



Rheinland-Pfalz

MINISTRY OF
ECONOMIC AFFAIRS,
TRANSPORT, AGRICULTURE
AND VINICULTURE

DECLARATION OF THE ENERGY-INTENSIVE INDUSTRY OF RHINELAND-PALATINATE

PRESERVING COMPETITIVENESS – SECURING CREATION OF VALUE – FURTHERING TRANSFORMATION



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PREAMBLE

Rhineland-Palatinate is a leading industrial location in Germany. Industrial companies here make decisive contributions to value creation, innovation and jobs and, thus, to the prosperity in our federal state. That's why I seek to protect the industrial location and expand it wherever possible. The location is highly energy-intensive, owing to its industry structure. The industrial sectors of chemistry, glass, foundries, ceramics, and paper come to mind here. At the same time, businesses in this sector play an integral role in a host of industrial value creation processes in Rhineland-Palatinate, Germany, and Europe on the whole.

The transformation, that is, attaining the Paris climate objectives and building a circular economy, but also the disruptions in the international energy markets, has put pressure on the local energy-intensive companies in particular. It is, therefore, key to examine and develop the framework conditions to allow the energy-intensive businesses – whether global actors or SMEs – to carve for themselves an internationally competitive position. For it is only if businesses are competitive at the international level that they will be able to play their important role for the economy and society in a sustainable and successful manner.

A successful and sustainable transformation of our industrial location is possible *only* and, critically, *through* the agency of energy-intensive companies. On the one hand, these industries are enablers of a great many secondary products that are key for the energy transformation process, resource efficiency, regional recirculation or our health care system. On the other hand, the transformation will misfire both



in ecological and economic terms if these businesses are to move their factories to places outside of Europe.

I am very happy that we – more than 50 companies, chambers, and associations – managed to highlight the importance and function of the energy-intensive companies for our industrial location, derive a 10-item agenda and, at the same time, come up with several illustrative value creation examples as to the relevance of these industries for our entire value creation process.

It is on this basis that we are looking to actively participate in the months ahead at both the national and European level to safeguard our international competitiveness and the industry.

Daniela Schmitt

Minister

Ministry of Economic Affairs, Transport,
Agriculture and Viniculture of Rhine-
land-Palatinate

RHINELAND-PALATINATE'S INDUSTRY – A GUARANTOR FOR PROSPERITY, INNOVATION, AND JOBS

The industry is the cornerstone of Rhineland-Palatinate's economy. It is a mainstay for international competitiveness, jobs and, hence, the prosperity of our state. The industrial enterprises are catalysts and drivers of innovation, export, and the service sector. With the production sector contributing just short of 33% to the gross value creation, Rhineland-Palatinate is in the top bracket of all federal states, and is significantly above the national average. Entrepreneurs and employees here have contributed significantly to this success with their commitment and creativity. While an industrial employee generated about EUR 169,000 of annual revenue about 30 years ago, this figure has increased two and a half times in the meantime. This goes to show the outstanding significance of the industry for the generation of taxes in

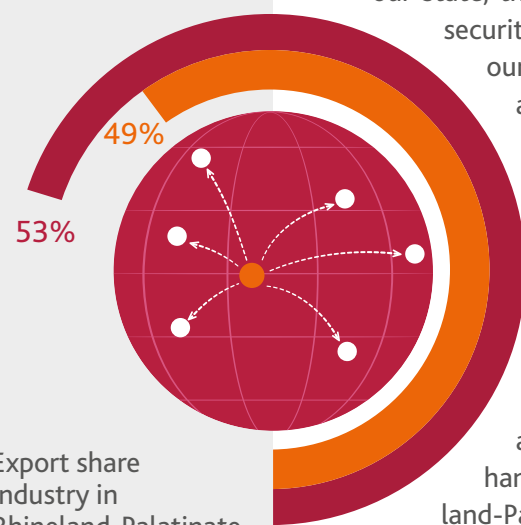
our state, the stability of our social security systems and, hence, our prosperity in Germany and in Rhineland-Palatinate. The industry in Rhineland-Palatinate is dominated by sectors like chemistry, pharmaceuticals, vehicle and machine construction, rubber and plastic ware, and metal. On the one hand, companies in Rhineland-Palatinate are highly successful international exporters with a share of 53% (national average: 49%); on the other hand, this means that 47% – in other words, half of the goods

produced – remain at home and are processed here. These local value creation chains should be preserved no matter what.

Because, beside the major, globally operating industrial enterprises, it is the small and medium-sized companies in particular – that is to say, the industrial middle class – that is based in Rhineland-Palatinate. It comprises 98% of industrial companies in Germany, and resides in Rhineland-Palatinate in particular. Thanks to its market savvy, innovative strength, and entrepreneurial decisiveness, the industrial middle class has successfully conquered niches in the global market. In particular, the economic and technological interplay between major, internationally operating companies with the industrial middle class, which occupies a highly agile position in the market, is a prime prerequisite for the rapid, flexible, and efficient development of new procedures and products and, therefore, for securing the international competitiveness of our industrial location on the whole. What is more, Rhineland-Palatinate lies in the heart of Europe, and its industrial enterprises – with their very high export share – are an artery in a host of value creation chains, value creation networks and, hence, industries throughout Europe.



