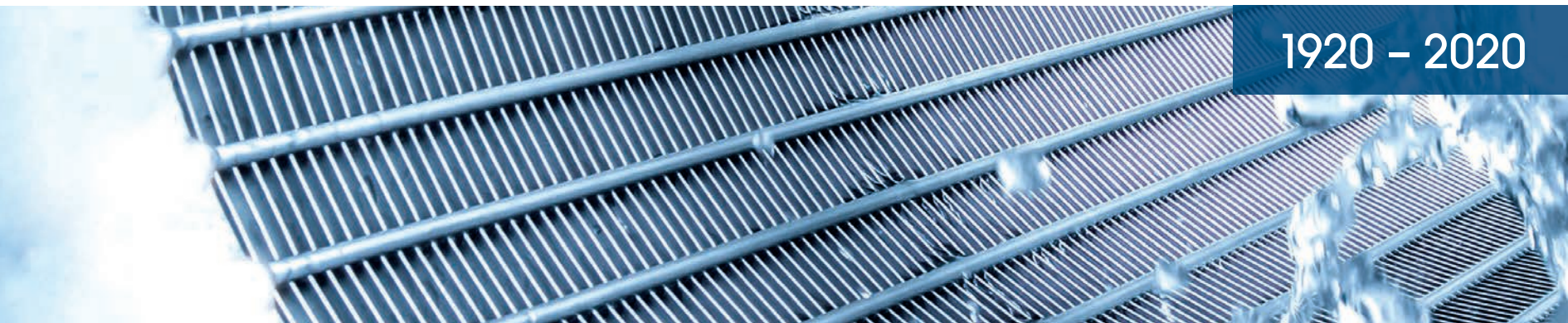


100 years
GWE
GERMAN WATER
and ENERGY GROUP



1920 – 2020

We move water!

That's our slogan — and so much more!
100 years of GWE is something that could
only be achieved together! Dynamics drives
the world — and GWE. Water is our passion
... but not the only one!





Ladies and Gentlemen,

2020 is a very special year: we are celebrating our company's 100th anniversary as an expert partner for water well construction. Since our formation in 1920, we have endeavored to meet the needs of our customers and partners in the best possible way. Although my personal involvement in the company's 100-year history has only begun recently, it's easy to see that one thing in particular characterizes GWE: the company, which now employs over 350 people, has always adapted quickly to changes in the world and the economy, using them to drive the company's development forward. Over the years, this has allowed GWE to grow into an international group that specializes in using its high level of technical expertise to develop suitable solutions that meet the demands of individual customers and projects around the world.

Over the last 100 years, the subject of water has not become any less important. In fact, the opposite is true and it is gaining in importance! For this reason, it will also be our goal going forward to express our passion for water through our products and applications.

We move water!

Markus Hollmann
Chairman of the GWE Board



Dipl.-Ing. (graduate engineer)
Markus Hollmann
Executive Director (Chairman)

Area of responsibility:
Sales, technology, commercial department
In the company since: 01.04.2018

GWE distinguishes: Being a competent partner for well construction and geothermal energy.
Targets for GWE: Because of our motivated specialists, we always quickly find a high-quality solution for our customers.



Dipl.-Ing. (FH) (graduate engineer (UAS))
Harald Koch
Executive Director

Area of responsibility:
Plants and production
In the company since: 01.06.2020

GWE distinguishes: Great expertise in manufacturing and production in order to reliably serve individual customer inquiries all over the world.
Targets for GWE: Use of technological progress for the continuous further development of our production and assembly plants.



Dipl.-Ing. (graduate engineer)
Christoph Harms
Member of the Executive Board

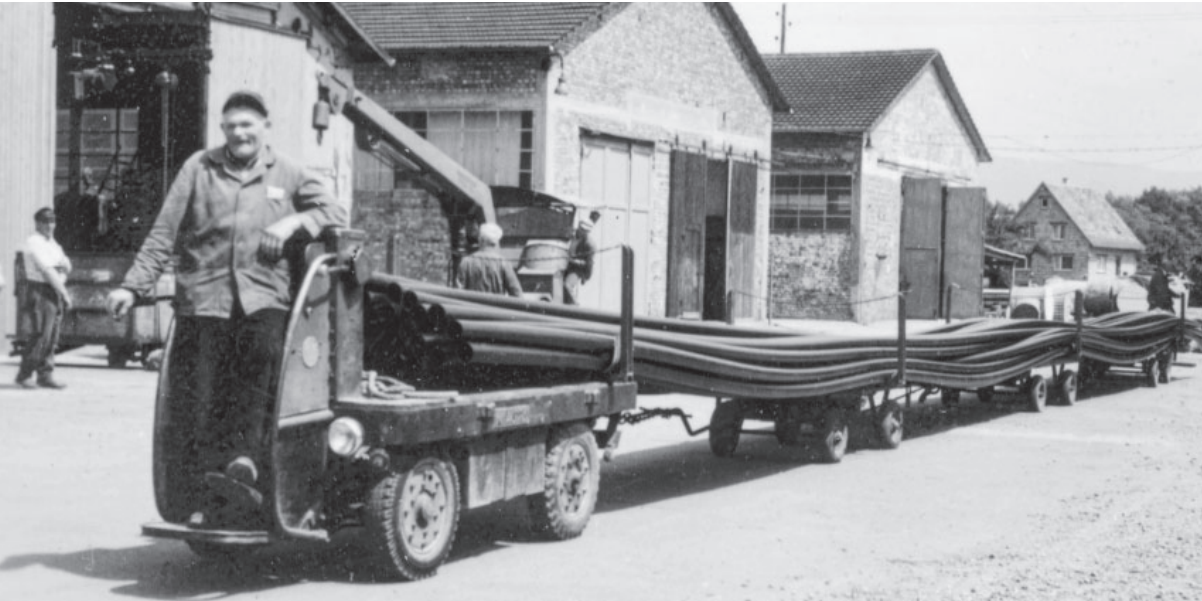
Area of responsibility:
Application technology and product management
In the company since: 01.08.1993

GWE distinguishes: Product variety paired with a high level of solution competence.
Targets for GWE: Always be a reliable partner to our customers with our products and services.

