

# streams



## HELLO FUTURE!

Be bold in seizing  
opportunities → P. 18

Know how  
→ P. 26

For a better life  
→ P. 40



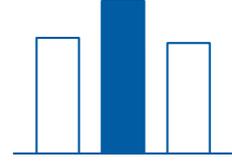
# The 2023 Financial Year

Order intake



€ 2,960 million

Sales revenue



€ 2,819 million

EBIT



€ 223.9 million

Earnings before finance income /  
expense and income tax

Employees



16,038

(31 December 2023)

## Company profile

KSB is a leading supplier of pumps, valves and related support services. Its reliable, high-efficiency products are used in applications wherever fluids need to be transported, controlled or shut off, covering everything from building services, industry, chemicals and petrochemicals, water transport and waste water treatment to power plant processes and mining. Founded in 1871 in Frankenthal, Germany, the company has a presence on all continents with its own sales and marketing organisations and manufacturing facilities. Wherever KSB's customers are in the world, service centres and around 3,500 service specialists are on hand to provide local inspection, servicing, maintenance and repair services under the KSB SupremeServ brand. The company's success is based on continuous innovation that is the fruit of in-house research and development activities.



←  
The 2023 financial year  
in 110 seconds

[ksb.com/online-report/  
110seconds](https://ksb.com/online-report/110seconds)

# HELLO

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# FUTURE!

*Around 450,000 customers all over the world trust in KSB. They appreciate KSB's reliable and efficient pumps and valves, as well as its tailored service solutions. KSB wants to actively shape the future with new business models – to maximise the success of its customers. For example, by offering digital solutions such as remote pump monitoring and 3D printing of spare parts. KSB is committed to long-term profitable growth and is looking forward to the future with optimism.*

## Be bold in seizing opportunities

Dr Stephan Timmermann, CEO of KSB, and four of the company's young talents take a positive look ahead at the future.

18

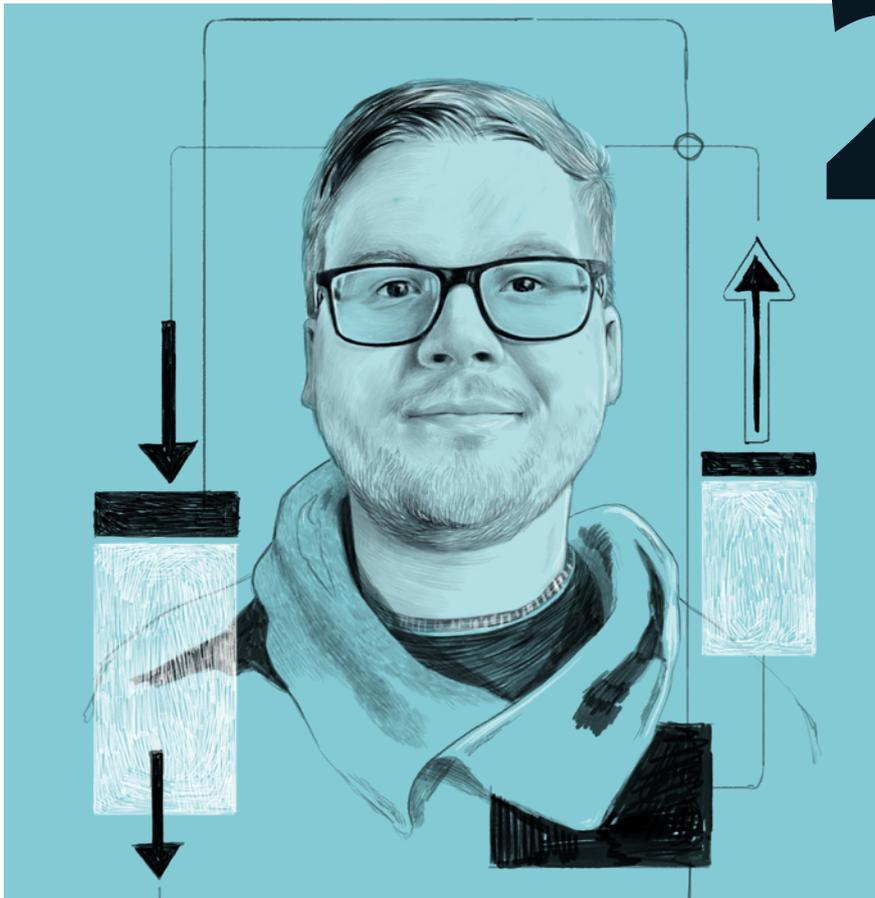


## For a better life

As an industrial partner, KSB supports sustainability projects worldwide. For example, by providing pumps to supply the inhabitants of a Vietnamese village with water.



40



26

## Know how

KSB's customers not only value its products and support services, they also appreciate its expertise. The company makes this expertise available around the world, for example via training courses.

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# ALWAYS THE RIGHT SOLUTION

Pumps and valves perform important tasks in daily life. KSB offers its customers high-quality, cutting-edge technology and tailored solutions to ensure that their systems operate efficiently and smoothly.

# ENERGY FROM BIOMASS



# ALWAYS THE RIGHT SOLUTION

Pumps and valves perform important tasks in daily life. KSB offers its customers high-quality, cutting-edge technology and tailored solutions to ensure that their systems operate efficiently and smoothly.



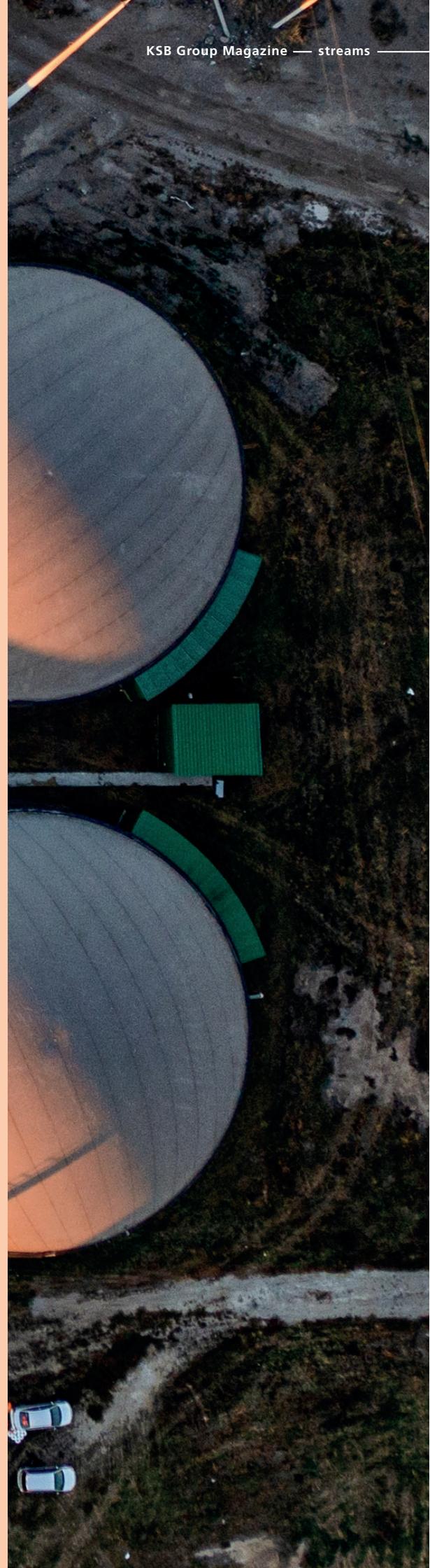
HGM-S

## Efficient generation of green electricity

In future, power plants will increasingly generate electricity from biomass and waste instead of from coal or gas. KSB has developed a new high-pressure ring-section pump especially for use in such systems.



