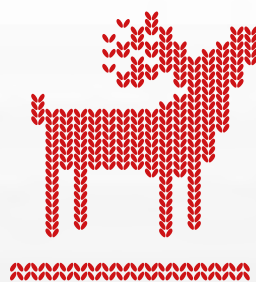


VAILLANT GROUP

Annual magazine

2017





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Under African skies
The Vaillant Green Team
in Namibia



Dr Carsten Voigtländer
Chief Executive Officer

IMPRINT

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EDITORIAL

“Taking care of a better climate.

Inside each home and the world around it.” – This is the Vaillant Group’s vision. A vision that unites the active contribution that we, as a family-owned company, make to global climate protection on the one hand, and the uncompromising stance we take on providing our customers with nothing but the highest level of comfort on the other.

Our annual magazine showcases the diverse range of activities ongoing at the Vaillant Group and how these fit into our corporate vision. Find out about the huge amount of value we are placing on the heat pump sector – with a view to climate protection targets, to the increasing demand for high-efficiency technologies emerging from the markets, and to the development of future growth fields. During the course of the past year, not only have we considerably expanded our production capacity; we have also established a business unit focused exclusively on heat pumps and renewable energies.

Incidentally, the perhaps northernmost Vaillant heat pump in the world is now ensuring a pleasant climate near the Arctic Circle: in the home of the one and only resident of Naimakka. Discover how a sprightly Swede suddenly had numerous weather stations keen to learn more about his remote village.

The Vaillant Green Team ambassadors are out and about campaigning for a better climate and drawing attention to places under serious threat of climate change. After the Antarctic, the rain forest and California, the spotlight was recently turned to the Namibian desert. Our photo report depicts one of the driest stretches of land on our planet; one that is constantly expanding.

We will also revisit Asia in this year’s magazine, looking at our largest regional growth market: China. In the past year, we sold our one millionth heating appliance in China and also celebrated the ten-year anniversary of our site in Wuxi. These past achievements make our future outlook all the more exciting, especially the prospects that await the Vaillant Group as it continues to expand on an international level. After all, internationalisation also plays a key role in our new corporate vision.

I hope you have an enjoyable read!


Best wishes,

A VISIBLE SIGN

TAKING CARE OF A BETTER CLIMATE.

Inside each home and
the world around it.





Challenges lead to changes – the energy transition, digitalisation and global competition. Many opportunities are opened up to companies as a result. The change taking place at our family-owned company is underscored by the new corporate vision: it is both an ethos and a guiding principle; as a beacon, it shines a light on our future path.

Our new corporate vision is the result of in-depth market and competitor analyses. Colleagues from the various countries in which the company operates have worked together, creatively and as a team, on the vision – with a focus on the development of society, new technologies and environmental policy goals. Seven major transformations shape the business reality of our family-owned company. They accelerate the speed of change and increase the uncertainty of market developments. They make competition more complex and intensify the pressure on our value chain.

From company-centric to customer-centric

As customers become more demanding, companies have to anticipate needs and offer solutions that make their customers' lives easier and more enjoyable. It's not about what technology can do, but what consumers want.

From an industrial to a technological company

Customer expectations rise particularly with regard to digital experiences. This is why companies have to make technological innovations, software development, artificial intelligence and data-driven business models their core business.

From fossil fuels to renewable energies

Legislation and consumer demand nurture the transformation towards renewable energies. This will continue to drive electrification. Green electricity is becoming the primary source of energy in buildings and transport.

Transfo

From a product industry to a service industry

In order to be successful in an age of digitalisation and to attract customers, manufacturers have to think of products and services as a unit. Usability takes precedence over ownership.

From stand-alone products to systems

In today's world, smart and extensive climate solutions take the form of connected, open and integrable systems. Individual and stand-alone products are no longer able to adequately meet these needs and fade into insignificance.

From local to global markets

Whereas European markets have reached a high level of maturity, business opportunities arise in China, South East Asia and all over the world. And just as European players will continue seeking growth in new markets, so will the non-Europeans in Europe.

rmations

From a simple to a complex competitive landscape

The transformation towards a complex competitive landscape is well under way, bringing speed, diversity and globalism. The pressure is growing on the entire value chain.

“By 2030, we want to be the market leader for residential heating and hot water – in both Europe and Asia. We want to be equally strong in electric and gas.”

Questions for Dr Carsten Voigtländer,
CEO of the Vaillant Group

➔ **Market leadership is a goal that many companies have in common. What makes the Vaillant Group different?**

We focus on a clearly defined market segment, i.e. residential heating and hot water. Being the global leader in cooling as well would be an unrealistic goal. We also concentrate on selected markets and growth regions in which we are already extremely successful. Our objective is bold yet feasible. We aim to achieve it by 2030.

➔ **Why the explicit focus on electric and gas?**

Because of the energy transition, climate protection policy and the resulting legislation. In the medium term, electric power will become more important than oil and gas. Thus, the demand for electric heating and hot-water solutions will rise. Electrification represents a strategic focus that will grow in importance in the next few years. We have decided to become equally strong in electric and gas solutions. This means that we aspire to gain the same strong position with electricity-based technologies – especially in the heat pump business – that we have traditionally occupied for decades with efficient gas technologies.

➔ **Why is the Vaillant Group focusing particularly on Asia?**

We plan to continue our path of internationalisation. We strive to grow globally and will evaluate all opportunities that arise. However, growth requires focus. In the long term, we want to focus on Europe, i.e. our traditional markets, and grow our footprint in Asia. The Asian markets boast high growth rates and offer the entrepreneurial room for manoeuvre to proactively develop new markets and market segments.

M
Comp

Values



Motivation

The contribution we want to make

We want to deliver effortless comfort, satisfaction and well-being with intelligent, intuitive and environmentally friendly systems and services. Customer expectations grow due to the rising amount of possibilities, options and innovations. Interconnectedness, intuitive operation and low complexity are needed. And environmental protection is of the utmost importance. It's no longer enough to fulfil market regulations and customer expectations for green solutions. Wherever possible, we seek to exceed these regulations and expectations. Our aim is for customers who recommend us.

etence

A clear corporate attitude

Despite all the transformation, world-class hardware will remain the classic prerequisite of our business. Product quality has always been one of our key strengths. At the same time, the Vaillant Group is evolving, as a result of digitalisation, from a pure heating technology manufacturer into a technology company for whom software development plays a key role. Data-driven services add value for our customers.

Attitude

Acting according to values

As a family-owned company, we stand firm as a rock: solid and reliable. We believe in doing business ethically and professionally, and we believe in treating each other with respect. We act according to values. With consistency, determination and a focus on what really matters, we stay on course, even in an era of rapid change.

Climate protection in the home: what would consumers like to see?

The best way to find out is to ask them. At the top of the wish list are individual advice and consumer-friendly modernisation grants.

79 per cent of consumers regard climate protection as important in general, 68 per cent want to make a personal contribution to the energy transition and 56 per cent would like more information on grant programmes and energy-saving options. These are three findings from a survey carried out by the Vaillant Group in conjunction with an environmental organisation. The approx. 1,000 homeowners surveyed were well informed and, for the most part, correctly identified the significant role played by their own consumer behaviour in terms of climate protection. However, there is plenty of work to be done when it comes to implementation. On average, energy-saving modernisation work is only performed on one per cent of buildings each year – in spite of all the laws, directives and funding programmes instigated within the EU.





Heat pump production launched

Customer demand for heat pumps is increasing in all markets – meaning that it's high time to prepare for the future and to expand production.

Since 2017, the Vaillant Group has been producing heat pumps on a large scale in Remscheid. This is part of a gradual realignment of the manufacturing network and development activities. The plant – which is located next to the corporate headquarters – is focusing firmly on high-efficiency technologies and products that can only be made with considerable technical expertise. The new production line was officially inaugurated on 24 March. Due to strong demand – and despite expansion –, heat pump manufacturing has been running at full capacity ever since.

Turn to page 38 to find out more about heat pump activities at the Vaillant Group.





Small amounts – big smiles on children's faces

The Vaillant Group and "SOS Children's Villages worldwide" share a close partnership. For many years, the Vaillant Group has been supporting the children's aid organisation all over the world with efficient heating technology. Vaillant employees also support "SOS Children's Villages worldwide" on their own initiative by having their monthly salaries rounded down to the nearest euro and donating the cents.

100 per cent green electricity

The target is to reduce CO₂ emissions at the Vaillant Group by 25 per cent by 2020, taking 2010 as the base year. Renewable energies are helping to make this happen.

Since 1 January 2017, the Vaillant Group has been sourcing certified green electricity, which is obtained completely from hydropower. All sites in Germany now use 100 per cent green electricity. Assuming steady consumption levels, the Vaillant Group has been saving more than 10,000 tonnes of CO₂ a year since switching to green electricity.



Training+ gets young Chinese installers up to speed

There is also a shortage of specialists in China. As there is a lack of well-trained installers and skilled technicians, Vaillant China is helping out with training.

Training+ is the name of the training programme launched by Vaillant China and Nanjing Technical Vocational College. Firstly, the Chinese students acquire basic practical skills in an intensive course before learning, step by step, how to install complete heating systems and Vaillant products. The trainee installers then consolidate their skills in a real-life context at a Vaillant partner retailer. With the programme, Vaillant China hopes to make the profession of installer a more attractive option in the country and to recruit new installers.

Turn to page 16 to find out more about Training+ and activities in China.

Hosting the World Climate Conference

Industry is leading the way in terms of climate protection. Guests from the World Climate Conference in Bonn came to Remscheid to find out about the contribution made by modern heating technology.

The World Climate Conference stopped off at the Vaillant Group: government officials, journalists and non-governmental organisations from three continents stopped by at the corporate head office. During their visit to the Vaillant Group, participants in the excursion programme learned about how



efficient and renewable heating technologies are helping protect the environment. The World Climate Conference was held in Bonn in November 2017 under the presidency of Fiji, with support from the German Federal Government and the State Government of North Rhine-Westphalia.



Vaillant connects start-ups and skilled technicians

Digitalisation is changing the heating, ventilation and air-conditioning industry, which is why skilled technicians and start-ups are joining ranks – and looking for shared business ideas.

At the invitation of Vaillant and several trade partners, young company founders presented their ideas for the further digitalisation of the heating, ventilation and air-conditioning industry. The Start-upCon event in Cologne provided the perfect setting: with around 5,000 visitors, 600 exhibitors and 300 investors, the conference is one of the largest events geared towards Germany's start-up scene. Vaillant supported the 2017 StartupCon as the main sponsor for the first time.



An award for first-class communication

The flood of content and the vast array of digital channels are changing corporate communication. For the better – as demonstrated by the Vaillant Group.

The Vaillant Group has received the Integrated Communication Award of F.A.Z.-Institut für Management-, Markt- und Medieninformation in the "Best SME" category. The award recognises the company's international communication strategy and the overarching planning of communication activities, which includes all channels, company divisions and international markets.