Dipl.-Ing. (graduate engineer)
Ronny Czycholl
Member of the Executive Board

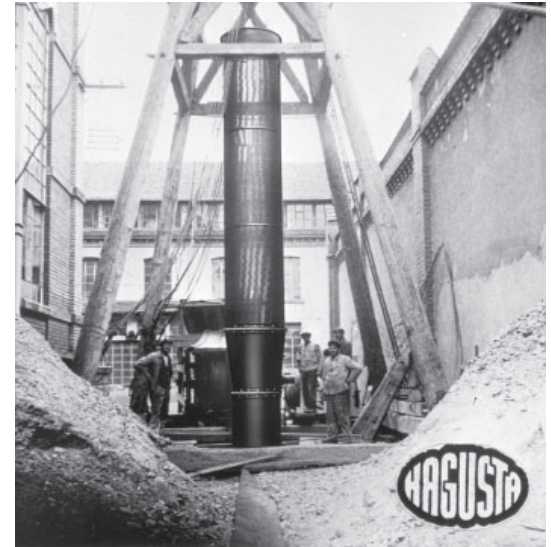
Area of responsibility:
Logistics and work preparation
In the company since: 01.03.1993

GWE distinguishes: Customized transport concepts that are individually tailored to customer needs.
Targets for GWE: Complete our orders with the GWE team right through to delivery to the construction site to the fullest customer satisfaction.

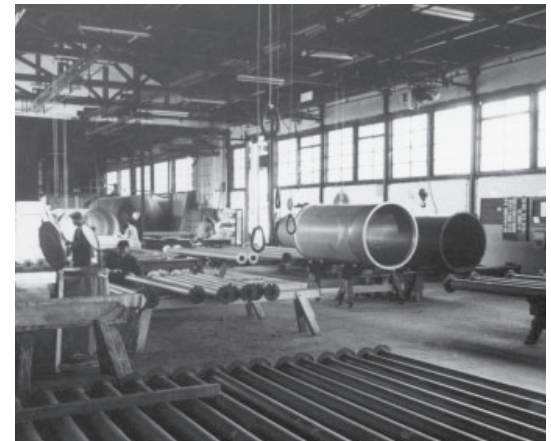


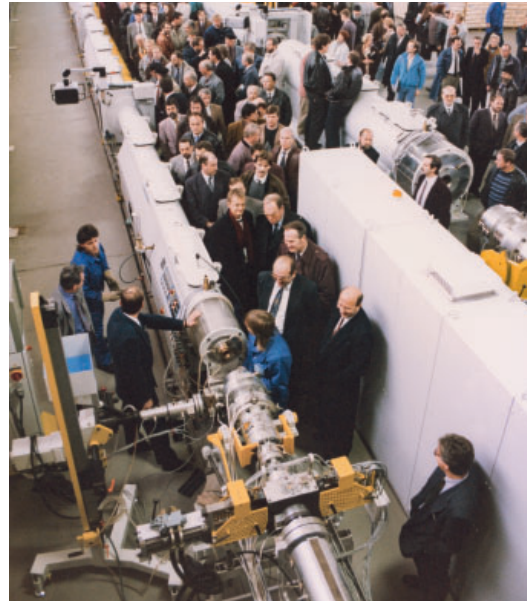
Initially founded in 1920 by Mr. Boese as a simple retail shop in Hanover, the following years pumpenboese expanded (which now included pumps in its product range) as a result of Mr. Nelke's purchase of shares and later acquisition of the company.

At the same time, Schönebecker Brunnen-Filter (SBF, Schönebecker Well Screens) was founded in 1936 as a subsidiary of the company Preussag. From the beginning, Preussag opted for in-house production of well screens, dewatering pipes, and hand pumps. The company HAGUSTA in the city of Renchen was also part of Preussag and was responsible for the production of steel products. After the Second World War, the company's main headquarters was moved to Peine.



Installation of HAGUSTA screens





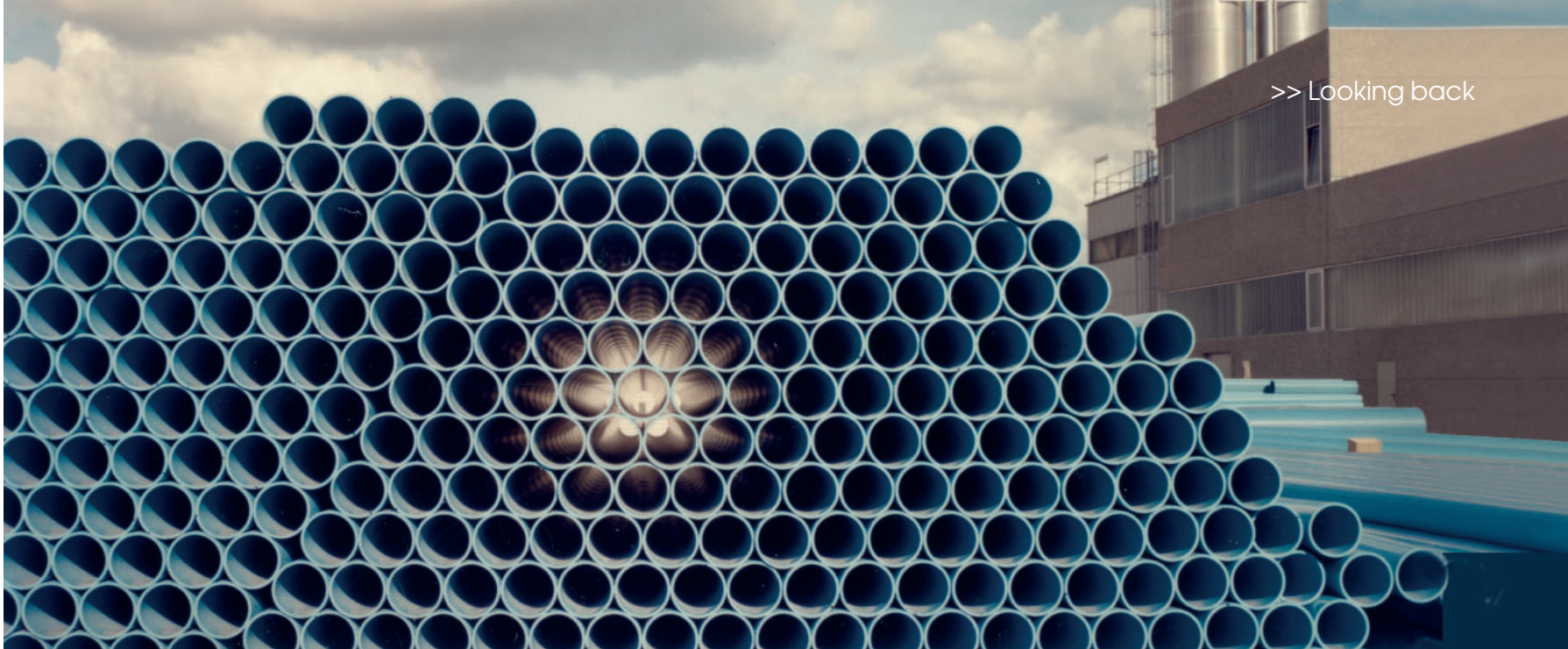
In the 1960s, the most influential person in the 100 years history of pumpenboese took the helm. Mr. Gerd Nelke further expanded the company's business operations and it became, with its headquarters in Burgwedel (Lower Saxony), a direct competitor of Preussag. Following Germany's reunification, pumpenboese acquired production facilities in Luckau (Brandenburg) and Nordhausen (Thuringia).