More information  
on the product





Geschoss Floor 10  
Geschoss Floor 10

Ausfahrt →

Geschoss Floor 10

FIRE PROTECTION  
FOR BUILDINGS







HyaDuo 2 D FL Compact

## Reliably safe

Fire-fighting systems ensure safety in industrial facilities and large buildings such as multi-storey car parks. They autonomously detect any fires and promptly extinguish them. The latest generation of fully automatic break tank package booster sets for fire fighting from KSB meets all the latest international requirements.



More information  
on the product





ACTIVE INGREDIENTS  
FOR MEDICINES







SISTO-C  
diaphragm valve

## Valves from the 3D printer

Modern active-ingredient production facilities in the pharmaceutical industry place high demands on the material of components. Thanks to an additive manufacturing process called laser powder bed fusion, KSB can offer its customers complex diaphragm valves made of high-quality materials as standard with shorter delivery times than conventional production.



More information  
on the product



# BE BOLD IN



The future is by its nature uncertain, but still promises a wealth of opportunity. This is the view taken by KSB CEO Dr Stephan Timmermann and four of the company's young talents. In this interview, they talk about how they see their future and deal with the challenges ahead.



↑ Dr Stephan Timmermann, CEO, talks to four of KSB's young talents about their plans for the future.

# SEIZING OPPORTUNITIES

**Vanessa, Rida, Louis and Endrit, we have agreed on first-name terms for this interview. You are all at the beginning of your professional careers at KSB. What plans do you have for your future?**

**Louis Becker:** I work in the assembly shop for our standardised water pumps, and am also undertaking vocational training to become a master craftsman. I want to successfully complete this qualification and maybe even add a degree in mechanical engineering afterwards.

**Rida Naz:** I am currently writing my Master's thesis on the subject of process management at KSB. After that, I'll be on the lookout for a trainee position or a direct entry into a job. Writing a doctoral thesis might also be an option.



← “Every problem has a solution,” says Endrit Bozhdaraj, who is training as a cutting machine operator at KSB.

**Endrit Bozhdaraj:** My first goal is to successfully complete my training. Then I would like to become a technician. Later, I could imagine working as a trainer.

**Vanessa Kiessling:** My first goal is also to complete my training as a management assistant for digitalisation management as successfully as possible. After that, many doors will be open to me at KSB for further training. I find the idea of going abroad very appealing. But I don't have any concrete plans yet.

**Dr Timmermann, you are KSB's CEO. Do you still remember your first steps into the world of work and your expectations at the time?**

**Stephan Timmermann:** I remember it very well. Back then, young engineers had excellent prospects. Major companies offered junior trainee programmes. But I was interested in something concrete, a task where I could see the results of my work in the short term. I was fortunate enough to find a job where this was possible which offered me a lot of responsibility early on. I was tasked with planning and building a new production plant for a mechanical engineering company.

**What advice would you give your junior staff for their careers?**

**Stephan Timmermann:** Education and professional development are more important than we sometimes realise. A good professional qualification creates value for life – because nobody can take qualifications away from you. Knowledge and expertise make all the difference in the global competition with other highly qualified minds. If you have the opportunity, you should also gain experience abroad. This not only expands your horizons and intercultural skills, but also leads to greater openness. These are all important qualities that international companies are looking for.

**What role do concrete plans play in your career?**

**Stephan Timmermann:** My tip: Forget trying to meticulously plan and execute your career journey! Focus on your sphere of influence. Be bold in seizing opportunities and deliver exceptional performance. Then your career will automatically progress.

**What is important to you in your day-to-day work?**

**Vanessa Kiessling:** Positive thinking is important to me. Private and professional life both have their ups and downs. I find it easier to deal with setbacks when I look ahead. That's why I try to look to the future with optimism.

**Louis Becker:** I think the team around you is also important. Those who get on well with their bosses and colleagues also have an easier time at work.

**Endrit Bozhdaraj:** Sometimes you need a kick in the backside. Otherwise you might not always fully devote yourself to a task.

**Rida Naz:** Getting things done also takes a lot of self-discipline. It's important for me not to lose sight of my goal.

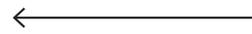


Rida Naz works at KSB as a student trainee and is writing her master's thesis on process management.

# FOUR YOUNG TALENTS FROM KSB



## Vanessa Kiessling



- 20 years old
- In training as a management assistant for digitalisation management

## Endrit Bozhdaraj



- 19 years old
- Trainee cutting machine operator



## Rida Naz



- 29 years old
- Working on her master's thesis on process management at KSB

## Louis Becker



- 23 years old
- Industrial mechanic in pump assembly at KSB



# “MEET CHANGE WITH A SMILE.”

— Dr Stephan Timmermann, CEO



**One current and future challenge is the rise of digitalisation, which is bringing about many changes. How do you deal with it?**

**Vanessa Kiessling:** Today, most communication at home and at work happens via digital channels and everything is networked. I am looking forward to seeing what comes next and discovering how it will make our everyday lives easier.

**Louis Becker:** In our department, we book time off using an app. Our payslips are sent digitally to our smartphones; we no longer use paper at all. In my free time, I use ChatGPT to support my learning. I think artificial intelligence is going to be an inevitable part of our future.

**Endrit Bozhdaraj:** Almost everything in our training programme is also digital. This means I can quickly look up something on a device, for example how a machine works.

**Rida Naz:** There is no need to be afraid of digitalisation. On the contrary, we can use technologies like artificial intelligence to make business and production processes even more efficient. This creates capacity for employees, who can then devote more time to other issues.

**Dr Timmermann, younger people often take changes such as the digital transformation in their stride. Older people sometimes find this more difficult. Why is that?**

**Stephan Timmermann:** Most people resist change initially. This may become more pronounced with age because you want to focus your energy on other things – yet dealing with change costs energy. But change is part of life. When the first robots arrived in factories, they did not replace the people working there, but supported them. One thing is clear: Nobody can stop progress! So I agree with those who say: Meet change with a smile. Focus less on the risks and more on the opportunities that present themselves.

“I think artificial intelligence is going to be an inevitable part of our future,” says Louis Becker, who works as an industrial mechanic in pump assembly at KSB.



“Nobody can stop progress,” says Dr Stephan Timmermann. “The point is utilising the resulting opportunities.”

Vanessa Kiessling, in training to become a management assistant for digitalisation management, focuses on positive thinking.



#### To what extent does this also apply to companies like KSB?

**Stephan Timmermann:** There has been no shortage of challenges for companies in general in recent years. This was also the case at KSB. Whether we face a pandemic, armed conflict or natural disaster: We always concentrate on how our company will be impacted – in the short and long term. Which employees will be affected? These are the key questions. Every day, my colleagues and I in Management are confronted with changes which require our attention and demand we find solutions.

#### What is the secret behind KSB's particular resilience in recent years?

**Stephan Timmermann:** Regardless of the challenges facing us, it always helps that we are a global company with numerous products for a wide range of markets. We are active in more than 100 countries, and our Global Manufacturing Network enables us to compensate for economic imbalances in different parts of world. This makes us a little more resilient than other companies. And we have employees who stick together and give their best when times are tough.

#### How do you deal with difficult situations at work?

**Endrit Bozhdaraj:** Every problem has a solution. My colleagues in the training workshop always support me when I get stuck. I really appreciate that.

**Vanessa Kiessling:** Especially as a new employee, it is helpful to get help from the team. My colleagues have always supported me so far. For me, it is important that you can learn a lot from difficult situations.

**Louis Becker:** It depends on whether I can solve a problem on my own or whether I need support. I usually manage on my own. But when I can't, it's always good to get help.

**Rida Naz:** First of all, I try to stay calm and not panic. This means first analysing a problem and thinking about possible solutions.