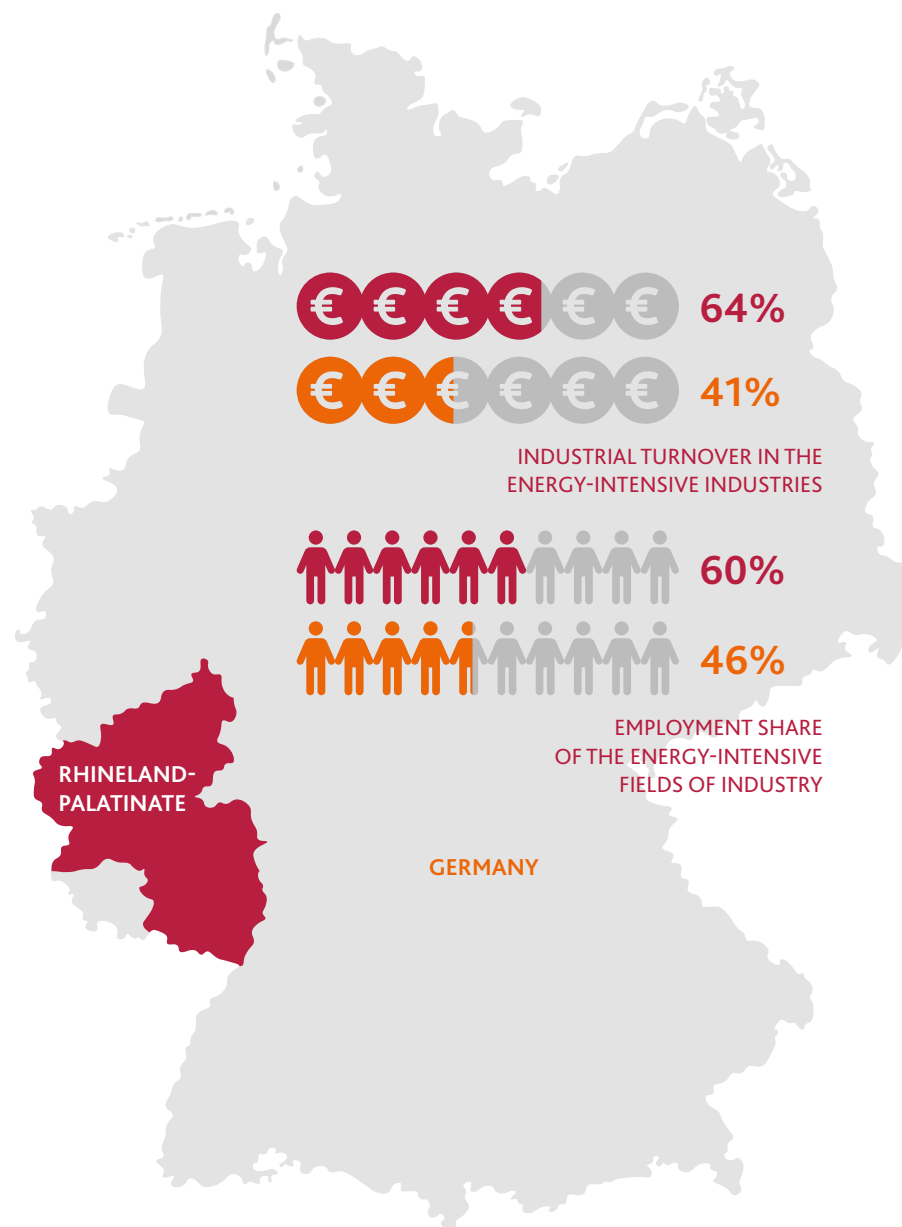
While an industrial employee generated about EUR 169,000 of annual revenue some 30 years ago, this figure has multiplied by two and a half in the meantime. With respect to price-adjusted producer prices, this means a real growth of about 25%.



- Export share industry in Rhineland-Palatinate
- Export share in the national average



THE ENERGY-INTENSIVE INDUSTRIES – AN IMPORTANT LOCATIONAL FACTOR IN RHINELAND-PALATINATE



Having said this, its local mixture of industries makes Rhineland-Palatinate an energy-intensive location. The portion of energy-intensive industries¹, such as those surrounding products made from glass, stone and clay, ceramics, tinplate, paper, cardboard, rubber, and plastic, as well as the chemical industry, is above the national average. In Rhineland-Palatinate, the energy-intensive industries generate 64% of the entire industrial turnover, vs just 41% at the national level. The portion of employees in the energy-intensive industries is 60% in Rhineland-Palatinate, vs 46% in Germany. The intermediate services and products offered by the energy-intensive companies in Rhineland-Palatinate, in particular, form the basis for a host of other value creation processes and their end products, which have led to processors of base materials setting up shop in Rhineland-Palatinate. Being highly export-oriented, the energy-intensive industries in Rhineland-Palatinate play a decisive role in the context of the European value creation chain: from Rhineland-Palatinate to Europe – and that's what we want to maintain.

¹ Differentiation criterion: portion of energy costs of a field of industry in its gross production value, i.e., the value of all products of this field of industry. Therefore, those fields of industry are classified as energy-intensive whose share of energy share is above the industry average.

