EDITION 2018/2019

VAILLANT GROUP

Taking care ...

Corporate Carbon Footprint

Checking up on our environmental impact

Made in Germany

Growth with heat pumps

Five-year Partnership

Support for "SOS Children's Villages worldwide"

The Internet of Heating

Digitalisation at the Vaillant Group

...
of a better
climate.

Inside each home and the world around it.

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Vaillant GmbH
Berghauser Straße 40
42859 Remscheid
Germany

www.vaillant-group.com
info@vaillant.de

VC Corporate Communications
Phone +49 2191 18-2754
Fax +49 2191 18-2895

Design
gerlach & partner, Cologne

Photos
Mike König, David Clerc,
Stéphanie Fraisse, Katerina Ilievska,
iStock, Joachim Stretz,
studioraum GmbH, Vaillant Group

Illustrations
Sergio Ingravalle,
Konstantin Filonov/Shutterstock

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Contents

1,000
heat pumps in Norway

The Vaillant Group reached the annual sales mark of 1,000 heat pumps in 2018 in Norway. In Norway, heat pumps are among the most popular heating technologies. This is due to the high proportion of cheap electricity from renewable hydropower. Since 2018, a production line specially designed for this purpose at the Vaillant Group plant in Remscheid has been producing the series version of the Vaillant flexoTHERM heat pump designed especially for the requirements of the Scandinavian markets.

A record year for boilers in France

The French market for wall-hung gas heaters reached the historic sales mark of 581,000 units sold in 2018. This corresponds to market growth of around 7.5 per cent year-on-year. Due to its good market position, the Vaillant Group was able to achieve even stronger growth than the overall market. The plus was almost 12 per cent year-on-year.

2.5
BILLION EUROS

Sales record set by the Vaillant Group

Despite a partly challenging market environment, the 2018 financial year was extremely positive for the Vaillant Group. At over 2.5 billion euros, we achieved the highest sales in the company's history.

Growth was 6 per cent up on the previous year, and adjusted for currency effects even more than 10 per cent. Especially in the United Kingdom, throughout the Eastern Europe region and in the major markets in Southern Europe, sales development was very satisfactory.

Vaillant is one of Germany's best vocational instructors

The German business magazine Capital has examined the quality of education in the German economy. Around 700 companies participated in the study. Of these, 154 received the top result of five stars, including the Vaillant Group. Important criteria included the supervision of trainees and innovative learning methods.

Nine projects to reduce the ecological footprint

On a regular basis, the Vaillant Group S.E.E.D.S. Award recognises outstanding in-house sustainability initiatives. The last time, it was about reuse and recycling.

A team from Germany and Great Britain has succeeded in "saving" 45 tonnes of unused spare parts worth 1.5 million euros in the first implementation phase with the "Reverse Supply Chain" project. Excessive but impeccable spare parts that had once left the warehouse could not be stored again and were scrapped. With the creation of a new, separate warehouse for the service area and quality control before re-storage, this is no longer the case.

In Bozüyük, Turkey, employees of the Vaillant Group have implemented a new solution for all return deliveries. From a sustainability point of view, the possible marketing of returned products with minor blemishes, which were previously scrapped, deserves special mention.

An optimisation of transport routes also led to a reduction in delivery routes of around 10,000 kilometres.

In Spain, a team has succeeded in preparing both a refrigerant and antifreeze for reuse.

S.E.E.D.S. Award

Briefly noted in China

Installer competition

Vaillant is changing the Chinese heating technology industry, both with its products and its service quality. To further promote the image of the company and to make the Vaillant Training+ programme even better known, an installer competition took place, with 48 heating engineer teams registering for it. Ten newspapers and 70 online media reported on the event. The online broadcast in the social media came to over 66,000 clicks.

On the hike again!

In order to further increase the popularity of the Vaillant brand across the country, Vaillant China hosts a major walking event every year – this time in the Suzhou area and around Jinji Lake. 78 teams from 29 branches, Vaillant employees, Vaillant dealers and Vaillant customers took part in the hike at various locations between 4 June and 16 August 2018. At every turn the Vaillant brand was always visible on the clothing and equipment of about 1,000 hikers.

ISH China

With around 70,000 visitors, the ISH in Beijing is one of the most important fairs on the Chinese heating technology market. This year's introduction of new products also included interactive elements in the form of augmented reality and virtual reality. 37 media companies were present at the Vaillant press conference. In addition, Vaillant China hosted a dealer conference on the occasion of the ISH in Beijing. Around 650 dealers from all over the country took part in the event. Product training and sales training also took place throughout the conference.

Expansion of the Vaillant Group site in Trenčín

In September 2018, after one and a half years of planning and construction, the expansion of the Vaillant Group site in Trenčín, Slovakia, was successfully completed. The expansion doubles the production area. The plant produces more than four million modules per year, supplying the final assembly plants in the Vaillant Group's global production network. The company is one of the largest employers in the Trenčín region. The site currently employs around 900 people.

Around the same time in autumn 2018, a new brand experience centre opened its doors to visitors and customers at the Skalica site.

New headquarters in Hungary

In August 2018, the new Hungarian headquarters of Vaillant and Saunier Duval was inaugurated in Budapest. In addition to the open offices in modern design, the national sales company has a showroom for installers and end customers as well as training rooms at its new headquarters.

Vaillant has been active in Hungary since 1904. The local Vaillant company was founded in 1992, Saunier Duval followed in 1997. An estimated 500,000 Vaillant and Saunier Duval gas heaters currently supply Hungarian households with heat and hot water.

New CEO takes over

The Partners' Board of Vaillant GmbH has appointed Dr.-Ing. Norbert Schiedeck as the new Chairman of the Management Board of the company with effect from 1 May 2018. As Chairman of the Board, he is responsible for the corporate strategy, the expansion of the heat pump business, IT and various central functions. Until the position is filled, Dr.-Ing. Schiedeck also remains in charge of his previous tasks as Managing Director Technology. In this function he has been responsible since 2014 for, among other things, the departments Development, Production, Purchasing and Quality.

CASE ➳ COMPANY

Corporate Carbon Footprint

Every person and every household generates greenhouse gas emissions. A variety of factors come into play here – energy consumption, car journeys, consumer trends. While it is relatively easy to calculate the greenhouse gas emissions produced by individuals, this is a far more complex undertaking when it comes to a business with operations across the globe. Yet the Vaillant Group is doing precisely this.

Your day-to-day carbon footprint

It is not only companies like the Vaillant Group that have a carbon footprint: you, too, have an impact on the world around you, which contributes to climate change and accounts for your personal carbon footprint. It's worth thinking about which factors impact the environment – and how easy it is to play a small part in counteracting this.

Priority for gas and heat pumps

Even if you haven't calculated your personal carbon footprint, one thing is for sure: heating your home makes up a large share of your environmental impact. According to figures from the German Environment Agency, heating (and thus the emissions it generates) accounts for around 75 per cent of energy consumption in private households. The type of heating technology used makes a huge difference here. A 20-year-old oil-fired heater leaves behind a far greater carbon footprint than a new gas-fired condensing boiler or a heat pump, which runs on available environmental heat. You can improve your energy footprint even further by using your own solar system to generate the electric energy needed to operate the heat pump. Modern control technology can also help save energy. So when will you replace your heating system?

Commuting can also be (more) environmentally friendly

Are you one of the many millions of people who make their long journey to work by car every day? If you are, then you will know from your own experience: commuting is time-consuming, expensive, stressful – and harmful to the environment. However, there are ways to reduce your car's carbon footprint, even if you continue to drive as many kilometres as before. You can cut emissions by driving at a low speed. Turning down your car's air-conditioning system also helps protect the environment. Another way to improve your energy footprint is to look after your car: an engine that is serviced regularly is more economical. A last tip: lighten the load in your car – we're sure you'll find a thing or two in your boot that you don't need to be taking for a ride every day. This way you'll take some of the strain off both your car and the environment.

Climate change and its impact are burning issues. Global action is required if we are to successfully counter these developments. The resolutions made at the Climate Change Conference in Paris, COP 21, represent a significant milestone. Governments agreed to limit the increase in global average temperature to a maximum of 2 degrees Celsius. An ambitious goal which can only be achieved if governments, companies and private individuals assume joint responsibility for creating a better climate.

Internationally recognised: the Greenhouse Gas Protocol

The Greenhouse Gas Protocol helps large organisations make precise calculations of their greenhouse gas emissions. It is an internationally recognised standardised framework which sets out clear requirements for greenhouse gas accounting. From carbon dioxide and methane to hydrofluorocarbons. Many companies have adopted this method. This is also how the Vaillant Group calculates its own corporate carbon footprint.

Climate protection is an integral part of the Vaillant Group's core business, so to speak. The fact of the matter is that heating, hot-water generation and air conditioning are among the biggest household energy users. This is why the company never stops striving to make its products more energy-saving and environmentally friendly.

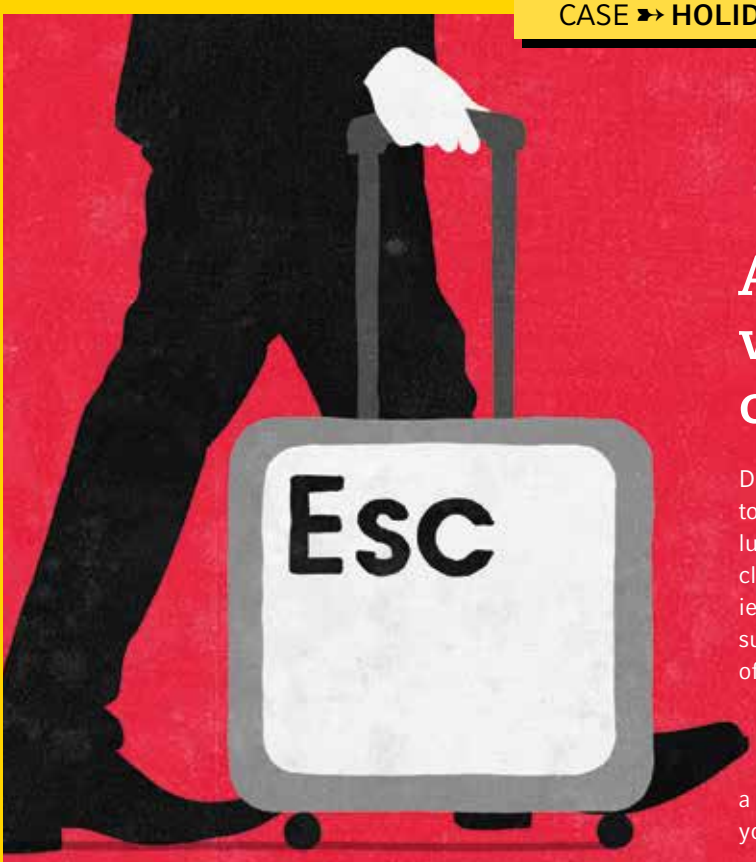
Since 2011 the Vaillant Group has also integrated the environmental aspects of its business operations into its strategy. A central sustainability management system and the S.E.E.D.S. programme form the core of this approach. The company sets itself binding goals in the four areas of Environment, Employees, Development & Products and Society.

"We've achieved a lot in eight years," explains Claudia Altenrath, who is in charge of sustainability management at the Vaillant Group. "We were one of the first companies to transform a comprehensive understanding of sustainability into a management system based on key figures." That garnered a fair amount of attention – and recognition: Vaillant received the B.A.U.M. Environmental Award in 2014. And was nominated for the German Sustainability Award. Finally, the Group was named "Germany's most sustainable large company" in 2015.

A further milestone was not far behind: the Green iQ product line which requires devices to meet strict sustainability criteria throughout the entire cycle, from production through to recycling. This was followed by the introduction of the 6 Green Rules at the Vaillant Group. These rules set out requirements which must be observed in the development and production process of all new Vaillant Group products in order to reduce their impact on the environment.

"We're looking to the future right now," Claudia Altenrath says, "we're adjusting our goals and setting ourselves new ones." The most recent project: examining the company's corporate carbon footprint to develop new climate-related goals. This will allow the Vaillant Group

CO_2 calculation in line with the Greenhouse Gas Protocol



A desire to travel – with undesirable consequences

Do you know the latest studies on the carbon footprint of the tourist industry? The findings may dampen your wanderlust: holiday travel is responsible for around 8 per cent of all climate-damaging CO_2 emissions worldwide. Current studies take into account factors which used to be overlooked – such as the CO_2 emissions generated during the production of aeroplanes or cruise ships. If you want to give something back to the environment, there are a wide range of carbon offset schemes to choose from. For example, you can neutralise the carbon footprint of your trip by supporting a project to protect the climate. Or, if you feel like a change, you could holiday at home.

Little paws, huge footprint

If you think that only humans have a carbon footprint, then you're barking up the wrong tree. Our four-legged friends also make their mark on the environment. The main reason for this is because our favourite pets are not vegetarians. Producing the meat for their food generates considerable emissions of gases that are damaging to the climate. Studies in the US revealed that the some 163 million dogs and cats living there alone are responsible for 64 million tonnes of CO_2 emissions. Hang on … responsible? The owners are the ones who should be concerned about the carbon footprint of their furry house guests. Whether they will succeed in convincing their four-legged friends of the ecological benefits of a vegetarian diet remains to be seen.

to determine what part it can play in limiting global warming.

