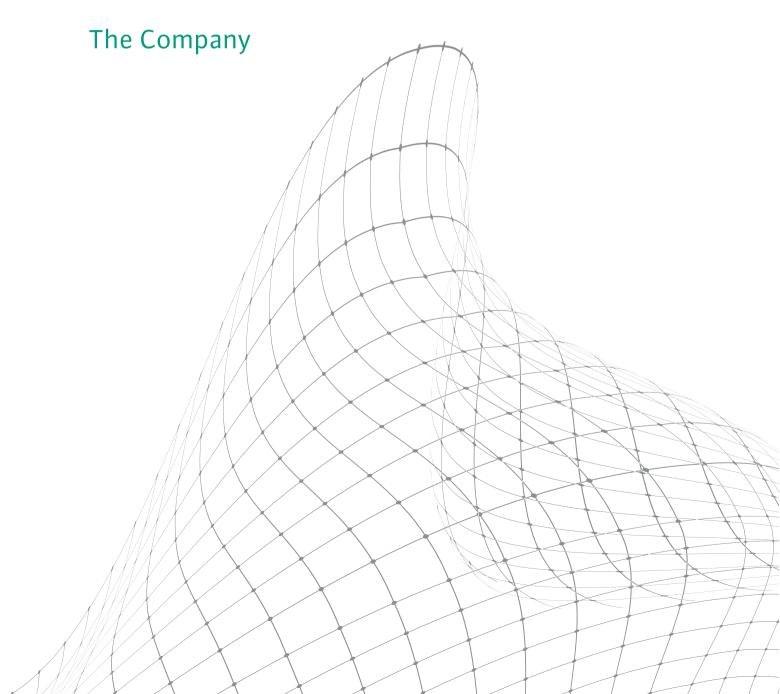
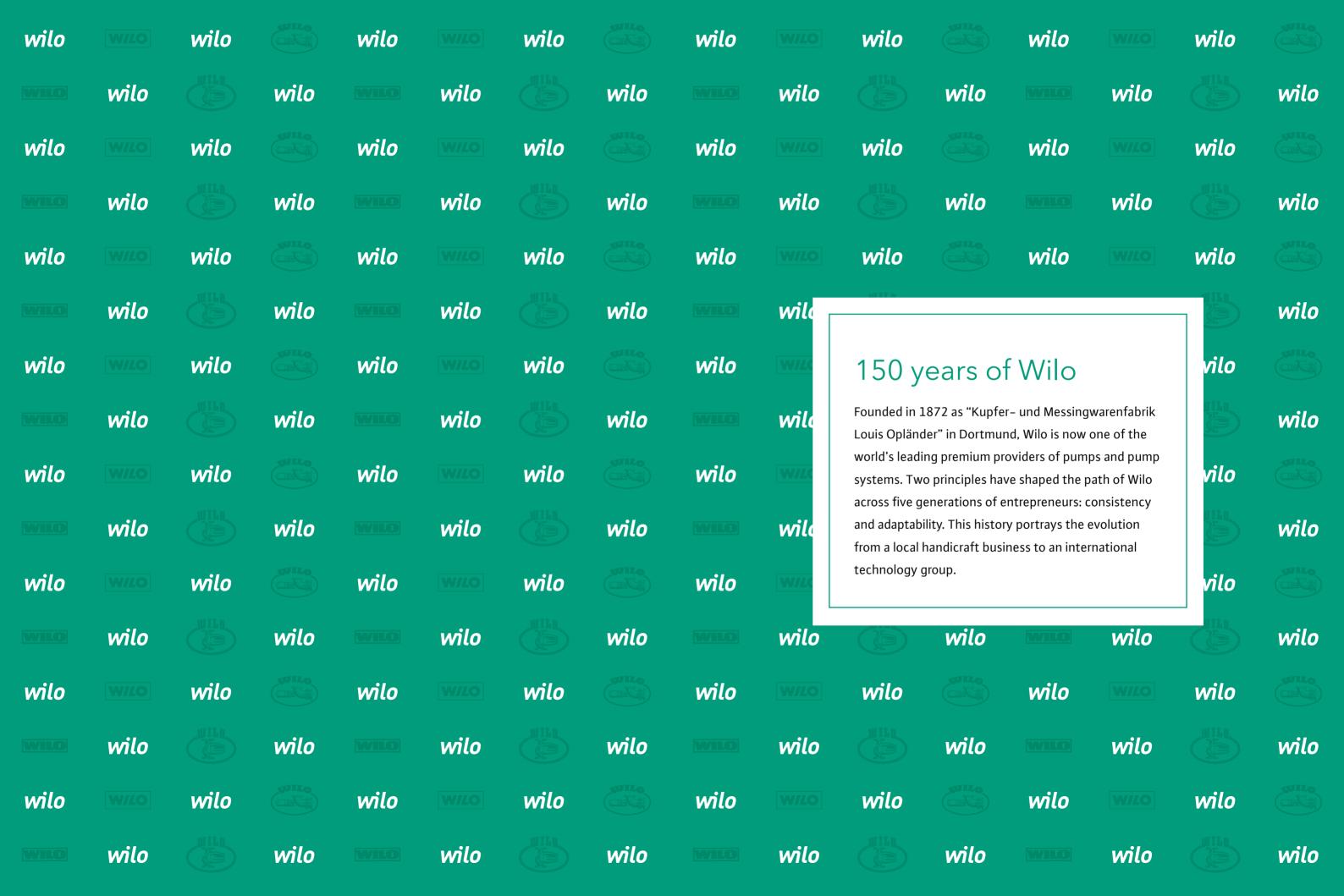


Loving Traditions. Living Innovations.













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1872–1891 Caspar Ludwig Opländer The Founder

150 years of Wilo THE FOUNDER Caspar Ludwig Opländer was 27 years old when he founded the copper and brass factory "Kupfer- und Messingwaren-Fabrik Louis Opländer" in Dortmund in 1872, laying the foundations for what is now the Wilo Group. He led the company to its first successes before he passed away in 1891 at the age of only 46.

"Speciality: Installations for breweries, distilleries, spirit and chemical factories"

1872 was a very special year for Caspar Ludwig Opländer, who went by "Louis", for two reasons: Firstly, the journey-man who specialised in building distillators got married. Secondly, he founded the "Kupfer- und Messingwaren-Fabrik Louis Opländer" for mechanical engineering, "Speciality: Installations for breweries, distilleries, spirit and chemical factories", in Dortmund. Germany was on the brink of a new era at this time. The German Empire was founded, industry and the economy were on a rapid upswing. Manual single-unit production was being replaced by mass production at an increasing rate, villages were growing into towns and the Ruhr region was evolving into the industrial centre of Europe. It was during this time that Caspar Ludwig Opländer laid the foundation stone for the Wilo Group, which operates globally today.

Unfortunately, little has been passed down from these first years, as almost all documents from this time were destroyed in a bombing raid during the First World War. While even the exact date on which the company was founded is unknown, we do know that Caspar Ludwig Opländer married Wilhelmine Leichel on 21 May 1872.



1875

Just three years after the company was founded, Louis Opländer already had 15 employees.

After completing his apprenticeship as a coppersmith, Caspar Ludwig Opländer took to the road as a journeyman and headed off to Russia, where he learned how to build distillation apparatuses for spirits. He returned to Dortmund with a plan to build these types of apparatuses himself. To bring this plan to fruition, he founded his own company at the age of 27. The company premises consisted of an 84 square metre workshop in a back courtyard on Hohe Straße in the centre of Dortmund.

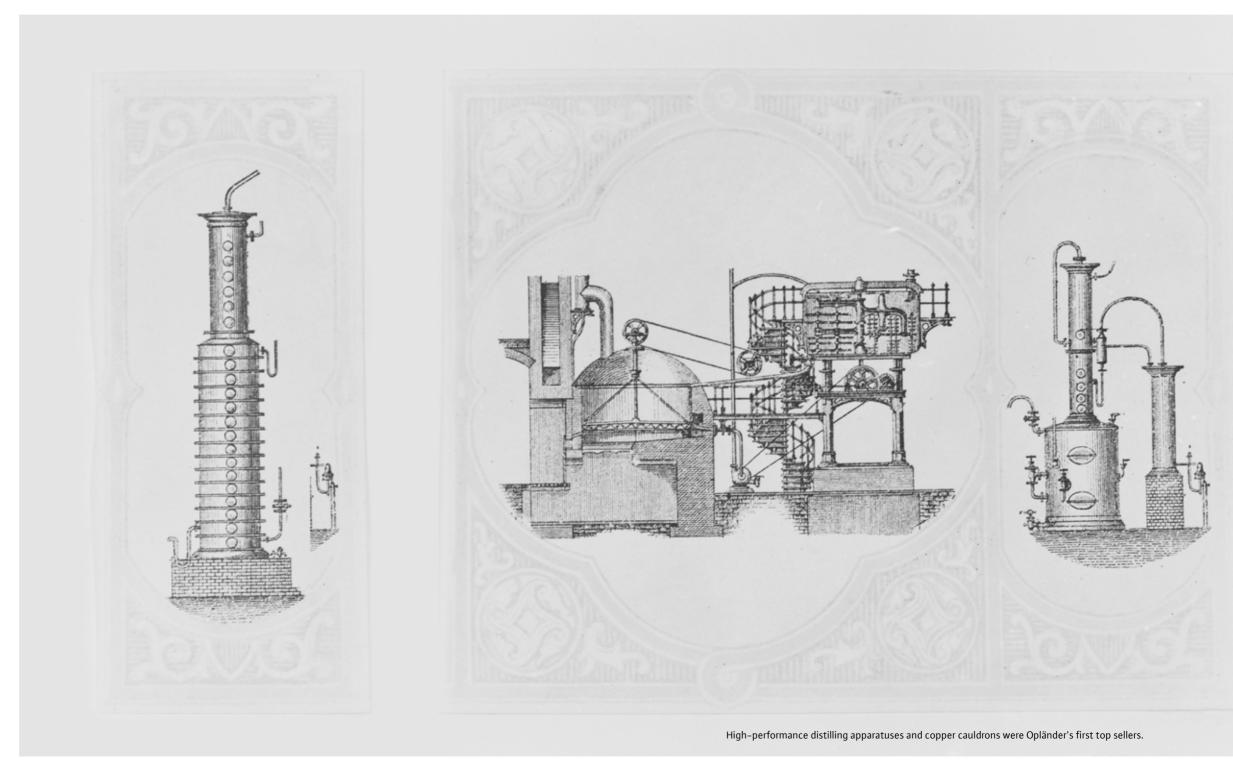
Caspar Ludwig "Louis" Opländer did not rest on his first laurels. He kept an eye on the economic development and acted at the right time.

There was no state monopoly on spirits in the German Reich of the 1870s. Every citizen was allowed to produce as many spirits as they pleased. This meant there was a great demand for high-performance distillation apparatuses and copper cauldrons, which Opländer now supplied to distilleries and breweries in and around Dortmund in great numbers. In addition, he produced vats, large pans as well as chandeliers and other ceiling lights.

New business areas

Production was going well, and business was thriving. Three years after the company was founded, Louis Opländer already had 15 employees.

But the founder of the company did not rest on his first laurels. He kept an eye on the economic development and acted at the right time. The young company was indeed hit by the introduction of the tax on spirits in the German Reich in 1887 and the ensuing collapse of the market for distillation apparatuses. But Louis Opländer had already opened up new business areas: The towns in the Ruhr region grew quickly, and the population increased rapidly during the industrialisation. This was accompanied by an increase in the number of homes. Dortmund's neighbouring town of Bochum, for example, counted a population of 2,200 in 1800. This number increased to around 65,000 at the turn of the century. In the course of this development, the water supply was changed over from domestic wells to pipe networks that now conducted fresh water into the homes directly via water taps. The long inlet and drain pipes required for this purpose were exactly what Caspar Ludwig Opländer produced.



Systemic relevance





Wilo pumps were used for Bulgaria's first dam project for drinking water in Plovdiv. They help to supply fresh water to more than 40,000 people.



In the Kazakh capital of Nur-Sultan, a coronavirus hospital was built in just 13 days, equipped with pumps from Wilo.

People need water not only for comfort, but to live. Wilo transports any type of water, be it cold or hot, wastewater or clean water. Environmentally friendly and with maximum efficiency. With its products and solutions, the company is an integral component of critical infrastructures worldwide.

The company's strategic focus has been on the resource of water since the beginning of the 20th century. At that time, the economy, trade and cities were experiencing rapid growth. A new society was formed that came with previously unknown progress for the people, but also with major problems. Concerns about clean water were among the greatest challenges during this revolution. Just like wastewater disposal, the supply of fresh water that we take for granted today was born out of the life-threatening cholera and typhus epidemics. Louis Opländer and his company addressed these challenges early on and made a key contribution to the creation of our modern society as a pioneering company that built wash rooms for miners, known as pithead baths, waste heat recovery and desalination systems, drinking fountains, and heating and ventilation systems.

Wilo's systemic relevance became more apparent than ever after the Second World War. "We are facing a mammoth task in Dortmund. The city lies in ruins and must be rebuilt," said then mayor of Dortmund, Fritz Henßler. This applied not only to Dortmund, but to all of Germany. Once the years of scarcity after the war had been overcome, 1.8 million new homes, specifically for employees, were built by the mid-fifties alone. Equipped with their own bathroom, central heating and own kitchen, these homes followed an entirely new standard that could not have existed without pumps like those manufactured by Wilo and which many

people back then considered to be a great luxury. Even in the 1950s, the majority of homes were still heated using coal or oil furnaces, and only a quarter of them had their own bathroom.

