The Perfect Climate

DAIKIN

The Perfect Climate



Years of Daikin Europe N.V.

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DAIKIN
AIR CONDITIONERS

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Masatsugu Minaka

Chairman of the Board, Daikin Europe N.V.
October 2023



Welcome to the first 50 years of Daikin Europe.

This is a story of an air-conditioning manufacturer founded in Osaka, Japan, which sought a new market in Europe, and, hand in hand with the friends it met there, blossomed into a greatly successful business in the Europe, Middle East and Africa (EMEA) region. It comprises many stories of different challenges and growth.

It is the story of the development, sales and service teams who introduced and popularised the then-unknown Japanese-style air conditioner into the lifestyle of the people of the region. The story of the manufacturing team who established Japanese manufacturing on European soil. The story of the department teams in various fields who have consistently provided expert support to the business. The story of how colleagues from Europe, the Middle East, Africa and Japan came together to build a diverse and vibrant culture. The story of the future that we are now weaving. And interspersed throughout the book are numerous episodes that illustrate the values we have upheld and nurtured over the years.

Since it first set foot in Ostend, Belgium, the company has maintained a position as industry pioneer, developing new markets such as split room air conditioners, multi-split room air conditioners, commercial packaged air conditioners and multi-split systems for commercial buildings. Today, also thanks to the good fortune of market expansion, it has grown into a business

with consolidated group sales of over 5 billion euros.

Not only has it expanded geographically, but it has also gone from being a specialist air-conditioning manufacturer to one of the leading manufacturers of equipment, systems and solutions for all aspects of heating, ventilation, air conditioning and refrigeration (HVAC-R) in the EMEA market. At the same time, this means that we have a much greater responsibility to our numerous customers, business partners, employees and society. The entire management team of Daikin Europe is determined to make further progress with a business philosophy built on sound management and contributing to society.

Our 50-year history has also been one of confronting global environmental issues squarely. Since the 1980s, it has become clear that some fluorine gases (F-gas), which are used as refrigerants in refrigeration, air-conditioning and heat pump equipment, are ozone-depleting substances. Later, the global warming impact of F-gases was addressed, too. Each time, the international community has introduced regulations for F-gases, tailored to the specific degree of harm they pose to the ozone layer and/or global warming, resulting in either a ban or a phase-down scenario for each gas. Along with this, manufacturers of fluorine gases, refrigeration, air-conditioning and heat pump equipment have been developing technologies to reduce their environmental impact.

Our parent company, Daikin Industries, a refrigeration, air-conditioning and heat pump manufacturer, as well as a fluorochemical manufacturer, was one of the first to develop products that do not use F-gases that lead to ozone layer depletion or have a high global warming potential, and has renewed its product range each time. Daikin is also working to improve the performance of energy-saving, inverter-driven equipment to contribute to the reduction of CO_2 emissions from power generation. Since the 1990s, development, production and sales of products based on these new technologies has been the pillar of our business at Daikin Europe, and we are working to promote them in the EMEA market, thereby contributing to the global environment.

One of the major challenges in reducing CO_2 emissions is the decarbonisation of residential and commercial heating systems. Until now, Europe has relied on systems that burn fossil fuels, such as gas, oil or coal, for winter heating. However, heat pump heating systems, which use heat recovered from outdoor air, water or underground sources, are now becoming more widespread and are rapidly replacing traditional combustion-based heating systems. Behind this trend was the advocacy work of Daikin Europe, which strongly encouraged using heat from the air as a renewable energy source. As an industry leader, Daikin also actively promotes the use of heat pumps in the European market.

The Daikin Industries Group is committed to contributing to a sustainable society through its Environmental Vision 2050, which calls for achieving carbon

neutrality by 2050. And every day, as Daikin Europe, a member of the Group, we strive to be an indispensable partner in the realisation of a sustainable EMEA society. We accomplish this through all aspects of our business, including the wide distribution of technologies and products that contribute to decarbonisation in the EMEA market, as well as the decarbonisation of our daily production and sales activities.

I have been involved in the EMEA business for more than 30 years, spending the majority of my life at Daikin. I am grateful to celebrate this happy moment of our 50th anniversary together with the colleagues with whom I have worked.

To our predecessors from Europe and Japan, who have been involved in the development of the company from its foundation up to the present day. To the employees and families of Daikin Europe and its affiliates who support our business today. To the suppliers, local residents, trade unions and government officials in each country. To the experts from academia and industry who collaborated in the development of industry standards and criteria. To the Japanese community, who have been the mental support of the Japanese secondees. And to my Belgian and EMEA colleagues, with whom I have shared hardships and joys. I would like to take this opportunity to thank you all.

I would also like to thank Rachel Ramsay for painstakingly listening to Daikin Europe's history and turning it into such a fascinating story, as well as everyone involved in the publication of this book, both within and outside the company.

It would be a great honour for me, as the organiser of this commemorative publication, and for Frans Hoorelbeke, our Honorable Senior Advisor, if this book was able to inspire you, the reader, and by doing so help to enhance social dynamism and hope for the future.

Frans Hoorelbeke

Honorable Senior Advisor, Daikin Europe N.V.
October 2023



It is with great honour that I write an introduction to our company's 50-year history book. I have been a part of this wonderful journey for 47 years. Having witnessed the growth and success of Daikin Europe first-hand, I am filled with gratitude and pride.

When I joined this company in the 1970s, it was comprised of just 68 people. Today, that number has grown to over 13,000, which makes us one of the largest suppliers of HVAC-R equipment in EMEA. The tiny sapling has grown into a majestic tree, standing tall and proud with branches reaching out in all directions.

When Daikin Europe was first established, most of our products were designed and made in Japan. We were a small organisation focused on selling mainly Japanese products, limited to monobloc water- and air-cooled systems, which provided cooling only. Our factory floor was a basic assembly line of knock-down parts. Today, we design and manufacture our products in EMEA, for the EMEA region. They provide heating, ventilation and refrigeration solutions, as well as cooling. Daikin Europe's supply chain and state-of-the-art manufacturing enable us to be stronger, more flexible and cost-effective than our competition. We started with one small assembly

line in Ostend and now have no fewer than 14 factories in EMEA.

We have made significant strides in developing our organisation over the years. The young enterprise that began in a modest office and factory in Ostend has become an organisation with activities throughout EMEA. With over 50 subsidiaries including a fine-meshed sales network, supported by showrooms, training centres and after-sales teams, the contrast with the early days demonstrates the impressive journey we've taken.

Over time our people were able to adapt and innovate with the winds of change that society brought. I still remember vividly how accounting was done in the 1970s. I had to spend hours on the accounting machine with punched cards, printing the transaction on cards with a magnetic strip. Recent years have been characterised by a significant digital transformation. In this context, we have also evolved into a large digital community, connecting not only our employees but also our customers, partners and even installers. Our spirit of innovation will continue, and capabilities such as data-driven decision-making will only strengthen our ability to adapt.

We adapted in HR as well. Though the early days may have been difficult at times, with the challenges of understanding each other across different continents and cultures, everyone – whether in Japan, or EMEA, in the headquarters or affiliates – made great efforts to keep an open mind, learn from each other and find the best way to do business.

The good results we have achieved together fill me with pride, trust and belief in the future of Daikin. I would like to take the opportunity to thank my mentors and management of the past 47 years, as well as all the great employees who made this possible. May the many interesting stories and anecdotes in this book inspire the reader to join us in continuing on the path we are on, taking on new challenges in a fast-changing world and exploring new horizons. As a united, highly motivated and vigorous Daikin team, let's give a fascinating and successful interpretation to the story of the next 50 years, which everyone will then look back on with great pride, just like today.

Toshitaka Tsubouchi

President, Daikin Europe N.V.
October 2023

This year marks the 50th anniversary of Daikin Europe N.V. This book tells the story of its growth and development in the EMEA market.

Throughout our 50-year journey, we have pursued 'growth', 'innovation', 'harmony of people' and 'social responsibility'. Over the course of our difficulties and successes, we have charted several trajectories of learning and progress. These are made up of stories of individual challenges faced by the people involved in the business. It is the accumulation of these challenges and triumphs, coupled with our everyday philosophy of 'thoroughness in ordinary things', that led us to become a 'company of excellence' and shaped the Daikin Europe of today.

This book describes this process through a variety of personal experiences. Many people who do not appear in the publication have also accumulated their own experiences to spin threads that are woven into the history of Daikin Europe. Some have been at the management level, while others have been at the staff level. Some have been directly involved in touchpoints with customers, such as the sales and product development departments, while others have underpinned activities in the background, such as the support departments. Some have been in the field of production or on the service frontline, while others have been involved in planning and coordination in the office. Some have been leaders heading up their departments or teams, while others have worked steadily on the indispensable processes of our business activities.

This book is also a tribute to all these people who have contributed devotedly in their respective areas of work. I would like to take this opportunity to thank everyone who worked for Daikin Europe before us, and who work for the company today.

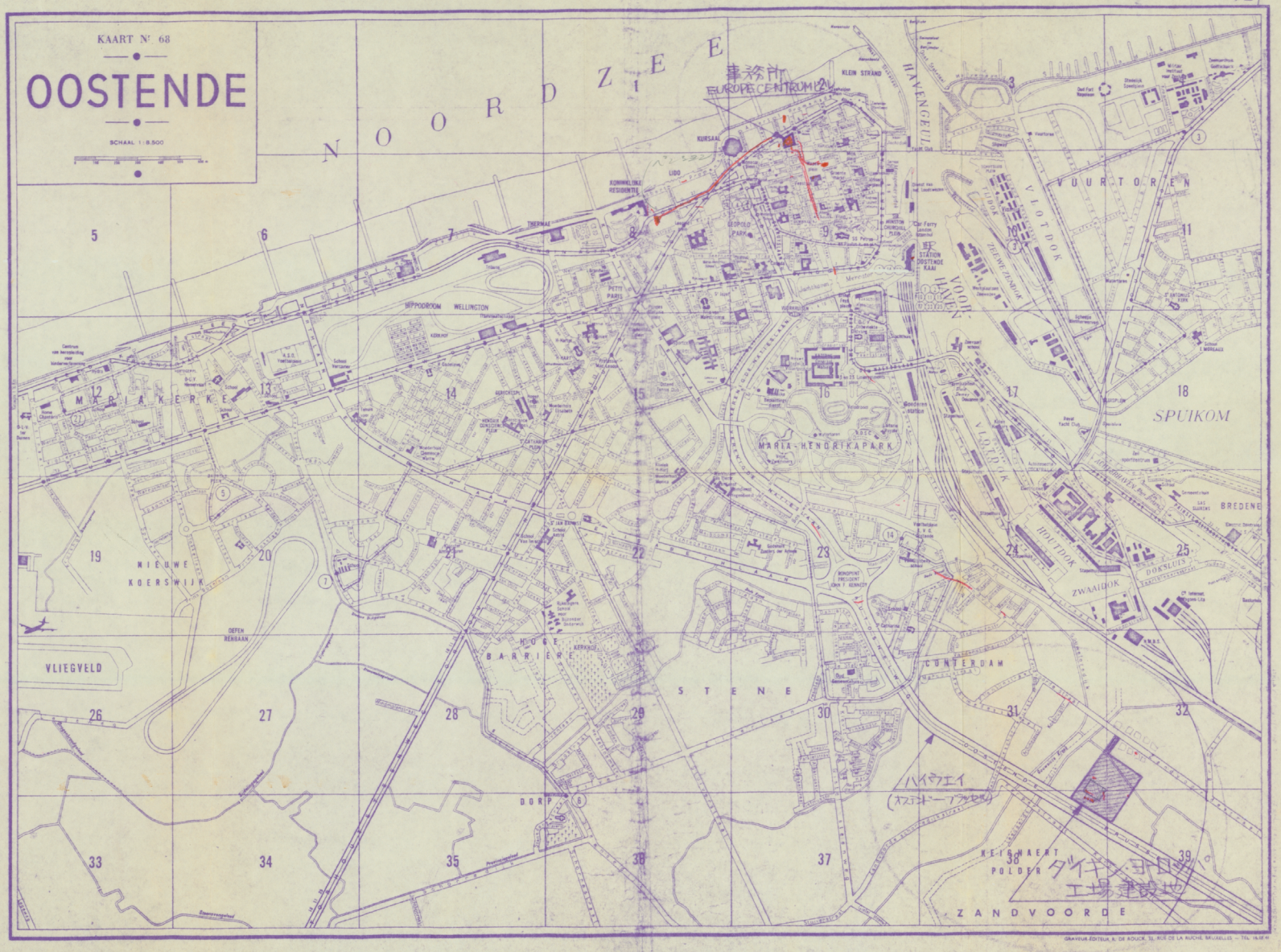
Daikin Europe will set out on a journey for the next 50 years. We aim to be a company that lasts 100 years. A reliable corporate citizen. A company that people feel proud to work for. A financially stable company that can continuously take on challenges for the future. In our ambition to always be a 'company of excellence', we will continue to innovate and grow as we move forward.

Society is in the midst of a remarkable transformation. The development of information and communications



technology, the advent of the Internet of Things and the practical application of artificial intelligence have led to remarkable changes in the approaches of sales and manufacturing, as well as in the workplace. These changes also affect people's values and lifestyles. At the same time, we face societal issues such as environmental problems and the food crisis, the solving of which requires cooperation between business and society, and between business and business. The norms and requirements of a 'company of excellence' will also change significantly over the next 50 years.

I myself will not be able to see all of Daikin Europe's next 50 years. But I'm excited to imagine the road ahead for the company. And I will join the Daikin Europe management team, along with all my colleagues, in taking the first step to spin a thread that will colour the opening chapter of the next 50 years of the company's history.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NIEUWE KOERSWIJK
VLIEGVELD
DIEPEN BERGAAN
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ZWAALDOK
HOUTDOK
DOKSLUIS
BREDENE
CONTERDAM
MEIRNAERT POLDER
ZANDVOORDE

A Brief History of Daikin Europe N.V.





1967

Daikin Airconditioning Corporation Ltd (DAC) is established in Malta to supply finished products from Japan to Europe and the Middle East.

1972

Daikin Europe N.V. (DENV) is registered as a legal entity in Ostend, Belgium.

1973

DENV opens a 5,000m² assembly plant on a plot measuring 73,000m². Itsuro Sakata (bottom left) is the first President of DENV.



1974

An oil export ban by the Organization of Arab Petroleum Exporting Countries (OAPEC) triggers a global oil crisis, with soaring prices in Europe and economic stagnation. DENV sales slow down.

1976

West African business is transferred to DENV from Daikin Industries Limited (DIL), with many French-speaking countries now coming under DENV.

1977

Chuichiro Tamura starts as the second President of DENV. Production of small split systems begins.

1978

The European economy starts to recover. DENV launches the Sky Air air conditioner for light commercial applications.

1979

Sparked by the Iranian Revolution, a second oil crisis hits, derailing hopes for a favourable business climate.



1980

Reorganisation of DENV production lines results in shortened lead times and improved delivery and quality.