THE ENERGY-INTENSIVE INDUSTRIES – ORIGIN OF ELEMENTARY PRODUCTS OF OUR LIFE

It's the rapid and immediate interplay between energy-intensive companies and other businesses along the value creation chain that allows these development and innovation partnerships to create technically highly innovative solutions and products. Solutions and products which have no equal in the global markets and offer outstanding usefulness both for consumers and our society as a whole:

- No industrial-scale vaccine production without high-purity glass and the necessary know-how to fill it
- No active substances for medicines or dialysis filters without ammonia, acetylene or naphtha-based base materials
- No food supply security without recycled tin cans
- No medical masks, no medical products for nursing care and hospitals, such as bed liners, swabs, etc. without paper and pulp industry

More often than not, we need energy-intensive products to get the transformation towards climate neutrality off the ground:

- No casting of wind turbine components without moulded and non-moulded fire-resistant products
- No foundations for wind power stations without cement
- No rotor blades without paints and resins
- No high-grade steel for electric vehicle construction without lime
- No extension of the energy grids under the energy transformation without high-quality, durable ceramic insulators
- No high-performance drive batteries in the automotive field without cathode materials provided by the chemical industry

Interplay between energy intensive businesses with other companies along the value creation chain



ATTAINING THE CLIMATE GOALS IN A DRASTICALLY CHANGED ENERGY AND ECONOMIC POLITICAL FRAMEWORK

Attaining the climate goals is one of the key objectives of the industry in Rhineland-Palatinate and in Germany. After the enactment of the exit from nuclear and coal energy, the energy supply of the industry, including but not limited to the energy-intensive industrial enterprises, has been based on sustainable energies and – as a bridge technology – natural gas. Electrification of industrial processes is being pushed forward insistently and steadily. Furthermore, hydrogen and its derivatives will be playing an essential role in the future energy system of the industry in Germany and Rhineland-Palatinate. The increasing electrification of industrial plants, use of hydrogen, and decarbonisation of industrial processes have led – and will continue to lead in the next ten years – to a substantial need for investments and, accordingly, a high cost burden for the industry. What's more, Russia's attack on Ukraine against international law has brought significant

disruptions in the global energy and raw material markets which will continue to have an effect in the coming years. The impact on the energy markets in particular may, on the one hand, put the supply security of the energy-intensive industrial enterprises at risk in the short run and, on the other hand, has already precipitated massive cost increases in Germany. Natural gas, as a critical raw material and energy carrier, will continue to be two or three times as expensive as it is in the United States and China. Even granted that the energy supply based on renewable sources will see a significant rise in the years ahead, the cost of transforming the energy grid means that energy costs in Germany will continue to remain an adverse competitive factor at the international level. For energy-intensive production operations faced with international competition, the cost situation in Germany and Rhineland-Palatinate has already become an existential threat!



VALUE CREATION NETWORKS OF ENERGY-INTENSIVE INDUSTRIES UNDER EXISTENTIAL PRESSURE

If Germany as an industrial location, continues to fall back in terms of international competitiveness for energy-intensive companies and their products, these companies, or rather, their production operations will, gradually in most cases, but steadily and increasingly, move out. Because of the close mutual ties between companies, production and innovation partnerships, supplier networks (see above), and collaborations with industry-related service providers along the entire value creation chains and value creation networks will dematerialise, bit by bit. This will lose the location innovation and development potentials and, to some extent, cost advantages. The immediate upstream or downstream, medium-sized businesses which cannot shift their development or production operations are especially affected. When the production of energy-intensive precursor products shifts toward non-European countries, appropriate supply chains need to be established which, in turn, carries new strategic and logistic challenges and may cause unilateral dependencies primarily among the industrial middle class. It will also be critical to identify and manage potential risks along these new supply chains to be able to sail clear of and/or handle disruptions. Moreover, scientific expertise will migrate away from universities, as there will no longer be sufficient demand for certain competencies in the field of energy-intensive technologies in Germany as an industrial location. Also, it will become ever more challenging in technical, logistic and economic terms to set up integrated value creation pro-



cesses in the context of a circular economy in Germany and Europe. This applies to Rhineland-Palatinate as an industrial location, Germany, and the European Union as a whole. These interdependencies need to be addressed and accounted for with an eye on Europe's economic and social resilience as well as its technological sovereignty.

Our response in Rhineland-Palatinate can only be us – policy makers, economic actors, and the people – joining forces and actively working toward the transformation to secure a competitive position. The reason is clear if we look at a few examples of local value creation chains:

FROM NATURAL GAS THROUGH AMMONIA TO VACCINE VIALS



"Ammonia is an important base material for BASF, and it's essential for a number of industries. At our plant in Ludwigshafen, we produce, besides sodium nitrate for glass production, ammonia-based, and thus secondary natural-gas products which are needed in nearly all industries. This includes the fields of energy, agriculture, pharmaceuticals, automotive, electronics, hygiene, body care, food, furniture, paints & coatings, textile, and others. That's why the green transformation may have a particular impact here at the starting point of the value creation chain. It gives me a good feeling that my work lets me contribute to so many sustainable solutions for the future."

MARINE BOUDOU, SPECIALIST BUSINESS MANAGEMENT
NITROGEN-BASED CHEMICALS



Ammonia is produced from natural gas and air in industrial-scale processes. The reaction between nitrogen and hydrogen is an energy-intensive process. 80% of the ammonia is used in fertiliser production, providing food security to billions of people on our earth. 20% of the ammonia is used for a broad range of secondary products, which are needed in almost all industries. In Ludwigshafen, BASF produces and processes ammonia into nitric acid and, further down the road, to ultra-pure sodium nitrate, among other products. This sodium nitrate is then sent to Schott in Mainz.



At the Mainz plant, SCHOTT produces special glass tubing for vaccine vials, among other things. The silica sand needed for glass production naturally holds very low amounts of iron-containing components. These iron compounds may affect the glass colour. This can be obviated by adding sodium nitrate in the smelting process at 1700°C, leaving the glass clear and transparent.