#### Dr Timmermann, how can we confront life with confidence?

**Stephan Timmermann:** For me, facing the world with confidence above all means being an optimist, and knowing that many things which seem insurmountable today may become relatively manageable or even resolve themselves tomorrow. And: Let the future come to you, identify the challenges and develop a plan. This opens up many paths which can be explored despite their obstacles. The road may twist and turn, but the goal should remain in sight. Those who confront life with confidence tend to focus on the search for solutions rather than the obstacles they encounter. This attitude will support you in your work – and in your private life.

# Know

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Customers today not only value products of the highest quality, they also appreciate a company's expertise. KSB is an expert in transporting fluids of all kinds and knows what is important when it comes to operating systems. Its customers also benefit from this expertise, as recently illustrated by two examples from Brazil and Germany.

**“Quality  
can only  
be achieved  
by quality  
people.”**



# how

## Technical training in Brazil

KSB offers technical training in numerous countries that draws on its extensive expertise as a manufacturer of pumps and valve. It's not only the company's employees that benefit from this training, but also KSB customers. For example, expert training courses are regularly held in Brazil. KSB organised a tailored training course on pump maintenance for a team from the Opersan Group, which operates in the field of water and waste water management.

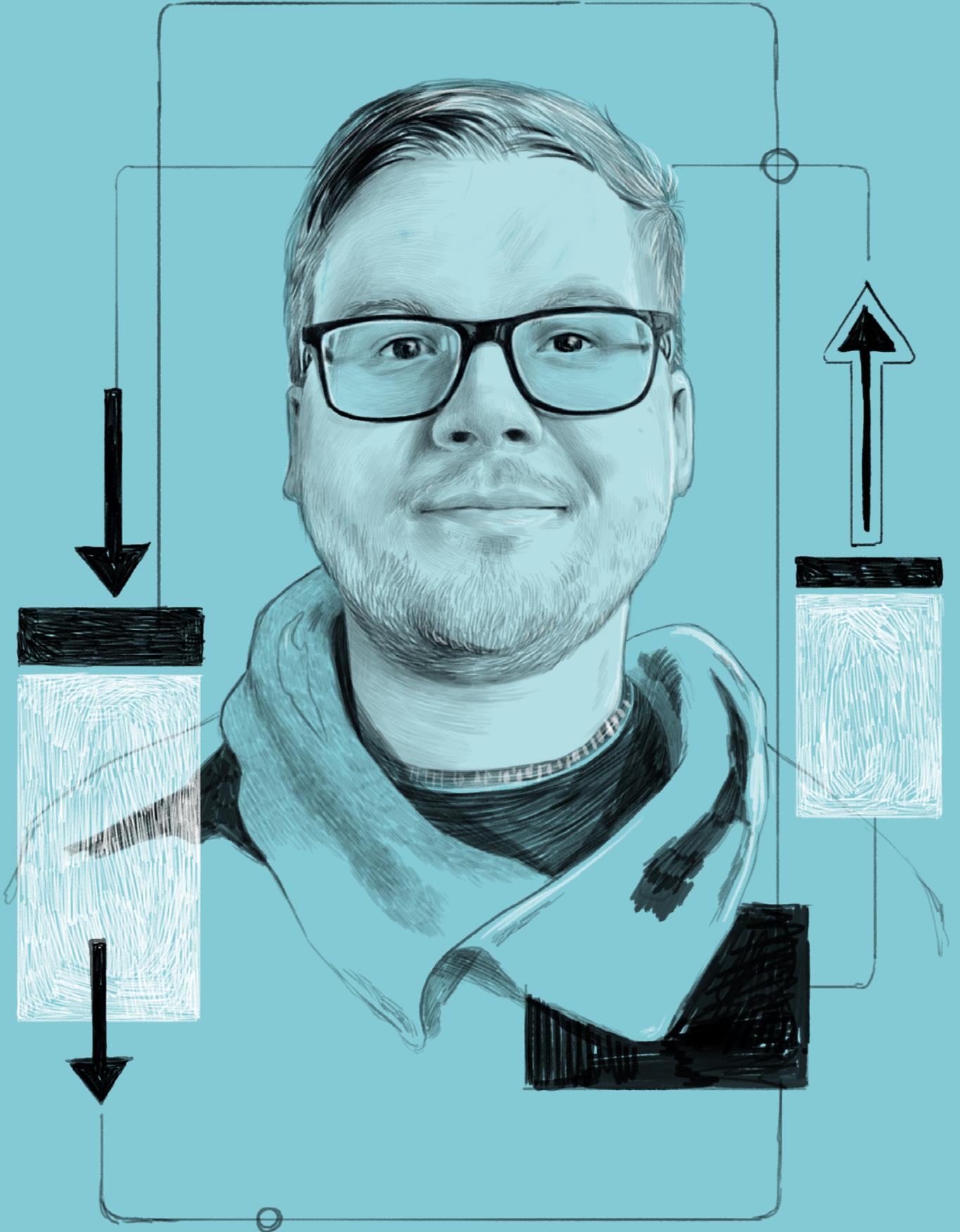
"The training content was clear, factual and understandable," says Sérgio Jaborandy, Operations Manager at Opersan. "The feedback I received from all participants was extremely positive." The newly acquired knowledge is helping his team to develop and become even more skilled at carrying out maintenance work on pumps.

Personal contact is particularly important to the participants of the technical training courses. "Quality can only be achieved by quality people," emphasises Sérgio Jaborandy.



**Sérgio Jaborandy**  
Operations Manager  
Grupo Opersan, Brazil





**Alex Stumb**  
Project Manager  
BWG-Technik GmbH, Germany

### Online with KSB in Germany

Every Wednesday, KSB offers its customers interesting weekly online seminars on a variety of topics in Germany. Experts share their specialist knowledge on technical topics, for example in courses on the hydraulic basics of pumps, the variable speed control of waste water pumps in theory and practice, and safe fire fighting in compliance with the latest regulations.

Alex Stumb from BWG-Technik GmbH in Schweinfurt has participated in KSB online seminars to refresh or expand his knowledge of hydraulics, energy efficiency and the wear of pumps and valves. As a project manager, he plans and oversees construction projects for the public sector, private individuals and commercial customers.

“Buildings and their systems need to meet ever more demanding specifications in terms of speed, flexibility and efficiency, and can only be engineered with the help of specialists like the experts at KSB,” explains Axel Stumb. “The seminars provide practical and detailed information on how pumps and valves can be optimally used in our construction projects.”

Alex Stumb has already attended numerous seminars. “I have so far participated in around ten KSB online seminars,” says the project manager. “I am impressed by the variety of building services topics covered – the training experts always have an individual solution for every situation.”

**“I am impressed by the variety of building services topics covered – the training experts always have an individual solution for every situation.”**

# REMOTE MONITORING





Production facility breakdowns cost companies a lot of time and money. KSB SupremeServ Monitoring minimises downtime by detecting damage to machinery at an early stage. The smart digital service thus enables customers to operate pumps and rotating machinery efficiently.

Global competition is exerting unprecedented levels of pressure on manufacturing companies to increase efficiency and reduce costs. Managing systems and plants via predictive maintenance plays a key role in achieving this goal. Predictive maintenance can prevent unplanned downtime and ensure that they operate efficiently. This supports maintenance planning and facilitates making processes more predictable. The approach is particularly relevant for waterworks, sewage treatment plants, industrial plants and companies in the chemical and energy industries.

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## Easy to get started

Predictive maintenance requires reliable data on the condition of the machines being monitored. KSB SupremeServ Monitoring offers a straightforward starting point for entering the world of predictive maintenance. The service is based on the KSB Guard monitoring unit, whose sensors record vibration and temperature levels of pumps and other rotating machinery. The continuous digital data acquisition performed by KSB Guard provides a comprehensive overview of the pump set's condition.