1981

Kazuo Tanaka is the third President of DENV. DIL President Minoru Yamada receives the Commander's Crown Medal of the Kingdom of Belgium. The production of large water chillers begins.

1982

A joint venture is formed in Belgium, establishing Daikibel N.V. which will later become Daikin Airconditioning Belgium (DAB).

1983

Koichiro Yamada is the fourth President of DENV.

1984

11 years after the start of operations, as a standalone entity of DIL, DENV marks it first profitable year.

1986

DENV enhances its facilities and logistics infrastructure. In the background, the European Economic Community (EEC) region is developing.

1987

The old DENV office building is demolished and replaced by one with three times the floor space (the current A building). DENV acquires Julien & Mège and its daughter company Megatherm, which was Daikin's distributor in France.



1988

Variable Refrigerant Volume (VRV) systems are launched in Europe, hugely accelerating the company's growth.

1989

In Europe, the Berlin Wall falls and marks the start of the reunification of the continent. Heat recovery VRV is introduced to universal acclaim, offering significant reductions in operating costs and improved energy efficiencies. Daikin sponsors Bunraku (traditional puppetry) at Europalia, the largest European arts festival in the year dedicated to celebrating Japan's cultural heritage.

1990

The first Gulf War starts. Yuichi Hosokawa becomes the fifth President of DENV. A DENV expansion plan is launched, focusing on the extension of product development capabilities for the European market. The Production of Daikin System (PDS) is introduced in the Ostend factory.

1991

Major investment (€44.5m) results in significant expansion of the production site in Ostend (from 5,000 to 25,000m²).



1994

DENV acquires the ISO9001 quality assurance certificate, becoming the first European air-conditioning manufacturer to do so.

1993

DENV celebrates its 20th anniversary. The DENV UK Office opens to better serve the UK market. VRV, Sky Air and Multi Split system production is transferred from Japan to Ostend, increasing the proportion of equipment manufactured by DENV to over 80% of total sales volume.

1992

In Europe, the European Union is formed. Production begins of residential air-conditioning (RA) outdoor and indoor units. An additional 41,500m² of land and buildings is acquired for the development of the Ostend site. Megatherm changes its name and becomes Daikin Airconditioning France (DAF).

1995

Hiroshi Tanaka becomes the sixth President of DENV.

1997

The revolutionary swing compressor – another Daikin first – is introduced to the European market. The Ostend factory system is set up to expand production volume by employing a three-shift operation, seasonal adaptation and recruitment of part-time workers. DENV acquires its first ISO14000 certificate.



1998

Junichi Sato becomes the seventh President of DENV in the year that DENV celebrates its 25th anniversary. Daikin Airconditioning Germany (DAG) is established, as is the Daikin Europe Coordination Center (DECC) and an internal audit function. DIL President Noriyuki Inoue receives the Commander's Crown Medal from Prince Philippe at the Royal Palace in Brussels.



1999

The Ostend manufacturing complex expands again with a 15,000m² logistics centre. Daikin Airconditioning Central Europe (DACE) is established, paving the way for deep penetration into the fast-growing central and eastern European markets.

2000

Daikin Airconditioning Spain (DACS) is established to improve the strength of Daikin on the Spanish market.

2001

Daikin Airconditioning Poland (DAPO) is established. The Japanese garden in Ostend, sponsored by Daikin Europe N.V., is officially opened.

2002

Daikin Airconditioning Italy (DACI) is established. The Daikin Brussels office is established to enhance the European Headquarter (HQ) function, and a Southern European warehouse is opened in the suburbs of Milan to shorten supply lead times. The Euro is introduced as the new payment currency in Europe.

2003

Construction of a new factory in Pilsen, Czech Republic (DICz), begins. A deadly heatwave strikes Europe. Daikin Airconditioning UK (DAUK) is established.

2004

The DICz plant starts production with 1,200 employees. Daikin Airconditioning Portugal (DAPT) is established.

2005

Masatsugu Minaka becomes the eighth President of DENV. DENV becomes the regional HQ for the Middle East and Africa in addition to Europe. Daikin opens an office in Moscow. DIL Chairman Noriyuki Inoue is appointed Honorary Consul of the Kingdom of Belgium.

2006

Daikin Airconditioning South Africa (DASA) becomes part of DENV. Daikin Altherma is launched, forming a full-scale entry into the heating business. Daikin Device Czech Republic (DDC) is established in Brno as a production base for air conditioner compressors. Daikin Airconditioning Greece (DAGR) is established, and a Middle East office is opened in Dubai – the foundation of Daikin Middle East and Africa (DAME). Collaboration begins with McQuay.

2007

Daikin Airconditioning Netherlands (DANL) is established. Offices are opened in Turkey and Ireland (DEIO). New business development begins in Europe, with the enhancement of the heating business, the establishment of an Applied department and collaboration with McQuay. The Conveni-pack launch marks the start of the refrigeration business. 2007 is a remarkable year with robust sales and profit growth. DENV purchases a single-family home in Ostend, enabling the Product Development Center to create real-life test conditions for heat pump heating solutions.

2008

The global financial crisis hits. German heating manufacturer ROTEX Heating Systems is acquired and Daikin Airconditioning Sweden (DASW) is established. The Environmental Research Center (ERC) is established to serve as an antenna base for environmental policy-making information.

2009

There is a drastic decrease in production due to the global financial crisis. Daikin Emura, Daikin Altherma Monobloc and HT (high-temperature) are launched. Daikin becomes the first manufacturer to receive the Eco-label for heat pumps with the Daikin Altherma LT. Caloric (heat) energy from air is officially recognised as a sustainable energy resource for heating by the EU.

2010

In Ostend, the Noriyuki Inoue path, integrated into the green belt around the city is inaugurated.

2011

Turkish heating and air-conditioning manufacturer Airfel joins Daikin and becomes Daikin Turkey (DTAS). The EMEA Development Center (EDC) is established to enhance product development based on the proximity policy to develop and produce close to market. Raw material prices soar, particularly for refrigerants. The Great East Japan (Fukushima) Earthquake causes parts prices to rise. DENV employees set up a solidarity initiative in support of the victims of the earthquake. DENV Chairman Frans Hoorelbeke becomes the first non-Japanese member of the board in DIL.

2012

A European Procurement Center (EPC) is established for centralised purchasing in manufacturing, including Turkey. Residential air conditioner (RA) production begins in DTAS. A new model of low-temperature water Daikin Altherma and VRV4 is launched.

2013

DENV opens a satellite office in Spain (DESI). Volume Zone RA units are launched for emerging countries. In Dubai, Daikin opens its first Air Handling Unit (AHU) factory in the Middle East. The Daikin Altherma Hybrid and Ground-Source units enhance the heating product portfolio. The 3,000-ton centrifugal chiller is launched to help capture large-scale projects in the Middle East. Noriyuki Inoue is distinguished with the Commander in the Order of King Leopold, granted by the Belgian Royal House.

2014

A Strategic Business Unit (SBU) structure is introduced to strengthen leadership for accelerating development in the heating, applied and refrigeration businesses. The Ghent office is established to promote and enhance design localisation and potential collaboration with other companies and universities. DENV launches its first units with R32 refrigerant, which has much lower global warming potential (GWP).

2015

The DENV Ostend factory receives the Super Green Heart Factory Award for its environmental and social performance, and is certified as an environmentally advanced factory.

2016

The UK narrowly votes in favour of Brexit in a referendum. Italian commercial refrigeration manufacturer Zanotti is acquired to extend the current refrigeration range, including Hubbard in the UK.

2017

The DENV Ostend factory receives the Factory of the Future award from the Belgian Manufacturing Association. Daikin Stand By Me, a fully fledged cloud service, is launched to connect with end users. Frans Hoorelbeke is distinguished with the Commander in the Order of King Leopold, awarded by the Belgian Royal House.

2018

Recair is acquired, becoming the Finnish sales office (DEFO). DENV's long-term distributor Friganor in Norway becomes an affiliate (DANO). DENV's Business Support branch (DEBS) is established in Warsaw, Poland. Tewis Smart Solutions is acquired via Zanotti.

2019

DENV takes home the Lifetime Achievement Trophy from the Flemish Government Agency Foreign Investment and Trade. The trophy rewards DENV's long-term commitment and investments in the region. The Austrian company AHT Group is acquired, a company focusing on plug-in refrigeration solutions for food retail chains. DIL Global Environmental Vision 2050 is launched. The European Commission launches the European Green Deal in December, with the overarching aim of making the EU climate neutral by 2050.

2020

The DENV Ostend factory prolongs its Factory of the Future award. The COVID-19 pandemic strikes Europe, beginning in Italy. ROTEX Güglingen becomes Daikin Manufacturing Germany (DMGG).

2021

Toshitaka Tsubouchi becomes the ninth President of DENV. Masatsugu Minaka becomes Chairman of the Board. The world experiences a global supply crisis, triggered by the Suez Canal obstruction and deepened by COVID-19 restrictions. DENV reacts to the supply crisis better than competition and marks 10 years of consecutive growth. The service company Groupe BV is acquired by DAF.

2022

The Russian invasion in Ukraine marks the start of another European energy crisis, resulting in increased interest in heat pump heating solutions. DENV employees set up a solidarity action in support of the people affected by the invasion in Ukraine. DENV announces the construction of the largest heat pump heating factory in Europe, in Lodz, Poland. Daikin inaugurates a second AHU factory in the Middle East, in Saudi Arabia (DKSA). Flanders Investment and Trade awards DENV with the Foreign Investment of the Year Trophy for the establishment of the EMEA Development Center (EDC) in Ghent, Belgium, to be opened in 2024. Landi, an Italian turnkey solution company, is acquired by Daikin Italy. During the Belgian Economic Mission to Japan, Noriyuki Inoue welcomes Her Royal Highness Princess Astrid of Belgium upon her visit to DIL's Technology & Innovation Center (TIC) in Osaka.

2023

Two major earthquakes cause huge damage in Turkey and Syria. DENV group employees set up fundraising activities. DENV receives its third Factory of the Future Award. DENV holds a traditional ground-breaking ceremony on the site of the new factory in Poland, set to open in 2024. Daikin celebrates 50 years since its official establishment in Europe.



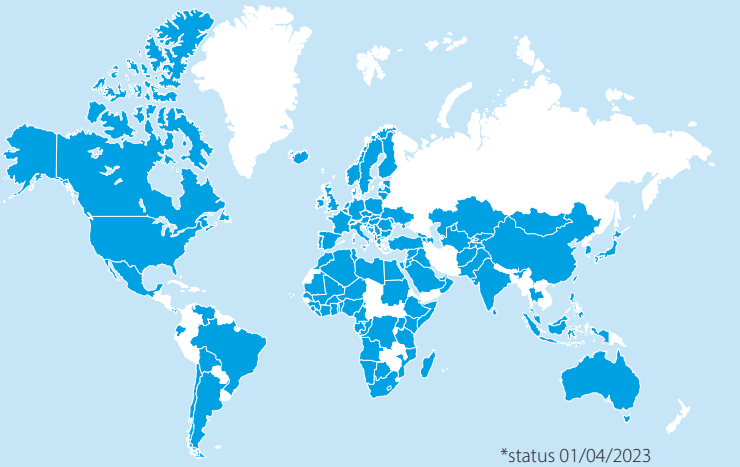


The network of DENV sells HVAC-R products from

14 manufacturing sites in EMEA

Ostend, Belgium (DENV)
Pilsen, Czech Republic (DICz)
Brno, Czech Republic (DDC)
Güglingen, Germany (DMGG)
Rottenmann, Austria (AHT)**
Milan, Italy (Daikin Applied Europe)
Pegognaga, Italy (Zanotti)
Cecchina, Italy (Daikin Applied Europe)
Valencia, Spain (Tewis)
Ipswich, UK (Hubbard)
Cramlington, UK (Daikin Applied Europe)
Hendek, Turkey (DTAS)
Riyadh, Saudi Arabia (DKSA)
Dubai, UAE (DAME)

Daikin Europe N.V. is active in **129 countries***



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Hendek

Riyadh

Dubai

**AHT also has a factory in the USA, Brazil and China.

Message from Noriyuki Inoue

CHAIRMAN OF THE BOARD, DIL

I would like to congratulate Daikin Europe on its 50th anniversary. I would also like to express my sincere gratitude to each and every one of you who has been active in Europe, the Middle East and Africa (EMEA) and contributed significantly to the growth of the Daikin Group throughout its 50-year history.

I would like to pay tribute to all the local executives, including Honorable Senior Advisor Frans Hoorelbeke, and the Japanese executives seconded from Daikin Industries, including Chairman Masatsugu Minaka and President Toshitaka Tsubouchi, for their unrelenting management efforts that have made Daikin Europe what it is today. I would also like to thank our business partners, including distributors, dealers, service partners and suppliers, who support Daikin Europe's business activities, as well as the neighbours in EMEA.

The Daikin Group now operates in more than 170 countries and has grown into a global company with more than 90,000 employees worldwide. I believe that the biggest driving force behind the Daikin Group's accelerated global expansion was the growth of operations in Europe by Daikin Europe.

I still vividly remember a visit to Madrid, Spain, in 1995, shortly after I became President of Daikin Industries in 1994 and started to drive the company dynamically towards global expansion. At the time, there were only sparse outdoor units of air conditioners installed in the apartment buildings that lined the streets. However, when I went to an air-conditioning exhibition, I saw a huge crowd of people.

I felt then that Europe was at the 'dawn of air conditioning'. Subsequently, Daikin Europe acquired sales distributors in various countries one after another and established its own sales affiliates. Based on the proximity strategy, development, production, sales and service are now integrated and rooted in the various regions of EMEA. There is no doubt that your efforts over the years have helped the Daikin Group grow to become a leading company in the HVAC-R industry.

Today, we are not only required to perform well in order to increase our corporate value, but also to contribute to society through environmental technologies such as heat pumps, inverters and refrigerants, as pointed out by institutional investors and other stakeholders. Europe is ahead of the rest of the world in this respect, being particularly environmentally conscious.

The Daikin Group has the advantage of being able to make a significant contribution to society by reducing CO_2 emissions, for example by replacing combustion heating with heat pump heating, and is taking various steps



towards this. The strong commitment of each and every one of you has made the heat pump heating business a major business for Daikin Europe. I hope that you will continue to keep the spirit of challenge alive.

I am always greatly inspired when I have the opportunity to meet with Daikin Europe's people, such as at the EMEA Managers' Meeting, where executives from EMEA countries and Daikin Industries' executives gather, and at distributor meetings. Online meeting systems have become widespread, making it easier to hold meetings with remote counterparts. But meeting and communicating in person with colleagues from around the world, who are rich in diversity and have different languages and cultures, really helps me to understand what is happening on the ground.

So far, we have organised EMEA Managers' Meetings in Belgium, Germany, Italy and the Czech Republic. Each time, during the daytime meetings and evening dinner parties, I saw the representatives from the EMEA countries, who talked about their dreams and demonstrated in a lively way how they drove their business. I remember being very impressed. Also, when I visited Dubai for the distributors' meeting, I witnessed the growth of the Middle East and felt the enthusiasm to grow together as one group from everyone I saw there, including the distributors.