Over the following decades, products and solutions from Wilo ensured that millions of people all over the world gained access to fresh water and improved their standard of living considerably. From water supply to sewage disposal, Wilo pumps perform key tasks in our modern society. Solar–powered borehole pumps supply the regions suffering from the greatest water shortage, huge submersible pumps help to protect flood–prone areas.

When lockdowns were implemented all over the world in 2020 due to the coronavirus pandemic, numerous countries classified Wilo as a systemically relevant company, as they determined that Wilo products were essential for the supply infrastructure. Products and systems from Wilo are in use everywhere, from residential and business properties to hospitals, residential homes, waterworks and all the way to wastewater treatment plants. They are indispensable for our civilization, serve the interests of the general population and are part of the public services. Wilo is always aware of the responsibility that comes with this position – it is the motor that drives the company to keep finding new solutions that make life even easier and better for people.

1891-1928
Louis Opländer

The Manufacturer

THE MANUFACTURER Louis Opländer was born in 1873, the first son of Caspar Ludwig and Wilhelmine Opländer. Following his father's untimely death, he had to run the business alongside his mother at the tender age of 18. He managed the business until 1928 and remained with the company after that. Louis Opländer passed away in 1962.

"We can be successful only if we all pull together."

The Opländer family suffered a blow of fate in 1891. Caspar Ludwig Opländer died 19 years after he founded the company, leaving behind his wife and eight children. Not least thanks to the tireless support of experienced employees, the family managed to see the company through this difficult time.

During this time, the eldest son, Louis, was in Hanover to gain an insight into the profession of the mechanical engineer at Hannoversche Maschinenbau AG. Upon hearing the sad news, the 18-year-old abandoned his work immediately and made his way home to Dortmund. His mother, Wilhelmine Opländer, took over the business and - as was common practise at the time - added the abbreviation "Wwe.", German for widow (Witwe), to the company name "Kupfer- und Messingwaren-Fabrik Louis Opländer". She now faced the challenge of keeping a decidedly male-dominated business under control while raising eight children at the same time. Thankfully, her eldest son Louis was already quite grown up and had a good understanding of the business. He made every effort to help his mother. Meanwhile, he always remained the big brother to his siblings and helped them with words and deeds whenever necessary.



It was a combination of three things that saw the company through the challenging time after the founder's death: the mother's trust, Louis's sense of responsibility with which he familiarised himself with his new task and the fortunate circumstances that a number of experienced and loyal employees were prepared to help the company make ends meet. Louis and his employees got to work on constructing a modern central heating system. Some models had already been built, and the first precursors were known from the Roman Age. But this time, the plan was to build a steam heating system. Opländer continued to improve his constructions over and over until he designed the twin-pipe steam heater. The company also worked on other improvements. In short, the heater business was developing well.

Of pithead baths, clothes hoists and coal washeries

Coal extraction was booming in the Ruhr region around 1900. More than 200,000 miners made their way to the 170 pits of the Ruhr region to mine coal, the "black gold

of the earth". At the end of a tough shift, the pitmen were covered in dirt and coal dust. For a long time, they had no choice but to return home in that state and wash themselves there. By building pithead baths, Louis Opländer and other companies provided an effective remedy to the situation. Pithead baths were long rooms with showers and washing facilities along either side.

In addition to the pithead baths, clothes hoists were a further improvement to the sanitary conditions. Below ground, the miners wore work clothes which were usually soaked with sweat from their hard work when they returned to daylight. Once above ground, the miners removed their wet clothes, washed and changed into their private clothes. They used ropes and pulleys to hoist their work clothes up to the ceiling of the changing rooms. Opländer built thousands of these clothes hoists that enabled the coal miners to safely store their work clothes at lofty heights. Thanks to the warm air output by the heating system mentioned earlier, the clothes were pleasantly dry by the start of the next shift.

Dedication of new rowing boats at the Hansa Rowing Club, around 1980.





Louis Opländer, pictured here in the jersey of cycle-racing club "Eilrad Dortmund", was not only an enthusiastic cyclist and motorist, but also a founding member of the Hansa Rowing Club in 1898.

A passion for rowing

At the end of the century, in 1899, the Dortmund-Ems canal was opened after seven years of construction. The eastern part of the Ruhr region now had a shipping route connecting it to the North Sea. When the canal was opened up, Louis discovered his passion for rowing and became a founding member of the Hansa Rowing Club in Dortmund, now one of the major rowing clubs in North Rhine–Westphalia. His son Wilhelm is even mentioned by name among the winners in the club's annals. His grandson Jochen also became an enthusiastic rower.

WILO SE now sponsors the successful RC Hansa rowing club and is the main sponsor of the German Men's Eight team. The German Men's Eight won their first gold medal in Seoul in 1988, the second gold medal followed at the World Rowing Championships in New Zealand in 2010. Most recently, the team won the Olympic gold medal in London and silver in Rio de Janeiro and Tokyo. Rowers from the club frequently do well in other national and international competitions as well. Dr Jochen Opländer is an honorary member of the club and describes the rowers as being disciplined, strong-willed and team-oriented — characteristics that also play an important part at WILO SE.

150 years of Wilo 1891-1928



Coal mining was one of the most important industries in the Ruhr area around 1900.

Already in the 1890s, it became apparent that the existing workshop did not provide enough space for the increasing number of orders. At the beginning of the new century, Opländer and his company finally moved into a new building. It was no longer a simple workshop, but a sizeable factory hall that provided enough space, especially for the preparatory work. Unlike nowadays, where industrially produced standard parts ensure a well-functioning heating system, the necessary pipes, pipe elbows, branches and valves had to be crafted by hand back then.

Relocation to the factory hall

The first task was to produce the wood models for the various sizes of branches and fittings that were needed for making the moulds. Pipes with a larger diameter were still screwed together or flanged. Crimping was a manual task performed on the red-hot pipe. Making a perfectly fitting pipe elbow was extremely arduous work. The pipe section had to be filled with sand in the factory or on the construction site, annealed and bent at the same time, all in a process that involved using the hands and feet. The feet were used to operate the bellows to generate the necessary heat in the mobile forge on the construction site. For as long as the company performed only coppersmithing, the charcoal fire was sufficient. Before the turn of the century, forge coal was used because it supplied enough heat to process iron and steel.

Petrol torches were used for soldering up until the 1940s. It was only later that liquid gas was introduced, a large tank of which stood next to the factory for a long time. In 1906, when the welding process was already more reliable, it was not only the production of pipe elbows that became considerably easier – the process also facilitated the production of heating systems significantly.

As welding is an acquired skill, it took some time before the heating fitters were able to produce reliable welding seams on construction sites. Until then, the work was usually performed in the workshop. Overall, the welding process brought crucial progress to the working methods in heating and piping construction.

The use of a portable engine brought further relief to the day-to-day work. It was located right next to the entrance to the Opländer factory hall. This hissing steam engine used a 15-metre transmission shaft to power all the machinery via leather belts. This made operating the bellows in order to generate the necessary blaze and heat redundant, as there was a blower connected to the portable engine that took over this task. However, if the portable engine stopped working for some reason, all the other machinery in the hall also came to an immediate standstill. This did not change until 1908, when the steam engine was replaced by an electric motor. The long transmission was retained for the time being until the switch to multimotor drive took place a number of years later. From then on, it was no longer a single motor powering all the machines, but certain groups of machines had their own motor. The typical "splat" sound of the leather straps could still be heard until the end of the 1920s, when the individual electric motor drive for each machine was introduced.

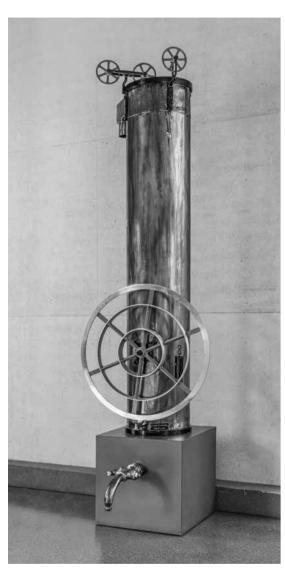
Boiler systems for coal washing plants

Back in the Ruhr region of around 1900, there was another facility to whose smooth functioning Opländer was a key contributor: coal washing plants. Coal washing referred to the separation of the coal from the rocks mined along with the coal, which involved considerable amounts of water. Even during severe frost in the winter, the coal was washed in buildings the size of a

station concourse. You could consider yourself lucky if the temperature in the huge halls could be kept at least a few degrees above freezing. Once the mountains of coal were frozen, it was practically impossible to process them. This required enormous amounts of heat. Opländer built boiler systems to heat the buildings where the coal was washed.

1908

From this date onwards, barrels had to be gauged in the German Reich, and Louis Opländer invented the appropriate apparatus: the barrel volume measuring device.



The barrel volume measuring device, invented 1908.

Let there be light

The dismal lighting conditions in which people worked back then are hard to imagine these days. Carbide lamps with slot burners gave off a pungent odour. While the light was indeed brighter than the mild glow of the petroleum lamps used in previous years, it was certainly no more pleasant for the eyes.

The situation improved considerably in 1906, when three large arc lamps were hung up, whose bright light was to illuminate the entire factory hall. To do this, current was sent into two carbon rods and their points were brought together, creating an arc that spread a very bright light. Above this fixture there was a glass cover that was protected by wire netting. As the carbon rods slowly burned down, they had to be readjusted constantly. However, an automatic device was soon invented for this purpose, so that workers had to climb up the ladder only when the carbon rods needed replacing. And this process, too, came to an end one day in 1912, when light bulbs illuminated each workstation, and these, in turn, were later replaced by fluorescent lamps.

New units of measurement for the country

A new ordinance on units of measurement and weight was introduced in the German Reich in 1908. The focus here was, of course, not on the consumers and their interests, but on bringing order to trade. Previously, many different units of measurement and weight had been used in Germany. "Jedes deutsche Ländchen hat sein eigens Quäntchen" (every German region has its own unit of measurement) was a common saying at the time. This provided ample opportunity for unfair manipulation.

In the course of the new ordinance, the content of a barrel now had to be measured accurately at certain intervals, and credible proof of the quantity had to be provided. A gauger's stamp ensured reliability. The brewers in Dortmund, who still used barrels made of wood whose volume fluctuated in favour of the brewers from time to time, also had to obtain this stamp. Once again, Louis Opländer had the right idea at the right time: He designed what was known as the barrel volume measuring device ("Fasskubiziergerät") and offered it not only to the companies affected by the weights and measures act, but also to the measurement offices who were to enforce the new ordinance.

The production of barrel volume measuring devices evolved into a substantial branch of the business. Even before the end of the decade, the company's balance sheet indicated sales of roughly 100,000 gold marks. This is equivalent to around half a million euros, which is an impressive amount, considering that — given proper calculations — only a very small part of the workforce had to see to the production of the devices, and total direct taxes were less than three per cent at the time.

Economic boom under the Kaiser

Germany experienced its "first economic miracle" during the German Empire. The production of heating systems also thrived during the upswing. At that time, all the parts of a heating system had to be prepared in an arduous process and delivered to the construction site in ready-to-install condition. Parts that had been forgotten in the shipment could not simply be purchased at the nearest wholesaler. They had to be sent in an additional shipment, which meant that each transport had to be planned and organised with extreme care.

To ensure that everything ran smoothly at Opländer, the company had the following arrangement that appears somewhat inconvenient from today's perspective: Every Sunday at 11 o'clock sharp, the managing directors, construction site managers, fitters and foremen

from the workshops gathered at the office to discuss assignments and procedures. This was a mandatory appointment that was even stipulated in the contract. However, employees in a managerial capacity earned roughly 250 gold marks per month back then, and fitters who made 30 to 40 marks per week were also delighted.

The copper and brass factory had evolved not necessarily into a large factory, but certainly into a proper and highly profitable one. The company now also produced sprinkler systems for firefighting and, as a special product, washout points for locomotives.

Steam locomotives were equipped with a special descaling agent that ensured that the lime scale and salts settled. This gunge had to be washed out from time to time in a process that required hot water. Wherever it was needed, Louis Opländer and his experts were on the spot. They managed to use the heat in such a way that the locomotive essentially delivered its own cleaning water for washing out its engine. Even at that time, an effort was made to use energy in the most efficient way possible.