Our goal: a quantifiable reduction in greenhouse gases

"We want to help climate protection move forward by making a direct contribution. Our plan is to reduce our greenhouse gas emissions," explains Jens Schulzeborgmühl, who has been Sustainability Manager at the Vaillant Group since 2015, taking on a leading role in the corporate carbon footprint project. But what path should be taken? And what steps are necessary to reach the destination?

The journey must inevitably start with a precise analysis of the actual situation. This is where the Greenhouse Gas Protocol comes into play: it accounts for a large range of factors which come together to generate the company's total greenhouse gas emissions. The whole process is divided up into a number of different areas.

The first step involves auditing gas and oil consumption and the Group's vehicle fleet. This accounts for emissions that are generated directly by the company. The second area looks at the Vaillant Group's electricity consumption and district heating. The third part of the review looks at indirect emissions which have an impact on the carbon footprint. "When we say indirect, we mean emissions that are not caused by the Vaillant Group itself. They are generated indirectly as a result of our activities, for example by our customers, suppliers and service providers," explains Jens Schulzeborgmühl. Although only partly responsible for these emissions, the Vaillant Group takes them into account in its calculations.

A review based on an in-depth analysis

The Vaillant Group consists of more than 100 subsidiaries and has sales companies in over 20 countries. The company operates worldwide in a total of about 60 countries. Some of the national sales companies are small. Their share of the corporate carbon footprint therefore carries less weight. "So when it came to measuring oil, gas and electricity consumption, we initially only reviewed data from the national sales companies with the highest turnover and the largest floor space," Jens Schulzeborgmühl explains. The following national sales companies were selected for review: Austria, Belgium, China, the Czech Republic, France, Germany, Italy, Spain, Turkey and Great Britain. The data collected was then used to make a projection, which took into account all of the Vaillant Group's national sales companies.

Production, administration and the test centres account for a particularly large share of electricity consumption. "In general, the manufacturing sites already track their consumption very carefully, so we have a good pool of data," explains Jens Schulzeborgmühl. "However, it was necessary to collect data separately at the various national sales companies."

Indirect factors have a major impact

Determining the amount of indirect emissions can be a very complicated process. For instance, the Vaillant Group's products emit CO_2 in their later use. The production and delivery of raw materials and other materials purchased by the company also generates emissions. Even the exhaust emissions from the cars and other means of transport used by employees to get to work every day are included when calculating the corporate carbon footprint.

Products sold by the Vaillant Group which are later used in private households are of crucial importance to establishing a comprehensive carbon footprint. Analysing these products involved making various assumptions about the entire product spectrum, taking into account sales figures and the average consumption of the devices throughout their usage phase.

The audit also took into account products, components and materials purchased by the Vaillant Group as well as

Around 760,000 CO_2 data points collected in the company

services it used, as it is also possible to determine their share of the carbon footprint. In the case of raw materials such as steel, copper or aluminium, the conversion process is generally based on weight. When it comes to services, the Greenhouse Gas Protocol examines sales figures. Each euro generated by sales is multiplied by a CO_2 factor.

Other factors included in the calculation of the carbon footprint are transport, distribution and logistics. The measuring process takes into account aspects such as supply chains between the plants, delivery at the warehouses and incoming inventories. A distinction is made here between deliveries made by road, rail and sea. The calculation of the carbon footprint naturally also includes disposal or recycling of waste, as well as the impact of business trips and the aforementioned emissions generated by employees commuting to work.

Efforts that reap rewards

"Taking care of a better climate. Inside each home and the world around it – this is at the core of our corporate vision at the Vaillant Group. And we want to make it possible to measure our contribution. This is the goal we've set ourselves," explains Claudia Altenrath, Head of Sustainability Management.

"To achieve this, we surveyed, collected and evaluated over 760,000 data points over a period of six months," Jens Schulzeborgmühl adds, summarising the efforts made so far. While most of the findings were as expected, there were a few surprises.

As with all industrial manufacturing companies, a large share of energy consumption and the related emissions can be attributed to the manufacturing process itself, the operation of test rigs and the heating of plants and administrative buildings. Making savings, boosting efficiency and using electricity from renewable sources, as is already the case at 100 per cent of German sites, are all ways to further improve the carbon footprint in the future. A second strategy is to cut the fuel consumption of the vehicle fleet or increase the number of electric vehicles.

Looking beyond the boundaries of the company to survey the numerous indirect factors was at times an even more extensive task. Company-wide procurement activities alone accounted for a set comprising 680,000 data points. Over 70,000 data units could be attributed to the Group's product portfolio. Business travel in 15 countries, on the other hand, "only" accounted for around 2,000 individual data points. (It became clear that there is a tendency to intuitively overestimate the emissions caused by travel.)

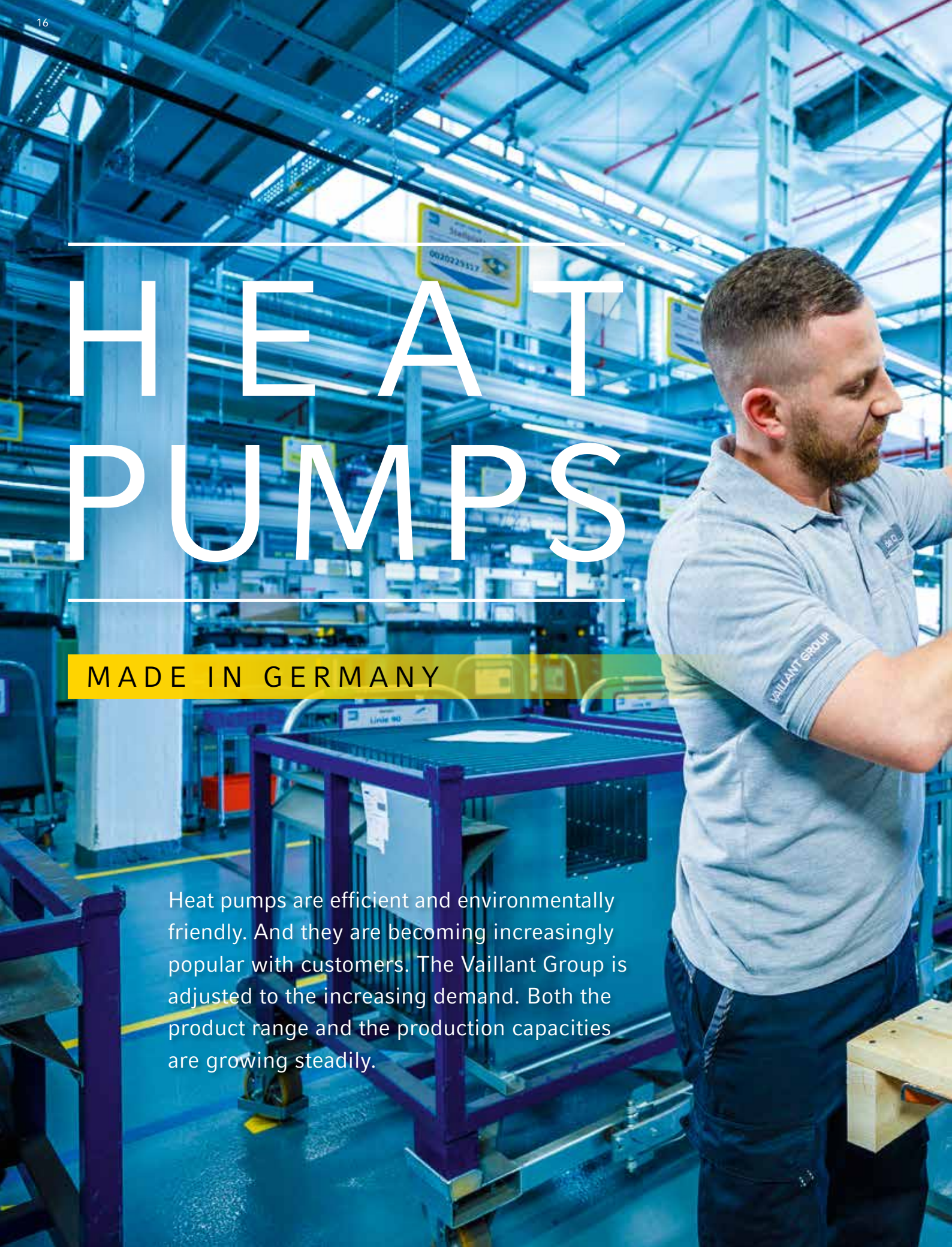
The data once again confirmed a key finding: equipping buildings with modern, energy-saving heating technology plays a major role in climate protection. Buildings are one of the most significant factors when it comes to reducing greenhouse gases, as they house heating and hot-water devices which are in operation for many years. Using state-of-the-art equipment would mean coming much closer to reaching climate protection goals than currently is the case.

"After almost ten years, we have to develop new goals. As part of our S.E.E.D.S. programme, we originally set goals up to the year 2020," summarises Claudia Altenrath. "The next step is S.E.E.D.S. 2030." This means: pinpointing the goals that have not yet been fully reached and continuing to work towards them; and if goals have been achieved, developing new and more ambitious ones. Calculating the corporate carbon footprint and reducing it are part and parcel of this – and demonstrate the Vaillant Group's ambition as a company to take responsibility for creating a better climate.

The next step is S.E.E.D.S. 2030

Loyalty protects the climate

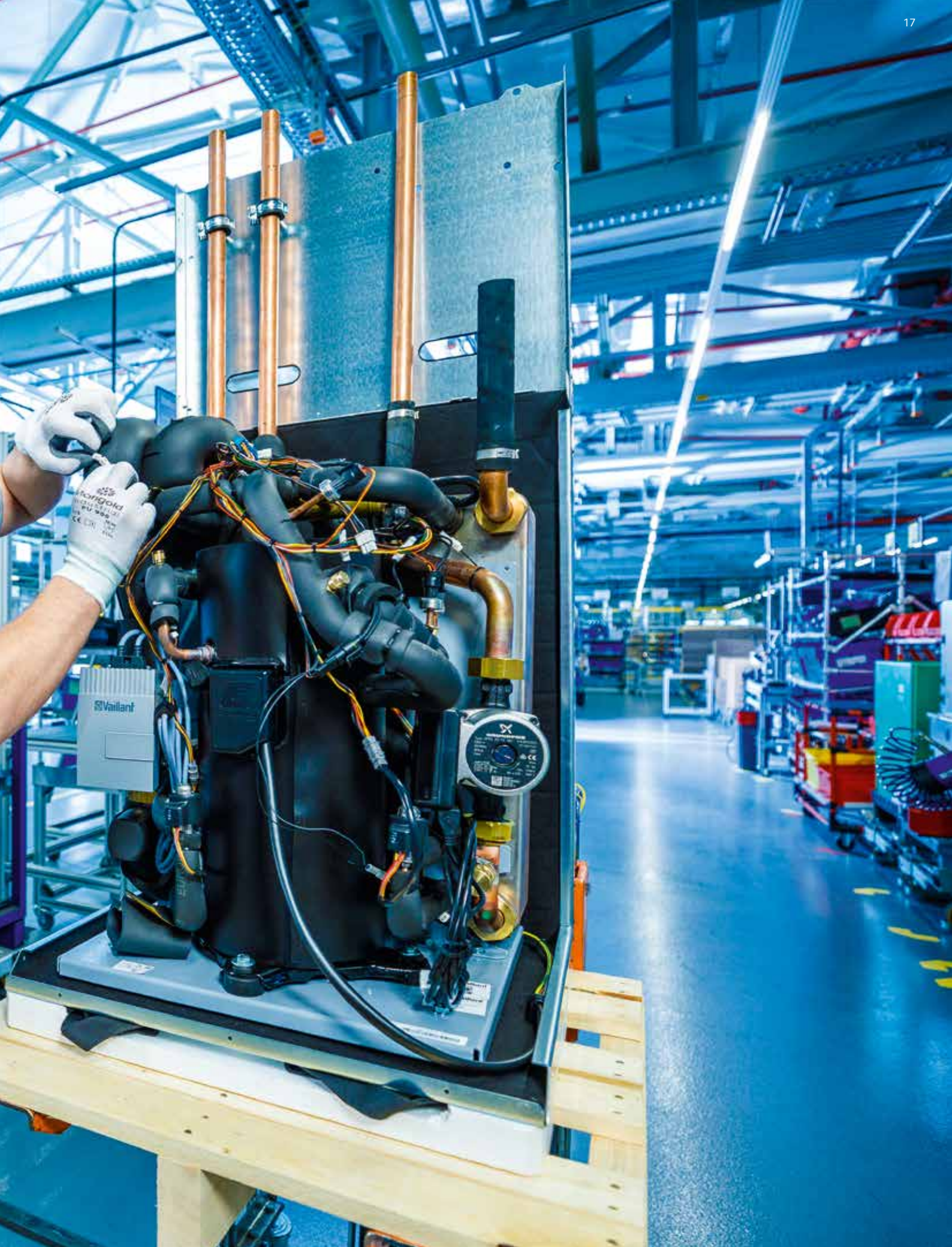
As you will know from experience, talking on a smartphone can make your ears burn. But these versatile devices do not just heat up body parts – they also have an indirect impact on climate warming: around 30 rare metals are needed to produce them, such as gallium, gold, lanthanum, yttrium, wolfram and cobalt – and extracting these materials is an extremely energy-intensive process. This is why smartphone manufacturers are striving to reduce their "ecological rucksack". You, too, can do your part to reduce the carbon footprint of smartphones: stay loyal to your current device for as long as you possibly can.



