



COMBINED REPORT 2021

KRAIBURG TPE GmbH & Co. KG
Waldkraiburg site

Preamble by the Management Board

KRAIBURG TPE has voluntarily published an annual report on environmental protection, occupational safety and health, and energy management for six years. Since early 2022, the entire reporting has been gradually adjusted to the standards of the Global Reporting Initiative (GRI) so a final conversion will be possible in 2023/2024. The independent international organization GRI specifies guidelines for preparing sustainability reports and thus supports transparent reporting. This conversion is part of a process that KRAIBURG TPE is undergoing to put more emphasis on sustainability transformation. The current 2021 Combined Report not only covers top priorities in development, which help the company to position itself sustainable for current and future generations, but also an initial GAP analysis between values that already exist and GRI requirements.

Taken as a whole, KRAIBURG TPE has been successful in striving for sustainability throughout the company during the 2021 reporting year. The company underwent a voluntary sustainability assessment conducted by the Carbon Disclosure Project (CDP) and was awarded the corporate awareness status. In addition, KRAIBURG TPE follows a road map, which further prioritizes the issue of sustainability at different levels and with a holistic approach: at product level from planning to development, purchase and sales conversations through to the end of product life on the one hand, at company level on the other hand. At KRAIBURG TPE, sustainability is integrated into all processes including a basic awareness of sustainability among employees.

The Combined Report of the previous year already referred to the economic challenges companies are increasingly facing. There are no current signs of an easing on this matter. That is why solution-oriented planning and working across departments as well as good coordination with partners and suppliers is of utmost importance. The volatile situation on the raw materials market also requires us to cooperate very closely with customers and suppliers to weather these challenges together. Therefore, planning with a major focus on sustainability and availability has top priority. We will only be able to put our company in a good economic position to compete in the market over the long term and pass this guarantee on to our employees if we take into account the issues that will be important tomorrow and in the future.



Dr. Monika Hofmann
Director EMEA at KRAIBURG TPE
Waldkraiburg, 2022

Areas of responsibility at KRAIBURG TPE in Waldkraiburg since 2022

Oliver Zintner

CEO since January 2022

Dr. Monika Hofmann

Director EMEA since January 2022

Dipl. Ing. Karl-Heinz Ortmeier

Head of Sustainability Management / Head of Environment & Safety Management EMEA

Ines Klemisch

Environmental and Climate Manager

Reinhardt Lanzinger

Safety Manager

Anton Weingartner

Energy Manager

Dr. Andrea Winterstetter

Corporate Sustainability Management & Circular Economy Management EMEA since
February 2022

Scope of the Combined Report

The environmental and energy management system report for KRAIBURG TPE at the
Waldkraiburg site covers the following facilities:

Plant at Teplitzer Strasse (Plant K):

Production building with infrastructure facilities and
production facilities of KRAIBURG TPE

Plant at Friedrich-Schmidt-Strasse (Plant T):

Premises, production building and office building

Sustainability management

KRAIBURG TPE has made major progress in the 2021 reporting year to support customers on their road to more sustainable product solutions. The focus is on issues and activities that will lead to predictable and measurable results, including various CSR ratings such as EcoVadis and Carbon Disclosure Project (CDP).

Sustainability core competence: KRAIBURG TPE defines core competences as abilities that enable the company to gain a verifiable advantage over market competitors. This competence set is to be expanded to include sustainability by 2023. Measures for implementation are taking place at the staff, organizational and process levels. The following key issues relating to sustainability have been identified for the Waldkraiburg site to achieve measurable and comprehensive results, which involve the whole company:

- Responsible business management
- Climate protection and energy
- Saving resources by circular economy
- Health and safety at work

Responsible business management

The KRAIBURG Group ("KRAIBURG") conducts its global business in compliance with all applicable laws and regulations, avoids and prevents violations of law, commits to act upon the highest ethical standards and treat others with respect and integrity in accordance with the principles of this Code of Conduct and in compliance with DIN ISO 50001 and 14001.

