for satisfied employees. The goal of our programs and campaigns is to be better perceived as an attractive employer and become even more visible.

We have a working environment in which performance is rewarded. Each of our employees is treated fairly and given the same opportunities. Unambiguous processes, open communication, and a feedback system – e.g., our worldwide employee survey – ensure that this is guaranteed at all times and everywhere. We create attractive working conditions making it possible to combine professional and private lives – for example, through flexible working hours which enable developments at each stage of life particularly for employees with children. We firmly believe that an appreciative environment and job satisfaction are important prerequisites for long-term and successful collaboration and that a good combination of young and experienced employees is what

makes us so successful. This is also confirmed by the high number of employees who have remained faithful to the company for more than ten years (approx. 50 %).

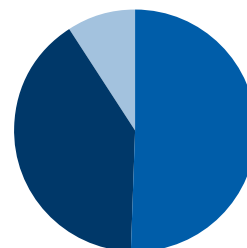
KAMAX is always on the lookout for qualified experts in all markets, of all ages, and at all of our locations, where they will find an interesting working environment and a wide variety of qualification opportunities. Research and development are key areas for us and for our customers: one reason to attract well-trained graduates with professional training or expertise in the respective areas. Apart from such competencies, a high degree of commitment and motivation for our complex tasks represent another part of our corporate culture. ■