"The local production of glass and glass ceramics here in Rhineland-Palatinate is not just an economic cornerstone. It's a symbol of our regional identity and independence. Shifting the production abroad would mean a disruption of the fine-tuned value creation chains with the customers in our region that took years to forge, and it may lead to a loss of know-how and quality."

We at Schott do understand our responsibility for the community, and we seek to continue the glass making tradition in Rhineland-Palatinate to strengthen the economy and secure jobs. That said, this will take the right political framework conditions.

MARCUS KNÖBEL,
SITE MANAGER MAINZ
AND DIRECTOR BUSINESS
UNIT ADVANCED OPTICS



Schott-made vaccine vials are used, among other things, by the company BioNTech in the production of vaccines. When it comes to the swift and safe delivery of effective drugs to people all around the globe, the energy-intensive precursor and end products of the chemical and glass industry are key to the solution of these challenges.



BASF ranks as one of the largest chemical companies internationally, with a global workforce of approx. 112,000 at more than 230 production sites. BASF's portfolio ranges from chemicals and materials through industrial solutions, surface technologies, nutrition & care to agricultural solutions. Ludwigshafen is home to the company's headquarters and also the group's largest Verbund site. About 39,000 employees work here.



International technology group SCHOTT manufactures special-purpose glass, glass ceramics, and polymers. Whether flexible glass for folding smartphones, glass ceramic mirror carriers for the world's largest telescopes or laser glass for nuclear fusion solutions: many high-tech applications rely on SCHOTT products. Schott has about 17,100 employees in more than 30 countries (including 2,900 at the corporate headquarters in Mainz). The company is owned by the Carl Zeiss Foundation which uses the dividends for science promotion.

FROM TINPLATE TO PARTY BARRELS – A WELL-ESTABLISHED RECYCLING CYCLE

"In the form of cans, our tinplate preserves food without cooling chains, and 90% of it is recycled already today. This means that tinplate is of systemic importance to secure the resilience of the European food supply."

DR PETER BIELE, CEO
THYSSENKRUPP RASSELSTEIN GMBH



Westerwald Brauerei based in Hachenburg is 100% climate neutral via compensation acc. to Scope² 1, 2 and 3. The company is striving to reach this goal under its own steam until 2030. That's why the family-run brewery in the 5th generation has been relying on the sustainably and regionally produced bluemint® Steel by thyssenkrupp Rasselstein GmbH for their 5-litre party barrels, besides a range of other measures.



Approx. 1,5 million tonnes of tinplate are produced every year in Andernach. Here, the supplied hot strip is rolled out extremely thinly on rolling trains. This process requires a lot of electric energy. In the annealing process that follows, the steel is heated up to 900°C using natural gas before a zinc or chrome plating is applied.

The steel produced by thyssenkrupp Steel Europe AG is processed in Andernach into tinplate using electric energy and natural gas – an energy-intensive process. 75% of the tinplate end up in the food industry as packaging steel, where it ensures a long shelf life of food products. Many modern food products could not exist if it wasn't for tin cans. Thus, the food security of billions of people on our earth is secured. The remaining 25% of the tinplate are used in a broad spectrum of secondary products, especially in chemical-technical containers such as paint buckets or deodorant cans.



thyssenkrupp Rasselstein GmbH is a global leader in the supply of high-grade, precision-made packaging steel. About 1,5 million tonnes of packaging steel per annum are produced at the Andernach factory, which is the world's largest production site of its kind. 2,400 employees serve about 400 customers in 80 countries and a multitude of markets, including manufacturers of food and feed cans, beverage and aerosol cans, containers for chemical-technical filling materials, and crown and screw caps.



With some 90 employees and 13 apprentices, the Westerwald Brauerei is an owner-operated, family-owned brewery in its fifth generation. The family-owned brewery stands among Germany's first breweries to present a common-good record, thus laying the foundation for the company's strategic focus on a sustainable and ethical way of doing things. What is more, the medium-sized brewery went 100% climate neutral in October 2021 via compensation with a certified climate protection project according to Scope² 1, 2 and 3.

"Long-term partnerships among equals is what we're aspiring for. With a regional, sustainable raw material and dependable partners at our side, I see that a large number of our products are indeed future-proof. In 2023, Westerwald Brauerei was dubbed by Zukunftsinitiative Rheinland-Pfalz 'Company of the Future' for its sustainable corporate approach."

JENS GEIMER, MANAGING
PARTNER OF WESTERWALD-BRAUEREI



Westerwald Brauerei's party barrels are popular with B2B customers throughout Germany and the country's direct neighbours. This, of course, is first and foremost owed to the great Hachenburg beers, but the sustainably and endlessly recyclable packaging, too, has been contributing to this success made in Rhineland-Palatinate.

² There are areas along a value creation chain where businesses or organisations emit greenhouse gasses (e.g., energy generation, intermediate products, logistic services, etc). These are referred to as 'scopes'.

MAKING WIND TURBINES MORE DURABLE WITH SAND AND SODA

"In Ludwigshafen, we make waterglass out of sand and soda. The production of our molten glass takes high temperatures, above 1,400°C. We are already working toward switching our energy sources to a sustainable basis. This will secure our future in the long run as an employer and provider of innovative products. Large amounts of our water glass are processed into secondary products, for example, by GRACE in Worms."