All suppliers, customers and other business partners of KRAIBURG TPE as well as their management boards, employees and subcontractors are encouraged to also comply with this Code of Conduct and DIN ISO 9001, DIN ISO 14001 and DIN ISO 50001. All business partners are expected to carefully read this Code of Conduct and to act within these rules. KRAIBURG does not tolerate violations of this Code of Conduct. The focus is particularly on the following areas:

- **Governance and compliance:**
 - » **Compliance:** We act in complete accordance with the law, our principles and rules
 - » **Human rights:** We respect human rights
 - » **Code of Conduct for our business partners:** Zero tolerance for any misconduct

Local sustainability boards

Local sustainability boards have been established at all KRAIBURG TPE sites (Germany, USA and Asia) to make the best possible efforts to advance sustainable development, always taking the relevant region and culture into account. These central bodies consist of members of senior management as well as experts and report directly to the management board.

This way it will always be ensured that sustainable activities are prioritized accordingly. The LSB in Waldkraiburg specifies priorities and controls sustainability issues such as the development of sustainability strategies, sustainable production and product responsibility by management systems, communication, etc. for the company headquarters and the EMEA sales and economic region.

The LSB coordinates and supports the divisions in implementing and developing their sustainability targets. As part of the environment, climate and energy program, specific measures are implemented to initiate the necessary transformation processes.

Interest groups

Objective

KRAIBURG TPE gives high priority to integrating the different interest groups in making decisions to achieve the best possible result for society, the industrial sector and the company. This collaboration is intended to lead to innovative solutions for current and future challenges, from improving safety and reducing waste through to making a positive contribution to climate change.

Staff

The members of staff at KRAIBURG TPE are the decisive factor for success when it comes to sustainability because it is only if we all work together that we will achieve the sustainability targets. The staff is integrated into the process in various ways: The members of staff are constantly improving their know-how and expertise, identifying potentials for improvement, and developing innovative approaches for sustainable solutions within the company.

Partners

Since KRAIBURG TPE has been a reliable TPE manufacturer for many years, its network of partners is very well developed, stable and established. These networking links are creating innovation partnerships in order to develop solutions and advance products to the next higher level by combining expertise. KRAIBURG TPE has partnerships all over the world and can look back on a long history of successful collaborative developments.

Customers

KRAIBURG TPE's customers have a growing interest in industrial contributions to sustainability. The company therefore has active relationships with (future) customers based on partnership. The company aims to understand their needs and learn to anticipate them in order to supply suitable materials at any time. Customer-oriented and market-driven solutions are intended to help meet the requirements of customers and society even better and identify new business opportunities.

Climate management

The United Nations adopted the Paris Agreement at the 2015 UN climate conference. The goal of this framework is to limit global warming to 1.5 °C. 196 countries voluntarily committed to national targets, which are consistently tightened. KRAIBURG TPE has therefore committed itself to minimizing the greenhouse gas (GHG) footprint. Since 2013, KRAIBURG TPE has been dealing with accounting greenhouse gas emissions, which permits inferences about important factors for preventing emissions. In addition, this approach enables the company to monitor its own contribution to climate protection.

KRAIBURG TPE is making a contribution to climate protection:

- » Increasing process and energy efficiency plays a central role. This enables the energy demand and thus climate-relevant emissions involved to be reduced over the long term. Saving energy has top priority. For this reason, processes are permanently adjusted and optimized. Energy consumption is always monitored and optimized.

- » Expanding the generation of renewable energies is also intended to make a contribution: At the Waldkraiburg site, photovoltaic systems are already increasing the proportion of renewable energies used. It is intended to expand these systems. In addition, other renewable energy sources are currently being evaluated and considered.
- » Reduction of GHG emissions: CO₂e emissions are annually accounted at the Waldkraiburg site to make it possible to react to deviations.
- » Comprehensive GHG reporting: In 2021, KRAIBURG TPE made a comprehensive GHG inventory with the help of external experts, based on the Greenhouse Gas Protocol. The aim is to optimize and standardize the recording and calculation of GHG emissions. Findings will be incorporated in the sustainability strategy. Relevant fields of activity along the value chain have been identified. KRAIBURG TPE is also developing an action plan including a decarbonization pathway to achieve long-term climate targets.
- » At company level, the foundations for calculating the corporate carbon footprint (CCF) were laid. Since 2013, KRAIBURG TPE has been dealing with the issue of GHG balance in relation to its corporate carbon footprint (core CCF in scope 1 and 2) and has made the results available to customers. This accounting helps to identify potentials for optimizing and/or avoiding greenhouse gas emissions.
- » At product level, individual data structures were established, and responsibilities were allocated to systematically calculate the so-called product carbon footprint (PCF) for each compound. KRAIBURG TPE will provide this PCF to customers on request subject to meeting specified basic conditions.