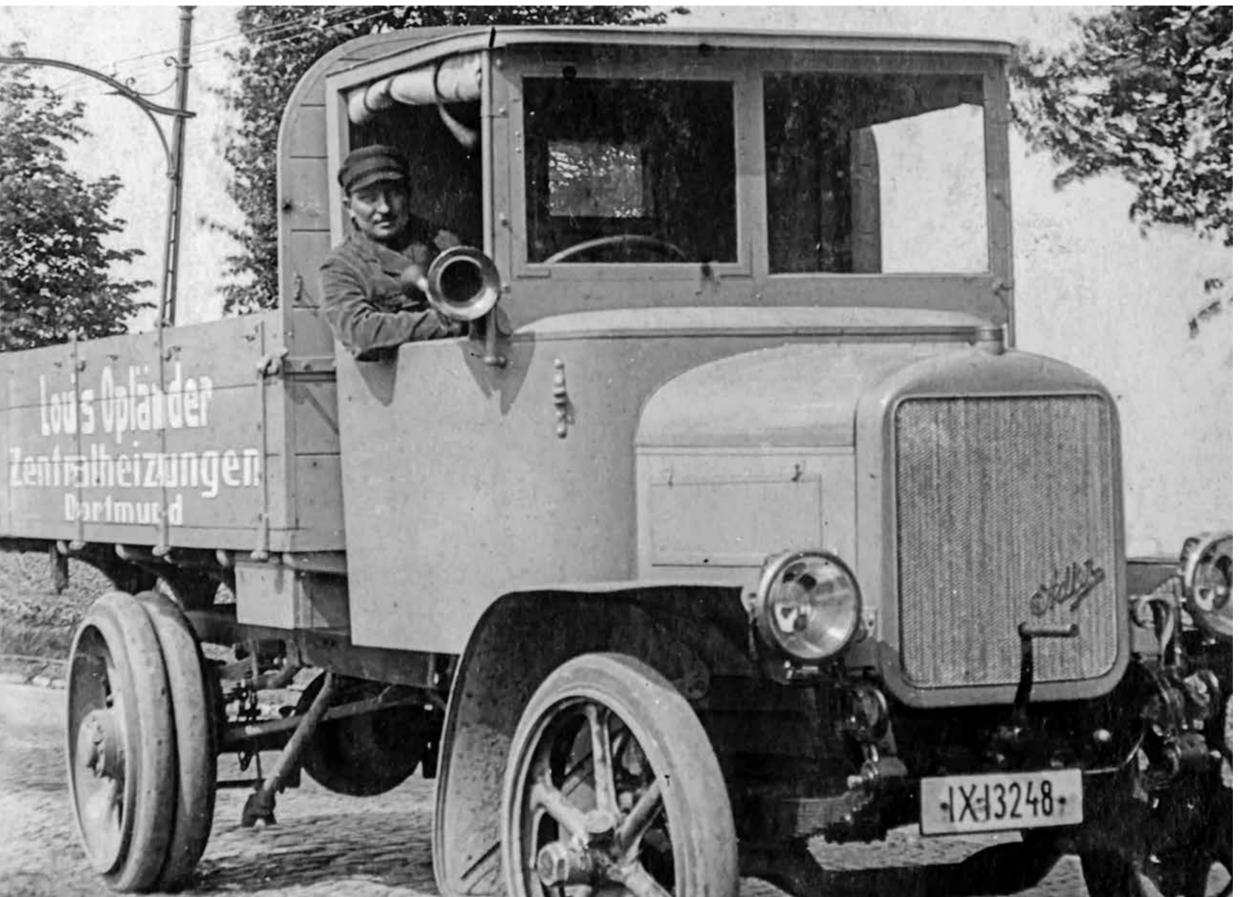
Between 1910 and 1914, the design, production and installation of the units and systems required around 30 to 40 workers at the factory and around ten times that number for on–site installation.

Workforce and products of the Louis Opländer company with the barrel volume measuring device (right), two desalination systems with transmission (to the left) and a fire extinguisher (centre back), around 1910.



Focus on heating systems

Sales in the installation business were experiencing increasing difficulties. At the beginning, around 1900, this business was still easy to combine with building heating systems. However, this had changed over the last few years. The heating fitters were represented by a more active union and enforced higher wages. No engine fitter or ironworker earned as much as heating fitters did during that time. Since Opländer employed both heating fitters and other fitters, and both groups demanded the same pay, the labour peace and working atmosphere would have suffered if the fitters had not received the same wages as their colleagues who worked on heating systems. This was only fair with a view to work performance. However, the consequence was that the company was no longer able to keep up with other businesses that offered installation services exclusively, as the fitters at Opländer received roughly 30 per cent higher wages. Given that this branch of the business was no longer profitable due to the considerable portion of wages, the company decided to withdraw from the installation business.



There was a lot to do after the war as the demand for boilers, radiators and pipe systems increased.

The turmoil of war

The First World War began on 28 July 1914. Louis Opländer saw trouble on the horizon even shortly after the war broke out. Pithead baths as well as heating and ventilation systems had just been installed at a pit in Belgium when the fighting started there as well. Louis Opländer took the train to Belgium multiple times to negotiate payment with the clients in person. Considerable investments had been necessary to complete these orders, and it was obvious that payment would be complicated after German troops had marched into Belgium.

The company continued to work for the mining industry between 1914 and 1918. There were practically no more private contracts. And even if there had been, the company had neither the workforce nor the material to perform them. The longer the war went on, the more men were conscripted. As a result, a large number of women filled in at the workstations for their husbands who were fighting at the fronts. A regular eight-hour working day was out of the question during the war. People worked around the clock, shift after shift, all week long, with no breaks on Sundays or public holidays.

Only after the end of the war and the collapse of the German Empire, when the country transitioned from wartime economy to peacetime economy, did the eight–hour working day come back into focus: In 1919, the eight–hour working day with 48 hours per week was stipulated by law, satisfying a demand that the unions had been making for many years. Public unemployment insurance followed in 1927.



The old Westfalenhalle in Dortmund was erected as a timber construction in just seven months in 1925 and was the largest hall in Europe. The heating and ventilation systems were provided by Opländer and even allowed differing temperatures to be set in different rooms – this was state-of-the-art technology at that time.

Backlog after the war

After the fighting had come to an end, almost all of the former employees who had survived the war returned to Louis Opländer. The accumulated backlog brought in contracts, and everyone did their best to return the company to balance. However, the results were not satisfactory. They couldn't be: The defeated German Reich, charged with immense reparations, suffering from hunger and a devastating flu epidemic, unsettled and uncertain on the inside, collapsed.

There was unrest and general strikes all over Germany, and hunger and violence were the order of the day. In January 1923, French and Belgian troops occupied the Ruhr region to secure the local coal and coke production as a "productive pledge" for the fulfilment of Germany's reparation obligations.

Not everything went according to plan for the Opländer family either: Wilhelm Opländer, son of Louis Opländer and later a crucial player in the history of Wilo, failed at the first attempt to continue his studies in Hanover. He was arrested on his attempted escape from the closed off region and detained. It was only thanks to a good friend of Wilhelm's that he was released "by mistake" shortly afterwards and was able to continue his education in Hanover.

As a result of the Treaty of Versailles and its consequences, trust in the German currency was shattered. People sold their marks and bought foreign currencies. The announcement of the amount of reparations to be paid — 132 billion gold marks, to be paid until 1988 — and the subsequent currency reform exacerbated the decline. The Reichsbank approved high, uncovered credit to keep the economy afloat, as it was denied foreign loans. The occupation of the Ruhr region by the French ultimately led to hyperinflation. While a loaf of rye bread had cost 32 pfennigs at the start of the war, the price had sky-rocketed to an incredible sum of 233 billion Reichsmark in November 1923.

Upswing after the inflation

A second currency reform gave the people in Germany some room to breathe. One trillion gold marks became one Reichsmark, and thus a currency that was easier to use. The backlog in the industrial and private sectors was enormous during this time. As a result, the demand for high-performance boilers, radiators and pipe systems grew. This was good news for Louis Opländer, who had increasingly shifted his company's production to the areas of sanitation and heating in the 1920s and was now able to supply the necessary heating and ventilation systems. Authorities ordered systems for courthouses, police buildings, prisons, schools and hospitals as part of major contracts.

Since money was still a scarce commodity, everyone saved what they could. Louis Opländer, who was always full of imagination, came up with his own ideas during this time. His deliberations resulted in the development of the first thermal storage heating. It was a promising concept, as the boiler unit of the heating system was to be operated evenly while a high-temperature

water tank was heated to 90 °C. Regulating the mixed water enabled a variable water temperature that corresponded to the respective heat requirements. According to the design, this would theoretically have enabled considerable fuel savings. After all, the required heating surfaces were smaller without the additional heating up process. However, it turned out that savings were not possible in the end because the costs for the high-temperature water tank were too high. While this particular design did not prevail, an innovative idea had been born. All that remained to be done was to find a suitable way to make storing the heat less expensive.

The company was flourishing, and many fitters were once again working on construction sites everywhere. If their journey from the company headquarters to the site exceeded a certain number of kilometres, they received an expense allowance in addition to their wages. These expense allowances added up increasingly in the period that followed, as operations were in full swing at the company's field offices. However, there came a point at which the management could no longer afford these additional compensation payments, so the logical conclusion was to avoid the price-raising compensation payments.

To get a grip on the costs while still remaining competitive, Louis Opländer established branch offices in Duisburg and Essen. Local competitors were able to offer lower prices on the construction sites because they did not need to pay any compensation to their fitters on–site. Even back then, the costs for building a heating system were determined to a significant extent by the installation costs.

In the mid–1920s, an increasing number of shaft mines were being built in the Duisburg region in particular. This was a lucrative field for companies with practical knowledge of and experience with shaft construction. The third generation of the family, Wilhelm Opländer, met both of these requirements. Given largely independent responsibility, he took over the management of the Duisburg branch.

The Brand

Green is the winner

About half a century ago, a gamechanging decision was made in favour of Wilo green as the company colour. This was the beginning of the brand's strategic development that is present all over the world today and is easily recognisable.











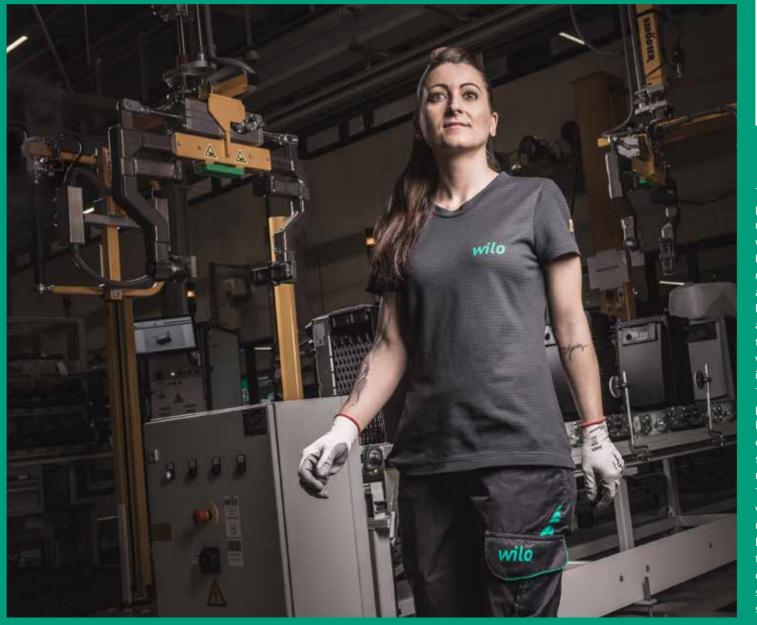


The Wilo logo through the years.

For many years, Wilo's marketing consisted of a traditional, entirely technical brochure and nothing more. No print or radio adverts. Wilhelm Opländer was of the opinion that quality is the best form of advertisement. In the 1950s, the director of the company himself held lectures in front of fitters and heating fitters. Dr Jochen Opländer also took over many of these lectures later on, travelling from city to city, driving more than 100,000 kilometres per year to visit customers and inform them about the latest technical developments at Wilo. Those who knew the company knew what it stood for; but getting to know Wilo was not that easy.



The company won the German Brand Award in gold for its Wilo work wear in 2021.



The Wilo brand presence was also systematised in the early 1970s.



Trade fairs were one opportunity to present the company to a larger audience. Wilo took part in the Hannover Messe in the 1950s and in 1960, the company was represented at the first international trade fair for HVAC and water (Internationale Sanitär - und Heizungs messe, ISH) in Frankfurt. In the context of the Perfecta alliance of licensees, a form of association advertising had been developed for the trade fairs in which Wilo also participated. There was no advertising strategy that extended beyond this. However, long-term advertising campaigns were generally uncommon in the industry at that time.

This changed at the beginning of the 1970s. At this point, Wilhelm and Dr Jochen Opländer had already been discussing the problem for a while that the company's brochures and product packaging took on somewhat curious forms at times, and it was becoming necessary to modernise the advertisements for Wilo.

They hired Siegfried Bruckhoff, a skilled external advisor. Together with the experienced advertiser, the management revised the company's public image bit by bit. First of all, the Wilo lettering was modernised, as the old logo looked "like a roast chicken" to Bruckhoff's eyes. This was followed by standardised and professional product presentations and catalogues. The first steps towards the Wilo corporate design had been taken.



Walkman, piggy bank, rucksack – Wilo strengthened its brand profile with countless marketing items over the decades.





Next, the product colour was addressed. Machines were traditionally grey, and this also applied to Wilo pumps. While Wilo had delivered pumps in various shades of green every so often since the 1950s, there was no specific colour concept behind this. The decision in favour of a Wilo green was ultimately made in a long process that took many parameters into consideration. The main objective was to distinguish the company from the competitors, who had also started to paint their grey pumps in silver, red or blue.

From then on, not only the products were coloured in this Wilo green – buildings, work clothes, advertising materials, in short, the entire public image was painted in green. In doing so, Wilo succeeded in creating an extraordinarily distinctive design as a brand and as a company. Green has proven to be a consistent and future–oriented choice, especially in light of the ever more important matter of sustainability, and an unmistakeable trademark of Wilo.