In 1998, an event, unthinkable up to that point, occurred. The company pumpenboese seized an opportunity to acquire Preussag, their largest competitor. Overnight, professional competitors became freshly minted colleagues. The GWE Group was born.



In the years following the turn of the millennium, GWE went international. The group expanded and subsidiaries were founded both within Europe and beyond. International projects became increasingly important.





In 2007, BAUER AG (Schrobenhausen, Germany) acquired the Group. Since then, GWE has been an integral part of BAUER Resources GmbH. With the BAUER Group in the background, GWE is in an ideal position to continue making the best possible use of their extensive technical expertise, now and in the future.

from the left: Mr. Gerd Nelke (Owner of the GWE Group), Mr. Prof. Dr. Thomas Bauer (Chairman of the BAUER AG), Mrs. Hiltrud Nelke and Mr. Prof. Dr. Reiner Homrighausen (Managing Director of GWE)

A journey through time. From the origins to today.

1920

GWE's origins begin with a retail store opened by Mr. Boese in 1920 in Hanover, Germany



1953

Purchase of shares and acquisition by Mr. Nelke. By this point, pumps are also included in the product range, resulting in the name pumpenboese

In the 1960s, Gerd Nelke acquired the company pumpenboese and significantly expanded their business operations from Burgwedel, Germany

1989

Acquisition of the production facilities in Luckau (Brandenburg) and Nordhausen (Thuringia), Germany

1936

Formation of Schönebecker Brunnen-Filter (SBF, Schönebecker Well Screens) as a wholly-owned subsidiary of Preussag



Production of steel products and specialties such as HAGULIT® and rubber coated casings at HAGUSTA in Renchen, Germany

Continuous expansion of the product range:
– Production of PVC well screens und hand pumps
– Landfill dewatering and degassing pipes

PVC production in Peine, Germany, with the first fully automated production facility, owned by SBF

1998

pumpenboese and
PREUSSAG Wasser &
Rohrtechnik merge to
form the GWE Group



Formation of foreign
subsidiaries,
internationalization,
expansion of the
project-based
business



2020



2007

GWE Group is acquired
by BAUER AG and
integrated into BAUER
Resources GmbH



**100 years of
GWE**

All-round provider in the water well construction sector — as a developer, manufacturer, and service provider!

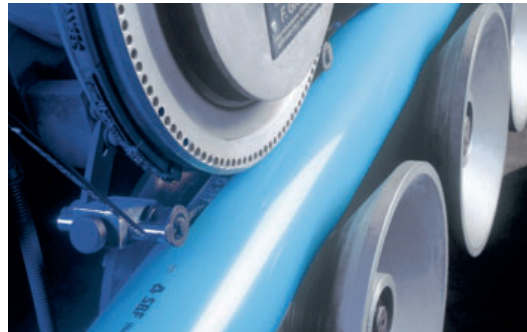
Comprehensive solution systems — customized by tradition!

Passion and expertise for optimum results. Worldwide!



**GWE Headquarters, Peine,
Germany**

Administration, sales
application technologies,
central logistics



Following the Second World War, Peine became the headquarters of the Schönebecker BrunnenFilter (SBF, Schönebecker Well Screens) as a subsidiary of the company Preussag. Beginning with a small team and modest facilities, the location expanded over the years to include new production and management facilities, becoming the central business location.

From the 1970s through the 1990s, the location was marked by continuous expansion of products and production. In 1970, this led to the first fully automated production of PVC screens and casings by means of extrusion. In the following years, submersible pumps with their own calibrated dynamometer and the development of hand pump systems were particularly important to the GWE location. Along with administration and sales, technical expertise, in particular, increased continuously. In addition to consultation, the service portfolio at the Peine location includes the in-house drilling fluid laboratory and the GWE product development and optimization. Due to its position as headquarters and central location, all worldwide contracts and projects are managed from Peine; as well as work preparation and central logistics to coordinate production in all plants to meet targets.



Customized products for projects worldwide!

Stainless steel products are produced in the highest quality and with maximal technical expertise.

GWE Nordhausen

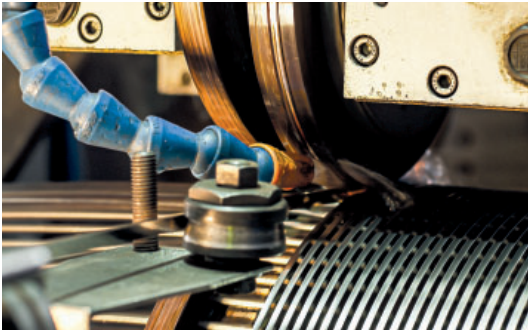
Focus:

Steel and stainless steel



The GWE plant in Nordhausen has a long tradition reaching all the way back to 1858. There two brothers Heinrich and Gustav Anger operated their well construction business.

Since the German reunification in 1989, it has been a part of pumpenboese due to progressive investments in machinery and infrastructure GWE Nordhausen has become a competence center for steel and stainless steel products.



