EDITION 2023/2024

VAILLANT GROUP

Taking care ...

Heat pumps
in Spain, England and Belgium

150 years of Vaillant

SOS Children's Villages
A decade of partnership

...
of a better
climate.

Inside each home
and the world
around it.

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Vaillant Group wins German Sustainability Award again

The Vaillant Group has received the German Sustainability Award for the third time – this time as a "pioneer of transformation" in heating technology.

The Vaillant Group has been pursuing a comprehensive and long-term sustainability strategy for more than ten years. It defines binding ecological and social targets. In product development, the company focuses primarily on heat pumps. In 2011, the Vaillant Group received the German Sustainability Award for the first time, in the "Most Sustainable Product" category. In 2015, the Vaillant Group was recognised as the most sustainable large company.

EU Commissioner visits heat pump factory

In November 2023, Kadri Simson, EU Commissioner for Energy, got a personal impression of the new Vaillant Group heat pump plant in Senica, Slovakia. During her visit, the EU Commissioner emphasised the importance of the heating transition for Europe.

"Heat pumps are one of the key technologies in the building sector for achieving climate neutrality by the middle of the century," the EU Commissioner stressed. As the plant in Senica proves, the industry is ready to make its contribution.

→ See also p. 46

35 sales branches in China

In 2023, Vaillant China opened new sales branches in the cities of Nantong and Bengbu. Nantong in the south-eastern province of Jiangsu is home to 7.7 million people. Bengbu is a city with a population of around 3.3 million and a logistics hub in eastern China. Including the two new branches, the company operates 35 sales sites in China. In the coming years, Vaillant China will continue its expansion into other cities across the country.

New Managing Director Sales, Marketing and Service

The Supervisory Board of Vaillant GmbH has appointed Dr Andreas Meier to the Management Board of the Vaillant Group with effect from 1 January 2024. Dr Meier is responsible for Sales, Marketing and Service within the Management Board. In this role, he will continue to drive forward the development of the Vaillant Group as a leading provider of climate-friendly heating systems in Europe.

WWF and Vaillant: together for the heating transition

Panda and hare join hands: the environmental protection organisation WWF and Vaillant have entered into a partnership. The cooperation was launched in Germany and later extended to other European countries. One goal of the cooperation, which will last at least three years, is to successfully shape the heating transition and to lend more weight to the topic of climate-friendly heating in the energy and climate debate.

€3.8 billion sales revenue

The Vaillant Group recorded year-on-year sales growth of 3 per cent in 2023. In a difficult economic environment, the company succeeded in gaining shares in the heat pump market and thereby further improved its competitive position.

Roofing ceremony for new Electronic Center

In August 2023, the body of the new Electronic Center in Remscheid was completed. In preparation for the planned growth, the Group-wide electronics production needs greater capacity. As early as 2024, the production facility will supply all Vaillant Group sites worldwide with electronic modules required for the operation and control of modern heat pump systems.

Trainees plant trees in the Vaillant Forest of the Future

Vaillant Group trainees have planted 800 tree seedlings in the Vaillant Forest of the Future at the company's Remscheid headquarters. Drought, storms and parasites have severely damaged the trees in the area in recent years. Through reforestation, a climate-resistant mixed forest is being created on the cleared plots. For the Vaillant Group, the forest project complements the reforestation activities already underway in Costa Rica.

➔ See also p. 24

Investment in digitalisation

Since the beginning of 2023, a new Vaillant Group location for software and hardware development has been in operation. The team of around 50 people at the site in Nuremberg strengthens the existing R&D expertise in the field of digitalisation. Group-wide IT was also expanded with an additional location. The new site was officially opened in Katowice, Poland, in February 2024.

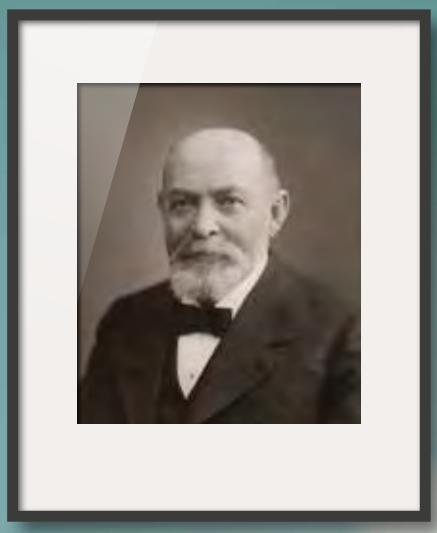
Heating technology for SOS Children's Village in Ukraine

The Vaillant Group has supported the reconstruction of the SOS Children's Village in Brovary, Ukraine. The company provided a technology package consisting of heat pumps, gas-fired condensing boilers and hot-water storage tanks. The installation in the Children's Village near Kiev took place during the summer of 2023, with an international team passionately committed to the aid project. It was only thanks to this commitment that the logistically challenging delivery to a war zone could be achieved. The Vaillant Group and "SOS Children's Villages worldwide" have been linked by an international partnership for ten years now. The company has already supported the children's rights organisation in 24 countries – with highly efficient heating technology and social projects.

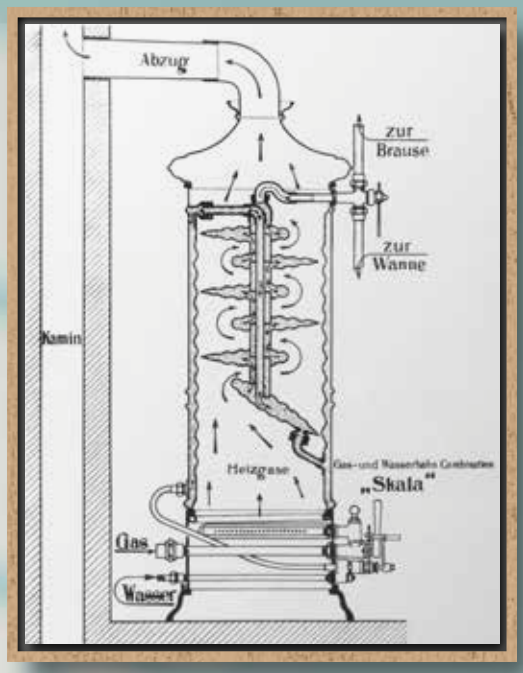
→ See also p. 36

Ambitious climate targets recognised

The Science Based Targets initiative (SBTi) has reviewed the Vaillant Group's climate targets and confirms that the company is making its contribution to achieving the 1.5-degree target of the Paris Agreement with its short- and long-term climate targets. The SBTi also recognised the Vaillant Group's net-zero target, which creates a balance between the CO_2 emissions caused and the greenhouse gases removed from the atmosphere. The SBTi defines and promotes best practice in setting science-based targets and independently assesses companies' targets.



Company founder Johann Vaillant
– Ca. 1900 –



Design drawing of
gas-fired bath boiler
– 1894 –

Gas-fired bath boiler advertising motif

150 years of Vaillant

On 1 August 1874, Johann Vaillant set up his own small workshop in Remscheid. In doing so, he laid the foundation for a globally active family business.

Staff of the bath boiler factory
– Ca. 1900 –

“Fair service”

On Saturday, 1 August 1874, the *Remscheider Zeitung* was as full of advertisements as ever: the Remscheider Volksbank published the current exchange rates, a butcher celebrated “thick, fat horse meat”, sewing machines and wallpaper were on offer, and used bricks sought. Among all these classified ads, the “coppersmith and pump manufacturer” Johann Vaillant “recommended himself” to the residents of Remscheid and the surrounding area: he assured “fair and speedy service”. The small town in the Bergisches Land region of Germany was traditionally central to the tool industry. Johann Vaillant was right in the middle of it all, manufacturing household appliances and vessels, lightning rods, sheet metal and pipes, as well as washing and bathing equipment, with his anvil, hammer, pliers and scissors.

Heating specialist

“No distance was too far, no height too arduous, no well too deep to carry out a worthwhile job,” his brother, Gerhard, recalled. Business was booming for the young master craftsman: as the municipal water supply was being improved in many cities, more and more people were interested in convenient hot-water heating. At this point, Johann Vaillant had specialised in its construction and installation. His heating systems not only provided warmth and comfort in Remscheid in the 1880s; he also installed them in Denmark, Holland and Belgium.

In this way, international contacts were already established in the first few years of the company’s existence. Soon Johann Vaillant also became the general representative for gas lighting: he and his colleagues installed incandescent gas light in street lamps and those in homes and businesses.

As well as being a passionate craftsman, Vaillant was also a tinkerer and inventor. In 1894, he patented his “closed system” gas-fired bath boiler, which made it possible to heat water safely and cleanly. It was an almost instant success: in 1901, more than 500 gas-fired bath boilers were exported to Denmark – the largest order in the company’s history at the time.

Partner to the trade

Johann Vaillant concentrated on the production of gas-fired bath boilers. In 1896, he built a large, modern bath boiler factory on Berghauser Straße, and production at the “Remscheider Centralheizungs- u. Badeapparate Bauanstalt” began in May 1897: “My new steam-powered factory enables me to meet even the highest demands that could be placed on my specialist products and on a first specialist factory,” a happy Johann Vaillant said.

Origin of the Vaillant brand logo
– 1899 –

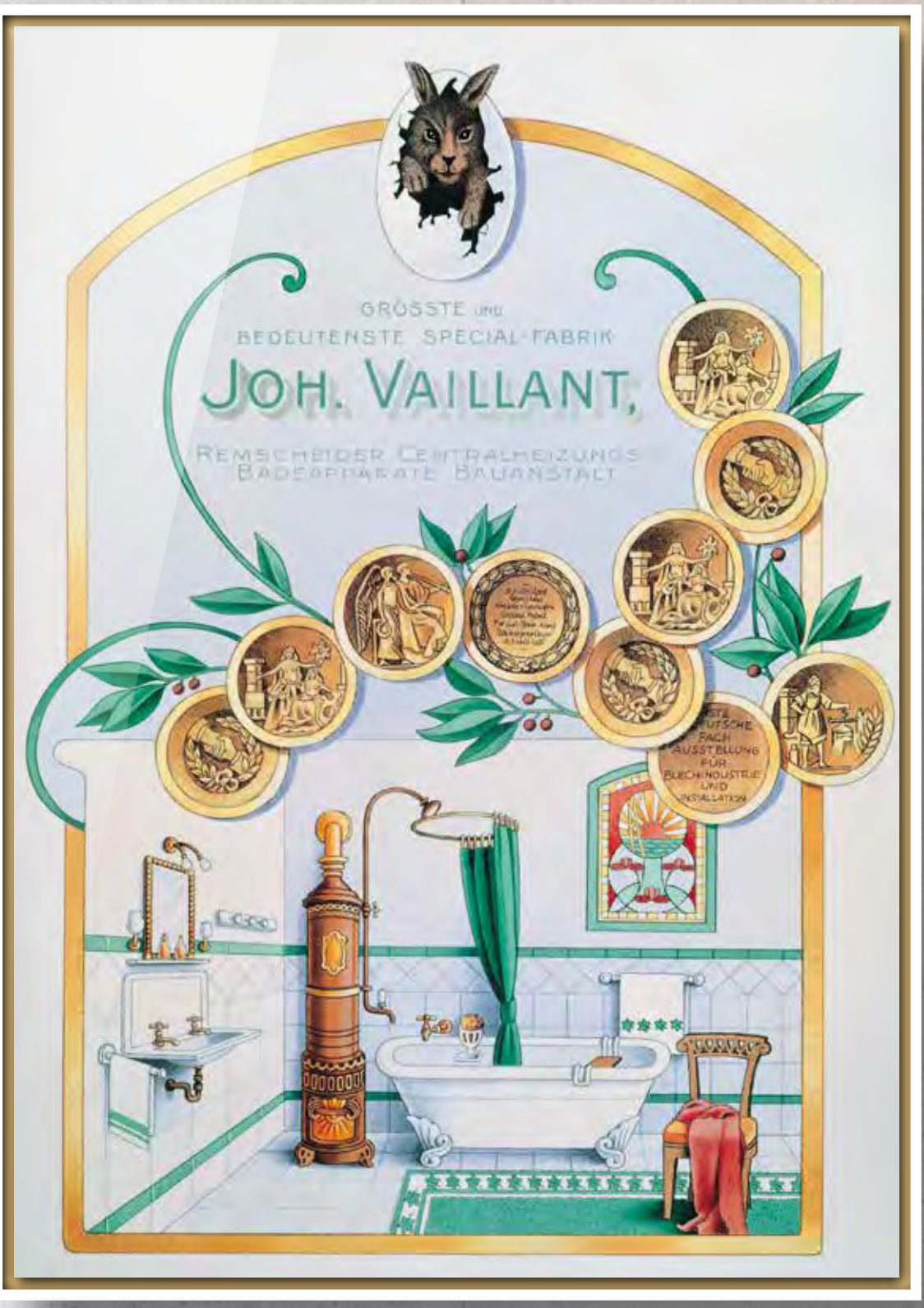
> “No distance was too far, no height too arduous, no well too deep to carry out a worth-while job.”

Quote from his brother Gerhard regarding Johann Vaillant

“The hare in the egg”
– 1899 –

Advertising motif
– 1929 –

Vaillant brand logo through the ages
– 1899 to 1991 –



Poster with medals from
various trade exhibitions
– 1905 –

Delivery of products
– Ca. 1920 –

Advertising motif
– 1960 –

He primarily delivered his products to wholesalers or directly to installers. His cooperation with tradespeople was particularly effective, because that was how Johann Vaillant himself started out. “My greatest wish is to use your products, as I am familiar with their design and performance,” wrote a Magdeburg-based installer. The origins of the close partnership with tradespeople that is still crucial for Vaillant today can thus be traced all the way back to the 19th century.

Easter Sunday, 1899

Johann Vaillant came across a curious picture while flicking through a magazine: a hare hatching from an egg, with red-cheeked dwarfs standing all around. He was fascinated and knew immediately: the hare coming from the egg was a symbol that customers would easily remember. He contacted the illustrator and bought the rights of use; in 1900, the motif was registered as a trademark. The hare in the egg has been modernised several times, but is still the Vaillant logo to this day.