Trade fairs have been very important for Wilo since the 1960s, in particular the world's foremost trade fair for water and HVAC, the ISH in Frankfurt. Accordingly, the booths boasted an elaborate design (left: 1995, right: 2019).



Starting off from this big bang in green, Wilo's marketing continued to evolve. The importance of an eye-catching and stringent public image that keeps up with the times without betraying the brand essence had become firmly anchored in the corporate culture. As part of the adaptation, the marketing also had to account for the changing portfolio of Wilo. The realignment of the business at the beginning of the 1970s had led to a stronger diversification. The slogan "Wilo macht das Wasser munter" (Wilo makes the water flow) was coined as the advertising message and remained in place until the turn of the millennium. It was followed by "Wir bewegen Wasser" (we move water). At the same time, Wilo started to place a strategic focus on clearly defined business areas as a system provider. From then on, the advertising messages were more

topic-focussed. "Pumpen Perfektion" (pump perfection) now placed technical excellence at the centre of communication. The next variation, "Pumpen Perfektion und mehr" (pump perfection and more), emphasised the service aspect. In 2004, the slogan "Pumpen Intelligenz" (pump intelligence) shifted the focus to the company's technological innovative strength. It was replaced by the corporate claim "Pioneering for You" in 2013. On the one hand, it expressed Wilo's consistent goal of making life easier and better with visionary ideas and solutions. On the other hand, the choice of English accounted for the company's internationalisation, the Wilo brand. As a result, Wilo evolved from a "hidden" which had come a long way in the meantime.

Clear brand management is extremely important, especially for a globally positioned company. Following the acquisition of French pump producer Salmson in 1984,

Wilo initially decided against many a piece of advice and continued business with the Salmson brand. There were good reasons for this. Salmson was very well established in France and many African countries and had a large share in the market. Changing the name overnight would have done more damage than good. Wilo was the umbrella and Group brand. This concept was retained into the new millennium.

In the past decade, Wilo finally started to make a consistent effort to strengthen the core brand. Most of the other Group brands were gradually incorporated into to a "visible and connected" champion and a premium brand that is now present worldwide in its segment.

1926-1968
Wilhelm Opländer
The Humanist

THE HUMANIST Wilhelm Opländer was born in 1901. He joined his father's company at the age of 25 and soon took over as Managing Director. He remained in this position until he passed it on to his son, Jochen. Wilhelm Opländer passed away in 1984.

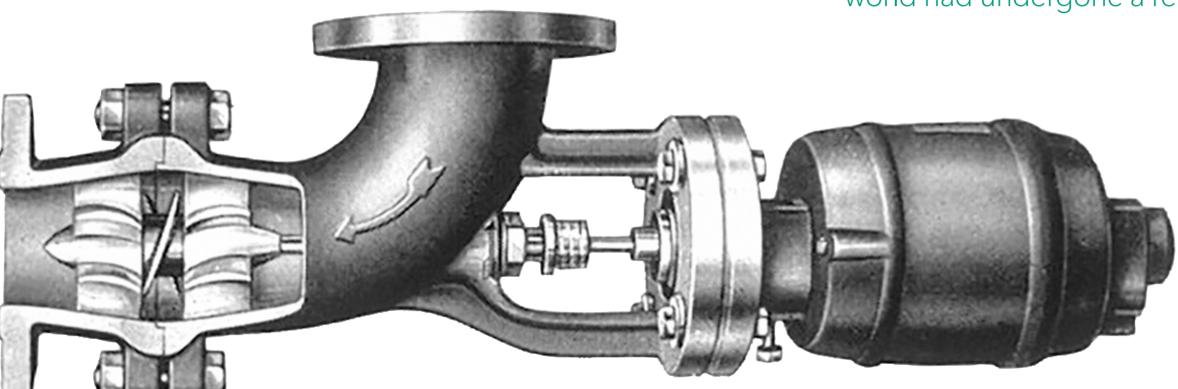
"Check everything and keep what's best."

1928 was an extremely important year for Wilhelm Opländer for two reasons. The first one was private: he married his wife Änne and started a family. The second was professional, as this was the year he made a groundbreaking invention: the circulation accelerator.

The world's first circulation accelerator

Achieving the best possible heat distribution in centrally heated hot-water heating systems was a real challenge for engineers in the 19th century. Back then, the widespread steam heaters were being replaced by what were known as gravity heaters. The heating water circulated solely due to the differences in temperature and gravity. Major disadvantages included a slow startup, but also a high energy requirement due to the high temperatures and large line cross-sections.

The birth of the Wilo pump: In 1928, Wilhelm Opländer invented the circulation accelerator. One year later, he was granted a patent on a "circulation accelerator consisting of a propeller in the lines of a hot-water heating system". The Wilo pump was born, and the heating world had undergone a revolution.



Wilhelm Opländer found a remedy for this problem. The trained engineer developed the world's first circulation accelerator in 1928. This precursor to the heating pump mainly increased the level of comfort, as the heat reached the radiator more quickly and the heating water temperature was reduced. The rest of the hydraulic structure of the heating remained unchanged. This is why some heating systems in old buildings still work according to the principle of gravity today, although hardly a landlord does without the advantages of a heating pump. From 1928 onwards,

the pumps made by Opländer bore the name "Wilo", after Wilhelm Opländer.

Successful work, deceptive security

Despite the company's successful work and numerous order requests, things started going downhill as from 1926/1927, slowly at first, and then rapidly as from 1928/1929. How did this happen? After all, the company was working on numerous projects. Plans were being made, designs drafted, products built, and systems of hitherto unknown dimensions were being created

on the drawing boards. Thankfully, the company had plenty of good employees. They would be needed, as the business had received urgent requests worth more than 30 million marks, and the employees were already working intensely on the corresponding offers and projects. Even if just some of the requested systems had been built, this would have amounted to a work volume for two or three years. But the years that followed disabused many companies, including Opländer's, of this notion. The Great Depression hit Germany extremely hard.

Advertisement for the circulation accelerator.



Young love: Änne and Wilhelm Opländer married in 1928.



Black Friday

On 24 October 1929, share prices at the New York Stock Exchange started to plummet dramatically. This day went down in the history books as "Black Friday". The crash was caused by years of excessive investments in the industrial sector, which resulted in an oversupply of goods that the demand could not keep up with. The oversupply of goods caused production to slow down, first in the form of short-time work, then in the form of lay-offs. Loans could not be repaid, and quite a few companies collapsed. In the winter of 1929/1930, more than three million people in Germany were unemployed. As a result, many of Opländer's customers were not able to pay their outstanding bills. To make matters worse, the numerous requests that Wilhelm Opländer's company had received did not result in any signed orders. That year, the company had capacities designed for orders worth several millions, but received only 150,000 marks' worth of new orders.

Between hope and fear

At the beginning of the 1930s, business involving major installations and fittings at a greater distance from Dortmund was no longer profitable for Wilo. The branches that had made mechanical engineering and construction lucrative back in the day now cost more money than they brought in and had to be shut down. In addition, problems kept arising with competing heating system companies who did not like that they had to purchase Wilo heating pumps from their competitor, Opländer. These circumstances led Wilo to concentrate on mechanical engineering and construction on–site and put the main focus on pump production.

The new alignment of the business demanded a great deal from Louis and Wilhelm Opländer and all of their employees. But it put food on the employees' tables. Wilhelm Opländer remembered: "Without our employees' unwavering dedication and hard work, our suppliers' trust and a decent helping of luck, we would not have made it back then."

The reduction of operations and adaptation of the services to the demands of the time ultimately bore fruit. The company slowly recovered.

Meanwhile, polarisation between communists and fascists increased further, and the unemployment figure rose to a record number of more than six million in 1932. Every other German industrial worker was unemployed, and the situation became increasingly dramatic. The fighting organisations of the fascists and communists engaged in bloody conflicts during this time, and National Socialist terror was a sad fact of everyday life. On 30 January 1933, the President of the German

"Without our employees' unwavering dedication and hard work, our suppliers' trust and a decent helping of luck, we would not have made it back then."

1948

The introduction of the D-mark marked the start of Germany's economic upturn.

Reich, Paul von Hindenburg, appointed Adolf Hitler as Reich Chancellor, the Nazis came to power and began their reign of terror. This was hidden from the eyes of the world at first, which were deceived with assurances of peace.

Under these auspices, civil construction projects were supported, and preparations for war were made. This helped to achieve full employment before the war broke out.

Series production of pumps

The enormous growth of the National Socialist armaments program could not be compared to the "regular" economic upswing of the 1920s. This was a pure state reflation. Louis and Wilhelm Opländer and their employees soon had their hands full with responding to the growing number of requests, preparing projects and plans and fulfilling the orders. But this had little to do with armament. Unless you were to count the heating systems in the barracks. In that case, you would also have to include all the barracks in which Opländer had ensured prior to 1933 that members of the army and police could perform their duties in heated rooms.

Opländer did not receive any armaments orders throughout the entire war. After the bitter experiences the

company went through after the First World War, there was no reason to scramble for such orders. In fact, the company's pump production had grown into a substantial series production in the meantime. Moreover, Opländer developed a whole range of apparatuses and control devices to make heating systems even more efficient and easier to operate. Then came the time when pumps were no longer needed just for new systems, but also as replacements in bombed-out heating systems in need of repair.

Deprivations and moments of happiness

On 8 May 1945, the Second World War ended, and with it the criminal regime of the National Socialists. People gradually found hope again. Life went on at Wilo on Hohe Straße as well, and the big clean-up began.

Despite all the deprivations, there were also moments of happiness. Beneath all the rubble that had once been the factory garage, over a dozen brand-new pumps were found one day — securely packaged and undamaged. They were swapped for food and materials for building new pumps which, in turn, were swapped again. Money played a secondary role. Bartering and improvisation were the order of the day.

The economic miracle also brought wealth to German households.



The introduction of the mark brought wealth

The D-mark was introduced in 1948. It filled the shelves with long-hoarded goods overnight. The upswing happened so quickly that the Germany correspondent of French newspaper *Le Monde* wrote, "It almost makes you regret the dismantlements that are allowing Germany to equip its industries with state-of-the-art machinery." The Ruhr region with its coal deposits became the heart of the upturn.

In 1945, 41 per cent of the housing stock – roughly 6.5 million homes – countless public buildings as well as important traffic and transport routes were heavily damaged or completely destroyed. In numerous large

and medium-sized cities, more than half of the residential buildings lay in ruins; in Cologne, it was 70 per cent, in Paderborn, it was more than 90 per cent.

But the worst of the rubble was soon removed, and things were looking up at Opländer, too. The first heating systems were installed, a few pumps could be produced every day and the company was even able to supply retailers again.

The economic miracle soon gained traction. New inventions were being made more and more quickly and in more and more areas, and new products or manufacturing methods were being developed.

150 years of Wilo 1926–1968

The economy was thriving – the millionth VW Beetle rolled off the assembly line in 1955.

The concept of construction also changed during this time. As a result of the war, the backlog for building fabric was enormous. The primary objective was to provide people with homes again.

New forms of housing were developed that were characterised by a freer, less inhibited relationship between interior and exterior. Roof-top gardens and houses on stilts, which went hand in hand with the omission of screed and cellars, the tried and tested climate buffers of the house, were postulates of modernism along the lines of Le Corbusier. The familiar layout of houses gradually changed from separate rooms into a more open and flowing layout of room zones. In these houses, which were referred to as functionalistic, it was a lot more difficult to accommodate the heating system, which was taken for granted as an element of the modern living concept, as compared to the traditional layout. The installation field therefore also demanded new concepts.

Residential house and factory premises on Hohe Straße in 1948.





On Hohe Straße in Dortmund, father and son of the Opländer family now concerned themselves with learning more about the state of the art in pump technology outside of Germany. After all, the goal was to once again set an example in the competition for the best technology. The false ambition of insisting on develop-

ing something of your own could do more damage than good. Consequently, the company focussed less on tedious design work and in-house test runs and more on building new, and yet established, technology under license.



The signing of the Treaties of Rome in 1957 marked the start of a unified Europe and a common market.

The Perfecta solution

In 1952, the company run by Louis and Wilhelm Opländer split into two independent branches: heating company Louis Opländer and pump manufacturer Wilo. That same year, Wilhelm Opländer took over the license for building a maintenance–free heating pump without a stuffing box from Dr Karl Rütschi, owner of Pumpenbau Brugg. In doing so, Opländer introduced something completely novel and revolutionary in Germany: the "Wilo Perfecta".

The pump was a resounding success. Something like this had never been seen before in Germany: A pump that was comparatively small considering its performance and that could essentially be forgotten about after it had been installed. It required no lubrication or maintenance whatsoever — only water, and that was what it pumped anyway. This convinced wholesalers and heating fitters alike. In 2009, Wilo managed to find specimens of the 1954 series that had thus been operating without problems for 55 years. Sales of Wilo pumps sky-rocketed.

There was a lot of catching up to do in the post-war years. At Wilo, the pump business and the heating business both grew steadily and continuously in line with the increasing economic power – until 1955, the first year in which the pump builders generated more revenue than their colleagues from heating systems production. From then on, the gap increased every year, and the success of the pumps became increasingly important.