Vaillant UK lends a helping hand

The Vaillant Group UK took part in the Normanton Project together with its partner Derby Homes. The aim of the project was to clean up a residential area in Derby. For two whole days, Vaillant employees – along with employees of Derby Homes – collected litter, cleaned streets and building facades, and painted windowsills. Vaillant also fitted the Drop Inn youth centre in Belper with new heating technology to reduce the overheads incurred by the charitable organisation.

Heat pumps on the rise

The aim is to double market share by 2020. In terms of its heat pump business, the Vaillant Group is on an international growth trajectory.

No other Vaillant product group grew faster in 2017 than heat pumps. At the same time, market share in the heat pump business increased by around a fifth over the course of the year. Even in the first quarter, sales figures reached an all-time high. The positive course of business is partly due to a clearer strategic focus on heat pump technologies: a newly established business unit called “Heat Pumps and Renewable Energies” has been coordinating all activities in this area since early 2017 – the aim being to gain further market share on an international scale.

Turn to page 38 to find out more about heat pump activities at the Vaillant Group.



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ASIA PACIFIC

An aerial photograph of a city skyline, likely Hong Kong, featuring a dense cluster of skyscrapers and a river with several boats. The image is overlaid with a vibrant red gradient that transitions from a darker shade at the bottom to a lighter, almost white shade at the top. Large, bold, white sans-serif text is superimposed over the image, reading "ASIA" on the top line and "PACIFIC" on the bottom line. The text is partially obscured by the red gradient and the cityscape details.

The Asia-Pacific region is, without a doubt, the most dynamic economic growth region in the world. Also when it comes to heating technology. In China, the largest regional market, the Vaillant Group set the course for long-term growth and continued international expansion early on. Today, the momentum that comes from this multi-million market affects the entire company.

The prospects in Asia, specifically in China, have been bright for the Vaillant Group for over 15 years now. There are many reasons for this: firstly, the strong brand name that is Vaillant, a brand that has been built up in the European market for around 150 years. Secondly, an established, regional marketing philosophy geared specifically towards China. Thirdly, the Vaillant Group sets great store not just by its products but also its services, which sets it apart from any other heating technology manufacturer in Asia.

In order to understand why precisely these success factors are so crucial in China, you have to have your finger on the pulse of day-to-day business in the country.

Socialist market economy a recipe for success

It has been exactly 40 years since the People's Republic of China introduced its own economic development model, the socialist market economy. More growth and more employment were the declared goals of this realignment. After almost a quarter of a century, this vision finally unleashed its full potential, triggering an unprecedented growth spurt. Even today, this growth spurt has barely waned compared to a decade ago.

The Vaillant Group was one of the first (heating technology) manufacturers to seize this development towards the opening of the market economy as an op-

portunity and, in doing so, to actively safeguard its future on a scale that hardly anyone could have envisaged ten or 15 years ago.

A vision far surpassed

Looking back to 2007: just over ten years

after establishing its first business contacts in the Middle Kingdom, the Vaillant Group put its own plant into operation west of Shanghai, where it produced wall-hung heaters. 6,000 to 7,000 units were planned to be produced there every year. 150,000 to 200,000 units were said



VAILLANT BOILER NO. 1 MILLION – THE STUFF FOR WECHAT

WeChat is the Chinese version of Facebook, Twitter, Google and WhatsApp. It is the social network with the highest number of users in the whole of China, making it an indispensable medium for country-wide communication and information. Vaillant also uses the platform, for example, to put out the message that we had sold our millionth gas-fired boiler.

September 2017 – a wanted poster appeared on the Vaillant Home channel. The search was on for the owner of the one millionth Vaillant appliance. And this search was not without its reward: a ventilation unit was up for grabs as the main prize for the lucky winner.

October 2017 – as part of the competition, participants had to solve puzzles via WeChat. A number was allocated for every right answer. All of the correct answers revealed the serial number of the appliance.

November 2017 – the owner was found. A 24-year-old graphics designer from the city of Wuhan had purchased the one millionth Vaillant wall-hung heater in China.

21171300100152280001031010N2

Lucky number

The serial number of the one millionth wall-hung heater in China has no less than 28 digits. A lucky number for this particular owner, as it would soon transpire.



GOOD TO KNOW

Asian colleagues often have names that their European or American counterparts have difficulties to pronounce. Many Chinese employees in international companies therefore choose to adopt a European alias.

to be possible over time. Back then, the Vaillant Group was realising just one per cent of total sales outside Europe.

The target set in 2007 – to have a sales share of ten per cent coming out of Asia – was exceeded in 2017: the millionth wall-hung heater has since been sold in China. Annual sales are well into the triple-digit million-euro range, and the Asia-Pacific region, including exports, has long accounted for a double-digit percentage of the Group's business on the whole.

Today, the company's most important sales market outside Europe is indisputably China. If exchange rate adjustment is taken into account, one can speak of recent growth of 24 per cent in the country – a record figure, especially considering that average growth has always remained at around 20 per cent over the past 15 years ...



Our business has developed continuously over the past ten years. Thanks to ongoing programmes that are geared towards the country's future, the market is bound to keep growing at a swift pace in the foreseeable future – with our prospects multiplying accordingly.

Wang Weidong
Country Director China

Country Director Wang Weidong is one of the men who have been helping push open the door to the Chinese market

since the Vaillant Group's first sales office was set up. While efficient heating technology was already the norm in Europe at the time, district heating dominated the landscape in the northern parts of China and even in highly populated areas such as Beijing. In the smaller towns, especially in rambling rural regions, heating came from coal-fired furnaces: "The wall-hung boiler was therefore seen as something of a technological cultural revolution."

Growing industrialisation, sprawling metropolises home to millions of people and increasing prosperity with an equally increasing desire for comfort: with the demand for convenient and easy-to-use heating appliances growing so quickly within just a few years, it was not long before the Vaillant Group established its own sales company in China. "Today we have 30 local offices to cover after-sales services and distribution channel management, plus almost 2,000 showrooms owned by Vaillant dealers to showcase our products," says Country Director Mr Wang.

Special features typical of each region always have to be taken into account when setting up a new office: "People who live in Beijing now tend to take it for granted that they will have their own heating system, unlike people in the south." This has as much to do with the different climatic zones as with heating habits. "Right now, increasing demands are being placed in China on greater comfort, especially along the Yangtze River. This shift is paving the way for wall-hung gas boilers and high-end water heaters."

In order to be successful in China – and in the Asian markets in general – you need to have a good sense of what your



HIKING DAY FOR A GOOD CAUSE

Hiking is a popular leisure activity across China, which is why Vaillant organised a very special hiking day in October 2017 in Hangzhou, Zhejiang Province. Snapshots of laughing faces were collected throughout the day in support of the #vaillantsmile campaign. Vaillant made a donation to the SOS Children's Village in Tianjin for every smile collected. Around 1,000 people took part in the event and up to 280,000 people tuned in to watch the event online. Shortly thereafter, in November 2017, the donations were presented for the children in Tianjin SOS Children's Village.



customers might be looking for further down the line, a few years from now. Jeroen Sterel is fully aware of this. In his role as Regional Director, the Dutchman assumed responsibility for the entire Asia-Pacific region in September 2017. He knows China well; he's been working there since 2010. "Our share in the gas boiler market currently lies at around ten per cent, which places us at the top of the market ahead of all the other manufacturers from Europe, Japan and even China itself." The next step is to expand our business with hot-water devices and, in the long run, also water purification systems. "Comfort is certainly valued above all else. Almost all business and consultancy processes with the end customer take place digitally. For the Chinese consumer, this is also an element of comfort," comments Sterel. This also explains why so much importance is given to another area of business: to high-quality service.



The concept of not only offering heating technology but also providing a complete service package to go with it is something new for China. This has contributed massively to the strength of the brand. Unlike its competitors, Vaillant China is consciously treading its very own path here.

Li Lintao
Service Vaillant China

Product sales make up one side of the coin, high-quality service the other, explains Li Lintao, who has been looking after and expanding this business area in China for many years: "Our aim is to bring our customers round to the idea of investing in a gas heating system and to then support them from that point on. As things stand, no other heating technology provider in China offers such a comprehensive service at such high quality."

The quality promise associated with the Vaillant brand and the company's service portfolio really does set it apart from the competition. Our technicians are always on hand and ready to receive their next assignment over their smartphones. The entire process is highly automated: "Digital efficiency means everything considering the scale on which we are working,"



EVERYDAY DIGITALISATION

The Chinese love their smartphones; it's rare to see someone walking around without one attached to their hand. Digitalisation in Chinese society is in fact already much further ahead than in the US. Smartphones in China are used to make payments, bookings and reservations pretty much everywhere. People do not have enough time to go searching for change in purses and wallets; the Chinese have long considered this an inconvenience. Moreover, social networks are the most important source of information and the primary means of communicating with others in the larger cities. Vaillant communicates with its customers, trade partners and service technicians almost entirely via mobile Internet.

emphasises Li Lintao. And in 21st-century China with its penchant for technology, this also means gathering as much data as possible on building services technology, the customer and also the installation site and making it available to our technicians on all kinds of terminal devices.

The service team manages the technicians' assignments right up to providing directions. Compared with their European counterparts, Vaillant technicians in China, however, do not usually need route suggestions for a navigation device; in Beijing and Shanghai they are more likely to ask for the departure point and time of the nearest underground: due to the amount of traffic in the megacities, service staff are usually out and about on public transport, tools and spare parts in their backpacks ...



Nowadays, the private heating appliances found in new buildings in the megacities are state of the art. However, there are often not enough skilled technicians to install and maintain them. With the training programmes for installers, Vaillant is breaking new ground in China.

Pu Kun
Training+ programme Vaillant China

Social media

China has its own social media platform: WeChat. WeChat is a master app, combining elements such as Skype, Facebook, Doodle, WhatsApp, Snapchat, Amazon, Uber and Apple Pay in one.

Source: www.statista.com





COMPETING FOR GOOD WORKERS

Attracting more skilled workers for the role of heating installation technician – with this goal in sight, Vaillant has been cooperating with Nanjing Technical Vocational College since 2001. Vaillant's new Training+ programme is modelled on the dual education system in Germany.

September 2017 – the first class of trainees completed the Training+ programme: Vaillant Group Managing Director Dr Andree Groos and Asia-Pacific Director Jeroen Sterel handed the first graduates their certificates and tools.



Breaking into the Chinese heating technology market is a completely different ball game to anything in Europe. Most notably, there is a lack of skilled technicians who are able to install and maintain the respective heating technology. This fact led Vaillant to launch the Training+ programme in China – which in the long term may well become a new part of Vaillant's Chinese brand identity.