This also led to the initial production of GWE stainless steel wire-wrapped screens in Nordhausen in 1998. The GWE team made significant contributions to the development of the machinery technology required for production. Even now, this is the most important product in the field of well drilling and is now available up to a diameter of DN 1200.



Not only are all variations of stainless steel well construction developed and produced in Nordhausen, but also above surface well equipment such as fully equipped well houses and shafts.

In addition, the products are processed and finished in the in-house pickling shop.

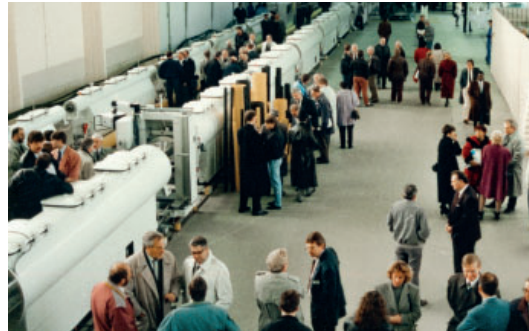


Modern extrusion machinery
and e-welding technology for
optimum product quality.

With efficiency and high
customer orientation to
innovative solutions.

GWE Luckau

Focus:
PVC and PE




Shortly after the German reunification, pumpenboese GmbH & Co. KG acquired the company VEB Klinker- und Ziegelwerke Großräschen, which up until then had manufactured adhesive gravel screens for lignite mining.

Along with the production of adhesive gravel screens, two PEHD extruders including additional processing were recommissioned in 1992. The expansion of the production capacities in the PVC extrusion facility and sloffing machines led to the development of the location as a GWE competence center for plastics. As in the past the majority of wells are built using PVC materials, meaning that the PVC production plays a particularly important role within the Group.

With its modern electric welding system, the plant has exceptional expertise in the production of PE products. For this reason, development and production of the distribution technology and probe systems take place in Luckau.

The GWE Luckau location will continue to invest in innovative capacity expansion in the future, in order to serve the market with specialty expertise and quality.



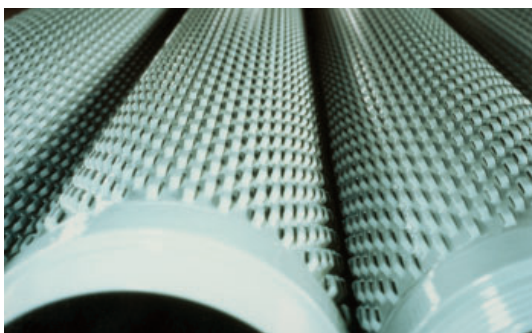
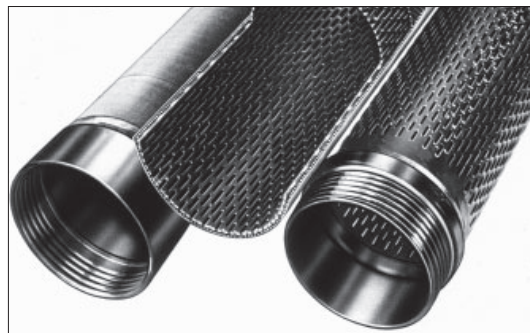
HAGULIT® and HAGUTHERM®
for particularly demanding
applications.

With passion for the best
customer solution — out of
tradition.

GWE Renchen

Focus:

Steel and GWE specialty products



The HAGUSTA steel plant was established in 1936 in Renchen, Germany. Traditionally, SBF-HAGUSTA (subsidiary of Preussag) processed a variety of materials for water well construction. As well as fiberglass-reinforced plastics, steel with various finishes was also heavily used. The production of bridge slotted screens for lowering groundwater level was one of the main focuses of production. Furthermore, the rubber-coated HAGUTHERM® steel casings – used in deep geothermal energy applications – are a particular specialty of the Renchen plant.

To this day, HAGULIT® well materials are produced using a patented thermal coating process. The epoxy resin coating provides maximum corrosion protection, making HAGULIT® suitable for use in applications that place particularly high demands on the materials.

As part of the stainless steel processing sites in Renchen and Nordhausen the steel processing shop in Renchen was closed in 2018. The self-sufficient part of the pickling shop has been retained and continues to serve the demand for the stainless steel products.



When the GWE Group began searching for a strategic partner in Central Eastern Europe in 2008, it contacted a leading producer of PVC water well construction materials in the region.

Following this, GWE took over Budafilter in 2009. By continuously expanding the production capacity and modernizing the extruder machinery, the facility in Mezöfalva, Hungary, improved its position in the domestic market and also became a significant player within the Group. Budafilter has significant partnerships in the Hungarian and neighboring markets, where it plays a leading role in the sale of PVC water well construction systems. In addition, development and production of the PVC wire-wrapped screens is carried out at Budafilter, which gives GWE a unique position in the industry.

GWE Budafilter

Focus:

PVC and PE

MD: Zsolt Simon

>> Hungarian and Polish locations

At this point, the history of the GWE Pol-Bud location goes back over 40 years. Since 1999, pipes and well screens, as well as steel products for use in construction of deep wells, have been produced in Łódź, Poland, using highly efficient production technologies. In addition, steel bridge slotted screens and stainless steel pump pipes with EcoConnect connectors are produced there. The company's continuous development, as well as investments in machinery, have made it possible to produce GFR screens with a gravel coating.

GWE Pol-Bud

Focus:

Steel and specialty products

MD: Witold Rajpold





Over the course of GWE's expansion, sales to France became increasingly important. As a result, GWE France was founded in 2012. This allowed the demand for well materials in France to be met domestically. So that GWE is able to react quickly to fluctuations in the French market, as well as to customer demand, a large warehouse and facility for distribution of the products was quickly developed.

GWE France works closely with all of the European production plants in the GWE Group, as well as with international partners and suppliers. GWE France has established itself in the French market. It is particularly well recognized and in high demand for shallow as well as deep geothermal heat, as well as for the core business of well materials made of PVC and steel.