EMPLOYEES



AGE IN YEARS

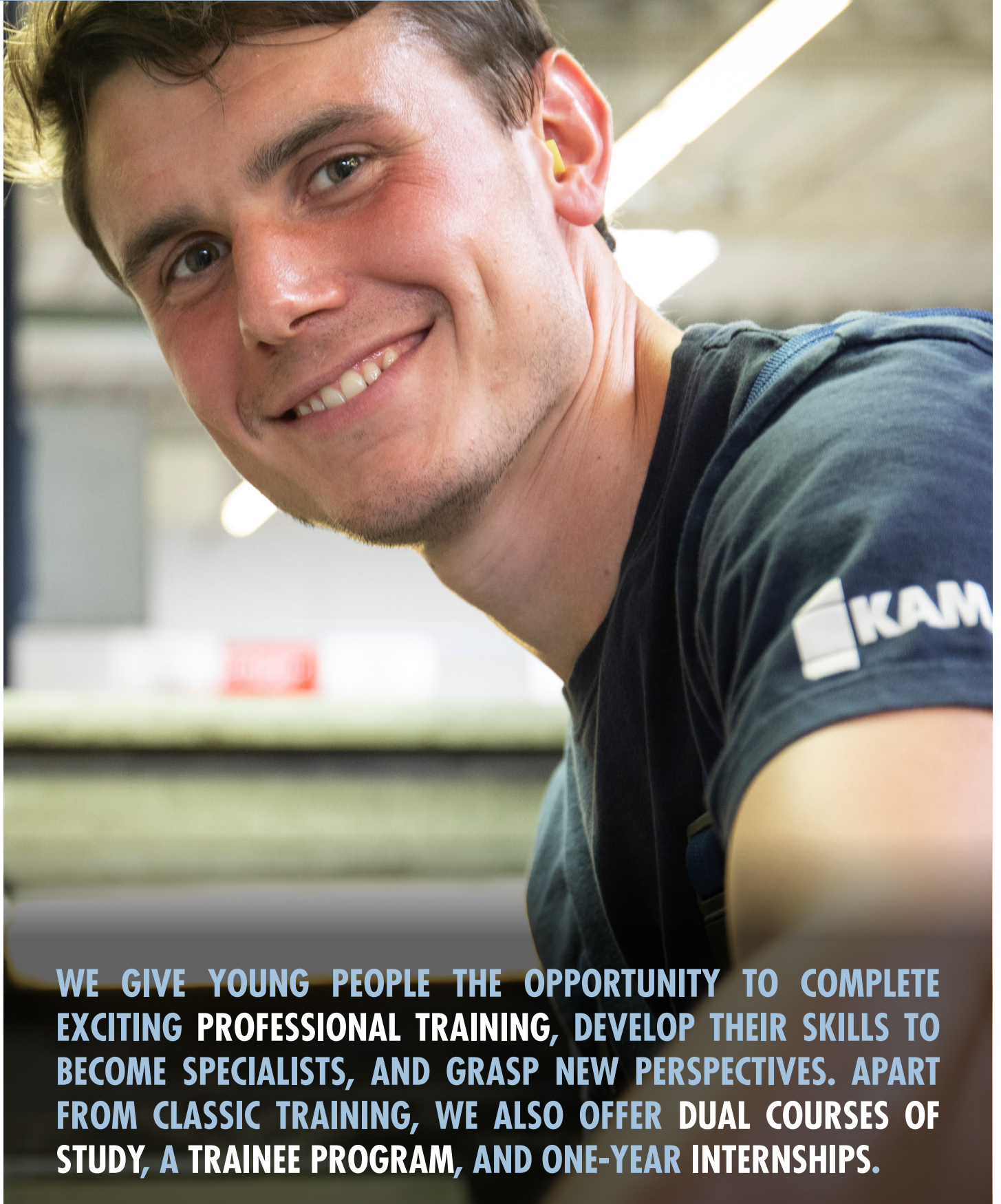
- Under 25
- 25 - 50
- Over 50



EMPLOYMENT IN YEARS

- Under 10
- 10 - 35
- More than 35

UP-AND-COMING TALENT



WE GIVE YOUNG PEOPLE THE OPPORTUNITY TO COMPLETE EXCITING PROFESSIONAL TRAINING, DEVELOP THEIR SKILLS TO BECOME SPECIALISTS, AND GRASP NEW PERSPECTIVES. APART FROM CLASSIC TRAINING, WE ALSO OFFER DUAL COURSES OF STUDY, A TRAINEE PROGRAM, AND ONE-YEAR INTERNSHIPS.

TRAINING CENTER



In form of the new training center, opened in late 2018 in Homburg with an investment volume of 3 million euros, the future has now been practically carved in stone.

Spanning a total area of almost 1,600 m², it features our machine park with state-of-the-art CNC technology, 30 manual and assembly stations, a technology forum with workstations for automation and robotics training as well as a seminar room for IT and electrical technology. The training workshop is manned by two full-time trainers – for the metal and electro area.

With the new training center, we hope to prepare young talents and experienced employees in the

best possible way for the challenges of the future – regardless of whether this concerns the latest milling techniques or the development of apps for digital steering of production.

Other apprenticeships, e.g., as IT specialists or industrial clerks, and our dual courses of study are trained and taught in various departments depending on their specific focus. ■

OUR GLOBAL TRAINEE PROGRAM – PRACTICE AT A HIGH LEVEL

We offer a multitude of possibilities even from trainee positions: with commitment, willingness to learn and team spirit, coupled with support across departments and locations, fast career moves are possible at KAMAX. One first-generation trainee advanced over various positions to become plant manager. ■



4–5 TRAINEES PER YEAR ...

... going through four placements within the company group, at the German location and worldwide

ALL SPECIALIST AREAS

Technology, Digitization, IT, Finance/Controlling, HR, Supply Chain Management, Quality Management, or Sales

GLOBAL ...

... program with top management support

JOINT TRAINING WEEKS, INDEFINITE CONTRACTS ...

... for commitment as long as possible

2021 BUDGET: 250,000 EUROS

QUALIFICATION & FURTHER TRAINING



Individual qualification, organizational development, and a constant willingness to adapt to changes as well as meet new challenges are necessary success factors for the future of our group of companies over the long term. KAMAX deploys a sustainable personnel strategy to ensure that the company retains its innovative strength.