By 1904, Vaillant had already produced more than 10,000 floor-standing gas-fired bath boilers and set up its first company-own warehouse in Mannheim. Vaillant soon opened branches in other German cities and general agencies abroad. The result was a successful international sales organisation: Vaillant was represented in Antwerp, Rotterdam, Copenhagen, Vienna, Budapest, London, Paris, Milan, Warsaw, Saint Petersburg, Moscow, Liepāja and Buenos Aires.

Hot water for everyone

Around the year 1900, it was by no means a given that a household would have a bathroom. On that basis, Vaillant developed a new idea on the back of the success of the floor-standing gas-fired bath boilers: the wall-hung Geyser. This compact device made it possible to supply hot water at any time, even in flats or houses with limited space.

When Johann Vaillant died in 1920, his company was one of the largest manufacturers of gas-fired water heaters and supplied all countries in Europe, South America and would soon expand to Egypt, South Africa and Australia.

In France, meanwhile, another company was joining the scene: Saunier Duval & Cie, founded in 1907 by Charles Saunier and Maurice Duval, initially produced gas-fired water heaters out of copper and installed gas lanterns in Paris. At the beginning of the 1920s, the company concentrated on heating technology. Around 80 years later, it became part of the Vaillant Group.

Battling economic crises with strong exports

In August 1923, hyperinflation in Germany meant a gas-fired bath boiler cost 166 million marks. At this stage, Vaillant benefited from its export business, as payments across national borders were made in stable currencies. "Foreign countries bought as much as they could," recalls Carl Cramer, the sales manager at the time. Vaillant pushed exports. Many appliances went to Italy, Holland and Scandinavia, but also as far as Japan, where they were paid for in British pounds.

In 1924, Vaillant launched a central heating boiler. This marks the advent of central heating as we know it today. Thanks to its strong cooperation with wholesalers, Vaillant sold more than 2,000 appliances each year in the Netherlands alone. Outside Europe, Vaillant primarily delivered to Argentina, Chile and South Africa. Thanks to these strong exports, the company was able to hold its own during the Great Depression from 1929 onwards. In the 1930s, Vaillant generated between 10 and 18 per cent of its turnover abroad, before civilian production was halted during the Second World War.

Return to the global market

"We have a great deal of catching up to do in order to keep pace with the global economy," said Siegfried Klemp, head of design, summarising the greatest challenge after the end of the Second World War. In 1948, the company was able to rebuild its established international contacts and began selling appliances to the Netherlands again. Step by step, Vaillant re-established its export business and found sales partners abroad.

In the meantime, Klemp was planning to restore Geyser production and set an ambitious target: Vaillant was soon to be producing 200 appliances a day again, which "was considered by many to be overambitious, fanciful," as he later recalled. But as early as 1955, Vaillant celebrated the production of the one-millionth appliance in the post-war period.

Re-establishment of the export business
– 1948 –

Saunier Duval logo
– 1968 –

Brochure illustration
– Ca. 1950 –

Catalogue scene
– 1926 –

> “Foreign countries bought as much as they could.”

Sales manager Carl Cramer

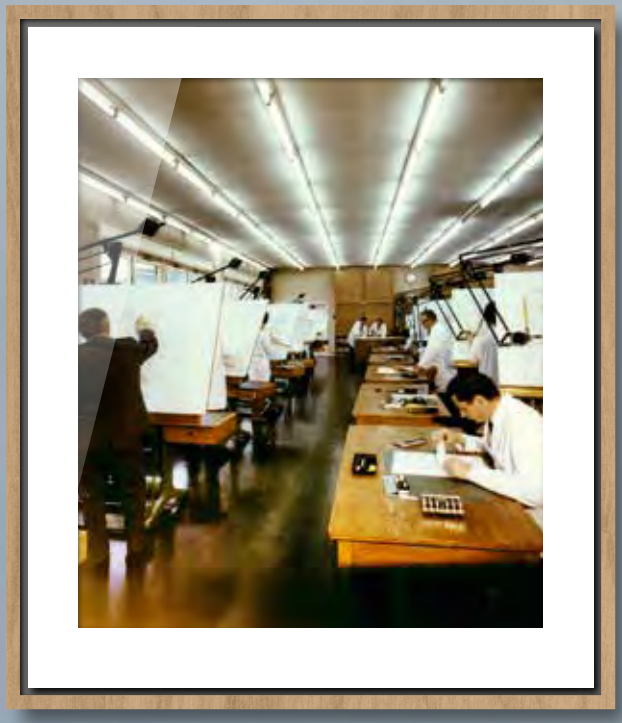
Advertising motif
– 1926 –

Export business in Africa
– Ca. 1970 –

The first subsidiary is Danish

A manager, an apprentice, a "presentation engineer" and an "office lady": that was the team of the first foreign subsidiary, Vaillant Geyser A/S in Denmark. Dronningegården in the centre of Copenhagen was home to offices, a training room, and warehouses for appliances and spare parts. The showroom presented the latest innovation: the Circo-Geyser was a wall-hung gas-fired heating system for flats and single-family homes. Gas and water installers were delighted, as they could now install heating systems for the first time – a task that used to be mostly reserved for boilermakers.

In the course of the 1960s, Vaillant generated around a third of its increasing sales abroad. In Europe, the company acquired several independent sales agencies and converted them into sales companies.



"House of Engineers"
– 1954 –

The European heating industry – a digression

Saunier Duval also expanded during this period, opening up markets in Western and Eastern Europe from its base in France. The SD216, the first compact wall-hung gas-fired heating appliance, became a bestseller in the 1960s. In Nantes, Saunier Duval modernised production and manufactured a gas-fired heating appliance every 37 seconds. In Belgium, Bulex, specialising in gas and water technologies, was growing. And in 1970, the Italian brand Hermann Saunier Duval, then known simply as Hermann, became involved in the heating technology business.

AWB was the first Dutch company to produce boilers and burners in one appliance and, from the end of the 1960s, equipped many Dutch homes with gas-fired appliances known as "mother fireplaces". In Turkey, DemirDöküm, founded in 1954, established itself as a pioneer in the Turkish heating industry. In 1966, the company started producing butane gas stoves and exported cast-iron radiators to Jordan. In the same year, the British company Glow-worm launched gas boilers for private households on the market. The new technology was a major commercial success, which is why an additional assembly plant was built in Belper – which became the British headquarters of the Vaillant Group many years later.

A multinational team

From 1960 onwards, Vaillant employed an increasing number of people who came to Germany from Spain as "guest workers" through recruitment procedures. For several years, Christmas speeches, for example, were always translated into Spanish. Soon after, more employees from Portugal, Italy, Greece, Yugoslavia and Turkey also joined the team.

In 1968, one in four of the company's 2,000 employees came from abroad. The burner production line in Remscheid became known as "International Street" because so many different languages were spoken there. The men and women from abroad quickly became an important part of the Vaillant family.

"Don't fear tomorrow"

"Vaillant supplies the right appliance for all types of energy," ran the company's advertising, as by this stage it offered electric Geysers in addition to the gas-fired version. From 1967 onwards, the Combi-Geyser, which combined central heating and hot-water supply, became a big hit. Thanks to these and other innovations, Vaillant was able to expand further. In the mid-1970s, the company had six European subsidiaries and numerous trading partners in Europe and around the world.

"Don't fear tomorrow" was the motto for the company's 100th anniversary in 1974 – and Vaillant had every reason to be optimistic. In 1955, the company exported just under 40,000 Geysers, but by 1979 that number was more than 500,000. Internationalisation progressed rapidly: in 1980, Vaillant established subsidiaries in Spain and Switzerland. Unlike in Germany, the classic Geyser hot-water appliances continued to be the main source of revenue abroad. They were used almost all over the world. In the mid-1980s, Vaillant employed almost 5,000 people and, for the first time, generated more sales abroad than in Germany.

Borders open, markets emerge

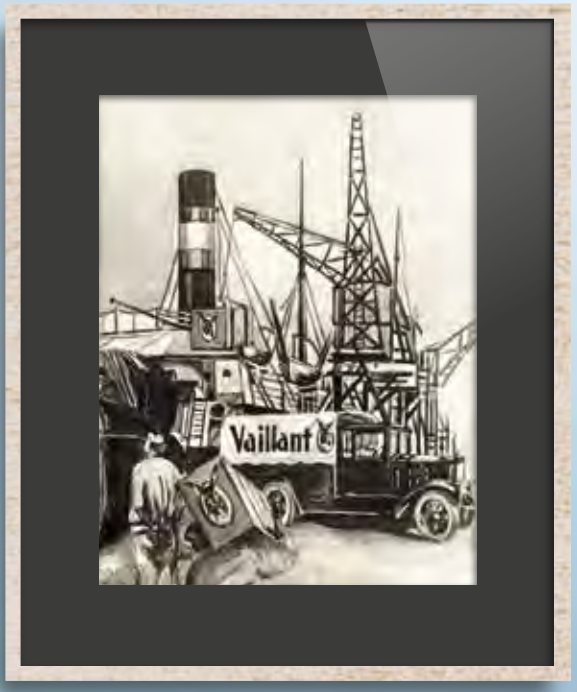
In 1990, the division of Germany became history, and Vaillant quickly sought contact with trade partners in the former East Germany. There was a considerable backlog of demand: more than 90 per cent of households in the east of Germany still used lignite for their heating. The end for coal ovens was in sight. Many Eastern European countries were turning to a market economy. In the wake of this new entrepreneurial spirit, Protherm, which is a modern-day Vaillant brand, was created in Prague, and from 1991 onwards initially produced electric boilers, and soon thereafter wall-hung gas boilers, for customers in the Czech Republic and

Vaillant internationally – Italy
– Ca. 1980 –

> "Don't fear tomorrow"

Motto of the 100-year anniversary in 1974

Vaillant internationally – Belgium
– 1979 –



Brochure illustration
– 1926 –

Central data processing in Remscheid
– 1990 –

Combi-Geyser
– 1967 –

Slovakia, and in the 1990s exported appliances to Ukraine, Germany and Great Britain.

Vaillant established subsidiaries in Poland, the Czech Republic and Hungary. With its extensive distribution network and customer service, the company became the market leader for gas-fired appliances in Europe, and 1991/92 was the most successful year in the company's history up to that point. Sales rose to more than one billion marks for the first time. In 1994, more than 1,000 people worked at 15 foreign subsidiaries, and employees from 37 nations worked at the German sites – from A for Afghanistan to Z for Zaire. Together, they worked on technological innovations such as the wall-hung Thermoblock ecoTEC. The first heating appliance with condensing technology from Vaillant was launched on the market in 1995.

ISH trade fair in Frankfurt am Main
– 1973 –

The Vaillant Group is born

At the beginning of the new millennium, dozens of manufacturers were part of the European heating technology market. Competition was fierce. The wave of consolidation began to roll in, turning the many market participants into a few big players.

In 1999, Vaillant expanded its international boiler production by taking over the operations of Italian manufacturer Bongioanni Pensotti Kalore (BPK).

This was followed a few weeks later by an offer to take over the British Hepworth Group. It included heating technology manufacturers such as Saunier Duval in France, Bulex in Belgium, Glow-worm in the UK and Protherm in Slovakia. Hepworth's subsidiaries were mostly the market leaders in those countries, while Vaillant was particularly strong in Germany and Central Europe. It was the largest company takeover in Vaillant's history dating back 125 years. Overnight, the German family business with the character of an SME was transformed into an international enterprise with more than 9,000 employees and plants in Germany, France, the UK, Spain and Slovakia. The new Group was the market leader in Europe for gas-fired wall-hung heating appliances and floor-standing boilers.

Another major acquisition followed a few years later: in 2007, the Vaillant Group took over the leading Turkish heating technology specialist DemirDöküm. By then, Demir Döküm had already introduced many innovations to the

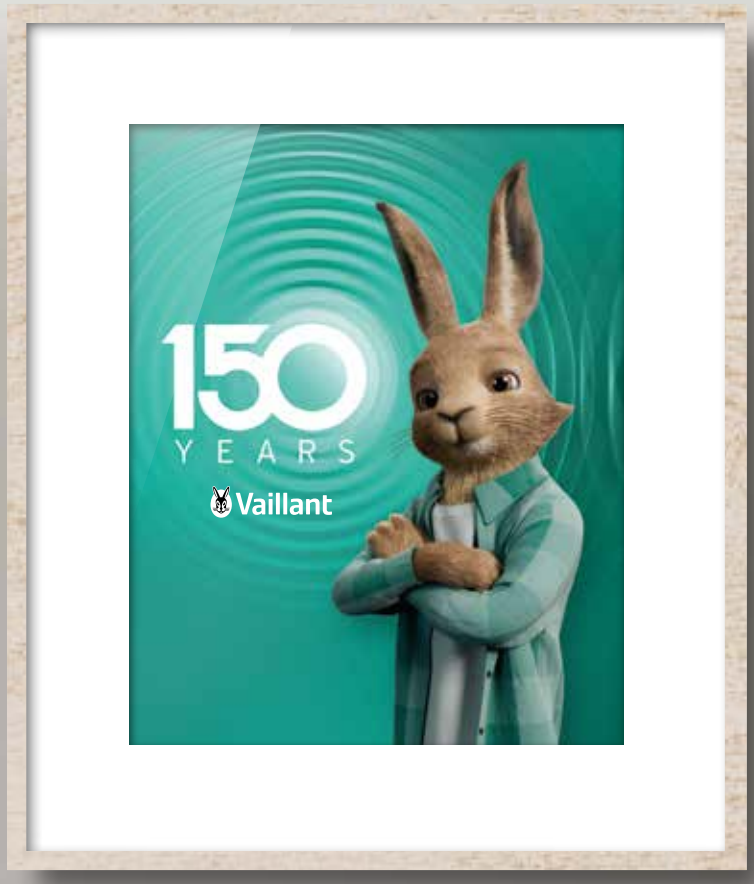
Johann Vaillant Technology Center
– 2018 –

Turkish market, such as the first cast-iron radiator in 1958 and the first gas water heater in 1963. "demir döküm" translates as "cast iron"; today, the name stands for Europe's largest plant which manufactures water heaters, boilers, high-performance heating appliances and panel radiators under one roof.