GWE France

Focus:

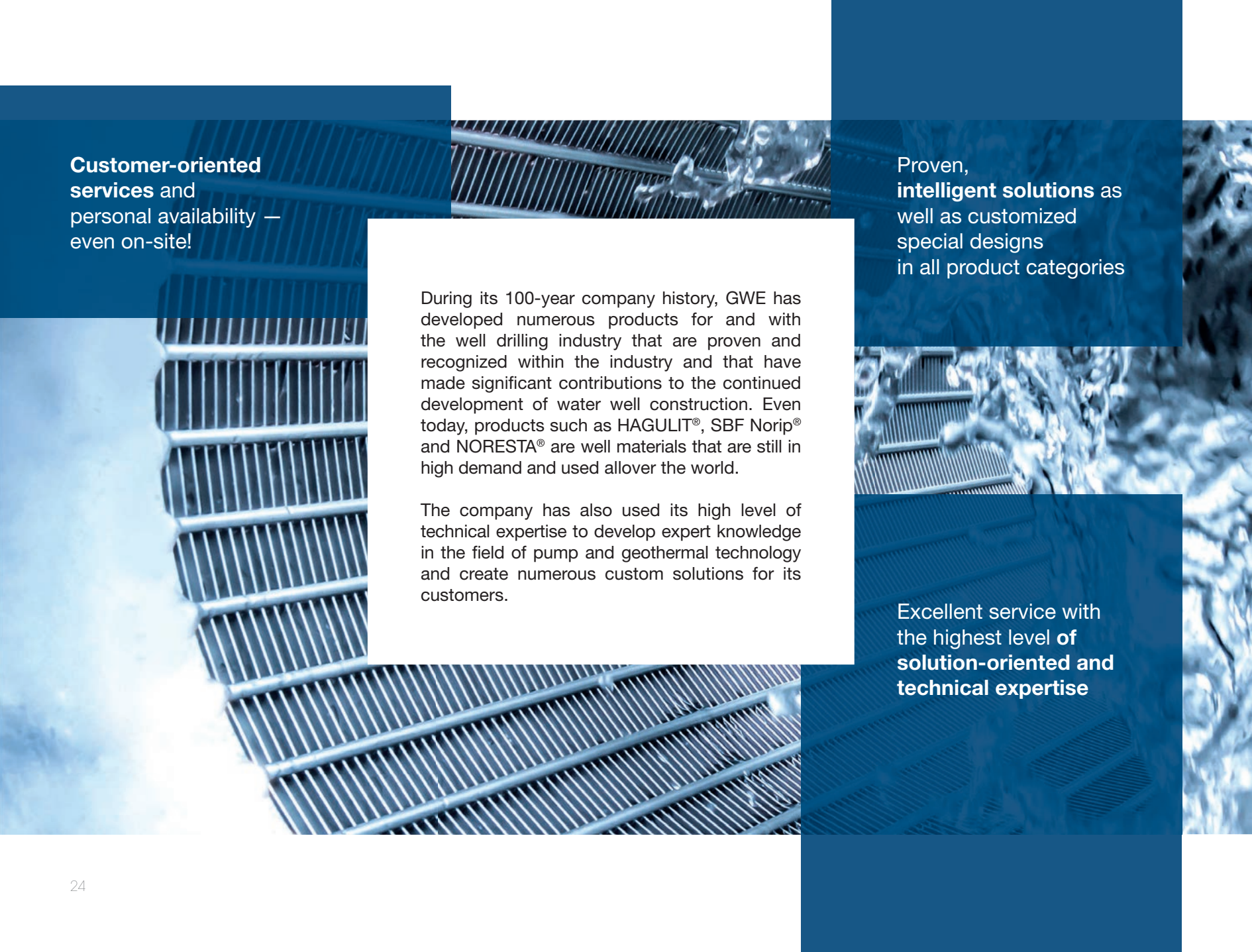
PVC and PE

MD: Wilfried Dumas

In 1999, GWE took over the plant from Tubomin in Santiago de Chile. The main focus at that point was the production of products for distribution to the mining industry, in particular. Since then, Tubomin has developed into one of the largest and most modern production facilities in the region. Today, Tubomin produces well materials of the highest quality, which are exported to more than ten Latin American countries. The products produced there include, among others, PVC well materials and steel wire-wrapped screens. The production of wire-wrapped screens is of particular importance, as it has a large export quota. In addition, production of bridge slotted screens in Chile is scheduled to begin in 2021.

GWE Tubomin
Focus:
Steel and PVC
MD: Ignacio Wahr R.





Customer-oriented services and personal availability — even on-site!

During its 100-year company history, GWE has developed numerous products for and with the well drilling industry that are proven and recognized within the industry and that have made significant contributions to the continued development of water well construction. Even today, products such as HAGULIT[®], SBF Norip[®] and NORESTA[®] are well materials that are still in high demand and used all over the world.

The company has also used its high level of technical expertise to develop expert knowledge in the field of pump and geothermal technology and create numerous custom solutions for its customers.

Proven, **intelligent solutions** as well as customized special designs in all product categories

Excellent service with the highest level of **solution-oriented and technical expertise**

SBF Norip®

The Norip® pipe was designed especially for construction of groundwater measuring points; its purpose-made threaded double socket ensures durable, leak-proof pipe connections.

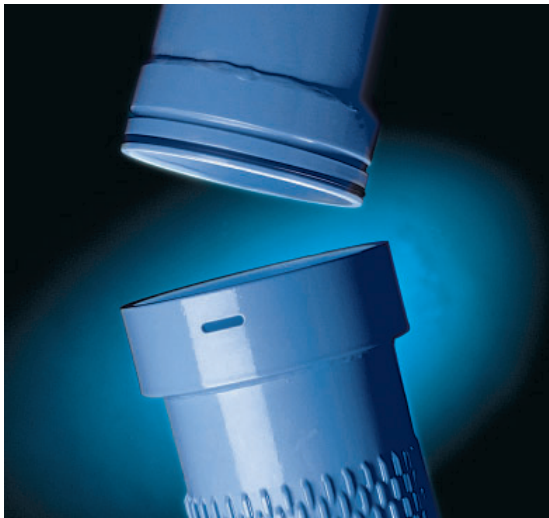
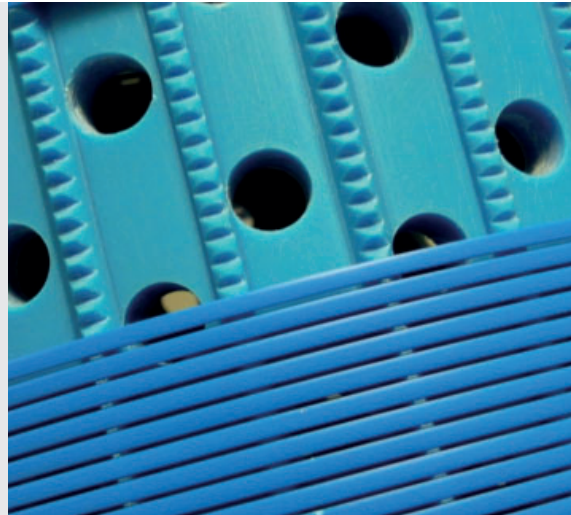


NORESTA®

The precision-made sealing surfaces guarantee that this well pipe with a diameter up to DN 400 maintains a tight seal despite internal and external pressure. The quick, tool-free installation with a tension-resistant push-fit connector is an additional benefit.