OUR EMPLOYEE EXCHANGE PROGRAM – ONE KAMAX WORLD

Not only our trainees benefit from various stations at KAMAX locations worldwide. Temporarily changing the perspective and working actively at colleagues' workplaces instead of merely observing is the best way to detect differences and potentials at work. Tried-and-tested processes can be applied both directly and swiftly. At KAMAX, this is possible via exchange programs which are held across locations and even countries.

ANALYSIS TOOL FOR TRAINING REQUIREMENTS

With our TDA (Training Demand Analysis) tool, individual training and development requirements for employees are continuously determined and the corresponding targeted measures planned.

PRIZES

As a result of an extremely successful cooperation with the Technical University in Clausthal (Germany), KAMAX awarded prizes for the first time in December 2020 for the best doctoral and master's theses.

GRANTS

Grants are awarded in cooperation with the University of Changzhou in China and the KAMAX site there. Students can apply and are then examined and approved by the university, the grant administration center, and finally KAMAX. The program was launched in December 2020. ■

GLOBAL SURVEY

Employee ideas and motivation determine the future viability and competitiveness of a company. We want to keep our employees at KAMAX. We want to be an attractive employer for them, to have a culture in which they can voice their opinion in confidence, and maintain open communication, in which proposals for improvement can be integrated and best practices shared with other locations. In order to measure the satisfaction of employees on various topics at work and the prevailing corporate culture, we regularly carry out employee surveys – most recently in 2018. The next survey is to take place in 2021. ■



74 %

OF EMPLOYEES TOOK PART IN THE SURVEY.

HEALTH & SOCIAL WELFARE



We spend a third of our working day – and sometimes even longer – at our workplace: KAMAX is intent on ensuring that our employees not only feel good there but that they also stay healthy. With training and prevention programs as well as many other offers, we try to continuously improve the well-being and safety of our employees.

Depending on requirements and priorities, various campaigns and offers within the framework of health and prevention programs are implemented independently at the respective locations.

SOCIAL PROGRAMS – AN EXCERPT

In **Homburg**, KAMAX provides its employees with sufficient refreshments at a total of 18 water and mineral dispensers. Before the pandemic, our employees received fresh fruit every day as supplemental vitamins. The canteen is subsidized and offers a K-Fit menu or healthy salads every day.

KAMAX holds annual **Health Days**. All employees have the opportunity to obtain information on health issues and healthy lifestyle habits at work and in their leisure time – unfortunately, this was only possible online in 2020 due to COVID-19.

In the **USA**, KAMAX offers a diabetes program which is aligned toward employees with Type 1 or Type 2 diabetes. Thanks to the Livongo Diabetes Management Program, employees can receive all of the materials and live support they need. The range of offers also includes the possibility of personal financial advice.

We also make additional health insurance available to all employees at the site in **Wujin, China**. Most medication and treatment costs are reimbursed. Employees are also entitled to 50 % reimbursement of medical costs for their children. ■

Due to the coronavirus crisis, the programs were limited in 2020. Protecting our employees from infection demanded some entirely new and alternative measures. With a dedicated pandemic team, hygiene concepts and process instructions were drawn up which were implemented in Germany and applied at all locations worldwide following some local adjustments. In the first quarter of 2021, this also included a test offer as well as a vaccination campaign rolled out worldwide

with the slogan #KAMAXkicksCorona. This serves toward the mobility and protection of all employees and their families and also includes a vaccination offer at the respective location as soon as the vaccine is available. ■

INDUSTRIAL SAFETY



To ensure that everyday work life remains safe, industrial safety is of great importance at KAMAX. For this reason, the SI-MAX industrial safety prize and prize money are awarded to departments in commercial areas in Germany which display a particular commitment to health and safety, thereby causing the least number of industrial accidents. Further examples of industrial safety initiatives at our locations are listed below:

SPAIN

In Spain, there are trained employees on all shifts and in all areas who are deployed in all types of emergencies (fires, chemical spills, bad weather, accidents, etc.). Specific equipment (breathing apparatus, fire-proof protective clothing, acid-proof protective clothing) is available for various emergency scenarios, always on the basis of statutory specifications.