I have always looked at the growth of the EMEA region with deep emotion. I am very proud of Daikin Europe today. The company has unlimited potential for growth. We have great expectations for growth in the Middle East, where many countries are very hot and further energy-efficient equipment is required, and in Africa, where there is a great deal of room for the spread of air conditioning. I can't help but look forward to your future growth. I wish everyone at Daikin Europe continued success and good health to you and your families who support you.



CHAPTER 1

50 Years of Growth

Where it all began

The story of Daikin in Europe begins on the tiny Mediterranean island of Malta. In Japan, mass production of air conditioning had begun in the early 1960s, but it was another five years before the scene was set for Daikin's introduction to Europe. In 1966, Englishman Richard Higgs, who ran a home appliance store, had tried unsuccessfully to set up a manufacturing plant for Hitachi in Malta. This having failed, Higgs was looking for another brand to distribute and approached Daikin, still then a primarily Japanese domestic company. Higgs personally went to Japan to make the proposition, which led ultimately to the formation of Daikin Airconditioning Corporation Ltd (DAC) in 1967 – a joint undertaking between the Maltese director and Daikin Industries Limited (DIL).

To take on the European market, Higgs employed Ali Rashidi, later to become sales and marketing director for Daikin in Europe. Soon growing a network of 28 distributors across Europe and North Africa, air-conditioning sales reached US$3.5 million by the third year of trading in 1970. This convinced the two business partners that they were right: there was indeed a market for air conditioning in Europe. In April of the same year, the first Daikin Overseas Distributors Meeting was held in Osaka. It was attended by 21 people from 13 countries, including Malta, Italy and West Germany. This indicated just how quickly the Daikin name had begun to spread across Europe.

Daikin began studying the European market in earnest. It had become clear that Malta was a less than favourable location, being outside the European Economic Community (EEC) trading block and far from the main European markets, each of which had its own application requirements. Distribution from this small island nation was challenging, too, slowing down the export of finished goods. Not only that, but from Malta it was difficult to access local market information that would prove critical to the company's expansion. Daikin knew it needed to be close to its customers' markets in order to understand their needs and identify suitable products.



Ali Rashidi laid the foundations for Daikin's distributor network in Europe.

It was clear, then, that a new, more central, location was needed for Daikin in Europe. In addition, economic conditions were beginning to put Japan at a disadvantage for exporting finished goods. An assembly plant would be needed to serve the specific product requirements of the European market.

1973
Daikin Europe N.V. is born

The search for the right location for distribution and an assembly plant took Daikin to Belgium, and more specifically to the site on the outskirts of Ostend still at the centre of the organisation today. Belgium was seen as a strong choice for a number of reasons, not least its close proximity to the United Kingdom, which at that point was Daikin's main market in Europe, accounting for 25% of European turnover. A Belgian location also put Daikin within easy reach of the European mainland. This would provide strong links with the EEC market, as well as a ready workforce of multilingual staff and workers.

Indeed, the language skills and diplomacy of the Belgians were an attractive proposition, making them well positioned for bridging the cultural gap between Japan and Europe. The cultural adaptability of a region that has historically been part of many different empires and European cultures made it an ideal choice. Flanders' long tradition of industrial development was an added bonus.



The Daikin team ready for business outside the new building in 1973



DIL President Minoru Yamada (second from the left) attends the official opening ceremony of the Ostend plant with local dignitaries.

So, in 1972, the decision was made in favour of Ostend, where a plot of land was provided nearly free of charge by local authorities. Daikin Europe N.V. (DENV) was registered and construction began of the company's first premises, on a 73,000m² site in its present location along the Brussels-Ostend highway. While difficult to believe now, the constructed surface in its earliest form had just 5,000m² allocated to production, with 2,100m² for warehousing and 750m² for office space.

In January of 1973, DENV was opened for business under its first President, Itsuro Sakata, taking over the activities of DAC (which continued in Malta to liaise with newly appointed Middle East distributors). Assembly began of small capacity packaged air conditioners and water cooled chillers. In May of that year, an official opening ceremony was attended at the site by DIL President Minoru Yamada and his wife, by Belgian Minister for Economic Affairs Willy Claes, and by Jan Piers, Mayor of Ostend. The story had properly begun.

The original Daikin building in Ostend was somewhat smaller than it is today.





With the new Ostend premises officially open, the story of DENV had begun.

1973 to 1984
Early challenges

The early years were to prove challenging for the new company for several reasons. Firstly, there were communication difficulties between Japanese management and those responsible locally. Secondly, there was a need for better understanding of the European market and its differences from its Japanese counterpart. On top of that, shop floor labour adjustments to Japanese manufacturing standards needed to be put in place.

Recognising the need to bridge the cultural differences between Japan and Belgium, the early years saw a concerted effort to improve communication and mutual understanding. This cultural "getting to know each other" involved personal efforts on the part of the Japanese Managing Director, who regularly invited employees to his home and organised Japanese language classes. This helped Belgian employees to better understand the Japanese way of seeing things.

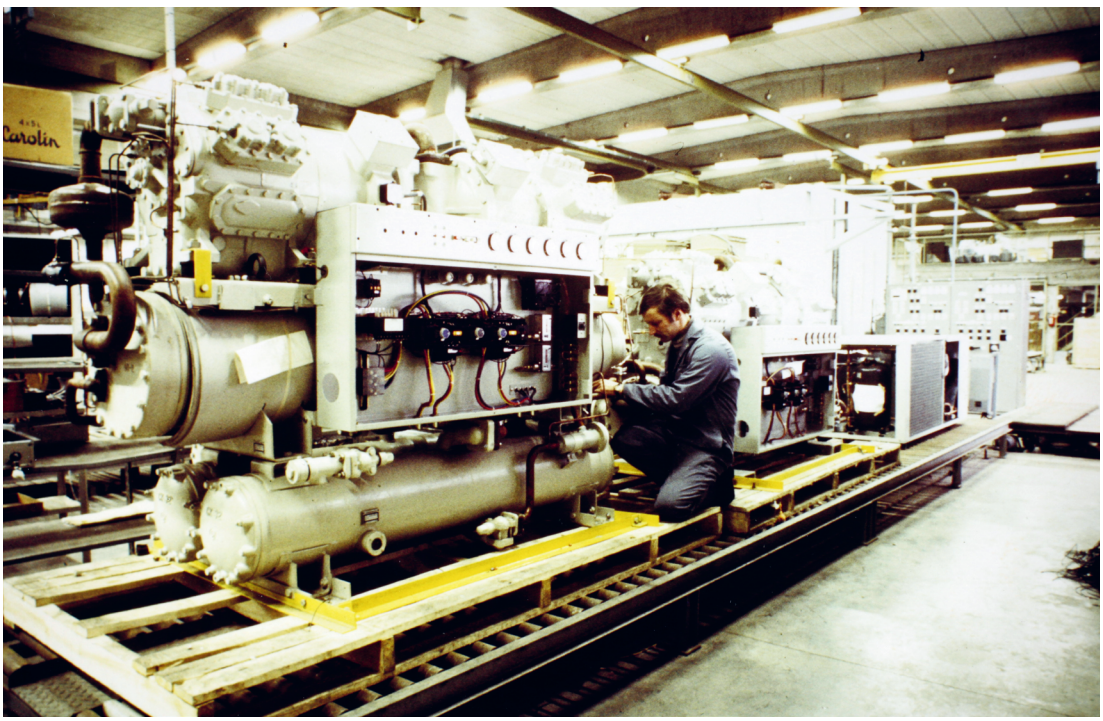
The new company also felt the effects of a deteriorating economic climate in Europe. In particular, DENV, in common with the rest of the international business community, was unprepared for the oil crises in 1973 and 1979 that sent oil prices

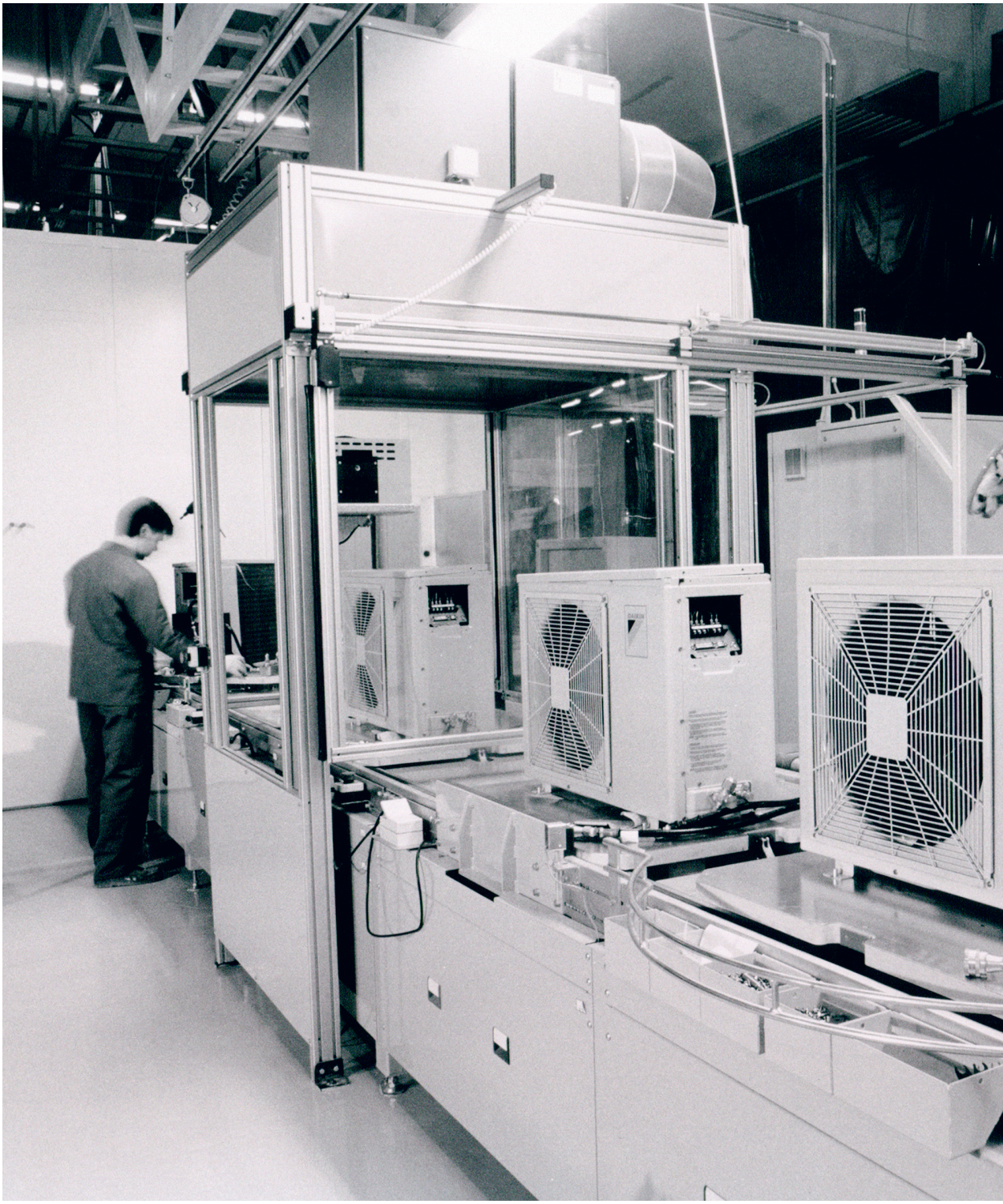
soaring and the world into recession. In the absence of North Sea oil, Europe was hardest hit – and DENV was no different. Honorable Senior Advisor Frans Hoorelbeke remembers that the managing director of DENV at that time received an instruction from DIL: "you have to check if this company is viable or not. If it's not viable, we may have to close it down."

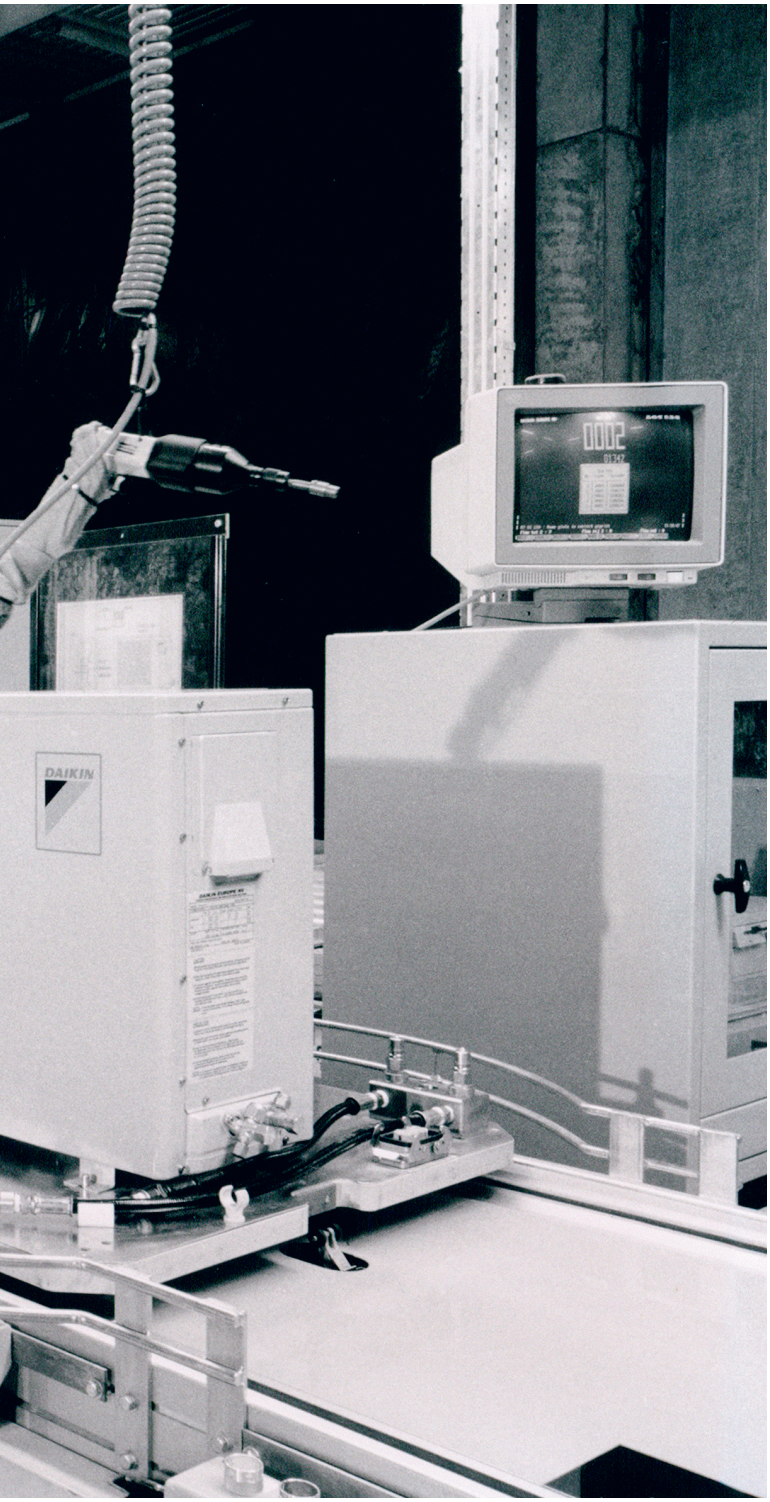
In response, DENV took the initiative to develop competitive products for the European market: large chillers that could cool and heat more efficiently than those of the competition. This was crucial as energy efficiency grew in importance during the oil crisis.