HEAT PUMPS

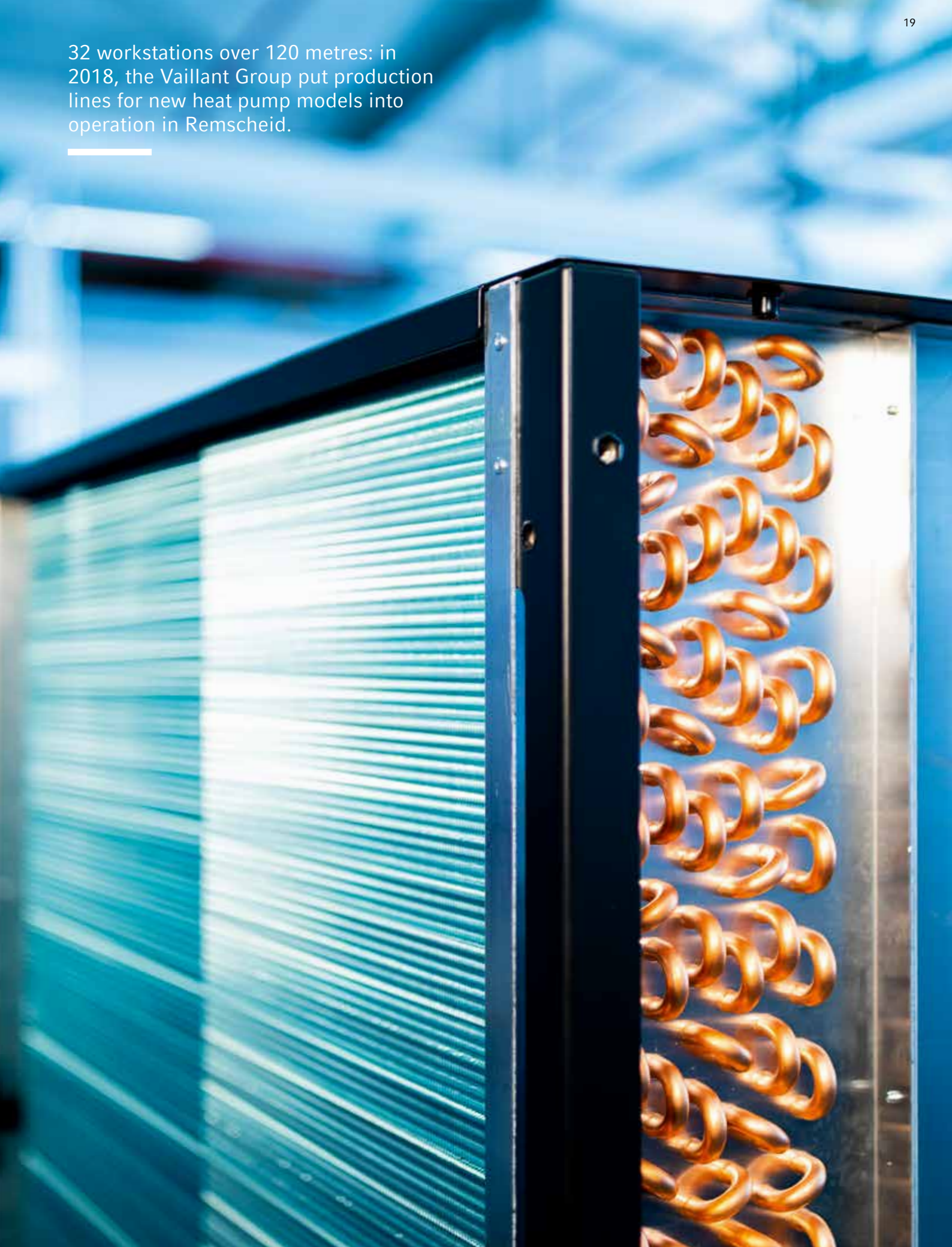
MADE IN GERMANY

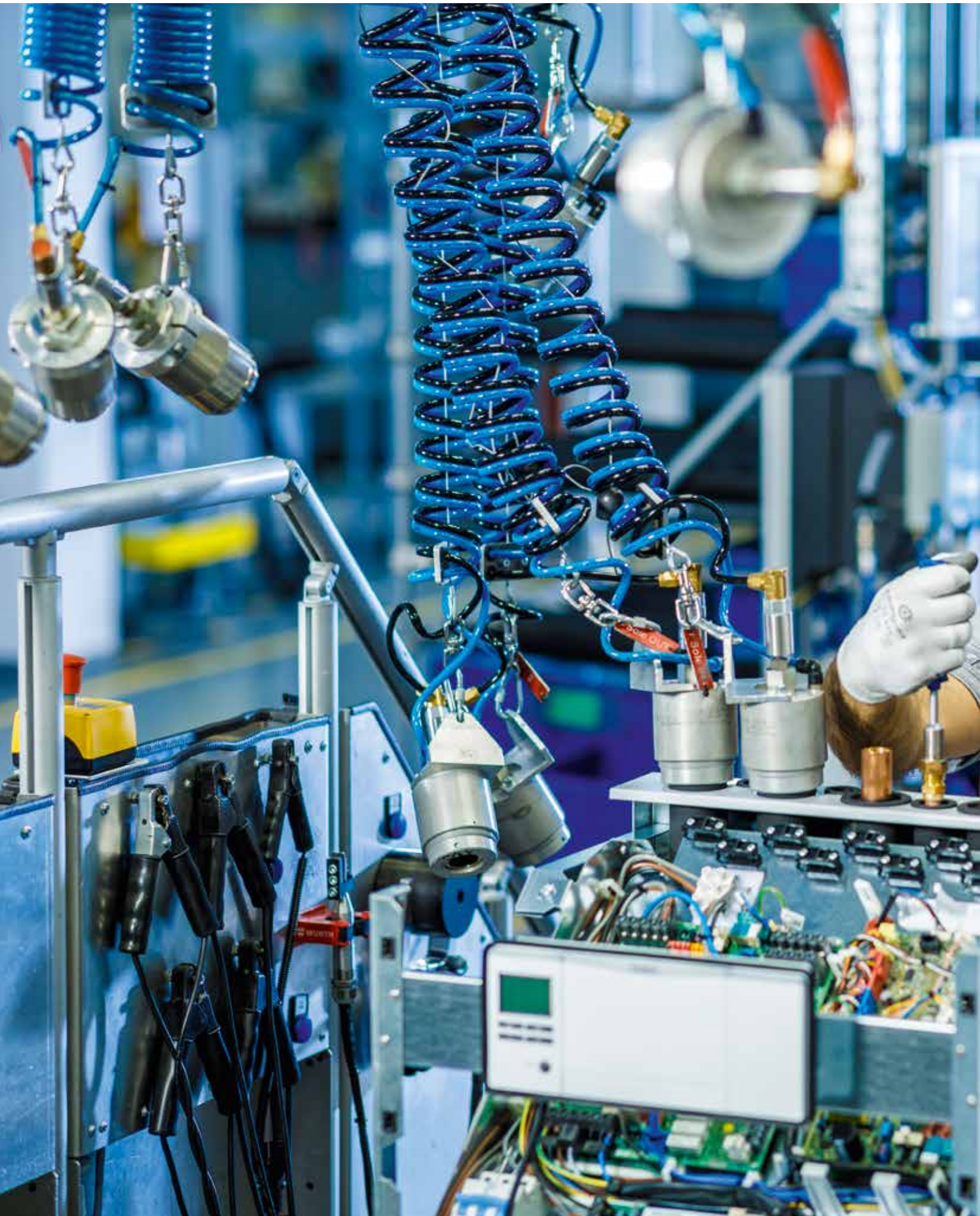
Heat pumps are efficient and environmentally friendly. And they are becoming increasingly popular with customers. The Vaillant Group is adjusted to the increasing demand. Both the product range and the production capacities are growing steadily.


Vaillant


Mapa

32 workstations over 120 metres: in 2018, the Vaillant Group put production lines for new heat pump models into operation in Remscheid.





The Vaillant Group pools most of its heat pump production capacity at the Remscheid plant. Heat pumps are also made at the Nantes plant.

The Remscheid plant, where copper pipes were once moulded into shape, has been the home of new, state-of-the-art heat pump production lines since 2018. These production lines, which measure 120 metres in length and comprise 32 workstations, are where the new Vaillant heat pump models recoCOMPACT exclusive and versoTHERM plus are made. The two models serve different segments and thus supplement the Vaillant Group's heat pump portfolio. Both heat pumps source energy from the ambient air. The indoor recoCOMPACT exclusive is a compact all-in-one solution compris-

Great all-rounders: heat pumps can be easily expanded using other components. And when they use green electricity from a solar system, they are nearly carbon-neutral.

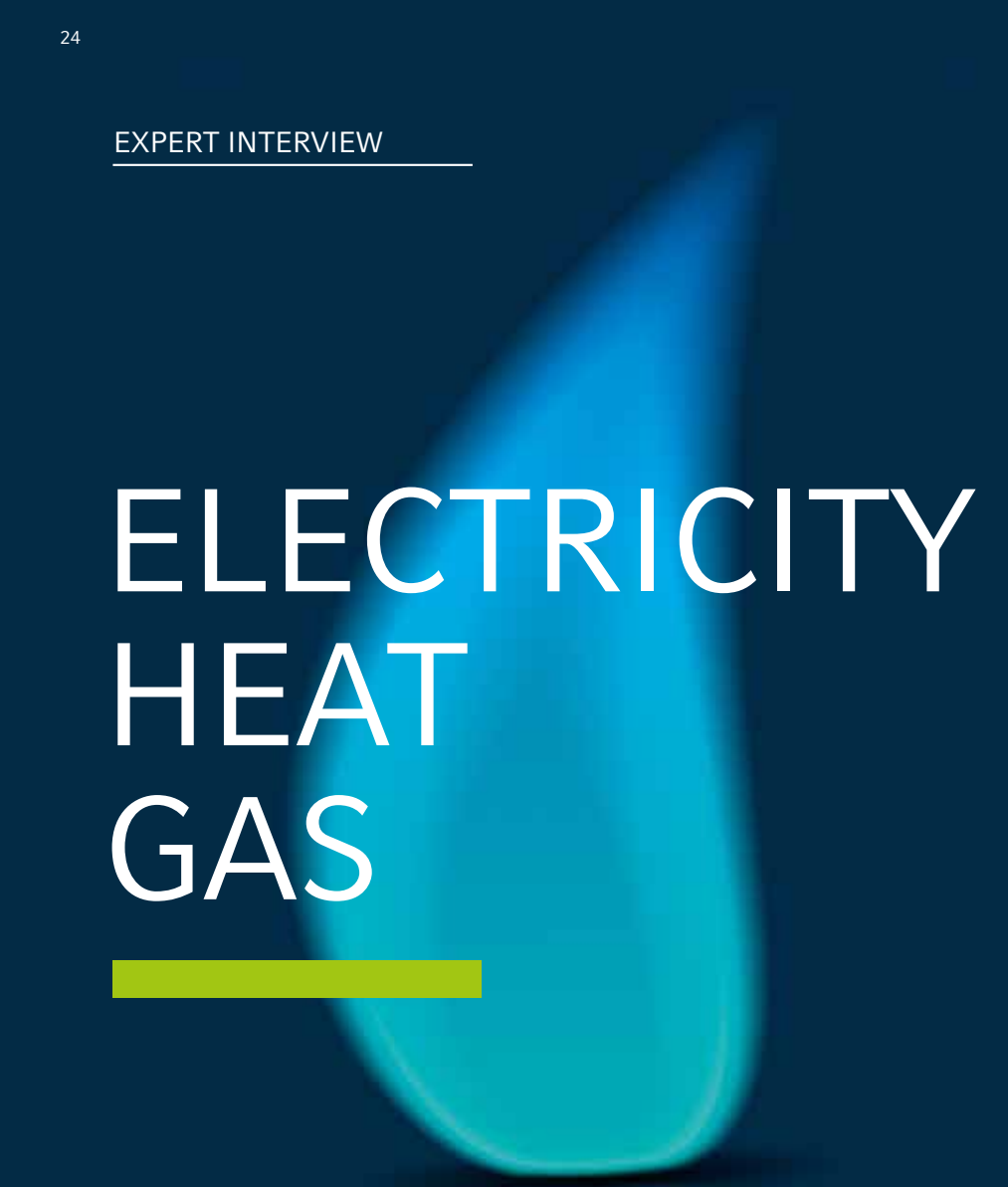
ing a heat pump, a hot-water storage and a ventilation unit. It supplies heating, hot water and fresh air, not to mention cooling if desired. The versoTHERM plus is also an indoor model and can be flexibly combined with further components to create a customised system. Both systems are, of course, compatible with photovoltaic technology.

In order to meet growing customer demand from the various market segments, the Vaillant Group is continuing to expand its heat pump portfolio in 2019. At the ISH trade fair in Frankfurt am Main, Germany, the new aroSTOR hot-water heat pump and the aroTHERM plus monobloc air-water heat pump were unveiled to a specialist audience. These two models are the first to use the natural refrigerant R290, enabling high flow temperatures and high hot-water temperatures. As a result, these two heat pumps are ideal for modernisation projects.

The Vaillant Group's goal is to occupy a market position in the heat pump segment that is as strong as the one held in the field of efficient gas technologies.

EXPERT INTERVIEW

ELECTRICITY HEAT GAS



Climate protection is a worldwide challenge. What is the significance of heat supply with electricity and gas in our buildings? We spoke with the expert Prof. Marc Oliver Bettzüge. His observation: climate protection is in conflict with other social goals.