USA

At our locations in the USA, the Safety and Environmental Management Team is responsible for developing programs for more safety in the workplace. The goal is to exceed the statutory specifications and/or optimize our own industrial safety regulations so as to achieve the vision of “zero” industrial accidents. Several programs have already been specifically implemented since the start in October 2012.

GERMANY

Industrial safety management

During the course of recertification of the environmental management system, the Homberg and Osterode locations were also certified for the first time in the area of industrial safety. Certification was completed at the end of November 2020.



Shoes and insoles

All employees at KAMAX are fitted with protective footwear. We support our employees in the procurement of insoles for their safety shoes and help when it comes to filling out applications for the reimbursement of costs by the pension insurance scheme, the job center, or other authorities. Advice on the subject of protective footwear is ensured by a system consultant from UVEX.



Ear protection

KAMAX covers most of the costs for equipping our employees with appropriate ear protection. ■

DONATIONS



We are involved in various donation projects near our locations – wherever our help is needed. Our employees on site ensure that our donations directly reach those who need them.

USA

In **Lapeer**, donations are made to a charity organization (local or national) instead of flowers in the event of a death. Cash and material donations are collected for a wide variety of organizations: whether national animal protection such as “Paradise Animal Rescue” and “Lapeer County Animal Control”, school items for “Pathways to Potential”, or a raffle supporting the “Family Literacy Center” in Lapeer.

CZECH REPUBLIC

Local and varied support is also provided in **Turnov**: furnishings for rooms of children with disabilities are subsidised as well as their summer or skiing vacations.

GERMANY

2020 was the second year in which the companies at our headquarters in **Homburg** were

actively involved in a curative day care center in neighboring Kirchhain where infants, children, and adolescents with learning and developmental difficulties, psychological impairments, chronic illness, and intensive care needs are cared for. The KAMAX Holding donates a five-digit figure every year. At Christmas, the employees at the location make children’s wishes come true via the KAMAX Christmas tree gift campaign. Further financial support is currently being received by the children’s and youth hospice in Gießen/Marburg run by “Deutscher Kinderhospizverein e.V.”, with a four-digit sum donated every year.

Our plant in **Osterode** was involved in the “Aktion Löwenmama” campaign. This project involves cash donations for books and toys for children suffering from cancer. ■



COMPLIANCE



Compliance is an essential element for successful management and good corporate leadership. It ensures reliable and respectful dealings with customers, business partners, employees, and the environment. KAMAX has established a company-wide compliance organization under the management of a Group Compliance Officer and officers with local responsibility.

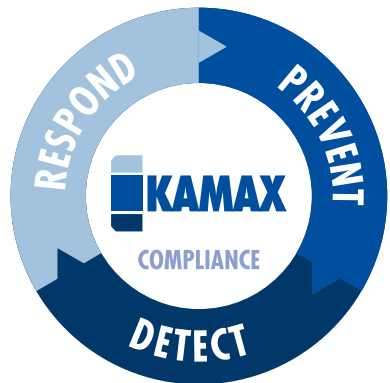
THE KAMAX COMPLIANCE MANAGEMENT SYSTEM (CMS) IS BASED ON THREE LEVELS:

PREVENT Development of a global training concept and adaptation to local sites Annual global leadership training Workshops, on-site training	DETECT Local contact persons Regular assessments, internal and external audits Compliance hotline: global system, can be used by employees in their local language, anonymous reporting to protect the interests of the whistle blower	REACT Compliance investigation Sanctions Process improvement
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The primary goal of our Compliance Management System is to support our employees in acting in harmony with statutory guidelines worldwide – particularly in the areas of anti-corruption and cartel law.

