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KLINGER
trusted. worldwide.

KLINGER YEARBOOK

We keep things flowing



www.klinger-international.com





Christoph Klinger-Lohr, CEO
Daniel Schibli, CEO
Peter Müller, CFO

Dear Customers,
Dear Partners,

Welcome to this special edition of our KLINGER Yearbook. Little did we know last year what to expect from 2020. And in 2021, we are still in an exceptional situation. The ongoing pandemic has affected us all in one way or another. KLINGER's duty is now to ensure that we support, supply and provide service to you, living up to the high standards that you have been accustomed to for 130 years.

Moreover, we feel that this is the right time to take a deep breath and reflect upon our company values (read our Vision & Mission, page 42). As a result of many long talks, we would like to place even stronger emphasis on our sustainability measures. KLINGER wants to help build a world we will proudly hand over to future generations. A world where fresh drinking water is a fundamental right, not a commodity (read about how we helped fix the water supply in an Argentinian shanty town on page 34). A world where top scientists search for renewable sources of energy and carrier mediums such as hydrogen (read about how we take part in this development on page 38). A world where products are refurbished rather than disposed of (page 29), harmful substances in industrial processes are eliminated (page 26) and green standards are not only claimed but also implemented (page 37). KLINGER is proud to be part of this change. Sometimes one needs to reevaluate, be unconventional and go new ways: Read about a brand-new diaper recycling plant in the Netherlands that can already save 5,000 tons of waste. Many challenges arose during its construction, but KLINGER The Netherlands helped to accomplish this outstanding project using its vast expertise.

Now more than ever, we need to be reliable partners for you: ready to listen, support, customize and find solutions. Because: If there is one lesson the Corona crisis has taught us, it is this: we are all in this together worldwide, with our new subsidiaries in Brazil, South Africa and our new JV partner in Ningbo, China (pages 12–16). Let's keep things flowing – and make the world a little better!

We hope you enjoy our new KLINGER Yearbook!
Yours,

Christoph Klinger-Lohr
CEO

Daniel Schibli
CEO

Peter Müller
CFO

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Photo: Fernando Távora/Unsplash



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5 QUESTIONS

? Why does Norwegian biathlon star Ida Lien love to race past KLINGER Westad's offices?

» **Find out more on page 20.**

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? What do the letters MSDS stand for – and how can they save lives?

» **Find out on page 26.**

? RetroFit ... is a) a vintage fashion label or b) an old school fitness club?

» **Both wrong: Learn all about our smart refurbishment program on page 32!**



Celebrating a “New year’s baby”: Franz Gysi AG and Gysi Dichtungstechnik joined the KLINGER Group on January 1, 2020. The company specializes in gaskets und valves for several core markets, such as district heating and cooling, process heat, gas, water and wastewater, cooling, and loose materials. Left to right: CEO Christoph Klinger-Lohr, CEO Daniel Schibli, Franz Gysi and the new Managing Director, Daniel Läubli.

KLINGER Group

Together towards the future

A lot has happened since you held the last edition of our Yearbook in your hands. Here is a short overview of the news at KLINGER: developments that also benefit our customers, and many achievements of which we are proud, especially in these times.

There’s a saying that goes: “Make hay while the sun shines” – it is better to make provisions during the good times, anticipating that more difficult days may lie ahead. Fortunately, KLINGER has always lived up to this motto: “I am very meticulous in the good times and insist that our companies are well positioned. You never know when the next crisis might come along,” says CEO Daniel Schibli, responsible for the business areas Fluid Control and Service & Distribution. “In recent years, we’ve taken many steps to strengthen our position in the market. Take our strategic joint ventures and acquisitions: in 2020 alone, we acquired Franz Gysi in Switzerland, Thomas Pipes in South Africa and Parva in Brazil. In order to extend our portfolio, we’ve established new joint ventures in Taiwan and China. We now offer a greater number of products and services, are more diversified and aligned with segments so that we are even better able to tailor packages to our customers’ industries. Each of these steps makes us more flexible, stronger – more resilient, if you like.”

Since the pandemic struck, KLINGER has put an emphasis on new digital outlets: online shops, e-procurement platforms, Electronic Data Interchange (EDI) integration and industry-focused platforms such as Sparox. E-commerce is today’s game changer.

With the help of KLINGER experts (some of whom have been newly hired), a huge leap in digitization has been accomplished: KLINGER introduced Microsoft Teams to all subsidiaries worldwide as an interconnecting digital tool for communication. At the same time, our IT Security department ensured even safer handling of customer data.

10,000 new followers on LinkedIn

Last year, focus was also placed on upgrading the Group’s marketing and communications. “Because we were not able to meet our customers in person – trade shows were not happening, for example – we sensed an increased need for digital communication,” Christina Raimann, Head of Group Marketing and Communications, explains.



“We therefore immediately upgraded our digital communication channels. Now, we provide our customers with weekly news in our company blog (between November and February the number of views tripled!), and we massively strengthened our presence on the business social media platform LinkedIn. As KLINGER Group, we currently publish 100 posts per month and within six months we gained a further 10,000 followers.”

Christina Raimann is also proud that a long-term project was finalized in 2020: “Finally, we have all subsidiaries under one corporate umbrella!” she cheers. After two and a half years of re-branding, everything is now done and dusted, greatly benefiting our customers: “It aligns all our companies – our customers benefit from our global network of KLINGER Group companies.” (Read more on page 18.)

Firmly on a growth curve

The company family of KLINGER keeps growing. “We stick with our successful business model: diversification of markets and products, global operation, not relying on one currency,” explains CEO Christoph Klinger-Lohr. “We also want to grow in the future and keep looking internationally for companies that can perfectly complement our portfolio.”

Of course, not everything went perfectly well in 2020. Who could ever claim that? Many countries in which KLINGER has subsidiaries were in lockdown for weeks and months. A grueling experience, but this made it all the more rewarding to feel the solidarity in our business network. We exchanged tips and best practice suggestions with project partners and customers. We learned from each other how to best organize internal processes during these difficult times. We grew with, and also through, each other. After all, the situation was new to every one of us and we realized more than ever that we are all in the same boat.



The KLINGER CEOs Daniel Schibli (left) and Christoph Klinger-Lohr

Interview with Daniel Schibli and Christoph Klinger-Lohr

"We have many reasons to be proud!"

After one year of pandemic, do you remember when it began and how KLINGER changed during the course of it?

Daniel Schibli: To me the whole thing starts with the first pictures and news from Italy, which reached us at the end of February 2020. I thought: Something big is coming. Christoph (Ed: Klinger-Lohr) and I were already constantly on the phone. But we deliberately took time out to watch the news and gather information to get an idea of the situation, especially in those countries where we had subsidiaries and where we delivered to. Those breaks were important, because you need to stay calm in a crisis!

Christoph Klinger-Lohr: We called the managing directors of the different subsidiaries to get an overview of the situation. Our teams provided us with updates about the different policies in the countries and on travel restrictions. We still monitor them closely as we expect to stay with this routine for the whole of 2021.

How did you react to the information?

Christoph Klinger-Lohr: As the corporate management, we proceeded to determine future measures. KLINGER is organized in a very decentralized way. We have companies everywhere. Of course, we defined high-level goals and measures and kept talking to the teams in the subsidiaries.

We gave special importance to three topics:
» The safety of our employees
» Our liquidity, which should always be secured
» Preparation for the future – an important point!

Daniel Schibli: The economic and psychological shock that rippled across the world in March definitely altered our course. We were confronted with very different circumstances in the various countries that have KLINGER subsidiaries. Spain and the UK, for example, were hit especially hard. In each country, there were and still are different state support measures for companies. And of course, the effect of the crisis also depended on the industry. The shipping industry traditionally reacts very sensitively to economic changes and we had to act quickly, because it is also an important purchaser of our products. At the same time, just like the oil, gas and chemical industries, it is subject to rules that legally demand maintenance work. Some orders were therefore delayed, though they were not canceled.

Christoph Klinger-Lohr: As an essential supplier of goods and services to critical infrastructure industries, we also maintained the supply chain to our customers throughout and without disruption.

Speaking of "critical infrastructure": KLINGER products are also needed for energy and water supply, right?

Daniel Schibli: I will give you a concrete example: We have two companies in Italy and one large organization in Spain. These countries were European hotspots at the beginning of the pandemic. We immediately requested that the companies be allowed to stay open because we supply critical infrastructure. In Italy, for example, it was gaskets and valves for oxygen producers. The oxygen was needed to treat intensive care patients. Our Italian subsidiaries were only closed for a few days and were then able to deliver again. We were always there. Reliably.

Christoph Klinger-Lohr: Luckily, we at KLINGER had only a few COVID cases! The operation was therefore able to keep going with almost no bottlenecks. With overseas suppliers, we immediately made sure that the supply chains were secure. The fact that we had always fostered these relationships during the good times paid off here.

And how have customer relations changed?

Daniel Schibli: We want to lead the way and ideally also inspire our customers. We attend online trade shows and conferences, where we network with suppliers and distributors. We also very quickly switched from "live" to online training and our employees quickly adapted to virtual meetings. It was our South African subsidiaries who played a pioneering role in this. But in the end, all subsidiaries went through similar changes in order to stay on the ball.

After one year of the COVID-19 pandemic, how do you sum it all up?

Christoph Klinger-Lohr: Despite all the obstacles, we accomplished many things. We were able to keep an almost stable turnover in 2020 and again generated a good result. Especially now, during the pandemic, we have many reasons to be proud: We were able to hold on to our employees and even took on several new key employees, we managed to keep the supply chains stable and, most importantly, we were able to deliver to our customers at all times without disruption! We keep things flowing.

KLINGER DNA

Technological change as an opportunity



Even the successful product Klingerit was constantly improved in order to meet new technological requirements.

160 years ago Richard Klinger was born. What the pioneering spirit of the company's founder can teach us in the digital era.

Richard Klinger: *December 31, 1860 in Boehmisch Aicha, † December 15, 1928 in Gumpoldskirchen

Let's briefly look back to when it all began for KLINGER: to be exact, it was set in motion 160 years ago with the birth of the company's founder, Richard Klinger. Klinger was born in exceptional times on December 31, 1860. The late 19th century was a time of change – and in some way similar to our time now. Technological progress changed the traditional trades at a blistering pace. New machines were whirring everywhere, electricity spread into everyday life, new materials and solutions were needed. Today, we are experiencing the changes to communication and commerce with digital progress.

Looking forward, not back

As the son of a building constructor, Richard Klinger loved technological progress and engineering: as a boy, he was already a tinkerer, going on to study mechanical engineering in Vienna and to found an engineering workshop in 1886. This is where, in 1888, he designed a special reflex glass for indicating water levels, which he had patented.

KLINGER's signature product Klingerit

The success of his invention made it possible for him to build a machinery and metalware factory in Gumpoldskirchen, Austria, which remains to this day the KLINGER Group's headquarters. But instead of relaxing and enjoying the profits from his factory, Klinger watched the technological progress, doing his bit wherever he saw the need for improvement.