MANUEL HECK, PRODUCTION TEAM
WATER GLASS IN LUDWIGSHAFEN



GRACE plant in
Worms



Wöllner ranks as one of Europe's largest family-run water glass providers. Water glass is the only glass which can re-dissolve under pressure and temperature. Colourless, aqueous sodium/potassium/lithium silicate solutions are referred to as water glass. While waterglass belongs to the oldest industrially-made chemicals, its properties and advantageous toxicological profile mean it's still up to date.

New applications keep being developed on this basis. For example, water glass is used in innovative binders, paints, welding electrodes, paper sleeves, insulation materials or sustainable construction materials.



The manufacturing process of powder desiccants involves the steps crystallisation, drying and high-temperature processing, all of which are energy-intensive. The Worms plant is already prioritising energy efficiency. Exhaust heat flows are recycled, waste water is fed back into the production processes "wherever possible".



Grace's Worms-made SYLOSIV® products are used in the production in a variety of polyurethane products like floorings, coatings, paints, moulded parts, electric insulations, glues, and many more. In this manufacturing process, the Ludwigshafen waterglass is a primary raw material for the Grace products.

"I'm proud that we at Grace are making a contribution toward the energy revolution, seeing that our products are incorporated, among other things, in sealants and glues for wind turbines. SYLOSIV® helps fine-tune the properties of the end products and supports the production process by absorbing unwanted ambient moisture."

LINDA PASTUSCHKA, PRODUCTION ENGINEER,
ADSORBENTS

woellner

Wöllner is an independent, family-owned company in the field of applied chemistry and has approx. 150 employees. Established in 1896, Wöllner stands as one of the oldest chemical companies in the industry. Production is located at the Wöllner main plant in Ludwigshafen, in Bad Köstritz, and in Gratwein-Straßengel. As a leading supplier of soluble silicates, process chemicals, and special additives for industrial applications, our customers include both international groups and medium-sized businesses.

GRACE

A company of the Standard Industries Group, Grace is a global leader in the field of catalysts, technical materials, and fine chemicals, and has more than 4,500 employees, 22 production sites, and customers in more than 100 countries. Our production site in Worms is our European head office. It was founded in 1972. There are 950 employees today, many of whom started out as our apprentices and then went on to carve a career. Our Worms factory produces the full gamut from catalysts for chemical processes through silicic acids for drugs, coatings, food and beverages up to renewable diesel fuels.



The Sika company produces adhesive, sealing, insulation, and reinforcing solutions for the wind turbine industry, from foundations right up to rotor blade tips. Additives like Grace's SYLOSIV® facilitate the manufacture of products that stand up to the rough climatic conditions and are very long-lived.

FROM STAMPING, CUTTING AND HARDENING TO THE PERFECT CAR SEAT

"The critical interface between the driver and the vehicle is the seat. We rely on our highly automated, efficient production plant in Rockenhausen to deliver bespoke products for a multitude of car manufacturers in the heart of Europe and, hence, make a significant contribution to the resilience of the corresponding supply chains."

FRANZ-JOSEF KASPER, MANAGER
FOR CONTINUOUS IMPROVEMENT,
ROCKENHAUSEN PLANT



The manufacturing process for our components is very energy-intensive. On the one hand, our hydraulic fine-tuning presses must exert pressing forces up to 1,100 tonnes delivered by electric aggregates, and on the other hand, the downstream hardening processes, which take place at temperatures of approx. 1,000°C, consume a lot of energy.



"I am one out of 1,400 apprentices who received and receive their training here at the Rockenhausen plant since 1964. Thanks to our qualifications in a multitude of technical and commercial vocations and dual degree programmes, we are the foundation for innovations in the car seats of tomorrow."

MARCEL DYCK, APPRENTICE,
ADIENT TEACHING WORKSHOP
ROCKENHAUSEN



At its Rockenhausen plant with a ground area of 54,000 m², approx. 1000 employees and about 80 apprentices and dual students, Adient produces metal parts for car seats. The high-precision stamping process using the fine cutting method with tools of the company's own development and making, followed by hardening of the parts and assembly via laser welding are all highly energy-intensive processes. The metal parts are the key elements for adjusting the seats, and guarantee the safety of the vehicle occupants.

Our products are key components of car seats. They are critical both in view of the many adjusting possibilities of a seat and of the safety systems. The necessary, highly complex tools are developed and fabricated at the in-house tool production department.

Our products are based on standardised, modular designs, and they're compatible with a broad range of car brands and models. This applies to front and back seat structures, rails, backrest adjusters, height adjusters, and locks.



We are a market leader in the field of complete seat systems and support all major vehicle manufacturers such as Opel by delivering smart solutions providing safety, sustainability, comfort, and style.



Adient is a globally leading supplier of car seats. With more than 70,000 employees in 30 countries, Adient has more than 200 plants all over the world. The company's global portfolio ranges from single component parts through functional and safety components up to full seat systems. From development to serial production – Adient's methodological competence and vertical integration guarantees individual solutions tailor-made to customer requirements. Ranking among the region's leading employers, the plant has a teaching workshop with a variety of qualified technical and commercial jobs.

FROM WASTE PAPER TO HIGH-QUALITY PACKAGING: CIRCULAR ECONOMY PUT INTO PRACTICE

"A manufacturer of recyclable products, Progroup is a part of the resource-saving circular economy. Our corrugated cardboard raw paper is made from waste paper, and the final product has excellent recycling capabilities. This is how we show, together with our partners, how successfully circular economy works."