During the time that followed, an annex was built to accommodate pump production, which was bursting at the seams in the previous building. More and more pumps had to be made. This was due not only to the innovative pump, but also to the increasing prevalence of oil–fired furnaces. It also weakened the argument that electricity or the pumps could fail. What was more, oil–fired furnaces required the installation of a circulator. The inauguration ceremony for the new factory hall, which was made of prefabricated sections, took place

in 1958. The factory hall was already equipped with a

WILHELM OPLANDER GMBH DORTMUND ARDEYSTRASSE 28 — RUF 22853/54

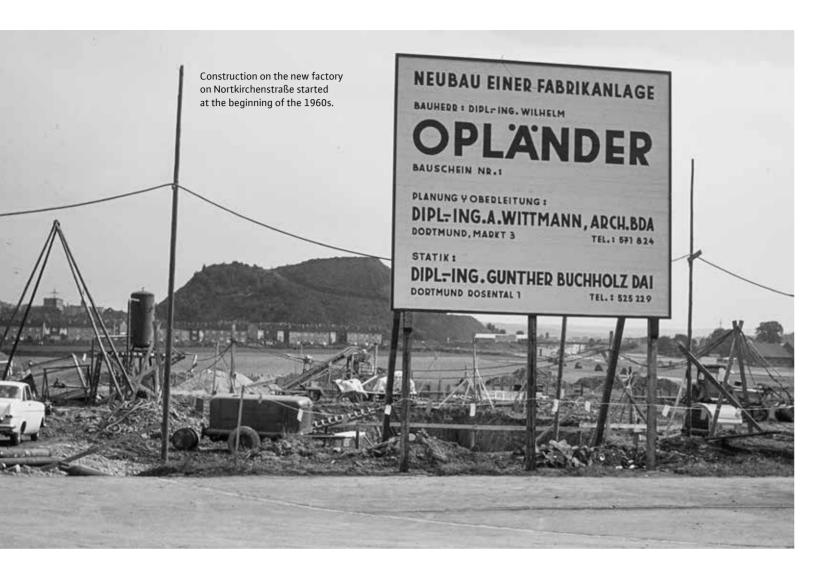


The start of a new decade and a better future: The sixties got off to a promising start.

production line that accelerated production considerably. The employees worked extremely hard, in two shifts.

A new decade started two years later. In 1960, the youthful American presidential candidate, John F. Kennedy, spoke of a "New Frontier". Of unfulfilled hopes and dreams. Of a world that would undergo a radical change. The spirit of a new beginning could also be felt in Germany. Within a few years, the republic with its capital in Bonn was catapulted from the stale society of the post-war years to the modern era.

It was the 1960s, where oil-fired heating and having your own bathroom became the standard. Everything was in a flow, many things were new — thoughts, speech, life. Many things changed at Wilo as well.





Despite all the efforts that were made, even the new production hall soon did not offer enough space to work on all the orders. There was no room to expand. And so the idea to build a factory in a different location started to take shape.

The planning of the new building was one of the last major projects in which Wilhelm Opländer was able to draw on his father's extensive experience. Louis Opländer passed away on 18 May 1962 at the age of 89. The factory at the new site on Nortkirchenstraße was completed in 1963. Only the state-of-the-art equipment was brought over from the old factory. From to-day's point of view, it was a fairly smooth relocation. Back then, though, there were certainly some thoughts and concerns about how the inevitable production downtime caused by the relocation could be kept to a minimum.

The relocation was barely complete when pump production reached a never before seen high. And the number of incoming orders was even higher. In the meantime, word on how convenient an oil-fired heating system was had continued to spread among the owners of older buildings. The boiler room, which often had white tiles, now shone bright and clean like a bathroom. But the main advantage was that nobody had to clean the slag and ash out of the furnace any more or make sure that the blaze under the boiler was going multiple times a day. To put it simply: As more and more old buildings were being renovated, the demand for heating pumps increased.

The production of heating systems was also thriving. The company was now making comprehensive ventilation and air conditioning systems that were being



The Wilo factory and main building in Dortmund, around 1963.



installed in numerous renowned buildings. While the area had been increased overall, its sales had not been expanded beyond the catchment area of Dortmund.

While the number of employees in the heating, ventilation and air conditioning section of the company had remained roughly the same, the production and working methods were improved significantly. On the one hand, the construction of heating systems had not been advanced deliberately so as not to alienate the competitors as buyers of Wilo pumps, and on the other hand, the company made an equally deliberate decision not to give up this production entirely. The reason for this was that the heating systems produced at the company's own factory still provided the best test field for monitoring the behaviour of the Wilo pumps closely for several years.

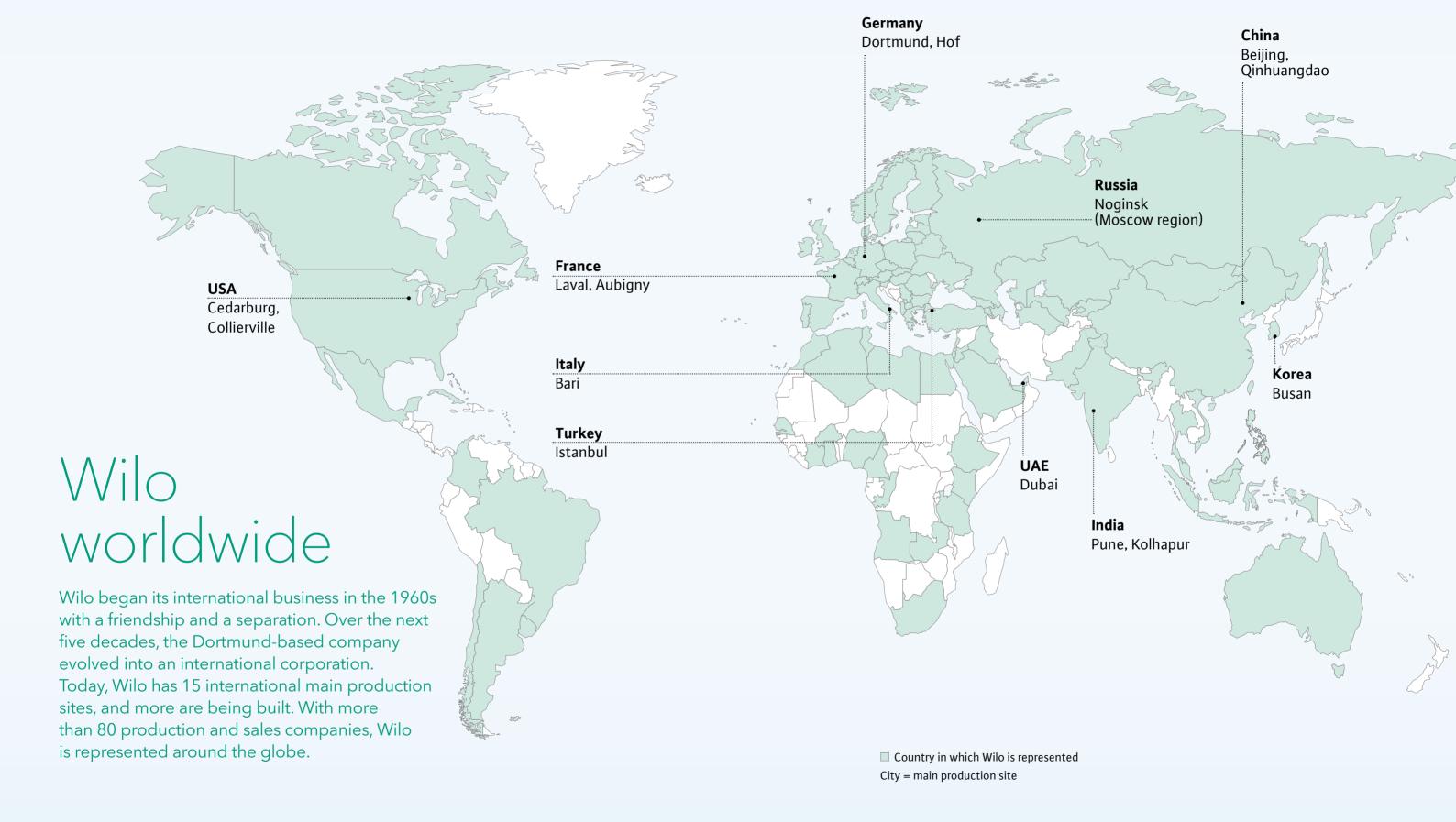
Making good things even better

The Wilo pumps without a stuffing box were little technical marvels: You could forget about them as long as they were running. Nevertheless, some of them did not function properly for long enough. After all, only the knowledge of the basic function had been acquired with the license, but not finished parts that only needed putting together. In addition, the pump had been introduced in Switzerland only recently, meaning that the Swiss could not provide assistance based on many years of practical experience to the Dortmund-based company.

The can of the pump, which had to hermetically separate the rotor running in the water from the stator in order to keep it dry, turned out to be particularly stubborn. At that time, there was only a single company in all of Europe that produced such extremely thin-walled pipes. Moreover, the pipes had to be produced with unusually tight tolerances, be non-rusting, anti-magnetic and extremely strong in order to be able to withstand the high system pressure. The extent of the problem becomes apparent in light of the following fact: The wall thickness of the cans in the small Wilo pumps, i.e. most of the pumps, had to be less than two tenths of a millimetre. Then there was the more complicated problem of the gaskets between the can and the electric motor. They were to withstand temperature fluctuations between 20 °C and 115 °C, ideally for many years. No manufacturer had ever provided a guarantee for this or the consistent quality of the supplied batches. The issue was quite literally too hot. The concerns about gaskets were only resolved when an entirely new, non-organic material had been discovered. There were still a number of inventions to be made in the time that followed before Wilo pumps became the reliable machines they are today.

Nevertheless, hundreds of thousands of these pumps were already sold in the first years. Under normal circumstances, there were no malfunctions. And yet the Wilo engineers worked tirelessly to search out even the most adverse conditions and secure the pumps against them.

Markets





One of Wilo's first international branches was in Greece. The company started production on-site early on and soon became the market leader.

It took almost one hundred years for the company ter had thought up a clever marketing and sales stratto take the first step beyond the German border and into Belgium. Wilhelm and Dr Jochen Opländer were personal friends of manufacturer Maurice Courbain. Courbain operated a small pump factory near Brussels, had reached an advanced age and did not have a successor. Wilo took over Courbain's business in 1967 and Hundreds of these phone calls were made, which gave established it as its first international branch.

However, there was a stumbling block hindering further international expansion: the Rütschi license. It had been granted country by country and obliged each national licensee to restrict themselves to their home market. This regional cartel prevented the international sale cided to build a small pump factory in Greece in order to of the Perfecta, of which Wilo was the most successful producer. This started to be a serious disadvantage as compared to the budding competition that was not poration was the acquisition of Pompes Salmson, which tied to Rütschi. Dr Jochen Opländer therefore decided was then the largest French pump manufacturer, in to terminate the license.

This allowed Wilo to freely expand on the international many African markets. The Wilo management decided stage as from 1968. Over the next decade and a half, Wilo established a growing network of international branches in Europe.

The company's involvement in Greece opened up a only completed in 2018, when Salmson became Wilo. new market and was an important step for Wilo. The branch was founded at the beginning of the 1970s by two Greek men, Mr Kurinis and Mr Katsantonis. The lat-

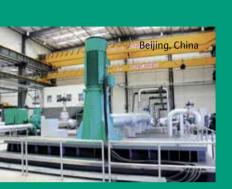
egy for the market entry. With the help of friends, he phoned wholesalers and retailers for building services in Greece to order a particular Wilo pump. They then said: "Sorry, we don't carry Wilo pumps. We only have such and such a pump." "But we would like a Wilo pump." the impression that there was already a huge demand for Wilo products in Greece. It did not take long for this strategy to cause the majority of retailers to carry Wilo pumps. And not only that, Wilo also became the market leader in Greece. Due to the high import tax, Wilo deoffer its products at a decent price.

One milestone on the path to becoming a global cor-1984. Salmson was an established brand in France and not to follow many a piece of advice and continued to trade the French pumps under their previous name. This created trust and solidarity. The integration process was After the fall of the Berlin Wall and the collapse of the

Eastern Bloc, Wilo guickly expanded into Eastern Europe. The new millennium started with Wilo opening

Wilo already opened a branch in Russia in 1996. In 2016, Wilo started production on-site with a large factory in Noginsk, near Moscow.









With factories in China, South Korea and India, Wilo has consistently expanded its presence in the Asian the past two decades.



The company continued to take great steps in the new Branches in the Middle East, Africa, Australia and South millennium. Wilo established itself in China and is continuing to further expand its business there. As part of the corporate strategy, Beijing is being developed into

production in two locations. Aside from China, Wilo has gained a foothold with sales and production sites in the & Platt, a strong local producer, in 2005 was an important step in this endeavour. The third global headquar-With the acquisitions of Scot, Weil, American-Marsh business in the USA over the last decade.

America were added. Today, Wilo is represented on the international stage with more than 80 production sites and sales companies and a true global player.



With the acquisitions of Scot, Weil, American-Marsh Pumps and QuantumFlo, Wilo has greatly expanded its business in the USA over the last decade.



1963–2019
Jochen Opländer
The Cosmopolitan

150 years of Wilo THE COSMOPOLITAN Dr Jochen Opländer was born in 1931 and joined the management of Wilo in 1963. He was the sole owner of the company as from 1969. For decades, as the Managing Director and Chairman of the Executive Board, and later as the Chairman of the Supervisory Board (today: Honorary Chairman of the Supervisory Board), he has shaped and enduringly defined the growth, internationalisation and technological achievements of today's WILO SE.

"You don't find goals. You set them."