Pu Kun developed the programme together with his colleagues and is now in charge of its implementation: "Housing technology installations as we know them today only became customary in China very recently. This is why there is a lack of job profiles and training opportunities in this area. We don't have the kind of dual education system found, for example, in Germany. Most young people are intent on getting a university education as there is nothing available in the way of classic vocational training."

Or there was nothing, rather. Nanjing Technical Vocational College and the Vaillant Group decided to team up to create a dual training programme for heating installation technicians. During the two-month training period at the vocational college, trainees are first taught theoretical principles and practical skills. Thereafter they gain hands-on work experience at selected installation companies. The second half of the short dual training programme takes place entirely with the various companies and lasts

three months. The trainees are given a certificate once they complete the programme.

The need for qualified specialists is clear from the figures on the Vaillant Group's training and continuing education programmes running in China: since 2012, around 19,000 people have received training at one of the five training centres across the country before going on to work as service or installation technicians, or taking up positions as qualified members of staff at brand retailers.



The Vaillant brand enjoys a strong reputation in China. And impressive growth. This helps us attract new employees, despite the demographic transition in the country. At our plant in Wuxi, which celebrated its tenth anniversary in 2017, most of the around 300 employees are under the age of 35.

Dr Liangya Cheng Vaillant Wuxi

The Vaillant Group has operated its own plant in Wuxi, China, since 2007. Wuxi is located 140 kilometres north-west of Shanghai, so just up the road by Chinese standards. Its proximity to the business metropolis is what makes the plant's lo-

cation so attractive. Despite the fact that Wuxi itself has over six million inhabitants, life here is much more affordable than in Shanghai with its over 24 million inhabitants.

Over the past ten years, production capacity has shot up from 6,000 units per year a decade ago to almost 300,000 units per year today. A third of the appliances produced are wall-hung heaters, the rest are gas-fired water heaters. Development work is also ongoing at the site. This is absolutely essential as the pressure to launch new products onto the market as quickly as possible is greater in China than in other places in the world. Market regulations and customer expectations can change in an instant.

Dr Liangya Cheng is Industrial Asia Director at the Vaillant Group. He has played an active part in building up "his" plant, complete with development department, and therefore understands the importance of this site for the Vaillant Group in China: "In Wuxi, we have worked together with our highly qualified members of staff to successfully combine the established 'Made in Germany' quality with a cost structure that is 'Made in China'. This makes our products especially attractive to the growing property development sector where, like everywhere else in the world, price naturally plays an important role. Besides this, with Vaillant's successes in China, a new sense of pride is emerging in the

Online

China has the most Internet users worldwide, with more people online than in Europe or the US. Chinese content and providers dominate the domestic market, while web giants such as Baidu, Tencent and Alibaba have long stepped up to the international stage to give competitors such as Google and Co. a serious run for their money.

Source:
www.statista.com



WUXI PLANT TURNS TEN – A FAMILY CELEBRATION

The first gas-fired boiler left the Wuxi factory back in 2007. Since then, production at the site has grown to reach an annual output of over 275,000 units. Today, Wuxi is also a development site. In keeping with the good cooperation at the Vaillant Group plant, everyone at the site came together to celebrate its ten-year anniversary in September 2017. Employees who had been at the plant since the very start were honoured at the event.

bers of staff are currently employed at the Vaillant plant in Wuxi. A third of them have been educated to a level comparable to that of an engineer. Most of the employees are younger than 35 years old. This is an exceptional figure considering the noticeable lack of skilled workers in China. Dr Liangya Cheng has a good explanation for this: “We invest a great deal in qualification measures. The bigger the challenge, the better our employees become. And, of course, they can also depend on strong future prospects, both for themselves and their families.”



Right now, wall-hung heaters are our core business in China. In the long run, however, we need to invest in new strategic areas. As part of our China strategy, we are also expanding our product portfolio.

Matthias Junge
Vaillant Manager Commercial Strategy

Matthias Junge is fully aware of the significance of the Asian heating technology market in general and the Chinese market in particular. The 37-year-old is based at the Remscheid company headquarters, where he works, among other things, on furthering the development of the Vaillant Group's product portfolio and sales structures for the high-volume market that is China – thereby adding value to the business development of the entire Group. “The Vaillant Group started venturing into markets outside Europe early on. We have been present in China since 1995. The topic of international expansion still counts among the four key pillars that make up our corporate strategy today and forms part of our corporate vision.”

Besides the sheer size of the market, there are other very good reasons for focusing on China. Nowhere else in the world does the dynamism of the market and the general acceptance of new technologies require manufacturers to be so flexible in adapting to new technological and social developments in a very short space of time: “The entire Vaillant Group ultimately profits from this in the end!”

A typical example here is the high level of digitalisation that not only defines business processes in China but is also expected of the systems themselves. “Digitalisation, which also happens to form part of the Vaillant strategy, is much more advanced in everyday life in Asia than here in Germany. We have to orient ourselves towards this. And our range of services in the traditional core markets can be aligned accordingly at a later stage.” Whether things will advance to the level seen in China, whereby the entire communication – with end customers, market partners and service technicians – will eventually only take place online via a tablet or smartphone is anyone's guess. “It is, however, crucial that we are generally prepared for these developments and are able to transfer our collective experience if and when the time comes,” remarks Matthias Junge. The momentum emerging from China thus also helps drive forward positive corporate development in our home markets.

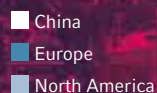
2010



2016



Internet users;
in millions



Optimistic

No one has a more optimistic take on the future than the Chinese. The People's Republic came out on top here in a recent country comparison.

Source: YouGov

[China](#)

[Indonesia](#)

[Saudi Arabia](#)

[Thailand](#)

[United Arab Emirates](#)

[Sweden](#)

[Denmark](#)

[Norway](#)

[Finland](#)

[Hong Kong](#)



In the Asia-Pacific region, we offer a range of products that we are able to build on. The markets in this region, however, demand agility, quick decisions and, last but not least, courage.

René Föhles

Vaillant Head of Business Development Asia-Pacific

René Föhles is responsible for advancing business activities in the Pacific region. He understands the differences between the various markets in Asia and how they should be perceived. He keeps an eye on Hong Kong, Taiwan, New Zealand and Australia and is pretty much a pioneer when it comes to recognising and tending to the needs of individual countries. "We cannot impose the usual European structures on any of these countries. On the one hand, each one of them is focused on a different technology; on the other, decision-making channels are not the same. Our sales partners are usually also development partners with comprehensive market experience and local product requirements. Besides the international brand reputation, they have high

expectations in terms of adaptability and fast market launches of our products, which affects all business processes."

What does this mean for day-to-day operations? For a start, the acceptance of new technologies comes as a given: in Hong Kong, electric underfloor heating and air-conditioning units that also function as heaters may be used at best; Vaillant is trying to win market shares in the competitive water heater business. It is the same in Taiwan; besides water heaters, there are now also exclusive underfloor heating systems being offered in the premium segment. If we look at New Zealand, the combination of heat pumps with a cooling function and ventilation systems is opening up market potential in addition to efficient gas boilers. And it remains to be seen what the Vaillant Group can expect from Australia this year. What is known is that the fifth continent is the largest market for hot-water heaters in the entire Asia-Pacific region, however, it also has its own, rather distinct certification requirements.

For René Föhles, it is precisely these peculiarities, the rather different degrees of maturity of the markets and the diverse technical regulations that make his work so stimulating: "Alongside our core business, such as preparing market analyses or developing sales strategies and distribution channels, we are equally sought after here in matters pertaining to product development, quality assurance and the technical adaptation of systems. This is extremely interesting, however, it does of course entail the occasional risk of failure. This allows us to constantly experience new learning curves, to see how we as the Vaillant Group can establish ourselves even better in these markets and continue to record growth at the current rate of around 30 per cent in the years to come."

The odds are favourable. At present, first steps into the project business, i.e. providing the necessary systems for large properties, are proving successful. The significance of this in cities such as Hong Kong, and of course in other metropolises home to millions of people in Asia, is reflected in just one figure: in a single high-rise complex, every apartment is fitted with a Vaillant electric water heater – over 1,400 units in total ...



WINDOW SHOPPING FOR HEATING APPLIANCES

The three-tier distribution channel comprising manufacturer, specialist wholesaler and installer does not exist in China. Instead, customers go to a local retailer to choose their preferred heating appliance. Each of these retailers, however, promotes just one heating brand. Brand image and product presentation have a huge impact on purchase decisions. Vaillant is a coveted brand among retailers thanks to its technical support and sales assistance. In May 2017, the new retailer search function was launched online in the Vaillant WeChat channel. As well as searching through the Vaillant China website, customers can now quickly find a local retailer within their social network. With resounding success: 76 per cent of people using the retailer search function are new customers.



NEW BRANCH IN SHIJIAZHUANG

In September 2017, the Vaillant Group opened a sales office in Shijiazhuang, the capital of China's Hebei Province. Over ten million people live within the city's commuter belt. Key retailers in the region are now assisted directly from this office.

...TO BE CONTINUED



Cold, vast, silent: for 80 years, one man has been living in Naimakka, who feels very much at home in the seclusion of the Swedish north.

AT THE ARCTIC CIRCLE

Connected with the whole world



Most people know the northern star as the brightest star of the north, a star that doesn't fade into the background as the world changes around it. This definition also rings true for a different northern star in his own right – a likeable and friendly, and perhaps also a somewhat gruff old man from Sweden. And he has become an unlikely celebrity. His name is Åke, he is 80 years old and he lives with his reindeer Ole in Naimakka,

the coldest place in all of Sweden. In the quiet solitude of the Far North, set back from all civilisation Åke's only connection to the rest of the world is via the Internet. Last year, the active Swede had a brainwave. He figured out a way of attracting visitors to the remote village of Naimakka. He used his weather station located way up north on the border with Finland for this purpose. Åke's story hit the headlines and caught the attention of people in Sweden and abroad. Visitors from near and far have been finding their way to the polar region to call in ever since.





Naimakka

68°39'31"N

One solitary road leads
to the remote village
of Naimakka.



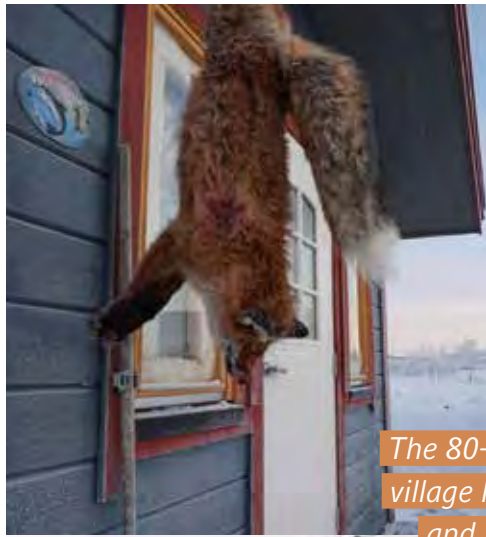
Naimakka – 235 kilometres north of the Arctic Circle; a place that boasts all of the elements so many people love about Sweden: sheer endless expanses, tranquillity and the characteristic Nordic calmness. One solitary road leads to the village, or at least stops a few kilometres before it; the rest of the journey has to be covered by boat in the summer. Those who make the long trip are rewarded with untouched nature of the kind that is only found in places as remote as this one.