MAXIMILIAN HEINDL,
PROGROUP CHAIRMAN

Progroup manufactures most of the corrugated cardboard raw paper required for the production of corrugated cardboard formats in its own, cutting-edge paper mills. Production is resource and energy-saving. Almost all of the raw material paper is sourced from European and, preferably, from local suppliers. The water circuits are connected to 2 of 3 of Progroup's paper machines, meaning that 80% less water is needed in the manufacturing process. At one site, the required energy is generated from production residues and waste materials in a waste-to-energy power plant.

Most of Progroup's customers are medium-sized packaging manufacturers that lack production capacities for corrugated cardboard formats of their own. Progroup only produces corrugated cardboard paper and corrugated cardboard formats but no packaging, meaning Progroup and its customers grow as partners rather than being competitors.

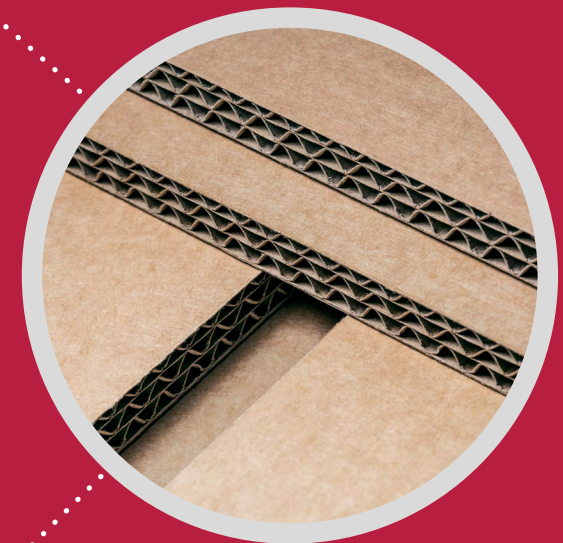
G&G Preiße GmbH in Petersburg near Pirmasens produces individual, high-quality packaging from corrugated cardboard formats which see use in many fields of industry. Offering excellent recyclability, corrugated cardboard packaging is mostly processed at the end of its service life and reused via waste separation processes. What's more, corrugated cardboard is a sustainable alternative to plastic packaging. A tradition of quality has made Preiße a cutting-edge fabricator in the field of corrugated cardboard. All process steps are integrated under one roof, from CAD-assisted conceptual design of the packaging through automated transport routes up to the state-of-the-art production plants.



Landau-based Progroup AG is a European leader in the production of corrugated cardboard raw paper and corrugated cardboard. Since its establishment in Offenbach/Queich in 1991, the family-owned company with factories in six European countries has subscribed to a consistent innovation strategy based on technological leadership and use of eco-friendly production methods. With 1,720 employees, the company generated a turnover of about 1,3 billion euro in 2023.



G&G Preiße GmbH is an owner-managed, family-owned company in its 5th generation with headquarters in Petersburg in the Südwestpfalz district. Since 1907, Preiße has specialised in the development and manufacture of packaging products. Corrugated cardboard is inexpensive, versatile and, most importantly, sustainable and light on resources. More than 200 employees work toward the company's success and generated a turnover of approx. 120 million euros in 2023. Since its inception, Preiße has evolved into an innovative player. The company has a manufacturing capacity of more than 160 million square meters of corrugated cardboard.



WITH GRANULATE AND FILM MADE IN WORMS TOWARDS ENERGY-SAVING WINDOWS

"Worms is crucial for Röhm – not only for our interlinked production but also as a logistic hub for deliveries into the whole world and, in particular, into the region. The last few years have seen us making substantial investments into the Worms site, for example, to expand our production capacities or the construction of an innovation centre to coordinate our global research activities. With some 1,200 employees, Röhm is the biggest employer in town and is training about 90 young people.

DR ROBERT WEBER,
DIRECTOR OF THE WORMS PLANT, RÖHM



"The RENOLITE location in Worms, Rhineland-Palatinate, plays a key role at the international level when it comes to high-performance coatings for outdoor construction elements. It is also an important driver for the local economy. As an enterprise that was founded in Worms, we feel closely connected with the region. We create jobs, train 65 young people with great prospects, and are involved in Worms and surroundings."

STEFAN FRIEDRICH, MANAGEMENT EXTERIOR
SOLUTIONS IN RENOLIT

RENOLIT products made in worms include decorative high-performance films for refining and protecting surfaces. The RENOLIT film consists of different layers which may also come printed, depending on the respective design. The decorative base film is inseparably bound to a transparent PMMA layer. It protects the lower layers from UV radiation, thus providing lasting protection for the colour of the window frame.



Worms is Röhm's largest production and research site worldwide. Here the company produces, among other things, methyl methacrylate used to manufacture PMMA moulding materials. These granulates are

then mixed with special additives for added durability and UV protection. Next, the PMMA moulded material is processed into transparent film used as window profile screens. All things considered, this is an energy-intensive process.



"For more than 125 years, the name Kömmerling has been synonymous with quality and innovation. Connected with the region and internationally oriented, we develop the right solutions for tomorrow already today at the main office of our principal brand Kömmerling. We seek to set standards for a sustainable creation of value and circularity of high-quality plastic products. With our products, we're making a significant contribution to energy efficiency in the field of construction and refurbishment."

DR PETER MROSIK, MANAGING
PARTNER PROFINE GMBH

With a workforce of about 1,200, profine GmbH produces plastic profiles for windows and doors, as well as panels, at its largest location in Pirmasens. As the largest industrial employer in town, the company qualifies about 150 young people on location. The profiles are extruded from PVC granulate, by default in white.

With the demand for coloured windows and doors ever increasing, more and more profiles are refined using high-quality films. That's because planners and house builders are looking for increasingly individualised solutions for the design of different façades and architectural styles.