We encourage each of our employees to contact KAMAX Compliance at an early stage if they are unsure of how they should behave

in specific situations at work or in the event of possible violations of compliance. Our worldwide whistle blower system is a central new element. There is a Local Compliance Officer at each location. This ensures that local matters are considered and the employees or even our customers and suppliers can communicate on site with a contact person in their own language. ■



More detailed information on our Compliance Rules can also be found at www.kamax.com/en > Company > Responsibility.

ETHICAL PRINCIPLES & VALUES



Our commercial success is based on an environment which is economically intact. We regard these guiding principles not only as individual measures but as a central aspect of our entrepreneurial actions in everyday decision-making processes – they outline what makes us unique. They apply in all of our departments, functions, and regions. Our Code of Conduct is a binding orientation framework for all management personnel and employees. It contains all of the ethical principles and values for which we stand. Our Supplier Code of Conduct is signed by all suppliers who follow the same basic principles and rules of conduct as we do.

LONG-TERM PARTNERSHIPS WITH CUSTOMERS AND SUPPLIERS

We are convincing through our performance – both technically and economically. This gives rise to long-term development and consulting cooperations with our customers arise, which go beyond mere supplier relationships. This also applies to our primary suppliers: we expect the same quality and financial benchmarks from them as the ones we maintain in our company and we ensure this by conducting regular audits.

STRENGTH THROUGH STRONG EMPLOYEES AND MANAGEMENT PERSONNEL

We acquire talented people for our company and encourage them as they develop and evolve. With plenty of scope for ideas and by taking responsibility, we strive toward first-class performance and results. Collaboration based on trust, enthusiasm, passion over and beyond individual borders and hierarchies mark our working atmosphere and motivate us to top performance.

TECHNICAL CLAIM TO LEADERSHIP AND QUALITY

We set benchmarks worldwide in the areas of innovation, quality, and feasibility. We rely on effective quality controls and activities for

preventive and error-avoiding quality assurance. We continuously improve both products and processes and use suitable parameters to regularly review our operational performance.

STRATEGIC INDEPENDENCE THROUGH PROFITABLE GROWTH

We strive toward a high economic efficiency in the long term. Clear profitability targets and a solid finance policy secure jobs and ensure further development of the corporate group as an independent family business.


ZERO TOLERANCE OF ILLEGAL OR RULE- BREAKING BEHAVIOR

We demand ethical conduct on the part of all our employees. We do not tolerate any type of discrimination, particularly on the grounds of race, gender, religion, age, nationality, social or ethnic origin, pregnancy, disability, ideology, sexual orientation, or involvement in politics and trade unions.

COMMITMENT TO SOCIAL CONCERNS

We support the development of our society through constructive contributions of a material and immaterial kind in social, cultural and economic areas. We protect the environment by complying with internal global standards which exceed legal regulations. ■

SUSTAINABILITY & ENVIRONMENT



OPERATING IN A SUSTAINABLE, FAIR, AND **ENVIRONMENTALLY FRIENDLY** MANNER IS FIRMLY ANCHORED IN THE KAMAX CORPORATE STRATEGY. WE CONSIDER IT OUR **RESPONSIBILITY** TO MAKE AN EFFECTIVE CONTRIBUTION TO SOCIETY AS A WHOLE, BASED ON **ECONOMIC AND ECOLOGICAL SUSTAINABILITY, SOCIAL JUSTICE, CO-DETERMINATION, AND TRANSPARENCY.**

WHAT WE DO ...



We meet the responsibility for human beings and their surroundings by implementing various environmental protection measures. Retaining natural resources is the basic principle of our environmental strategy. Within the framework of our management system on industrial safety, protection of the environment and health, we attribute high priority to working toward minimizing the ecological impact of our products and processes and guaranteeing safe and healthy working conditions. We regularly review our industrial safety, environment and health policy, and integrate new developments.