In the 1970s, Germany had found itself. After the years of reconstruction under Konrad Adenauer and the student revolt of 1968, the feel–good Federal Republic of Germany emerged. People breathed more easily as their income, and therefore consumption, further increased. The Cold War had passed its peak, and people were starting to relax again. Willy Brandt initiated his Ostpolitik. German citizens had building loan contracts and wanted their own terraced houses with a basement party room. Those who were better off could afford their own indoor swimming pools. Wilo also geared up for the new swimming pool trend. But first, the broad range of pumps was extended to satisfy the demand for large building types. In response to the market demand, Wilo started what was known as the NBL programme in 1970.

With their larger output, the standard, bloc and inline pumps complemented the existing series of Wilo pumps without stuffing boxes.

Another key reason that contributed to the demand for larger pumps was the good reputation of Wilo's customer service. It was available for Wilo pumps of all types and outputs.

150 years of Wilo 1963-2019

The social climate in Germany had changed at the beginning of the 1970s. People had longer hair, and relationships were more relaxed, including the one between East and West. The socialliberal coalition under Willy Brandt commenced talks with the GDR. This "change through rapprochement" was what ultimately led to the fall of the Berlin Wall roughly two decades later.

Branch offices and representations abroad

When Dr Jochen Opländer joined the management in 1963, he took on the task of finding new and contemporary means of sufficient customer retention. One of his first tasks was to open three sales branches in Hanover, Hilden and Munich. While the local retailers were initially sceptical because they saw Wilo as a competitor, they soon came to appreciate the good customer service. Wilo offered a vast selection of pumps and spare parts at its branches. The retailers did not need to keep as many different Wilo products in stock any more and had a large assortment selection nearby. In addition, Dr Jochen Opländer had started to offer expert talks and training courses for local heating fitters and tradespeople from the sanitary field at the branches. In the 1970s, there was already a dense network of thirty branches and customer service offices throughout the country.

Wilo also expanded beyond the German borders. The strategic realignment initiated by Dr Jochen Opländer included the establishment of the first foreign subsidiaries in an effort to satisfy the great demand.

We have to have a pool

In the meantime, Wilo swimming pool technology was introduced - a completely new department that concerned itself with the production of swimming pool filter systems, heat exchangers and the sale thereof and supplied additional equipment that is part of a wellequipped and maintained outdoor or indoor swimming

Turning towards this business area was an obvious step: As people's wealth increased, there was an everstronger trend towards owning a home, which was also often associated with having one's own swimming pool. Building a swimming pool involved extensive work that had to be performed by installation or heating companies. Many of these companies were loyal users of Wilo pumps. The structure for the retail/installer sales channel was already ideal in Opländer's data processing system. Even before production really got started, Wilo put together a swimming pool team and sent it to training courses where it was provided with all the theoretical and practical knowledge it would need for consulting and sales. Everything for the new division was prepared carefully and went according to plan. Except for the sales, which already exceeded the planned value fourfold after one year.

Wilo Schwimmbadtechnik Mit allen Wassern gewaschen



System für die Wasserführung, Filterung, Reinigung und Desinfektion für Privat-

bäder und öffentliche Schwimmbäder nach DIN 19643.

- Hochleistungssandfilter für Hand- oder Automatikbetrieb.
- Wasserberührte Teile aus Edelstahl, Bronze oder Kunststoff.
- Sichtbare Teile poliert oder korrosionsfest

Der Wilo-Außendienst, an 41 Orten in der Bundesrepublik zu erreichen, steht bei allen Fragen der Praxis zur Verfügung.

für fundamentlose Aufstellung.

Wilo - der kompetente Partner mit der kompletten Schwimmbadtechnik.



Perfekt vielseitig

WILO-Werk GmbH & Co. - Nortkirchenstraffe 100 - 4600 Dortmund 30 - Tel. (0231) 41020 - Telex 822697

150 years of Wilo 1963–2019



Four generations of success

1972 was a big year for the company: Wilo celebrated its 100th anniversary. This was the perfect time to honour the successes of the past and pause for a moment. The company was on an excellent path. In 1969, Dr Jochen Opländer took over as Managing Director of Wilo. Since then, he continued the success story of Wilo in the fourth generation. The foundation upon which the company was able to evolve into a worldwide leading manufacturer of pumps and pump systems over the coming decades had been laid.

Following the acquisition of French companies Salmson and Drouard in 1984 and 1987, Dr Jochen Opländer introduced a modern holding structure. As the Managing Director and Chairman of the Board, he was responsible for the areas of development, materials management and production. A number of fundamental adjustments became necessary in the 1980s, and the increasing requirements in the production warehouse and shipping areas required some construction work to be done.

The planning concept intended for customer service to be relocated in order to create more space for a new, larger and improved goods receiving department. With the construction project "Production warehouse and shipping", a further construction stage was initiated with the aim of consolidating the domestic and export sales areas into a better functional unit in a second

The work progressed well. The first stage of the construction project, the goods receiving department and shipping area, was started in April of 1986 and completed successfully in the autumn of that year. Roughly one year later, the new warehouse and the new, modern offices of the sales and marketing area were ready for the employees to move in.

Major projects were once again under way in Dortmund in 1988. Further necessary spatial adjustments were made after the premises along state road B54 were purchased. The goods receiving department and quality control were to satisfy state-of-the-art demands in terms of spatial and machine facilities. The head office was also in the middle of relocating.

Pump perfection - this was and still is Wilo's claim, laid down in the company's guidelines in 1988.

Foundation of the Wilo Advisory Board

On 11 May 1988, the inaugural meeting of the Wilo Advisory Board took place at the headquarters in Dortmund. By establishing this three-person Advisory Board, the management had an advisory and control committee that was equipped with excellent specialist and entrepreneurial qualifications. Neutrality was a top priority when selecting the Advisory Board members. The group of people included recognised leaders from renowned major companies from other industrial sectors, covering important specialist areas such as production and materials management, finance and controlling, marketing and strategic management.

Together with the management, the Advisory Board was to help the company to further optimise the quality of important management decisions. The board was anchored in the by-laws of the Wilo factory and accompanied the company from then on. The members met up four times a year for a confidential critical discussion. Wilo thus had the small version of a management structure similar to those found in a stock corporation with an Executive Board and Supervisory Board.

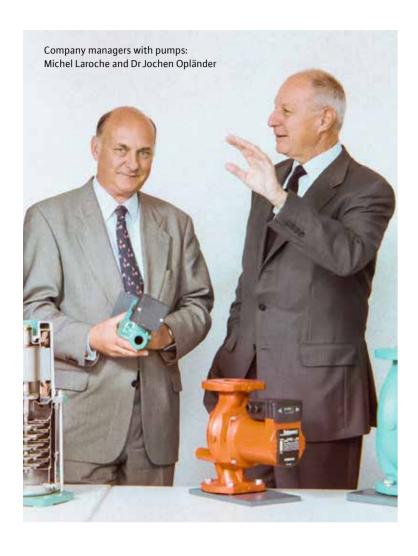
Pump perfection

Just like today, Wilo was always working on improving the quality of its products. Even in 1988, the company's guidelines stated: "Our aim is to achieve perfection in pumps and therefore perfection in performance in every area of our work." This referred not only to the products, but the entire environment of pump perfection, both within the company and outside. Outside the company refers to products and services, while inside the company refers to all employees. It starts with the provision of a flawless product and cooperation in the team and extends all the way to the treatment of customers. In order to process these matters in a targeted way, a separate quality team was founded in which employees from all areas were equally represented. During the time that followed, the team prepared a quality guideline for all areas of the company.

Supporting young talent

Training has always played a key part at Wilo. The company attached great importance to training its future employees in-house, and still does. After all, today's trainees are tomorrow's specialists. To this end, the training workshop was introduced in 1977. It was a central place of training for the commercial apprentices at the time. In the mid-1980s, apprentices were trained as machine fitters here in particular. In 1986, there were 19 apprentices being trained by two vocational trainers in the training workshop. Over the course of the decades, Wilo refined its training concept successfully and adapted it to current requirements. Today, the Wilo locations in Germany train young people in the professions of industrial management assistant, marketing

150 years of Wilo 1963–2019



communications assistant, industrial mechanic, industrial electrician, mechatronics engineer, machine and systems operator, electrician for operating technology, warehouse logistics specialist, IT specialist for system integration and cutting machine operator — and then there are the student employees.

On course for further success

At the beginning of the 1990s, Wilo was on course for further success and set new standards in the areas of development and design. It is no wonder that the response of the press to the company's annual press conference in 1990 was impressive. Newspaper headlines included "Sales increase by 17 per cent", "Wilo does great business" and "Wilo pumps running full speed". The company balance sheet was impressive. Produc-

tion reached a magical milestone in 1990: two million Wilo pumps in one year. A new record was set just three years later. The ten millionth "Spar-Wilo" was made.

Perfection is our claim

In the spring of 1991, 2,000 exhibitors from more than 20 countries took part in the international trade fair for HVAC and water, ISH, in Frankfurt and used the opportunity to network with customers and interested parties from all over the world. The ISH was a huge success for Wilo. There was a lot of activity on the 420 square metres of exhibition space. "Perfection is our claim" was the motto for this trade fair, and it was to emphasise not only the quality of Wilo's products, but also its high standards in the areas of service, consulting and employee quality.





A bright, inviting booth — a hall of mirrors and a world of experience rolled into one — fascinated numerous visitors in 1991. Under the motto "Perfection is our claim", the company presented many highlights, including the "Star–Wilo" E 50 series and the Wilo master pump.

150 years of Wilo 1963–2019



1989

The Cold War and the German division ended with the fall of the Berlin Wall.

The first site in East Germany

Even before reunification, there was contact between Wilo and the former state holding company Pumpen und Verdichter Oschersleben. Capacity was reaching its limits in Dortmund, and the plan was to outsource certain production tasks through contract work. However, the two companies had not yet worked together for many reasons. After the fall of the Berlin Wall, the relationship was revived immediately, and the Oschersleben pump factory had already produced 1,000 pumps for Wilo in July 1990. This number increased to 30,000 by the end of the year. Following arduous negotiations with the privatisation agency, part of the former state holding company was separated and privatised. However, the rented spaces had to be returned. Production was relocated to Magdeburg, and the decision was made to construct a new building in Oschersleben.

A total of 137 employees worked at the new site. The total area of the premises was 10.5 ha, of which 9,800 square metres were usable space. More than 25 million D-marks were invested.

A big opening celebration took place at Wilo in June 1995. After a construction period of just one year, operations started up in the new production hall in Oschersleben. Oschersleben, which is close to Magdeburg, was a novelty for Wilo back then. This site did not produce pumps, but systems for building services, such as district heat substations, rainwater utilisation systems, pressure–boosting systems and filter systems. Self–controlling work groups produced in accordance with modern working methods and with flexible working hours.

New structures

In the 1990s, the headquarters in Dortmund started to optimise organisational structures. The reason for this was obvious: While small handicraft businesses do not need to strictly regulate responsibilities or flows of information because the employees are all in one place and information can be exchanged easily, even a medium-sized company requires defined organisational structures.

In the past, the Wilo organisational chart had been limited to representing the individual departments, embedded in different areas. This was based on the mindset that a department was a self-contained institution with a specified area of responsibility. In the years that followed, Wilo worked out how to adapt the organisational structure to the altered market conditions. This resulted in what is known as the "KIM organisation", where the customer is at the centre.

The second change arose from the insight that service to the customer is to be understood as a continuous, cross-departmental process, from production to shipping. Communication between the departments is a crucial element of this process. In an effort to provide a visual representation of the altered structure, a new organisational chart was created in July of 1994. The customer was located right in the middle. The loose distribution of the individual departments, each connected to the customer, was to reflect the company philosophy of being close to and in immediate contact with customers in order to be able to respond to their needs as quickly as possible.

International expansion

In the first half of the decade, Wilo continued to expand at the international level, with a particular focus on the Asian sales markets. On 27 October 1994, the new Wilo production plant in South Korea was officially opened. It was located in Umsong, roughly 90 kilometres from the capital of Seoul, and was Wilo's sixth pump factory, the fourth to start production abroad. The opening ceremony was held in true Korean style on a bright sunny day, which was interpreted as a particularly good omen for the factory's future.

Roughly 60 employees would start building screw-end pumps for manufacturers and trade over the following year. The assembly of pressure-boosting systems to cover the demand on the Asian markets was also planned for 1995. Another goal was to build larger



flange-end pumps there. In general, the production site was to be developed into a Wilo centre in Northeast Asia and serve as a technology and production centre for the Asian economic area, trading under the name Wilo Pumps Ltd.

At the start of the new millennium, Wilo was ready to face the challenges of the market. Six factories, innovative and high-quality pump products, total revenues of 742 million D-marks, 27 sales companies all over the world, 16 sales and service offices as well as 2,754 qualified employees, 760 of whom worked in Dortmund, provided a solid foundation. Right at the start of the 2000s, Wilo once again proved its level of performance and innovative strength with two new, revolutionary products.