RÖHM

With about 2,900 employees working at production and research facilities in Europe, North America, and China, Röhm is a leading manufacturer in the domain of methacrylate chemistry. The company supplies customers in a range of markets including automotive, construction or medical engineering: Röhm-made methacrylates and PMMA moulded materials allow a multitude of applications – from paints to coatings, car back lights, medical devices, aircraft panes and displays in household appliances or road markings.



The RENOLIT group is an international specialist for high-quality films, panels and other polymer products. Whether as decor, protective film or foil for self-adhesive applications – RENOLIT products refine surfaces, deliver sealing, protection and stability and offer a plethora of other advantages. With some 5,000 employees and over 30 manufacturing locations and distribution centres worldwide, the Worms-based group is a global leader in plastic processing.



profine GmbH – International Profile Group – is a global leader in the manufacture of plastic profiles for window and door applications, and a well-known supplier of visual cover systems and PVC panels. The group delivers to more than 100 countries and maintains a presence with 42 branch offices and selling agencies in 38 countries with its brands Kömmerling, KBE, and Trocal. Based in Pirmasens, Rhineland-Palatinate, the group of companies has about 3,500 employees worldwide.

FROM FLOW THROUGH DEAD-MOULD CASTING TO CONSTRUCTION MACHINES FOR ROAD CONSTRUCTION APPLICATIONS



"Environmentally friendly, resource-saving production has always taken centre stage at ACO Guss. That is why we keep investing in the modernisation of the plants and optimisation of processes. This helped us to achieve significant reductions in energy consumption and CO₂ emissions, documented and certified by our energy management system according to DIN ISO 50001. It's the closeness to our customers in particular that allows us, for mutual benefit, to develop and implement innovative solutions at a rapid pace."

STEFAN WEBER, MANAGING DIRECTOR ACO GUSS GMBH



Kaiserslautern-based ACO Guss GmbH uses inductive melting to turn scrap metals into high-quality iron. This makes melting an energy-intensive upcycling process. The iron is used to produce high-quality machine mould castings. Our casting products are the starting point of many value creation chains. The complex castings are used in nearly all branches of industry. This is exemplified by the castings for rolling trains, delivered ready for installation to BOMAG GmbH in Boppard.



As a sustainable high-tech company, ACO Guss is a leading European iron foundry. We make sophisticated castings, from classic, cast iron sewerage ware through high-quality strand castings up to ready-to-install, high-tech parts for wind power or railway applications.



Construction machines and technology partners for road construction and earthwork. With its machines and digitisation solutions, the company facilitates the efficient and responsible development of road and traffic infrastructures.



"For over 6 decades BOMAG has been producing construction machines in Rhineland-Palatinate, in which we've been working with a robust network of regional partners and suppliers. This strengthens our ability to innovate and the resilience of our supply chains."

Efficient machinery is sustainable, and it's the cornerstone of the construction site of tomorrow – with environmentally friendly technologies and low-emission drives that are effective resource savers. We review our energy management through regular energy audits, design solutions to minimise our CO₂ footprint, and strive toward more sustainability across all departments."

RALF JUNKER, PRESIDENT BOMAG GMBH



All sustainable construction measures have one thing in common: the foundation must be stable. This is why rolling trains are key to the construction process. BOMAG offers an ample range of rolling trains for any requirement. The heavy rolling train BW 211-5 comes to the fore whenever large-scale projects are at hand – whether densification work on undeveloped land or in road construction, inside or outside of cities.



FROM ENERGY-INTENSIVE AMMONIA TO SUSTAINABLE TIMBER CONSTRUCTION

BASF glue systems are supplemented with customer-specific services and systems engineering provided by Türrleim, and sold within up to 800 km. Having a limited shelf life due to their chemical properties, amino resins cannot be marketed at a global scale.



For more than a century, BASF has produced ammonia and secondary products at its Ludwigshafen factory. By specifically reusing the CO₂ released in the urea production process and based on renewable energies, the Ludwigshafen-made amino resins boast an extremely low CO₂ footprint.



"The production of amino resins as a part of the ammonia value creation chain is a significant contribution to climate-friendly timber construction. The timber industry has traditionally relied on a supply of raw materials that is as close to home as possible. Production at the BASF compound in Ludwigshafen, where we source our glue systems, reduces the CO₂ foot print along the entire value creation chain and makes glued timber construction even more sustainable."

TANGUY TRIPPNER, SALES MANAGER TÜRRLLEIM

Single wood lamellae are glued together to compensate growth irregularities of the wood and significantly boost load bearing capacity compared to massive wood. In this way, timber parts are evolving into increasingly important, ecological alternatives to steel or concrete components.



The evolution of glued timber constructions has unlocked a new dimension of sustainable building in the residential and industrial domain.

Türrleim and BASF have been relying on regional production and sale of wood glues since 1946. The business is being led into the future with renewable raw materials and products made with green power.



Ober-Grafendorf residential complex©
Rubner/Michael Liebert



BASF stands as one of the largest chemical enterprises in the world, with a global workforce of approx. 112,000 at more than 230 production locations. The BASF portfolio ranges from chemicals and materials through industrial solutions, surface technologies, nutrition & care up to agricultural solutions. Ludwigshafen is home to the corporate headquarters and, at the same time, the group's largest Verbund site, maintaining a workforce of nearly 39,000.