While summer sees the night turn to day, with the sun not setting for a single minute around the time of midsummer, winter is dark with barely any light of day. Temperatures drop as low as minus 40 degrees, falling even further in extreme cases. During the

darker months, from August to April, the Northern Lights can often be seen dancing across the skies – a fascinating spectacle that will never lose its draw, not even for those who have lived in the Arctic region for many, many years.

In Naimakka, completely secluded and far away from any form of civilisation, there is only one inhabitant: Åke Siikavuopio. He looks after the local weather station and checks that air temperature and pressure, wind speed and direction, sunshine duration, rainfall and atmospheric humidity are all recorded. “I keep an eye on the weather or, better said, on sudden changes in the weather. The weather can change quickly so far north, which is why meteorologists are particularly keen to know what’s happening,” he says. Åke’s closest neighbour lives three kilometres away; he has to travel 55 kilometres to reach the nearest shop.





The 80-year-old is happy to call a secluded village his home. He grew up in Naimakka and knows how to be self-reliant and live off the land.



This is Åke's home – and it has been for 80 years. The qualified welder and mechanic took over the weather station from his father many moons ago. He lives in one of the twelve wooden huts that still stand in Naimakka today, two of which house dry toilets. He looks after himself, carries out repairs and still goes fishing and hunting. "I've spent my entire life in Naimakka. That's quite extraordinary and special in itself. It's incredibly beautiful here and I'm completely free to do as I please. I'm my own master – there aren't many people who can say the same," remarks Åke. He loves living among nature

and he loves being outdoors: "It's part of everyday life for me." Åke doesn't get that much company. His reindeer Ole is a faithful and constant companion, who Åke sees as part of the family. Now and again his son and grandson come to visit. On these occasions he prepares a traditional Swedish "fika" in his warm hut – a long, cosy catch-up over coffee and cinnamon buns as is customary in Sweden. Modern technology allows him to be close to both of them all year round: a fast Internet connection comes as a given in Sweden, even in the most remote corners of the country. "Being able to skype my son and watch the Northern Lights together makes me happy," Åke says.



True companion:
reindeer Ole



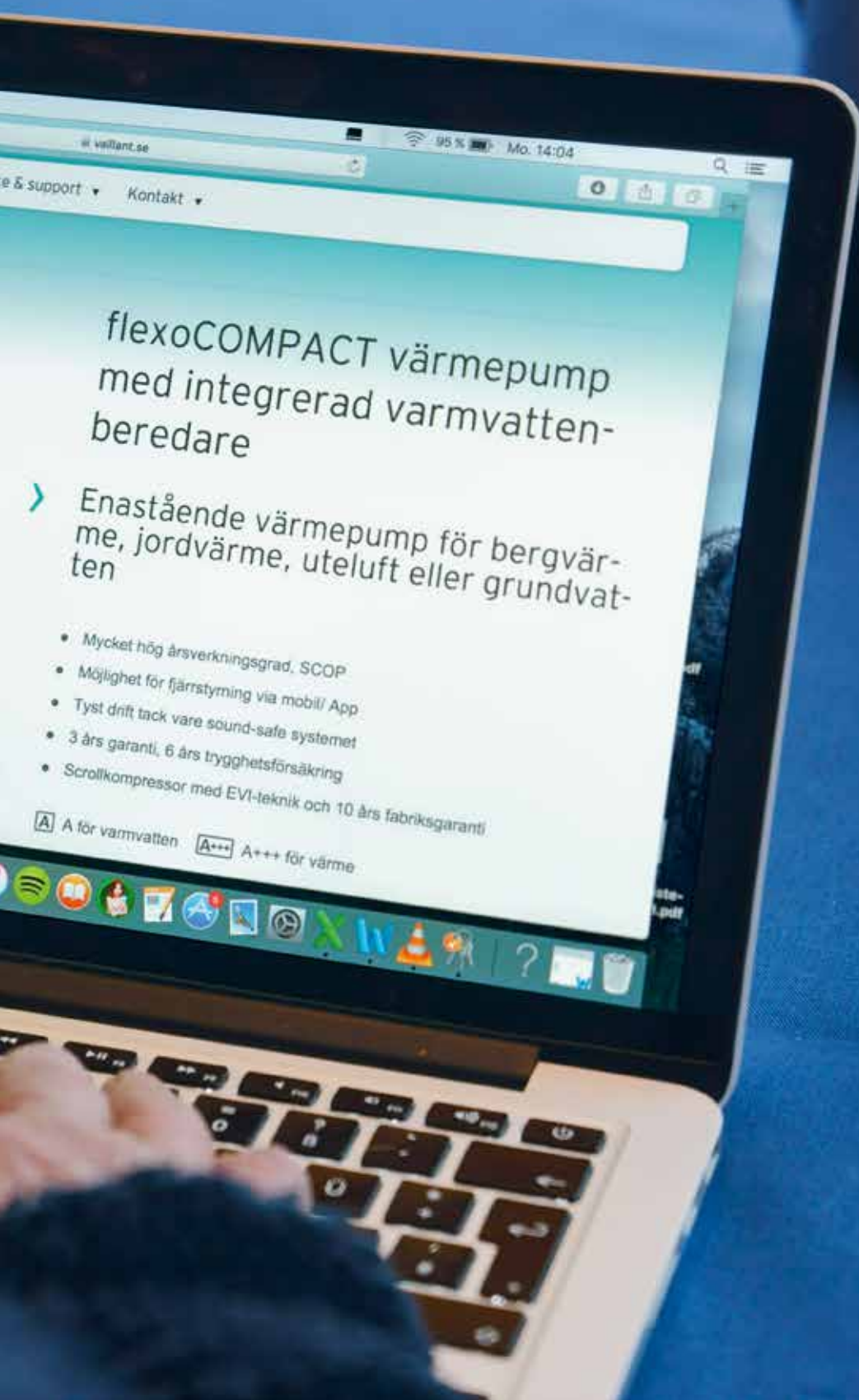
As much as he loves nature and his freedom – Åke also likes company. “However, I don’t often get visitors. The time can drag, especially in winter,” he says. “But then I came up with a plan that was certain to make a lot more people aware of Naimakka.” An unusual idea: Åke had a tent set up around the weather station and asked an installation technician to heat it up. He didn’t want the instruments in the Arctic weather station to take readings of the minus temperatures typical of this time of year; he wanted them to measure a much toastier 21 degrees – a reading that was sure to grab the attention of the main weather centre. And that it did.

The tent is in fact a geodesic dome with a diameter of almost ten metres. Made up of triangles, its efficient shape takes inspiration from nature and is extremely sturdy. Its small surface area keeps it well insulated against the cold. The warmth stays inside. To keep it heated, Åke had a heat pump installed which works reliably even in the Arctic cold. Vaillant provided the appliance for the purpose. “We set everything up under extreme weather conditions. The tent went up within the day and it wasn’t long before it was warm and cosy inside,” recalls Åke.





Armed with a tent and a heat pump,
Åke caused a "weather phenomenon" to
draw people's attention to Naimakka.



flexoCOMPACT värmepump med integrerad varmvatten- beredare

> Enastående värmepump för bergvärme, jordvärme, uteluft eller grundvattnet

- Mycket hög årsverkningsgrad, SCOP
- Möjlighet för fjärrstyrning via mobil/ App
- Tyst drift tack vare sound-safe systemet
- 3 års garanti, 6 års trygghetsförsäkring
- Scrollkompressor med EVI-teknik och 10 års fabriksgaranti

A A för varmvatten A+++ A+++ för värme

It didn't take long for Åke's plan to bear fruit: German weather journalist Alexander Hildebrand headed up to Naimakka with a camera crew to expose what was causing the heat wave in the middle of the Arctic winter. He made the long journey north to get to reveal the cause of a weather phenomenon – and came face to face with the phenomenon that is Åke. Åke invited his guests into his warm tent, noting just how nice it is to chat over a cold beer in the warmth.

The story went through the Internet. And people became intrigued by Åke's life. The life of a man who had developed his very own take on the world from his remote village in the land of the midnight sun. Since then, he occasionally shares his insights into Swedish customs and habits on Facebook, revealing trivia worth knowing or odd enough to tell. Over 1,000 people follow his thoughts and opinions, whether on attitudes towards life, friendships or topics such as climate change, digitalisation and sustainability. Even short films about Naimakka and the peculiarities of life in Sweden have been made this way.



With his idea, Åke also fuelled media interest. Meteorologists, bloggers and independent travellers have since discovered Naimakka.





A warm welcome to Naimakka after two days of travel from the Far East



Two young travel bloggers from Shanghai brought a touch of the flair of Chinese culture to the Swedish idyll.





For some people, no distance is too far. When two young women 7,000 kilometres south-east of Naimakka hear about the friendly Swede and his weather station, they embark on a journey. Mandy and Winnie are bloggers from Shanghai. The young women use China's most popular social media platform to report on their travels to far-flung countries and give 800,000 Chinese a glimpse of foreign lands. They leave their fast-paced metropolis behind them and head off to discover Åke's world, bringing with them everything needed for a true Chinese hot pot.

After arrival, Mandy and Winnie spend an entire day with Åke in his Swedish hut, where the three of them

talk about their different cultures. While Åke tells them about his independent lifestyle surrounded by nature and describes how he goes fishing, hunting and cures meat, Mandy and Winnie prepare the typical Chinese meal for him. The northern star is even treated to a serenade: a folk song about the beauty of white jasmine known to every child in China.

Unlike the two women, Åke has rarely journeyed into the world – his furthest trip once took him to southern Sweden some years ago. He only knows about China from afar and enjoys this very special break from routine and charming visit. "It's lovely when people from different worlds get to meet and form friendships."





A BUSINESS MODEL TO PROTECT THE ENVIRONMENT

The UN Climate Change Conference in Paris demanded the attention of each nation and a new start for all. The answer to climate change: a complete departure from fossil fuels, improved energy efficiency and more renewable energies. Also for heating and cooling. The Vaillant Group is preparing for this profound change and expanding its heat pump business. The transformation is already apparent: in production, in development and also in the markets.



he 2015 UN Climate Change Conference in Paris saw the nations make a pledge to limit global warming to below two degrees Celsius – a milestone for climate protection and the last chance at implementing a consistent, international climate protection policy. Greenhouse gas emissions are to be reduced to zero by 2050. The Vaillant Group will not only do its bit to help achieve these goals; it will also set the course for future growth.