Growth in Asia

In the new millennium, the company ventured into the Chinese market; initially with an office, then with its own production facility, which opened in 2007 in the eastern Chinese city of Wuxi. To begin with, around 100 employees produced wall-hung gas-fired heating appliances for the Asian market there. As early as 2011, two new production lines went into operation in Wuxi. An office was opened in the metropolis of Qingdao, which has a population of nine million people. In Shanghai, Vaillant opened showrooms. In just over 40 years, China had undergone an industrial development that took European countries more than 200 years to complete. This created a huge and highly dynamic market, in which the company was represented with 25 branches and 900 showrooms in 2014. In 2017, a 24-year-old graphic designer from Wuhan purchased the millionth

Heat pump production
in Remscheid
– 2018 –



Vaillant hare
– 2024 –

Vaillant wall-hung heating appliance produced in China. Just four years later, the number of heating appliances sold in China had already doubled to two million.

The Vaillant Group as global market leader

What coppersmith and pump manufacturer Johann Vaillant began in 1874 is today, 150 years later, a globally active company. Two out of three people in Europe are familiar with the company with the hare in its logo. With its eight brands, the Vaillant Group is represented in more than 60 countries and is the global market leader for central heating appliances. With more than 340,000 installing partners, the Vaillant Group works to ensure the success of the heating transition on a daily basis.

Vaillant's 150th anniversary is not the only reason to celebrate: AWB, Bulex and Glow-worm are each turning 90, while DemirDöküm is 70 years old. In 2024, the entire Vaillant Group with its eight brands will feature a combined 700 years or so of expertise in the fields of heating, hot water and comfortable living.


Planting started in 2022


Plant growth after 8 months


Plant growth after 11 months

1,000 hectares of new rainforest

The Vaillant Group will halve CO_2 emissions in its own area of responsibility by 2030. This will be achieved through greater energy efficiency, renewable electricity and electromobility. Unavoidable emissions must be offset for an initial period. New forest plantations by the Vaillant Group also contribute to this.

In Costa Rica, a new rainforest is being planted on over 1,000 hectares.

Read more about the afforestation project:

TEN YEARS OF PARTNERSHIP

The Vaillant Group and “SOS Children’s Villages worldwide” established their international partnership in 2013.

A picture speaks a thousand words


FIN
Bratislava
Battenya
KIGALI
Vocational Training Center
Vaillant

Christoph Hoppenbrock – www.bildbauer.de

Because every child needs a warm home.

Whether heating technology, bedtime stories, touching hotline announcements or the longest smile in the world – the various joint projects have been a success story for ten years.

1 · Education creates a future

In RWANDA, SOS Children's Villages founded a vocational training centre in the capital Kigali in 2005. Around 250 young people learn here – from car mechanics to IT and fashion design. Donations from the #vaillantsmile initiative have supported the education project.

2 · For little bodies and minds

Children should always get the help they need. The Vaillant sales company in UKRAINE has been providing private health insurance for 75 children for several years, thereby also enabling them to receive therapeutic care.

3 · Children's Village for grown-ups

Hof Bockum in GERMANY is not really a typical SOS Children's Village. You rarely meet children here. Instead, around 100 adults with mental disabilities live and work here. Hof Bockum, its workshops and the farm shop were one of many SOS Children's Villages to receive a complete overhaul of their heating technology.

4 · Rapid aid in a crisis zone

Immediately after the start of the Russian war of aggression in UKRAINE, the Vaillant Group launched an international employee donation campaign. The company doubled all donations received and supported the humanitarian aid provided by SOS Children's Villages for Ukrainian children and families.

5 · The longest smile

Numerous campaigns in favour of SOS Children's Villages ran under the motto #vaillantsmile. The idea originated with Vaillant in the UK. Commuters at King's Cross station in London were invited to smile into a vending machine on a cold winter's day. The machine dispensed a hot drink in return. This soon became the principle "Smiling for a good cause". Over the years, donations have been made to the aid organisation for selfies with smiling faces at campaigns in numerous countries.

6 · Red nose, good cause

In 2016, the Vaillant Group supported a project run by Clowns Without Borders. Clowns visited the SOS Children's Village of Cochabamba in BOLIVIA. There they helped children to express and process their feelings after difficult experiences.

7 · Help that is tasty

On the initiative of the Sustainability Management team, a cookbook was created in 2015. It contains international recipes contributed by colleagues from across the Vaillant Group. Copies of the cookbook were later sold to raise money for SOS Children's Villages.

8 · Christmas starts at Easter

Every year, the Vaillant Advent calendar is adorned with a Christmas motif featuring a hare. It comes from the pen of a child from the SOS Children's Village in Lüdenscheid, GERMANY. A jury selects their favourite from the little artists' drawings. As a reward, the whole Children's Village goes on a trip to a theme park.

9 · Two scores for every goal

The Vaillant World Cup has already taken place twice. Once in GERMANY and once in BELGIUM. Teams from over 20 national companies compete against each other on the football pitch. Apart from a lot of fun, it's the goals that count. For every goal scored in the tournament, the company donates to SOS Children's Villages. The ball found its way into the net almost 600 times.

10 · Social and sustainable

At Vaillant in GERMANY and FRANCE, discarded office coffee machines and company mobile phones go under the gavel. The auction among employees makes double sense: devices are used for longer and the proceeds go to SOS Children's Villages.

11 · Small amount, big impact

Colleagues in GERMANY can automatically donate the cent amount of their monthly salary to SOS Children's Villages. This amounts to a maximum of 99 cents per person. As over 1,000 employees are already taking part, a good sum is being raised.

12 · Raising awareness

Whenever possible, the Vaillant Group draws attention to the important work of SOS Children's Villages. In AUSTRIA, for example, on YouTube. Vaillant videos are preceded by adverts that encourage viewers to become SOS sponsors.

13 · How it all began

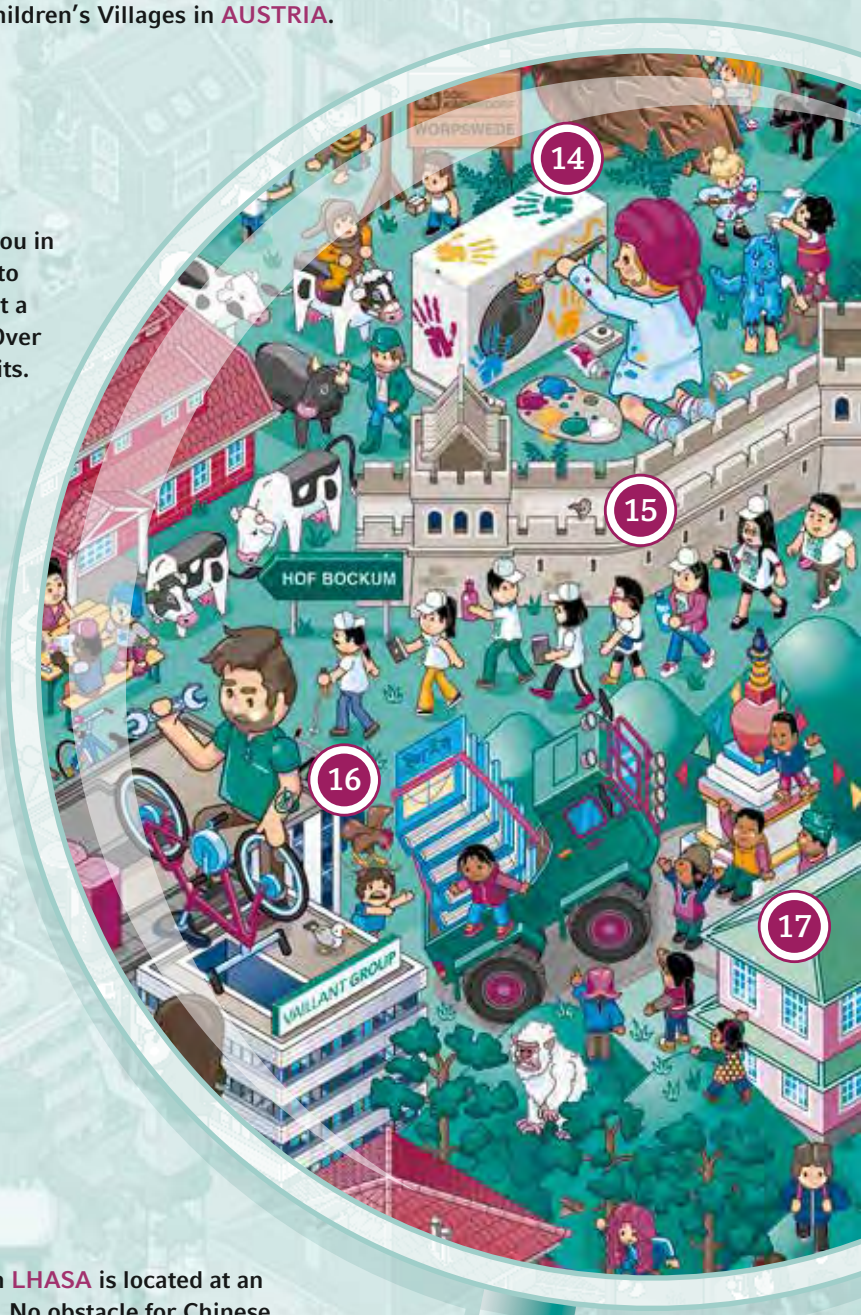
In the winter of 2011, Vaillant HUNGARY modernised the heating system in the SOS Children's Village in Battonya in a spontaneous effort. The aid project set a precedent in the Vaillant Group. It laid the foundation for the international partnership with "SOS Children's Villages worldwide", which continues to this day.

14 · Creative on the outside, innovative on the inside

Free space can be used creatively. Austrian art students designed the outer casing of a heat pump. That makes it unique. The proceeds from the subsequent auction went to SOS Children's Villages in AUSTRIA.

15 · Hiking day of smiles

Vaillant CHINA organised a hiking event in Hangzhou in 2017. Everyone who took part in the walk smiled into the camera for a snapshot. Every smiling face meant a donation for the SOS Children's Village in Tianjin. Over 1,000 participants brought along their cheerful spirits.



16 · Business meeting with a social touch

Once a year, all Vaillant Group managers come together for an international business meeting. At the 2019 gathering in SPAIN, the agenda included bicycle assembly as a team. The bikes were donated to children at the SOS Children's Village in Barcelona on the last day of the meeting.

17 · 1,000 books to the Himalayas

The SOS Children's Village in LHASA is located at an altitude of over 3,500 metres. No obstacle for Chinese colleagues: in 2014, they brought around 1,000 books, sports equipment and school supplies to the children and young people at lofty heights.

18 · Involvement through sportsmanship

In FRANCE, colleagues take part in running competitions for SOS Children's Villages every year. A donation is made for every kilometre run. Children from the SOS Children's Villages also take part. The sporting event thus becomes a shared experience.

19 · Recycling with added value

To mark Vaillant's 140th anniversary, a roadshow toured EUROPE. The tarpaulin from the exhibition truck was later turned into laptop bags in workshops run by the organisation Lebenshilfe. The creative one-offs were then auctioned off by employees for the benefit of SOS Children's Villages.

20 · Skate park in Syria

In the Children's Village in Damascus, SYRIA, the skate-aid initiative surprised the children and teens by building a skate park. The Vaillant Group, which supported the crowdfunding project, was also involved.

21 · A warm home in France

In 2018, two new SOS Children's Villages were built in quick succession in western FRANCE. The 15 new homes in Beauvais-sur-Matha and Gémozac provide a loving home for around 70 children. Everything is kept warm with modern heat pumps from Saunier Duval.

22 · Diversity in Bremen

The SOS Children's Village Bremen in GERMANY is something special. It consists of 13 locations with programmes for children, young people and families. This SOS centre has also received new heating technology from Vaillant.

23 · Sustainable nest warmth

One of the oldest SOS Children's Villages in GERMANY is located near the historic artists' town of Worpswede near Bremen. In 2015, the heating technology here was as old as the village itself. Vaillant and its installer partners replaced everything with modern systems. The good news is that energy costs are now 45 per cent lower and CO_2 emissions 80 per cent lower.

24 · "On hold" campaign

Nobody likes being put on hold. Except perhaps at Vaillant AUSTRIA in 2018. "All employees are currently talking to customers. Waiting is not nice, but helping is. Vaillant is currently supporting SOS Children's Villages with 50 cents per minute of waiting. Thank you for your patience," said nine-year-old Jacob.

25 · Rituals bring security

When children move to another home after a time at the SOS Children's Village in Lüdenscheid, many new impressions await them. Vaillant GERMANY gives them a Toniebox with bedtime stories so that they can maintain their familiar bedtime ritual wherever they are.

Read more about the partnership with SOS Children's Villages:

"It is very important that we can contribute our core competence. That our employees put their heart and soul into driving the partnership forward, resulting in a variety of initiatives in many countries."

Norbert Schiedeck,
Vaillant Group Chief Executive Officer

INTERVIEW

Believing in the future

Barbara Gruner, Executive Board Member "SOS Children's Villages worldwide", and **Norbert Schiedeck,** CEO of the Vaillant Group, discuss what makes the cooperation so special for both partners, how children and families in Ukraine are being supported, and where the shared path will lead over the next few years.

Ms Gruner, Mr Schiedeck, ten years ago you signed a global partnership agreement. What makes the cooperation between "SOS Children's Villages worldwide" and the Vaillant Group what it is for you?

Barbara Gruner: The cooperation with the Vaillant Group holds a special significance for us. It is not the norm for corporate partnerships to last so long and with such intensity. The two organisations have grown close together over the last ten years. Employees on both sides work on a shared mission with a lot of commitment and great mutual respect.

Norbert Schiedeck: As a family-owned company, we primarily want to support disadvantaged children and families. "SOS Children's Villages worldwide" is an ideal partner for us to make a social contribution with our core business. The cooperation is extremely professional, creative and effective. Over the last decade, we have

been able to use our products and expertise to help children and families find a warm and cosy home. Supporting 76 SOS Children's Villages in 24 countries with heating technology and social projects, we have achieved great results so far.