Following on from his water gauge glass, in 1898 he developed a fiber-reinforced gasket. Under the trade name Klingerit, this invention went around the world.

Flexibility as a recipe for success

Still, with scientific progress, by 1970 it became apparent that the asbestos fiber, a main component of Klingerit, might be harmful to health. Again, the company (which by this time was managed by Richard Klinger's descendants) was quick to act, changing the recipe and introducing Klingersil, the world's first asbestos-free sealing material. When in 1990 the production and use of asbestos was forbidden in Austria, KLINGER was already one step ahead of its competitors, using alternative components in its gaskets, serving the same purpose without posing a risk to health.

Recognizing the signs of the times

Recognizing the signs of the time, looking ahead and acting flexibly in order to supply the industry with the best products – this is how Richard Klinger got to the very top. When he died aged 68, his heirs (CEO Christoph Klinger-Lohr is a fifth-generation descendant) continued the company, expanding it into a global enterprise. Many things have changed since then, but the founder's values still make up the DNA of the KLINGER Group.

Company founder Richard Klinger was born in 1860, also a time of technological upheaval.







Serious expression, a flexible mind – then and now: the entrepreneurs Richard Klinger and Christoph Klinger-Lohr.

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At the start of the process, primed steel is fed into the RCM production line to be rubber coated at the new factory in Ningbo.

Ningbo/China

Joint forces in Asia

Kick-off for a promising joint venture: At the start of 2021, the KLINGER Group brought two strong partners from China and Japan on board. The goal is to systematically market KLINGER Polystrat in Asia. This rubber-coated steel will now also be produced directly in China by the newly founded JV KLINGER RCM Ningbo.

The joint venture in short

Within the joint venture between the KLINGER Group, the Hamamatsu Gasket Corporation and the Sinyuan Industrial Material Group, KLINGER continues to be fully responsible for

» global sales
» marketing
» adherence to the usual high quality standards
» development of new RCM products
» pricing

Goals

» wider supply in Asia
» securing the supply chain
» shorter transport routes
» reducing CO_2

On November 19, 2020, KLINGER CEO Daniel Schibli signed the contract for the joint venture, in which the Swiss KLINGER AG in Egliswil, the Chinese Sinyuan Industrial Material Group, and the Japanese Hamamatsu Gasket are equal partners. This cooperation is not completely new, however: KLINGER has been in a partnership with the Chinese Sinuan Group for several years. And Polystrat has been produced in Ningbo since the beginning of 2019 under license from KLINGER, using a carbon copy of the machinery employed in the Swiss model. With the joint venture, the current output at the Chinese subsidiary should increase significantly.

Local know-how meets global reach

"The formation of this joint venture marks the completion of a year-long cooperation with Sinyuan and Hamamatsu in the area of RCM," says KLINGER CEO Daniel Schibli about the path toward this new partnership.

"The new joint venture connects the KLINGER Group's strong brand and global reach with the local know-how and technical knowledge of the two partners."



Daniel Schibli, CEO KLINGER Group, sees combining the strengths of all joint venture partners as the most important benefit of the partnership.





Polystrat, seen here in coils for transportation, will continue to be produced in Egliswil and now also in Ningbo.



RCM employed as a shim on disk brake pads

Gasket cut from rubber-coated steel



Together with Eckhard Steeger, he has put a lot of energy into advancing the foundation of the joint venture and now serves as chairman of the supervisory board.

Rubber-coated steel from Egliswil and Ningbo

The newly founded KLINGER RCM Ningbo produces the complete Polystrat product range at the new subsidiary in China. Polystrat has been produced by KLINGER Switzerland in Egliswil for 25 years and is used in the automotive industry and in various industrial sealing applications. For its production, high-quality premium steel or carbon steel is purchased, cleaned, covered with a primer (bonding agent) and then coated. During this process, the RCM is also refined, for example covered with non-stick coatings, adhesives, paint coatings or a release foil.

The European market will continue to be served from Switzerland, while customers from the Asia-Pacific region are now supplied directly by KLINGER RCM Ningbo.

Contact for customers

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What is Polystrat?

Polystrat is the KLINGER trade name for Rubber-Coated Metal (RCM). During the production process, the steel is first thoroughly cleaned. Then, a primer is applied, which ensures that the rubber will adhere to it properly. The primed steel is then coated on both sides with a rubber layer. Depending on customer requests, it can be finished with non-stick coatings, adhesives, paint coatings, or a release foil. In a last step, the sheets of Polystrat are rolled up into coils for safe transportation.

Did you know...

... the east Chinese coastal city of Ningbo, with its 5.7 million inhabitants, is exactly three times the size of Vienna (1.9 million inhabitants)? In the early Middle Ages, the most important foreign trade center on China's coast was already based here. Although the city is barely known outside of Asia, today it is one of the big economic players: it recently reached 64th in the global ranking of the economically strongest metropolitan areas. Also, Ningbo's port is today one of China's main commercial harbors.

https://klinger-ag.ch

Taichung City/Taiwan

Quality made in Taiwan

KLINGER and Die Erste form a joint venture to expand the product offerings.



The KLINGER logo meets Die Erste at its headquarters.

After many years of partnership in Finland and Denmark, the KLINGER Holding is proud to announce a new joint venture with Die Erste. Official as of February 17, KLINGER Die Erste will offer an expanded range of valves via a fully integrated manufacturing process. This new portfolio will cater to key industries like pulp & paper, steel, energy, marine, chemical, oil & gas, with customized product packages for each sector.

KLINGER is the majority owner of the JV with 51%. The management team leading this joint venture consists of Klavs Knutzen (KLINGER Business Unit Director Service & Distribution), Aaron Tseng (Die Erste Managing Director), Peter Tseng (Die Erste Shanghai Managing Director) and Jenny Liu (Die Erste Sales Director).

A history of trust

Founded in 1982, Die Erste is a second-generation family-run business started by Frank and Lisa Tseng in Taiwan. Currently run by their sons Aaron and Peter Tseng and Aaron's spouse Jenny Liu, Die Erste has worked with KLINGER for 25 years. With over 5,000 valve and accessory products in its catalog, Die Erste has a proven track record of quality in its sourcing, manufacturing, and distribution processes. Direct involvement in foundry and supplier operations allows Die Erste to maintain consistency across projects. Personnel operate through an independently certified system of controls, maintaining standards that qualify Die Erste for a variety of international certificates.

Streamlining quality

Key to this new venture is the chance to ensure valve quality through the entire product life cycle.

KLINGER will manage all aspects of product development, and valve parts will be manufactured exclusively for KLINGER. Bringing all components of the supply chain under one umbrella will allow KLINGER to unify the product range while also expanding offerings in a meaningful, targeted fashion.

Expanded offering

Die Erste's 5,000-square-meter foundry maintains an annual output of 1,500 to 2,400 tons of stainless, carbon steel, and alloy castings. Exacting metallurgy standards for all products are enforced with spectro analysis, metallographic microscopy, and hardness testing, while finished valves are subject to high-pressure, hydraulic, and pneumatic testing. CNC, lathes, and milling capabilities allow Die Erste to perform custom research and development projects beside standard large-scale offerings.

A good example of KLINGER Die Erste's highly specialized products is our FSAB 2-way firesafe ball valve jointly developed by both JV partners for steam applications. With KLINGER special stem packing design, certified by TÜV Rheinland to firesafe standard, this series offers unparalleled performance and is many industry customers' preferred option.

The KLINGER Die Erste joint venture will bring to market a variety of innovative products, meeting the benchmarks of quality and efficiency for which both companies are already known.

www.die-erste.com



Klavs Knutzen, Aaron Tseng, Peter Tseng and Jenny Liu



Firesafe ball valve developed by the JV partners

Santo André – São Paulo/Brazil

Expansion in Brazil

KLINGER Brazil acquires Parva, a family-run business specializing in valves for chlorine cylinders.

KLINGER has been operating in Brazil for more than 50 years. The Group has now acquired the local producer of valves, Indústria Mecânica e Artefatos de Metais Parva Ltda. The successful family business brings specialized products with promising potential into the Group.

Family has always been one of the KLINGER Group's ingredients for success. After all, it has been a familiy-run business itself since 1886, just like Parva. Parva was founded in 1949 and has been operated by the Guerrini and Battistoni families since then. Their management has always given priority to quality, efficiency, professionalism, responsibility and trust. At the end of last year, Parva began looking for a buyer and found the right match with the KLINGER Group.

Long-term vision

Parva's products perfectly complement the KLINGER portfolio: the company's highly specialized valves are widely used in pressurized containers of chlorine and sulphur dioxide throughout South America. Exports to the US and Argentina are now on the itinerary and, since chlorine tanks are essential to the water industry, KLINGER Brazil also plans to expand in this direction by 2030.

As a member of the KLINGER Group, the name Parva will continue to be synonymous with valves for chlorine cylinders. In the future, Parva will manufacture under the name KLINGER Brazil, but will continue to deliver its products with the same high quality, as well as supplying its customers with the excellent service and support to which they have become accustomed.

www.rklinger.com.br



Hélcio Lopes, KLINGER's production manager, and Jairo Tromboni, head of fluid control production planning, with Parva employees



Signing the contract: TPP's previous owner, Luke Thomas, with Phillip Herbst (MD KLINGER South Africa, right) and Johan Smal (FD KLINGER South Africa and MD of KPP, left)

Honeydew & Capetown/South Africa

More products made in South Africa

Now on board with KLINGER: Thomas Pipe Products, the national leader in pipe repair clamps and couplings

On July 1, 2020, KLINGER South Africa took over Thomas Pipe Products (TPP), a local leading company specializing in pipe repair clamps and couplings. Its product range perfectly completes the Group's portfolio.

The KLINGER corporation always strives to enhance its product range and often does this by acquiring other companies. The South African subsidiary alone has been involved in five acquisitions over the years, the most recent one being TPP. This acquisition presents a product and service range that meets the expectations and needs of KLINGER's current and future customers: "Now we have pipe couplings and pipe repair clamps on board. This is very exciting, as we see the product range that Thomas Pipe Products adds to the existing portfolio in perfect synergy with what we already offer," explains Phillip Herbst, Managing Director of KLINGER South Africa/KLINGER Mzansi and KLINGER Zambia.

New facilities in Honeydew and Cape Town

Already in 2012, KLINGER South Africa started having internal discussions about acquiring a pipe repair clamps and couplings company. And Johan Smal, Financial Director of KLINGER South Africa and duly appointed Managing Director of KLINGER Pipe Products, was determined to not just find any company – it had to be the right one. It was not until 2017 that initial contact was made with Thomas Pipe Products. TPP was founded by Luke Thomas in 2006 with just a handful of employees. He turned the company into a very successful business that currently employs 100 people in two facilities: one in Honeydew and a smaller



The Johannesburg workforce, expressing their excitement by wearing their new KLINGER caps





A closer look inside the KPP production facility: KPP manufactures pipe repair clamps and couplings in Honeydew and in Cape Town, South Africa.