→In your research, teaching and publications you deal with energy markets, energy and environmental policy and climate protection. Is the latter on course?

←No. Globally, greenhouse gas emissions continue to rise at a rate of almost 3 per cent per year. Humanity continues as it has done before – it gives higher priority to the growth of wealth and the population rather than the effective limitation of fossil resources.

→Do you expect complete decarbonisation by 2050, an objective formulated in COP 21?

←Providing humanity with sufficient energy without resorting to fossil fuels is far more of a challenge than is often assumed in the political debate. In particular, if you continue to increase the material wealth of a growing population and want to renounce nuclear energy if possible. Climate protection undoubtedly conflicts with other social goals. These conflicts of interest must no longer be taboo but must be dealt with actively.

→The energy transition and climate protection are global challenges. What are the respective responsibilities of politics and of businesses?

←Ultimately, climate protection means effectively rationing the production and consumption of fossil fuels. Such a restriction can be enforced only by the monopoly of power of the states and in a concerted action of the world community of the states aimed at cooperation and compensation. Citizens and industry can contribute by facilitating such rationing for state decision makers: through changing consumer demands on the one hand and through improved technologies and services on the other.

→The Vaillant Group is a company in the heating technology industry. In your opinion, what is the relevance of the building sector with regard to the international energy transition?

←Buildings account for a significant proportion of greenhouse gas emissions, depending on the country and climatic zone; directly by heating and cooling, indirectly by the power consumption caused. Therefore, the sector is very

relevant for the targeted reduction of emissions. In Germany, for example, the building sector has achieved the largest reduction rates of all sectors since 1990. This, if you like, pioneer role could be further expanded.

→What concrete potential do you see in the building sector and in the building energy supply in order to contribute more to resource efficiency and climate protection?

←In the short term, there are a large number of refurbishment measures that could virtually carry themselves through saved energy costs and also reduce emissions. For example, in Germany alone, there are around 13 million oil and gas heating systems that do not match the state of condensing technology! In the long term, there will be even greater room for manoeuvre, from the replacement of existing buildings with new buildings to resolutely developed settlement plans from a sustainability perspective. At the same time, for example, society will have to rethink its demands for ever-growing per-capita living space.

→Should one look at buildings in isolation? What significance does sector coupling have? What opportunities does the convergence of electricity, heat and traffic offer?

←Especially important is the intelligent interaction of electricity, heat and gas. On the one hand, the final energy carriers heat and gas can absorb excess amounts of electricity from simultaneous wind and PV generation. On the other hand, the gas network is permanently necessary to secure the power supply at any time – even on a windless night. The improved interaction between the respective infrastructures is therefore of great importance. As heat – as an energy source – is decentralised, local optimisation is becoming increasingly important and much of it will have to happen in the buildings.

→"All electric" was a buzzword that was heard often in recent years. Is such a scenario even possible? Or is technology openness more meaningful?

←"All electric" seems to me – on the level of the final energy sources – to be a mirage, especially if one relies exclusively on power generation from wind and solar power plants. Humanity will not want to do and cannot do without storable energy carriers with high energy density for various reasons. Therefore, according to current knowledge, hydrogen will play a central role.

→Is there an alternative? Can "green" gas be a building block in the energy transition at all?

←The recently published dena lead study, strongly supported by our institute, gives an impressive answer: even under optimistic conditions, Germany will only achieve the climate goals of the Federal Government for the year 2050 if "green" gas is used to a considerable extent – and, above all, imported.

→How do you heat privately?

←We live in a multi-family house built in 2013, which is powered by a solar-assisted gas-fired condensing heater.

PROFESSOR MARC OLIVER BETTZÜGE

has been Professor of Economics at the University of Cologne since 2007 and Managing Director of the Energy Economics Institute at the University of Cologne (EWI). In addition to his management responsibilities, Prof. Bettzüge deals with institutional and economic issues of the energy industry and energy policy.

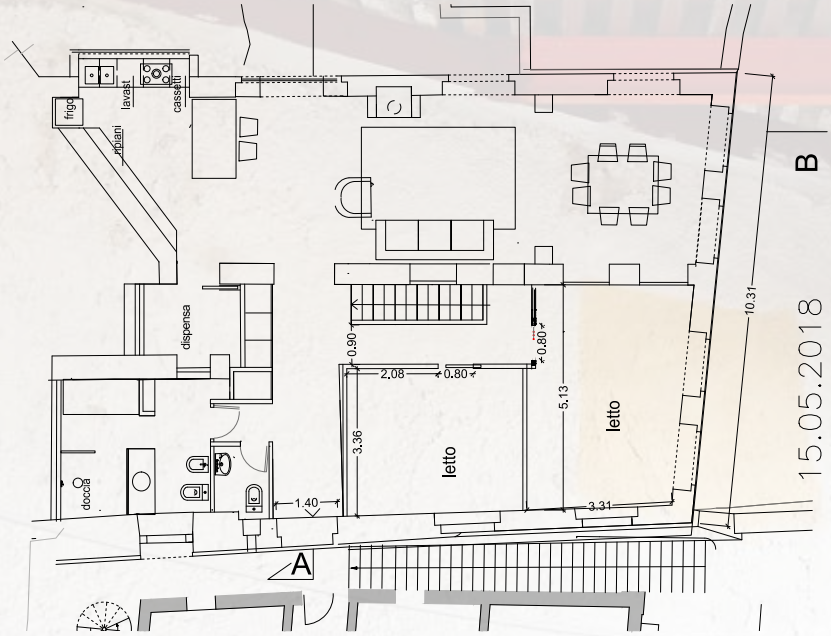
From 2011 to 2013 Prof. Bettzüge was a member of the Enquete Commission "Growth, Prosperity and Quality of Life" of the German Bundestag. He also participates in a wide range of committees and advisory boards.

After studying mathematics and economics at the Universities of Bonn, Cambridge and Berkeley, Prof. Bettzüge completed his doctorate in Economics with a thesis on "Financial Innovation from a General Equilibrium Perspective". He then worked as a researcher at the universities of Bonn and Zurich and as a management consultant for internationally renowned consulting firms. Prior to his appointment to the University of Cologne, Prof. Bettzüge was Partner and Managing Director of strategy consultancy The Boston Consulting Group.

REPORT

“LA FAMIGLIA”

Why would somebody want to renovate the remains of ancient ruins from the 15th century in order to make it into a home? … For the family!



In the heart of Naples lies an oasis of green. More specifically in what is known as the "upper city": Vomero, the 13th district of the southern Italian port city. From here, fantastic vistas open out over the ancient city of Napoli, or the "lower city", and to the Gulf of Naples, the port and the sea. Perched high above the sea on Vomero hill, towering over everything around it, is Castel Sant'Elmo, with the Certosa di San Martino monastery complex just below it. And somewhere between the two sit the remains of a 15th century building.

Vomero and Napoli have been connected by funicular railway, the Funicolare, since the 19th century. Before then, Vomero could only be reached on foot via a series of stairs. These are still the only two ways of arriving at the complexes at the top of Vomero hill to this day. The same goes for Umberto's house, which he bought 25 years ago. He still lives there today, together with his children and grandchildren, a family of three generations. A little rental house to his left is home to his son Giovanni together with his wife Janine and two-year-old Umberto Rio. To his right: a former ruin that no one ever imaged would be inhabited again.

But why would somebody want to buy and restore a completely rundown ancient ruin? Giovanni has been asked this question numerous times. "La famiglia" is his reply, but it goes deeper than that.

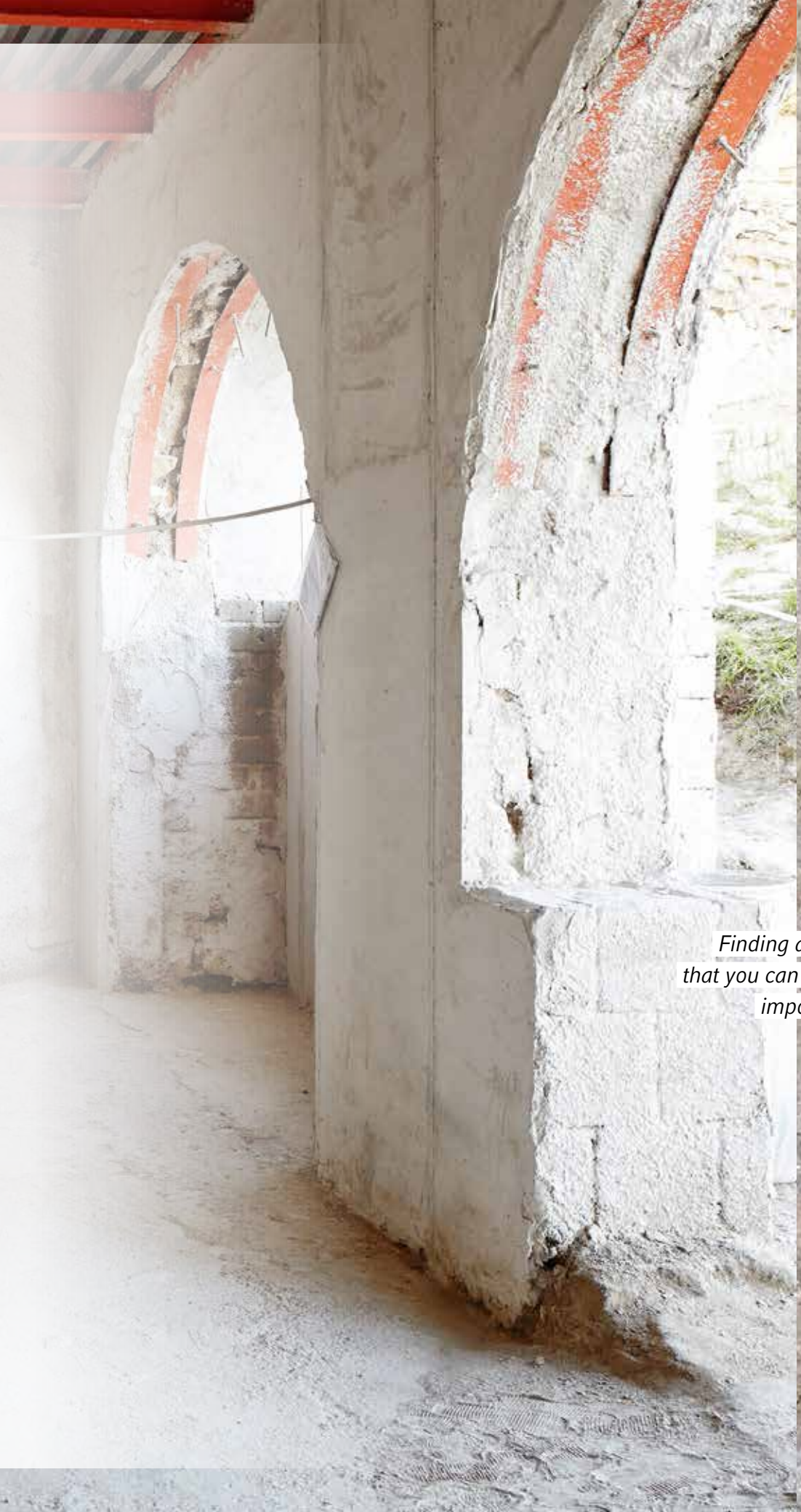
How it all began: since he was a child, Giovanni had been fascinated by plants. Aged four, he already had his own little plot in "mamma's" vegetable garden, where he could sow pumpkin seeds and watch them grow before harvesting them. Having a vegetable garden and being somewhat self-sufficient was part of everyday life for the family.

Giovanni was 15 years old when his father bought the house in the Vigna di San Martino, a vineyard found below the Certosa di San Martino on Vomero hill. All of a sudden, he was surrounded by seven hectares of vineyards as well as olive groves, citrus trees and also farmers, whom he helped and was able to learn from. His route home always took him past the ruin. Even back then, he would say to himself: "I'd like to live here when I have a family."

Giovanni went on to pursue his passion by studying botany. He then joined his parent's company and travelled the world on business. In South America, the Italian met his now wife Janine, a German with Portuguese roots. Back in Italy, the search for the right house, or an apartment with a garden, proved unsuccessful for two years. "Finding a house with a garden that you can make your own is almost impossible in Naples," explains Janine. Giovanni then made a decision: "Time to make dreams come true."