What factors are behind the success of such a long-term partnership?

Gruner: There are many elements that have to fit together. A shared understanding of the aims of the cooperation, regular, open and mutually appreciative interaction, trust in the strengths of the respective partner, and a focus on their needs.

Schiedeck: It is very important that we can contribute our core competence. That our employees put their heart and soul into driving the partnership forward, resulting in a variety of initiatives in many countries. Our partners, the installers, who professionally install the heating technology donated by us are a major pillar of the cooperation. Without their involvement, the partnership would simply not be possible.

76 SOS Children's Villages in 24 countries. Which projects particularly stick in the mind?

Schiedeck: It's difficult to pick favourites from among so many projects. I think a large newbuild in France that we have equipped with heat pumps is just as important as the replacement of individual appliances in an existing building in Portugal. They all show that Vaillant is committed to ensuring that every child has a warm and cosy home in many countries.

Gruner: In addition to the donation of heating technology, the many social projects also stick in my mind. Your donation of salary cent remainders in Germany, the fundraising regatta in France and the Christmas campaigns in Spain, for example.

The support for SOS Children's Villages since the outbreak of the Russian war of aggression against Ukraine combines those two areas. Can you tell us more about that?

Schiedeck: Our Ukrainian sales company has been active in the local SOS Children's Villages organisation for many years. We donated modern heating technology and arranged internships and summer jobs for young people. Shortly before the outbreak of war, our colleagues financed health insurance for 75 children living in the care of SOS Children's Villages. With the war, the situation for local children and families has unfortunately become significantly more dramatic.

How did you react to that?

Schiedeck: We felt it was important to provide rapid and comprehensive support to the SOS Children's Villages' humanitarian aid. As soon as war broke out, we launched a global employee fundraising campaign. The company doubled all the donations received, increasing them to a total of €255,000.

Gruner: That employee fundraising campaign is a very good illustration of what is special about our cooperation. As a long-standing partner, the Vaillant Group precisely understands our specific needs and manages to develop methods that provide quick and effective help.

Schiedeck: That goes both ways. In the case of Ukraine, we immediately decided to help. Thanks to SOS Children's Villages, we are able to provide targeted support to children and families in the war zone.

Gruner: Help in a war zone is a good way to sum it up. We were particularly impressed by the second part of your emergency aid to Ukraine.

Schiedeck: That is very kind of you to say, and I will gladly pass on your compliments to the employees who made that help possible. What I find impressive is your work on the ground for the people in need. We help as much as we can within our means. The Ukrainian staff of SOS Children's Villages approached us with a request to support the reconstruction of the SOS Children's Village in Brovary, near Kiev. We were very happy to provide a comprehensive package of heat pumps, gas-fired condensing boilers and hot-water storages. Delivering to a war zone was challenging, but a cross-departmental team pulled it off.

Gruner: To what extent did you consider the fact that the delivery of valuable heating technology to a war zone involved a risk for you?

Schiedeck: The decision to donate heating technology for the reconstruction of the Brovary Children's Village was very easy for us, especially now, in times of war. We stand with the children and families of Ukraine. We believe in their future. If we can contribute to bringing

those people some kind of normality with our core business, we are happy to do so.

Ms Gruner, you have just come from Ukraine yourself. You had the opportunity to visit the SOS Children's Village Brovary while you were there. What did you think of it?

Gruner: I've worked on a wide variety of projects and seen a lot during my work in humanitarian aid. But the visit to Ukraine was something new for me. The immediacy of the suffering of children and families, the mercilessness of the everyday military threat, the trepidation that reigns in a country at war – all those feelings were very intense. The other special thing in this case is that rather than the usual order of emergency aid followed by rehabilitation and infrastructure projects, in this crisis all the priorities are equal and being handled simultaneously. We are providing emergency assistance and social work for children. At the same time we are repairing the homes for displaced families and having new heating technology installed in Brovary.

What exactly is the situation for the children and young people helped by your programmes?

Gruner: The situation people are living in is strongly dependent on where they are located. The further east you are, closer to the front, the more hostile the conditions. In the west of the country, the situation is much safer, but the burden of war can also be felt there. There are a large number of displaced persons who have had to flee the embattled eastern territories. That, in turn, puts pressure on the provision of emergency accommodation, aid supplies and education for children whose everyday schooling has been interrupted. In our social centres, we try to provide children and families with a reliable offering even under these circumstances.

Have you been able to talk to people who have had to leave their homes in eastern Ukraine?

Gruner: I had many conversations, some of which were very moving for me personally. One of them will stay with me forever. Valentyna is a mother of three foster children who wanted to flee from her village in eastern Ukraine to escape the approaching Russian forces. Her husband was against it. One night, she summoned up all her courage and left the familiar surroundings of the village with her children – for the first time in her life. Valentyna made her way to the train station under very difficult and frightening conditions and got on a train that brought her and thousands of other displaced persons to Kiev. She was met there by an employee of the UNHCR, who informed our staff at SOS Children's Village Brovary. However, Valentyna hid for several nights from the village driver who wanted to pick her up from the train station because he was wearing the same black jacket as a group of men who had threatened her and her children at the station. When she finally came forward, the driver took her to the SOS Children's Village Brovary. To safety.

How is Valentyna doing now?

Gruner: I have the impression she has settled in. She takes loving care of her three foster children, two of whom have a mild intellectual disability. She has even welcomed two more children who were without parental care into her small family recently. When we talk about our help going further, we have people like Valentyna in mind. They help if you help them. The Vaillant Group's donation of heating technology can be viewed the same way. Valentyna and her children are among the first to feel the Vaillant warmth in Brovary.

Schiedeck: That is a story that gives reason for hope. The situation is also an enormous burden for our employees. We call our colleagues on the ground on a weekly basis to see how we can support them and their families in everyday life. I really appreciate the team supporting our Country Manager Alexander Rohn, who continue their work with great passion despite all the adversity.

What challenges do you face as a children's rights organisation in Ukraine?

Gruner: Immediately after the outbreak of war, we launched a comprehensive aid programme. Affected children and families are receiving assistance with evacuation and accommodation. We provide them with food, hygiene products, blankets and medicines, as well as supporting parentless children and families in particular need, providing immediate psychological help and trauma treatment, and offering educational support for children who are safe. Despite all the successes, it is unfortunately clear that children in particular suffer from the trials and tribulations of war. For example, Ukrainian children are systematically abducted from their homeland and taken to Russia. According to the official figures, there are believed to be 20,000 such

children now living in Russia. In recent months, our Ukrainian team has been able to bring the first children back and reunite them with their families. That is just the beginning, of course. In the end, it all comes down to the well-being of each individual child.

Schiedeck: Child protection violations that were even able to take place under the umbrella of SOS Children's Villages show how little respect is shown for the internationally guaranteed rights of children and young people in many parts of the world today. We as a company are aware of the difficult social and political conditions under which SOS Children's Villages operates. At the same time, we emphasised the importance of complete transparency in the processing of cases.

Gruner: As a globally active children's rights organisation, we take this responsibility very seriously. As a member of the executive board, I personally advocate for a path of transparency and consistency. We have a clear zero-tolerance policy on child protection violations within our organisation. One case is one too many. We have been working for many years on strengthening child protection. To this end, we have trained all employees and managers on the topic of child protection and further developed and refined our child protection guidelines, as well as our visitor guidelines. We firmly believe in the mission of SOS Children's Villages and will do everything we can to ensure watertight child protection.

Let's look to the future together. With that in mind, a final question: where do you see the partnership going in the next ten years?

Schiedeck: Ten years is a comparatively short time for a family business that thinks in terms of generations. We would like to intensify the breadth and depth of cooperation. Equip more SOS Children's Villages in even more countries with modern heating technology. Implement further creative social projects and integrate our partners, the installers, even more closely into the cooperation. At the same time, I think it would be exciting if, in the longer term, we could add a third pillar to the two existing ones of heating technology and social projects. We think the "Youth Employability" focus topic of the SOS Children's Villages is very worthy of support.

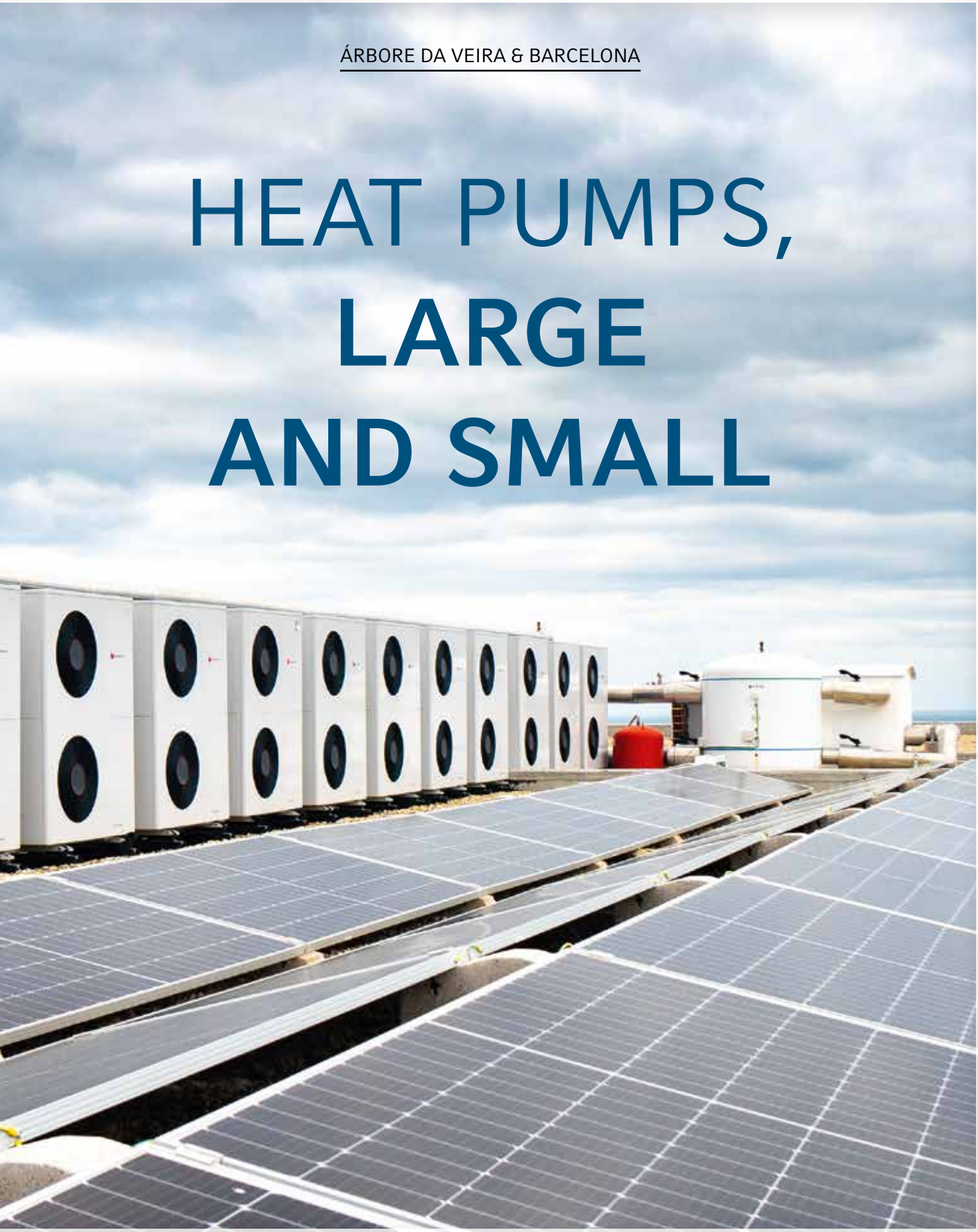
Gruner: I don't have much to add to that. We want to continue the existing cooperation with the Vaillant Group at its already very high level and, where possible, expand it further. We would like to put the understanding that both organisations have for the work of their respective partner to use in new fields. I look forward to our next steps together.

"SOS Children's Villages worldwide and the Vaillant Group have grown close together over the last ten years."

Barbara Gruner,
Executive Board Member
"SOS Children's Villages worldwide"

ÁRBORE DA VEIRA & BARCELONA

HEAT PUMPS, **LARGE AND SMALL**



Spain is forging ahead with the build-up of renewable energies. When it comes to heating and cooling, environmentally friendly and energy-saving technologies are coming to the fore. As in many European countries, heat pumps are on the rise.

ÁRBORE DA VEIRA

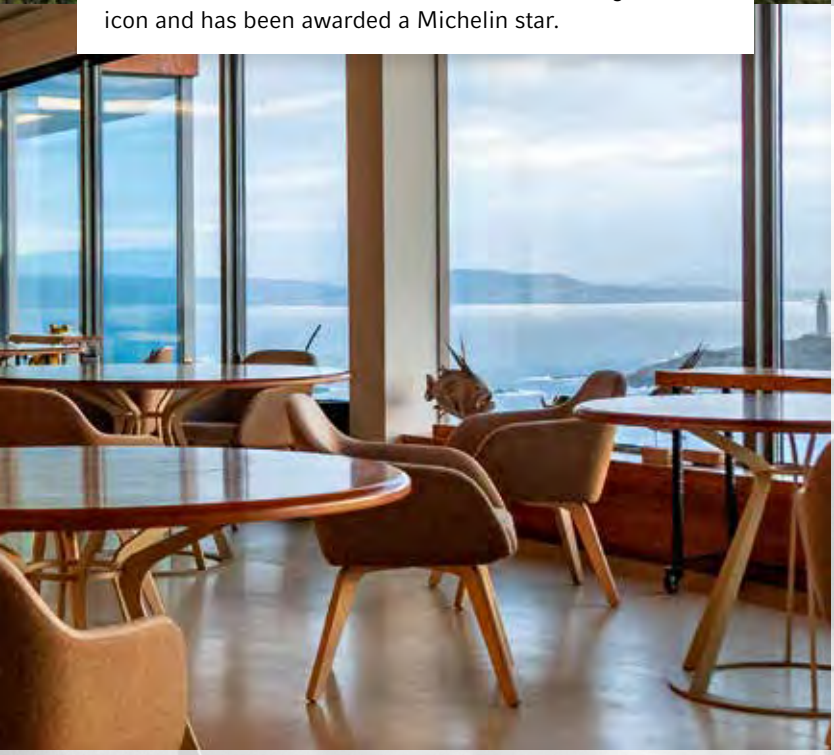
On Monte de San Pedro, which towers like a sentinel next to the city of A Coruña, sits the architectural complex Árbore da Veira. It consists of an observatory, a restaurant and a lift that bridges the distance between the coastal road and the park. From the western hillside, the view is of the city and the bay of Orzán. The centrepiece of Árbore da Veira is the restaurant of the same name, an icon of the region that has been awarded a Michelin star.