Company profile: KLINGER South Africa

Currently, KLINGER South Africa has 11 branches. There are branches, or in some cases depots, in Nelspruit, Middelburg, Secunda, Sasolburg, Durban, Port Elizabeth, Richards Bay, Mossel Bay, Cape Town, and Honeydew, with the head office in Wadeville. There is also a company in Kitwe in Zambia servicing the copper belt. This network of branches and depots will assist in the warehousing and distribution of the KLINGER Pipe Products range through a team of technical sales representatives. Also, customers who do not yet know about the KPP pipe repair clamps and couplings can be catered for.

one in Cape Town. When approached by KLINGER, Luke Thomas was willing to negotiate. The date of acquisition was eventually agreed for March 1, 2020.



Next step: "Taking the products to the world"

Approaching that date, KLINGER South Africa began feeling the pressure and effects concerning the COVID-19 pandemic and decided to postpone the official acquisition. Four months later, on July 1, 2020, the transaction was finally concluded and TPP became KLINGER Pipe Products (KPP). "We are really excited to introduce the product range to all the KLINGER companies globally and to take the products to the world," says Phillip Herbst.

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Why KPP and KLINGER go well together

- KPP's products will cater to the growing need for clean drinking water in South Africa and neighboring countries.
- The new product range will be presented to the industry by KLINGER's extensive branch and agent network in South Africa, making processes smoother.
- As part of the KLINGER Group, KPP's products can easily be distributed throughout other African countries, making them available to customers, e.g. in Zambia, Democratic Republic of the Congo, Kenya or Tanzania.
- Other KLINGER Group companies will also be able to offer KPP products to their customers.

https://klinger.co.za



Comment by Christina Raimann, Head of Group Marketing & Communications



Gumpoldskirchen/Austria

One group – one brand

United worldwide under the KLINGER brand umbrella

Between 2018 and 2021 we went through a comprehensive rebranding process and united all our subsidiaries around the world under the corporate KLINGER brand umbrella. I got to initiate this rebranding of twelve subsidiaries and use my expertise during the process. Why was this process important and necessary, and how do we all benefit from it? You, as our customers, play a central role in this – according to branding guru Marty Neumeier: "A brand is not what you say it is, it's what they say it is." "They", refers to you, our customers. It is your perception that counts and that acts as our beacon. Our customers make us what we are: "trusted. worldwide."



Christina Raimann holding some of the KLINGERSIL gaskets that the plumber brought along

> "A brand is not what you say it is, it's what **they** say it is."
>
> Marty Neumeier

But how exactly do you benefit from a global brand? Allow me to give you an example:

1. Identification
A while ago, Niki, a plumber, was servicing my heating at home. When I asked him what kind of gaskets he used, he showed me his bag full of KLINGERSIL C-4300 gaskets and answered: "KLINGERSIL, of course. They are the best!" The quality of Niki's work also depends on the materials he uses.

2. Orientation
In a world without brands it would be hard to find our way. Brands help with orientation: Niki knows he can count on quality with KLINGER.

3. Security
A brand is always a promise and a promise provides security. Niki trusts KLINGERSIL and that helps him feel secure.

4. Status
"Does anybody actually use other gaskets?" Niki asked while he was cleaning the heat exchanger. He was proud to be buying from KLINGER because it proves his high standards as a heating engineer.

5. Continuity
We have customers and partners who have been loyal to us for decades. They trust in the reliably high quality of our products. Niki said that he always bought his gaskets from KLINGER and had no reason to change his supplier. Even if he moved to Brazil tomorrow, he would still buy exactly the same gaskets as here in Austria. With our global network, we make sure that he can do that.

6. Ethics:
It is not only about value for money. You also want to buy with a clear conscience. Niki still remembers Klingerit and knows that KLINGER changed from the asbestos-containing gaskets to a safe material, long before it was legally required. Our customers rightly expect us to act responsibly, and KLINGER is fully committed to sustainability (find out more towards the end of the magazine).

Finally, I would once more like to quote Marty Neumeier, who puts the power and impact of a brand in a nutshell: "A brand is a person's gut feeling about a product, service or organization."

The KLINGER brand

“KLINGER trusted. worldwide.” is our umbrella brand under which we unite all our companies. It represents the diversity of our international subsidiaries as well as our unity as a global corporation. Our brand name stems from our founder, Richard Klinger. After more than 130 years, we are still run by the same family, now in its fifth generation, and under the same name: proof of our stability in the market. Due to the continuing growth of our Group, many new brands joined over the years. We integrated twelve brands in the last three years. And in 2020 alone, six subsidiaries changed over to the KLINGER brand.

These last rebrandings were the final step towards our coherent global brand identity: From a hybrid brand architecture with several stand-alone brands, KLINGER has now developed into a true “branded house”. As customers, you can now trust in a global KLINGER network with clear-cut ownership and a stable and transparent company structure. Also, our latest additions, “Franz Gysi” and “GPI”, were immediately integrated into our brand family. Here is the brand migration of the last three years.

ATMECO → KLINGER Atmeco
A. W. Schultze GmbH → KLINGER A. W. Schultze
hartsch → KLINGER Bartsch
GPI → KLINGER GPI
FRANZ GYSI AG → KLINGER Gysi
kempchen → KLINGER Kempchen
EQUIFLUXO → KLINGER Portugal
saidi → KLINGER Spain
Thermoseal → KLINGER Thermoseal
intermetalflex → KLINGER Turkey
politeknik → KLINGER Turkey
WESTAD → KLINGER Westad





Before and after: Kempchen changing over to the KLINGER brand

Tell us what your gut feeling tells you about KLINGER! Send me an email with three words that you associate with the KLINGER brand: c.raimann@klinger-international.com

KLINGER trusted. worldwide.

Geithus/Norway

Competing among champions

At age 23, biathlete Ida Lien has just entered the Norwegian national team. Success seems to run in her DNA: She grew up in a community with a rich culture of winter sports and has been supported by KLINGER Westad for many years.

KLINGER's Norwegian subsidiary, KLINGER Westad, is traditionally strong in sports and community involvement:

Sponsoring highlights
Corporate Social Responsibility
As one of the biggest companies in the municipality, KLINGER Westad's "duty towards society is to support sports activities as well as other clubs, in order to create safe spaces for kids and teenagers," says its Managing Director, Jørn-Inge Throndsen.

But the commitment to Ida Lien was even more special to the company as some of KLINGER Westad's employees used to train as biathletes themselves.

Competitiveness runs in the DNA
Biathlon seems to run in KLINGER Westad's DNA, the same as it runs in Ida's family: "My interest in biathlon was always there. I started training at age nine," says Ida. "My father was doing biathlon until he was 25 and my mother competed in cross-country

> "In addition to our support of Ida Lien, we also sponsor local sports clubs in the area."

Jørn-Inge Throndsen, Managing Director at KLINGER Westad





November 2020: Ida Lien at target practice in Kontiolathi, Finland, where she was competing for the Norwegian National Team.

skiing. And of course: Ole Einar Bjørndalen, the biathlete who ranks all-time second in the Winter Olympics medal charts, grew up in my hometown, Simonstranda." Bjørndalen is a great inspiration to Ida, who made her own international debut at the IBU Cup in 2019.

Identifying with KLINGER Westad

KLINGER at that time was already supporting her: "Being an athlete is now my job," says Ida. "So it's important for me to have the best skis and equipment available. KLINGER helps me with that. But this sponsorship means more than just money: KLINGER Westad is only five minutes from where my family lives, so it actually feels like my hometown is supporting me."

Strengthening the corporate identity

Personal preferences aside, this sponsorship deal is also an important signal to the public. In January 2021, Westad Industri is rebranding as KLINGER Westad. Jørn-Inge Throndsen explains: "With 125 years of history, the roots of Westad are cemented in the local community. Going forward, we want everybody to also know the new brand. So, this is strengthening our reputation and proves the commitment from our Austrian owners."





Speeding through the countryside on her roller skis, Lien regularly passes by the building of KLINGER Westad in Geithus.

Ida Lien

2020/21 is the first full season in the Norwegian National Biathlon team for the 23-year-old athlete. The previous season, Ida participated in a couple of races in the World Cup, including one relay race that Norway won. Ida is coached by Patrick Oberegger (from South Tyrol) and Sverre Kaas. Our video interview with her took place while she was at the Biathlon World Cup in Kontiolahti, Finland, just two days before the final race. If you want to know more about Ida, you can follow her on Instagram www.instagram.com/idalien/?hl=de.

KLINGER WESTAD – a marine specialist close to the sea

KLINGER Westad is a leading supplier for the oil, gas and marine industry. Westad designs and manufactures high-performance double- and triple-offset butterfly valves in preferred materials for LNG, LPG, chemicals and other critical applications.

Specific applications in the marine industry include:
» LNG tankers
» LPG and LEG tanker systems
» Chemical and product tankers

Land-based and offshore applications are:
» LNG liquifaction, handling and storage facilities
» Critical sea-water systems on oil- and gas-producing platforms
» Corrosive service in mining installations

"KLINGER Westad is only five minutes from where my family lives, so it actually feels like my hometown is supporting me."

Ida Lien, biathlete

https://klinger-westad.com



Brøndby/Denmark

Spacious new premises

More space for valves, instruments, gaskets and seals – and for an even smoother customer service. KLINGER Denmark is proud to present its brand-new, remodeled premises near Copenhagen.

Constant growth is an integral part of the history of KLINGER Denmark and also the main reason for the latest renovation and extension of the company buildings. Employees and customers alike are now enjoying the new, well-organized and spacious premises and the increased efficiency that comes with it.

Shorter delivery times, maximum flexibility

During the renovation, the production hall was extended, and a new fully automatic punching machine and a large Atom FlashCut machine were installed. Additionally, a new packaging line now allows products to be vacuum-packed directly on the premises – this shortens delivery times and provides greater flexibility for customers. The second original building was turned into a large product assembly area on the ground floor, with the canteen being moved to the upper floor.

Gasket production: faster, more efficient, tailor-made

From now on, the extended production facility with its bigger and more efficient machines guarantees higher productivity: Larger numbers of gaskets are now being

First step: an extra office block was built to connect the two existing buildings.









Before and after: From the architects' rendering ...



... to the actual building. The new complex features an easily accessible and welcoming entrance.

produced and valves assembled in less time. With their new in-house gasket cutting facility, KLINGER Denmark can cut and deliver gaskets according to their customers' specifications at very short notice. And there is still enough space for more new machines to raise output even further.

Last but not least, there is good news for first-time visitors: Those who approach the premises for the very first time will find access easier than before. Whereas in the past, two separate entrances might have been confusing to some, customers and visitors are now welcomed in one central entrance area.

The evolution of KLINGER Denmark

KLINGER Denmark's premises originally comprised two separate buildings, situated about 30 minutes outside Copenhagen. After fourteen years at the same address, the company was already bursting at the seams. In order to create more space, the two buildings were not only renovated and extended, but also connected by a newly built office block. It is two stories high and offers enough space for Sales, Finance, Human Resources, Marketing and Management.

"It was a long process. But it was worth the effort because we were able to achieve improvements that bring substantial advantages for our customers as well as our employees."