PVC and stainless steel wire-wrapped screens

This is the premium screen in the well drilling industry, even increased water demand and geology with fine sand do not present a problem. Depending on the requirements, GWE produces the wire-wrapped screen in PVC (up to DN 300) and stainless steel (up to DN 1200).



HAGULIT®

The coated steel pipes offer maximum corrosion protection, are chloride-resistant and are also resistant to aggressive waters. Consequently, these products are used particularly in applications involving strong environmental influences.

GWE pump technology

In the field of submersible pumps, GWE offers a comprehensive range of products for safe, reliable water supply. Highly efficient solution systems, smart-pump technology and cutting-edge control technology are individually configured.

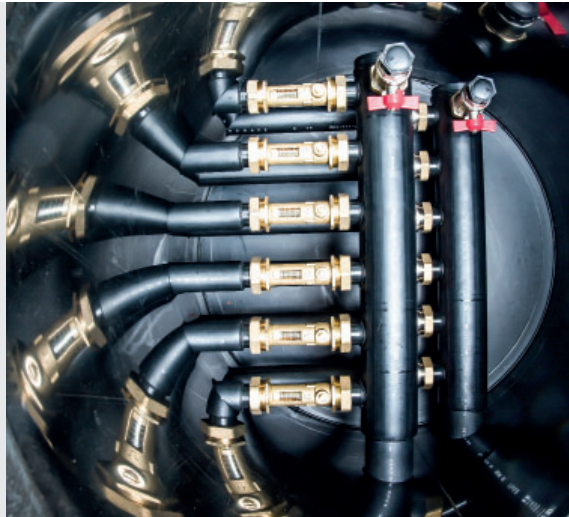


GWE aquasolar

The reliable hybrid system with both solar and manual operation is outstanding for supplying water to villages and for agricultural irrigation in particularly dry regions of Africa and the rest of the world.

Geothermal heat distribution technology

Using modern PE welding technology, GWE offers individually designed distribution solutions in varying dimensions. From the compact FixBox for connecting geothermal heat systems with single-family homes, to compact shafts and diveable cement distribution shafts, a wide variety of products are configured and produced to meet customer needs.

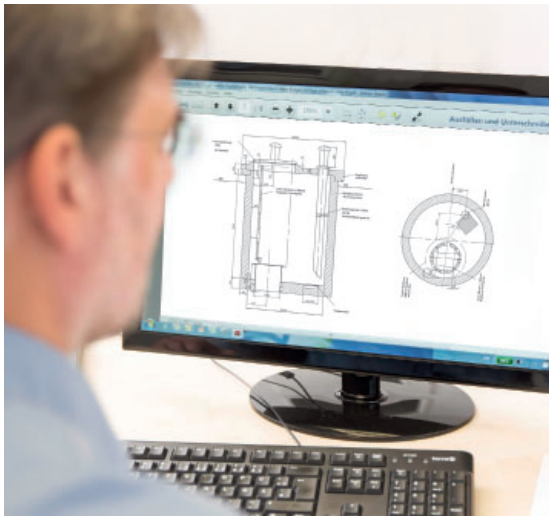


Probe systems

GWE geothermal probes are manufactured and completely packaged according to the highest quality standards. Depending on the construction plans, various geothermal solution systems are available. Our perfectly synchronized and in-house produced components ensure optimal utilization of the available resources.

Well houses and shafts

GWE produces high-quality well houses and shafts using a modular principle. But also individual solutions out of concrete and PE, along with the GWE stainless steel equipment can be delivered ready-to-use to the excavation pit.