Starting off the new millennium with a bang

Wilo had impressed with pioneering innovations and revolutionary products and systems time and again. It was time for yet another innovation at the start of the new millennium: The world's first high-efficiency pump for heating, air conditioning and cooling applications was presented in 2001. "Wilo-Stratos" pumps consume up to 80 per cent less electricity than uncontrolled circulators. When the European energy label for heating pumps was introduced in 2005, this pump series was the reference for energy efficiency class A. Owners of single-family houses and small multi-family houses were also able to benefit from the same savings potential from that year onwards, thanks to the smaller models of the "Stratos" series, the "Wilo-Stratos ECO",



In a class of its own: The Wilo–Stratos, which was introduced on the market at the start of the new millennium, was the world's first high–efficiency pump for heating, air conditioning and cooling that required more than 80 per cent less energy than uncontrolled circulators.

which was designed specifically for this purpose. German consumer safety group "Stiftung Warentest" was also impressed and gave the pump a 1.4 ("very good") in 2007. The "Wilo-Stratos ECO" won the test in the category of energy efficiency, receiving a 1.3.

The latest generation of high-efficiency pumps, the "Wilo-Stratos PICO" introduced in 2009, reduces energy consumption even more, by as much as 90 per cent. The top position within energy efficiency class A was confirmed by German inspection association TÜV SÜD. Wilo also continued its international growth strategy in the new millennium, for example with the acquisition of Korean pump manufacturer LG Pumps (2000) and Indian company Mather & Platt Pumps Ltd (2005). The acquisition of the EMU Group in Hof, Bavaria, in 2003 also improved the company's expertise in the fields of municipal and industrial water supply, wastewater treatment and sewage treatment technology.

Founders of the Wilo Foundation

The Wilo Foundation was founded by entrepreneur and founder Dr Jochen Opländer and his children Claudia Nüsslein, Jan Opländer and Felix Opländer (†) on 14 January 2011. Once established, the majority of the shares in the global Wilo Group previously held by the family were transferred to the Foundation. As the majority shareholder, the foundation secures the continuity and independence of the Wilo Group.

The family-run foundation is involved in the areas of science, education, culture, sport as well as social causes. The focus is on the global future issues of water, the environment and climate protection, as well as technology and digitalisation. In line with its motto "Empowering young people", the foundation's commitment benefits young people in particular.



From left to right: Lars Roßner (member of the Board of Trustees), Evi Hoch (Chairwoman of the Foundation), Dr Jochen Opländer (founder), Oliver Hermes (member of the Board of Trustees), Prof. Norbert Wieselhuber (member of the Board of Trustees), Jan Opländer (member of the Board of Trustees) and Wolfgang Mertineit (Chairman of the Foundation), in 2019.



Committee activities, honorary posts and awards of Dr Jochen Opländer

Dr Jochen Opländer's outstanding achievements have been honoured with numerous awards, including

- the extremely renowned Diesel Medal of the German Institute of Inventions
- the Badge of Honour of the Technical University of Dortmund
- the Hermann-Rietschel Medal of Honour of the VDI Society for Building Services
 Engineering
- an Honorary Doctorate from the Technical University of Dresden
- the Order of Merit of the Federal Republic of Germany, 1st Class

Moreover, Dr Jochen Opländer was the President of the European EUROPUMP Committee from 1987 to 1989, in which capacity he represented the interests of German pump manufacturers on the international stage.

Like his father and grandfather, he is very interested in culture and is personally involved in Dortmund's cultural life to this day. For example, he is a member of the Board of Trustees and a sponsor of the Dortmund Cultural Foundation as well as ambassador and patron of the Dortmund concert hall.

Dr Jochen Opländer is also continuing the family tradition of sponsoring competitive rowing. His achievements are reflected by the fact that he is the honorary captain of the German Men's Eight team (gold medal winners at the 2012 Olympics in London), he was awarded the badge for special achievements by the German Rowing Association (World Championships, Linz 2019) and he is an honorary member of Hansa Rowing Club.

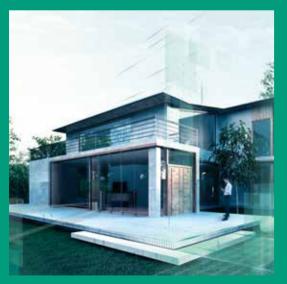
Digitalisation

"Without a doubt, digitalisation is now a significant key factor for a company's success.

Wilo identified this development early on and advanced the company's digital transformation."

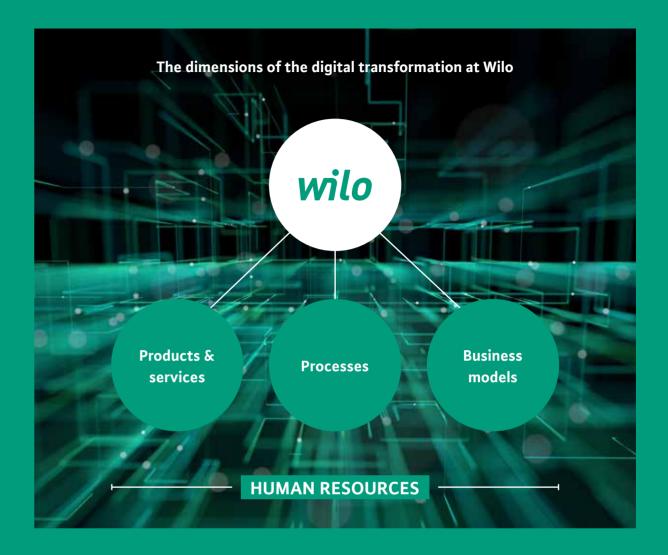
Oliver Hermes, Chairman of the Board & CEO of the Wilo Group







Wilo-Stratos MAXO, the world's first smart-pump*, was introduced on the market in 2017 (top). The refined Wilo-Stratos PICO, which now features a new display and the option for the Wilo Smart connect module BT, will follow in 2022.



In 2015, Oliver Hermes, Chairman of the Board & CEO of Processes in production, procurement and logistics are the Wilo Group, presented the first smart-home-capable product portfolio of his industry at the ISH Frankfurt, the world's foremost trade fair for water and HVAC. This included Wilo-Stratos PICO, Wilo-Jet and Digital structures are established in a joint effort, and all Wilo-Drain Lift, for example. Just two years later, Wilo presented Wilo-Stratos MAXO, the world's first smart pump, at the same trade fair. With these pioneering new developments, Wilo reinforced its claim of being a "digital pioneer" and positioned itself at the top in day and will be even more so in future. terms of digitalisation within its sector.

But the digital transformation at Wilo comprises much more than the product area.

Wilo connects products and systems from all areas of application in an effort to continuously improve the quality of communication, cooperation with partners and benefit to customers.

also being digitalised to increase the levels of efficiency, transparency and flexibility. Furthermore, employees at Wilo are taken along on the path towards digitalisation. employees can participate in further training to qualify for new forms of working.

Digitalised products and solutions as well as new digital business models are already a crucial success factor to-

Finally, digitalisation requires trust in data security. Wilo therefore manages all data according to the highest ethical standards and maximum security standards.



On-site, everywhere: Wilo-Live Assistant was introduced in 2020 and is a milestone with regard to digital and mobile support.

In 2015, Wilo decided to advance the company's digital transformation consistently along these five dimensions. Today, the company has a broad digital product portfolio that comprises smart pumps, system solutions and services. These include connected pumps such as Wilo-Rexa SOLID-Q as well as the Wilo-Live Assistant, which allows users to obtain remote diagnostics for service-related questions via their smartphone. In addition, Wilo has developed intelligent cloud solutions for various markets.

The construction of the new headquarters in Dortmund, known as the Wilopark, was a further milestone on the path to digitalisation. The site was brought into the age of climate change with the largest investment in the company's history. The completely new construction features smart offices. In cooperation with the Fraunhofer Institute for Industrial Engineering, Wilo The digital transformation is changing not only the developed an office concept that also incorporated the new digital working conditions. Wilopark is also home to the Wilo smart factory. The foundation stone was vancing the processes in the different dimensions of laid in 2015. Wilo consistently relied upon Industry 4.0 standards here. The smart factory started operations

WILO-REXA SOLID-Q MIT NEXOS-INTELLIGENZ. WILO-REXA SOLID-Q WITH NEXOS INTELLIGENCE.

successfully in 2020 and is an impressive testament to Wilo's role as an innovative leader. Over the coming decade, all other Wilo production sites worldwide are to be updated to the Industry 4.0 standard.

products, but also their production as well as everyday work and how we interact with each other. Wilo is adthis transformation successfully, and digitalisation is now an important part of Wilo's corporate culture.

The innovative pressure drainage system of Wilo-Rexa SOLID-Q with Nexos intelligence was introduced foremost trade fair for environmental technology, in 2018.

wilo

From the steam engine to digital transformation – the evolution of industry at IFAT in Munich, the world's



Since its beginnings as the "Kupfer- und Messingwarenfabrik Louis Opländer" in 1872, the company has gone through all four phases of industrial development. When the company was founded, the first industrial revolution had already been under way for some time. However, the steam engine was still the prevailing motor of development, whether for generating energy or powering trains and ships.

The second industrial revolution came at the beginning of the 20th century. It was dominated by the two main factors of electricity and mass production. Electrical energy, the majority of which was generated from fossil fuels, was increasingly used as the main drive. Meanwhile, processes based on the division of labour that led to serial mass production were becoming established in production.

The third industrial revolution followed in the 1970s and could also be referred to as the electronics revolution. Robotics and IT led to a massive level of automation in production.

Finally, there was the fourth revolution, which is known as Industry 4.0. For roughly a decade, the integration of the Internet and the increasingly intensive use of data have been opening up entirely new digital possibilities and transforming conventional processes.

Since 2006 Oliver Hermes The Shaper of the Future

"Always be ready to think and act beyond the obvious."

The editorial written by Oliver Hermes in the 2010 annual report began with the sentence: "Surviving a crisis is one thing. Overcoming it successfully is an entirely different matter." Essentially, the new spokesman of the Executive Board of WILO SE had unknowingly found a motto for the coming decade, as one global crisis followed the next in the 2010s. It started with the aftershock of the global financial crisis that was not quite over yet, which was followed by the euro crisis, the refugee crisis, Brexit, the USA under Donald Trump and finally the coronavirus crisis, which is still going on today. Although they are still quite recent, the 2010s can already be referred to as the decade of crises.

Nevertheless, Wilo started off this decade with a record. In 2010, the company's sales exceeded 1 billion euros for the first time. And that was just the beginning of a decade of constant growth, despite the numerous challenges.





Traditional slicing of the cake with the new Wilo logo.



In 2017, Oliver Hermes laid the foundation stone for the Wilo smart factory. The event was attended by then minister president of the federal state of North Rhine-Westphalia, Hannelore Kraft, the mayor of Dortmund, Ullrich Sierau and Dr Jochen Opländer. It is the centrepiece of the largest investment in the company's history: the new construction of the Wilo headquarters in Dortmund.



As Chairman of the Board and CEO, Oliver Hermes has been consistently advancing the transformation of the Wilo Group towards becoming the industry's digital climate protection pioneer for years. The company's internationalisation was accelerated in the course of the realignment of the Group. He strengthened Wilo's position as one of the leading global players by entering the market in East, West and Central Africa as well as the Latin American countries, strengthening its regional presence in Southeast Asia and the Middle East and by building new factories in Russia, India, China, Korea, Turkey, the UAE and the USA. This allowed the Group to evolve into a billion euro company over the last years. From a global perspective, the economic balances of power have been shifting increasingly from the industrial nations to the developing nations, from the Atlantic to the Pacific regions, in a highly dynamic process over the last two decades. In order to accommodate this shift, Wilo decided to invest heavily in the gravitational centres of global economic growth. A new production site was opened in Kolhapur, India, in 2010 to produce for the major demand on the subcontinent as well as for export.

Wilo also increased its involvement in China and expanded the existing production sites considerably in 2012. A further major investment followed in Asia one year later, when a new factory was opened in Busan, South Korea.

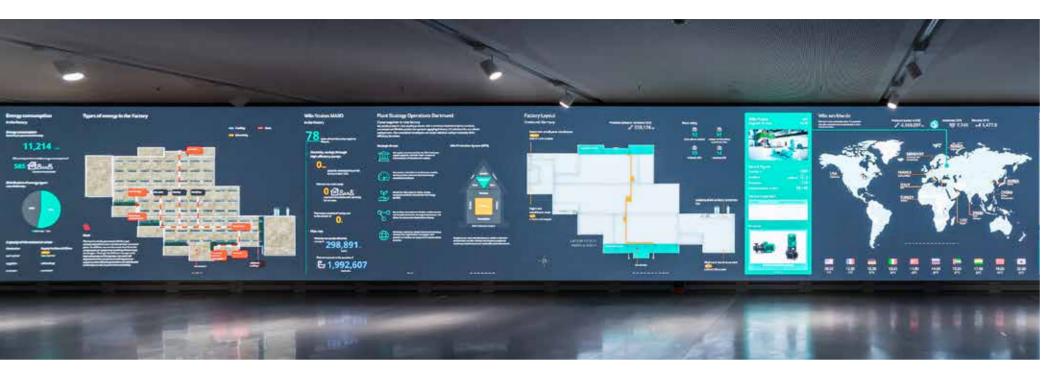
Modern assembly and logistics platforms were also added in Turkey, Brazil and South Africa. In the Middle East, Wilo expanded the site in Dubai into a sales platform for the whole Near and Middle East region as well as North Africa. In 2018, three years after the ground-breaking ceremony, a sales and service centre was opened in Almaty in Kazakhstan, from where Wilo is opening up business with and supporting customers and markets all over Central Asia to this day.