Greenhouse gas emissions

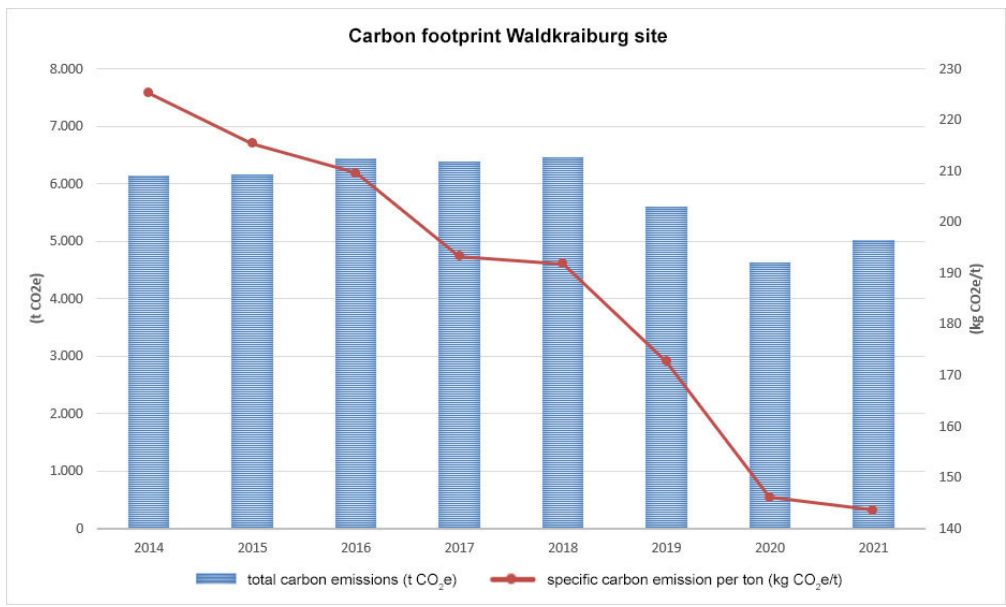
KRAIBURG TPE divides the emission of GHG into different categories based on its sources. The following categories have been identified:

- Scope 1: Emissions from the vehicle fleet
- Scope 2: KRAIBURG TPE’s largest sector comprises scope 2 emissions, which are attributable to the purchase of energy (electricity, gas), among other sources.
- Scope 3: Business trips

Emissions for raw materials, shipping, IT, etc. are not taken into account. The company aims to perform thorough accounting for the 2022 reporting year.

Specific CO₂e emissions have been reduced by 30% in relation to the amount produced. In 2021, additional exceptional savings were made due to the global situation. The three major factors can be traced to three main causes:

- Improvement of energy efficiency
- Lower CO₂e emission factors in Germany’s electricity generating system
- Generation of PV electricity on the premises



The course of direct and specific emissions generated by KRAIBURG TPE at the Waldkraiburg site. (Source: Internal documentation)

Energy consumption

To save resources in the long run, KRAIBURG TPE is pursuing an energy policy that aims to avoid unnecessary energy consumption and maximize efficiency. An electricity plan has been developed to implement this policy. Consumption is regularly checked using a detailed measuring system. In summary, it can be stated that the specific energy consumption, which includes electricity and gas consumption, increased by 4.3% to 409 kWh/t in the 2021 reporting year. The specific energy consumption has decreased by a total of 8.6% during the last eight years. To ensure the best possible energy efficiency over the longer term, the 2030 energy strategy was completed. Key issues such as optimization of facilities and charging infrastructure for electric mobility are currently worked on.

Renewable energies

Germany's electricity generating system is becoming more sustainable and the proportion of renewable energy consumed is growing. In 2021, KRAIBURG TPE was able to generate a total of 129.5 kWh emission-free power by expanding the surface of its photovoltaic system in 2017. This reduced the carbon footprint by 47.4 tonnes of CO₂e.