In addition, in 1976, DENV was handed control of Daikin's West African market. It focused initially on the Nigerian market and then expanded in the following years to 16 countries. Together, West Africa constituted 20% of DENV's sales until the European economy picked up again in the early 80s. Seeing the potential, DIL stepped in to cover initial losses and lent money to DENV so that it could weather the storm.

As energy efficiency grew in importance, DENV developed large chillers that could compete in the European market.







As the recession subsided, the price of crude oil remained high. As a result, interest in heat pump technology grew thanks to its energy-saving potential. The fortunes of the company began to change. Sales grew, and in 1984 a first trading profit took the place of the losses that had occurred in previous years. The Japanese mother company made the decision to invest heavily in the personnel, equipment and distribution infrastructure needed to support DENV's upward trajectory.

The decision to invest in Belgium had been proven to be the right one.

The fortunes of DENV began to change as interest in heat pump technology grew.

Production in Europe, for Europe

With the challenges of its early years behind it, DENV saw a steady improvement in performance from 1985 onwards. This accelerated in the early 90s thanks to intense distributor support and production expansion.

As part of this, DENV began actively developing and pushing sales targets with distributors, providing sales expertise and consulting sales. This type of support consisted of helping customers to design the best technical specifications for a particular application or customer need. In addition, DENV facilitated the set-up of training centres at the distributors' premises. In this way, installers' general level of technical skills could be improved in order to achieve top-quality installations of Daikin equipment. This close collaboration with distributors gave DENV more insight into local market requirements – such as climate and building types – that could not always be met by the Japanese products that had been imported until then.

With the establishment of the European Single Market in 1992, the European market was growing. However, it was expected to become disadvantageous to import both parts and finished products from outside Europe. Focus therefore turned to reinforcing production in Europe and shifting more capacity to Europe.

One technological innovation in particular was to have a major impact on the performance of DENV and the diversification of its product line. The introduction to Europe of Variable Refrigerant Volume (VRV) systems – which had been produced in Japan since 1982 – proved instrumental in the company's huge growth at that time. This phenomenally successful product allowed multiple indoor units linked to a single outdoor unit, providing specific cooling or heating settings for each indoor space in commercial buildings, such as offices and hotels. The unique technological innovation of VRV gave Daikin almost 100% market share in this segment for years thereafter, and a continued growth of sales and profit.

In 1990, intense production expansion started at DENV with the reorganisation of production methods along the Production of Daikin System (PDS) lines pioneered in Japan. This provided



In 1991, construction of a new office block gets underway as part of the significant expansion of the Ostend site.



The 1991 expansion saw the building of an extra office block, along with a warehouse and training centre.

immediately shorter lead times and better product quality and delivery. The plant transitioned from the workshop of a start-up to a fully functioning factory floor with efficient production processes in place. The results of these efforts and actions were the adoption of several Japanese words in the daily common language of Daikin Europe including words such as *kaizen*, *andon*, *ukeharai* and *gemba*.

Soon afterwards, in 1991, DENV saw a second important development. Its factory space was increased from 5,000m² to 25,000m², with production transferred in a phased manner from Japan to Europe. The expansion of manufacturing capacity signalled confidence in the company's future, heralding the dawn of mass production in Europe. With this came the shorter lead times and flexibility necessary to respond quickly to fluctuations in the market.

With Europe already responsible for 50% of Daikin's overseas sales and profit, and regulations increasingly protectionist against non–European Community (EC)imports, this expansion was intended to support the growth of DENV's sales and distribution networks. There was a particular focus on the key areas of the UK, France, Spain and Italy.

Equipped with the latest Daikin technology, the Ostend plant would utilise Japanese knowledge to ensure output of the highest quality products suited to local climatic conditions and markets. But the manufacturing area was not the only part of the Ostend site to expand in 1991. An extra office block was built, along with a warehouse and

training centre converted from buildings acquired from a neighbouring plot.

The following year saw production commence of residential split system outdoor and indoor units. This was followed, in June 1993, by the transfer to Ostend of VRV outdoor unit production, and SkyAir and VRV heat pump units later that year. With this, the completion of phase one of the new complex – the most advanced air-conditioning plant in Europe – was marked in an inauguration ceremony attended by Japanese executives from DIL, the Prime Minister of Belgium, Jean-Luc Dehaene, the Japanese ambassador to Belgium, and other dignitaries.

While these achievements were celebrated, the economic climate in Western Europe was once again challenging, following (among others) the unification of East and West Germany and the first Gulf War. With economic growth at its slowest since the oil crisis in the 1970s, DENV failed to hit its sales target for the first time in years. It took two years and further expansion of local production before DENV emerged from this period of instability.

A second production centre

DENV celebrated its 25th anniversary in 1998 with a series of festivities, charitable donations and the founding of a Japanese garden in Ostend. What followed was a period of rapid expansion for DENV through the early 2000s. This was achieved through gradual acquisition of distributors, a strategy largely conceived due to the increasing awareness that good insight into market conditions – essential for quick decisions and grasping opportunities – could only be realised through direct impact on the market.

A tipping point in demand was the 2003 heatwave in Europe. Widespread and continuing record-breaking temperatures in excess of 40°C meant that many geographical areas suddenly experienced intense demand for cooling.

The Japanese garden in Ostend, founded in 1998 to mark 25 years of DENV





It was clear that the situation required some thinking outside the box. Boeing 747 airliners were chartered to bring in residential air-conditioning units from Japan and Thailand, landing directly at Ostend.

Junji Umamoto, then Managing Director of Daikin Italy, remembers that these aircraft were still not big enough to meet the demand. "We wondered 'what is the biggest aircraft in the world?'," he recalls. The answer, it transpired, was the six-engine Antonov AN-225: "DENV Supply hired it and brought in a huge number of air conditioners," Umamoto continues. "Daikin was the only company who took such drastic action. Our products helped save people's lives. People were surprised, but they appreciated the Daikin attitude. In this way, we grew our business drastically, and our market share in Italy and France."

Indeed, Daikin's first concern in this situation was to meet demand from customers. As Frans Hoorelbeke remembers, "If the market presents unexpected opportunities with high demand, you always have to make a big effort to supply your customers and to find a solution for them. If not, they may try out competitor products."

The years that followed saw a strong increase in awareness of air conditioning, not only for office buildings but now also for residential homes. The cooling need in offices grew thanks to the introduction of more and more electronics (such as computers and photocopiers) used in the workplace. As the use of air conditioning in cars also spread widely, consumer demand for more comfortable indoor spaces at home and work increased.



As electronics use grew, so did the market for air conditioning in offices.

The solution to this now structural increased demand lay in production acceleration. This was made possible by the fact that earlier in 2003, in anticipation of increased demand for air conditioning with local production, Daikin had acquired industrial land in Pilsen in the Czech Republic. This land was designated for a new manufacturing base intended to serve Europe, taking advantage of the central location and industrially experienced labour in this region. As such, in 2004, the Daikin Industries Czech Republic (DICz) plant was inaugurated. With 1,200 employees, it started producing small residential air conditioners – the type that had proved so popular in the exceptional weather – which had been produced in Thailand up until then. At that point, no fewer than 300,000 units a year rolled off the new Czech conveyor belts.

However, such was the demand that specific parts – particularly the

compressors at the heart of the air-conditioning units – needed to be delivered more quickly to the two European plants. To meet this need, an additional plant in the Czech Republic was opened two years later with 500 employees (Daikin Device Czech Republic (DDC)), this time in Brno in the country's south. Combined, Daikin Europe's factories contributed to enabling DENV's turnover to reach a record €1.925 billion by 2007.

Of course, despite hot weather taking centre stage in 2003, it remained the case that for many countries in Europe, heating continued to be more important than cooling. Responding to this need, and sensing major growth potential, the soon-to-be award-winning Daikin Altherma was launched in 2006, followed by DENV's acquisition of the German heating company ROTEX Heating Systems GmbH to make further inroads into the heating market.

With the diversification of products now taking centre stage, Daikin also launched equipment for the refrigeration market at around the same time. The Conveni Pack hit the market in 2007, followed by further innovations, such as ZEAS. Acceleration of this business pillar continued apace from 2016 onwards, with the acquisition of several refrigeration companies including Zanotti, Tewis, Hubbard and AHT.



The Brno plant was opened in 2006 with 500 employees .



From 2016 onwards, DENV acquired several refrigeration companies.



Austrian refrigeration company AHT joined DENV in 2019.

40 years AHT

In the 2000s, DENV began to diversify its offer with dedicated commercial refrigeration products. The Conveni-pack launch in 2007 marked the start of this. Daikin's Conveni-pack combines refrigeration and comfort cooling and heating in one compact system, and allows efficient room or shop heating by using the heat recovered from the refrigeration side.

Over time, it became clear that to build a one-stop shop offer for customers, more diverse refrigeration products would be needed to complete the Daikin portfolio. With this vision to deliver solutions for the full cold chain, DENV acquired several refrigeration companies to complete its offering – Zanotti in 2016 for transport refrigeration, Hubbard in 2016 and Tewis in 2018 – thereby extending its commercial refrigeration solutions.

In 2019, the Austrian refrigeration company AHT joined the Daikin Europe Group. AHT is the leader of refrigeration solutions for food retail chains, in particular for so-called plug-in solutions. For supermarkets, AHT offers total 'one-stop shop' solutions, meaning they offer shop heating and cooling, as well as refrigeration.

Originally called Austria Haustechnik, AHT was founded in April 1983. AHT has always been at the forefront of developing sustainable and energy-efficient refrigeration products. In the early days, the company started with a focus on the production of commercial refrigerators and freezers. Glass-lidded chests for frozen food and ice cream were developed, and in 1986, this



The production of refrigerators and freezers



AHT's product range includes glass-lidded chests for frozen food.

unique product was launched on the market. It was instantly well received by customers.

In the following years, intensive and successful work was done on the development of new units. In addition, the first units with the natural refrigerant R290 (propane) were introduced to the market and used at the Olympic Games in Sydney in 2000. Before then, propane had not been used in refrigerators or freezers. The company thus became the pioneer of an entire industry.

Today, the company produces full plug-in units, semi-plug-in units and cabinets, and also added units with CO_2 refrigerant to its portfolio in 2022. Numerous innovative products bear witness to the company's development work. With the VENTO vertical refrigerator series, for example, a product was developed that was equipped with energy-saving doors long before it was requested by customers.

In addition to its headquarters in Rottenmann, Austria, AHT has three production sites in China, the USA and Brazil. At these plants, the units are produced to suit the respective market, fully in line with Daikin's philosophy of producing close to the markets it serves. AHT has nine sales companies worldwide, serving the food retail industry in particular. In 2023, the year of its 40th birthday celebrations, around 1,500 employees work for AHT.



AHT produces full plug-in units, semi-plug-in units and cabinets.





New territories

Meanwhile, DENV was maturing into a true EMEA organisation, with expansion into new territories via local sales companies and offices. In 2005, an office was established in Moscow. The year after, DENV took over Daikin Airconditioning South Africa (DASA) from DIL, and in 2007, the Daikin Turkey (DTAS) office was set up. This gave Daikin a more intense presence across the Middle East, Africa and the former USSR states, putting it closer to dealers and distributors. The geographical area covered by DENV therefore increased enormously, encompassing a wider array of cultures than ever before.

A milestone for Daikin's Middle East business was the 2006 launch of the Dubai office. This was a novel situation for DENV in the sense that it did not acquire an existing business, but set up an office from scratch. Saïdja Geirnaert was dispatched to Dubai to carry out this challenging project. "You start from just a plan, you arrive with your suitcase and a laptop, and off you go, so there is no structure there yet," Saïdja remembers.

"We looked at what would be a good location to supply all the clients or distributors we had in that region, in the Gulf states. Next to Dubai, there was a free zone in the Jebel Ali port, one of the deep sea ports in the Middle East. So we decided to set up shop there."

Initially running the fledgling Dubai office from a hotel meeting room while searching for premises and staff, Saïdja notes that some of the staff there in those earliest days are still with the company now. "The same philosophy of working long for one specific company also culturally fitted within that region," he observes. However, he adds that "most of the processes and procedures of our European operations had to be rewritten or rethought in order to make it possible within the Middle East."

↖ In 2006, Saïdja Geirnaert (second from the right) was tasked with launching the Dubai office.

↑ The fledgling Dubai office started life in a hotel meeting room while the search commenced for premises and staff.



Daikin McQuay Middle East FZE was formed in 2008 following the McQuay acquisition.

What followed was a period spent establishing relationships with distributors in that region. This meant adjusting to the customs of the different nationalities and different, more emotional and family-oriented, ways of negotiating. Then, after DIL's acquisition of OYL Group with the McQuay companies, the McQuay Middle East company and DENV's Dubai office merged to become Daikin McQuay Middle East FZE (DAME) as a regional headquarter in August 2008. Shortly after, Daikin held an international dealer conference in Dubai. The participants discussed the strategies for the Middle East and how to best promote Daikin and McQuay products in the market, combining the forces of both brands.

Economic downturn

In 2008, the Lehman Brothers bankruptcy in the US marked the start of three challenging years for DENV. Market demand dropped steeply and competition was fierce. Actions were taken to reduce costs, but some of the structural measures had long-term benefits – such as the establishment of the European Procurement Center (EPC), a joint purchasing programme among all EU factories.

But despite another major global economic downturn, DENV continued to pursue its diversification strategy. In 2009, DENV introduced the Daikin Emura, a stylish new wall-mounted split design unit. It was the first unit developed in Europe for the European market, in cooperation with DIL. And there was further development of the Daikin Altherma range, along with the aforementioned integration of the heating company ROTEX.

Although the effects of the financial crisis seemed significant at the time, they had no long-term impact on the overall growth timeline of DENV – thanks largely to the financial cushion provided by being part of a global company. "As part of a large organisation in Daikin United Kingdom (DAUK), I think we were probably insulated somewhat from the downturn," says David Macqueen, who was a former independent distributor in the UK. "So my memory of the financial crisis was yes, it was a tough environment, but it wasn't anything like what it would have been if my company had remained independent."

During the slowdown, production output was temporarily reduced and DENV took the opportunity to organise more training, including sending workers from DICz for training at Japan's Sakai plant. At the same time, teams responsible for improving productivity and cost-effectiveness through small, low-cost changes (*kaizen*) were introduced.