Klavs Knutzen, Managing Director at KLINGER Denmark

Did you know?

All KLINGER employees continued to work thoughout the building and renovation. The new, improved workspaces made up for the noise and dust they had to endure.

Frequently asked questions

Which industries does KLINGER Denmark supply?
KLINGER Denmark is constantly developing new solutions for the marine industry, construction industry, energy sector, pharmaceutical industry, oil & gas, the food industry, and the pulp & paper industry.

What is the benefit of KLINGER having its own cutting facility?
With its own in-house gasket cutting facility, KLINGER Denmark can cut and deliver gaskets according to its customers' specifications – and at very short notice.

www.klinger.dk

SUSTAINABILITY COME TRUE



KLINGER Argentina

Read how KLINGER Argentina's service team restored the water supply to the least advantaged district in Buenos Aires, page 34



KLINGER World

Is hydrogen the energy source of the future? Check the facts with our expert, Norbert Weimer, page 38

KLINGER The Nether-lands

Find out how KLINGER helped implement a sustainable way to recycle diapers and incontinence materials, page 29

KLINGER Schöneberg

was awarded silver by the external sustainability expert EcoVadis, page 37

KLINGER Dichtungs-technik

Bye bye, CMR substances! – Read about this best practice example at KLINGER's headquarters in Gumpoldskirchen, page 26

KLINGER Fluid Control

KLINGER's RetroFit maintenance program prolongs the lifespan of ball valves, page 32

Gumpoldskirchen/Austria

Bye bye, CMR substances!

KLINGER Dichtungstechnik replaces potentially harmful chemical substances with non-hazardous, CMR-free alternatives. Because safety comes first.

"We wanted to remove CMR substances from daily operations," says Stephan Piringer, Director and Head of Environment, Safety and Development at KLINGER Dichtungstechnik (KDT) in Gumpoldskirchen. "This is why we looked at the data of all the substances that we use in our company and, wherever possible, replaced harmful substances with safe ones."

Avoiding CMR substances with regular checks

CMR stands for Carcinogenic (cancer-inducing), Mutagenic (changing the genetic material) and Reprotoxic (causing adverse effects on sexual function and fertility), that is, substances proven or suspected to be harmful to human health. Over the years, scientific findings can change this classification, which is why regular checking of the inventory is so important.

Tracing and documenting even the tiniest amounts

Stephan Piringer implemented the project along with his colleague, Ingrid Stassner. They first updated the safety data sheets for all substances on site, even for the smallest amounts. Stassner was extremely diligent: "We walked from room to room, scrutinizing every nook and cranny. It is astonishing that CMR substances can 'hide' everywhere, throughout the company," she says.

By August 2020, 425 safety data sheets (see fact box) were added to the computer

"Our project has three key aspects:
1. replace CMR substances that are in use,
2. ensure that no new CMR substances are introduced into the company,
3. ongoing monitoring of substances that are currently classified as safe, in case they are reclassified."



Stephan Piringer, Director and Head of Environment, Safety and Development at KLINGER Dichtungstechnik

CMR substances

The abbreviation CMR stands for Carcinogenic (cancer-inducing), Mutagenic (changing the genetic material), Reprotoxic (causing adverse effects on sexual function and fertility). The website of the European Chemicals Agency ECHA https://echa.europa.eu contains a "central validated index of substances and their classification" (Piringer). Further information about EU standards can be found here: https://roadmaponcarcinogens.eu

In Austria, the basis for handling CMR substances is the ArbeitnehmerInnenschutzgesetz (Worker Protection Act) and the Chemikaliengesetz (Chemicals Act).





Trained in polymer chemistry, Stephan Piringer knows the importance of hazard identification.



Ingrid Stassner, responsible for environment and safety at KDT, presents the ready-to-hand folder with the safety data sheets.

system. Using this database, it was possible to quickly assess the risk. Subsequently, non-hazardous alternatives needed to be found. To achieve this, the management put two people in charge of each department, from product design and production to maintenance and test laboratory. About twelve people were involved in this next process, coordinated by Piringer and Stassner.

Looking for non-hazardous alternatives

Several products containing CMRs were removed without being replaced. Producers of products containing CMRs that were purchased (such as corrosive agents and glues) were asked whether they could offer non-hazardous alternatives as part of their range. It transpired that some CMR substances, such as anti-adherents and lubricating sprays containing nickel, foaming agents and chloroform (a chemical used in the laboratory), were completely dispensable in the production process.

In terms of quantity, the largest item for which a CMR-free alternative was found was an anti-corrosion agent for the steam boiler: about 400 liters were used every year. The adaptation of various processes turned out to be more complex: “A change in the composition affects the core process of our production. Proficiency is called for because alternatives have to be evaluated, prototypes tested, and specifications adhered to,” says Piringer.

»

Material Safety Data Sheet (MSDS)

The safety data sheet is mandatory under EU law and is also used in many other countries. It contains information about substances and chemical mixtures. It states among other things the substances’ physical and chemical properties, how they are to be stored and disposed of, and what first aid measures have to be taken in an emergency (e.g. rinse eyes with water or not?): this data is important when handling the substances in a professional setting

» for protection of health,
» for reasons of safety,
» for protection of the environment.



The chemicals used for vulcanization are stored in closed containers. When opened, automatic extraction is activated. CMR substances were substituted.

Protecting KLINGER's customers

He adds that, before these latest safety checks, the sealing material produced in Gumpoldskirchen was already free of any CMR substances. "And this is a good thing. Gaskets produced elsewhere are subsequently cut from this sealing material and that creates dust. Because they contain no hazardous substances, the companies that carry out further processing do not require any additional measures to protect their employees."



In future, the doors of KLINGER Dichtungstechnik will be firmly closed to CMR substances.

Ongoing monitoring to stay CMR-free

The project is not completed yet – and it never will be. Scientific progress continues to classify new substances as CMR. To remain up to date, KLINGER commissioned an external company to monitor these new classifications. Because of this, the timely discovery was made that the white pigment titanium dioxide was classified in 2019 as a CMR substance, suspected of having a carcinogenic effect when inhaled. Consequently, KDT has steered clear of using titanium dioxide. Additional safety checks are part of the purchasing process and make sure that each product is checked for CMR substances before acquisition, even if it is just a detergent. New CMR substances are therefore impossible to introduce.



Stephan Piringer and Ingrid Stassner on their fact-finding mission at KLINGER Dichtungstechnik

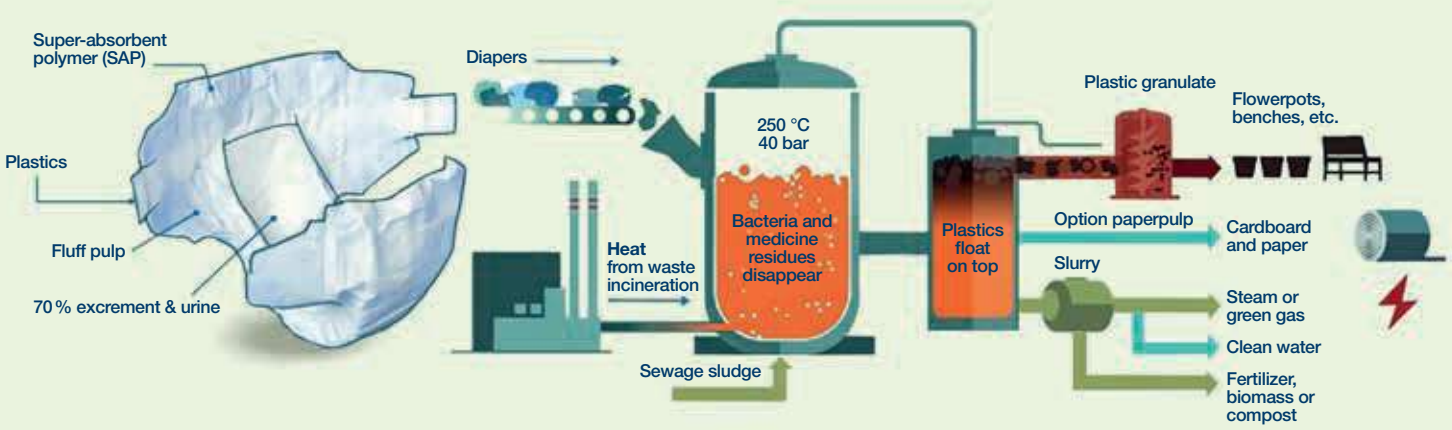
KLINGER Dichtungstechnik – pioneers of sustainability

KLINGER Dichtungstechnik develops sealing materials and solutions at its headquarters in Gumpoldskirchen. The product range comprises flat-gasket materials based on elastomer, PTFE, graphite and mica. The sealing products are cut for the customer directly at KLINGER. Alternatively, the materials can be purchased by the manufacturer. Additionally, KLINGER Dichtungstechnik offers services such as KLINGER Expert, a software package that helps in the selection of a suitable gasket, assembly instruction sheets, product accreditations, mobile training and consulting.

The company is known for its pioneering role when it comes to protection of the environment. In 2019, KLINGER Dichtungstechnik received the Austrian Environmental Management Award for its innovative environmental statement. In 2020, it built a regenerative thermal oxidation plant that considerably reduces CO_2 emissions and significantly increases resource efficiency.

www.klinger.co.at

Used diapers consist of:



In this groundbreaking process, Dutch waste processor ARN separates diapers and incontinence materials into their components to be fully reintegrated into a circular economy.

Rotterdam/The Netherlands

Building a unique diaper recycling plant

The waste-to-energy plant ARN B.V. in Weurt (NL) is the first to implement a sustainable way of recycling diapers and incontinence materials. KLINGER's experts were involved in the project almost from day one.

Even though KLINGER The Netherlands has vast experience with all sorts of industrial production, it had no reference with which to compare this new challenge. "However, our engineering expertise allows us to adapt to any manufacturing process. It is just applied physics, after all. In our business, we need to be able to calculate the ideal specifications, no matter how complex the requirements are. Heat, pressure, corrosion, flow rate, type and aggressiveness of media, etc. – everything needs to be taking into account when choosing and designing the right product," says Boudewijn Slager, Product Specialist for Fluid Control at KLINGER The Netherlands.

KLINGER provides expertise

KLINGER worked intensively with ARN's engineering department and project management to discuss the specific process requirements, provided it with the design specifications, and also helped with providing calculations and estimates. »

CO_2 reduction

The new method of diaper recycling yields a benefit of 964 kg CO_2e per ton treated diaper material compared to conventional incineration.

For ARN this means a reduction of 14,460 tons of CO_2 a year when the expansion is ready in 2021.

“In the past, diapers were incinerated, but now we can recycle them. Diapers are decomposed into plastic, fertilizers and green gas. And with that, we can achieve an enormous CO_2 reduction.”