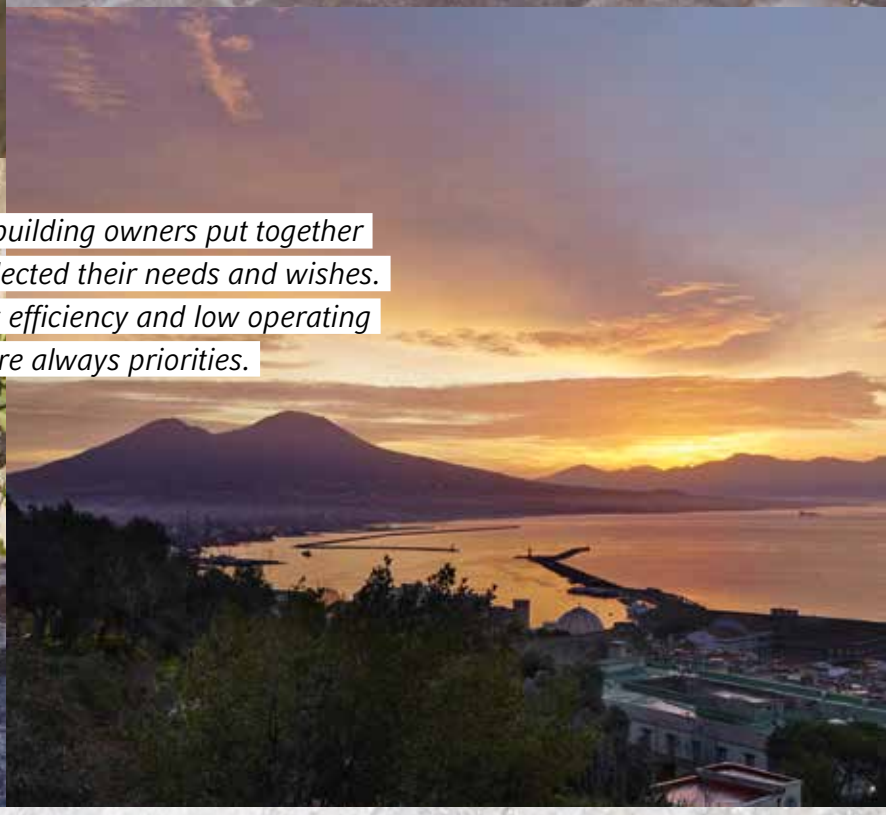
Fulfilling a dream

Giovanni set out on a renovation project like no other. After speaking to architects, engineers, even historians and, just to be on the safe side, also lawyers to make sure that the remnants of the building could be restored in spite of the many restraints imposed by monument protection, he bought the ruin next to his parent's house. Then came a nasty surprise: "We were allowed to restore the building as long as we complied with very strict rules. But we could only live there if we were able to prove that it had already served as living quarters in the past," says Janine. After six months spent going through old documents, the couple finally found what they were looking for: monks from the monastery had used the ruin as their lodgings, and a certain Mandara family had also once lived there.



Finding a house with a garden that you can make your own is almost impossible in Naples.

During the restoration of the ruin, the restrictions that came with monument protection had to be considered.



We helped the building owners put together a system that reflected their needs and wishes. Ensuring energy efficiency and low operating costs are always priorities.

The couple had managed to get Antonio Gravagnuolo on board as their architect, an expert with vast experience of working on listed buildings. One of his biggest projects saw him help reconstruct the medieval village of Castello di Postignano in Umbria, which had been completely destroyed in an earthquake.

There were a couple of things that posed a particular challenge during the restoration of the ruin: the restrictions that came with monument protection and the location in the poorly accessible vineyard. The ruin had to be rebuilt in precisely the same way using the exact same materials. That meant that any stones removed from the round arches of windows and passages or from the walls had to be numbered so they could later be reassembled in exactly the same way as before. And this despite the fact that the stones were then rendered (using a completely natural lime-sand mix due to the building's protected status). It was at this stage at the latest when one thing became very clear: the project needed a dedicated manager. Building owner Giovanni handed in his notice at work and took one year of "construction leave".

Transporting the building materials and products was a daily challenge on the building site. "There are no roads leading right to our door," explains Giovanni. The funicular wasn't an option. And carrying all of the necessary materials up 150 steps was also not going to work. The builders rented a special climbing truck that can move up a flight of stairs. "During the entire construction period, there was always one person in charge of getting supplies up and down the stairs," reports Giovanni.

As it turns out, a few kilos were able to be cut from these supplies as a number of historical, original floor tiles were unearthed during the digging and able to be salvaged in one piece. The bright tiles with their typical Neapolitan patterns now form part of today's interior design. When doing the groundwork, hundreds of little medicine bottles made of brown, green and white glass were also dug up – an indication that the ruin had, at some point, also been used by the monks as a pharmacy. After a good clean, the little bottles serve not only as a historical memento, but also as a vibrant connection to the ruin's former past, adorning kitchen shelves or being used as little vases.

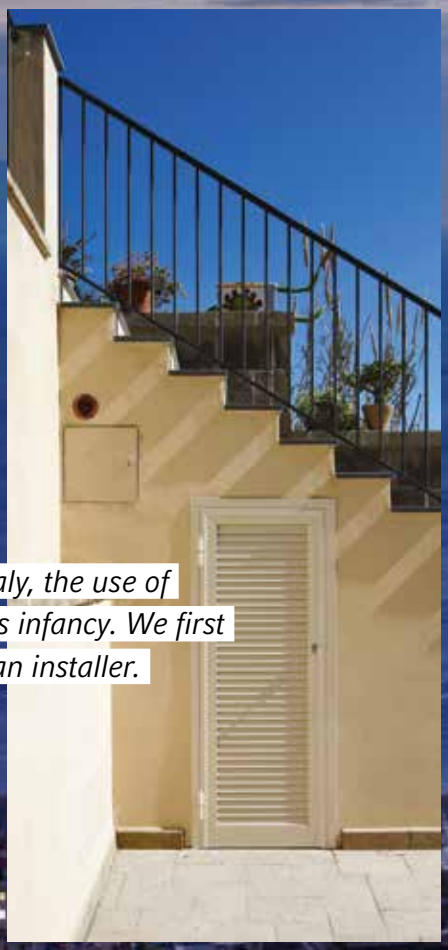
An additional solar thermal system supplies hot water.

Energy self-sufficient where possible

In keeping with their attitude to life and the importance they place on nature, Janine and Giovanni always knew that they wanted their new home to be energy-efficient and sustainable, drawing on eco-friendly technologies to generate heating, cooling, hot water and electricity. They wanted to combine monument protection and innovative home technology in the best way possible. Both the architect and the interior designer offered suggestions. This was around the time that contact was made with Vaillant in Italy.

The building owners received plenty of advice from Vaillant. Fabio Gallucci, Product Marketing Manager at the Italian sales company, recalls: "We helped the building owners put together a system that reflected their needs and wishes. There are always a number of ways in which technology can be used. It all depends on the individual requirements of the project in question. Ensuring energy efficiency and low operating costs, however, is always high up on the list of priorities."

In the end, a hybrid system was chosen that combines an air-water heat pump, free of CO_2 emissions, with a gas-fired condensing boiler. In addition, a thermal solar system with a solar collector subtly integrated into the garden provides hot water. "For us, it is important that we always have plenty of hot water to be able to take showers." Building owner Janine knows that they use more hot water than the average household. This is largely due to the fact that she often has guests to stay from her large, international circle of friends and relatives.



In Southern Italy, the use of heat pumps is in its infancy. We first had to find an installer.

"The Vaillant solution won us over thanks to its environmental and economic benefits," explains Giovanni. "The heat pump keeps the rooms warm most of the year. If there's not quite enough environmental heat in winter, heat pumps usually also need electricity. But not our system. Ours then automatically triggers the gas-fired condensing boiler, which is really cost-efficient as gas is quite cheap. And our carbon footprint is still reduced, despite using the fossil fuel, especially considering how much CO_2 is produced in Italy for generating electricity."

The building owners were also impressed with how easy it is to manage the entire heating and cooling system. "We can programme and adjust everything from home as and when we like. All we need is a Wi-Fi connection."

An eye to the future

"Unfortunately, the current regulations for monument protection do not permit the use of solar cells for producing electricity," says Janine. "But that might change at some point. Our system is set up to be able to incorporate photovoltaics in the future."

Underfloor heating distributes the heat in the rooms. As modern heat pumps not only heat but can also cool, corresponding fan coil units were installed in the ceiling. Only the ventilation grills are visible. "This meant we didn't have to install an extra, more expensive air-conditioning system to keep the rooms cool on hot summer days."

The building owners were creative in their positioning of the gas-fired condensing boiler. It was installed outside, under the steps to the terrace, then walled in and fitted with a door to protect it against wind and weather. "This gives us more living space."

In Southern Italy, the use of alternative energies is still very much in its infancy. Giovanni: "Vaillant provided us with a wealth of advice relevant to our specific needs. However, Vaillant doesn't employ any technicians to install the systems, and heat pumps are not commonplace in Southern Italy. We first had to find an installer who was able to fit this kind of system." His determination paid off. In the end, after speaking to Vaillant, a competent installer was found in the local region.

Tradition meets modernity

At least in terms of interior design, the building owners were relatively unobstructed by the building's listed status. Despite this, they still wanted to combine old structures with new, modern elements also inside their new home. They chose colours that fit in with the nature of the vineyard. The nooks and crannies formed by the old walls have been turned into practical seating or custom-made shelves. Throughout the project, it was important to the owners that regional and traditional materials and suppliers were used.

In March 2019, after a year and a half of construction, the time had come. The young family could finally move into their listed, restored ruin, complete with a garden perfect for planting tomatoes and conducting horticultural experiments. Someday, they hope to become even more self-sufficient by integrating solar power without being hindered by monument protection. After all, the conditions in sunny Southern Italy are ideal.

API DEVELOPER PROGRAMME

THE INTERNET OF HEATING

The process of digitalisation does not stop at the heating technology industry. On the contrary. Ten years ago, the core focus was developing, manufacturing and selling heating appliances. This has changed. Today, the Vaillant Group's day-to-day operations also include software development, IT services and data-driven business models.

This presents both an opportunity and a challenge, as the transformation of a traditional industrial company into an industrial and technology company does not just happen by itself. Active measures are needed to ensure its success. Digitalisation is opening up competition and sectoral boundaries. The partners of yesterday are perhaps the competitors of tomorrow (or vice versa). And young companies are entering the market with unconventional mindsets and flexible ways of working. Sometimes so much so that they aim to transform entire sectors.

Digitalisation has made the ability to create innovative products in a short space of time more important than ever.

»We not only offer our customers our heating appliances and connectivity products on a one-off basis, but also provide an ongoing data-based service.«

Philipp Fudickar
Head of IoT Team

The Vaillant Group's API Developer Programme is the most recent example of just how far the Group's products and services have evolved beyond mere heating appliances. Sometimes the company has to enter uncharted waters, and this was one of those times: developing a purely digital service, which is still a rarity in the heating technology industry.

The nerve centre of digitalisation

Office building no. 9 is located just a minute's walk from the Vaillant Group's company headquarters in Remscheid. In the basement, around 30 programmers and software and IT developers are hard at work, spread over two large areas. They belong to what is known as the IoT (Internet of Things) team, which mainly looks after IT services or creates new ones. It does not take long to notice that this is no classic office environment. Lines of colourful programming code flicker against a black background on the numerous monitors dotted around the room. A number of screens have been turned on their side. Colourful post-its decorate the walls, detailing the status of ongoing projects and tasks. The room is full of hustle and bustle. People chatting and sharing ideas. Work is collaborative, the atmosphere informal. There is no manager's office. Instead there are two foosball tables, IKEA chairs and lounge areas with bright cushions.

To the unknowing observer, this may look a bit like a mixture between a start-up and a co-working space. It is, however, one of the nerve centres of the Vaillant Group's digital transformation. The birthplace of products and business models which go beyond the classic production of heating appliances. In some cases, they have very little to do with the Group's traditional business at all. The IoT field is a new area of growth for the Vaillant Group. The software is the product here.

Mirko Meier explains what is happening behind him in the room. His job title is Product Owner. He has worked at the Vaillant Group for ten years. He is currently in charge of the API Developer Programme. "It's all about making intelligent use of the data from our heating appliances in order to offer our customers added value," he explains. "We strive to offer our partners safe and reliable API services that are easy to use so that they can integrate our heating technology into their products and services." This is the goal that the some 30-strong developer team behind the API Developer Programme has set itself. In order to understand how it all works, it is necessary to know what API services are and what they make possible.

API: sound familiar at all?

API is short for the term "application programming interface", i.e. a technical interface for programming IT applications. It enables companies to share data. One side sends a request for particular data (in this case to the Vaillant Group) and the Vaillant API service then makes this data available.

"All of us probably know and use functions that are based on APIs every day," explains Mirko Meier. One example of this is Google Maps. Google has map data and information about the vicinity and offers other companies the option to use this. Google customers such as the ride-sharing service Uber, the travel portal Booking.com or the sport app Runtastic take advantage of this offer.

As do numerous other app developers, because it is cheaper and simpler than collecting the geodata themselves. "You take the available data and integrate it into your own product to expand its functions, which allows you to offer your end customers added value," explains Mirko Meier. The example of Google also shows that the business model creates added value for all parties involved. Google's mother company

Alphabet makes an estimated turnover of 1.5 billion euros a year from its map API service alone.

The Vaillant Group operates on a much smaller scale than the tech company in California's Silicon Valley. The business models, however, have much in common. Philipp Fudickar, Head of the IoT team, describes the value chain: "Our business partners identify practical ways to use particular device data which we, as the manufacturer, have access to. And they want to integrate this data into their products and services to make their portfolio more appealing to their customers. This data is shared via our API platform. For the Vaillant Group this means: we not only offer our customers our heating appliances and connectivity products on a one-off basis, but also provide an ongoing data-based service."

The Vaillant Group is currently one of just a few heating companies in the sector to offer an API service.

Who is the API service designed for?

Information from around 67,000 connective control units from the eRELAX, vSMART and Migo series is integrated into the API service. A varied range of information is available: the parameters that can be retrieved via the API include outside and room temperature, stored user and time profiles, connection status, hot-water temperature, energy consumption and operating status. The Vaillant Group will continue to expand its offer to enable self-service functions. Error codes, maintenance information and other system data such as flow and return flow temperatures, water pressure and degrees of modulation will all be part of this.