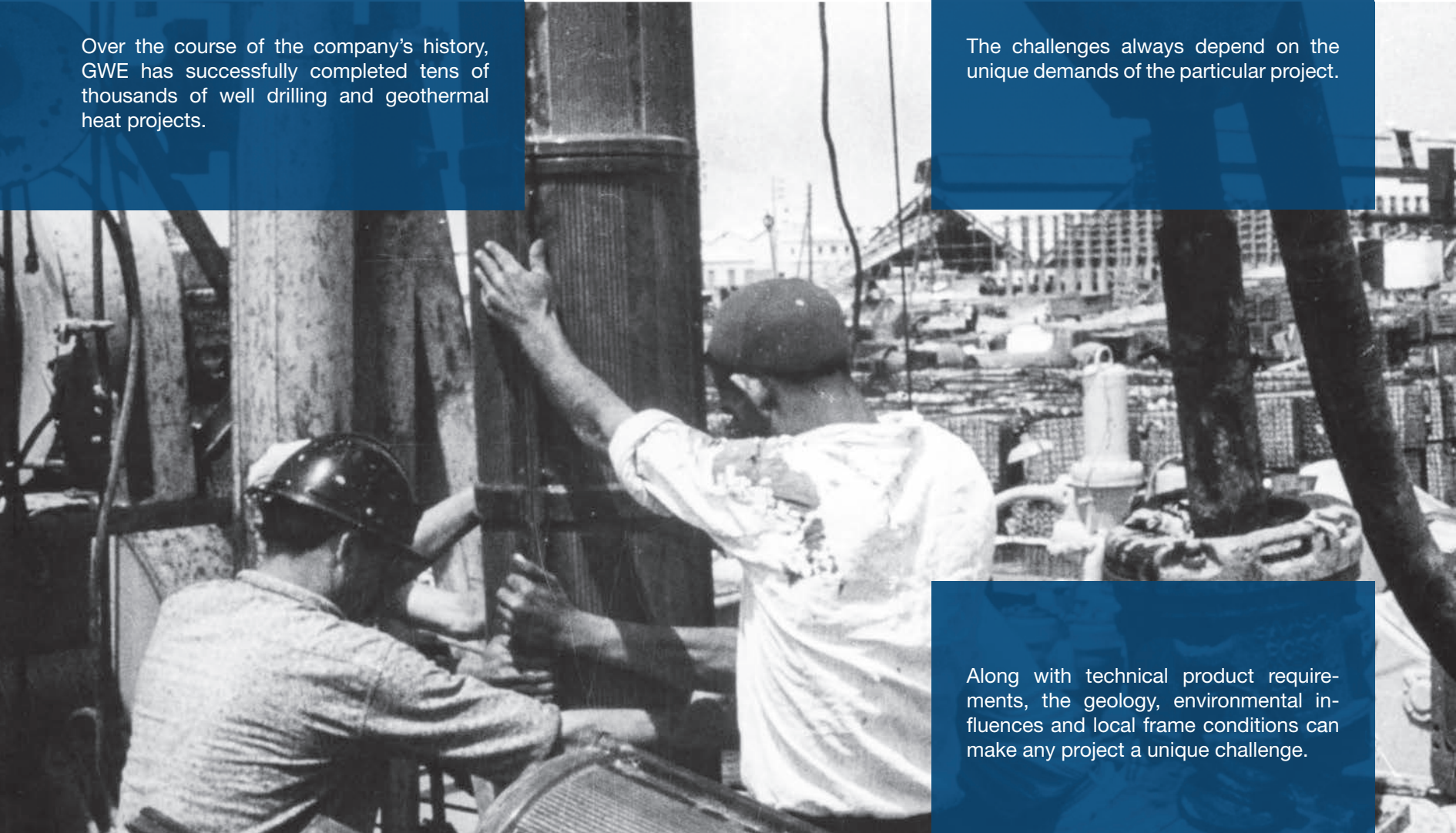


Engineering and services

Along with individual well construction planning and production of special designs, GWE offers a unique variety of services such as pump and drilling fluid services and even professional support on-site.

Over the course of the company's history, GWE has successfully completed tens of thousands of well drilling and geothermal heat projects.

The challenges always depend on the unique demands of the particular project.



Along with technical product requirements, the geology, environmental influences and local frame conditions can make any project a unique challenge.



HAGUTHERM® for use in geothermal heating in Paris (1970s – today)

Since the 1970s, HAGUSTA in Renchen, Germany, has regularly produced the specialty product HAGUTHERM® for a client in France. Over the years, many thousands of meters of the rubberized steel casings for geothermal usage have been installed in Parisian basin.



Hand and solar pump projects in Africa (1984 – today)

The first hand pumps were sold in Sudan in 1984. Since then, over 37,000 pump systems have been sold. In cooperation with various non-profit organizations, the water supply, particularly to villages in many arid regions of Africa, was improved in the long-term.



Great Man-Made River Project, Libya (1995 – 1998)

This unique, large-scale drinking water pipeline project incorporated approx. 500 wells (each 300 – 500 m in depth) with the goal of transporting water from the Sahara to arid coastal regions. GWE delivered the well materials and, for the first time, the stainless steel wire-wrapped screens as well as the riser pipes. In addition, GWE specialists supported the installation on the job site.



Expansion of the water supply for Las Vegas, USA (2016 – 2019)

As a result of extreme drought in recent years in Las Vegas, and the consequently lower water levels in Lake Mead (which supplies approx. 40 million residents), an additional low-water pump station became necessary. GWE developed (by means of Finite Elements Method modeling), produced and delivered the stainless steel riser pipes (DN 800) and wellheads ($\text{\O} 800 \text{ mm}$) for a total of 32 pump stations.



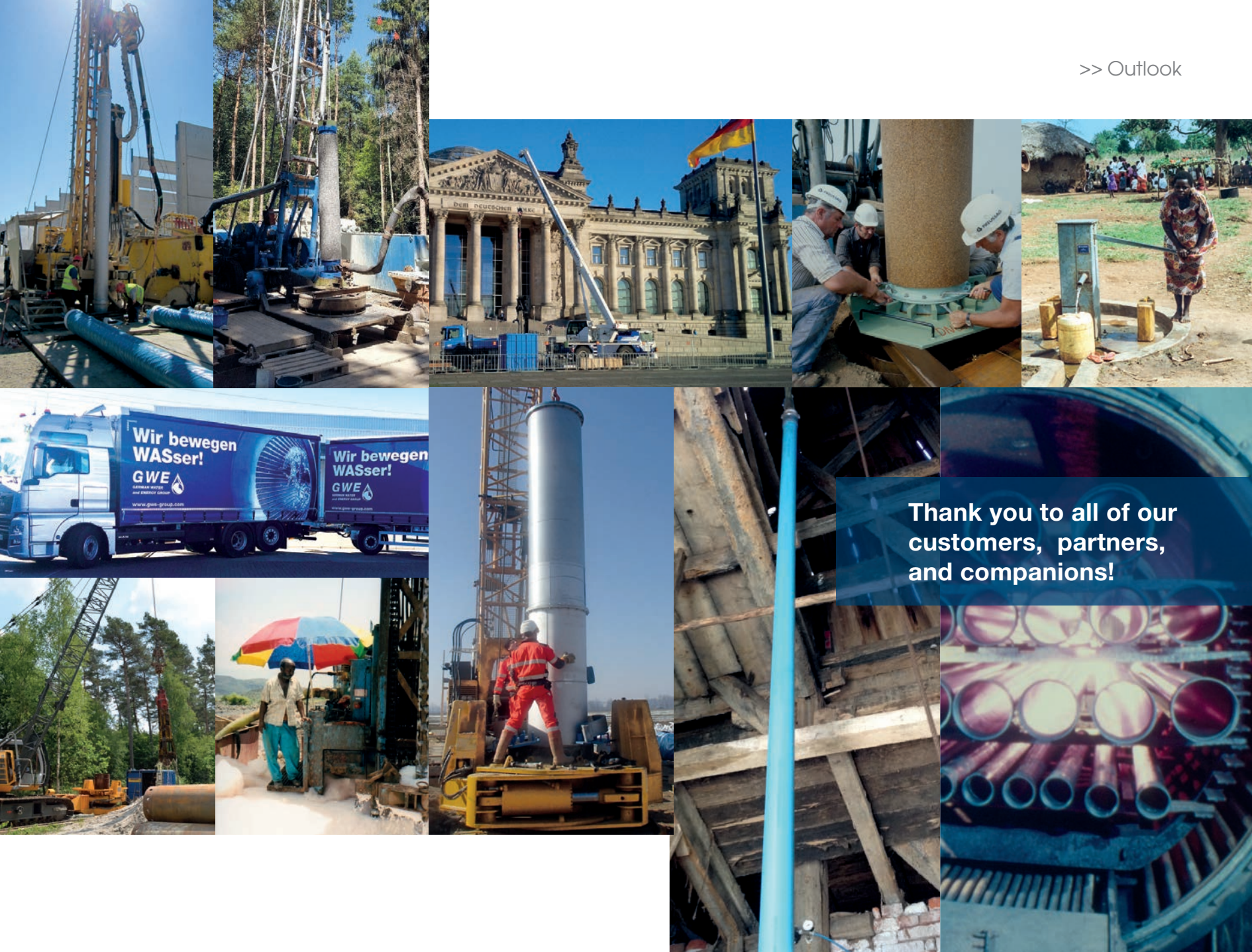
Flood control projects (since 2019)