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## Fast analysis

Some companies lack experienced diagnostic experts capable of analysing and correctly interpreting a machine's data. It is these companies which stand to benefit from KSB SupremeServ Monitoring. "We are already remotely monitoring more than 3,000 pumps in around 40 countries worldwide," says Lukas Schneider from the KSB SupremeServ Monitoring Center in Frankenthal. "In addition to conventional diagnostic procedures, we also use artificial intelligence." This role as a remote monitoring service moves KSB one step closer to its customers.

Experts at one of the KSB SupremeServ Monitoring Centers in Frankenthal, Germany,

and in Pune, India, receive information from the KSB Cloud. All of the data transmitted by pumps and machinery is sent there for expert analysis. The transmitted data is displayed as numerous coloured lines on the screens of the diagnostic experts – similar to the way cardiologists interpret an electrocardiogram. Detailed analysis begins as soon as the team recognises anomalies in the measurement data. Besides high-quality measurement data, this requires a great deal of expertise. KSB also has the advantage of over 150 years of experience in manufacturing pumps, providing valuable insights and

information for the analysis. KSB's customers benefit from the added value of recognising damage at an early stage and being able to initiate targeted action. The result is reliable and safe operation of their production systems.

After analysing the data in detail, KSB's experienced diagnostic experts document the results and provide information to the customer. This includes the suspected cause of the damage and specific advice on what to do next. In most cases, this is a recommendation for repair or maintenance measures.



↑ KSB's diagnostic experts in Frankenthal remotely monitor their customers' pumps.

These are provided quickly and efficiently by KSB SupremeServ's technicians – an all-round carefree package for the customer.

"The KSB SupremeServ monitoring service expands our range of services and supports our customers through the proactive provision of recommendations for efficient pump operation," outlines Lukas Schneider. "We not only analyse the measurement data, but also offer suitable services or the required spare part."

## In use with the customer

An example from Belgium shows what KSB SupremeServ Monitoring looks like in practice. A car manufacturer produces its vehicles there and uses various pumps in its production facilities. The company tested KSB Guard on a pump used in the paint shop for handling thinned, excess paint for recycling.

"The transmitted data revealed that the pump impeller was out of balance," explains Wouter De Mesmaeker, who works as an engineer at KSB SupremeServ in Belgium. "We then took a closer look at the pump set and found that the pump casing, discharge cover and impeller were heavily soiled with paint residue." These three heavily contaminated wetted components were causing high vibration levels detectable in the blade passing frequencies – a typical characteristic of centrifugal pump vibrations. In short: The pump could not work reliably and efficiently, and its life expectancy was significantly decreased.

Following this quick diagnosis, the service team put the pump back into operation

temporarily so that the production facility could run as usual for a week. The pump set was then overhauled when there was a scheduled break in production operations the following weekend.

As a first step, service specialists from KSB SupremeServ dismantled the pump, cleaned the affected parts and carried out a thorough sand-blasting. After extensive testing and measurement work, the team of technicians reassembled the pump set.

However, this remained a temporary solution to the customer's problem. "We therefore offered a special anti-adhesive coating for the affected pump components," says Wouter De Mesmaeker. The service experts also recommended customised, high-quality materials for the pump set's other components. "Our recommendations extended



A heavily soiled component was identified as the cause of a pump impeller that was out of balance at one of KSB's customers in Belgium. Thanks to KSB SupremeServ Monitoring and the swift action of KSB SupremeServ engineers on site, the pump set was soon able to work efficiently again.

# “WE EXTEND THE SERVICE LIFE OF OUR CUSTOMERS’ PUMPS.”

— Wouter De Mesmaeker  
Engineer at KSB SupremeServ in Belgium



the service intervals and thus the service life of our customer’s pump.”

Just like the example in Belgium, KSB’s customers worldwide can benefit from digital services capable of recognising signs of wear and damage to pumps and rotating machinery at an early stage. This means that necessary maintenance and repair work can be planned and carried out ahead of time to prevent possible consequential damage.

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## Many pumps to save

By combining digitalisation and services, KSB offers its customers not only the right products, but also the right services. “Using KSB SupremeServ Monitoring gains companies an advantage in international competition,” says Lukas Schneider. “This is because we contact our customers with the solution before they even know they have a problem.”

It should be noted that using KSB Guard is particularly worthwhile for older pumps. The



Find out more about KSB SupremeServ Monitoring.



Lukas Schneider gives a tour of the KSB SupremeServ Monitoring Center in Frankenthal.

“WE ARE ALREADY  
MONITORING  
OVER 3,000 PUMPS  
IN AROUND  
40 COUNTRIES.”

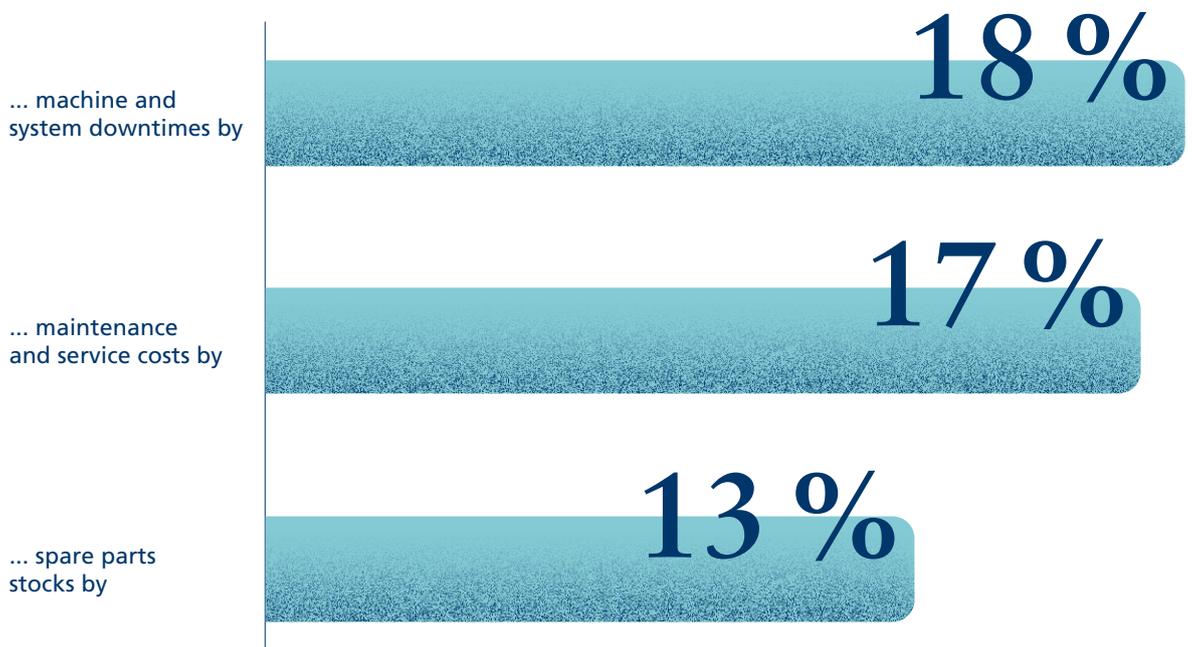
— Lukas Schneider  
Head of KSB SupremeServ Monitoring Center