The project team has clearly defined the Vaillant Group API's target groups. "The API service is exclusively designed for business customers," says Product Owner Mirko Meier as he describes potential customers. "Ultimately, there have to be certain conditions, or the customer needs to have certain requirements." First of all, customers need to have their own IT infrastructure and IT development resources. Second, the business customer has to clearly benefit from integrating heating technology into existing systems or services. Third, the provisions of the General Data Protection Regulation must be observed and data protection in general must be guaranteed at all times. All requirements in this area are set out in contract.

"This is why we have a clear focus on property and service companies, energy suppliers and smart-home developers," adds Philipp Fudickar. "Smart-home suppliers or prefabricated house manufacturers that offer smart-home features now have a product which also integrates heating technology, possibly giving them an edge over their competitors. A property company or an energy supplier may have a larger inventory of boilers. The system data and available diagnostics make it possible to improve efficiency when servicing and carrying out maintenance. The same applies to service companies, which in turn provide these kinds of services to their customers in the real estate sector. There was also one case where a partner had already used the API Developer Programme to process information for its customers on their consumption and energy billing. It has many different uses and there will be even more applications in the future, providing plenty of space for creative business ideas." The portfolio of the Vaillant Group is aimed at business-to-business customers, but the end result is also always added value or added comfort for the end customers.

Vaillant API services available in 13 countries

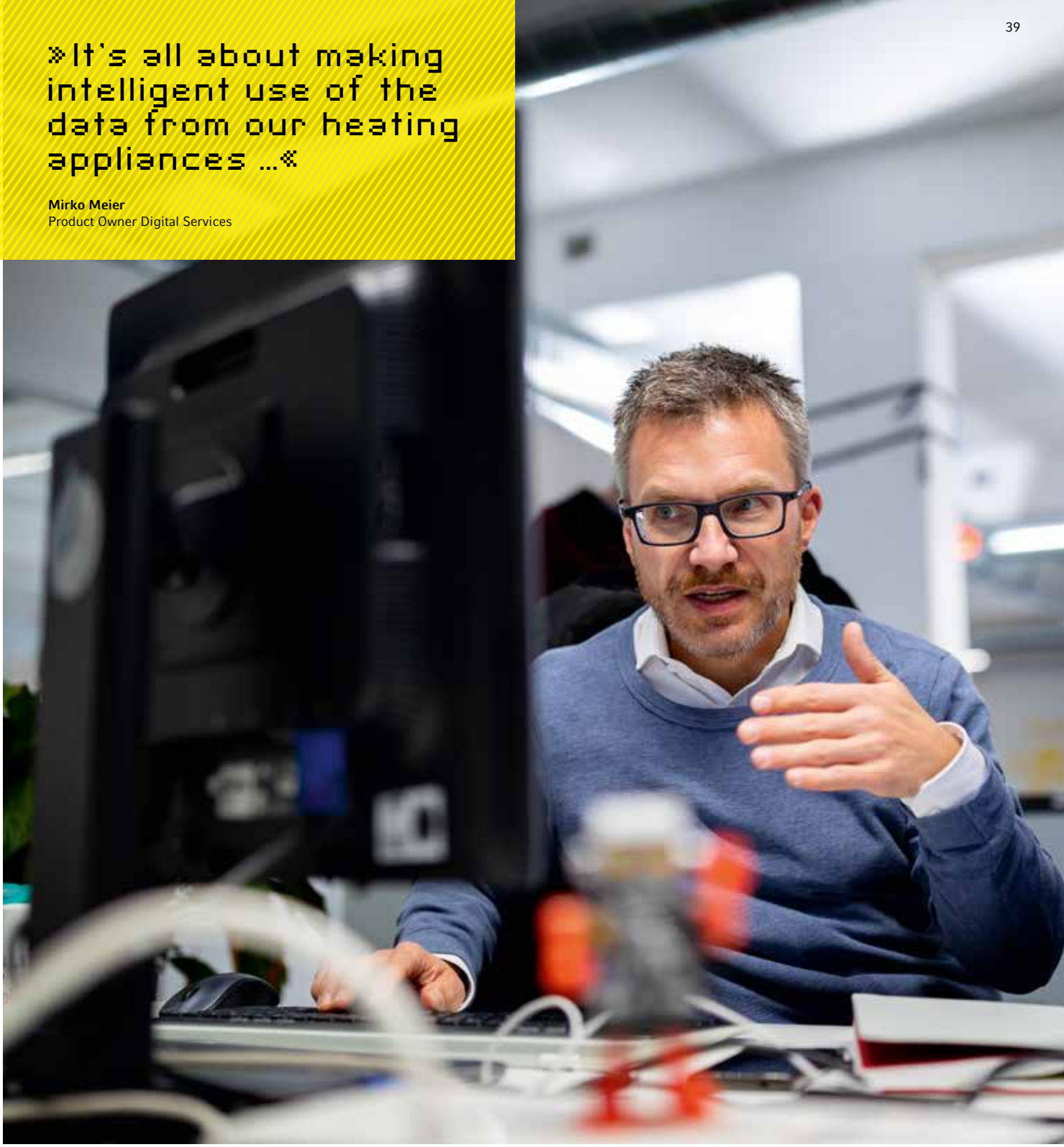
The Vaillant Group API Developer Programme was piloted with partners from several different European countries. It is now a standard service available in 13 countries and the number of partners has grown to 40. As it is not a classic

eRELAX / vSMART / Migo

To connect the heating appliance with the Internet, you need a so-called gateway. The series eRELAX, vSMART and Migo are controller and gateway in one. All three product lines are included in the API service. On the one hand, the owners can control their heating systems via apps from their smartphones. On the other hand, the heaters can – if one allows this – also deliver device information directly to other recipients: for example, the customer service of Vaillant or Saunier Duval, or a craftsman who is maintaining the device.

»It's all about making intelligent use of the data from our heating appliances …«

Mirko Meier
Product Owner Digital Services



product which needs to be physically produced, transported and installed, the international market launch did not require the normal processes, which involve making small technical adjustments to the product in the various markets, which can take several months.

The technical availability of the platform is guaranteed centrally by the Vaillant Group. There are three standardised tariff packages: Smart Home Integration, Diagnostics and Insights. The Vaillant Group's national sales companies then offer the API service in their respective markets and within the respective regional sales structures. The countries have a great deal of freedom here, because the potential varies from market to market. The use of control units and heating appliances which are connected to the Internet is more widespread in some countries than in others. At present, the focus is in particular on France, Great Britain and the Netherlands, as these are the countries where heating appliances are most often connected to the Internet. The next most promising market is Germany, which shows potential for future development.

FIVE YEARS OF PARTNERSHIP

WITH "SOS CHILDREN'S VILLAGES WORLDWIDE"

A warm and cosy home

In the beginning it was just a coincidence – a most unfortunate one. On a cool autumn day in 2011, the heating system in the SOS Children's Village in Battonya, Hungary, broke down. When the local colleagues from Vaillant found out about this, they acted quickly to help and replaced the system free of charge. This spontaneous action soon developed into a close, pan-European partnership that has even been contractually agreed upon since 2013.

About the time that the local children's charity contacted Vaillant in Hungary, one of the teams at the Vaillant Group's headquarters in Germany created a new, comprehensive sustainability strategy for the entire company. Part of this strategy included fields of action and instruments for social responsibility projects. As a family-owned business, the Vaillant Group consciously decided to focus on families as well as educational and social institutions. Furthermore, cooperative and funding projects were to be selected solely on the basis of binding eligibility criteria.

In addition, a further decision was reached: to concentrate only on what the company does best, namely eco-friendly heating technology. Since then, as their partner, the Vaillant Group has been providing "SOS Children's Villages worldwide" with heating technology. Thus, in around 20 countries children have been given a warm and cosy home. This means that, on the one hand, something has been done for climate and environmental protection.

On the other hand, Vaillant's numerous colleagues throughout the world have spent the past five years developing new ideas and taking the initiative to delight the children and young people in the SOS Children's Villages. The partnership has been growing continuously … and sustainably.

In the meantime, the successful collaboration has been renewed and extended by at least another five years. The children's charity and the Vaillant Group agree: "This is an excellent opportunity for both sides."

Five years of warmth

The Vaillant Group's partnership with "SOS Children's Villages worldwide" has been a success story for five years. It is about environmentally friendly heating technology, but also about ideas, commitment and joy – about warmth in many facets. For example ...

That's what it's all about: heating technology that quite literally makes for a warm home. Since the partnership was sealed in 2013, the Vaillant Group has been equipping SOS Children's Villages with heating technology in some 20 countries, sometimes just one device, sometimes complete systems for entire villages. Like 2015 in Worpswede, Germany. The buildings and installations were as old as the village itself, which was celebrating its 50th anniversary. The need for action in heating technology was urgent. The Vaillant Group replaced the two completely obsolete oil boilers with a modern gas condensing cascade. A regional trade partner installed the new technology, and of course renounced its profit margin. There was no discussion at all.

Art, of course, at the entrance of the SOS Children's Village Worpswede. The 5,500-inhabitant community is considered something of an artist village.

For the future: insights into the professional world

What happens after the time in an SOS Children's Village? A good question. "We wanted to help, provide orientation and insights into the professional world," says Evgeniy Sotnichenko, Director of the Vaillant Academy Russia. In the summer of 2016, the managers of SOS Children's Villages and Vaillant jointly implemented their idea. During a visit to the Vaillant training centre, young people got their first insights into the world of heating technology: what different types of houses exist, what technologies, what heating requirements ... Interested youngsters were invited to learn more about this and to enrol in training sessions lasting several days. In the summer holidays there followed a two-month internship with Vaillant trade partners. A success. The project "Vaillant Academy" has already entered the second round.

The way out: education

In Rwanda, many children cannot even attend primary school. Only very few people can afford a proper vocational training. Therefore, SOS Children's Villages founded a professional centre in 2005 in the capital Kigali. 250 young people can learn a profession there – from car mechanics to computer science to fashion design. The Vaillant Group supported the centre with the #vaillantsmile campaign. During the campaign selfies were collected on which people smile. For every smile, a donation went to SOS Children's Villages.

Old tarpaulin, new life: recycling

In the year of the 140th anniversary of the Vaillant Group, a travelling exhibition toured through Europe. The luggage included a review of Vaillant's history, the present and a glimpse of the future. For the tarpaulin of the truck, the journey went even further: into a workshop for people with disabilities. Thus, in an artful recycling several dozen high-quality laptop bags were made. Vaillant employees could buy them later for the price of 40 euros each. The sales proceeds benefited the SOS Children's Village in Lüdenscheid. "The bags were sold very fast. I'm still being asked by colleagues where I got mine," says Christopher Hucke, Senior Manager Corporate Communications, whose idea it was.

Wait and help: "On Hold" campaign

"You are at the right place – the Vaillant customer hotline. Currently, all of our employees are on the line with customers. Waiting is not nice, but helping is. Vaillant currently supports SOS Children's Villages with 50 cents per waiting minute. Thank you for your patience." This announcement by the nine-year-old Jacob was heard by customers who had to exercise patience in Austria in the telephone call loop of Vaillant. In July and August 2018, Vaillant Austria donated a total of around 10,000 euros for all waiting minutes. They went to the SOS Children's Village in Seekirchen near Salzburg.

On the move with SOS Children's Villages: roadshow

There, where it all began, in Hungary, an idea for something special came up on the occasion of the 140th Vaillant Group anniversary: in September 2015, the Vaillant Truck stopped in six cities on its journey through Hungary. SOS Children's Villages Hungary came along all the way. "The idea was on the one hand to present the company – its history, its technology, its vision of the future – with the roadshow. On the other hand, we also wanted to introduce the partnership with SOS Children's Villages and give SOS the opportunity to present themselves," explains Marketing Director György Csókay. The end of the tour was celebrated together: at a big family party in Budapest – with a press conference and donation in favour of SOS Children's Villages.

Full commitment: running for SOS Children's Villages

They run every year. With commitment, with sweat and with a lot of good humour. Since 2014, colleagues from France have been taking part in running events for SOS Children's Villages. The races are open for athletes at all sporting levels; children can also take part. Donations are made for every kilometre run. But it is not just about the money, it's also about the common experience: "We always invite children from the SOS Children's Villages," explains Alexandra Deschamps, who oversees the partnership with SOS Children's Villages for the Vaillant Group in France. "This is a great opportunity to meet the children in person and to do something with them."

The best medicine: laughter

Laughter is the best medicine, says a German proverb. In 2016, SOS Children's Villages sought sponsors worldwide for a project that would bring hospital clowns to the SOS Children's Village Cochabamba in Bolivia. The reason: many of the children who live there have traumatic experiences to deal with. In a course lasting several weeks with three clowns, they learned to express emotions again: joy, but also grief and anger. The SOS mothers and educators also benefited from the workshop. The Vaillant Group supported this project.

Christmas and Easter together: Advent calendar

Every year, at Easter, for example, in the workshop of the SOS Children's Village Lüdenscheid, one hears Christmas carols and finds children eagerly painting Christmas motifs. Why? They are painting for the Vaillant Advent calendar. From the finished pictures, a small jury selects the motif that later adorns the chocolate calendar that is given to Vaillant employees and partners. The creator of the picture wins a trip to an amusement park for all the village children. This makes the little artists proud and is huge fun – not only for the children, but also for the adults from the Vaillant jury, who accompany the excursion group.