The development of KRAIBURG TPE's generation of renewable energies on the premises between 2016 and 2021 shows a positive trend. (Source: Internal documentation)

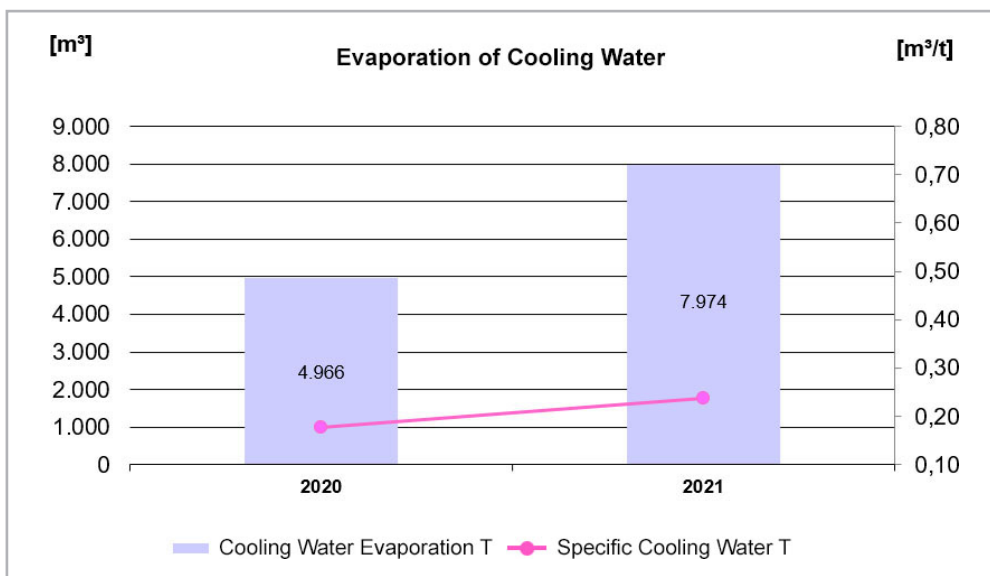
Environmental conditions

The standard for environmental management systems, ISO 14001:2015, requires different environmental conditions to be monitored. The overarching objective is to recognize environmental changes earlier and better and to react accordingly. KRAIBURG TPE is making efforts to minimize the influence its business activity has on regional biological diversity. For this purpose, compensation areas are being created to keep developed land use low. A flower strip was already planted in 2019 to enhance the biological value of the premises. It is intended to expand the flower strip.

No accident affecting the environment occurred during the 2021 reporting year.

Water consumption

KRAIBURG TPE is monitoring the specific water consumption, aiming to continuously reduce it. Over the past several years, the company has been able to keep it at a constantly low level. In 2019, optimizing the cooling towers in Plant T made it possible to substantially reduce the amount of vaporized water. The positive trend from 2019 to 2020 was not sustained in the 2021 reporting year. KRAIBURG TPE is working through this scenario.



The amount of cooling water vaporized in 2020 as compared to 2021. (Source: Internal documentation)

Saving resources by circular economy

Circular economy is a major issue the plastics industry in general and KRAIBURG TPE in particular are focusing on. The discussions on plastics waste in the seas including microplastics in the air, soil and water gain momentum in society, politics, and industry. Plastics waste that is not disposed of or recycled in an ecologically sound way poses an increasing threat to the entire ecosystem and also to humans through the food chain.

According to the definition of the EU parliament, circular economy is an economic system in which existing materials and products are shared, leased, reused, repaired, refurbished, and recycled as long as possible. In this way, the life cycle of products is extended, and waste is reduced to a minimum.

This means a change in the economy from a linear model to a regenerative system with closed circular systems driven by renewable energies. But the idea of recycling and circular systems must not be limited to the company's own business activities. The social change from a linear economic system to sustainable thinking and acting in closed circular systems must also take place outside one's own company.

In the context of circular economy, KRAIBURG TPE pursues the following aims:

- Stronger focus on the development of innovative product solutions that contribute to the circular economy. Increasing the proportion of sustainable products in the medium and long term
- Expanding recycling competence in the company
- Strengthening the focus on circular economy in cooperation with partners, which includes activities such as responsible procurement of raw materials (supply chain management) and working together with partners on circular products.

The use of recycled materials and bio-based raw materials is increasingly important due to legal requirements as well as customers' demands. The first compounds are already available worldwide at KRAIBURG TPE. Suppliers are involved in the procurement of sustainable raw materials right from the start.