Luis Veira, the restaurant's owner and head chef, decided to convert the entire building technology at Árbore da Veira to renewable energy. This presented a significant challenge: the buildings house numerous conference and event rooms, the restaurant with several dining halls and a tavern which is popular with tourists. Guests and visitors are constantly coming and going. The annual energy requirement is correspondingly high.

Aerothermal energy and solar power

A specialist energy service provider for commercial customers, Creative Energy, was called in for the Árbore da Veira project. In collaboration with the local Saunier Duval sales organisation, the experts developed a customised solution. Their proposal was to replace the existing large gas boilers and the old ventilation system with a hybrid system consisting of heat pumps and a photovoltaic system. To do this, they wanted to rely on the new Genia Air Max 15-kilowatt heat pumps from Saunier Duval, which can deliver

THE ÁRBORE DA VEIRA RESTAURANT is a regional icon and has been awarded a Michelin star.



Luis Veira, head chef and owner of the restaurant, completely converted to renewable energies with 14 heat pumps and 115 solar collectors.

high flow temperatures thanks to the use of the natural refrigerant R290. The units work reliably in outdoor temperatures that range from –25 to +46 degrees Celsius and they also operate very quietly. Sergio González, Director of Creative Energy, emphasises another advantage of the Genia Air Max heat pumps: the robustness of the units against wind and weather, something that he considers essential in such a salty environment as the one in Monte de San Pedro, right by the sea.

As two 150-kilowatt boilers needed to be replaced, it was necessary to determine how many heat pumps would be required. This was based on the heat output of the boilers in the last two years of operation and meteorological data on average winter temperatures in recent years. The calculation showed that 14 heat pumps would have to be installed. The units were to work in a cascade and feature a modular control system to allow their operation to be adapted to higher or lower outputs as required. And this had to apply to both cooling and heating.

For the photovoltaic support, the calculation indicated a peak demand of 50 kilowatts. Accordingly, 115 monocrystalline

Creative Energy, an energy service provider for commercial customers, developed a hybrid system for Árbore da Veira together with Saunier Duval's local sales organisation.

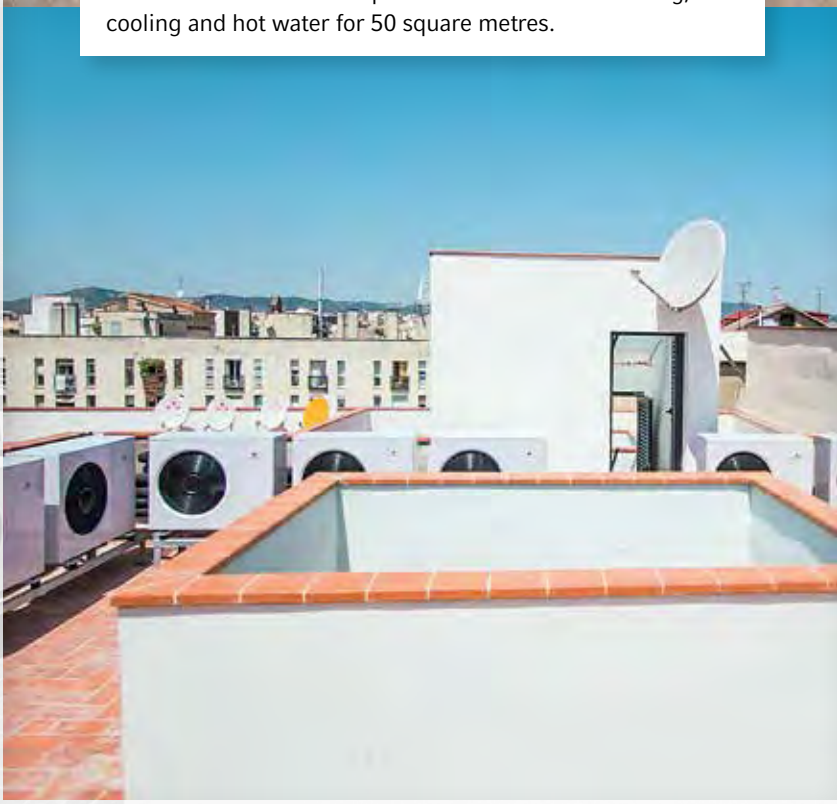
solar panels with 156 cells were fitted. As a result, the photovoltaic system supplies over 60,000 kilowatt-hours of electricity for the operation of the heat pumps – or a good three quarters of total consumption. Both the solar collectors and the heat pumps were integrated into the flat roof of the building.

The result

Sergio González emphasises that he was supported by Saunier Duval throughout the entire process, all the way from the conception to the technical realisation on site. He says that this comprehensive support was essential to be able to carry out installations of this magnitude with any warranties given to the customer.

Thanks to the drastic increase in efficiency and the holistic technical solution, the owners of Árbore da Veira were able to take advantage of all the renewable energy subsidies they had applied for to realise the project. Thanks to this and the 50 per cent reduction in energy consumption already achieved (it is expected to save 70 per cent eventually), the investment will have paid for itself in four to four and a half years. Luis Veira couldn't be happier.

HEAT PUMPS for small apartments – individual heating, cooling and hot water for 50 square metres.



BARCELONA

While the big solution had to be found in A Coruña, a heat pump installation in Barcelona shows what is possible on a somewhat smaller scale. In the Catalan metropolis, living space is scarce and expensive. It therefore even makes sense to renovate an old property into a modern apartment block. The example shows the flexibility of heat pumps in existing buildings and even where space is limited.

A particular characteristic of the project in Barcelona is that all apartment units, although they are only 50 square metres in size, have their own heating and hot-water supply. The lack of space was therefore a determining factor in the choice of building technology from the outset.

Before it could be used as living space, the entire building had to undergo a complete refurbishment. It was divided into 18 small but very modern residential units. Each of these units comes with a combined kitchen/living room, a bedroom, a bathroom and a small hallway. The first problem in terms of space was encountered on the roof. The original plan was to equip the building with a solar-powered system. In this case, using renewable energy, at least in part, was not an entirely free decision of the developers. The city of Barcelona requires this from building owners. It soon became apparent that the roof was not large enough to accommodate all the collectors that would be needed to generate enough electricity. Therefore, plan B was chosen: heat pumps! The same roof size that had proved too small to fit the photovoltaic solar panels turned out to be more than sufficient to accommodate a dozen heat pumps. The shortage-of-space factor then shifted to the inside of the house. Nevertheless, this alternative could be realised under the given structural conditions.

In the smallest space

The GeniaSet package that was eventually employed is a compact solution that integrates heating, cooling and hot-water supply in a single block. The system consists of an outdoor unit – i.e. the heat pump itself – and an indoor unit about the size of a refrigerator. All installation elements are integrated into the indoor unit, together with a 190-litre storage tank for domestic hot water.

In Barcelona, the installers were able to save even more space by fitting the entire system into a closet that all flats have in their hallways. In spite of this creative solution, all recommended technical specifications for installations of this kind were observed and easy access to the devices for maintenance work was ensured.

As a result of the refurbishment, energy savings amounting to around 70 per cent have been achieved.

HEAT PUMP WO

SENICA

The currently largest and most environmentally friendly plant for the manufacturing of heat pumps in Europe has been built in Senica in just two years. The new factory expands the Vaillant Group's production network.


RLD
protherm

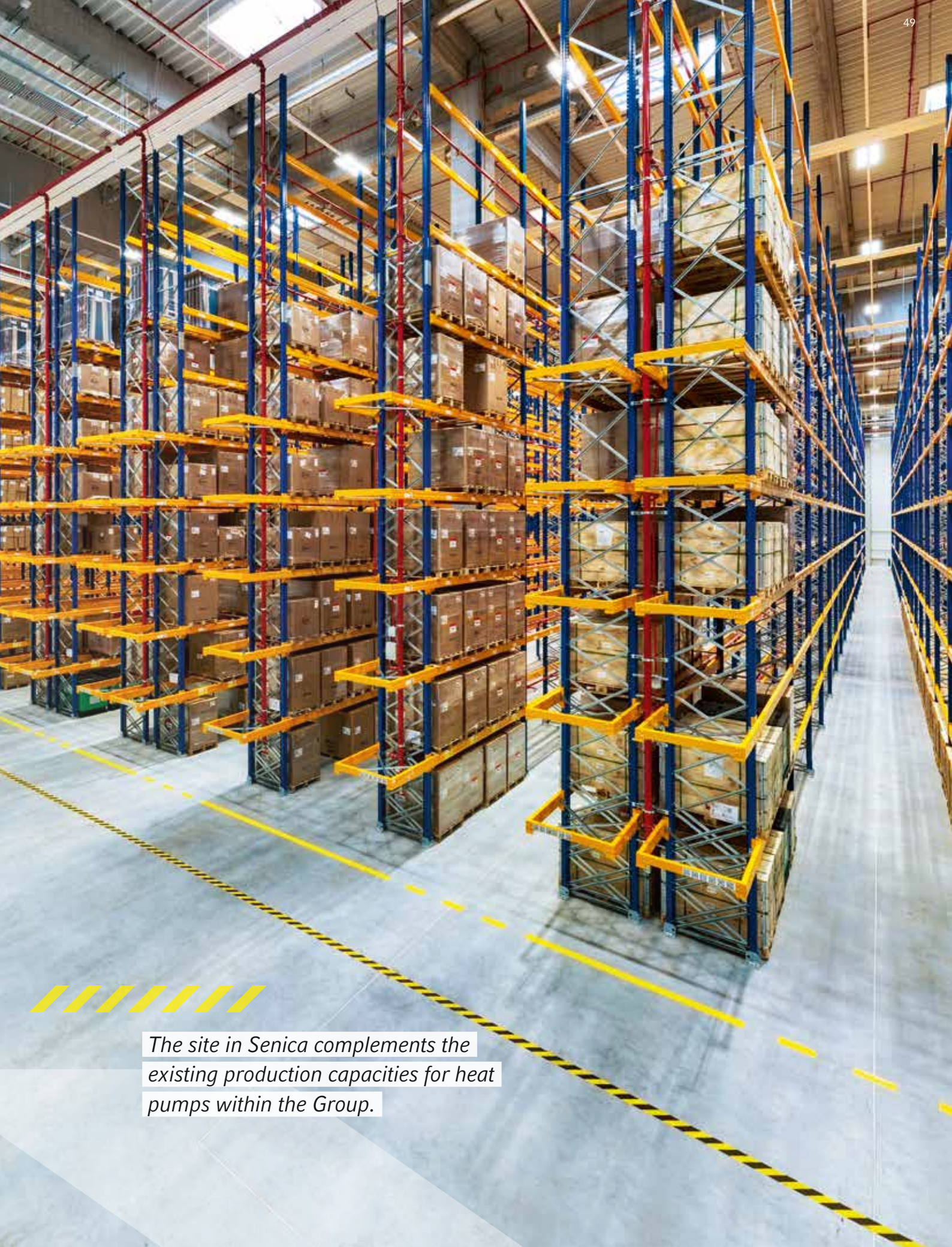
The Vaillant Group is investing in heat pumps and increasing its production capacity. A tenth plant dedicated specifically to heat pump production is located in Senica.

The city of Senica is located in the west of Slovakia near the borders with Austria and the Czech Republic. The Vaillant Group Trenčín plant lies around 80 kilometres to the north-west and the plant in Skalica around 30 kilometres to the north-east. Senica is a regional economic centre due to its geographical location and well-developed infrastructure. There were several reasons for the choice of site. As a landlocked country in Central Europe with five international borders, Slovakia is logistically attractive. In addition, the official approvals procedures for industrial construction projects are handled faster than in many other EU countries. The availability of a considerable plot of land was also a decisive factor. The plant alone, with its production lines and office buildings, covers more than 55,000 square metres; the adjacent logistics centre adds another 23,000 square metres. In total, the site in Senica has a size equivalent to around 11 football pitches.

The Vaillant Group's production network is spread across Europe, Turkey and China, with ten plants in seven countries. Heat pumps are assembled at four locations. While the production of the highly efficient technology in Nantes, France, and at the headquarters in Remscheid, Germany, has been established and growing for many years, a production facility was added in Belper, England, in November 2022. Since then, it has been possible to supply the UK market from there. The site in Senica complements the existing production capacities for heat pumps within the Group.

Although production and quality standards are the same everywhere across the Group, the individual plants do have their own profiles. Belper is heavily focused on domestic demand, especially since Brexit. Remscheid, with its proximity to R&D and the Johann Vaillant Technology Center, is leading the way in industrialising new product lines and models, among other things. Neither Belper, Remscheid nor Nantes, however, produce heat pumps exclusively.

"The plant in Senica is driving forward the transition from a production that is mainly geared towards gas technologies to heat pumps," explains Radovan Prístavok, Director of Production in Slovakia. "The construction of heat pumps is significantly more complex and elaborate than that of other heating appliances. The demands on the production processes are changing accordingly. This change in processes is taking place in parallel with the changes in development and the product portfolio. It is part of the Vaillant Group's transformation into a leading supplier of heat pumps in Europe."



The site in Senica complements the existing production capacities for heat pumps within the Group.

CONSTRUCTION AT RECORD SPEED

The construction of the plant in Senica was completed at great speed. For years, the market demand for heat pumps had only known one direction: steeply upwards! Year after year, the Vaillant Group recorded very strong growth in the double-digit percentage range, well above the general market trend. No product segment grew faster and more continuously than that of heat pumps. Within a short time, the Vaillant Group – the world market leader for central heating appliances – became the third-largest supplier of heat pumps in Europe.