Collected: with 1,000 books to the roof of the world

In August 2014, a truckload of books reached the SOS Children's Village Lhasa, which is located high in the Himalayas, the roof of the world. The Chinese sales company had previously collected the books over several months during the stops of the 2014 anniversary roadshow in Beijing, Xi'an and Shanghai. Hundreds of visitors and Vaillant colleagues from all over China came to donate books for the children in Lhasa. In addition to the books, the colleagues from Vaillant China also had sports equipment and school stationery for the children in their luggage.

Small amount, big effect: "spare cents" donation

A few cents regularly from many – most of the time, one doesn't even notice. But in the end, they pile up, too. With the "spare cents" donation, Vaillant employees in Germany can donate the amount behind the decimal point of their monthly salary to SOS. Many hundreds of colleagues already participate in the voluntary offer.

“A better future for children and families”

In 2018, the Vaillant Group and “SOS Children’s Villages worldwide” agreed to continue their existing partnership. Petra Horn, Managing Director of “SOS Children’s Villages worldwide”, and Dr Jens Wichtermann, Director Corporate Communications, Sustainability & Politics at the Vaillant Group, have jointly reflected on the past and attempt to forecast the future.

→Ms Horn, Mr Wichtermann, “SOS Children’s Villages worldwide” and the Vaillant Group will continue to work together. Why?

←**Ms Horn:** In 2013, we concluded a five-year agreement with the Vaillant Group and are extremely pleased that we have been able to extend it by – at least! – a further five years. It is essential that we have partners we can depend upon. The Vaillant Group is exactly this kind of partner.

←**Mr Wichtermann:** Absolutely! We are convinced that in this partnership we are using what we do best, namely supplying efficient and environmentally friendly heating technology, to provide assistance where it is needed. That’s how everything started in Hungary. The local colleagues refitted a children’s village in which the decrepit heating systems stopped working shortly before the onset of winter, replacing them with new technology. We realised very quickly that a partnership with SOS Children’s Villages would perfectly fulfil the criteria that define how we as a company wish to show our social commitment. As a family-owned business, we appreciate long-term partnerships that match the goals of both organisations.

→When you look back at the past years, what were the highlights for you?

←**Mr Wichtermann:** I immediately think of France, because just last year two newly built SOS Children’s Villages were fitted with a total of 15 heat pump systems. Heat pumps rely on environmental heat, thereby protecting the climate. That was a truly wonderful project that we completed together on our fifth anniversary. I also remember when a heating system was given to an SOS Children’s Village in St Petersburg in Russia. I attended that event personally.

←**Ms Horn:** Because of this collaboration, the SOS Children’s Villages in many countries have meanwhile received new, top-quality heating systems. But there were numerous other wonderful projects, such as #vaillantsmile. People could upload a selfie of their smile; in return, Vaillant provided support for various SOS projects. Not only the company’s own employees took part in this; Vaillant’s customers were also very active.

→What are the characteristics of a good partnership?

←**Ms Horn:** A good partnership is always a win-win situation. In my view, it is important that the partners openly communicate what they expect from such a collaboration and that both sides trust each other. In a good partnership, both sides are prepared to courageously blaze new and sometimes unconventional trails.

←**Mr Wichtermann:** The same applies for us. Furthermore, we believe it is important that what we bring to this partnership is what we do best, namely providing the technology and know-how for a warm and cosy home, and not just simply transferring money to an account. We take the idea of providing children with warmth quite literally; it reflects the Vaillant family business.

→Nothing is so good that it couldn’t be made even better. Ms Horn, where do you see opportunities for enhancing this partnership?

←**Ms Horn:** We feel that it would be extremely useful if we could enhance the support we are receiving by providing heating technology in more countries, namely everywhere where there is a real need. But naturally, we can always use financial support as well. We could envisage implementing creative ideas in other countries, such as the “On Hold” campaign in Austria. Recently, we started the “YouthCan!” programme with corporate partners. We could well image involving the Vaillant Group in this programme as well.

→What is “YouthCan!”?

←**Ms Horn:** The purpose of YouthCan! is to facilitate young people’s start in the working world. This programme is for young people who experience difficulties here, for example because they don’t know what it’s like when their father or mother go to work. Vaillant’s employees, who work throughout the world, could become mentors for these young people. It might even be possible to extend this to include customers as mentors.

←**Mr Wichtermann:** That sounds exciting! It would be wonderful if we could include our customers, i.e. the installers. In our industry, installers are desperately searching for trainees. If we could manage to meet these needs by bringing both sides together: how fantastic would that be?!

→In some countries, your partnership functions perfectly; in others, it still needs to grow. Why is that?

←Mr Wichtermann: Basically, it is easier for our larger sales companies to provide assistance for SOS Children's Villages, because they have both the financial means and the human resources. What would be helpful for us to activate this partnership in those countries that have not yet taken part would be a comprehensive evaluation, a systemisation that would clearly indicate what SOS Children's Villages will require in the coming years and in the individual countries.

←Ms Horn: It's the people involved who are so decisive. I believe that if we could manage to bring together the employees from both Vaillant and SOS Children's Villages, enabling them to get to know each other, we would experience a more intensive collaboration. An evaluation would be a good opportunity for this. I'm happy to take this suggestion on board.

→The Vaillant Group has decided to make an active contribution in those geographical areas in which it operates. Do you also look beyond those borders?

←Mr Wichtermann: Well, we're very active in many countries throughout the world, where we use our know-how and our products to provide assistance. But we have also supported projects in other places, for example by using donations from our in-house Football World Cup. In 2014, it was a project in Syria; in 2018, one in India. There were also projects such as "Clowns without Borders" in Bolivia. When SOS Children's Villages indicates that they require urgent assistance, we discuss with them what we could do.

→What role does this partnership play in your company?

←Mr Wichtermann: It is highly popular with our employees; we have seen a lot of personal commitment. And I have some very nice examples of this for you: together with SOS employees, our colleagues organise excursions, leisure activities and small parties for the children … Furthermore, in Germany, we have what we call the Spare Cents initiative. Our employees can donate the cent amounts from their monthly salaries to SOS Children's Villages. In the meantime, many of our colleagues think of SOS Children's Villages when it comes to private donations.

→What would you like to achieve together over the next five years?

←Mr Wichtermann: We wish to maintain our support in the field of heating technology and even expand on this, where possible. It would be wonderful if we could manage to further systematise the requirements so as to better understand what SOS Children's Villages need. In addition, it would, of course, be good if we could implement projects together in which we can help to integrate young people in the working world. The ideal thing would be to include our customers and partners in this, especially the installers.

←Ms Horn: There's not much I can add to that. I am extremely pleased that we have the support of such a wonderful partner. As a charitable organisation, we want to provide children and families with a better future. The Vaillant Group as a family-owned business has taken over responsibility and supports us in our efforts. I think that's great!

CONSTRUCTION PROJECT

FRANCE

Renewable energy for SOS

In 2018, two new SOS Children's Villages were opened in quick succession in western France. They now offer around 70 children a warm and cosy home. Saunier Duval kitted out the houses – 15 in total – with modern heating technology.

Two boys, two girls, one house – they made it their own in next to no time. SOS mother Anne can't help but grin when she talks about how the siblings, two girls aged twelve and eleven and two boys aged ten and eight, quickly left their mark on the house – house number 1. "The children moved in during the summer. They had chosen their bedrooms during the first visit, leaving their stuffed toy there as a guardian."

The house is one of eight family homes located in the village in Beauvais-sur-Matha, around an hour's drive from the west coast of France. It also has a community hall. All of the houses are new-builds. 36 children have found a new home here.

"Most of the time, the existing childcare facilities cannot guarantee that siblings are cared for together," explains Isabelle Moret, Director of SOS Children's Villages in France. "We know, however, that the bond shared by brothers and sisters is key to ensuring the well-being of children who have experienced a difficult family environment." The homes in Beauvais-sur-Matha have room for up to six children. Siblings can stay together here. Just like these four.

The children, who have now found their SOS mother in Anne, were the first to move into the village. Louise and Emma, Léon and Lucas (their names for the sake of this article, at least) now all attend primary school in Beauvais. "It's a short walk away," says Bintou, the family assistant who supports Anne with housekeeping tasks. The children have already found hobbies they enjoy. "Louise and Emma go horse riding, while Léon and Lucas play football and practise judo."

And they have made friends, both in the children's village and also in the local area. The eight family homes have gradually filled up since summer 2018. Even the community hall has been given a splash of colour and now features faces with aluminium noses and googly eyes. For Halloween, the windows were decorated with big pumpkins and ghosts. There's also a small playground where the children can run around right on their doorstep.

"The village, just as our house, is absolutely beautiful and very comfortable," Anne and Bintou are agreed. It's just like a modern town house development. In the garden there's a drying rack; two pairs of trainers sit in front of the door. A balance bike and a buggy are parked up a couple of houses down. The kids have certainly settled in and literally transformed the village into a real children's village. Even the letterbox in front of the

community hall has their hand prints on it and someone has added the words "Merci" and "Bills, postcards, letters". "We are glad to be here," says Anne. She is an experienced SOS mother who previously spent almost 20 years working at the SOS Children's Village in Châteaudun near Orléans. "I decided to join SOS Children's Villages to share my joy of life and bring some joy to children who need it," she says.

Bintou supports her as an "aide familiale" – a family assistant. She used to work in a kindergarten. One day she came across an advert for SOS Children's Villages. "I knew that I wanted to be a part of it."

The work demands a great deal from the women and their colleagues. The children have gone through a lot and experienced some traumatic circumstances. It is Anne and Bintou's job to organise

Efficient heating technology is what we do best.

Alexandra Deschamps
Vaillant France

day-to-day life; they have to build an emotional relationship yet also be prepared to take a step back. To be a family – for a time. The women have to show tremendous self-control here.

At pretty much the same time as Beauvais-sur-Matha was being set up, SOS Children's Villages in France was also working on the SOS Children's Village in Gémozac in the same administrative district. "Building a new SOS Children's Village, from scratch right up to the moment the children settle in to their house, is a very special experience for our organisation. It was quite exciting and challenging to open two SOS Children's Villages within a six-month period," explains SOS Director Isabelle Moret.

There was a huge and urgent need for the villages in the Charente-Maritime district. Rather than the six family houses originally planned for Beauvais-sur-Matha and a further six in Gémozac, the district ended up funding the construction of eight houses in Beauvais and seven in Gémozac, creating new homes for around 70 children.

The two SOS Children's Villages are really similar in terms of their architecture and fit in well aesthetically with the local surroundings. The technical systems installed in both locations are also the same.

Heating and cooling with renewable energy

In Beauvais-sur-Matha and Gémozac, Saunier Duval heat pumps provide heating in winter and cooling in summer. The Vaillant Group in France has supported the two projects since day one, both as partner and technical advisor for

building services. Although many gas-fired boilers have already been installed in SOS Children's Villages throughout France in recent years, none of the projects involved heat pump systems or were quite as extensive as this one. Besides the 15 heat pumps for space heating, sufficient hot water had to be ensured – no one wants a cold shower. This all amounted to quite the showcase project. Not only does it benefit SOS, but also the environment.

"We have a very clear goal in mind: we want to give the children living in SOS Children's Villages the gift of warmth," explains Alexandra Deschamps, who has passionately worked on many SOS projects in the past at the Vaillant Group in France. "Providing efficient heating technology ultimately forms the core of our global partnership with SOS Children's Villages. And it's what we do best."

Heat pumps: energy-saving and good for the climate

It was the biggest SOS Children's Villages project in the history of the Vaillant Group in France. Fifteen large family homes split between two villages were in need of a heating system that conserved as much energy as possible. "There hadn't been a project like it before," explains Alexandra Deschamps, who liaises with SOS Children's Villages on behalf of the Vaillant Group in France.

"Since launching our partnership in 2013, we have provided almost 70 gas-fired boilers, which were installed by our partners. With the new SOS Children's Villages in Beauvais-sur-Matha and Gémozac, the technical effort was much greater. This time, the idea was to generate heating and hot water using heat pumps."

Heat pumps from Saunier Duval's Genia Air range were chosen for the project. Fifteen units in total. The heat pumps take their energy from the air and use it to heat the building.

And there is a huge need for hot water in the large family houses. They are home to up to six children, an SOS mother and a family assistant. The experts responsible for technical planning on-site therefore decided to fit each of the heating systems with an additional Magna Aqua hot-water heat pump.

By the end of the project, technology worth over half a million euros had been installed. "With such a large project, it was important to us to equip the SOS Children's Villages with heating technology based on renewable energies," explains Alexandra Deschamps. Heat pumps have long been the go-to choice in the new-build sector in France; the market here is one of the largest in Europe. The new children's villages should also benefit from everything the heat pumps have to offer.

The technology certainly comes with real advantages for the children's charity. "It is environmentally friendly and conserves resources. The money we save by using this efficient heating technology can then be used elsewhere for the children," comments Emilie Fontaine from SOS Children's Villages France.

A local installation company specialising in heat pumps was commissioned to install the 15 systems. The extensive work was carried out from April to December 2018.

WORKING FOR THE VAILLANT GROUP

“Choose a job you love, and you will never have to work in your life.”

Confucius, about 500 BC

In the modern digital working environment, change is both permanent and fast. So many things keep changing: jobs, working methods, forms of communication, employee expectations, and the expectations of companies towards their workforces. The Vaillant Group provides room for creativity and initiative – yet despite all progress, it has its feet firmly on the ground.