Rutger Jan Pessers, Director at ARN Weurt

» Mastering hot steam, high pressure and severe conditions

Diapers consist of plastic, paper and biodegradable waste, and often contain some problematic substances such as medicinal drugs. The idea was to melt the diapers using steam at 250°C, extract the plastic for recycling, and use the remaining components for biogas and fertilizer. There were many unknowns: What type of pipes would be safe for transporting the steam? Which valves would be able to withstand the extremely high pressures that were required? How could the pipes be kept free from molten and re-solidifying plastic? KLINGER The Netherlands not only provided a lot of know-how, it also supplied the suitable technical components such as various valves (control valves, ball valves, butterfly valves and specially designed lift plug valves), steam traps, gaskets and hoses.

A unique process – ready to be offered to the world

The process was tried out in a small pilot plant, working with 80 kilos of diapers. And, in fall 2019, the first of the three big reactors was ready. It can process 5,000 tons of diapers a year. ARN is planning to expand the plant, processing 15,000 tons a year, corresponding to 75 million diapers. ARN’s inventive diaper recycling process has now been approved by the National Institute for Public Health and the Environment and also receives subsidies from the EU. Soon, this process will be ready to be offered to the world. “This is the first process of its kind anywhere in the world and there is already a lot of interest. If it proves successful, I am certain it will be duplicated in many places,” says Klaas Doting, Sales Engineer at KLINGER The Netherlands. Elsinga is taking care of the international sales of the patented process.

KLINGER The Netherlands supplied ARN with suitable technical components such as valves, steam traps, gaskets and hoses.



Did you know?

Diapers, especially those used by the elderly, contain a lot of medicinal drugs, posing a danger to groundwater. The process invented by the Dutch engineering company Elsinga Beleidsplanning en Innovatie and ARN breaks these down into their individual components so that the outputs from the plant are eventually almost free of any pharmaceuticals.



Boudewijn Slager and Klaas Doting (both left) of KLINGER The Netherlands supported ARN with their on-site expertise from the start. Niek Temmens (right), Process Operator at ARN, operates the system.

FAQ

How many diapers are disposed of in the Netherlands?
Every year in the Netherlands, about 400,000 tons of diapers and incontinence materials are incinerated, making up for about 8 percent of household residual waste. Industrial waste from hospitals and care centers delivers around the same amount. In total, there are about 75 million items per year.

How will the diapers be collected?
The separate collection of diapers will be organized throughout the country and is already in place in one region. People will be able to dispose of their sanitary waste for free, thereby saving on the cost of collection. Care homes and hospitals in particular can greatly reduce the cost of their waste collection.

How does ARN's recycling process work?
The diapers are pumped into the reactor and melted using high pressure steam at 250°C. During the cooling process, they turn into a liquid containing plastic granules. The liquid is used to produce biogas and fertilizer and the granules are ready for further recycling.

What will the recycled plastic be used for?
The main output of the diaper plant in Weurt is plastic granules that can be further processed into all sorts of products, from bottle tops and flower pots to roof tiles.

"Helping our customers to improve their industrial processes is our daily work. But this job is special. Because everybody knows about diapers but very few people think about the environmental impact of their disposal. I am proud to be part of this groundbreaking project."



Boudewijn Slager, Product Specialist for Fluid Control at KLINGER The Netherlands

www.klinger.nl

Gumpoldskirchen/Austria

RetroFit for ball valves: a new lease of life

KLINGER ball valves have a very long lifespan. The RetroFit maintenance program by KLINGER Fluid Control prolongs it even further – by many years.

KLINGER products are appreciated by many customers, especially for their longevity. Since October 2019, KLINGER Fluid Control (KFC) has offered the RetroFit program, increasing their lifespan even further. After an inspection, ball valves that have been in use for years, often even for decades, can now be refurbished and subsequently used again by the customer. This saves time, energy, and costs.

To ensure that the work of the installation is not interrupted, the old valve is removed and temporarily replaced with a new one. Within a few weeks, the valve is refurbished and provided with a new inspection certificate (pressure and tightness tests according to EN 12266). It can then be put back in its original place, or used somewhere else.

RetroFit: reconditioning valves at low cost and reducing CO_2 emissions

"In past years, we repeatedly had customers asking us to offer a package for vetting and repairing long-used ball valves," says Michael Heide, Head of Sales at KLINGER Fluid Control (KFC), explaining how the program got started. In the interest of the environment, a positive side effect of this program is the considerable reduction of CO_2 emissions. Producing a new valve uses energy, as does the disposal of the old one.

Wien Energie, Austria's largest regional energy provider, already uses the RetroFit service for its ball valves in connection with district heating (see fact box). Oil refineries and the steel industry also like to take advantage of KLINGER's RetroFit offer.

"The advantage for the customer is the relatively small investment needed to get a valve that is as good as new and tested according to the highest requirements."



Michael Heide, Head of Sales Southwest and North Europe at KLINGER Fluid Control



Removing a KHSVI ball valve after 25 years of use under difficult conditions



Delivering a new KHSVI ball valve from KFC to Wien Energie



Johannes Wagner (Wien Energie), Markus Fuchs, and Martin Fischer (Wien Energie) in the assembly hall at KFC, Gumpoldskirchen: checking used valves together

The two options of RetroFit: recycling or upcycling

Depending on the valve's condition, the RetroFit program provides two service options for the KLINGER ball-valve models KHI and KHSVI (manufactured after 1985): RetroFit Standard and RetroFit Premium. While both programs offer inspections and tests of the highest quality, the Premium package also includes the replacement of more components. Michael Heide adds that it is also possible to modify valves in the course of the RetroFit service. If the valve is to be automated in the future, the KLINGER engineers can take this opportunity to fit an actuator.

"The RetroFit program brings advantages for KLINGER as well as for us. We are happy to save costs and to contribute to a sustainable circular economy."



Johannes Wagner, responsible for order planning and control of valves for combined heat and power (CHP) generation units at Wien Energie

Factsheets

Challenge:

» Energy expenditure and costs as low as possible for the customer
» Safety, even under extreme conditions (high pressure, high temperatures, abrasive materials damaging the valves)
» Alternative to product replacement
» Ideally, service and reinstallation of the same valve

Solution:

» Reuse existing valve bodies
» Replace only wearing parts, not the whole valve
» Inspection certificate ensures safety (tests as per EN12266-1)

Advantage for customers:

» Saving time, money, energy and material
» Small investment for a valve as good as new
» New pressure and tightness tests without buying a new product
» Longer lifespan

RetroFit at Wien Energie: a success story

In summer 2019, components of a 25-year-old feeding pipe were replaced at the Wien Energie power plant in Simmering. Its function was to transport hot water with a pressure of up to 25 bar and a temperature of up to 180ºC. KLINGER delivered two replacement valves and exchanged them for the existing KHSVI ball valves. But this time they were not disposed of. Instead, the team from KLINGER Fluid Control fixed them up, just like new. The refurbished ball valves were tested again for pressure and tightness and can now be reused by the customer somewhere else.

www.klinger.kfc.at

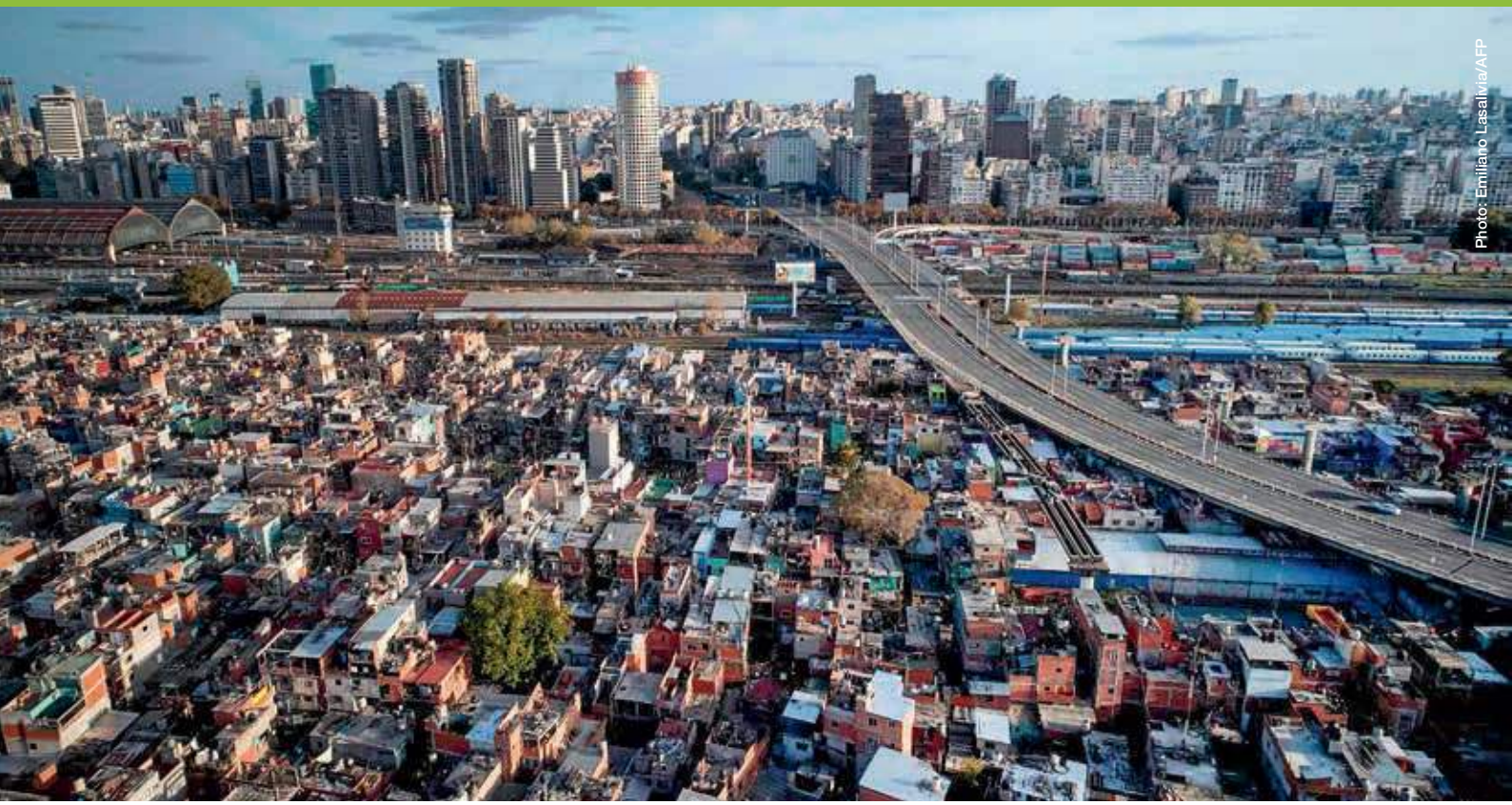


Photo: Emiliano Lasalvia/AFP

Tin shacks next to high-rise luxury buildings: Villa 31 is located in one of the most expensive neighborhoods in Buenos Aires.

Garin – Buenos Aires/Argentina

Serving the people with clean water

During an extreme crisis, KLINGER Argentina's service team restored the water supply to the least advantaged district in Buenos Aires.