Flood control has assumed an increasingly important role, in water well construction. Particularly along larger rivers such as the Upper Rhine or the Danube, various flood control measures are necessary. GWE has developed special adapted well systems, in many cases with very large dimensions (stainless steel wire-wrapped screens DN 1200), to provide a targeted reduction in groundwater levels in the event of a flood.

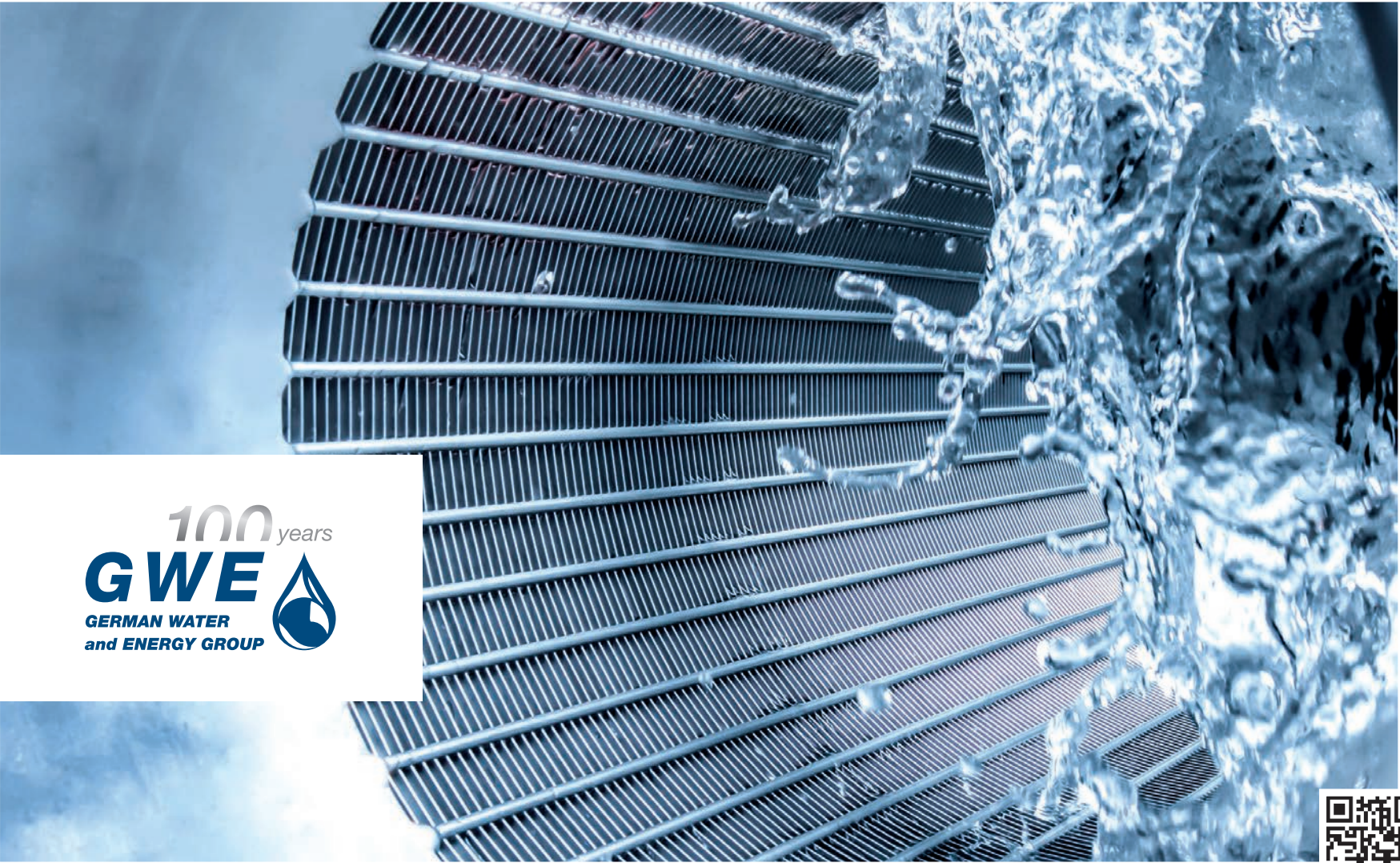


As a leading manufacturer and developer in the water well construction industry, GWE is positive about the future in a variety of aspects. That's because we know from past experience that, in particular, the high level of technical expertise exhibited by our employees, coupled with our passion for the topic of water, is highly respected within the industry. For this reason, GWE will continue to develop successful solutions together with our customers and partners.

Furthermore, digitalization is a key topic for the future of well construction as it is elsewhere; here, it takes the form of "smart pumps" and networked well systems. Challenges such as flood protection, urbanization, high-efficiency pump technology and disposal of drilling fluids are the tasks that will drive the branch forward.



Thank you to all of our customers, partners, and companions!



100 years
GWE
GERMAN WATER
and ENERGY GROUP



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