What Confucius had in mind was undoubtedly not idleness, but living a life where work is worthwhile. If we love something, we're happy to do it – and we do it well. A good job means identifying with a task and having the opportunity to fulfil oneself. International studies have found that if young executives are given tasks that are worthwhile, they value them more than their income. Moreover, passion for a project is the decisive factor for team formation. Like everything, however, it can take different forms for different people, although setting high standards for one's own work is a decisive trend among Generation Y, the millennials and digital natives. Two terms are frequently heard in this context: "Work 4.0" and "New Work", and they are used in the same breath as globalisation and digitalisation. Their key values are independence, freedom and unrestricted development. They form the basis of a new start-up culture and effective co-working concepts. All these ideas have already started to become part of "classical" working environments.

Values and expectations relating to work on the part of companies have also been changing over the last few decades. Employers are now looking at their employees as individuals and are paying attention to their personal needs, thus creating a "new" corporate culture. This has led to a desire for freedom, identification with one's work and a rejection of traditional hierarchical structures. Other things don't change. For instance, the need for security. Most people see security as a key aspect when they choose a job, and industrial sociologists, HR consultants and career coaches are well aware of it. Realistically, everyone focuses on different aspects in their quest for satisfaction, both privately and at work, and those aspects include self-fulfilment and a worthwhile job that adds value. Another criterion is an attractive employer.

MOTIVATION IS VITAL

"Employees want to flourish and are motivated, interested in their development and have certain expectations. This is a good opportunity for a company to diversify and to be right at the front in the competition for talent," says Mario Kruschinski from Global Talent Management at the Vaillant Group. Some of the most important management tasks therefore include recruitment, the creation of loyalty and professional development. All these elements are firmly established within the Vaillant Group. This is because its products and services require continuous technical progress, assisted by innovative drive and speed. At the same time, the Vaillant Group is a family-owned company of the traditional type where a sense of responsibility and a long-term perspective for the business are the norm.

Being perceived as an "employer of choice" is both an aspiration and a reality for the Vaillant Group as an international

> "Vaillant is perceived as a family-owned company where people are valued for their individual strengths and where personal relationships are still important, despite digitalisation and geographical distances."
>
> **Sevkan Bolu,** Diversity Manager at the Vaillant Group

company with long-established structures. With a workforce of around 13,000 in over 20 countries, it is not always easy to do justice to this self-image. Yet despite all the difficulties and challenges, the results of the Group-wide staff survey SENSOR in 2018 showed that the employees have high levels of corporate loyalty and satisfaction.

SENSOR GAUGING THE MOOD

The purpose of the survey was to actively promote a good working climate in the Vaillant Group. Similar surveys had already been conducted in the past. This time, however, the purpose was to take a detailed look at the situation with regard to Vaillant's corporate vision. Sevkan Bolu, who had an active hand in the survey as an interim head project manager, says: "It was the first time that a Group-wide survey was conducted that looked specifically at staff satisfaction and which also included the assessments of executives." External specialists helped to draw up the relevant questions on corporate values, expertise and corporate vision, while at the same time ensuring, in particular, international and external comparability. The survey covered trust in the Management Board, satisfaction with working conditions, the team and each person's own scope for action, as well as a rating of one's own line manager, an assessment of the company's development in digital transformation and people's views on the Group's contribution to social well-being and the environment. Each employee was asked the same questions – whether they were in China, Spain, Turkey, Sweden or at the corporate head office in Remscheid.

With a response rate of nearly 80 per cent, the results were meaningful – and favourable. 82 per cent of the workforce felt connected to the company, and the satisfaction rate was about 72 per cent. A clear majority said they were proud to work for the Vaillant Group. More important feedback was that most people felt that their work and the demands on them suited them well and that they were in good hands. This generally positive assessment was not least due to the level of security, reliability and pragmatism, which are hallmarks of the Vaillant Group. Not to forget good social interaction.

One key area for Sevkan Bolu, who is Turkish, is the open-minded working environment of the Vaillant Group at its sites across the globe, with its focus on values and development. "We want everyone to feel welcome, well integrated and able to contribute their talents," she says. She has been with the Vaillant Group since 2014, having started in Istanbul, and she has been in her current position of Diversity Manager in Remscheid since 2018. Her contribution to a better work climate is a desire to strengthen inclusion and diversity. "Living in a rapidly changing world and working for a globally active enterprise, we need to be alert to new areas." Sevkan Bolu is convinced that "we con-

tinually need to review our working methods, so that we can meet as many needs as possible – or even more than just meet them."

SOFT FACTORS ARE ESSENTIAL

A high level of staff satisfaction is a reliable indicator for the sustainability of the company – particularly in the face of increasingly high individual demands. This may be a matter of work-life balance or the compatibility of work and family. Or it may be people's aspirations and plans for their personal careers, continuous professional development, security or reliability. People want to stay in the Vaillant Group. And this is another advantage, as the international labour market is currently being impacted by demographic change and a resulting skills shortage. To develop and produce high-quality technical products worldwide, the Vaillant Group needs highly qualified professionals and is therefore careful to develop existing talent as well as finding new talent. Catherine Stapelkamp, who is Canadian and works in Global Recruitment at Vaillant, emphasises the importance of this aspect: "We are currently in a market that favours employees. The competition for skilled professionals is set to increase even further, and in fact on a global scale." She has been in HR management for over 20 years and has worked in HR departments of both Canadian and German companies in a variety of industries. She first joined the Vaillant Group in Remscheid at the end of 2018. "Soft factors are playing an especially important role nowadays. Applicants want to see a good corporate culture. What attracts them is the option of working from home or part-time, putting their children in a day-care centre, such as the one in Remscheid, and having good further training opportunities," says the recruitment specialist. The Vaillant Group provides all of these options, which were also important criteria for Catherine Stapelkamp herself when she chose Vaillant as an employer. The other element that attracted her was the flat organisational structure of this family-owned company. For many years she had worked for a company that employed nearly 100,000 staff and was looking for a firm with short decision-making routes. "I noticed after only a few months," says Catherine Stapelkamp, "that the Vaillant Group is a place where you can make a difference." This is another point which Vaillant values about its employees: they want to make a difference, and here the training and management system comes in.

THE DESIRE TO MAKE PROGRESS

After all, the continuous development of a company as a whole goes hand in hand with each person's motivation to keep

“Our big asset is the long-term perspective which we assume as a company in matters of environmental protection and social responsibility. Anyone who works for the Vaillant Group helps to take care of a better climate.”

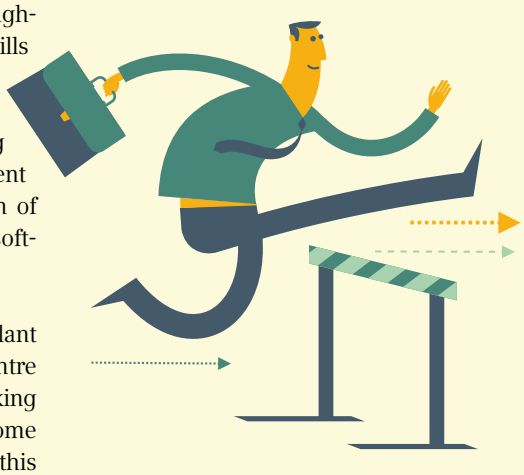
Mario Kruschinski, HR Manager Global Talent Management at the Vaillant Group

making progress. Ongoing digitalisation means that the Vaillant Group is going through a process of transformation – from a classical industrial enterprise to an industrial and technology company. Digitalisation has also been changing Vaillant’s products, services, business models and competitive environment. Moreover, it leads to specific demands on the company and its employees. Mario Kruschinski from Global Talent Management at the Vaillant Group emphasises this point: “Today’s employees have actually become more demanding than they used to be, although they are also expected to be more flexible now.” The HR professional had more than ten years of experience in HR development, recruitment, training and HR consultancy when he joined the Vaillant Group in 2015. “It’s extremely important when working for a modern company like the Vaillant Group to be flexible and to be interested in new things and then adjust to them. The ability to keep learning is essential for our future,” he says. It’s the responsibility of a company and its management to create suitable conditions, to empower the workforce and to assist and encourage them according to their aptitudes. “The Vaillant Group is a robust company that offers long-term prospects in this area in particular. It’s reflected in our Group-wide further training landscape and in our management development,” Mario Kruschinski continues.

WORKING AND LEARNING

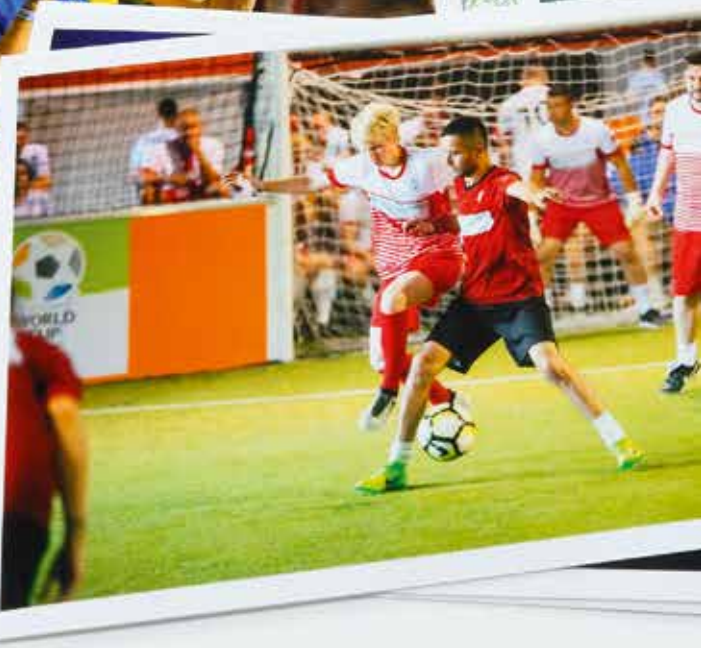
People who work for the Vaillant Group can move along a wide range of professional routes and career paths – as experts, as project managers or as executives. In each area there is a variety of options, ranging from classical training to extensive development programmes. The areas covered include, for instance, change management, expert methods, management training and design thinking. Talent programmes offer specific help in preparing for future positions and responsibilities. Another level concerns the question of working methods. These are, in particular, agile methods in the modern working environment, such as the Scrum method and kanban; service design and co-creation are also current areas of interest.

Each individual with their own personal needs and training interests is important in the Vaillant Group – not just at the various management levels, but throughout the company. The need for new skills and training preferences are very much part of each annual staff appraisal meeting. They involve agreeing a comprehensive personal development plan with further training in the form of seminars, foreign language tuition or software training.



As a family-owned company, the Vaillant Group puts each individual at the centre of attention. It sets itself the aim of taking care of a better climate. Inside each home and the world around it. Working on this goal on a daily basis makes good sense in itself.

KICKING WITH A PURPOSE



200 players. Teams from 16 countries. **A shared vision.** Fun and passion beyond borders. The Vaillant Group World Cup in Ghent had all this and more.


SLOVAKIA
7
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GREAT SPORTING ACTION

Anyone who wants to make things better should start in their own backyard. At an international company like the Vaillant Group, it is important to bring together colleagues from as many countries as possible from time to time – so they can have fun together and grow as a team.

The Vaillant family made the journey to Belgium from many different countries to take part in the Vaillant Group World Cup, which once again proved to be a truly spectacular event. 16 teams – from Denmark to Spain and Ukraine to the United Kingdom – arrived full of motivation and the will to win. The 200 players (in mixed teams each comprising as many men as women) were joined by many fans who eagerly cheered on their side.

Great sporting action was witnessed on the pitch, with quick passes, ingenious and carefully planned free-kick routines and even acrobatic bicycle kicks. At the end of an action-packed day, the four best teams were left to battle it out: host and reigning world champions Belgium, as well as Slovakia, Turkey and Switzerland.

"Fair sports competitions are like environmental protection. When everyone is aware of their responsibilities and tasks, we can succeed together!"

Manuela Lehnhart, Vaillant Austria,
voted best player of
the tournament

WINNERS ALL ROUND

As usual, there were many winners. Slovakia were named world champions following a narrow victory on penalties. The award for the best supporters once again went to Spain. Manuela Lehnhart from Vaillant Austria was named the best player of the tournament, having joined the Swiss team at short notice for the semi-final after one of the Swiss players had to pull out. Switzerland received the Fair-Play Award – and fairness was very much at the forefront for the players, competitiveness notwithstanding. After all, the idea is for everyone to have fun and not get injured.

This spirit was also reflected off the pitch. The fans created a great atmosphere, supporting their teams in creative outfits and with much applause. The awards ceremony was held in the evening at the stadium of local football club KAA Gent and was followed by a party that lasted into the early hours of the morning.

Even those who couldn't be there in Belgium didn't miss a thing, as they were able to follow the Vaillant Group World Cup live on Instagram. Hundreds of images, videos and updates on scores and penalty decisions were posted during the event – and were shared, liked and recommended.

Another winner was "SOS Children's Villages worldwide", as the Vaillant Group made a donation to the children's charity for every goal scored during the Vaillant Group World Cup. This is also an integral part of the World Cup, which this time raised 5,000 euros for a project in India that prepares young people for the job market. It also eased some of the pain of conceding a goal.

"It's an excellent way to show that every single colleague is important for the complete success of a team, no matter how big or small the challenges are."

Sunčana Starček, Vaillant Croatia

"No matter where we were from, we all felt part of the same big family, as if we had known each other for a long time."

Mónica Blanco, Vaillant Spain