PRODUCTS, PROCESSES, AND WORKING ENVIRONMENT

In the optimization of our products and processes as well as further development thereof and the selection of our raw, auxiliary, and operating materials, we consistently take consideration of ecological and industrial safety information. Both within the framework of production processes and in our administrative areas, we make every effort to constantly improve our energy efficiency. We permanently monitor the environmental impact of our locations, and we endeavor to take suitable measures, including the use of the best available technology.

WATER

Water is primarily used for operational purposes as cooling, service, and process water at our locations. In operation-specific projects, we concentrate on reusing water as well as

conserving it in low-water areas. Progress is monitored in coordination with our environmental management system at the individual locations.

ENERGY

Energy management is a key aspect of our environmental management system. The energy profiles of the plants are assessed at specific locations, optimization potentials established through regular audits, and measures taken to improve energy efficiency and reduce consumption.

EMISSIONS

One of the primary factors arising from our production activities is the emission of greenhouse gases. Accordingly, reducing them is another central element of our environmental policy. ■

More detailed information is available in our 2020 Environmental Declaration at:
www.kamax.com/en > Company > Responsibility

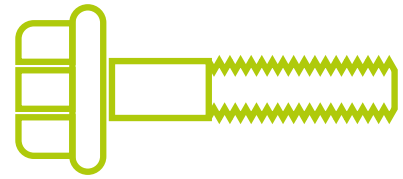
NEW COMPRESSORS FOR SAVING ENERGY AND SPACE

Compressors are necessary for generating compressed air for machines or production processes. With a new compressor plant at the location in Lapeer (USA), we have significantly reduced the maintenance costs for spare parts, oil, and equipment downtimes. The new Airtech compressors help to achieve a 20–50 % improvement in energy efficiency.

ENERGY-SAVING LED LIGHTING

One milestone of our sustainability strategy in the area of resource efficiency entails changing lighting at our international locations to energy-efficient LED technology. Changing over to LED will be nearly comprehensive in our plants in the years to come.

HOW WE DO IT ...



... IN PRODUCTION

Cold-forming is a forming process for designing complex geometries, whereby a metallic material is given a certain form by applying extensive pressure or traction. Cold-forming permits the manufacturing of high-strength parts without requiring any further energy input (e.g., forging).

We have in-depth knowledge and many years of expertise in the area of cold-forming fasteners. We do not regard cold-forming as a mere technological competence; we have also achieved some progress in terms of consumption of resources. Unlike other manufacturing methods, e.g., metal-cutting, hardly any scrap is produced as the formed workpiece is very similar to the final contour with the result that hardly any or no reworking is required – rejects and scrap waste are reduced to a minimum.

The market for fasteners in the automobile sector is broadly diversified and offers products in a wide variety of applications and materials. Bolt elements for vehicles and trucks represent

the system competence of KAMAX, currently accounting for 93 % of the KX product portfolio.

We offer a wide range of fasteners in our product portfolio. The products are largely made of steel or – to a smaller extent – aluminum. The automobile industry is currently displaying a trend toward lighter materials which help to reduce the overall weight of the car and improve fuel efficiency.

The popularity of aluminum as a weight-saving solution compared to steel is increasing. Even if our portfolio is still determined by complex automobile and engine bolts for the automobile industry, we will adapt the product range to new changes in the market. ■

LIGHTWEIGHT CONSTRUCTION AS AN OPPORTUNITY FOR NEW E-VEHICLES



Our **KXtreme** are fasteners which display ultra-high tensile strength. They have high load requirements which makes them ideally suitable for limited assembly space or for the design of smaller engines. Accordingly, our KXtreme fasteners make a key contribution toward reducing the overall weight of vehicles and saving CO₂ emissions.