At the end of the conference, Laurent Fabius, at the time Foreign Minister of host country France and President of the UN Climate Change Conference, lifted his green gavel and struck it down. “The Paris Agreement for the climate is accepted!” This was followed by a burst of cheers and standing ovations. In his closing remarks, he said: “With a small hammer you can achieve great things!” The deal was done – for the time being.

The 196 negotiating parties – 195 nations and the European Union – had just made a pact to limit global warming to well below two degrees Celsius, or 1.5 degrees where possible, compared to pre-industrial levels. For the first time in history, all of the nations had made a

joint and globally binding agreement to actively fight climate change, to initiate the transition to low-carbon societies and economies – and to start actively reducing greenhouse gas emissions even before 2020.

Up to the very last minute, the parties contended for subtleties and specific wording until conference president Laurent Fabius – having already extended the deadline by a day – finally allowed his gavel to fall on 12 December. The agreement has since ensured that all states meet their obligations. For the first time. And it is binding under international law. The nations each have to determine their own climate protection contributions, introduce specific measures and report regularly on their progress. They have to set ever more ambitious targets every five years.

Time is of the essence

And necessarily so: if the two-degree target is still to be reached, greenhouse gas emissions have to be cut back around the globe at once. In the second half of this century, the proportion of climate-damaging gases released into the environment has to be smaller than the proportion the atmosphere is able to remove, for example through forests. This will only happen if carbon emissions, especially those based on fossil fuels, are dispensed with completely. In a nutshell: the long-term goal is complete decarbonisation by 2050.

The Paris Agreement took effect on 4 November 2016. By the end of 2017, 174 nations and the EU had ratified the agreement. 169 nations have since submitted and also initiated their national climate action plans.

The Vaillant Group will do its bit to help achieve these goals and also set the course for future growth.





Consumers and the industry need to live up to their responsibilities and so do governments and state organisations.

Rationally speaking: the climate protection goals set by the nations so far are not hard-hitting enough to meet the two-degree target. Even the European Union, with its “Roadmap for moving to a competitive low-carbon economy in 2050” and its implementation of the same, is not entirely on track. The objective for the middle of the century is to reduce greenhouse gas emissions by 80 to 95 per cent compared with the figures from 1990. Milestones set along the way are a 40 per cent reduction by 2030 and 60 per cent by 2040. New negotiations to increase these targets are planned for 2018.

Sights set on the building sector

As part of its climate policy, the EU is placing a lot of emphasis on increasing energy efficiency and drastically reducing the use of fossil fuels. The electricity production, industry, transport and agriculture sectors all play an important role here. Besides this, more and more attention is being given to the amount of energy used in buildings; a consideration Brussels has increasingly incorporated into its energy and climate protection policy. In March 2016, the European Commission published a heating and cooling strategy after recognising how much leverage there is: ultimately around 50 per cent of final energy consumption can be ascribed to heating and cooling, the highest proportion in Europe. And this will most likely be the case for years to come.

According to the EU, however, emissions from residential and office buildings can be almost completely reduced – by 90 per cent come 2050 – if new builds, for instance, were to incorporate passive house technology and if a high number of older buildings were purposefully renovated. It also stated that fossil fuels for heating, cooling and cooking should be replaced by electricity and renewable energy sources. However, there is still a long way to go to achieve this goal.

A changing society

In order to turn the resolutions made in Paris into a reality and take them seriously, close to complete decarbonisation by 2050 is absolutely essential. Everyone is agreed on this, although the consequences this entails affect the whole of society. This places not only those governments and state organisations that negotiated the climate agreement under an environmental obligation, but also consumers and industry.

A far-reaching transformation is required. Decarbonisation implies changes to mobility, to production processes in industry, and to the generation and use of electricity and heat. It means that new builds will have to be zero-energy or even plus-energy houses; that farming and also our diets will have to change. Not all of these changes are expected to happen quickly, but some things, such as the lowest-energy standard for new builds, will soon be legally enforced in the EU.

It is safe to say that energy consumption in buildings has become a key energy policy matter. This, in turn, has a direct impact on the Vaillant Group's core business. Decarbonisation presents both a challenge and an opportunity, mandate and responsibility. It is clear that efficient heating technology can make a significant contribution to climate protection; in a similar vein, heating and cooling technologies based on renewable energies are also edging further and further into the eco-spotlight.

Change is on its way ... The little green gavel struck down by Laurent Fabius might have ended the conference, but the actual work has only just begun.



CO₂

Interview with Federica Sabbati

"Make a change in every single family home"

→ **Revolutionary? Insufficient? What is the impact of the Paris Agreement on climate and Europeans in your view?**

← *Federica Sabbati:* It is revolutionary, I think, from a global perspective. Europe has been on a path towards very clear goals in terms of CO₂ reduction for some time. We know already where we are heading. But the fact that in Paris a global agreement was reached has since then brought more visibility to the issue of climate protection and climate change worldwide. It has sensitised more people. It was a very important signal to governments, politicians and industrial sectors.

→ **What does the Paris Agreement mean for the HVAC industry and its customers?**

← It means there'll be no more business as usual anymore. It's a clear message. Energy efficiency is imperative and decarbonisation is the goal. Energy supply has to comply: electricity production needs to turn green and gas needs to be renewable. The HVAC industry has to contribute, too. The technologies that are put on the market need to comply. The challenge, however, is that we are talking about the building sector. And therefore, we are talking about having to reach and make a change in every single family home.

→ **Only months after the climate summit, the European Commission presented a strategy on heating and cooling. Why did this happen?**

← The point of departure is that for decarbonisation you will have to include the building sector into the plan. Not just the transport sector, industry and electricity generation. The strategy focuses on buildings because of the total amount of their energy consumption and, accordingly, the potential for energy savings. A second reason was that at a national level in Europe, hardly any country had a strategy of its own.

→What does that mean in terms of legislation?

←The main pillars are the Energy Performance of Buildings Directive (EPBD), the Energy Efficiency Directive and the Renewable Energy Directive. The EU sets targets, intermediate and long-term, including sectorial targets. Increase of energy efficiency is the biggest lever in the building sector, as it will decrease CO₂ emissions and in parallel increase the share of renewable energy use in heating. Member states are pushed to create national alliances that focus on the renovation of the building stock across Europe. A large part of the buildings in Europe were built before the 1950s or 1960s, when there were few energy regulations for buildings, if any.

→How does the implementation work?

←The review of these directives is to be adopted in 2018. There is a mix of mandatory targets and recommendations, because the economic situation of every country is different, of course. The resources and infrastructure are very different. If you look at Germany, it is very much a gas-based infrastructure. If you look at France, it is very much electricity-based due to their nuclear production. So, no one solution fits all.

→What are the tasks for the HVAC companies now?

←We see the modernisation of the heating stock as a main priority that we have to deal with as an industry. We need to make sure that people are aware of energy efficiency. We recently suggested the introduction of an energy label, not just for new products but also for older, installed appliances. This would raise consumer awareness. We already have this energy label for older appliances in Germany, Austria and in the UK. Many other countries in Europe are considering adopting it.

→The ratio of heat pumps and renewables in the European heating market is still relatively low. What must be done to promote renewable heating technologies?

←The focus needs to be on consumer awareness, the role of installers, and financing of the investment costs – because a heat pump simply costs much more than a boiler. Like I said, people need to know how efficient or inefficient their current heating system is. Therefore installers have an especially important role because they advise consumers and can push for modernisation of the old stock through the promotion of efficient and renewable-based technologies such as heat pumps. Partnerships – private and public, companies and policymakers – can be a winning solution to that end.

→European markets show different degrees of maturity when it comes to heat pump technology and renewable energies. Why is that?

←Different countries have invested in different technologies and in different infrastructures for energy generation. In the north of Europe, of course, renewable electricity is more common. Investments in green energies have been made for 20 or 30 years. In other parts, such as Italy for example, there have been big investments made in the production and infrastructure of gas. And then you have countries such as Poland relying very much on coal. The disparity and the sources of energy are very much linked to the natural resources of a country.

→How should we deal with this situation?

←It's very clear to everybody who works in the field of energy in Europe, that despite differences we have a serious problem with climate change and therefore we have to change the way we produce and use energy. The suppliers of gas and electricity have in many cases increased their attention on alternative ways of producing their energy. They are taking new approaches: gas becomes biogas, for example from agricultural manure, or green hydrogen. Oil becomes bio oil. And electricity becomes green. But no energy transition happens over night. It is a very long road.

→What do you expect for the more distant future?

←To be honest, if you had asked me a few months ago, maybe a couple of years ago, I would have said something different. But there are some developments which I find quite relevant. There is increased attention on renewable gas, whether it is hydrogen or power to gas. I see more heat pumps than today, more hybrids, more smart heating systems. I don't see – to be honest – that it's all going to be based on electricity, for example, or all on gas. The heating market in 2050 is going to be very different from what it was in 1950. That's for sure.

Federica Sabbati is Secretary General of the Association of the European Heating Industry (EHI). She has been working in policy-making at the European level for more than ten years. She possesses expert knowledge in the field of EU energy and climate legislation.



The demand for heat pumps is on the rise, growing faster than for any other product segment at the Vaillant Group. All hands are on deck to increase production capacity and expand the Group's product portfolio. A milestone was achieved in 2017 when heat pump production officially moved to the Remscheid competence centre. All of the departments involved in product creation have been able to work closely together ever since. A specialised business unit now oversees all of the activities associated with the heat pump business. The aim is to get better and faster.

Vaillant's flexoTHERM heat pump rotates around its own axis until it is packed from top to bottom. The automatic turntable that prepares it for transportation forms the final stage of the new production line in hall 4.4 at the Remscheid plant. Heat pumps have been built here in large quantities since the start of 2017.

It took a lot of work to get this far. Preparations to extend the production lines and cover the different models began as early as 2016. At the time, the Vaillant Group had decided to create one centre of competence that would be specifically geared towards high-efficiency technologies, primarily heat pumps, as part of the realignment of its entire production network. The decision fell in favour

of the Remscheid plant at the company headquarters – for a site that would be right next to key departments such as Development, Quality Control and Programme Management. “We had to make room for it,” recalls Plant Manager Lutz Forßmann. Electrical appliance production moved to Skalica; tube production to Trenčín. Even Lutz Forßmann himself had to relocate: his office is now where copper pipes were once processed and where heat pumps are constructed today.

In the second half of 2016, it was time to train employees new to the world of heat pump technology. “Take everything you need to know about wall-hung gas-fired heaters, for example, and times it by ten or twelve: that's how much there is to learn about heat pump technology,” explains Andreas Hesener, who was responsible for the construction in Remscheid as Industrial Engineering Team Leader. “Our colleagues really got down to business,” report Andreas Hesener and Plant Manager Lutz Forßmann. It takes over 200 minutes for a Vaillant heat pump to make its way through the production line and come out the other end, all packed and ready to be delivered to the customer.