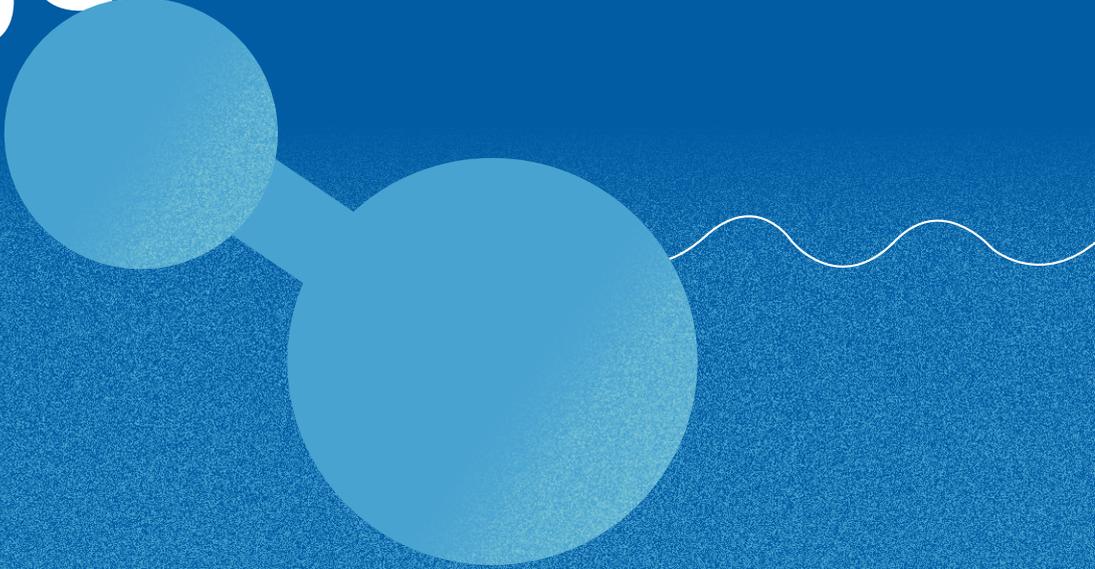
system can monitor machines of any age from any manufacturer. Monitoring is particularly recommended for older pumps. Around the world, countless pump sets have been running for decades – and many of them are no longer as efficient and reliable as they should be. As Lukas Schneider knows from experience: “Pumps deteriorate gradually. Our task is to prevent this in good time.”



## Predictive maintenance reduces ...

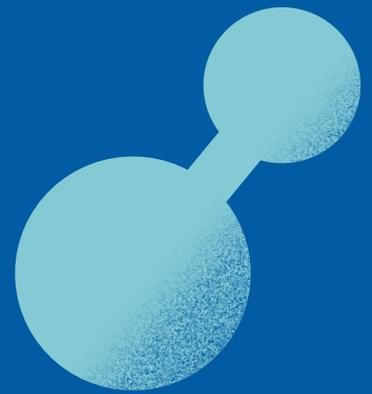
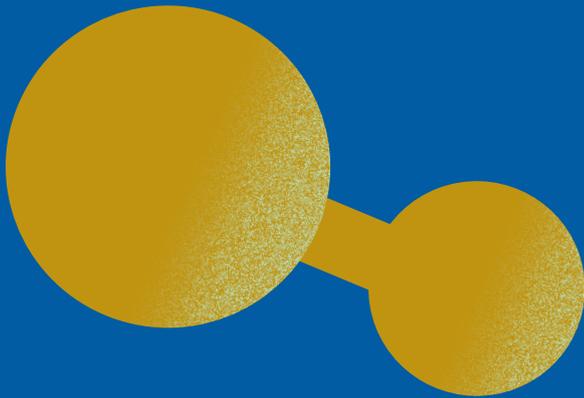


# Blue bridge



# to a green future

In order to meet the climate targets, the energy production of the future needs to be entirely carbon-free. Hydrogen plays an important role in achieving this. However, until sufficient renewable energy is available for producing green hydrogen, blue hydrogen offers a climate-friendly alternative for a transitional period, as the carbon dioxide generated in the process is not released into the atmosphere. KSB pumps and valves are used to capture and store the CO<sub>2</sub> produced.



The idea of capturing carbon dioxide during the production of hydrogen from natural gas is particularly attractive where high levels of emissions are generated, for example in the iron and steel industry, fossil-fuelled power plants and the chemical industry. The processes involved in hydrogen production are widely known, and the required plant equipment has been tried and tested. In all classic processes for producing hydrogen from natural gas, pumps and valves are used, such as globe and butterfly valves. They perform a variety of tasks and operate under extreme conditions involving high pressures and temperatures.

## Transporting and storing CO<sub>2</sub>

The key to producing blue hydrogen is the effective capturing and storage of the carbon dioxide generated. After it has been captured, the carbon dioxide is compressed. It can then be transported efficiently and pumped into underground storage facilities. The pumps used must be able to handle a wide range of applications, be quickly ready for use and suitable for huge pressures and high temperatures.

Handling CO<sub>2</sub> involves a number of challenges. The first issue is its volatility. Carbon dioxide is gaseous at ambient pressure. Suitable seals prevent leakage and reduce the risk of

freezing. Developers at KSB in Frankenthal investigated these influencing factors in detail more than ten years ago in a CO<sub>2</sub> test facility. On the basis of this research work, they were able to determine the most efficient pump for the respective operating range and tasks in the hydrogen process.

## Temperature and pressure monitoring required

Another challenge when converting gaseous CO<sub>2</sub> into its liquid state is keeping the pressure and temperature stable. Keeping these factors under control is of enormous importance, especially in multistage processes. The pumps therefore need to be equipped with sophisticated additional sensors for temperature and pressure monitoring. If the fluid handled is at risk of passing from the liquid to the gaseous state, the motor speed is automatically reduced.

Hydrogen is considered a technology of the future and can already be implemented today by manufacturers combining proven hydrogen production technologies with carbon capture systems. This enables a fast transition to carbon-neutral processes until enough green hydrogen is available.

## What does carbon capture and storage mean (CCS)?

Carbon capture and storage (CCS) is the term used to describe the process of capturing and storing carbon dioxide. Carbon dioxide (CO<sub>2</sub>) emissions need to be reduced. To bring down net emissions in the short term, an effective method is to capture any CO<sub>2</sub> that is produced and prevent it from being released into the atmosphere. Although this does not reduce the actual level of emissions, it does eliminate the harmful impact of greenhouse gases.

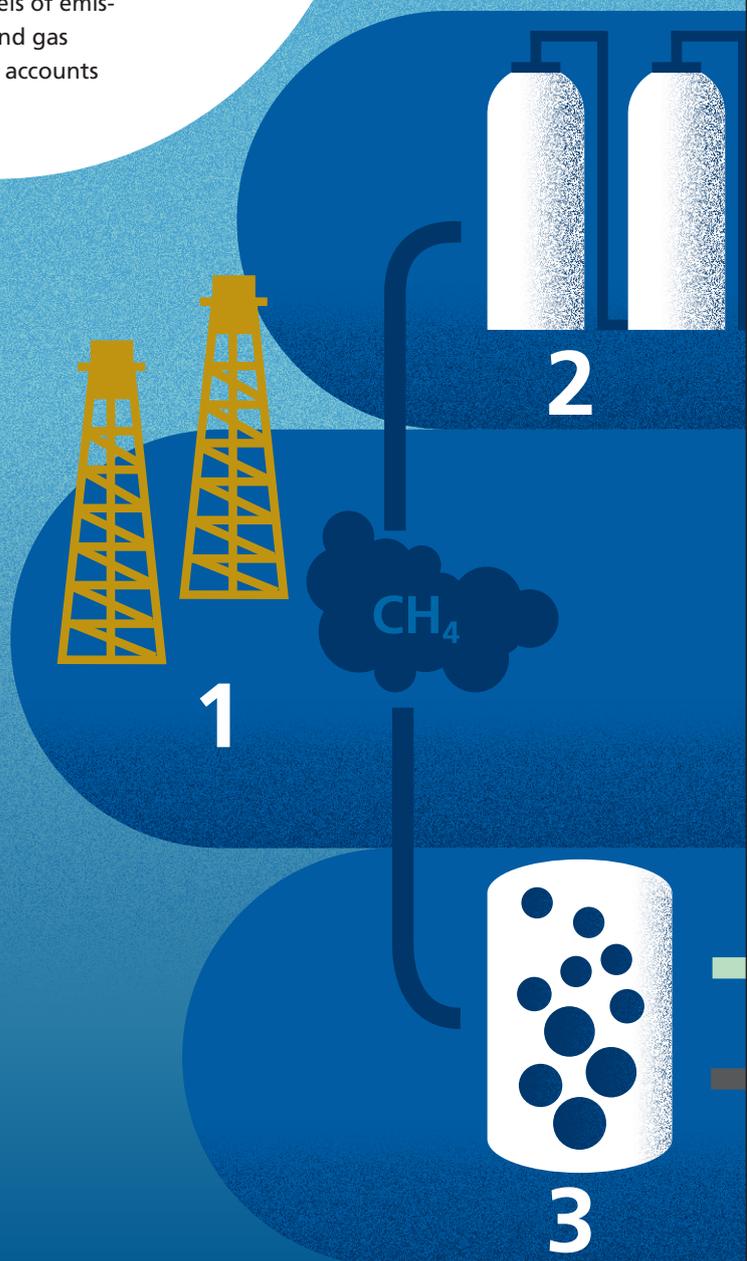
The process consists of two main steps: Capturing or separating the carbon dioxide and then storing it safely. It makes sense to capture greenhouse gases directly during industrial processes that release particularly large quantities of emissions. This is especially useful and worthwhile where high levels of emissions are generated, for example in iron and steel production, oil and gas refineries and fossil-fuelled power plants. The cement industry also accounts for a considerable amount of global CO<sub>2</sub> emissions.