After three years of navigating the global crisis with reduced demand, DENV started recovery in 2011. Coming out the other side of the crisis, DENV was once again set on expanding, this time by acquiring the Turkish equipment manufacturer Airfel and establishing a strong organisation in Turkey.

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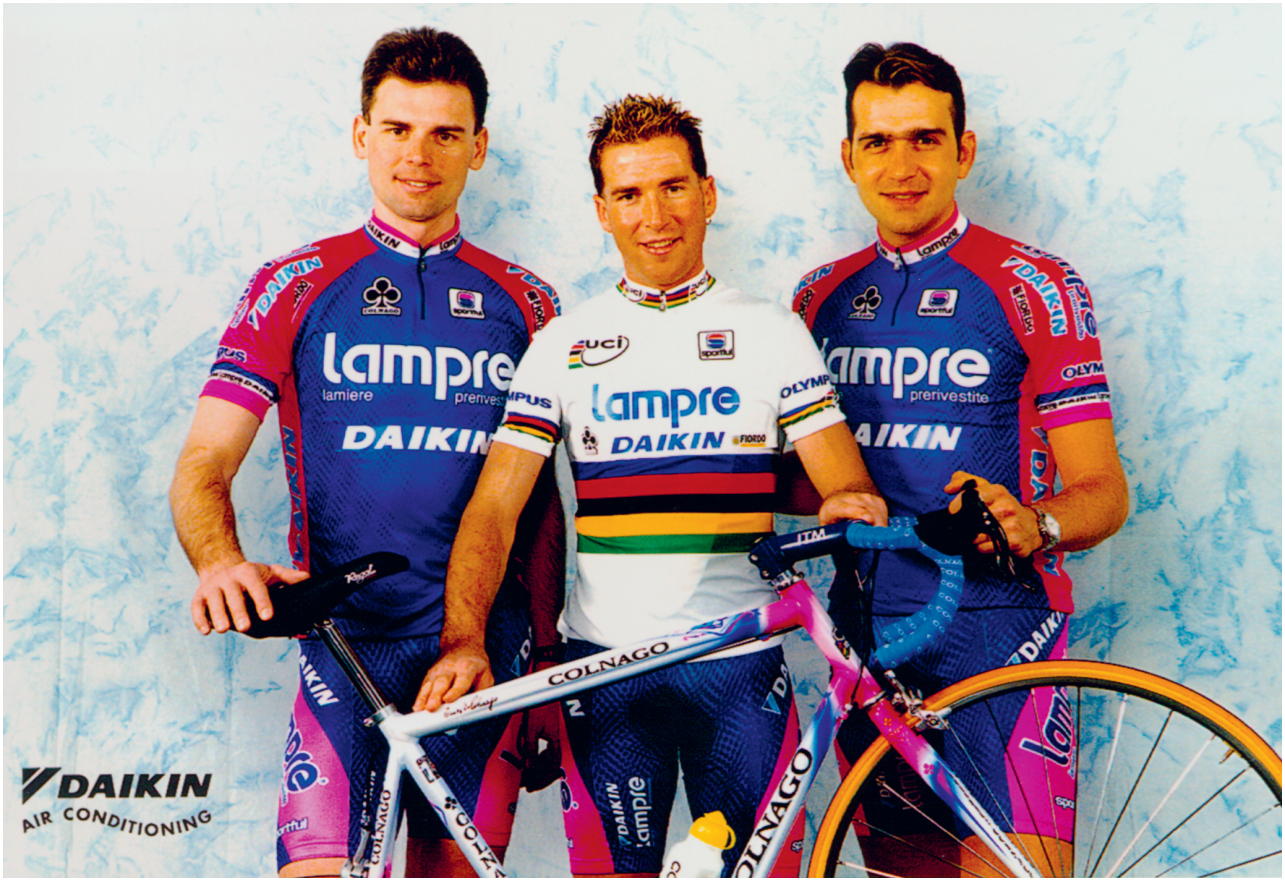
The flagship Daikin Altherma range saw further development in 2009.




DAIKIN
AIR CONDITIONING
lampre
DAIKIN
COLNAGO


DAIKIN
DAIKIN

Getting the Daikin name out there

As a new millennium dawned, an instruction came from Japanese top management to put a concerted effort into raising brand awareness in Europe. DENV was looking to sport sponsorships to do so. The sport that propelled Daikin into international sponsorship was cycling – an activity with a number of big European events, including the Tour de France, the Giro d'Italia and the Vuelta in Spain.

DENV partnered with Italian pre-coated steel producer Lampre, which was run by a family of cycling enthusiasts who provided practical support to the races. Together, they formed the Lampre-Daikin professional cycling team. The Daikin brand took centre stage, in sponsoring the events themselves, in the team name and visually on the individual cyclists' shirts.

The brand recognition and press coverage this achieved were only part of the story. For several years Daikin customers were also treated to informal hospitality at numerous major cycling events, from breakfast at the Grand Départ to meeting with the team cyclists after the race. Not only that, but Lampre-Daikin cycling shirts and bikes were available for enthusiastic employees to buy for themselves. This meant that many in the wider company were able to enjoy its involvement in this exciting sport.

The cycling sponsorship proved incredibly successful at raising brand awareness, but like all good things, it ultimately came to an end in 2003, as the sales companies wanted more flexibility for their own national promotion activities. An example of this was Daikin Airconditioning Belgium (DAB)'s 2015 initiative to become one of the main sponsors of the Club Brugge football team – one of Belgium's top teams, hailing from Ostend's neighbouring city.

"Club Brugge contacted us as they were looking for brands with the same image as their team," remembers Tom Decuypere, Managing Director of Daikin Sweden (DASW). "They were going for ambition, being the best, being sustainable, looking for employer branding. We share the same values and felt we could do business together."

The result was three years of shirt sponsoring, an opportunity that provided exposure during top European matches against teams such as Manchester United, AC Milan and Real Madrid. "It gave us an awful lot of exposure in Belgium, for sure," confirms Roderik Desiere, Managing Director of DAB. "But also within Europe, as this team also played in the Champions League."

← DENV proudly sponsored the Lampre-Daikin cycling team and Club Brugge football team.

Distributors to affiliates: a new growth strategy

From the mid-90s, DENV had begun systematically acquiring its distributors. A distributor was an independent company responsible for the promotion, sales and service of Daikin equipment in a specific country. Acquiring them was a growth strategy designed for rapid infiltration to European markets, and it was to dominate the next two decades. It was challenging at times, with some of the acquisitions resulting in friction between Daikin Europe and the formerly independent companies as they began the process of assimilating to the Daikin way of life. Despite these difficulties, acquisition was critical to Daikin Europe's incredible growth during this period.

"It allowed Daikin to take more direct action towards the market and invest for growth," explains Frans Hoorelbeke, "and to materialise a guiding principle of our philosophy: 'We create new value by anticipating the future needs of the customers'. All these new affiliated companies reported directly to Daikin Europe, which enabled us to capture the real market need, a key success factor in the history of Daikin."



Establishing affiliates through acquisition of distributors has been a key growth strategy for DENV.



Daikin Airconditioning France HQ relocated to Paris in 1994.

Looking more closely at different countries, it becomes clear that within this overarching strategy, a number of different approaches were required to make acquisition successful across such a diverse array of cultures.

The first daughter company of DENV was to be established in France, formed from what had formerly been Megatherm – itself a subsidiary of a company named Julien et Mège. Lack of investment from its parent company meant that sales growth of Megatherm was slow. When Julien et Mège collapsed in the mid-1980s, DENV stepped in and acquired it to prevent it falling into the hands of a competitor. Backed by heavy investment, Megatherm became Daikin Airconditioning France (DAF) in 1992, its headquarters relocating from Lyon to Paris two years later.

Frans Hoorelbeke, at the time the first Managing Director of the new company, remembers the challenges of those early days. "This acquisition was a very tricky and complex operation: financially, commercially, legally and socially," he recalls. "I needed a lot of diplomacy and financial insight to turn the opportunity into a success."

But successful it did become, and it was not long before DAF had established itself as one of France's leading players in heating, ventilation and air conditioning (HVAC). Today, it is one of DENV's top-performing entities.

Understanding the needs of different cultures

The Central European region, with a numerous but diverse array of smaller countries, required a different approach. Daikin Airconditioning Central Europe (DACE) came into being in 1999 through the acquisition of Climex, a Vienna-based heating, ventilation and air-conditioning distributor operating in Central and Eastern Europe. The post-acquisition integration was challenging, with multiple countries now being managed by DACE, including Austria, the Czech Republic, Slovakia, Hungary and Romania. The region's lack of political stability and regular market collapses initially proved a difficult environment for business to flourish.

However, as the situation started to settle, and trade opened up with former communist countries, DACE started taking great strides into the promising Central European market. Like its mother company, it grew a network of affiliated companies in the region's numerous countries that enabled a strong grasp of local markets. That network now extends from Poland, the Czech Republic, Slovakia, Slovenia, Croatia and Serbia to Hungary and Romania, all the way down to Kosovo, Albania, North Macedonia and Bulgaria – a territory that covers a huge array of cultures, histories, religions, languages and mentalities.

Carl Lievens, now Managing Director of DACE, was dispatched to Vienna right at the beginning. He was initially responsible for corporate planning and supported the setting up of functions that did not yet exist – such as legal, finance, HR and IT – at a time when, in some countries, bookkeeping was still being done on paper.

After the first years of establishment, DACE's focus was on empowering the local companies with whom it was affiliated to operate with greater independence, while remaining in the DACE management structure. Customers were now dealt with in their own languages, by local sales representatives with local market knowledge.

Countries in the Central European region were undergoing great changes since the end of communist regimes. With its local approach, DACE was able to respond quickly and successfully to opportunities that arose as a result. For example, in Croatia and Bulgaria, booming tourism resulted in strong demand from hotels and other leisure facilities.

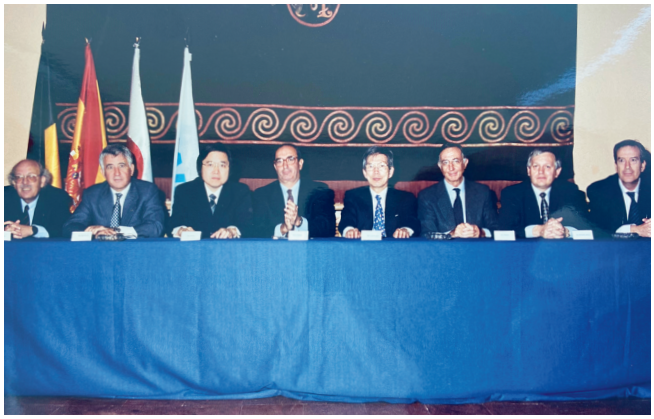
"I don't remember one competitor of a similar size, who invested such a lot in local structures to be closer to the market,



Carl Lievens has been with DACE since the beginning.

to be closer to the customer," remarks Otto Oberhumer, who was one of the first managing directors recruited from among the former distributors.

"I would say that what made DACE successful is that, better than competitors, we were able to manage this diversity in the sense of respecting individual mentalities, cultures, languages and so on," Carl continues. "But at the same time, by bringing everybody in the same room with the same Daikin spirit, somehow to show the power of the region – this is what strongly connected people."



In 2000, DENV acquired the Spanish air-conditioning supplier ACISA.

The giants of southern Europe

Meanwhile, in southern Europe, the two big players were – and continue to be – Spain and Italy. Both countries are prone to extremes of temperature, making them big potential markets for heat pump technology for both heating and cooling.

Under the regime of Franco, Spain had closed its doors to non-European air-conditioning equipment unless produced locally under licence. All that was to change from the early 1980s onwards. With its sights set on EC membership, the country began to open up. DENV established an agreement with the Spanish company Specific Dynamics SA for the exclusive import of heat pumps through their subsidiary, Bombas de Calor. However, that company was not successful. In 1992, its place as DENV's import partner was taken by another company, Air Conditioning Iberia SA (ACISA). ACISA already had a strong regional office network across the Iberian Peninsula, Balearics and Canaries and was flourishing under its new managing director, Fernando Corral.

ACISA having reached a position as the premier Spanish air-conditioning supplier, DENV acquired the company in 2000, rebranding it Daikin Airconditioning Spain (DACS). This necessitated a shift in the company's organisational structure from vertical to horizontal, with new departments created to support the company in adapting to a new way of working.

"We started thinking as a global business and not as a regional entity anymore," remembers Fernando Corral. "From the employees' perspective, we could offer wider and more interesting professional careers, enjoying the security and stability given by a worldwide leader like Daikin. We could also offer our colleagues a sound and stable financial situation for them and their families."

In Italy, Daikin's presence stretched back further than in Spain, beginning in 1968 with the appointment of SITI as

SITI's exhibition Mostra Convegno, in 2000



exclusive distributor. With headquarters in Milan, SITI had fought hard amidst the intense competition of the Italian market to achieve a leading position – even in the face of a government that favoured local manufacturers and imposed high import tariffs on goods produced overseas. Despite this, it quickly established itself as a major success story for Daikin. Soon accounting for 15% of Daikin's European sales, SITI had put itself in a favourable position for acquisition. This happened in 2002, when it became Daikin Airconditioning Italy (DACI).

Geert Vos, now Managing Director of DACI, had previously worked for SITI in the early days. In 2002, he was dispatched to Italy along with Junji Umamoto to establish the new Daikin daughter company.

"These were hectic times, as the market for air conditioning was expanding rapidly after the heatwave of 2003," he remembers. "We invested in brand awareness and were very successful, with TV campaigns many people still remember. We also recruited many new colleagues who are still with us today. At that time, I was doing the sales planning and basically being the broker between Japanese and Italian management. Because the management styles are quite different, it was useful to play the role of intermediate person." Daikin Italy is now one of Europe's top performers.

Three into one

In the UK, the situation was different again. Traditionally DENV's biggest market due to regulations surrounding air conditioning in offices, the UK uniquely had no fewer than five distributors. These were supported by DENV through the opening of DENV's UK office in Surrey in 1993 to provide financial, commercial and promotional back-up. This solved the problem of frequent travelling for staff between the UK and Ostend, as well as allowing stronger relationships to be built between DENV and its UK distributors.

Having five distributors in one country had its pros and cons. Those against it argued that it meant reduced margins, due to intense competition between each other. Those in favour pointed to the enthusiasm, marketing sharpness and customer benefits that often go hand in hand with competitive selling. This competitive spirit among the five distributors led ultimately to Daikin becoming market leader in the UK.

The UK's unusual set-up was to change with the amalgamation, in 2003, of three of the five distributors – Pillinger Air, Cooling Services, Macqueen Air Conditioning – to form Daikin Airconditioning UK (DAUK). (The fourth distributor, Space Air, chose to remain independent, and the contract with the fifth one, Cool Air, was terminated.) It had become increasingly important to find a way to unify the Daikin voice in the UK, where customers were often buying from more than one of the distributors.