The biggest and perhaps most important foreign investment of the decade was the production site in Noginsk, near Moscow, which was opened in 2016. Business in the USA was also strengthened consistently. The presence, production capacities and access to the market were reinforced through targeted company acquisitions in line with the "region-for-region" approach.

Investments in the future

Wilo did not only invest abroad during this decade. With the purchase of first pieces of property in 2012, the biggest investment project in the company's history (roughly 300 million euros) gained traction. The new construction of the Wilo headquarters in Dortmund began with a symbolic ground-breaking ceremony in 2016. The investment is extremely important for the corporate strategy, as this is where the first Wilo smart factory was built. After a construction period of less

than five years, operations started at the Wilopark. A majority of Dortmund-based employees moved to the complex in 2020. The state-of-the-art digital factory and the "Pioneer Cube" administrative building currently cover an area of just over 180,000 square metres, and further construction stages will be completed soon. A future-oriented operator concept and digitally connected building services were implemented for Wilopark, reducing energy consumption by almost 40 per cent while cutting CO, emissions by 3,500 tonnes per year at the same time. Carbon-neutral production was already achieved in 2021 thanks to the highest energy standards including an in-house cogeneration plant combined with the utilisation of photovoltaics and waste heat. At the same time, the factory in Dortmund operates with great efficiency thanks to the high degree of automation and data monitoring and is considered a role model for newly planned factories in China, India and the USA.



An LED wall in the foyer of the smart factory keeps all the employees up to date at all times.

The key to the future: In a symbolic gesture, the key to the Wilo smart factory, the centrepiece of Wilopark, is handed over.



Challenge and inspiration in one

From very early on, Oliver Hermes attached great importance to the way the company positions itself with regard to important megatrends. This refers to major social revolutions that last for many decades and lead to fundamental changes. Wilo defined five long-term trends for its strategic development in 2012: globalisation, urbanisation, energy shortage, water shortage and climate change, and the digital transformation as the key factor. Many social challenges are bundled in these areas for which Wilo can offer resource-conserving and smart solutions.

In his role as CEO, Oliver Hermes is managing the increase of the brand's performance by modernising the brand's identity and developing the Group from a "hidden champion" into a "visible & connected champion". He is also consistently advancing the expansion of Wilo's innovation leadership by developing the Group from a components manufacturer into a provider of systems, solutions and services. In this context, the company has made some targeted future-oriented company acquisitions. He is implementing the digital transformation of the Wilo Group along the four dimensions of products and services, processes, business models and human resources. In line with the motto

"Climate protection is part of our DNA", Oliver Hermes is campaigning for Wilo to contribute to achieving a better standard of living worldwide and in particular to improving the efficiency of the water management solutions in view of climate change. The fact that Wilo was awarded the renowned German Sustainability Award (*Deutscher Nachhaltigkeitspreis*, DNP) in 2021 is testament to the credibility of the company's claim to be a "climate change pioneer".

Prompt and decisive

At the beginning of 2020, the coronavirus pandemic delivered an abrupt and hard shock to the world. Social and economic activities were scaled back dramatically on every continent, with far-reaching consequences. Wilo reacted to this exceptional situation in a prompt and decisive manner. The "Wilo Corona Task Force" was established to protect the workforce. To face the acute challenges, a pragmatic short-notice decision was made to review long-term strategic considerations and adapt them to the – in some cases radically – new circumstances

In light of the social responsibility in this situation, the company's key objective was to retain its ability to act and deliver. Two factors proved advantageous for Wilo:



Production at the Wilo smart factory. Automated guided vehicles (AGV) are also incorporated into the intelligent processes. They are used to transport material and support production.

In future, Wilo will continue to pursue its commitment to localisation and increasingly manufacture locally for the individual regional markets.



Committee activities, honorary posts and awards of Oliver Hermes

- Deputy Chairman of the German Near and Middle East Association, Berlin
- Member of the Advisory Board of Borussia
 Dortmund GmbH & Co. KGaA (BVB),
 Dortmund
- Member of the Board of Trustees of the Foundation for Family Businesses, Munich
- Member of the Executive Board of pro Ruhrgebiet e.V., Essen
- Member of the Advisory Board of the Initiativkreis Ruhr (Ruhr Initiative Committee), Essen
- Member of Rotary Club, Dortmund, since 2022
- Until November 2020 Board of the Ostasiatische Verein e.V., Hamburg
- Honorary Consul of the Republic of Kazakhstan in North Rhine-Westphalia since 2021

In 2014, he was awarded the honorary title of "Citizen of the Ruhr region".

Last updated: August 2022

its own products as well as its long-term and reliable commitment. In Russia, Wilo was one of only a few foreign companies that was classified as systemically relevant and therefore allowed to continue production. Wilo was also awarded this special status in other countries such as France, Italy and the USA since Wilo products are part of the critical infrastructure.

From working from home and smart production processes all the way to digital and therefore contact-free services, Wilo made use of all the possibilities of digitalisation. The company maintained its manufacturing capability and its service offer, which allowed it to continue to work and supply its goods and services. While other companies reduced their production worldwide, Wilo ramped it up. After just a few months, the "Corona Task Force" became the "Go-Ahead Task Force". Wilo took the crisis as an opportunity to focus on the future.

Success through transformation

The pandemic is mercilessly illustrating the weaknesses affecting the world economic order and its tightly interconnected value chains. Protectionism and efforts to become self–sufficient were already revealing themselves in the years prior to the pandemic, and these tendencies were further reinforced. The world is experiencing "Globalisation 2.0", which is characterised by the more pronounced regionalisation of value chains in the three major economic centres of North America, the EU and Asia.

Decoupling, the politically motivated dissolution of economic relationships, is a dangerous geopolitical accelerant here. It leads to economic inefficiencies and the destruction of both tangible and intangible assets.



In 2018, Dr Jochen Opländer appointed Chairman of the Board & CEO of the Wilo Group,
Oliver Hermes, as his successor.

Thanks to the "region-for-region" approach we have practised for many years, the Wilo Group is ideally prepared for this development. This strategy protects the company from upheaval, business interruptions and delivery failures, thereby allowing for greater resilience and stability in the face of crisis. Wilo is designed to allow the individual regions as much decentralisation as possible and as much centralisation as necessary. In future, Wilo will continue to pursue its commitment to localisation and increasingly manufacture locally for the individual regional markets. The company is therefore planning to add further locations to the 15 existing main production sites over the coming years. New headquarters are being built in China, and another will follow in the USA in the medium term. Wilo will manage its global business from three main offices in future. This is a major advantage, including with regard to the restrictions on trade that have been shaping the global economy for a few

A new head of the company

Dr Jochen Opländer appointed Oliver Hermes as his successor in 2018. He also appointed Oliver Hermes, who has been a member of the Executive Board since 2006 and acting as its chairman since 2010, as Chairman of the Board of Trustees of the Wilo Foundation. The family-run foundation holds the majority of shares in WILO SE. "In the many years that we have been working together professionally, a close personal friendship has developed between myself and Oliver Hermes. Oliver Hermes represents and lives by Wilo's professional and human values, which are in keeping with the guiding principles of the Opländer family."

Sustainability



As a matter of principle, working with the precious resources of water and energy requires sustainable thinking and action. Sustainability has always been firmly enshrined in Wilo's corporate culture. Wilo takes responsibility in economic, ecological and social matters.







Milestones of sustainability: TÜV certification as a "climate-neutral company in Dortmund", Leadership in Energy and Environmental Design (LEED), gold certification, and the gold certification of the German Sustainable Building Council (DGNB), both received for the "Pioneer Cube" administrative building.

It is unlikely that the term "sustainability" was at the forefront of the minds of either Louis Opländer, when he designed ventilation systems for pits, which used the existing waste heat from the pits for heating, at the beginning of the 20th century, or his son Wilhelm, when he developed the circulation accelerator in 1928. Nevertheless, they laid the foundation stone for sustainability by finding technical solutions that used energy in a more efficient way and led to lower material consumption. Sustainability was part of the business model even back then, and it still is to this day.

Global warming, water shortages and extreme weather events are questions to which the company must find answers now and in the future. Wilo expressly welcomes the fact that more and more nations around the world are defining ambitious climate protection targets and reiterating their commitment to the Paris Agreement and the 1.5-degree target.

Through its products, Wilo is making a significant contribution towards achieving these climate protection targets. Pumps currently account for around ten per cent of the world's electrical energy consumption. Many of them are outdated. Replacing them with efficient technologies dramatically reduces energy consumption and the associated emissions.

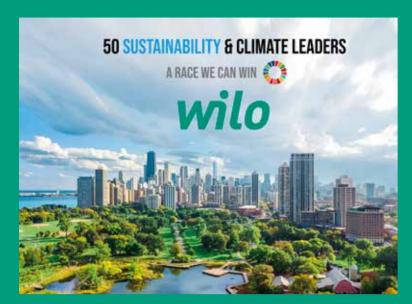
As an innovation leader in the industry, Wilo was and still is a pioneer when it comes to energy efficiency. With Wilo-Stratos, Wilo introduced the world's first high-efficiency pump for heating, air conditioning and cooling on the market at the start of the new millennium. It consumes up to 80 per cent less energy than uncontrolled circulators. Wilo-Stratos MAXO, the world's first smart pump* that can save even more energy thanks to intelligent connectivity, was presented in 2017.

Sustainability was part of the business model even back then, and it still is to this day.

Global warming, water shortages and extreme weather events are questions to which the company must find answers now and in the future. Wilo expressly wel-

Wilo also prizes climate protection at its own production sites. The company moved into the new Wilopark at the headquarters in Dortmund in 2020, where production has already been climate-neutral since 2021. All production sites worldwide will follow this example over the coming years and also operate with zero carbon emissions.

As a climate protection company, sustainability is firmly enshrined in our corporate culture and is part of the Wilo DNA. But there is more to sustainability than climate protection, water protection and resource efficiency.



Wilo also used the Sustainable Development Goals of the United Nations for orientation when drawing up its sustainability strategy.



Wilo received the 2021 German Sustainability Award in the climate transformation field.

Wilo pursues a holistic approach that prioritises the responsibility to the environment and humankind and documents it in its annual sustainability report.

included not only the typical social key figures, but also ecological performance indicators. The 2008 report was the first to include a "charter" derived from the company's guiding principles as a commitment to ensuring sustainable corporate development through binding rules of conduct. The first version contained three items. One year later, it was expanded to include the fields of ethics, employees, working environment, product in-

novation, process work, product life cycle, involvement with stakeholders and continuous improvement.

Wilo's sustainability strategy is based on the four pillars Wilo presented its first sustainability report in 2004. It of water, energy and emissions, material and waste as well as employees and society. Wilo has set itself clear and measurable goals to be achieved by 2025. For example, the company intends to provide easier access to clean water to at least 100 million people with Wilo products and solutions. Wilo will contribute to saving 50 million tonnes of CO₂ and raising the recycling rate to above 90 per cent, to name just a few of the comHydrogen technologies and systems have been defined as a value chain of strategic interest. Wilo solutions are therefore systemically relevant in this area, too. Our products and systems will make an essential contribution to the generation, distribution and use of blue and green hydrogen in future.

> Wilo signed the UN Global Compact in 2018. In doing so, the company emphasised its commitment and willingness to contribute to the international sustainability goals defined in the "Sustainable Development Goals" (SDG) of the UN. Wilo was also selected as one of 50 global "Sustainability & Climate Leaders".

> In conjunction with politically sustainable corporate governance. Wilo plays an active political role and has integrated Corporate Political Responsibility into its corporate structure. As a company, Wilo considers itself responsible for taking a firm stance and counteracting political threats and regulatory deficiencies. Wilo believes that multilateralism is essential for confronting global challenges such as climate change. Together with its international network partners, Wilo promotes future-oriented, climate-friendly solutions and proactively encourages dialogue with politics, NGOs, associations and relevant partner companies.

> Wilo can look back on a long history with pride and joy and is also looking ahead. The future has major challenges in stock for us. Wilo is determined to accept them and contribute to overcoming them. To this end, the company will continue to rely on the strengths that

brought success over the past 150 years: innovation, vision and ingenuity.

In 1875, three years after the "Kupfer- und Messingwarenfabrik Louis Opländer" was founded, the great French writer Jules Verne wrote: "Hydrogen will be the coal of the future." In 2022, the year of Wilo's 150th anniversary, a pilot project will take up operations on the premises of Wilopark to investigate the potential that hydrogen can offer in the context of the sustainable energy supply of a large group of buildings such as Wilopark. "Hydrogen technologies and systems have been defined as a value chain of strategic interest. Wilo services are therefore systemically relevant in this area, too. Our products and systems will make an essential contribution to the generation, distribution and use of blue and green hydrogen in future," says Oliver Hermes. What was once a vision of the distant future is taking shape today and emphasising Wilo's position as a climate pioneer once more.



Hydrogen production at Wilopark in Dortmund (draft plan).

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*Wilo defines smart-pumps as an entirely new pump category that goes far beyond high-efficiency pumps or pumps with pump intelligence. Only the combination of the latest sensor technology and innovative control functions (e.g. Dynamic Adapt plus and Multi-Flow Adaptation), bidirectional connectivity (e.g. Bluetooth, integrated analogue inputs, binary inputs and outputs, Wilo Net interface), software updates and excellent usability (e.g. thanks to the Setup Guide, the preview principle for predictive navigation and the tried and tested Green Button Technology) make this pump a smart-pump.





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