# 4

Carbon dioxide (CO<sub>2</sub>) is stored in geological structures or used in industrial processes, preventing it from being released into the atmosphere.

# 5

The hydrogen is transported directly or via the existing gas infrastructure to the facilities that use it.



1

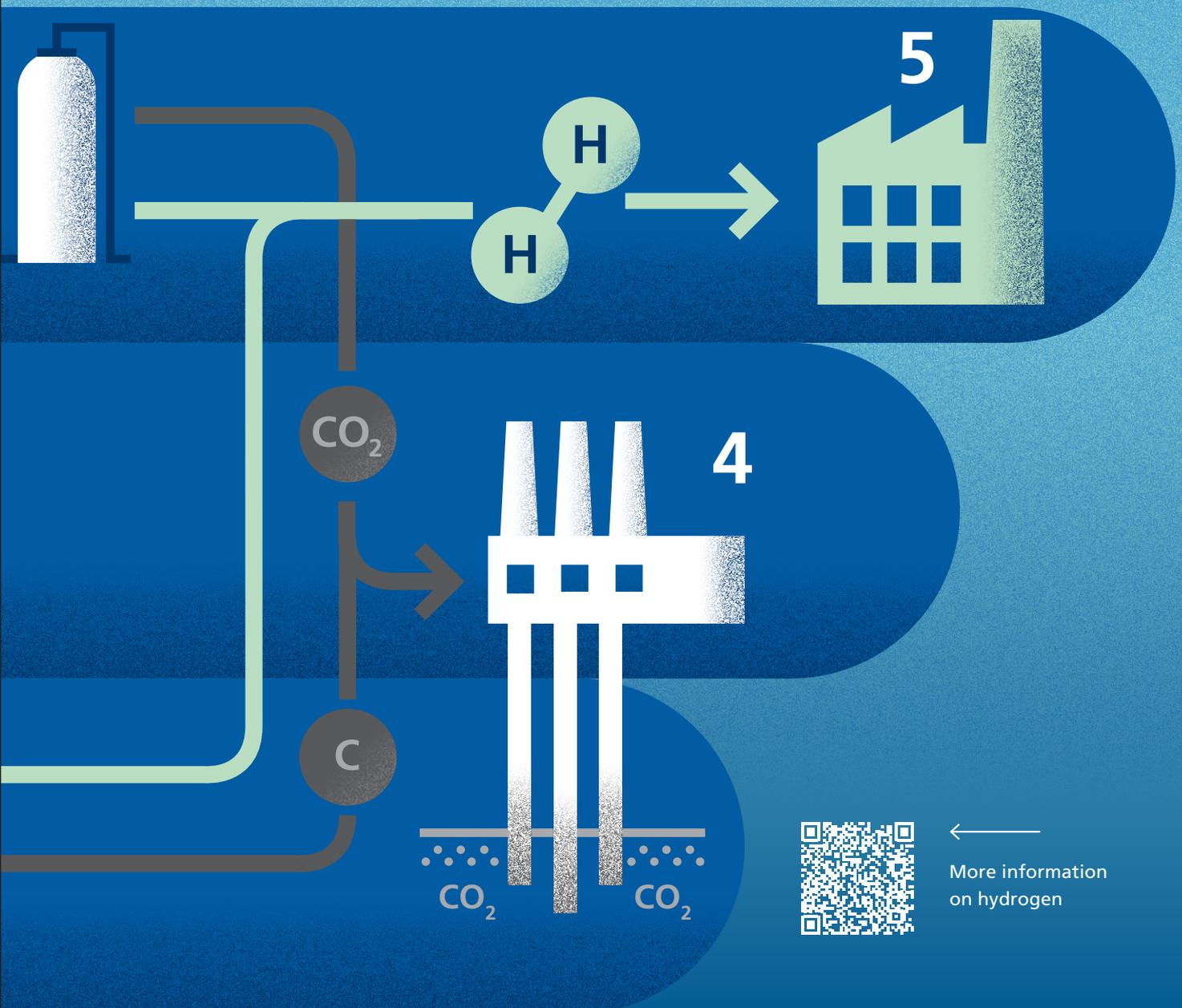
Blue hydrogen is produced from natural gas ( $\text{CH}_4$ ). Several methods can be used for this, for example steam reforming or pyrolysis.

2

In steam reforming, the hydrogen contained in the natural gas is separated from the carbon using steam in order to produce pure hydrogen.

3

During methane pyrolysis, a high-temperature reactor breaks down the natural gas into its components carbon (C) and hydrogen ( $\text{H}_2$ ).



More information  
on hydrogen

# For A

Access to clean water is a human right and essential for life. This is why KSB supports such projects worldwide as an industrial partner, for example in Vietnam.



For around two billion people, getting clean drinking water by simply turning on the tap remains impossible. This affects many people in poorer regions, particularly if they live in rural areas.

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## Challenging project

KSB has supported numerous projects aiming to provide clean drinking water. One example is a joint project funded by Germany's Federal Ministry of Education and Research, which KSB has joined as an industrial partner. In the Dong Van Karst Plateau in the north of Vietnam, it is difficult to ensure a reliable water supply since

water seeps into the porous rock and flows into an underground cavern system and ravines far below the human settlements on the surface. The region also suffers from a pronounced water shortage in the dry season.

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## Innovative ideas needed

Project partners from industry and universities developed innovative and robust technologies for efficiently pumping and distributing water. The result was the first milestone in the KaWaTech Solutions project: a hydropower plant commissioned in 2019



# Better Life



The children of the Vietnamese village of Lung Lu are happy that they no longer have to walk for kilometres to fetch water.

that pumps water in the Dong Van Seo Ho pumping station without the use of electrical energy. KSB supported the project by supplying two Multitec pump modules capable of pumping water into a tank situated at an elevation 550 metres higher. The pump sets are driven by pumps running in reverse as turbines. From the elevated tank, the water enters a storage tank from where the precious liquid flows into homes via a distribution system.

The station pumps 1,700 cubic metres of water per day – enough for around 10,000 people. When designing the pump station, the engineers incorporated innovative digital technology. The KSB Guard and PumpMeter monitoring units record the pumps' vibrations and temperatures as well as the discharge pressure and flow rate, allowing their operation to be monitored via computer and smartphone.

## A stand-alone solution

After the COVID-19 pandemic, it was only in 2022 that it was possible to travel to Vietnam again to tackle the second milestone: a decentralised water supply system for the nearby village of Lung Lu that is located almost two kilometres away from the elevated tank, which is part of the water supply infrastructure.