Bringing together three British former competitors and uniting them under the philosophy of a Japanese company with a headquarters in Belgium was not without its complications, as David Macqueen, Managing Director of former distributor Macqueen Air Conditioning, remembers: "There were occasional times where there were sparks, particularly in the early days." The heated discussions that sometimes took place did have their advantages, though, with David commenting, "I personally think the very open discussions were conducive to a better result. By and large, the Daikin philosophy was not overly different from the philosophy we had at Macqueen Air Conditioning. It was rather longer and more words to it, but I think our philosophy was to do it a bit better and achieve balance in all things."

DAUK's current office in Weybridge, Surrey



The need for autonomy

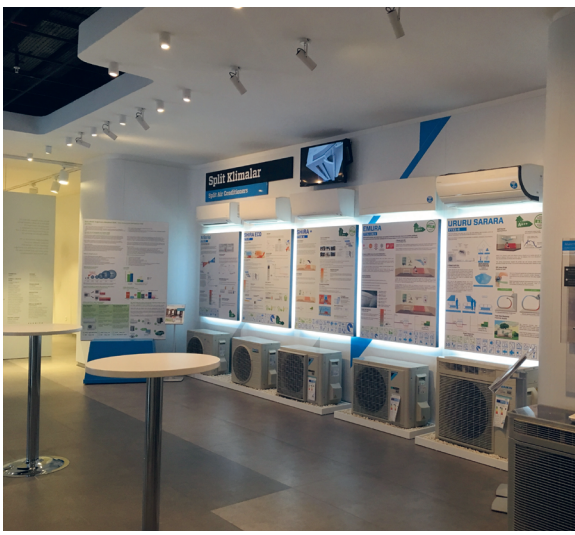
In Turkey, DENV faced a different challenge: finding a suitable approach for expanding in yet another new business culture.

DTAS started life as a heating and radiator company called Airfel, originally founded in 1999 and run by Hasan Onder (now Managing Director of DTAS). Airfel was the first to import mobile air conditioners to Turkey and sell them in chain stores. In its early years, the company had grown exponentially, doubling in size each year and developing its knowledge of the air-conditioning market along the way.

At that time, DENV was the air-conditioning market leader in all European countries except Turkey, so an acquisition of this incredibly successful company made sense. This took place in 2011. "It was a very good, successful acquisition, no fighting," remembers Hasan Onder. There was just one problem: "We became Daikin, a global company, but most of our managers couldn't speak English!" Viewing his employees as family, Hasan rejected Daikin's request for a meeting with all his managers and spent the next two years making sure they all learned English.

What followed was a change in Daikin's general approach to acquisitions across Europe. Hasan remembers receiving a visit from DIL Chairman and CEO Noriyuke Inoue at this time. "Mr Inoue visited Turkey," Hasan remembers, "and he said, 'they are experts in the Turkish market. Give them the freedom to run the business their way'." DTAS was therefore given more autonomy than usual. The reasoning behind this was that Turkey's culture, and the ever-changing dynamics





of an emerging market, were both very different from that of other European countries and their more established markets. Due to these conditions, a flat management approach was needed to quickly establish direct contacts between management, employees and customers alike.

DTAS has grown from around 200 people to 1,750 people since acquisition by Daikin. Part of this phenomenal success has been down to Daikin Turkey's unusual strategy to sell equipment directly to consumers. The company expanded rapidly by opening an astonishing 3,000 shops and showrooms via dealers. Its own people are present in them, selling directly to end users, and making sure the installation of the equipment is done by the network of installers.

"It is not easy to create 3,000 dealers for air conditioning in a short time, but we have to be innovative," Hasan explains. "We go deeply into each city, each village, everywhere suitable for us, because our product is high-end, not low-end." This strategy has paid off in the trust that now exists between DTAS and its dealers. "Our dealership is very strong," Hasan comments.

DTAS has now assumed the sales responsibility for several Central Asian countries. True to its philosophy of production close to markets, Daikin now also has a manufacturing plant in Turkey – DENV's second biggest.







Daikin Turkey's rapid expansion saw the opening of 3,000 shops and showrooms.


DAIKIN
WELCOME
Supermarket
Sport and entertainment
Restaurant
Technical room
Industry
Bank
Shop
Office
Hotel
Residential

Forging stronger relationships

Customer relationship building has been key in the phenomenal growth of Daikin Europe. This explains why Daikin always strives for mutual long-term commitments with its customers. The friendly and challenging relations the company maintains with its business associates require a high degree of trust, motivating both parties to do better every day.

Relationship building has taken on many forms over the years, with events and factory tours all important ways of demonstrating how Daikin works. Such activities are ideal for sharing the company's strategy and vision for market development and product innovations. Meeting customers in person also presents an opportunity to forge stronger ties, and to listen to and take the time to understand their needs.

At its most simple, Daikin's relationship building sees customers welcomed to the Ostend factory on tours that run every day. Representatives from companies invited by Daikin affiliates enjoy a day being shown around the factory and showroom learning how the units work, followed by an overnight trip to beautiful Bruges.

Over the years, customers have also been entertained at sporting events, such as show jumping and martial arts. Judo was an obvious activity choice for Daikin in the late nineties: the Belgian Olympic team were gold medallists in a sport that has its roots in Japan. A year after the Atlanta Olympic games, Daikin proudly sponsored the 1997 European judo championship, which took place in Ostend. It was a huge success for the Belgian team, and customers joined in the celebrations.

Some customers were into sports themselves. Over in DACE, the team took a more active approach to entertaining customers. Former Managing Director Otto Oberhumer, himself a keen motorcyclist, introduced motorbiking tours for up to nine customers at a time, subsequently expanding the idea into an annual international Daikin motorbike tour for up to 40 customers, who came from all over the DACE network.

"The customers really enjoyed this event," Otto remembers. "We would come together on a Thursday afternoon, somewhere in the Austrian mountains, presenting the tour and having a nice evening. And, of course, when we arrived somewhere for lunch or dinner, there was a Daikin flag on the table! We would have the main tour on Friday, with about 400 kilometres."

Fabienne Van Loo, at the time new to marketing, found herself put in charge of coordinating many of the customer events. She remembers, "My task was to organise all practical matters, from printing and sending out the invitations, to assuring a great stay for our customers. I was there to meet them when they arrived, joined dinners and watched the sports games together with them. In the early days, we did some big tournaments with customers, mostly local here in Ostend."

But much grander international incentive trips were to be enjoyed by top Daikin customers as the years went on. The most memorable of these incentives brought the supersonic jet

Concorde to the long runway of Ostend Airport. One hundred excited Daikin customers were invited on board the iconic aircraft, which was manned by staff in Daikin-branded jackets. They were then whisked away on a surprise trip to Iceland, where they took in famous sights such as the Golden Circle and Blue Lagoon, went on a glacier safari and rode Icelandic ponies.

Another particularly memorable trip took top European customers from the Daikin factory in Thailand to Daikin in Singapore on the Eastern & Oriental Express, via the River Kwai.

In early 2000, these trips took on more of a work bent with the introduction of business seminars. Affiliates and distributors were invited to bring their installers, architects, consultants and other associates on organised trips to destinations where Daikin installations could be viewed *in situ*. Groups ranged in size from 50 to over 600, with attendees receiving information on existing and new products, new factories and offices, press conferences and other Daikin happenings across Europe.

These seminars took Daikin and its customers to some fascinating locations. Among the most interesting was a Daikin air conditioner in a behind-the-scenes machine room in the Eiffel Tower in Paris, and another in Dubai's Burj-al-Arab 7-star hotel, where a heating and cooling installation had recently been completed.

On an even bigger scale, international distributor conferences have also brought Daikin customers to some exciting destinations – and not just Japan. A particularly memorable conference titled 'Inverting the Pyramid' took place in Cairo, Egypt, in full sight of the pyramids. The centrepiece of the conference – the biggest of its kind to date – was a dinner organised right next to the pyramids, with music provided by the Philharmonic Orchestra of Cairo. Even problems with the electricity could do nothing to dampen the enthusiasm of those who attended.

Another international conference took place in Marrakech, Morocco, in 2017 and was joined by many of DENV's African partners. The location was selected to emphasise DENV's strategic direction of expansion in the region. A former NASA astronaut was guest speaker. He elaborated on his experiences during his space



Fabienne Van Loo ensures that Daikin's top customers have a memorable trip.



A conference in Marrakech, Morocco, emphasised DENV's strategic expansion in the region.



Daikin takes customers from Thailand to Singapore on the Eastern & Oriental Express.



The 'Inverting the Pyramid' conference in Cairo

shuttle trips and space walks and made parallels between space travel and Daikin's business. The need for absolute perfection and close cooperation across many parties are requirements for being successful in space, as well as in the heating, ventilation, air conditioning and refrigeration (HVAC-R) industry.

Fabienne Van Loo and her team were responsible for location scouting and running these trips. Their job was to mastermind a complex array of transport options, guides, restaurants, tastings and everything else needed to make both the business and leisure aspects of the trips run smoothly. "When we arrived in a country, it was like making a puzzle," she recalls. "Each event has its specific challenges, and before mobile phones or the internet existed, it was a matter of the utmost preparation to organise once-in-a-lifetime, memorable seminars. Up to today, we leave nothing to chance; a Daikin event is always a guaranteed opportunity to learn something new, exchange ideas and have fun."

Of course, while tremendous fun for those who attended, these events had a serious purpose, serving to build stronger relationships with customers old and new and to keep all abreast of the latest innovations being added to the Daikin family.

The forced cessation of gatherings in person due to the COVID-19 epidemic clearly demonstrated the value of such events. "Afterwards, I saw that people really wanted to be in touch again, want to sit together," Fabienne says. "Customers enjoy being able to finally meet the person they've been talking to over the phone for years. Visiting the factory, or the Daikin offices, gives them the chance to see a true global company at work, with multiple nationalities working together. For those who sell and install our products every day, the close-up view of our production lines makes them feel part of the Daikin family themselves."

Past, present, future

Looking back over DENV's 50-year history, several major drivers of growth become apparent beyond external factors such as the 2003 heatwave.

The first was the production expansion, in the 1990s, of the Ostend factory and launch of further production facilities in the Czech Republic. These allowed DENV to turn around the ratio of imports to local production dramatically, fulfilling the 'production in Europe, for Europe' philosophy that has been central to responding quickly to sudden market changes. For example, it is this approach that has allowed DENV to increase its turnover substantially amidst the logistics problems faced by the rest of the industry during and in the aftermath of the COVID-19 pandemic. It also allowed DENV to make significant gains in market share.

Secondly, the acquisition of its main distributors placed DENV in a strong position to execute its growth strategy in each market, whether that be investment in branding, manpower, dealer development, consulting sales or any other approach. The acquisition of distributors also gave DENV access to crucial market intelligence, enabling a closer link with customers and a deeper understanding of their needs.

With the incorporation of these distributors into the Daikin group as affiliates, the introduction of shared services (in areas such as supply, IT and finance) allowed these new daughter companies to focus wholly on sales and service. It also improved the efficiency and performance of the group as a whole.

And last but not least, constant innovation proved critical to DENV's continued growth. After the successful introduction of VRV, DENV continued to build on core heat pump technology and was the first in the industry to introduce novelties, such as the Daikin Altherma air-to-water heat pump in Europe, or the integrated refrigeration systems as a one-stop-shop solution for retail customers across EMEA.

The choice that was made over 20 years ago to expand the DENV product portfolio from air-conditioning equipment to include ventilation, heating and refrigeration brought new business domains for growth. Today, DENV has the portfolio and expertise to offer total solutions for any application need in the industry, from single family homes to the biggest football stadium.

Innovation today goes beyond the product itself, with connectivity and the Internet of Things (IoT) also taking a centre stage in the solutions DENV brings to market. On top of that the latter are now laying the foundation for completely new business models, such as heating as a service models.

DENV's focus has always been to act with the environment in mind. In the first 40 years of its existence, energy efficiency of products and respectful production methods were pivotal in

this. But today, the stakes are different. Energy efficiency is a must, and in the world of the future all HVAC-R equipment runs on clean, renewable energy, with zero to no impact on the environment. It is exactly with that vision in mind that Daikin designs and makes its products and solutions today. The focus is on developing smart, low carbon solutions for a variety of modern life applications, such as residential heat pumps to heat and cool homes, or transport refrigeration systems that can save on fuel consumption.

As Frans Hoorelbeke comments, "The Daikin success story is still going at full speed. We've always worked by the philosophy that quick action and the power to execute are important. This is more important than ever in a world that seems to move from crisis to crisis. There are always opportunities to do good business, if you understand the needs of the market, and act before others do."



The opening ceremony of Daikin's nZEB (nearly Zero Energy Building) in Herten, Germany

DENV Vice President Wim de Schacht agrees: "When I joined, we had 200 people; now we have more than 13,000. We have expanded into five business units, and I'm confident the market for our solutions will keep growing. We are answering customer needs to lower their environmental footprint without compromising on quality, safety and comfort. Still we will have to keep reinventing ourselves to keep creating a prosperous future. We are living through important



The first nZEB in Herten, Germany


FUSION



times, and several key societal issues – such as rising global energy demand and global warming – require firm action. We will have to keep thinking out of the box to realise our ambitious global carbon neutrality target by 2050. These are no times for complacency."

"We do have the advantage that we can find many opportunities in our market," Wim adds. "We have been seriously investing in R&D, manufacturing and structures to become a total solution provider. We will continue on that track, through organic growth, but also by acquisitions if necessary. The markets may seem in turmoil, but there are always customer needs to be met. Our five-year strategy plans, the FUSION plans, are the ideal moment to reflect – and to keep looking ahead."

DENV's latest five-year strategy plans were presented at the FUSION Forum 25, attended by managers from all over Europe.


DAIKIN
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CHAPTER 2

50 Years of Innovation

Innovation: a hallmark of Daikin DNA

One of the secrets to Daikin's success in Europe is a culture of continuous improvement and technological breakthroughs, learning from and building on failures and little by little becoming stronger. From its earliest days, it has been the only air-conditioning manufacturer in the world to produce its own (in)direct expansion units, compressors and refrigerants. Over the last 50 years, its ongoing investment in research and development has allowed Daikin to adapt and evolve to an ever-changing regulatory landscape amidst increasing environmental concerns.

From the start, it is this attitude that enabled Daikin to meet affiliates' expectations that "Daikin will find a solution" and made Daikin Europe N.V. (DENV) the right partner to grow their business with – whether for its leadership in reliability, choice of refrigerant, materials and parts, or simply staying ahead of legislation.

Committed to producing best-in-class products tailored to the climates and markets of the diverse array of countries in its remit, DENV has long spearheaded change in the heating, ventilation and air conditioning (HVAC) market in Europe – from the introduction of the first heat pumps during the energy crises of the 1970s and 80s to the game-changing Variable Refrigerant Volume (VRV) system to the futureproof Daikin Altherma. DENV's innovation programme is driven from a thorough spirit of *gemba*, supported by the technical innovation and capabilities of Daikin Industries (DIL). This has been enhanced by its network of EMEA Development Centers (EDCs) and underpinned by watertight design processes and internal policies.