We developed the **KXhead** with the approach of only using material in areas of component relevance without impairing function or stability in any way. The difference is up to 35 % reduction in weight at the head of the bolt which is in turn reflected in lower CO₂ emissions when used in vehicles with lower energy consumption. ■



FASTENER COATING FACILITY

The zinc flake coating plant in Homberg is a success story for us – and for the environment. The plant was successfully commissioned in 2012 and currently achieves a daily output of more than 100 tons of coated parts.

Coating fasteners is necessary in order to protect the base metal from corrosion or other harmful influences. Unfortunately, the respective process gives rise to emissions, essentially through water and solvents in the coating substances. When the plant was initially put into operation, only a GEOMET variant with 25 % solvent content was available. In close collaboration with the manufacturer, we have been using an optimized coating substance since 2013 which has enabled us to reduce the emissions of solvents by 80 %. Subsequent treatment of exhaust air is not necessary and additional energy can be saved. Emissions of solvents currently account for only 8.5 tons per

year. Accordingly, our fastener coating plant is one of the most environmentally friendly coating plants for GEOMET zinc flake coatings worldwide.

Apart from realizing comprehensive savings over the external coating of our parts, e.g., through less transport, we are also planning further process optimizations. This takes the form of automatic measuring processes, optimized maintenance work, reduced downtimes, implementation of technical improvements, and an increase in operational safety. Our team at the fastener coating plant is currently recording an effective plant utilization rate of over 90 %. ■

**“THE COATING PLANT AT THE
HOMBERG LOCATION IS ONE OF THE
MOST ENVIRONMENTALLY FRIENDLY
GEOMET ZINC FLAKE COATING
PLANTS IN THE WORLD.”**

Pascal Stephan,
Director Surface Coating and
Secondary Operations, Homberg

RESEARCH & DEVELOPMENT



Ongoing electrification in the passenger car and utility vehicle segment represents an innovative technology, one in which we would like to assume a pioneering role in our capacity as a supplier.

Thanks to our long-term and manifold competence in the area of cold-forming, materials, coating, and fastener technology in the automobile sector, we envision promising opportunities for the development of safe and environmentally friendly mobility. It can be assumed that the demand for electric vehicles will increase greatly among consumers in the next ten years. According to current market forecasts, fully electric vehicles will account for 14 % of the market by 2023; 34 % will be hybrid vehicles, and only 52 % of vehicles will have a combustion engine.

CO₂ SAVINGS THANKS TO A NEW MATERIAL TECHNOLOGY

The use of thermo-mechanically rolled steel is currently being expanded in a cross-departmental development project. One advantage of thermo-mechanical rolling is that high-energy downstream processes can be avoided at the supplier's. As a result, we are also anticipating a reduction in the CO₂ footprint of the finished product. The project has been up and running since October 2019 and will end in May 2021. ■

WHAT THE FUTURE HOLDS ...

Together with our customers, our focus is set firmly on the future. Apart from economic considerations, we are also integrating ecological and social concerns in our decision-making processes.

Our fundamental strategic approach lies in the fact that we will handle both traditional and future challenges by further developing existing technologies while simultaneously tapping new areas in order to serve both existing and new customers. In harmony with this strategic alignment, KAMAX will increase its financial commitment to research and development by 25 % in the year to come. The budget will flow into innovative technological production processes and promising projects.

E-MOBILITY IS THE KEY FOR CLIMATE-FRIENDLY MOBILITY WORLDWIDE

Many environmental impacts and much consumption of resources is accounted for by mobility. With the revision of our car policy, KAMAX aims to convert our company car

pool from conventional combustion engines to sustainable drive systems in the long term. In an effort to promote sustainable mobility and reduce CO₂ emissions, we are making hybrid and e-vehicles available as company car alternatives to the classic combustion engine.

By doing so, we aim to achieve a broader degree of acceptance for this new form of mobility and increase the enthusiasm for new, environmentally friendly technologies throughout the company as a whole. ■

Sustainability is to become a firm component of our corporate strategy. Integrated within this strategy, long-term initiatives are to be developed and ambitious goals anchored.

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