Water is a tricky topic in Argentina. While its availability far exceeds the demand, about 19 percent of the population, especially in rural areas, have no access to piped water and nearly 50 percent live without sewage services. Some people drink only bottled water, which is not good for the environment. Those who cannot afford this drink polluted water from wells, risking waterborne diseases such as dengue fever. The fact that many lack the means to dispose of waste water properly poses a threat to both health and the environment. Since 1999, the Water & Sewage Division of KLINGER Argentina has helped tackle these problems.

In Argentina, water is clearly an inequality issue. In order to improve access to

> "Despite still being in quarantine, Claudio Lazo and I immediately coordinated the work and logistics."

Cristian Gonzalez, Sales Manager at KLINGER Argentina





During the construction work, AySA brought in water trucks to supply drinking water for the community.

safe water and sanitation for everyone, the country's government has been addressing this through several programs. The latest of these is the National Water Plan, which aims to supply safe drinking water to one hundred percent of the population and sanitation coverage to seventy-five percent by 2030.

KLINGER Argentina is also playing its part. As a partner of local infrastructure suppliers, KLINGER not only provides products such as valves, couplings, and flow meters; the company's Water & Sewage Division also offers technical advice and even emergency services. Those emergency services were called on earlier this year in a shanty town, or "villa", in Buenos Aires. Not only is this a typical example of the issues Argentina faces with regard to water, it also illustrates the role KLINGER plays in helping to solve them.

Supplying clean water for the poorest

Villa 31 sits right in the middle of Retiro, the most expensive neighborhood in Buenos Aires. With over 40,000 people living in tin shacks and shabby multi-story buildings, it is one of the largest and most visible shanty towns in Argentina. For decades, clean and potable water was not part of everyday life here. In 2016, the city's government started an initiative to urbanize Villa 31 by improving its infrastructure and helping its inhabitants to socially integrate into the city.

One essential element of this initiative was the supply of potable water for everyone and connection to the sewage system. The contractor AySA (Agua y Saneamientos Argentinos), together with KLINGER's Water Division, made it happen. Drinking water is now distributed to the entire neighborhood in Villa 31 through four high-pressure water supply points. »

Water in Argentina

Today, water and sanitation are provided by around **1,650 public, cooperative and private entities**

20 million
people do not have access to sanitation[1]

2016: the National Water Plan aims to ensure **100% of Argentinians have access to drinking water**
and 75% have sanitation coverage by 2030[2]

8 million
people lack access to drinking water

The complete collapse
of Argentina's economy in 2002 caused a halt in the upgrading of services

Only 20%
of Argentina's waste water is treated

[1] https://www.worldwaterweek.org/event/7504-argentinas-roadmap-for-sustainable-water-resources-management
[2] https://iwa-network.org/water-challenges-in-argentina-development-of-the-national-water-plan/



A single day of hard work and the valves were functioning again.

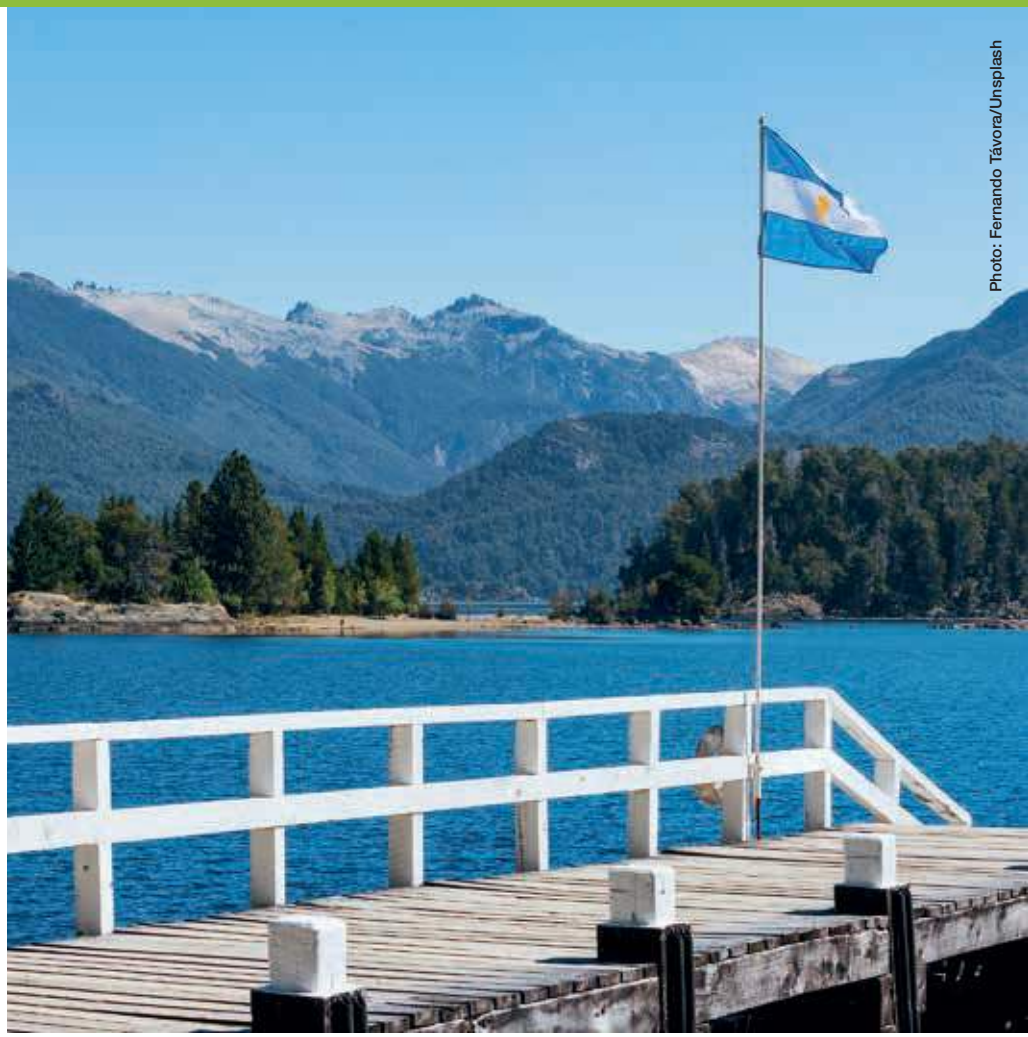


Photo: Fernando Távora/Unsplash

Although blessed with lots of water, the whole of Latin America has a severe problem with its distribution and sanitation. Pictured above: Argentina's Rio Negro.

» Emergency call during COVID-19

Earlier this year, during the final phase of construction, part of a street collapsed onto two control valves, causing a break in the water supply. AySA provided trucks, supplying up to 15,000 liters of drinking water, but it was not enough to cover the people's basic needs. This happened during the COVID-19 pandemic and quickly turned into a health emergency.

KLINGER's Valve Automation and Service Center was called for assistance. "Despite still being in quarantine, Claudio Lazo and I immediately co-ordinated the work and logistics, and AySA assisted in moving our technical staff to the site," recalls Cristian Gonzalez, Sales Manager at KLINGER Argentina.

In a team effort with AySA, Mauricio Rodriguez, one of KLINGER's technicians, was on site to repair the valves the following day. After a whole day of changing copper piping and pilots and regulating valves, the neighborhood had their water supply restored.

Expanding into Latin America

Ever since KLINGER opened its branch in Argentina, it has played an important role in improving access to water and sanitation. And there is more to do: Although blessed with lots of water, the whole of Latin America has a severe problem with its distribution and sanitation. By helping to establish a sound infrastructure for their water cycle, KLINGER supports Latin American countries in their efforts to reduce plastic waste, protect the environment and alleviate social inequality.

https://rklinger.com.ar

Graben-Neudorf/Germany

Silver for Sustainability

In the 2020 sustainability audit by the external expert EcoVadis, KLINGER Schöneberg was again awarded silver. The manufacturer of industrial valves further improved its results and is now among the most exemplary eight percent in the industry.

For an industrial manufacturer that has to stand its ground among international competitors, it is not easy to comply with the rising demands of sustainability. But KLINGER Schöneberg, specialist in ball valves and pneumatic actuators, managed this balancing act in 2020: The company from Graben-Neudorf (Germany) scored especially well in the areas Environment, Labor & Human Rights, and Ethics.

The announcement in September 2020 showed that KLINGER Schöneberg was even able to improve on its 2017 ranking. The company is now in the upper quarter of all rated enterprises, and, better still, among the top eight percent in its own industry. Congratulations!

CSR: "Acting with foresight in terms of sustainability"

Following the rating, together with the experts of EcoVadis and in cooperation with the DFGE (Institute for Energy, Ecology and Economy, Munich), an action plan was established to continuously improve the sustainability management.

"Our understanding of sustainability means that we can only achieve our economic goals and keep growing if we also act with foresight in terms of sustainability. In the long run, it pays off for everybody who truly takes their own social responsibility seriously."



Manfred Gossmann, Managing Director at KLINGER Schöneberg

This result is even more remarkable considering the fact that EcoVadis tightened its criteria the year before, therefore making it harder to fulfill them.

EcoVadis Sustainability Rating

Among the top 25%

of best rated **40,000 companies**



Among the top 8%

of best rated companies in the **Heavy Manufacturing** segment



CSR always in sight

These are the areas where KLINGER Schöneberg was rated particularly highly.

Environment:
- » energy consumption as low as possible
- » low emission of greenhouse gases
- » responsibility for water and biodiversity
- » responsibility for environmental pollution control
- » responsible use of resources, chemicals, and waste material

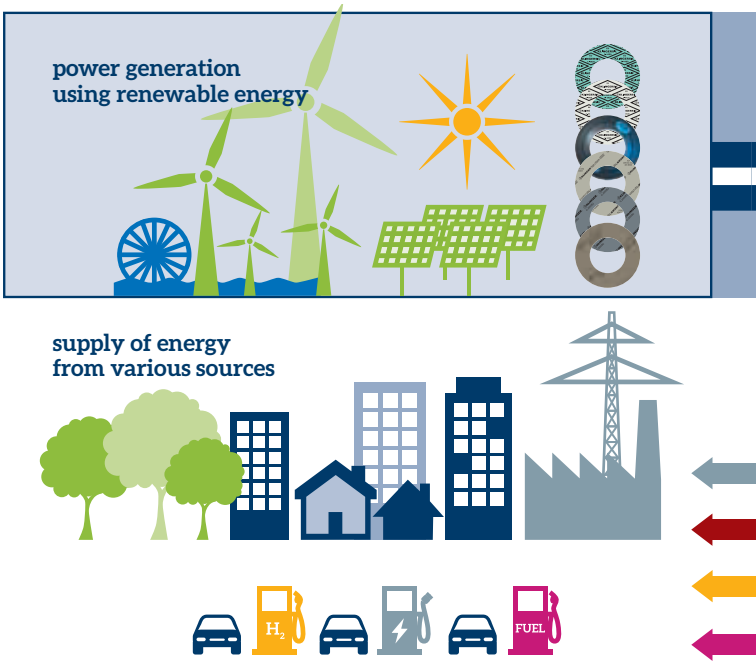
Labor & Human Rights:
- » health and safety of employees
- » socially compatible working conditions
- » social dialog, career management and training

Ethics:
- » no corruption
- » no anti-competitive practices
- » responsible information management

EcoVadis

… is an external provider that monitors global supply chains and awards corresponding CSR ratings. As part of the process, EcoVadis also actively supports the company with developing and implementing sustainable business practices.

www.klinger-schoeneberg.de



Sustainable circular economy using hydrogen: KLINGER gaskets are used at several critical points.