Established in 1889, Türrleim is a medium-sized, family-run enterprise with about 120 employees. At two plants in Ludwigshafen and Schifferstadt, respectively, Türrleim today produces and delivers glues for the timber, beverage and paper/packaging industries. On top of that, the company offers glue application systems and digital services.

FROM SCRAP IRON WITH GREEN ENERGY AND MODERN CASTING TECHNOLOGY TO WIND TURBINE TEST STANDS

Scrap iron is melted at 1,400°C in modern inductive ovens operated with 100% green power, to be processed and upgraded into higher-grade products by adding alloy elements such as copper which, too, is mainly obtained from "metal wastes". The foundry sand for the casting moulds – about 60,000 tonnes a year no less – is also fully recycled and reused.



"With our manufacturing operations at the Mainz location, we're making an important contribution toward an energy and resource-efficient production, e.g. for renewable energy generation plants. On top of that, we use clean energy to turn reusable waste materials into high-quality products for new mobility solutions such as electric vehicles. We've been setting efficiency and sustainability standards with our state-of-the-art production plants and bespoke processes. This know-how must be safeguarded and expanded in Rhineland-Palatinate because it is a relevant contribution to technological independence in vital areas of our national economy."

CHRISTOPH ALTHAUSSE, MANAGING DIRECTOR RÖMHELD & MOELLE EISENGIESSEREI GMBH



Thanks to our manufacturing capabilities, we can produce very large and heavy castings. That's what allowed us to cast the main parts of a high-performance wind energy test stand in Mainz. 12 single segments with a total weight of 400 t were needed for the coupling housing. The casting mould for each of the 33-tonne segments weighed a hundred tonnes.



The material base of our production mostly consists of regional scrap metal, e.g., stamping waste from electric motor production, as well as end-of-lifecycle products such as worn-out brake discs or railway tracks. Therefore, our production capacity at the Mainz plant makes us an important partner for a multitude of regional companies when it comes to the recirculation and upcycling of secondary metal.



 **Römheld & Moelle**

Römheld & Moelle is a medium-sized, industrial enterprise with more than 200 employees at two European locations. The cast iron specialist with a 160-year-long tradition in Mainz produces sophisticated castings on location weighing between 40 kg and 40 t for global customers. Customers include European and US electric vehicle manufacturers as well as machine manufacturers for the construction or railway industry, and many more.

Globally leading manufacturers of wind turbine testing systems integrate our castings into their systems, where they help to maximise the efficiency of wind turbines whilst making them more failure-free and economical. This makes them important drivers of the ecological and economic success of the energy revolution.



Source:
www.renk.com

OUR AIM: SUSTAINABLE TRANSFORMATION OF OUR INDUSTRIAL BASE

Sustainability means successfully balancing ecological, economic, and social goals³. Therefore, our common concern is to achieve the climate goals, preserve the creation of value at the industrial

location, and secure jobs in Rhineland-Palatinate. Only if we succeed in achieving all three goals simultaneously will the transformation of our industrial location be both sustainable and successful!

This is why we take a stand for

1. securing Rhineland-Palatinate as an industrial location throughout the **width and depth of its industrial value creation** and develop it further wherever possible
2. putting the focus of the industrial-political agenda of the years ahead on the **international competitiveness of the energy-intensive businesses** and fields of industry as a cornerstone in these local value creation processes and innovations
3. working towards providing the energy-intensive industries in Europe, especially **in view of the US market and the Asian markets**, with an essentially comparable level playing field⁴ in Germany and in Europe **so as to avoid carbon leakage⁵** in the pursuit of climate protection
4. discussing **the economic and social resilience, as well as the technological sovereignty and innovative strength of Germany and Europe** in view of the **function of the energy-intensive industries** and their products, as well as the **necessary framework, with the European Commission**
5. having the European Commission adopt a multi-year spanning **moratorium on burdensome legislation** with regard to **industrial strategies** (REACH, IED, PFAS, supply chains, etc.) to achieve a starting point for the many energy-intensive industrial enterprises in the international **competition that is comparable to the situation faced by the industrial bases in the United States and Asia**



6. **ramping up the expansion and availability of climate-neutral energies** (green power, biogas, geothermal energy) steadily and **ambitiously to press ahead with climate protection** and, at the same time, speeding up demand adjustment and enable corresponding price signals
7. making use of existing manoeuvring room under tax, levy and state-aid law **to support adaptation processes in the energy-intensive industry** in a targeted, temporary, and efficient manner
8. facilitating and expediting, as far as possible, **the grid expansion for energy infrastructures (including, but not limited to, power, hydrogen, and geothermal energy)** at all public levels in **the planning and approval stages**
9. fleshing out the **approval procedures** for the **transformation-driven renewal or retrofitting of industrial plants** at all public levels so that they can be completed **in a swift and legally watertight manner**, thus **securing the industry planning reliability** and **expediting these procedures**
10. developing the **level of emission protection** in the field of existing fossil industrial plants (which in fact are nearing the end of their operating life), which is very high compared with other countries, **intelligently and unbureaucratically**, to focus existing financial and human resources primarily **on the launch of new, climate-neutral technologies**; this should be rigorously implemented at the European level e.g., in the form of a principle, when revising the Industrial Emissions Directive (**IED Directive**)

³ Also see the definition of the Brundtland Commission of the United Nations and the subsequent UN Conference on Environment and Development.

⁴ Level playing field: the guarantee of equal and fair competitive conditions for all players in a market based on common rules and standards.

⁵ Carbon leakage: the shifting of greenhouse gas-emitting industries into countries with less stringent regulations and/or lower costs for greenhouse gas emissions.

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