The EU's environmental protection targets and the legislative framework for the future energy supply of buildings pointed in a clear direction: renewable energies and electrification. One of the targets is to install ten million new heat pumps in Europe by 2027. A fundamental shift within the heating, ventilation and air-conditioning technology sector was clearly foreseeable.

"In the end, it was a question of positioning ourselves correctly at an early stage in order to be able to meet an increasing market demand for heat pumps in the coming decade and also at peak times: to survive in a challenging competitive environment, to actively shape the change in the industry and to successfully complete the transformation of the company," says Director of Production in Slovakia, Radovan Prístavok. The entrepreneurial decision to invest was made accordingly. Ultimately, it took less than 24 months between the start of construction in 2022 and the completion of the plant.

INCREASED CAPACITY

Combined with Senica, the Vaillant Group plants for heat pumps can now produce up to half a million heat pumps per year, depending on market demand. While several external factors have led to extreme customer demand and sometimes long delivery times in recent years, a slowdown in the market set in from mid-2023. The current production is geared

Combined, the four plants have a capacity of up to half a million heat pumps per year.

towards a dynamically changing market situation. Since the start of operation in Senica in autumn 2023, it has been possible to respond to fast-growing demand at short notice, which means quickly increasing output at any time.

Senica manufactures heat pumps under both the Vaillant and Protherm brands. The plant supplies almost all Vaillant Group markets with its products. To train and qualify skilled workers, a concept was pursued in which colleagues from Slovakia first came to Remscheid and were trained in the production of heat pumps. These colleagues then passed on their knowledge to local teams as trainers back home.

CERTIFIED SUSTAINABLE PRODUCTION

In addition to its exclusive focus on heat pump production, the plant in Senica sets a standard in terms of sustainability. The building materials are recyclable. Green roofs and façades store water and help with air conditioning.

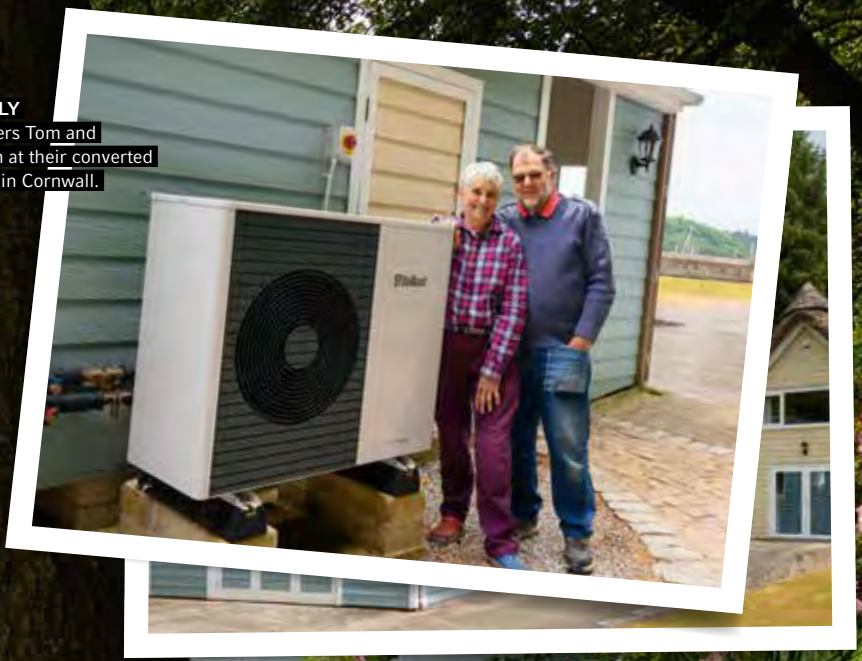
Roofs and windows meet high insulation standards and minimise energy losses. It goes without saying that heat pumps are used to heat the building complexes. Their operation alone cuts CO_2 emissions by around 280 tonnes per year. The ventilation technology is designed to recover heat. And the factory is powered 100 per cent by electricity from renewable sources. A proportion of the electricity required supplies the factory's own large-scale photovoltaic system, which avoids a further 330 tonnes of CO_2 annually. The new production site is certified in accordance with the highest international standard BREEAM for sustainable, environmentally friendly construction.

The eco-friendly and energy-saving heat pumps manufactured in Senica will provide many people with a warm and cosy home in the coming years. And they will make an important contribution to the success of the heating transition throughout Europe.

HEAT PUMP SUCCESS

Across the UK

Vaillant UK's Heat Pump Possible campaign has highlighted the potential of heat pumps across different property types. So far, it has reached more than 11 million people on social media.



PEDN BILLY
Homeowners Tom and Nigel Bligh at their converted boathouse in Cornwall.

PEACEHAVEN
Heating engineer Luke Sheppard fitted his heat pump at his home in East Sussex.

SOUTH BARN
John Taylor with his aroTHERM plus heat pump at his Grade II listed home in Derbyshire.

Ben Hodges and Jamie Congdon from Abode Heat recommended the aroTHERM plus.

In many European countries, heat pump technology has been widely used for decades. But not in the UK, where homeowners often need further reassurance of how heat pumps work and if their property is suitable for the technology. However, specification of heat pumps is growing thanks to the UK government's ambition to have 600,000 of them installed each year from 2028.

Most UK homeowners have still not experienced heat pump technology in action. They have limited knowledge of how they work. And they are unsure this low-carbon heating solution is their best choice.

Indeed, recent research carried out on behalf of Vaillant in the UK revealed there are still questions surrounding heat pumps, particularly around how they perform in colder temperatures, their ease of installation and the technology's suitability for the varying types of properties found across the UK.

The good news is that there are an increasing number of first-hand examples emerging which vividly show how a heat pump can be an effective, sustainable, energy-saving and low-carbon heating solution.

As part of Vaillant UK's Heat Pump Possible campaign, a nationwide search began for properties that demonstrated the technology in action. The result uncovered a host of very different homes across the UK where heat pump technology may not immediately have seemed the first heating option, but has proved a successful choice.

The entries were whittled down to just three winners: a coastal boathouse, a traditional family house and a historic home.

All aboard for energy savings

Among the winners of the Heat Pump Possible competition were sustainability champions Tom and Nigel Bligh, who were looking to make their idyllic Cornish boathouse, complete with traditional thatched roof, more environmentally friendly.

The property previously featured electric heating – via wall heaters – throughout the building. Not only

Tom and Nigel use 50 per cent less electricity thanks to their heat pump system.

were these proving ineffective and difficult to accurately control, but they were also becoming increasingly expensive.

The Blighs didn't want to install underfloor heating, as this step would have meant replacing the original rustic-style wooden floorboards. So, with the aim of reducing energy consumption and increasing the comfort levels, they opted to install correctly sized radiators in combination with a new 7-kilowatt aroTHERM plus air source heat pump, which is located outside the building.

Tom explains their main motivation: "I try to convince people to save the world from global warming and our priority was to remove fossil fuels from our property as part of our effort to become more sustainable and reduce our energy usage."

Numerous criteria had to be met when choosing the heating system for this building. It had to be quiet, simple to install in place of the existing electric heater set up and easy to use.

There were solar panels already fitted to the roof of the adjoining storage building, providing energy for the hot-water generation for the boathouse. Adding an air source heat pump was ideal to maximise the use of energy already produced on site.

The installer company Abode Heat's Ben Hodges, who designed the heat pump system, said: "The Boathouse is just metres away from the beach, and we needed a quality system that would reliably handle the coastal location and salt air. We really like the Vaillant aroTHERM plus system as it comes from the factory with superb corrosion protection as standard, which is really key when you're doing projects in coastal areas."

Ben adds: "Heat loss calculations were made to design a system that could run efficiently on low

Isabel has enjoyed consistent home heat comfort and a 40 per cent reduction in energy bills since Luke installed their heat pump.

flow temperatures and the heat pump itself had to be raised from the ground to allow for potential flood water to pass underneath."

Although taking fossil fuels out of the mix while maintaining heating comfort was the main aim of opting for a heat pump, Tom and Nigel also benefit from the reduction in their energy consumption resulting from the replacement of their old direct electric heaters.

Nigel explains: "We haven't worked out the cost implications, but we have calculated out how much electricity we have used. The year before we put the heat pump in, we used twice as much electricity as the year after it was installed. So, we have seen around a 50 per cent saving on the kilowatt-hours."

Tom and Nigel have proven that heat pumps are totally feasible even for remote properties that are situated in isolated coastal areas.

Transforming a family home

The second winners were located in East Sussex. Having moved into their property just a few years

PEACEHAVEN

At Luke's home the heat pump was installed at the front of the property, leaving the family's back garden free.

ago, heating engineer Luke Sheppard and his partner Isabel Gilles wanted to ensure they were doing all they could to help mitigate the impact of rising energy costs.

Luke explains: "We have seen our gas and electricity bills increase. I'm in a lucky position as a heating engineer, which meant upgrading our heating system was the obvious place for us to start. The existing natural-gas boiler was only three and a half years old, so it was already an efficient system, but I knew that an air source heat pump could improve efficiency significantly."

"It was also important to me to be able to do this to my own home so I could show my customers that heat pumps are a valid retrofit option too. And, in my case, can also be installed without the need for significant upgrades to the property, such as new pipework or oversized radiators."

After looking at the heating and hot-water requirements of his home, Luke was able to design a low-temperature system that uses many of the existing radiators at the property, together with the cylinder which was installed with the previous boiler.

Luke adds: "The installation itself took just a few days, and to be honest since it's been installed, I've not noticed a difference. The house feels just as warm as it did with the gas boiler, which really impresses me."

The heat pump was installed at the front of the property, so that it doesn't take up space in the family's back garden. The accompanying cylinder and control panel have been installed in the garage. This means the family has not had to compromise on any space for it either. In addition, a Vaillant sensoCOMFORT was fitted in the property to give Luke and Isabel enhanced control of the system right at their fingertips.

As a result of having the aroTHERM plus installed, the family have been able to achieve greater comfort levels, reduce their carbon emissions, and – above all – save around 40 per cent on their energy bills.

Isabel concludes: "In this day and age, it's important to keep how we can all be more environmentally friendly at the front of our minds. So, to be able to say not only are we reducing our energy usage, but at the same time helping to reduce our carbon emissions, and the impact we as a family are having on the planet has been a win-win."

Historic setting for heat pump technology

South Barn is a 400-year-old listed home in Derbyshire. As a heritage property, it isn't the typical type of home where heat pumps are installed. But installation can also pay off in the case of such properties: after installing a Vaillant aroTHERM plus in 2022, homeowner John Taylor has been able to cut not only his carbon emissions, but also his energy usage.

He says: "Like many people, I wanted to make sure I'm doing my bit to preserve the planet. As a homeowner living in a Grade II listed building, the historic charisma and architectural beauty of our home is a testament to the past, and it is our duty to ensure that future generations can continue to cherish and appreciate its unique heritage through sustainable practices."

When John's existing gas boiler needed updating, he enlisted the help of IMS Heat Pumps, a local installer company, to develop a low-carbon solution. Due to the unique architectural features of the building, including thick walls and original design elements, it was imperative for John to find a solution that would preserve the heritage, while ensuring his home's energy efficiency was maximised.

While for many, this might have meant that a heat pump was not the obvious choice, meticulous planning by John's heating engineers meant that a 7-kilowatt Vaillant aroTHERM plus heat pump was able to meet and even exceed the heating and hot-water requirements of the property.

Emma Bohan of IMS Heat Pumps said: "The heat pump has been strategically positioned to ensure minimal disruption to the property's character and architectural integrity. The radiators were replaced with correctly sized ones to make the most of the lower-temperature heating system, and a Vaillant control panel and uniSTOR hot-water cylinder were installed within the property to supply the home's hot water."

Keen to further optimise the efficiency of his new system, John also installed a Vaillant sensoCOMFORT heating control in the home, while the accompanying weather sensor was installed outside. The outdoor weather sensor continually monitors the temperature outside and helps determine how hard the heat pump has to work to ensure com-

John's heat pump system was designed to preserve the heritage of his 400-year-old home.

fort levels are optimised, while the system operates as efficiently as possible.

Since having the heat pump installed, John has been able to control the system via the myVAILLANT app. Offering enhanced connectivity at the touch of a button, John can monitor his energy usage, control the temperature of his home, and create time programmes to help save energy that is not needed, even when he's away from his home.