The village of Lung Lu comprises 25 households. The water is pumped by the current prototype of the AquaSol solar pump into a water tank situated at a higher level, from where it flows to the village. The unit pumps at least ten cubic metres of water per day to a head of 70 metres. KSB developed the AquaSol pump as part of a start-up project.

The people who live in the region are delighted with the improved quality of life they now enjoy thanks to the availability of drinking water nearby. "The successful project is to serve as a model for the use of this technology in other emerging and developing countries. The pump developed by KSB provides a stand-alone solution for these situations," emphasises KSB project manager Michael Fath.

## KSB's nine sustainability goals

Sustainability is one of the pillars in KSB's corporate strategy. In addition to the responsible use of resources and the environment as well as the duty of care to employees, this also includes social commitment. In 2019, KSB set itself nine binding sustainability goals. These are aimed to be achieved by 2025 at the latest.

**1**  Production sites reduce their CO<sub>2</sub> emissions by 30 percent.

**2**   More than half of newly developed products are subject to ecological assessment.

**3**    KSB's water pumps save an annual 850,000 tonnes of CO<sub>2</sub>.

**4**   Each employee invests at least 30 hours per year in training and development.

**5**  Women make up at least 20 percent of management staff.

**6**  Employee satisfaction is at 80 percent (engagement index).

**7**  The number of working days lost due to occupational accidents is reduced to fewer than 0.3 days per employee per year.

**8**      KSB is involved in at least 25 social projects worldwide every year.

**9**   90 percent of key regional and global suppliers have their sustainability performance assessed.



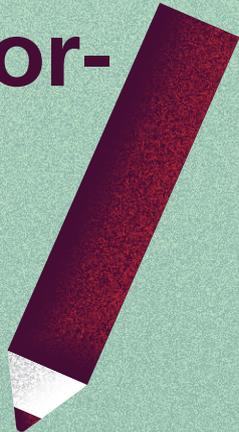
Find out more about the topic and the current progress with these nine goals in KSB's sustainability magazine.

# Good2Know

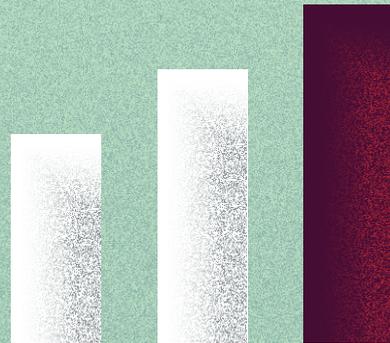
## More opportunities

Percentage of over 14-year-olds worldwide who can read and write:

1976: **66 %**      2022: **87 %**



Source: World Bank



## Increase in global life expectancy

Born in 2000 → 66.8 years  
 Born in 2019 → 73.3 years

Source: World Health Organisation

## Online

The number of Internet users worldwide is estimated to have grown from around one billion in 2005 to more than five billion in 2023.

Source: Statista



Today, around

# 90 %

of all people have access to electricity. In 1990, it was only 75 percent.

Source: Gapminder Foundation

# Reuse of water



Every year, about 165 billion cubic metres of waste water are collected and treated around the world. However, only two percent of this is currently reused. This precious resource can be put to much better use, for example in agriculture and municipal irrigation as well as in cleaning processes.

Source: SUEZ Group

# Less global poverty



Since 1990, fewer and fewer people have been living in extreme poverty. Scientists expect this trend to continue.

1990:	2018:	2030:
<b>1,996</b> million	<b>648</b> million	<b>574</b> million*

Number of people living in extreme poverty worldwide

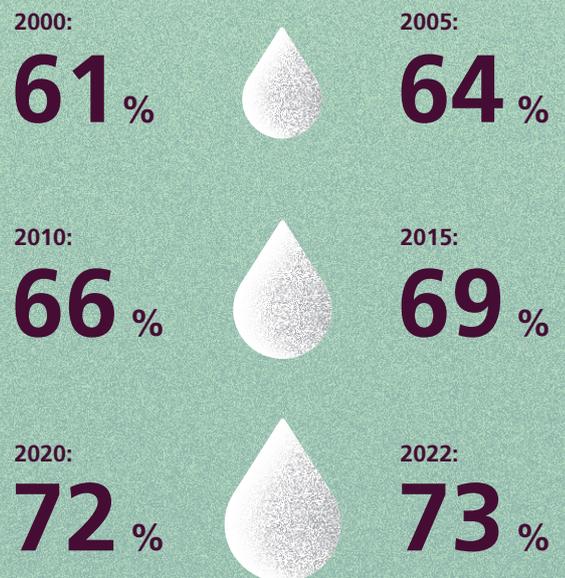
\*Forecast | Source: United Nations



Around the globe, the number of people who

# have access to clean drinking water

is increasing.



Percentage of the global population with access to managed drinking water systems

Source: World Health Organisation

# The ozone hole is shrinking

The ban on the use of chlorofluorocarbons (CFCs) is working: United Nations experts say that the ozone layer could recover completely by 2066. The regeneration of this important protective shield is crucial because it protects the earth from ultraviolet sun rays and slows down global warming.

Source: United Nations Environment Programme



# EXTREMELY RELIABLE

The consequences of climate change are leading to increasing flooding worldwide. Flood control systems are critical for protecting human lives and material assets. When it comes to the technology used, there can be no compromises on quality.

Stormwater and flooding can have catastrophic consequences. A study by international scientists estimated that around 1.8 billion people – roughly 23 percent of the global population – are directly exposed to a 1-in-100-year flood event. The majority of the people affected live in South and East Asia.

According to calculations by the United Nations Office for Disaster Risk Reduction (UNDRR) in 2021, the number of floods has increased worldwide in recent years. While there were 1,389 such events in total between 1980 and 1999, this figure rose to 3,254 between 2000 and 2019. The reasons for this development are more frequent heavy rainfall as a result of climate change, the growth of megacities and the sealing of large areas.

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## Flood control pumps

Facilities such as pumping stations are an important part of flood protection, as they are able to pump the water masses out of the danger zone in the event of an emergency. However, their commissioning requires comprehensive technical expertise. Kishor Gokhale, who works for KSB in Singapore, is an expert in this area and has overseen numerous flood protection projects in the Asia South and Pacific region.

“The occurrence of flood events cannot be controlled, but we can help to reduce the risks and damage caused by flooding,” explains Kishor Gokhale. “With flood control pumping stations, the reliability and therefore the quality of the pumps is the most important factor.”

KSB can draw on decades of expertise in flood control applications. “Thanks to our wealth of experience, we have accumulated extensive product and application know-how that benefits our customers all over the world,” says Gokhale. The company offers a complete range of products for flood control systems, including pumps with a flow rate of 1 to 30 cubic metres of water per second.

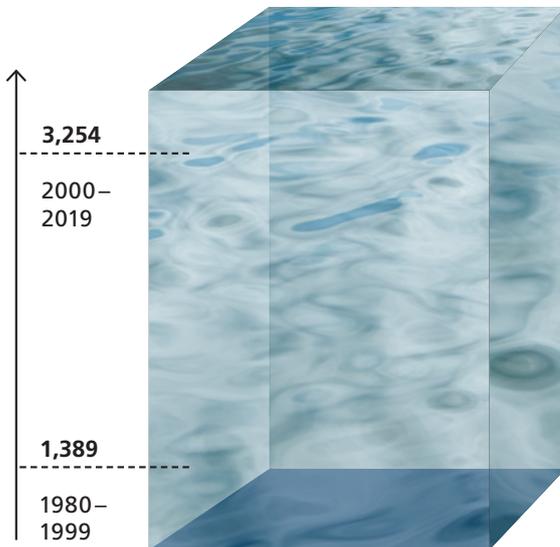
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## Maximum performance instantly required

Stormwater and flooding place exacting demands on drainage pumps. Even after periods of prolonged standstill, they need to run reliably and instantly deliver maximum performance, while transporting huge quantities of water. Thanks to intelligent variable speed systems, the pumps achieve their optimum operating point – saving energy and reducing costs.