Today, DENV is considered the leader and innovator in the HVAC market. Daikin increasingly expands into new market segments (such as Refrigeration and Service Solution businesses), where it is seen as the challenger. Its engineering mindset continues to set it apart from the competition. Little wonder that competitors still look to Daikin to find out what strategic choices the group will make for the volatile decades that lie ahead.

Daikin showrooms display the very latest innovations, showcasing its position as a leader in the HVAC market.



Europe's first heat pumps

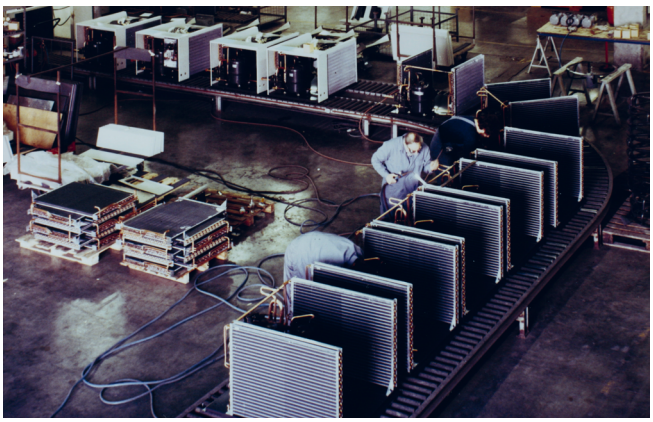
Residential heat pump units are big business for DENV today, but the technology dates back to the 1980s. When the two oil crises struck Europe in the 1970s, and the price of oil rose sharply, DENV management recognised the more favourable circumstances to promote heat pump technology for heating and act upon it.

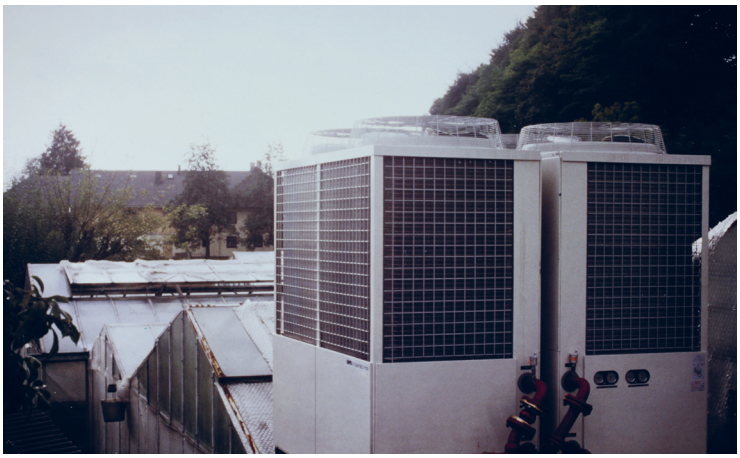
In response, Europe's earliest heat pumps were commercial units designed and developed in-house by a small team of DENV engineers around 1981, using old-fashioned pen and paper drawings rather than CADs. There were two models: EBA, an air-to-water system, and EBW, a water-to-water system. Inverter compressors were not available yet, which made the development of heat pumps supplying sufficient heat at low ambient temperatures a big challenge.

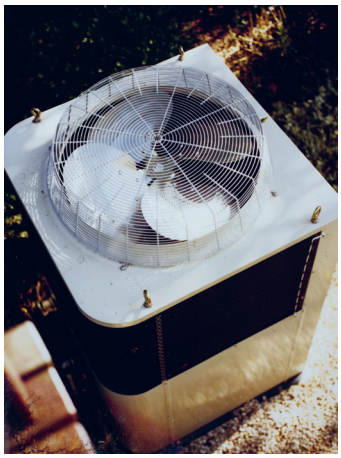
The heat pump system represented a significant move forward in Daikin technology, but as Martin Dieryckx, General Manager of the Environmental Research Center (ERC), remembers, these early systems were somewhat larger than the heat pumps Daikin manufactures today: "You still had this larger heat exchanger – the units were bigger, because we didn't yet have the more compact plate heat exchangers that we have now. Daikin Europe was the first to use plate heat exchangers for heat pumps and cooling systems, which meant we could make them much more compact. But at that time, the size was something like four times bigger. They operated well, but there was no inverter technology."

These earliest heat pumps, while pioneering, had a limited shelf life. "As long as the oil crisis was important, there was interest from the market," Martin remembers. Today, the choice for a heat pump has a more solid base due to the introduction of the energy performance of buildings, as well as the decarbonisation of society and the wish to be more independent for energy sources.

Manufacturing of heat pump systems at DENV







VRV: the multi-split gamechanger

The launch of VRV in 1988 was a game-changer for Daikin.

The 1988 launch of a Variable Refrigerant Volume (VRV) system was a game-changer in the growth of Daikin in Europe, proving the extent to which innovation could be the driving force behind its success. VRV was invented by Daikin but has been reproduced by many others since – testimony to its status as a pioneering technology with the ability to transform the market.

First developed in Japan in 1982, VRV was an innovation for Europe, where chiller-based air conditioning units dominated the market. At the time, the technologically advanced VRV system was unique – it was the world's first multi-indoor air conditioner for commercial buildings based on direct expansion. VRV enables individual zone control, which had previously been a big challenge for commercial air conditioners, and meets users' needs in terms of flexibility and energy efficiency.

As a direct expansion system, VRV exploits the greatly superior heat transfer characteristics of refrigerant over both water and air. In combination with inverter technology, the VRV system can control each indoor unit separately, which enables the system to deliver precise temperature regulation. This means that the system channels the energy to only those rooms that require cooling or heating, resulting in far better energy efficiency compared to other available technologies.

How does VRV work?

VRV alternates the refrigerant volume through the different indoor units to match a building's precise temperature or comfort requirements.

A VRV system is a direct expansion system: up to 64 indoor units are connected to a single condensing/evaporating unit. Inverter-controlled variable speed compressors vary the supply of refrigerant to each indoor unit, where an electronic expansion valve regulates the amount of refrigerant passing through it. It then either evaporates or condenses to suit the cooling or heating load.

Initially designed as an energy-efficient alternative to traditional centralised systems in the early 80s, the asset of Variable Refrigerant Temperature added to its strength to make it especially energy-efficient during low cooling and heating loads, assuring customer comfort by adjusting outblow temperatures.

Further flexibility is achieved through long piping lengths, high vertical level differences and the small diameter of the refrigerant piping.



A VRV installed on the roof of a large commercial building

A variable refrigerant flow (VRF) system is a technology that circulates only the minimum amount of refrigerant needed during its operation. This mechanism has made it possible for end users to individually control several air-conditioning zones at any given time. While the earliest iteration of VRV had only cooling capabilities, subsequent product development allowed it to offer cooling, heating, and simultaneous cooling and heating – that is, heat recovery via air-conditioning installations, with up to 64 indoor units operating on a single refrigerant circuit.

The VRV system was to prove immensely popular thanks to its modular concept, which offers complete design, installation, standby and operational flexibility with low maintenance costs – the latter a marked contrast to the corrosion, system balancing and other features of the maintenance required for the systems that went before it.

In 1988, VRV represented a fresh technological approach to commercial air conditioning – even though Daikin was still relatively unknown at that time in Europe. Led by the late Philippe De Corte, Managing Director of DACE, along with Marketing Coordinator Philippe Vandesteene, a promotion campaign began in earnest. A dedicated Consulting Sales team was established to support designers in specifying the best product for the project or application. This captured the imagination of Europe's younger design consultants and specifiers.

Seminars and exhibitions were important in promoting this brand new technology, with product information and promotion, backed up by concrete case studies proving VRV's success in Japan. The awareness raised by these seminars was further boosted by eye-catching advertising in London – the UK being the biggest market initially thanks to its reliance on air conditioning for offices – and in other European cities including Paris, Madrid, Athens and Milan.

The 1990 London Heating and Ventilation Show was to be a turning point in the VRV launch, with a dedicated 600m² VRV Village where the product could be demonstrated and six seminars given a day. These called on the experiences of the consultant, Arthur Eyre, and installer, Peter Worthington, of the most frequently visited reference site: the 27-floor Forum Hotel in Kensington, where show attendees were taken by bus to see the product in situ.





The late Philippe De Corte led the successful VRV promotion campaign through seminars and exhibitions.

During the 1990s, VRV continued to evolve to meet new market demands.



Quickly taking the sector by storm, this market-leading technology led to a reshuffle in the medium-to-large commercial HVAC market, with other brands joining in this newly created market demand. The market expanded dramatically as more and more consultants in Europe realised that the energy-saving benefits and low maintenance costs were appealing.

Intensifying collaboration between DENV and its mother company on market feedback and product specifications, gradually also brought a greater level of know-how to DENV. As a result, the innovation continued, with DENV developing several further iterations of VRV in the years that followed and adding new features to meet evolving market demands. From increasing the capacity load to incorporating more recovery technologies, developments in the VRV system continue to the present day.

These improvements began in 1990 with the launch of a water-cooled version, designed as an alternative for applications where even longer piping lengths are required. In that same year, the first heat recovery VRV entered the market, giving users the ability to heat and cool simultaneously with just one outdoor unit.

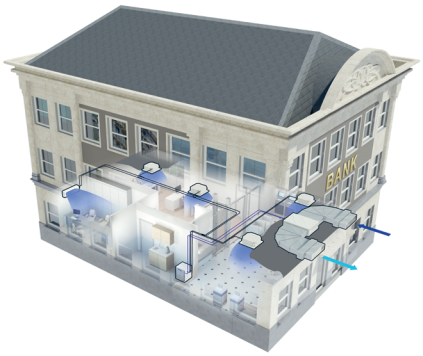
In 1992, DENV initiated the development of an air conditioning monitoring and management system, using the gateway of the Daikin Building Air Conditioning Control System (D-BACS) to achieve proportional energy distribution. This yielded further improvements in the VRV's energy-saving capabilities, which were already excellent thanks to its modularity.

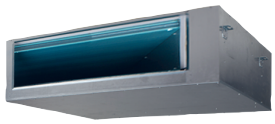
By the end of the decade, consideration had been made to simplifying the installation process for businesses, with the development of Replacement VRV that enabled installers to replace only the indoor and outdoor units and to reuse the refrigerant pipes.

Meanwhile, the VRV development focus had turned to enabling the technology to work in the world's most extreme climates. Firstly, in respect of Daikin's growing Middle East market, the system was customised to be more compatible with temperatures of 50°C or more, known as the High Ambient VRV range. Then, in 2007, a new and highly efficient VRV was developed to allow operation in climates in which temperatures reach as low as -25°C.

As the market for VRV developed, the unit was adapted to withstand the demands of extreme climates.









VRV IV i-series

The VRV IV i-series: Daikin's first 'invisible' VRV outdoor unit

VRV took centre stage in 2012 with the launch of the VRV IV, which included the Daikin-developed Variable Refrigerant Temperature technology. Designed to perform even better at low cooling and heating loads, it also brought customer comfort even more to the forefront by optimising indoor unit outblow temperatures. Another innovation came to fruition in 2015, when Daikin launched the VRV IV i-series: an 'invisible' VRV outdoor unit, compact and designed for indoor installation.

While aesthetics are an important consideration – particularly for historic buildings – efficiency is even more so. Four years later, the launch of VRV IV+ marked a new chapter in the system's history. The range was upgraded to the spirit of the Ecodesign Directive: fully optimised for seasonal efficiency under partial load conditions.

The following year, in 2020, the whisper-quiet VRV 5 S-series marked the latest incarnation in VRV technology. Completely redesigned for the R32 refrigerant, this next-generation system offers complete climate control while being purpose-built to support the decarbonisation of buildings. Offering simple, flexible installation and multi-zone control, this sophisticated heat recovery system sets a new industry standard, reflecting the fact that, decades later, VRV continues to go from strength to strength.

The VRV 5 S-series supports the decarbonisation of buildings.



Daikin in unexpected places: wineries

Winemaking has thousands of years of history, and for much of this winemakers have been aware of the important role played by temperature control in the wine-making process. Until a couple of decades ago, they relied solely on 'nature' to supply the ideal conditions needed during wine production.

Today, however, Daikin supplies total chiller solutions for wineries in some of the world's most renowned winemaking regions all over Europe, South Africa and beyond, including Bordeaux – the Mecca of wine production. Legendary labels including Cheval Blanc and Chateau Margaux use Daikin chillers in their fermentation process or cellars.

Daikin solutions are used to provide precise temperature control at every part of the journey from grape to glass. This begins with grape storage in optimum conditions below 5°C to prevent spontaneous fermentation. It continues through alcoholic fermentation, when white wines need 16 to 20°C and red wines need anything from 24 to 32°C.

During malolactic fermentation, bacteria growth requires a precise temperature of 20 to 22°C, and the next stage, tartaric stabilisation, requires chilling the wine to below 0°C. Precise temperature control is then needed through purification, clarification and bottling, with storage at around 12 to 18°C to maintain the quality of the wine.

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Daikin provides precise temperature control throughout the wine-making process.







An example of a chiller setup in a winery

Daikin water chillers guarantee optimum temperature control throughout the various winemaking processes. They can also be integrated into an overall building management system, which controls the total winery's operations. A particularly energy-efficient solution is achieved by combining water-cooled water chillers with a cooling tower or dry cooler.

Air-cooled water chillers are very compact and can be supplied complete with buffer tanks, water pumps and heat recovery options. Heat pump models can supply either cooling or heating according to requirements.

The buffer tank ensures system operational stability in both full and partial load conditions and supplies water to the various cooling and heating processes. Its size is dependent upon the temperature control requirements of these processes.

Heating is necessary for many winemaking processes, as well as throughout the winery as a whole. It is required, for example, to maintain the temperature needed to initiate fermentation and also to provide hot water for cleaning and pasteurisation. Heat pumps and heat recovery can reduce the winery's heating costs significantly. A heat pump chiller in combination with fan coil and air handling units can also be used to good effect to cool or heat tasting rooms, offices, laboratories and any other facilities around the winery.

Daikin Altherma: taking the heating market by storm



Bart Aspeslagh was instrumental in the launch of Daikin's heating business.

The 2003 heatwave triggered a recognition of the importance of air conditioning in Europe, a market expansion and significant growth in Daikin's business. However, the business structure, which was affected by weather and climate, remained a major challenge. To overcome the summer-dependent seasonality, it was necessary to develop a heating business next to the cooling business.

"In the early 2000s, we could already see signs in some markets, such as France and the Nordics, that the potential was there to promote a heat pump designed for heating purposes," recalls Bart Aspeslagh, Deputy General Manager for Heating, who was instrumental in the launch of Daikin's heating business from the ground up.

With low electricity prices in the market, an opportunity was spotted in the fact that certain installers in France were selling their own versions of a heat pump system using a combination of a Daikin outdoor unit and their own indoor unit. "These installers were very close to the market," Bart observes. "And that, of course, made me think that if they have such a demand, very locally, there must be more potential than just that. And very similar ideas also came from the Nordics."

While Daikin had 80 years' experience of heat pump technology, there were no heat pumps on the European market at that time providing hot water solutions for residential use (namely for space heating and domestic hot water). Coming up with the concept and convincing top management that there was a compelling case for investing in a completely new idea took some time.