World

Power-to-X: hydrogen is the energy source of the future

KLINGER expert, Norbert Weimer, knows how hydrogen power can help the fight against climate change. In our fact check, he explains which sealing solutions KLINGER has in store for the hydrogen market.

"Only with green hydrogen power will we be able to master the necessary energy shift. Hydrogen is the oil of the future!" This is the development of which Norbert Weimer, Manager of KLINGER Germany, is convinced. And he is not the only one: many scientists, politicians, and economic experts worldwide predict a shift towards green energy, with hydrogen being the key technology.

Worldwide hydrogen initiative

The Austrian chancellor, Sebastian Kurz, wants to make Austria a "hydrogen nation". And also in Germany, a national hydrogen strategy is making way for the large-scale implementation of this medium. A total of 150 similar projects are being funded throughout Europe, and for the first time, China also included the advancement of hydrogen in its national development plan in 2020. As a result of this, hydrogen filling stations are now government-funded in China. The market prices of hydrogen shares are rising accordingly and even COVID-19 has not affected them negatively.

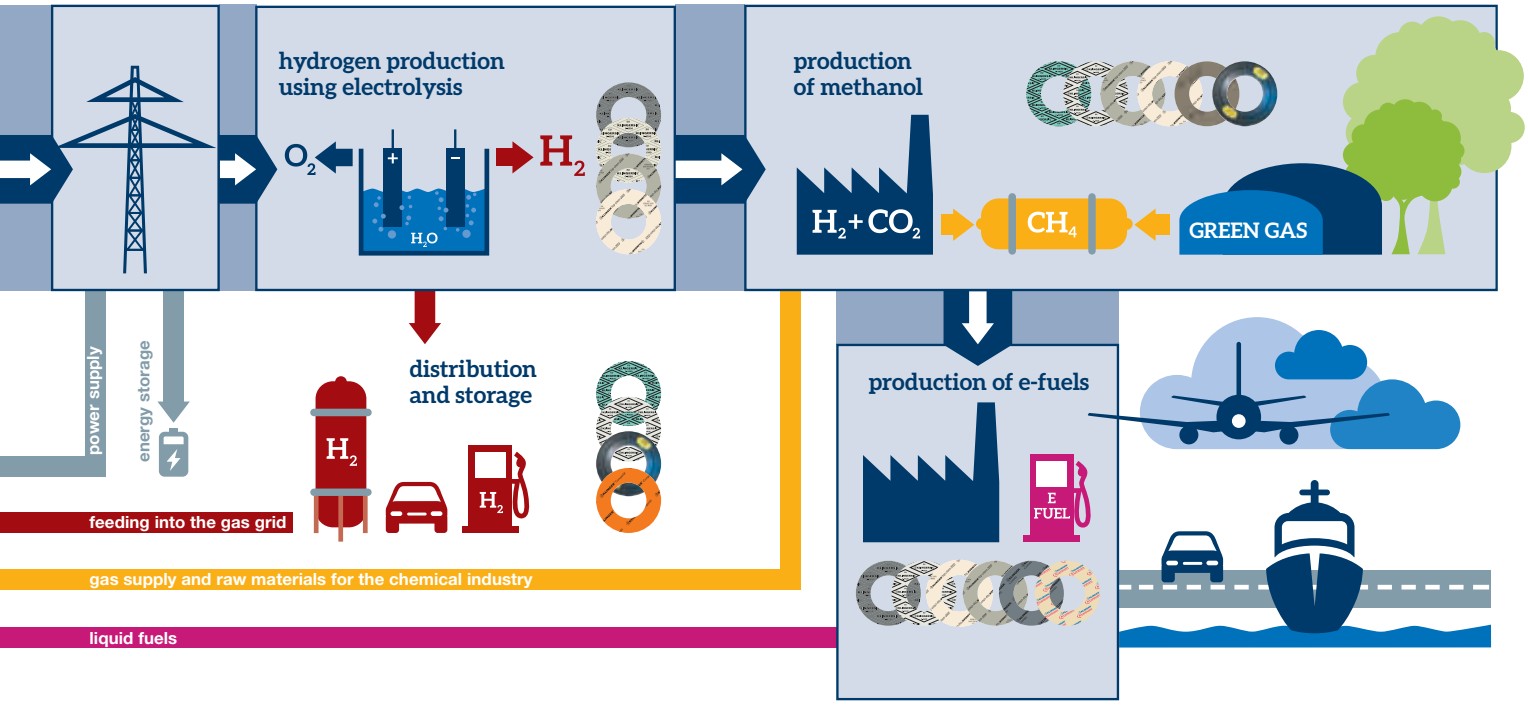
Power-to-X: storing green electricity

So – why the hype about hydrogen? The strong point is its versatility. It is easier to store than electricity. This is why hydrogen is the ideal carrier medium to store seasonal overage from wind, water or solar energy that can later be used as an energy source or as a resource for industrial processes. Experts call this transfer of carbon-neutral energy "Power-to-X" (P2X).

> "Only with green hydrogen power will we be able to master the necessary energy shift. Hydrogen is the oil of the future!"

Norbert Weimer is Manager of KLINGER GmbH in Germany. KLINGER GmbH is a member of the task force Power-to-X for Applications, founded in 2018 by the Association of the German Mechanical Engineering Industry (www.vdma.org/en/der-vdma). Corporations such as Siemens, MAN and Thyssen Krupp are also members.





Sector coupling as a global task

When green electricity is converted to other energy sources, P2X makes it possible for electricity to be used independently from such sources as wall sockets, for example to power vehicles, planes and ships. Experts talk about “sector coupling” when the power requirement of various sectors is coupled via the medium hydrogen and its successor products.

This is how the flexible use of hydrogen could add to the energy transition. If green hydrogen is produced in countries with a lot of solar and wind energy, it can be transformed there into methanol or e-fuels, such as gasoline, kerosine and diesel, and then transported in a conventional way. This, for example, would be one possibility for making air travel climate neutral. Sector coupling is therefore a global task.

Safe handling: elastomer, PTFE and fiber-reinforced gaskets

KLINGER products make the transport, storage and further processing of hydrogen safe. With elastomer, PTFE and fiber-reinforced gaskets made by KLINGER it is possible to keep the connections of constructional elements leak tight and impermeable, even for the extremely small molecules of hydrogen.

Of course, all gasket types are sufficiently tested and inspected by the Technical Control Board (TÜV), because leak tightness is essential when handling hydrogen. After all, it can ignite within seconds when coming into contact with oxygen and a spark. To avoid this possibility, the highest standards of quality and safety are called for: “KLINGER has the expertise to support and implement the new P2X technologies with the suitable sealing technology,” Weimer says.

All KLINGER gaskets have been tested by TÜV for their leakage behavior with regard to hydrogen and are recognized as particularly high-quality seals.

Offer for industry and technological trade

The products for cutters and the technological trade are already available (see link to online catalogue). Additionally, KLINGER’s experts, such as Weimer, are looking forward to applying their know-how in direct dialog with customers: “The close cooperation along the whole distribution channel, from producer via the cutter to the plant manufacturer and operator, guarantees safe, efficient and durable sealing solutions in the hydrogen industry.”

»

Hydrogen

Hydrogen is a molecular gas with the chemical notation H_2. On Earth, it is bound in water and is therefore part of almost every organic compound. Water is formed when hydrogen reacts with oxygen and because the reaction is exothermic (producing heat), energy is a by-product.

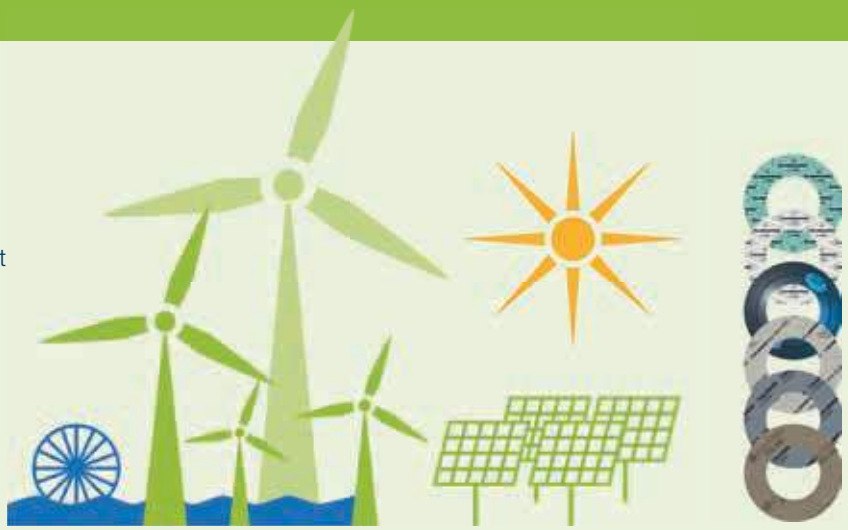
Hydrogen + oxygen = energy

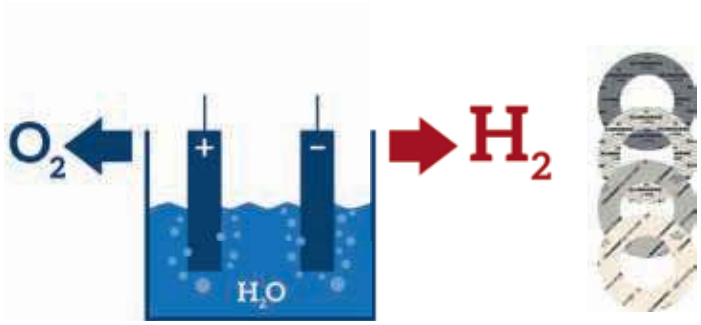
Sustainability

Hydrogen is only truly green when the electricity that is used for its production is also green. If fossil fuels such as petroleum gas or coal are used, CO_2 is still released during synthesis. If the energy necessary for hydrogen production is green, hydrogen can be used as a fully CO_2-neutral energy carrier medium.