## Increased flooding worldwide



Between 1980 and 1999 there were 1,389 floods. The period between 2000 and 2019 saw 3,254 flood events.

Source: United Nations Office for Disaster Risk Reduction (UNDRR)



**“With flood control pumping stations, the reliability and therefore the quality of the pumps is the most important factor.”**

— Kishor Gokhale  
Flood control expert at KSB in Singapore

Consultants, engineering contractors and operators around the globe rely on flood control pumps from KSB. However, it is not only the pumps, valves and support services that they value, it is also the company's extensive technical expertise. When designing these systems, it is critical that no mistakes are made to ensure that pumping stations function as intended in the event of a disaster.

KSB's specialists support their customers with their technical know-how and offer engineering services. For example, the experts create computational fluid dynamics analyses and simulate the inlet conditions or flow velocities of a flood control system in order to design it in the best possible way.

## Pumps for disaster relief

If entire areas of land or urban areas are under water after heavy rainfall, they must be drained as quickly as possible. KSB also offers pumps for mobile flood control. These high-performance grey water pump sets help to drain flooded buildings and prevent major damage. In 2021, the company donated a number of these pumps for disaster relief purposes during flooding in western Germany.

“I am proud that KSB employs fail-safe technology and expertise to help ensure that people living in flood-prone areas feel safe,” says flood control expert Kishor Gokhale.

# UBON RATCHATHANI

## Thailand

The city of Ubon Ratchathani in north-eastern Thailand is frequently faced with flooding. Pumping stations are one of the methods used to cope with the masses of water. Three Sewatec pumps from KSB are installed in one of the pumping stations. These pump sets are considered to be particularly safe and reliable in their operation. Panu Chokapirat, Managing Director of Frontline Engineering Co. Ltd: "With our many years of experience in the water sector, we appreciate KSB's continuous development in the areas of safety, reliability and innovation." The Thai company found KSB products to be the best solution for the pumping station in Ubon Ratchathani. As well as alleviating the situation in the city during periods of flooding, the pumping station also provides water for those who need it in the dry season.



←  
Film about the project  
in Ubon Ratchathani

# MEXICO CITY

## Mexico

In order to permanently protect the residents of the Mexican capital from regularly occurring flooding, the CONAGUA water authority launched what was Mexico's largest and most important infrastructure project. La Caldera is a pumping station which works together with a combined sewer system to drain and pump away stormwater and waste water from a particularly exposed part of Mexico City and the surrounding region. KSB provided a tailored solution for the customer: The 24 Amarex KRT K submersible waste water pumps used meet all the demanding technical specifications without exception. The total pumping capacity is 40 cubic metres per second at a head of almost 30 metres. KSB also met the tight schedule in order to protect the residents from flooding as quickly as possible.



←  
More information  
on this project



# That's

Companies today compete worldwide for the best employees and those that are considered attractive employers have the competitive advantage. But it's not only how well a job pays that matters. KSB offers much more to its employees and applicants.



**“We are pleased to have been able to help make people’s lives a little bit better.”**

— Christina Goh  
Engineer, Singapore

Making a difference together! Christina Goh and her colleagues at KSB Singapore believe in the power of community and giving something back. They decided to support a charitable organisation and donated food to families in need. A very rewarding feeling for the team.

# KSB

Successful companies not only need to attract skilled employees, they also need to retain, motivate and ideally inspire them. It helps to be perceived as an attractive employer with a distinctive and lively corporate culture. KSB has a low staff turnover rate and long job tenures – quite an achievement with over 16,000 employees around the globe. But what exactly is it that makes the company so attractive? What stands out with KSB?

## Many minds, many ideas

KSB employees are dedicated to serving the company's customers at production locations, sales offices and service centres on all continents. The internationally operating Group offers a variety of career opportunities, including periods of time abroad for interesting jobs and training courses. The range of training options offers employees excellent prospects for personal development.

Diversity is an asset for any enterprise. Employing many different people leads to a rich variety of perspectives and ideas, which also brings benefits for customers. At KSB, individuals from many countries and cultures work closely together. The way we cooperate with each other and deal with customers and other partners are informed by our values: trust, honesty, responsibility, professionalism and appreciation. Another important factor is that managers behave openly, fairly and reliably towards their employees.



**“We are grateful for the many experiences we had in a different culture.”**

— Kevin Michalsky  
and Dustin Schröder  
Trainees, Halle (Saale), Germany

Visits overseas broaden your horizons: Kevin Michalsky and Dustin Schröder worked at KSB's location in Pune, India, during a three-week work placement. The two trainees were able to gain their first experience of international cooperation.

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## Team spirit makes it happen

Almost anything can be achieved together. KSB employees also have this positive attitude and appreciate the strong team spirit that can be found in all of the company's departments and countries. Perhaps this is why KSB is known by many customers as a problem solver that can overcome any challenges.

People today want their work to make a meaningful contribution to something important. Many KSB employees also share this feeling. Through its pumps, valves and support services, the company ensures that people's basic needs are met. For example, KSB products can help to enable a reliable supply of clean drinking water, the purification of waste water or a stable energy supply.

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## An eye on the future

Sustainability has been an important pillar in KSB's corporate strategy for over 150 years, including dealing responsibly with natural resources, the environment and employees, as well as social commitment. Many people identify with this approach to sustainability.

Additional benefits besides remuneration increase the attractiveness of companies as employers and KSB offers numerous extra perks such as sports activities and health initiatives as well as flexible working time models. This helps to support the balance between work and private life.



**“I keep fit and help to protect the environment with my KSB-leased bike.”**

— Gisela Herold  
Project Manager Spare Parts,  
Pegnitz, Germany

Employees in Germany use the company's cycle-to-work scheme which provides over 700 bicycles, one of which is used by Gisela Herold. KSB leases the bike and she rides it to work and during her free time. It's a sustainable, climate-friendly and healthy way to get around!



**“I am grateful for the opportunity to expand my knowledge and gain new perspectives.”**

— Anatoly Sokolov  
Service engineer, Almaty, Kazakhstan

As part of a global training programme, service specialist Anatoly Sokolov from Kazakhstan visited the KSB SupremeServ workshop in Abu Dhabi in the United Arab Emirates. His time there provided him with new specialist knowledge in theory and practice.



Would you like to join the KSB team?  
[View vacancies](#)



**“As a team, we are unbeatable, and I really appreciate that.”**

— Daisy Ong’ondo  
Service engineer, Nairobi, Kenya

Have fun together, experience success together: Daisy Ong'ondo participated in a team event with her colleagues in Kenya. At KSB, team initiatives like this take place all over the world.



**“Happy employees make me happy.”**

— Xavier Hausner  
Chief Engagement Officer,  
Frankenthal, Deutschland

Xaver Hausner is known at KSB as the “Global Happiness Manager”. His job is to ensure that employees are happy and satisfied in their work. Together with his global team, Hausner is responsible for the well-being of more than 16,000 KSB employees. He is particularly impressed with the team spirit in the company.



Xaver Hausner talks about his work in an interview.

# Sustainability at KSB

## Power consumption



54.3 %

Share of renewable energy in the Group's electricity consumption in 2023; in Europe this was 83.7 %.

## Greenhouse gases



2,000 t

Reduction in carbon dioxide emissions in 2023 compared with the previous year

## Social commitment



Social initiatives and projects supported by KSB worldwide in 2023



Print product with financial  
**climate contribution**  
ClimatePartner.com/10954-2403-1006

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(pp. 4, 40–42)  
KSB Image Library  
(pp. 8, 12, 14, 33, 34, 48–49, 50–54)  
Shutterstock, Rick Neves  
(Title)  
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