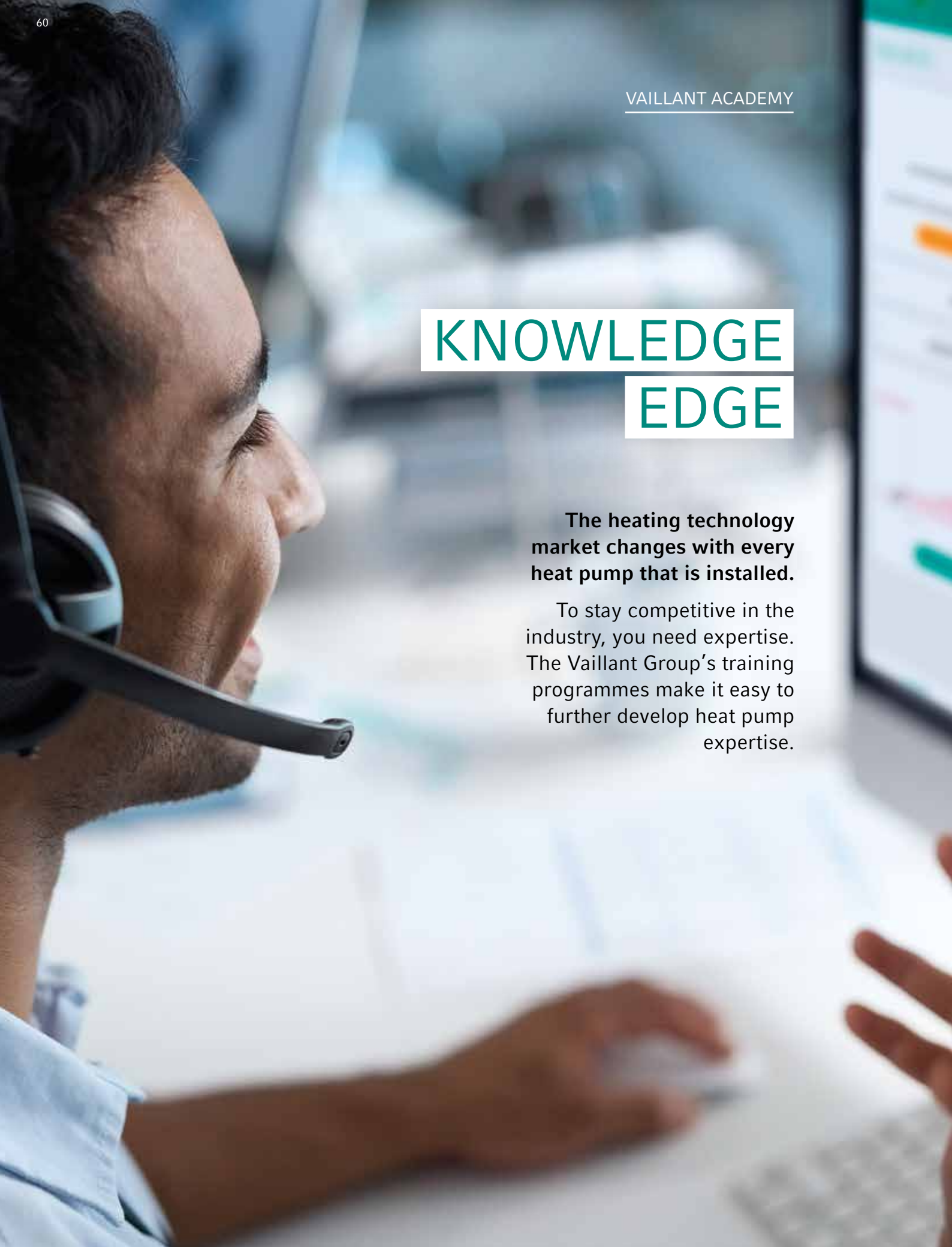
And the results of John's installation have been remarkable, especially during the icy grip of winter when temperatures have plummeted to –7 degrees Celsius.

He explains: "The air source heat pump has worked very well indeed and during a recent cold snap our home remained warm and cosy."

The switch to low carbon has not only significantly reduced John's carbon emissions, but also enhanced comfort. And this reduction was particularly close to his heart: "The main motivation for us to move to a heat pump heating solution was to help reduce our carbon emissions, which I'm delighted to have achieved. I've also been pleasantly surprised by the running costs, too." With the new low-carbon system in place, John's total electricity expenditure (which includes charging his electric car) is now around £1,000 annually.

Find out more on Vaillant UK's Heat Pump Possible campaign and check out the videos to learn more about why heat pumps are possible, here:

www.vaillant.co.uk/heatpumppossible



KNOWLEDGE EDGE

The heating technology market changes with every heat pump that is installed.

To stay competitive in the industry, you need expertise. The Vaillant Group's training programmes make it easy to further develop heat pump expertise.

Not all specialised HVAC trade businesses are yet installing heat pumps. This is less due to a lack of willingness to expand their knowledge than owed to their limited resources. "Many installer companies don't have the time to send employees out to attend full-day training courses," says Juliane Krüger, who is responsible for B2B training at the Vaillant Group. "We need different ways to make heating installers fit for the transformation to heat pumps. Especially because technologies are developing much faster today, each generation of appliances brings with it a whole variety of changes and the need for training is growing as a result."

Focus on personalised learning

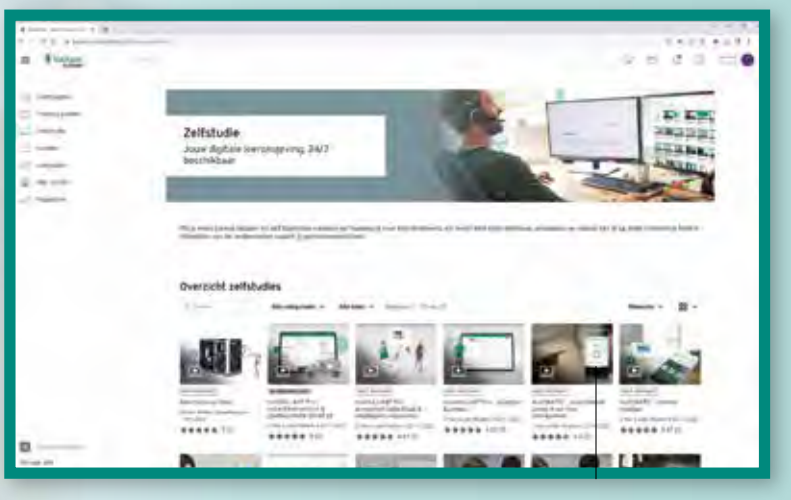
Together with her Technology Learning Excellence team, the expert focuses on training concepts that can be integrated into the day-to-day working schedule of partner companies. One trend is emerging: a shift away from large learning units in favour of modular learning tracks that are geared towards the individual training requirements. Location-independence also plays an important role. With this in mind, the Vaillant Group's team of experts has created digital brand academies, where installers complete a virtual "learning journey". The curriculum takes them from planning to installing the heat pump, and covers all the technical details, while also taking varying individual levels of knowledge into account.

"Our platforms are more than just booking tools for product training. We offer content that is ideally prepared, always meets the latest technical standards and provides answers to precisely those questions that are really relevant in practice," emphasises Krüger. In the long term, she would also like to get installers interested in "continuous learning in small bites", as she sees this as a prerequisite for keeping up with the increasingly dynamic heating market.

A steep learning curve

"The digital libraries on the country-specific learning platforms now comprise over 1,000 learning elements. These include short videos with installation guides and technical explanations, as well as flashcards and web-based programmes, for example on the correct dimensioning of a heat pump heating system," explains Michael Banse. In the Learning Technology digital team, he is responsible for the country roll-outs, expanding the learning content and optimising user-friendliness. The focus is on customisation, flexibility and an easy overview. Predefined learning tracks ensure quick orientation. It is also possible to register for in-depth online seminars or classroom training at one of the training centres via the platforms. The digital content can be used as preparation for the training. This is an advantage, as Banse emphasises, because acquiring the basic knowledge in advance leaves more time for practical work on the appliance during on-site training.

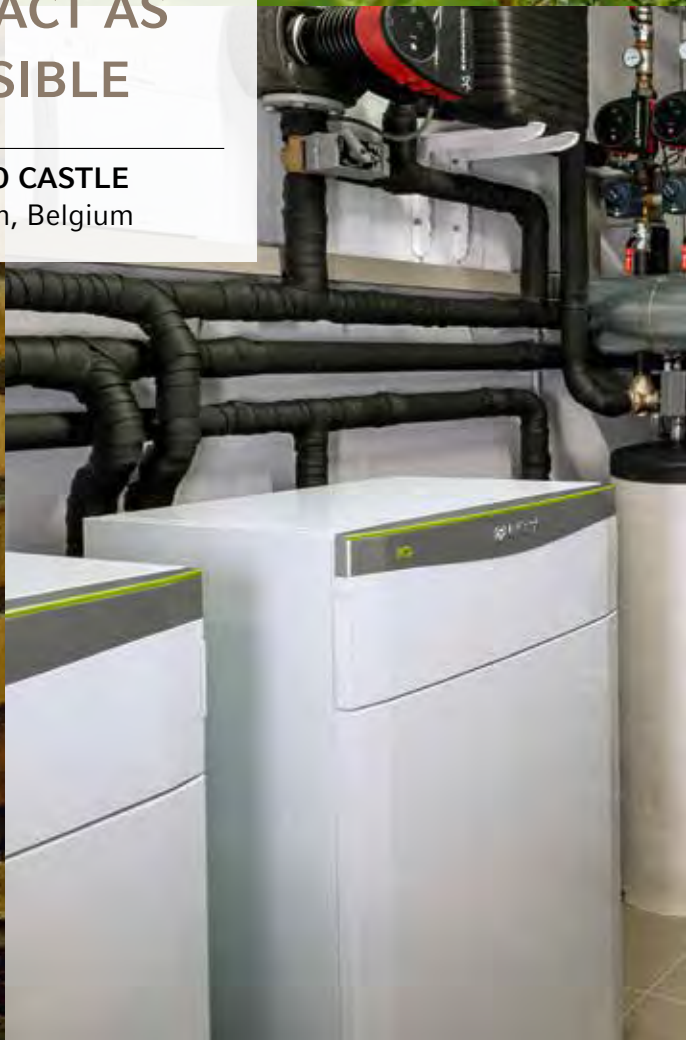
The Vaillant Group's digital learning opportunities were received very well: by the end of autumn 2023, there were already more than 62,000 registered HVAC tradespeople in 15 countries with a total of 18 academies in live operation – an increase of 25,000 learners compared to the previous year. In 2024, the digital learning programme will also be made available in Turkey, Switzerland, France and Spain. Expansions are also planned in other respects: "Our partners have approached us with requests for customised academies just for their company and tailored content for their employees," says Banse. "We are happy to fulfil this request. After all, we see our learning platforms as a long-term service that grows and improves with every piece of feedback."



Yannick De Mol, Vaillant Sales Engineer for Projects, and Leandro Depaepe, Vaillant Account Manager

AS ENVIRONMENTALLY FRIENDLY, EFFICIENT AND COMPACT AS POSSIBLE

TER LOO CASTLE
Zedelgem, Belgium



FROM **HISTORIC WALLS** TO **DESIGN ARCHITECTURE**

Heritage building or luxury apartments – heat pumps are suitable for almost any type of building. Two projects from Belgium provide proof of this.

Ter Loo Castle in the municipality of Zedelgem in West Flanders, Belgium, has very high standards when it comes to sustainable energy management with a heat pump. After purchasing the former convent and its chapel from 1949, the new owner decided to renovate and technically upgrade the entire complex – consisting of the main manor house, park and cottage. The aim was to create a centre of life for adults with mental or physical disabilities.

The building refurbishment not only had to fulfil contemporary living requirements, but was also to be sustainable in terms of energy. A mammoth task, as owner Carl De Clercq explains: "It took seven years until the property was fully adapted to the needs of its residents, who spend around 50 years of their lives there."

COMPLEX HYBRID SOLUTION

With this in mind, the decision was made in favour of a combination of solar panels, geothermal heating and cooling as well as hot-water supply, supplemented by a gas heater for peak loads. This was a solution that made it possible to limit energy costs in the long term. It required the responsible installation company to use a complex range of technical components, as Envice Managing Director Fauve Collie describes, and she adds: "Vaillant helped us with the configuration of the project, both in terms of the choice of heat pump type and output as well as in terms of the technical planning. After all, solar and geothermal energy and gas had to be optimally matched together to meet the requirements: as environmentally friendly, efficient and compact as possible."

The hybrid system used comprises two geothermal heat pumps and two storage tanks, each with a capacity of 1,000 litres, as well as 100 photovoltaic modules installed on the roof of the chapel. The heat pumps are fed by eight geothermal boreholes, which supply enough energy to heat or cool the entire building. The heat pumps' smart control system is in control and automatically recognises whether heating or cooling is required.

"The complexity of the building speaks for itself," says Leandro Depaepe, Account Manager at Vaillant. Numerous factors had to be taken into account in advance in calculating the energy requirements: the different room heights on the three floors with a high chapel and the large glass surfaces, for example, lead to considerable fluctuations in heating and cooling demand. There were also significant peaks in hot-water consumption. All levels of the building were equipped with geothermal floor heating and passive cooling. But the extensive work was worth it: the residents can not only enjoy the historic ambience of the property, but also the highest level of climate comfort throughout all seasons.

DESIGN CONSCIOUS DOWN TO THE LAST DETAIL

No less impressive, but under completely different structural conditions and with different technical requirements, is Griso, an apartment building with 14 luxurious flats located in the centre of the Limburg town of Sint-Truiden. Built in 2020, the building attracts attention above all with its elegant façade of large glass panels and black stone slabs – the latter also give the building its name. After all, it was inspired by the famous black diamond "Ghost of Grisogono", which went down in history as an extraordinary masterpiece by a Geneva jeweller.

With that in mind, Griso was conceived as an architectural gem whose design focuses primarily on visual balance and a high level of living comfort. The heat pumps on the roof of the house were positioned in such a way that they cannot be seen from the street and operate particularly quietly.

TRUE LUXURY CALLS FOR CHARACTER

The four-storey apartment building meets the highest standards: a French-style garden, in-house parking spaces, cellar compartments and bicycle rooms for residents. In addition, there is a sophisticated heat pump system that allows individual control of the air conditioning and hot-water preparation in each residential unit. The system also allows residents to keep an eye on their energy consumption at all times and thus monitor their costs. A topic that has gained in importance over the years and is "a big plus for the users", as confirmed by the installer Josan Erens from Verwarming & Sanitair Erens BV (Bilzen), who was involved in the project.

The sustainable climate control of the house works as follows: the 14 heat pumps on the roof are connected to indoor units in the flats. Both a hydraulic system and a hot-water storage tank are integrated into the indoor units. A smart controller ensures that the hot water, underfloor heating and room cooling are optimised at all times of the day and year.