Some of the stages involved are particularly demanding, such as special soldering processes; employees had to attend training courses to gain the necessary technical expertise. The so-called “Station 5” is also not without its challenges: this is where the refrigerant circuit is

“evacuated”, which means a vacuum is created before the refrigerant is poured in. The planners have expanded not only the evacuation station, but also pre-assembly and the high-pressure test rigs in Remscheid. “With an eye to increasing output, we first conducted a bottleneck analysis,” explains Hesener. The changes made on the back of this analysis managed to double capacities.

Development and production side by side

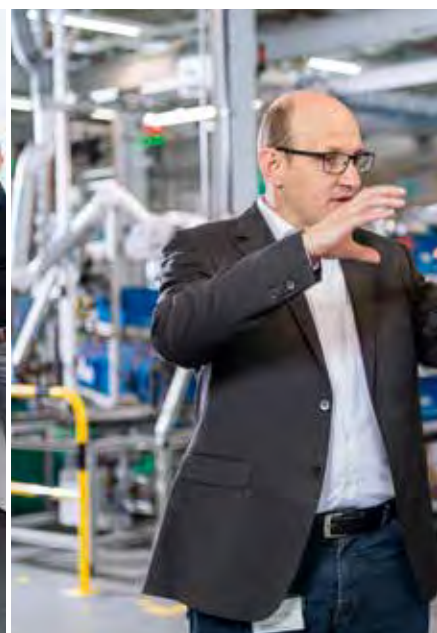
The appraisal carried out by colleagues from the Development department was also helpful. After market launch, they regularly take stock of production and sales data, aiming to continually optimise production of the various models. This was done in this case as well. “We offered our insights,” reports Markus Hiegemann, who was the overall project manager on the flexoTHERM platform in his role as Senior Project Manager of the Research and Development department.

The collaboration with Andreas Hesener was close and the spatial proximity at the Remscheid site useful as many things needed clarifying along the way. “Being so near to each other made our work easier,” recalls Andreas Hesener looking back.

In December 2016, Hesener's team set up the flexoTHERM line with the new layout. The team had previously installed test rigs and two other production lines in Remscheid. In January 2017, it was



With heat pumps and renewable energies on a growth path – the team of the new business unit



R&D Project Manager Markus Hiegemann and Industrial Engineering Manager Andreas Hesener (r.)

80

per cent increase in
production capacityHeat pump sales
in 2017 over

30

per cent above the
previous year

time for the pilot run. An exciting, intense time: “I was really happy and relieved when we had everyone’s signatures in black and white after the pilot run, confirming we could start on production,” admits Hesener.

Ready for increasing demand

Work has been ongoing pretty much around the clock ever since, split between three shifts, six days of the week. In June 2017, the Remscheid plant finally caught up on its backlog. The flexoTHERM line was followed by other production lines – for a geothermal heat pump and for ventilation systems. “This was a huge challenge for the plant. I’m really proud of how we mastered it and I’m blown away by the level of commit-

ment shown by our colleagues,” emphasises Plant Manager Forßmann.

The pressure was really on as the markets were urgently awaiting new heat pump deliveries; concentrating heat pump production had led to a temporary bottleneck. “We have now overcome this. By increasing our ability to supply, we have prepared for a rise in demand,” says Dr Barbara Priesching, Director of the Heat Pumps and Renewable Energies business unit. “The close proximity between production and development is clearly paying off.”

This is important, especially as one of the key goals is to speed up processes. “We have to get faster, bring new products to market quicker,” says Priesching. The

100

variants of
heat pumps

new Heat Pumps business unit, which she has presided over since April 2017, oversees all activities regarding heat pumps. It is a one-stop shop for everything from planning new products in the roadmap to certification and market launches right over to marketing and training concepts. "The unit enables us to consolidate all our heat pump knowledge and expertise from across the company in one place." 2017 was very much focused on quickly putting the new structure in place and defining processes. The aim here is to work cross-functionally within the organisation.

Equally strong in electric and gas

Driving forward the heat pump and renewable energies business is a huge task, despite it not being entirely new. With almost two decades' experience of "green" products under its belt, the Vaillant Group has accumulated a wealth of knowledge in this area. Despite this: "It represents a paradigm shift considering our 140 years of core competence in the gas business," explains Priesching. This is reflected in the corporate strategy and vision. Alongside digitalisation and internationalisation, electrically powered products, first and foremost heat pumps, play a pivotal role in the future success of the company.

The business unit acts as a hub, carrying knowledge far into the organisation and out to its customers. Its task is all-encompassing. "We set targets and put our heads together with the different markets to come up with appropriate strategies. We also provide the necessary skills here, by assisting with training, planning and product launches, for example. Last but not least, it's our job to motivate our colleagues," explains Priesching.

Working closely with the markets is something she values very much: she was Country Director in Austria before assuming management of the business unit in April 2017. Her new role saw her

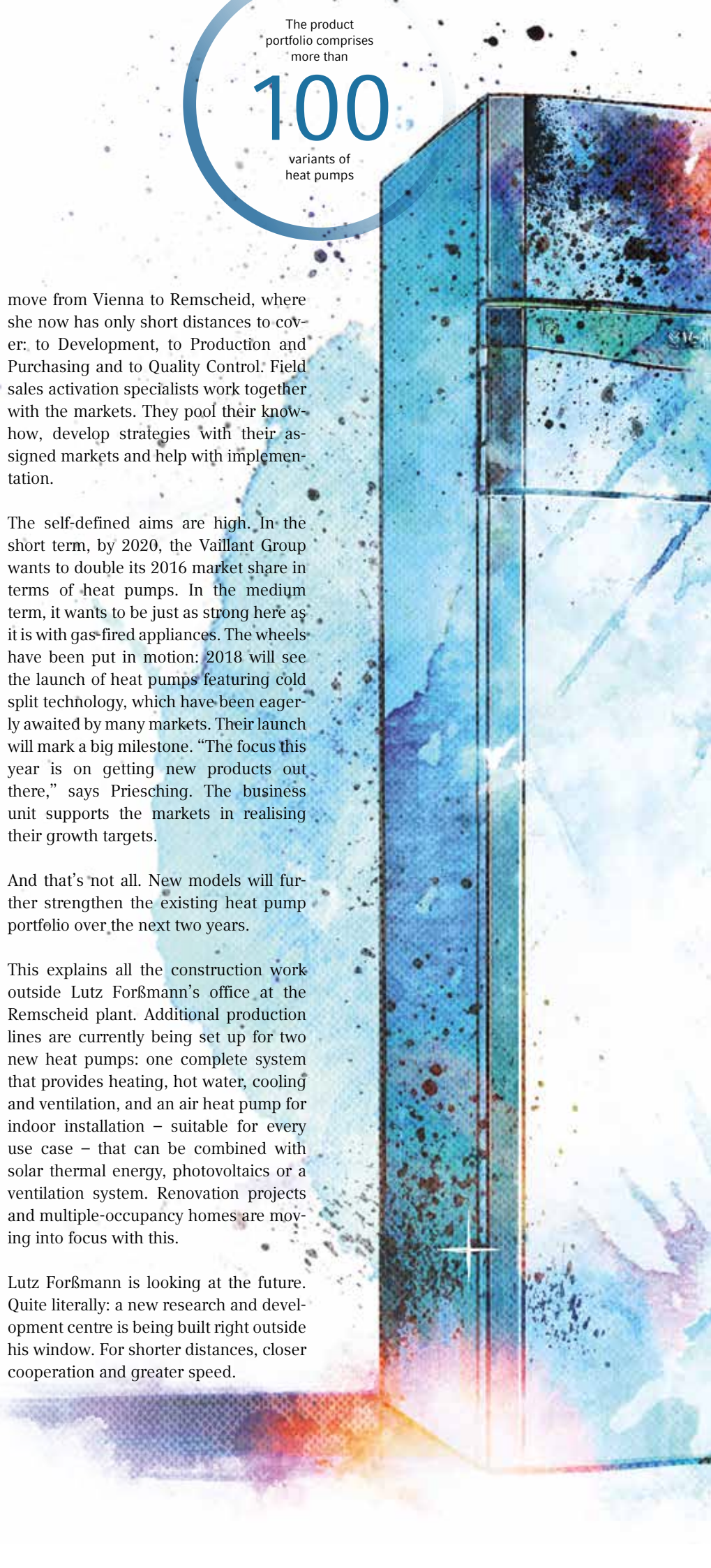
move from Vienna to Remscheid, where she now has only short distances to cover: to Development, to Production and Purchasing and to Quality Control. Field sales activation specialists work together with the markets. They pool their know-how, develop strategies with their assigned markets and help with implementation.

The self-defined aims are high. In the short term, by 2020, the Vaillant Group wants to double its 2016 market share in terms of heat pumps. In the medium term, it wants to be just as strong here as it is with gas-fired appliances. The wheels have been put in motion: 2018 will see the launch of heat pumps featuring cold split technology, which have been eagerly awaited by many markets. Their launch will mark a big milestone. "The focus this year is on getting new products out there," says Priesching. The business unit supports the markets in realising their growth targets.

And that's not all. New models will further strengthen the existing heat pump portfolio over the next two years.

This explains all the construction work outside Lutz Forßmann's office at the Remscheid plant. Additional production lines are currently being set up for two new heat pumps: one complete system that provides heating, hot water, cooling and ventilation, and an air heat pump for indoor installation – suitable for every use case – that can be combined with solar thermal energy, photovoltaics or a ventilation system. Renovation projects and multiple-occupancy homes are moving into focus with this.

Lutz Forßmann is looking at the future. Quite literally: a new research and development centre is being built right outside his window. For shorter distances, closer cooperation and greater speed.



It goes without saying that no two markets are the same. This also rings true in the heat pump sector. Each market has its own needs and, above all, its own regulations and conditions: from competition to climate and market maturity, right over to its national energy policy.

Geothermal heat pumps are already an established technology in Scandinavia, familiar to customers and installation technicians alike. In many Central and Eastern European countries, however, customers are yet to be persuaded of the virtues of this technology and technicians are lacking appropriate training. This accounts for the different strategies and activities pursued by the various national sales companies.

There is, however, one attribute the heat pump markets do have in common: they are all growing.

Sales of heat pumps
expanded to

36
countries

Austria

At last: Vaillant finally became market leader in the Austrian heat pump market in 2017. We have been marketing the appliances since as early as the 90s, in small quantities to begin with. The market developed well over the past ten years and we have been able to take full advantage of this upswing with our wealth of experience in the sector.

We benefit from our strong brand; we have solid products and offer our customers security through our extensive factory service package and *Wärmegarantie-plus* warranty. We are also on hand to help our specialist partners and support them with planning and installation. Vaillant is ever-present – a fact that pays off. Customer retention is high.