Along with using sustainable raw materials, taking the end of product life into account is given greater attention during the early planning stages of products (such as design for recycling). For this purpose, considerations are made on how to keep products and materials longer in the system, for example, by reusing, repairing, remanufacturing, or recycling them.

New business models that shift emphasis from products to service are meant to help increase resource efficiency and contribute to decarbonization.

KRAIBURG TPE closes material cycles not only externally but also in-house: The company has been operating an in-house recycling system for decades. Almost all TPE waste (such as returns, starting material, etc.) is recycled instead of being disposed of, with almost 100% being reused in the production process. Waste that cannot be recycled is duly and properly disposed of in an ecologically sound way.

Waste

A major aim is to reduce and avoid waste and emissions wherever possible. The law on circular economy and waste in Germany regulates due and proper waste disposal for all manufacturers and owners of waste as well as all waste disposal companies.

The principle of "avoidance is better than recycling and recycling is better than disposal" applies. The specific quantity of waste has remained at a constantly low level in recent years. In 2021, the value amounted to 11.92 kg/t.

Social aspects

KRAIBURG TPE always gives top priority to the safety and health of the people in every situation. This is the foremost principle of safety culture. The major focus is on our staff members' health and well-being but also on protecting the whole society against negative impacts of business activities.

KRAIBURG TPE's success is based on its staff members. The company has therefore established clear guidelines for protecting and supporting them.

KRAIBURG TPE gives special attention to the following fields of activity

- » **Values and culture:** Focus on respect, trust and participation
- » **Health and safety:** Prevention of accidents
- » **Diversity and equal opportunity:** Equality and a sound corporate culture
- » **(Further) training:** Staff members are the most valuable asset and are trained in-house and externally
- » **Work-life balance:** A well-adjusted work-life balance is desirable

Occupational safety and health

Measures for occupational safety and health can help increase a company's competitiveness. If properly implemented, prevention measures will prevent accidents, reduce periods of absence and improve employees' state of health. The aim is to recognize possible dangers in advance.

Forward-looking analyses enable everyone responsible to collaborate to recognize imaginable risks. Individual risk factors are assessed in close coordination with the safety officer. Preventive protection targets are agreed based on these risk factors to minimize identified risks.

Occupational safety and health / accidents

If accidents occur despite extensive safety measures, their causes are examined in detail. KRAIBURG TPE endeavors to avoid a repetition of such incidents. Relevant results will be analyzed together with the persons involved. The findings will be used to take suitable prevention measures.

The accident key figures are important indicators for the accident risk at the Waldkraiburg site: The Lost Time Injury Frequency (LTIF) shows the number of accidents per year that cause the employee to be absent: The positive change in the trend for key accident figures (LTIF, 1000-person rate) cannot be sustained for 2021.

KRAIBURG TPE looks after its members of staff and the neighbors and gives top priority to health aspects. To maintain this welfare, KRAIBURG TPE performs regular noise measurements.

Management of hazardous substances

Based on an in-house guideline on hazardous substances, it is ensured that no harmful raw materials (e.g. carcinogenic, mutagenic, or acutely toxic substances) are used at KRAIBURG TPE. The company's "substitution of hazardous substances" work group is working intensively on the possible substitution of hazardous substances used. The aim is to substitute less critical or uncritical substances for hazardous substances.

Fire and explosion protection / emergency management

KRAIBURG TPE is constantly further expanding its knowledge on hazard prevention and is prepared to cope with possible emergencies. Thinking beyond the boundaries of its site, KRAIBURG TPE also takes customers, neighboring companies and the town into account and includes the local authorities in the planning process. In addition to evacuation assistants and floor wardens, there are numerous emergency managers at KRAIBURG TPE. A central crisis management team was established in 2015.

Practical exercises are essential for the success of hazard prevention concepts should an emergency occur. Emergency systems are therefore regularly checked, and the procedures are practiced with the crisis team, emergency manager, staff members, fire department and necessary rescue forces. External observers analyze the practical training exercise, and improvement measures are derived from it.

2021 input-output report

The input-output report (corporate environmental performance report) is a central part of environmental reports recommended by the ISO 14001:2015 standard. The basic idea of such a report is to assess the impacts of business activities on the environment. This report transparently presents the fundamental parameters of KRAIBURG TPE's business activities.