STRONG PARTNERS FOR RELIABLE SOLUTIONS

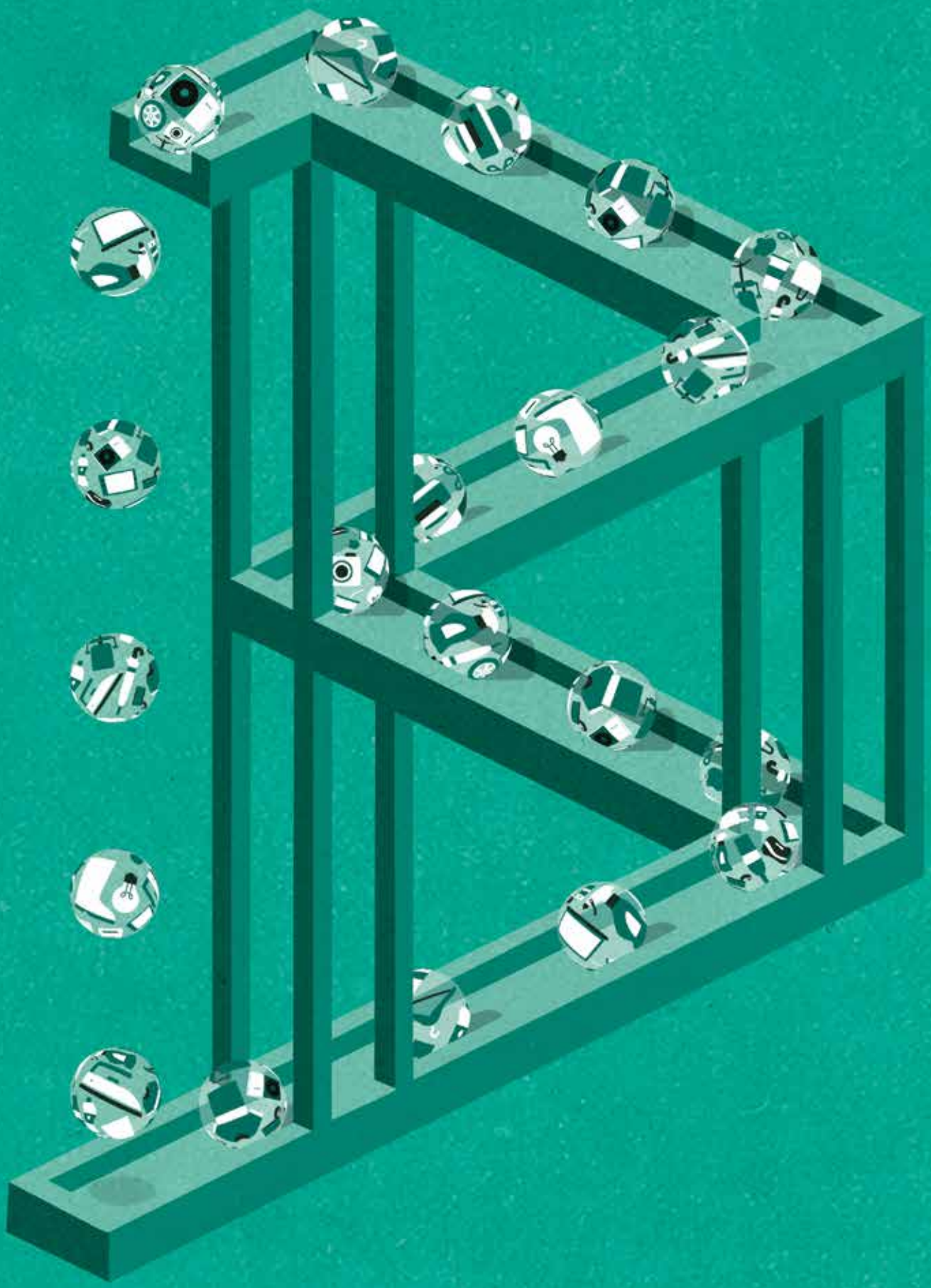
"We advised the people in charge of the project to choose this combination of technical components because the selected appliances are economical in terms of consumption, but also because they are compact and barely larger than a refrigerator, so they do not waste valuable storage space in the flats," reports Vaillant Account Manager Erwin Beerts. "And," he adds, "the high reliability of the products and the possibility of acoustic and thermal insulation were important decision criteria as well."

The installation partners who carried out the work were also satisfied with the choice. The Vaillant system was quick and easy to install. And reliable support and long-term security are guaranteed when it comes to maintenance and service.

Installer partner Josan Erens and Vaillant Account Manager Erwin Beerts

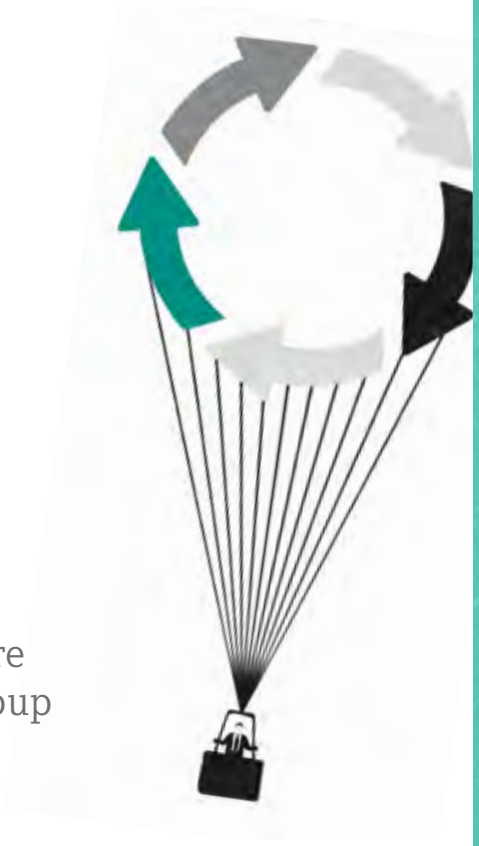
THE FAÇADE OF LARGE GLASS PANELS AND BLACK STONE SLABS CATCHES THE EYE

APARTMENT BUILDING
Sint-Truiden, Belgium



CIRCULAR ECONOMY

What goes around, comes around



Sustainable use of raw materials and more recycling within the EU – the Vaillant Group is preparing for this.

The global mining of raw materials is growing unabated. Should this not change, it would take three Earths to satisfy demand by 2050. At the same time, the amount of waste is constantly increasing – worldwide it is expected to grow by 70 per cent by 2050. The countries of the European Union alone generate more than 2.2 billion tonnes of waste every year. The EU therefore wants to gradually establish a climate-neutral circular economy. The framework for this is provided by the circular economy action plan and a stricter Ecodesign for Sustainable Products Regulation with specific legal provisions. This has consequences for companies and industries.

How does the circular economy work?

In contrast to the linear economic model – also colloquially referred to as throwaway culture – circular economy in practice is based on a more sustainable use of resources: a product is created from a raw material. Production is followed by distribution and the regular period of use. Nothing new so far. The product design, however, allows subsequent reprocessing or repair. This stage is followed by systematic collection of reusable materials and recycling. At the end of the process, there is once again a raw material that closes the circle. Resources and materials remain in the economic cycle. Disposal, incineration or landfill are delayed or, in the best case, can be avoided altogether.

Higher standards

"For the Vaillant Group, the circular economy action plan offers opportunities to create competitive advantages with innovative and more sustainable products and to strengthen resilience in the value chains," explains Senior Industrial Project Manager Andreas Hesener. In his capacity as project manager, he coordinates cross-divisional preparations with regard to future requirements for the company in line with EU regulations. "The way we utilise resources will change," predicts Hesener.

The upcoming regulation will of course result in new challenges. Up until now, the Ecodesign Regulation has mainly focused on the energy efficiency of technical appliances. In future, it will also focus on other aspects such as durability, reusability and the recycled content of plastics contained in products. Customers will also be given a legal entitlement to have their consumer goods repaired.

Additional reporting duties

"The entire life cycle of our products is affected, as well as data and information that must be provided due to extended reporting obligations," adds Enno Wiesner, Team Leader Value Chain Sustainability. He is responsible for reporting in the Circular Economy project team. An important task will therefore be to anchor awareness of product sustainability even more deeply. "Every area of the Vaillant Group will be impacted by regulatory requirements. Business processes will change as a result, whether in the design and development of appliances, the introduction of new packaging materials or the future selection of suppliers. And those suppliers themselves will have to fulfil the new standards," Wiesner continues.

A digital product passport, which is attached in the form of a QR code, will in future be used to provide information about the sustainability features of the respective product and make this in-

On average, a European consumes 14 tonnes of raw materials and produces 5 tonnes of waste per year. The latter value is roughly equivalent to the weight of a full-grown elephant. Many products and materials could be reused or repaired.

By the year 2030, all packaging materials in the EU single market are to be either reusable or recyclable.

formation clearly visible to consumers. This greater transparency will make it much easier for consumers to compare products. As a result, companies will have an incentive to differentiate themselves through greater sustainability.

Rules for packaging

Other reform approaches that are already well underway concern packaging and packaging waste. By the year 2030, all packaging materials in the EU single market are to be either reusable or recyclable. Furthermore, the EU plans intend to establish a market for secondary raw materials. The upcoming regulations on recyclability include reusability and refillability, a restriction on hazardous substances and the general avoidance of unnecessary packaging wherever possible. A transition to bio-based, biodegradable and compostable plastics is additionally envisioned for the future.

Good starting conditions

In view of this, it is good news that the Vaillant Group has had a comprehensive sustainability programme in place since 2011. The consideration of sustainability criteria in product development has been an integral part of this programme for many years. For example, the 6 Green Rules for product development are firmly anchored throughout the company.

They combine internal and external product requirements for energy efficiency and durability. The criteria apply to every product that the Vaillant Group develops. "With the 6 Green Rules, we have created a good foundation: we are already systematically calculating the carbon footprint and recyclability of certain reference products. This is a good basis to build on," says Enno Wiesner.

Efforts have only just begun

In order to meet the foreseeable additional challenges of a circular economy and to further strengthen the Vaillant Group's competitive position, project groups are currently working on a number of individual topics. For example, pre-development projects have been initiated in the area of packaging. The aim is to develop and introduce sustainable packaging concepts for Vaillant products. The first new packaging concepts for heat pumps will be launched on the market this year.

Sustainability experts are currently working with product developers to examine the areas in which materials and components can be combined and assembled in such a way that the materials can be recycled more easily. And they are evaluating options where the product design could be adjusted to make appliances repairable for a longer time.

The project team surrounding Enno Wiesner is working intensively on the new transparency and

In future, we will think much more in terms of value creation networks than we do today.

reporting provisions of the revised Ecodesign Regulation. Indicators for the sustainability of products such as recyclability, the proportion of recycled materials and reparability must be defined. In addition, these indicators must be identified and compiled both internally with the company and by using data from external partners and suppliers. As the IT infrastructures play a central role in project implementation, the relevant experts from this area of expertise are closely involved.

"As a company, we cannot create a circular economy on our own. It can only be achieved in partnership with our suppliers, specialist trade partners, customers and waste management companies," summarises project manager Andreas Hesener. "In future, we will think much more in terms of value creation networks than we do today. The work on the circular economy project has only just begun and it demands our long-term commitment."

EU circular economy action plan at a glance

The transformation to a circular economy encompasses the entire economic system: from value chains and product life cycles to more sustainable forms of production and consumption, waste management and the recycling of raw materials. Mandatory EU targets are to be set by 2030 to reduce the material and consumption footprint of EU member states.

The existing Ecodesign Directive will be expanded. The product-specific requirements will then include: durability, reusability, upgradability and reparability of products; the avoidance of chemical substances that prevent the reuse and recycling of materials; energy and resource efficiency; the recycled content of plastics; the CO_2 and environmental footprint; and a digital product passport.

PILOT PROJECT AND BLUEPRINT

A neighbourhood in southern Germany has been heating with hydrogen since the winter of 2023. The 100% hydrogen heating appliances come from Vaillant. Local installers have fitted the systems in the homes.

Hydrogen could contribute to the success of the energy transition. It can replace natural gas as a CO_2-neutral energy source. However, the prerequisite is that it is produced using an electrolysis process with electricity from renewable energies. One possible application for hydrogen is the environmentally friendly supply of heat to buildings. Utility companies and grid operators are therefore testing the transmission and storage of hydrogen in the existing natural-gas grid.

The companies Thüga, Energie Südbayern and Energienetze Bayern recently converted a street with ten private households and one small business in the Bavarian town of Markt Hohenwart to hydrogen. Such a conversion had not been done before. The fact that the small municipality embarked on the pilot project has something to do with ambitious climate targets. More than 30 million kilowatt-hours of electricity comes from wind mills in the community. Even neighbouring districts are being supplied. And since not every house is equipped with an electric heat pump, the question arose as to how the existing gas supply could be made more environmentally friendly.

Real-life test and operation

In order to answer this question, the residential area was disconnected from the rest of the natural-gas network during the course of the H2Direkt project. The same area was then attached to a hydrogen feed-in system. In the meantime, gas heaters that can be operated with hydrogen were installed in the detached and semi-detached houses in St.-Georg-Straße and in the nearby small business. With the exception of the flue gas system, most of the other gas fittings remained in place.

In technical terms, the switch to hydrogen corresponds to the experience gained from previous field tests under laboratory conditions. “The main difference is that we are in real-life operation here,” says Vaillant project manager Daniel Fox: “This means that existing installations are demonstrating how hydrogen-compatible they actually are.”

The fact that the residents of a street several hundred metres long participated in the refitting of their building heating is evidence of a high level of interest in hydrogen. The tenor of the homeowner families was: “If we can make a contribution to heating our buildings with cli-

mate-neutral gas in future – why shouldn't we do it?" An attitude that was shared by significantly more households than could ultimately be included in the pilot project.

Conversion in less than a week

The conversion of the pipeline section and the installation of the Vaillant hydrogen heating appliances in the residential buildings were completed in less than a week. In addition to a civil engineering company, several heating contractors from the region were involved. All specialised tradesmen received training on the new 100% hydrogen condensing boilers from Vaillant Germany in advance. The appliances differ from normal gas-fired condensing boilers in terms of combustion technology and flue gas routing, among other things. Dimensions, connections, controls and the integration of sensors, on the other hand, correspond almost completely to conventional systems.

The hydrogen supply of around a dozen existing buildings via an existing pipeline grid is unique in Germany. Accordingly, experts are closely monitoring the project. Markt Hohenwart is providing a blueprint for a transformation process. According to EU targets, the gas network should be 75 per cent decarbonised by 2050. In Germany, the aim is to achieve this target by 2045. Markt Hohenwart and H2Direkt show that the conversion of existing distribution grids and the conversion to 100 per cent hydrogen condensing boilers is feasible with comparatively little effort.

Hydrogen is injected into the existing natural-gas grid via a feed-in system.

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