We also boast strong partnerships with general contractors, builders and prefab house manufacturers, all of whom play an important role in Austria. We sell half of our heat pumps through these institutional partners. The prefab house manufacturers are extremely innovative and take care of their customers' every need. Right now we are number one in the market, but this does not mean our job is done. The heat pump market is growing, and we want to grow with it.

Josef Kurzmann, Key Account Manager Home Builders

Spain

Spain is essentially two markets in one. Both our brands have a high presence in the north, however the same cannot be said of the central and southern regions. Demand here is much more focused around cooling, which is why manufacturers specialising in air-conditioning units have always dominated the market. We are working on increasing our presence across the entire country.

In order to be successful here, we also have to expand our network of qualified installation technicians for both brands. Our principal strategy therefore could not be clearer: training – along the entire process, from working out initial calculations through to operation and maintenance, right over to the installation app and connectivity, which is closely linked to the heat pump. More than 1,300 people received training in our 2017 sessions, and we even opened a new training centre in Madrid in September 2017.

The heat pump market is growing, partly because legislators are placing ever increasing demands on energy efficiency and also due to the rapid increase in energy prices, especially gas prices. The end of 2018 will see even more European regulations on the energy efficiency of buildings take effect, signalling another boost for heat pumps.

It is important to us that we are able to offer the right products and services in the growth segments. In Spain, this primarily means multi-family houses, e.g. apartment buildings. In just five years from now, heat pumps are expected to have been fitted in up to 75 per cent of all new apartment buildings. We must focus on being well prepared to handle the increasing demand.

Jaime Ruiz, Heat Pump Field Sales Advisor Spain and Italy

Poland

The Polish heat pump market is growing slowly but surely and remains the largest heating market in Eastern Europe. We're still in the early stages, however, the growth rates for heat pumps in the market are impressive. Air-water heat pumps are especially sought after. Manufacturers from the Far East dominate here, and the market is also rather price-driven.

We have to convince partners and customers of the merits of our heat pump expertise. At the same time, we are training installation technicians to work in the heat pump sector. We have eagerly awaited the introduction of the aroTHERM with its split technology as we need this technology on the market. We will be launching the auroPOWER photovoltaic system in May 2018. With this and also a ventilation system, we will then be able to offer a complete heat pump system. This will strengthen our position as a full-service provider: one supplier, one installer, one control unit, one warranty, one service. That's our USP.

A net metering scheme is in place in Poland, where self-generated electricity is fed into the grid and almost the same amount of energy can be taken back out again later. This makes heat pump systems with integrated PV systems especially appealing. We expect politicians to continue fighting against fine-particle pollution caused by old coal-fired furnaces. This would make heat pumps an interesting option for the renovation market.

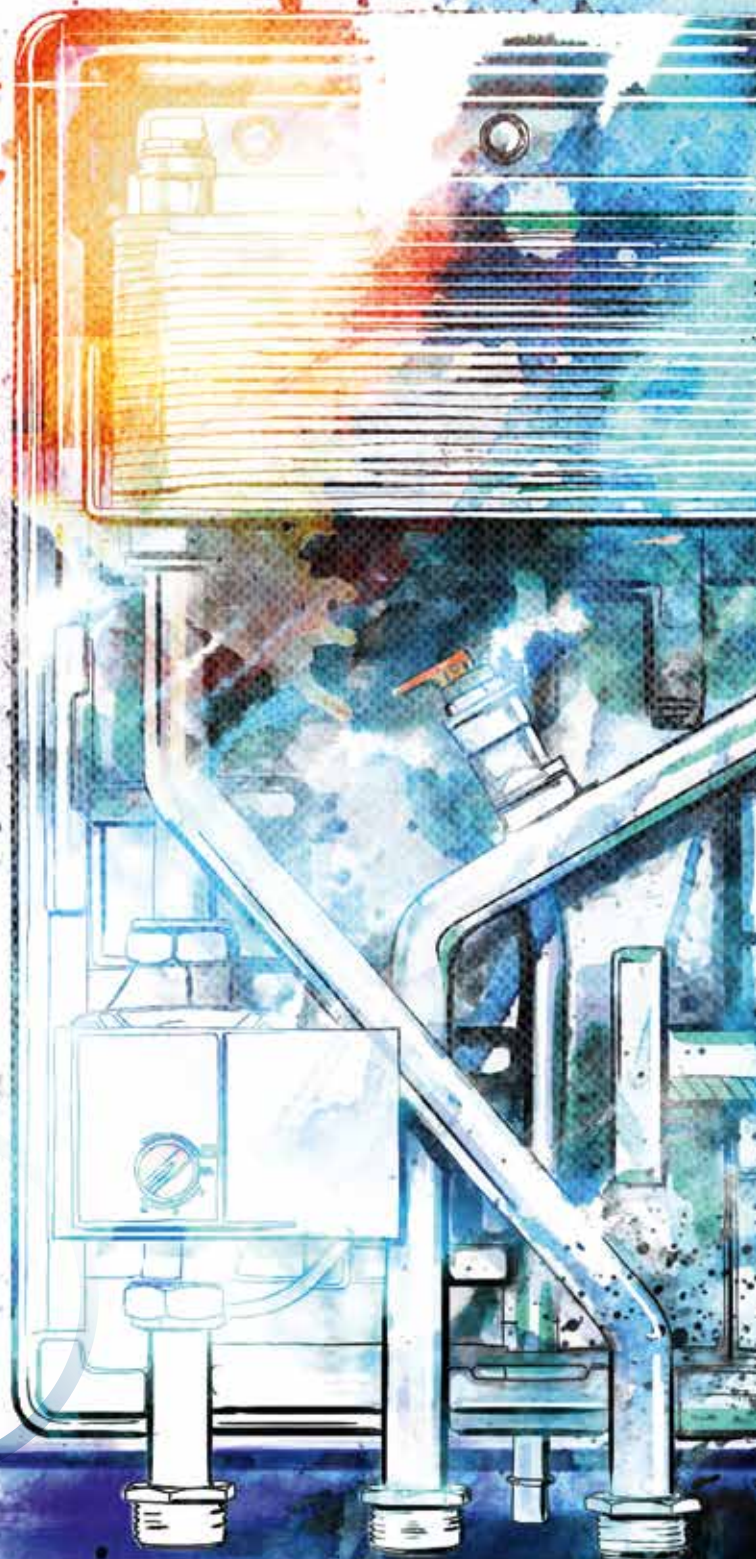
We are making huge investments here as we really believe in the future of heat pumps in Poland. This was not necessarily the case ten years ago. Now, however, Poland's time has come.

Marcin Demczuk, Product Manager

Launch of

7

new product
families by
2019



Belgium

When Belgians go to buy a gas-fired boiler, they ask for a Vaillant or a Bulex. Both brands have a very strong position in Belgium in the gas-fired boiler segment, which represented 85 per cent of the Belgian heating market in 2017.

Heat pumps are a relatively new technology in Belgium. They are gaining in significance as stricter energy efficiency requirements come into play for new builds. The current guidelines practically enforce the installation of a heat pump. In 2020, standards are set to be introduced that will pretty much demand a zero-energy house. It is important that we enlarge our product portfolio to be able to offer a complete package including solar collectors (PV and thermal) and ventilation systems.

Today there is already a huge amount of interest and need for information concerning heat pumps on the part of the consumer. We are exploiting this need and, above all, are building trust in heat pump technology. We also support our specialist partners, who are coming to recognise the importance of heat pumps and heat pump systems for the future.

Not only single-family but also multiple-family houses are of interest here. In 2017 we completed an initial project involving 36 council-owned apartments, equipping them with geothermal heat pumps. The next projects are already in the pipeline.

Yannick de Mol, Product Manager

Around

70

per cent of the turnover from renewable energies comes from heat pumps

Finland

Finland is uncharted territory for Vaillant, despite being the second biggest Scandinavian heat pump market after Sweden. Heat pumps have been around for many years in Finland, whereas gas appliances are not present: given the country's sheer size, a gas network would be very expensive. Electricity prices, on the other hand, are relatively low. This makes heat pump technology interesting, especially geothermal heat pumps, considering Finland's very cold climate.

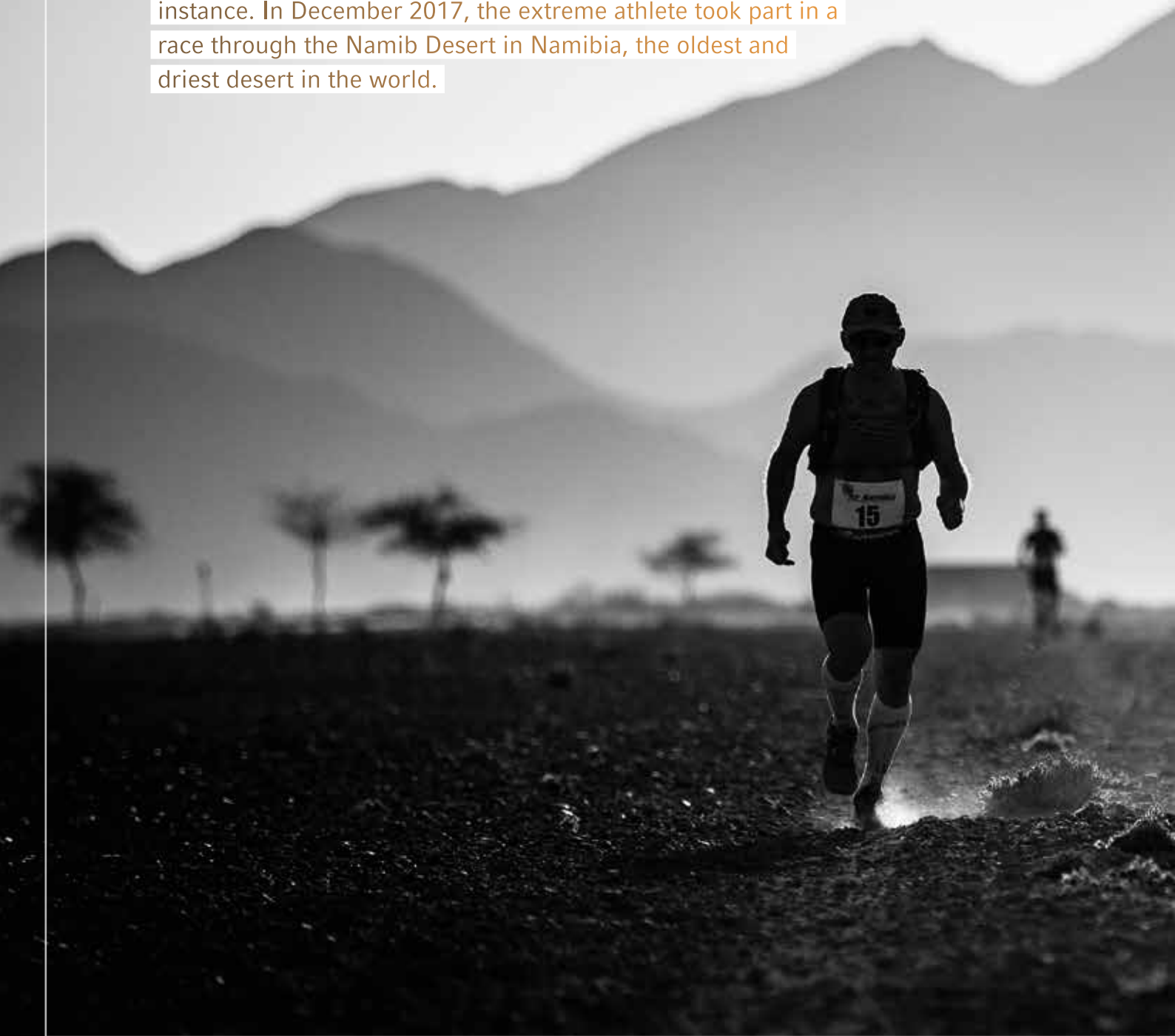
In 2017, the Vaillant Group decided to set up its own sales organisation in Finland, which has been present in the country since May 2017. Just seven months later we have already managed to gain market shares. Right now we are focused on expanding the installer base. We have managed to bring our first specialist partners on board, several of which are rather large. The network does of course have to become more closely interlinked. We are primarily looking for qualified partners who have a good knowledge of heat pumps. Most skilled technicians in Finland are already familiar with the heat pump technology.