The following key indicators serve to monitor and control performance. They are partly deduced from EMAS standards (ecological management system and audit scheme) and are related to the direct environmental protection, energy, and occupational safety and health aspects of the company. These measurable key parameters enable a transparent presentation in relation to constant improvements and their effectiveness.

2021 input-output report for the Waldkraiburg site

Input	Quantity	UQ	Output	Quantity	UQ
Material consumption	35.020	t	Production quantity	34.282	t
Production					
			CO₂ emissions	4.734	t
			Direct CO ₂ equivalents (natural gas)	484	t
			Indirect CO ₂ equivalents (electricity)	4.250	t
Energy	14.184	MWh	Waste	417	t
Electricity	11.742	MWh	Non-hazardous	361	t
Natural gas	2.442	MWh	Hazardous waste	56	t
Water	30.037	m³	Wastewater	30.037	m³
Drinking water	11.902	m ³	Sewage system	20.804	m ³
Fully softened water	18.135	m ³	Evaporation	9.233	m ³

**Key indicators for the 2021 environmental performance
at the Waldkraiburg site**

Indicators	Definition	Dimension	Value
Material efficiency	Output/ material consumption (production)	t / t	0.979
Electric energy efficiency	Electricity/ output	kWh / t	335
Cooling efficiency	Evaporation heat/ output	kWh / t	181
Heating efficiency	Heating energy/ (degree-day value x heated area)	kWh / (Kd x m ²)	57
Water	Freshwater/ output	l / t	890
Emissions	CO ₂ equivalents/ output	kg / t	157
Waste	Waste/ output	kg / t	11.92
Rate per 1000 employees	Number of notifiable accidents / 1000 MA	1	15.73
LTIF	Lost time injury frequency / year	1	14.33

Conclusion

Although the 2021 reporting year brought many challenges, efforts involving sustainability have been further intensified. High priority was given to making an inventory and defining qualitative targets. This was conducted at both business and product level. Sustainability has been integrated into the corporate strategy aiming to establish it as a core competence by 2023. To advance progress on this matter, local sustainability boards have been established, which design and coordinate measures and make sure that the objectives are achieved. Establishing sustainability as a core competence by 2023 describes KRAIBURG TPE's project to further expand its role as competence leader among TPE manufacturers. The company supports the project by further developing its portfolio on the product side: Customers of KRAIBURG TPE receive reliable and transparent solutions that meet customers' requirements and provide added value with respect to the development of sustainability.

Mandatory reporting under the Corporate Sustainability Reporting Directive and the EU Taxonomy Regulation has already become a central issue for KRAIBURG TPE and will be of major importance in the coming 2022 reporting year. A long-term standardization approach will improve transparency and measurability so that individual measures in areas such as health and safety at work, resources and circular economy, climate and energy and many others can be assessed better and readjusted. Other important key issues for the next reporting year also involve the following fields of activities: Improvements in energy, climate, and water management, developing a circular management system including ISCC PLUS certification and raising our level of ambition with respect to rating platforms CDP and EcoVadis. In addition, legal compliance is ensured. Raising the awareness of safety at work and implementing safety culture has also top priority. It is also intended to promote the development of expertise and the transfer of knowledge in the field of sustainability across departments.

Despite the big challenges we are facing, we will continue to expedite change in order to remain a reliable contact as a TPE supplier. Do you have any ideas or suggestions? Just get in touch with us and let's talk!



Dr. Monika Hofmann
Director EMEA at KRAIBURG TPE
Waldkraiburg, 2022

Europa, Naher Osten, Afrika

KRAIBURG TPE GmbH & Co. KG
Friedrich-Schmidt-Str. 2
84478 Waldkraiburg, Deutschland

Tel.: +49 8638 9810-0
E-Mail: info@kraiburg-tpe.com

Asien Pazifik

KRAIBURG TPE TECHNOLOGY (M) SDN.BHD.
Lot 1839 Jalan KP B 6
Kawasan Perindustrian Balakong
43300 Seri Kembangan, Selangor, Malaysia

Tel.: +603 8934 1393
E-Mail: info-asia@kraiburg-tpe.com

Amerika

KRAIBURG TPE Corporation
4365 Hamilton Mill Road
Buford, GA 30518, USA

Tel.: +1 678 584 5020
E-Mail: info-america@kraiburg-tpe.com