Power generation using renewable energy

Gaskets for steam and water turbines with inlet and outlet lines and as corrosion protection between tower segments of wind turbines.
KLINGERSIL C-4400 and C-4430
KLINGER KGS G II
KLINGERtop-chem 2000
KLINGERgraphit
KLINGERmilam
KLINGER KNS





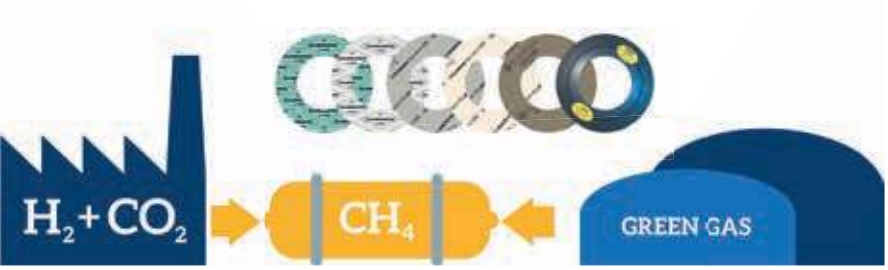
Hydrogen production using electrolysis

Standard gaskets and housing seals in electrolysis systems for alkaline and acidic electrolysis processes.
KLINGERSIL C-4500 and C-8200
KLINGERtop-chem 2000
KLINGERtop-chem 2003

Distribution and storage

Gaskets for tanks and pipeline networks and for systems to store gas in caverns for gaseous and liquid physical states. Compliance with TA Luft.
KLINGER KGS G II
KLINGERSIL C-4400 and C-4430
KLINGER CompenSil





Production of methanol

Gaskets adapted to process and temperature in conversion processes within reactors with the help of catalysts and gas cleaning systems.
KLINGER KGS G II
KLINGERSIL C-4400 and C-4430
KLINGERtop-chem 2000
KLINGERtop-chem 2003
KLINGERmilam

Production of e-fuels

Gaskets ideal for various processes to produce e-fuels (Fischer-Tropsch, Sasol, etc.) that are operated using catalysts in the medium to high temperature range.
KLINGERSIL C-4500 and C-4430
KLINGERtop-chem 2000
KLINGERtop-chem 2003
KLINGER Quantum
KLINGERgraphit



Expert's check

"Hydrogen – opportunities, challenges and solutions by KLINGER"

KLINGER expert, Norbert Weimer, knows how hydrogen power can help the fight against climate change. In our fact check, he explains which sealing solutions KLINGER has in store for the hydrogen market.

In which areas is hydrogen already applied as an energy source?
Currently, the use of hydrogen as an energy source is still limited. It is used in welding, as rocket fuel, in fuel cells, and in rare cases also as car fuel. In all of Europe there are about 140 hydrogen fueling stations. Hydrogen also works as a chemical resource for ammoniac production and is used for gas-packing (E949) and conserving food. Additionally, large amounts are needed in refineries for hydrogenation.

Where do you see the most important applications for hydrogen in the future?
In fueling commercial vehicles such as trucks, busses and trains. And there are also industrial applications in chemistry and steel production, for reducing iron oxide. Plus, it can be used for e-fuels such as gasoline, kerosine or diesel, e.g. to power airplanes.

What are the biggest challenges when handling hydrogen – and which solutions does KLINGER offer?
The hydrogen molecule is especially small, even smaller than helium. It therefore easily escapes through porous material. This is why leakage is a bigger problem than with other substances. Additionally, just like other burnable gases, hydrogen is flammable and explosive when it comes into contact with oxygen and a tiny spark.
We meet these properties with
» extra premium quality products
» high leakage integrity
» high quality of assembly

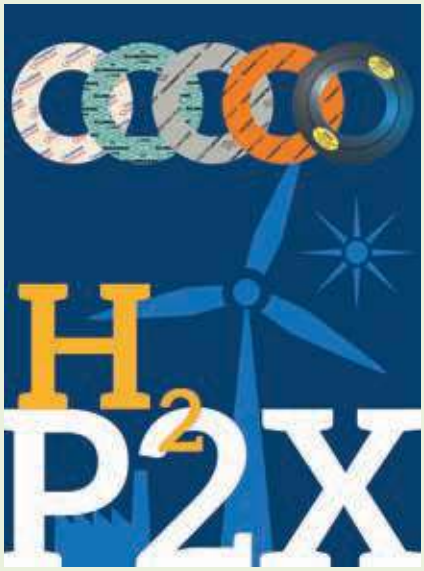


Norbert Weimer,
Manager of
KLINGER Germany

Did you know...

...that as far back as the 19th century, the French author Jules Verne foresaw the energy of hydrogen? In his novel "The Mysterious Island" (published in 1874) he wrote: "I am convinced that water will one day be used as fuel, that its components hydrogen and oxygen will become the source of heat and light. Water is the coal of the future!"

www.klinger.de



KLINGER gaskets and their application spectrum for hydrogen and P2X steps:

Elastomer gaskets
With standard flange connections and rather low temperatures for gas supply, distribution and storage.

Graphite laminate gaskets
For high temperatures in the plant, e.g. above 200°C, or wherever hydrogen is converted into e-fuels (gasoline, kerosine, diesel) and the process includes liquid phases.

Fiber-reinforced gaskets
Used in gas distribution, in machines and plants such as electrolyzers and process engineering plants, as well as in pumps. They also come outside of standard sizes – the advantage: fiber-reinforced gaskets can be produced as flat gaskets in every size and shape.

PTFE gaskets
These sealing materials are suitable for all steps of the P2X process up to temperatures of 250°C. They are characterized by high chemical stability and high leakage integrity with gas and they do not deteriorate with use.

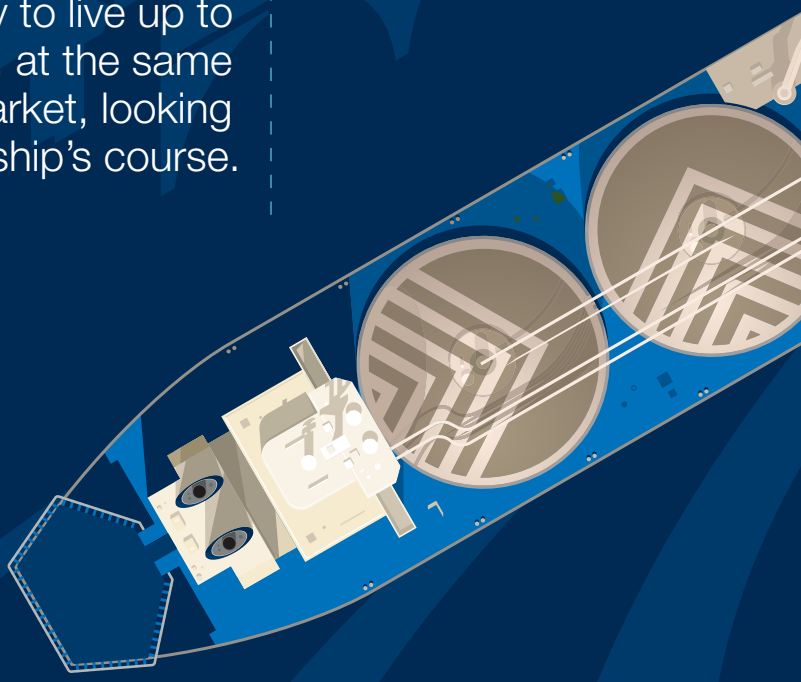
VISION & MISSION 2021

2021 is an exceptional year. We are all going through exceptional times: times to move closer together if only spiritually, no less cordially; times to cherish what's proven to be successful over 130 years of KLINGER's history – and at the same time take a fresh look at procedures and reevaluate strategies. Let's take a step back and picture KLINGER as a steady vessel on a rough sea – the whole crew determined to deliver, ready to live up to our customers' high expectations, at the same time carefully observing the market, looking ahead, always optimizing the ship's course.

We ask ourselves:

» Where do we come from?
ORIGIN
» What is our strength?
COMPETENCE
» What do customers expect from us?
CUSTOMER EXPECTATION
» What makes KLINGER unique?
DIFFERENTIATION

Here are a few answers
we would like to share with you.



VISION

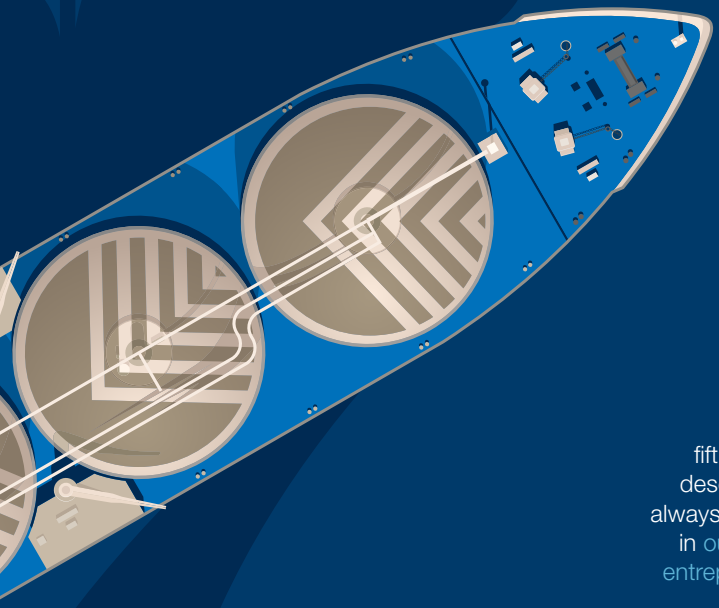
We want to meet the constantly changing demands in our industry, not only with individual products, but also with complete solutions. We are considered pioneers and THE quality label for gaskets, valves and technical industrial products.
We are also driven by this ambition in the digital age. In a dynamic market, our KLINGER companies around the globe ensure that our customers keep their own quality promises at all times. This understanding, paired with a strong sense of responsibility for future generations, makes us unique.

These are KLINGER's core values.
For 130 years we've been striving to be the best
– so let's set sail and together with our partners,
take a course towards future excellence!

COMPANY VALUES

As an employer, we strive to offer an appreciative work environment every day, in return each KLINGER crew member is:

RESPONSIBLE ENTREPRENEURIAL AMBITIOUS



ORIGIN

KLINGER is run by the fifth generation of the founder's descendants. And certain things always were and always will remain in our DNA: we see ourselves as entrepreneurs, as problem solvers and technical pioneers.

COMPETENCE

KLINGER is THE quality label for gaskets, valves and instruments. We guarantee the highest quality and a long service life for our products.

DIFFERENTIATION

At KLINGER, the principle applies: Run your company as if it were your own! We are organized in a decentralized manner. Every managing director acts as an entrepreneur. We work like a "federation of states" with independent companies around the globe. Yet, KLINGER has a very strong company culture that connects everyone. That is why our employees identify with the company and its philosophy. In the relationship with our customers, on the other hand, we are valued for our stable ownership values. Those loyal customers see us as equal partners. And that's also how we treat them.

CUSTOMER EXPECTATION

KLINGER's customers want on-time delivery, all-time delivery and a strong and reliable business partnership. They demand plant safety and top performance for their money. Of course, they also legitimately demand that we continue to be technology leaders.

MISSION

KLINGER is a stable and independent family-run business. We see ourselves as entrepreneurs, problem solvers and technology leaders in our industry. With sovereignly operating companies and a motivating performance culture, we are a reliable partner for our customers all over the world. They deal with us on the same level and know that we guarantee them solutions, safety and service while always taking environmental aspects into account. We keep things flowing – without interruption.

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