70 per cent of sales are attributed to existing buildings, i.e. to replacing old appliances. Alongside single-family and two-family homes, apartment buildings also present an interesting area for heat pumps. With the right products and a control system for cascade connections, there is no reason why we cannot be successful here.

Anders Zeeberg, Country Director Denmark

UNDER *AFRICAN* SKIES

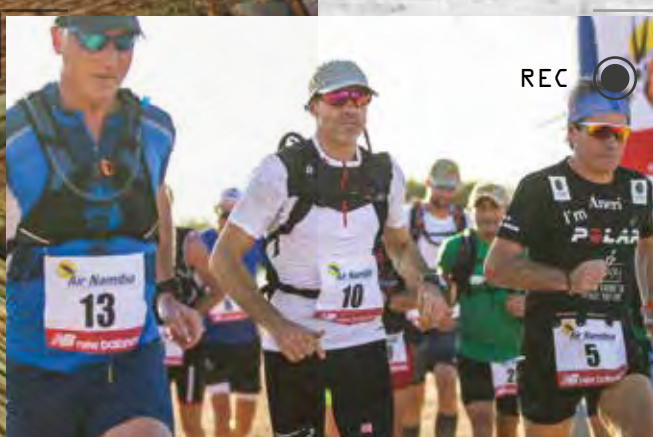
Members of staff from the Vaillant Group and the company network are quite literally thinking on their feet as they call attention to parts of the world under threat from climate change. They make up Vaillant's Green Team. People like Friedhelm Weidemann, for instance. In December 2017, the extreme athlete took part in a race through the Namib Desert in Namibia, the oldest and driest desert in the world.







The athletes' base camp was located close to the Namib Desert. The word Namib can be translated along the lines of "vast place". Large parts of the desert were designated a UNESCO World Heritage Site in 2013. Namibia is the driest country south of the Sahara. Just one per cent of annual rainfall seeps into the ground water.



Rising to the challenge as the sun sets

4 December, 6.15 p.m., 25 degrees: 22 athletes from seven countries set out on the first 15 kilometres of the 100-kilometre-long ultra run – experiencing the barren landscape first-hand.



04:12:2017



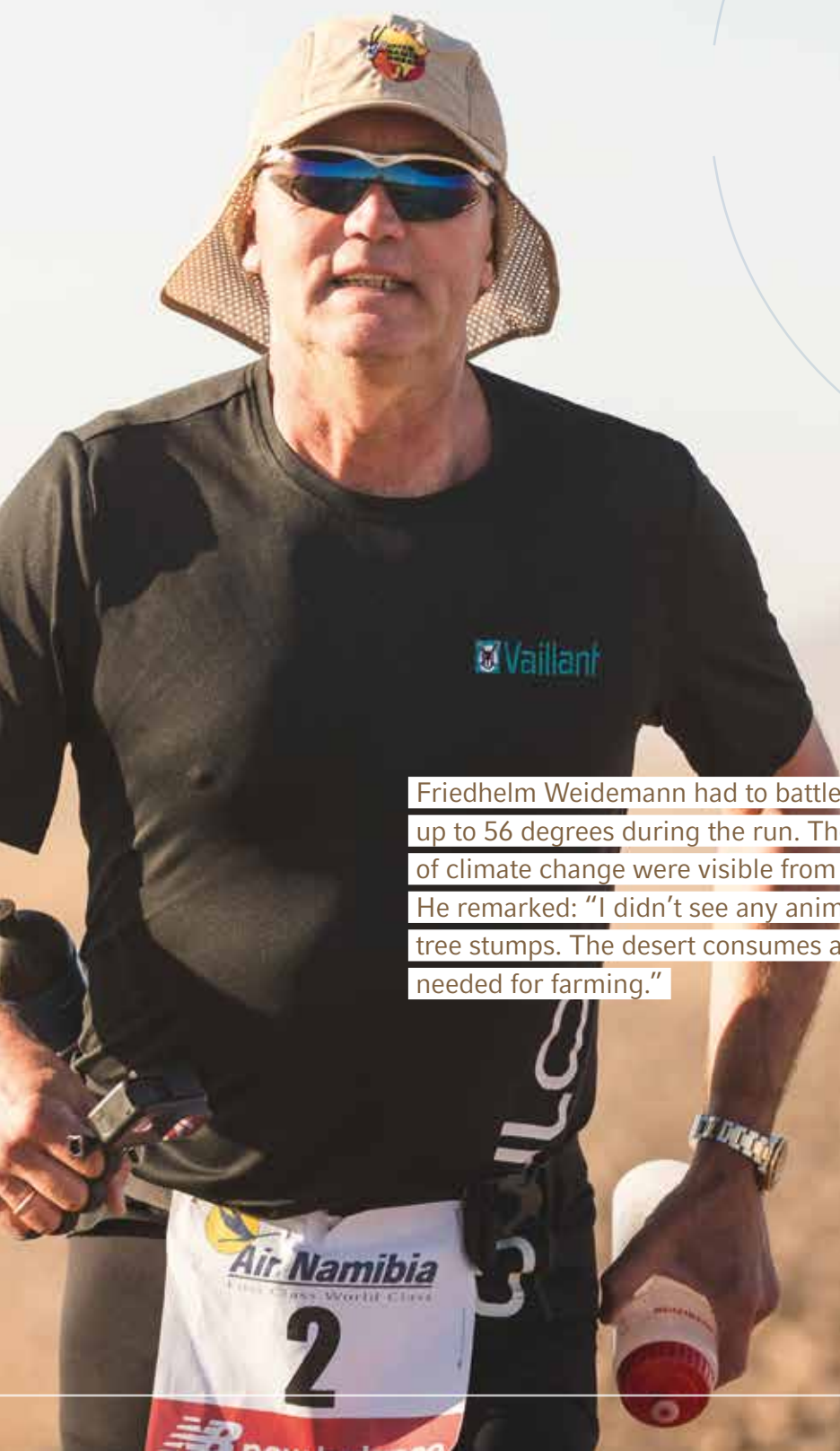
Engulfed by the heat

The trail also took the runners to Dune 45: standing 170 metres tall, it is one of Namibia's best known sand dunes. In the extreme heat, the climb pushed many athletes to their limits.



07:12:2017





Friedhelm Weidemann had to battle temperatures of up to 56 degrees during the run. The consequences of climate change were visible from start to finish. He remarked: "I didn't see any animals, just dried-up tree stumps. The desert consumes areas that are needed for farming."

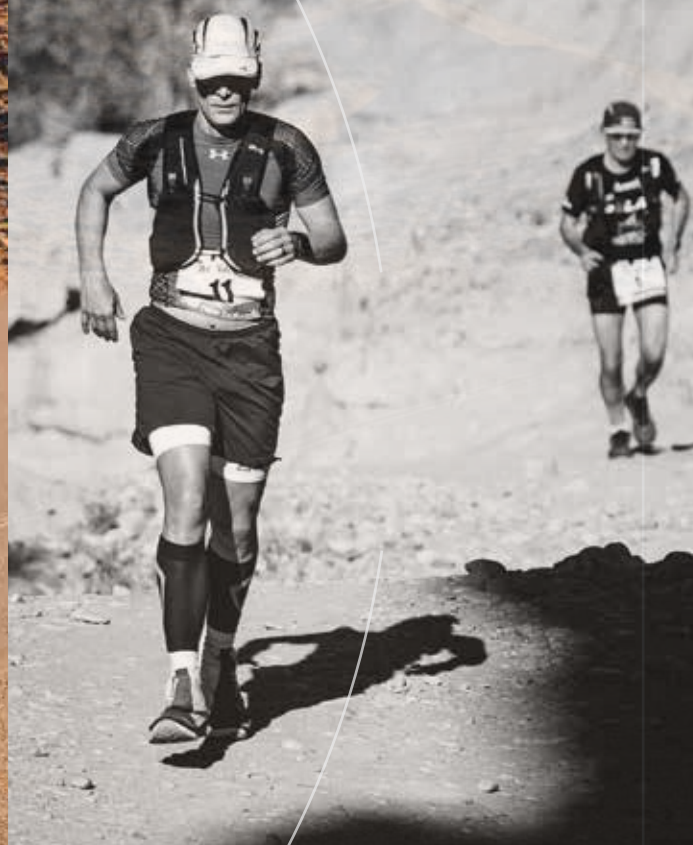


A global effort

Whether cycling through the Californian desert or running through the Amazon rainforest or Namibia: the Vaillant Green-Team athletes seek to raise awareness of the dangers posed by climate change.



The desert trail crossed the Sossusvlei Valley, which is surrounded by some of the world's highest dunes. Increasing global warming is hitting Namibia hard. Experts predict that more than 30 per cent of Namibia's unique flora and fauna will simply disappear.



Treading carefully

The run through the Sesriem Canyon demanded utmost concentration from the runners. The stony river bed has largely dried out.



05:12:2017





For Friedhelm Weidemann, the ultra run through the Namib Desert was a run of limits: his own personal limits and also those found in nature. "It was both impressive and shocking to see how this enormous desert landscape has expanded further and further, threatening anything in its path."



A triumphant finish

7 December, 11.15 a.m., 45 degrees: Friedhelm Weidemann is overjoyed. He has embraced every one of the energy-sapping stages and mastered them with determination. Just as important were the other runners, who kept the extreme athlete going when he was at his weakest.



07:12:2017

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