Jiro Tomita, Vice President of Manufacturing at the time, embraced the idea of a 'reverse season'. This related to concerns surrounding factory management and year-round staffing that needed addressing, because at that time the factory depended heavily on the cooling season and there was a greater demand on manpower to prepare for the summer season than for winter. With the development of heat pump heating, the factory was able to secure stable employment regardless of the season.

Jiro Tomita, at the time Vice President of Manufacturing, embraced the idea of year-round production.



The decision was therefore made to develop Daikin's optimised air-to-water heat pump for heating purposes. This system was named Daikin Altherma, and it was launched in 2006 with France as its initial biggest market.

"The name Altherma has two meanings," Jiro explains. "The first is 'all-thermal', meaning that heating, hot water supply and cooling can be used comfortably all year round. The second is 'alternative', meaning that the heat pump is an Earth-friendly, non-combustion heating system that replaces gas and oil combustion heating systems."

"The product was a hit from the start," Jiro recalls. "It was launched in 2006 and sales immediately doubled every year, from €50 million to €100 million in 2007 and €200 million in 2008."

However, the early years of Daikin Altherma were not all plain sailing, with issues surrounding icing heat exchangers in cold, humid climates. These conditions were recreated in the sophisticated test rooms at the Ostend factory and after several reiterations in verifying testing conditions against the actual installation performance, the issues ironed out. Fortunately, there were two major boosts to the success of the product just around the corner.

How does a Daikin Altherma unit work?

Daikin Altherma is an air-to-water heat pump for residential purposes. This means that the system uses a refrigerant vapour compression cycle to extract energy from the outside air and deliver it to the water circulation system in the house.

An air-to-water heat pump system is most efficient when the outdoor temperature is high or when the water temperature is low. This means that such a system is extremely efficient in mild climates, such as mid or south Europe, particularly when combined with low water temperature emitter systems such as underfloor heating. In such systems, the efficiency or COP can go up to 5, which means that 1 kW of electricity is providing 5 kW of heat.

Daikin Altherma's big innovation was the combination of a weather-dependent water setpoint with inverter technology. This means that the setpoint of the water is fixed based on the outdoor temperature (the water temperature setpoint is increased when the outdoor temperature decreases). So, mid-season, when outdoor temperatures are high (between 7 to 15°C), a lower water temperature can be set to provide enough heat to the house. This makes the partial load efficiency of Daikin Altherma extremely high.



Daikin Altherma in the showroom in the second half of the 2000s

Firstly, convinced by arguments made by Daikin, the EU Commission officially recognised heat pump systems as a renewable energy source, meaning that sales took off drastically in France thanks to the tax incentives on offer in that country. Daikin Altherma became the heat pump of choice for as many as 20% of new build houses in France, moving it from an early adopter application into the mainstream.

Recently, the Paris Agreement, which later evolved into Europe's Green Deal, provided a significant boost to the heat pump industry. It outlines Europe's desire to become the world's leading continent in combatting climate change. As a result, local incentives are being put in place. This continues to the present day, with a shift away from gas and combustion heating made even more pressing by renewable energy targets and the geopolitical impact of the conflict in Ukraine, forcing the EU to step up efforts to minimise reliance on Russian gas.

Little wonder, then, that sales of Daikin Altherma have been very successful. "I was challenged on several occasions back in the early days of Daikin Altherma. Many people doubted the sales potential and quantities we had projected," says Bart Aspeslagh. "Our sales are over 100 times more than what they projected at that time."

Now in its third generation, Daikin Altherma has gone through several phases of development that have seen it adapt to more climatic conditions and grow from a modified air conditioner

Daikin Altherma is now in its third generation.



to a fully optimised, no-compromise heating product. With the potential to save households and businesses as much as 20–30% of their energy bill compared to combustion-based products, and using 70–90% less carbon, it is unsurprising that Daikin Altherma has made such an impact on the European heating market.

"With each generation, we have improved the performance of our products more and more," Bart explains, "because the business generated is so large that you can justify big investment into heating optimised products. And the mindset is there at the user side – they are spontaneously asking for it, while before we had to reach out and try to explain what the product is about."

"The heating business is now the driving business pillar for us," says DENV President Toshitaka Tsubouchi. Honorable Senior Advisor Frans Hoorelbeke adds: "Heat pumps are now so popular that we are creating extra production capacity in our current factories and have decided to invest in an extra factory in Poland to start production of heating products by mid-2024."

Having grown from zero to a market soon to surpass over a billion euro, Daikin Altherma is currently the second biggest business unit for Daikin Europe. With demand rising all the time, and the EU aiming to have 50 million heat pumps installed by 2030, Daikin has become the number one seller of heat pumps in the European market.



The 'Stand By Me' platform connects user, installer and manufacturer.

Alongside Daikin Altherma, DENV has continued to lead the way in further product innovations, leading to integrated indoor units for fast installation, the first series utilising R32 and, in 2019, a fully EU-developed heat pump, taking on board everything learned – and customer requests – over the previous ten years.

Alongside these innovations, the launch of the 'Stand By Me' platform to connect the user, installer and manufacturer has proved instrumental in ensuring a 'care-free' experience for user and installer. This has enabled them to become comfortable enough to switch from familiar (combustion) heating solutions to new heat pump technology. It is this dual approach to innovating both the product itself and the general approach that has enabled DENV to gain and develop market trust and to penetrate Europe's very traditional heating market.



Overcoming the challenge of harsh winters

Daikin Altherma had been introduced to tackle the growing problem of fluctuating seasonal demand, keeping Daikin factories busy throughout the year and tapping into the huge growth potential of the heating sector across Europe. But it was the Scandinavian countries that were to drive the next DENV innovation: the Optimised Heating split.

As DENV began making inroads into the heating market, new geographic territories opened up that had previously been given less attention due to the limited sales potential for cooling products. This was the rationale behind the acquisition of DENV distributor Svenska Daikin in 2008, which became Daikin's first 'heating affiliate' in Sweden. There was just one problem: the harsh winter conditions in Sweden quickly proved too much for the standard split unit in its heating mode. In particular, the combination of cold and humidity was leading to outdoor units freezing up.

Numerous indications pointed to the great potential of the Scandinavian market, not least these countries' lack of the outspoken preference for gas and oil central heating seen in mid-latitude European countries. Indeed, Scandinavian countries exhibited widespread use of direct electric heating, with local manufacturers being early adopters of heat pump technology (initially focused on ground source), which was seen as a trusted primary heating solution.

DENV therefore made the decision to invest in developing the standard split unit and optimising the air-to-air heat pump for better heating performance in the extremes of temperature experienced in Scandinavia. In the first version of these units, the outdoor heat exchanger was increased in size compared with air-to-air split units and a larger compressor was used to provide more capacity at low ambient temperatures. To avoid the bottom of the plate freezing, an electrical heater was used.

After this first iteration of the unit, an improved version was launched that further optimised the outdoor heat exchanger and the compressor. Furthermore, the electrical heater was removed and the structure of the Altherma bottom plate was taken over to avoid freeze-up.

The decision to invest in this redesign proved fruitful, with sales having grown significantly and DENV now enjoying a leading position in the Scandinavian heat pump market.

Refrigerants: a never-ending story of continuous innovation

An important driver in Daikin's product innovation has been the development and manufacture of mainstream refrigerants in-house. DIL is the only manufacturer worldwide to produce all elements of the heat pump: heat exchanger, compressor and refrigerant. By designing systems from scratch around its own components and chemicals, Daikin is able to build a fully aligned, optimised system. This approach also keeps Daikin close to each development step being taken towards efficiency. The rationale: the better you can align the performance of your compressor to the performance of refrigerants, the more energy-efficient your system becomes.

Daikin has a long history of continuously improving the environmental impact of its equipment, and this includes regularly updating refrigerant choices. Refrigerant is the core medium by which heat is transferred in air conditioning, heat pump and refrigeration equipment. Four basic factors determine the selection of a suitable refrigerant: safety, environmental impact, energy efficiency and cost-effectiveness. In addition



This Daikin water-cooled centrifugal chiller uses the R134a refrigerant.



Daikin's VRV IV provides cooling using the R410A refrigerant.

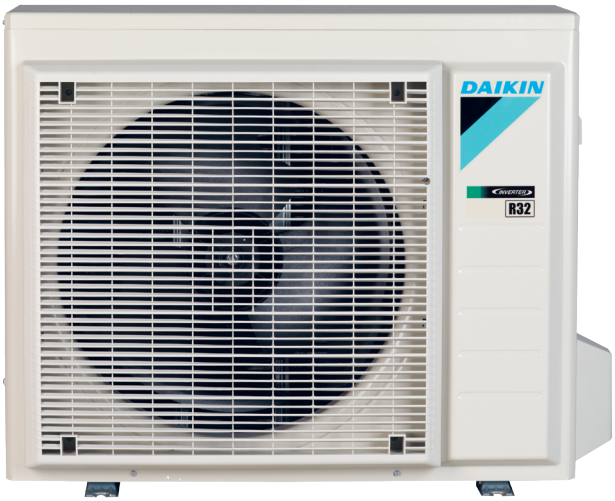
to this, circularity – the ability to recover and reuse the refrigerant again – is playing an increasing role, as will be seen in the next chapter.

In the 1980s, the primary focus for refrigerant selection was safety, which led to the adoption of stable and non-flammable refrigerants such as R12 (a CFC refrigerant) and R22 (a HCFC refrigerant). However, due to growing scientific insights and global concerns surrounding impact on the ozone layer, the Montreal Protocol was adopted in 1987.

In response, Daikin started to make the transition to non-ozone-depleting HFC refrigerants and converted from R12 to R134a for chillers and container refrigeration, and from R22 to R407C and R410A for air conditioners and heat pumps. By the end of 2003, DENV had completed a full line-up of HFC products, ahead of the HCFC product bans stipulated by the European Union Regulation on ozone-depleting substances.

During the 1990s, global concerns were raised regarding the increasing amount of greenhouse gas in the atmosphere and its potential impact on climate change. The Kyoto Protocol was adopted in 1997 and entered into force in 2005. Ten years later, the 2015 Paris Agreement aimed to limit global temperature rise to less than 2°C by the end of this century.

While HFCs do not deplete the ozone layer, their potential global warming impact was also discussed in the Montreal Protocol. In 2016, an amendment was agreed in Kigali, the capital of Rwanda. This "Montreal Protocol Kigali Amendment" aims to reduce the consumption of HFCs, thus contributing to the Paris Agreement for reducing greenhouse gas emissions, and it was fully supported by Daikin.



Refrigerants such as R32, found in Daikin's split outdoor units, have a lower global warming potential.

Today, DENV products use a wide range of refrigerants. Daikin applies HFCs with a lower global warming potential, such as R32, to replace R410A, unsaturated HFCs (HFOs) such as R1234ze as an alternative for R134a, several HFC-HFO blends, and non-fluorinated refrigerants such as ammonia, propane and CO_2.

Daikin was the world's first company to use R32 in its products and even released patents on R32 to promote it in the market, as it was convinced that R32 was the current best solution to decrease refrigerant impact on global warming. Daikin will continue to be proactive in moving to refrigerants with lower global warming potential, while keeping safety, energy efficiency, affordability and circularity of refrigerants in mind.

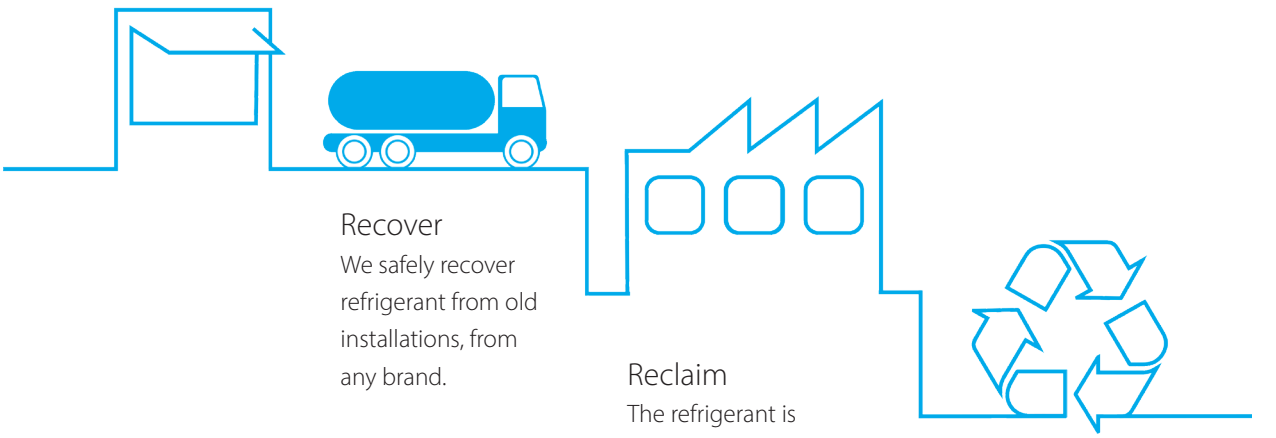
This proactivity in refrigerant adoption reflects the fact that throughout its history, Daikin has taken pride in being at the leading edge of innovation, developing new solutions and pushing them to market. Rather than simply responding to legislation change, Daikin uses its advocacy role and policy-making connections to pre-empt it – even rolling out incentive schemes in some countries to adhere to regulation in a much shorter timeline.

While being an early adopter of environmentally friendly innovations positions Daikin as a true market leader, it has often placed the company at a competitive disadvantage compared to other manufacturers, who continue using cheaper solutions for longer. However, by sharing new technologies, Daikin helps drive the industry as a whole forward and speed up change.

An important example of this came in 2019 with the launch of recycled R410A in VRV production, called "L∞p by Daikin", which started with the use of reclaimed R410A in the Belgian factory and continued with the use of reclaimed R134a in the Daikin Applied factory in Italy.

Designed to help Daikin become CO_2 neutral by 2050, the scheme aims to "Recover, Reclaim and Reuse" refrigerant for the first time and avoid the production of 400,000kg of virgin gas each year. Daikin is the first manufacturer in Europe to use reclaimed refrigerant for the production of equipment, thus contributing to the circularity of refrigerants.

At the time of writing, the European Commission is again revising the so-called F-Gas Regulation, putting Daikin and the HVAC industry as a whole at another crossroads. Between now and 2030, the whole refrigerant landscape will change completely again, with a move towards natural refrigerants. This will increase the importance of Daikin's R&D colleagues globally, as well as the training of the installer network on working with the new refrigerants.



Recover

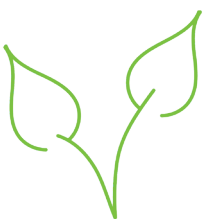
We safely recover refrigerant from old installations, from any brand.

Reclaim

The refrigerant is reclaimed in Europe, meaning that it is regenerated in a high-quality way in line with the F-gas regulation definition.

Reuse

The reclaimed refrigerant is used for the production of new L∞p by Daikin units. The reclaimed refrigerant's quality is certified by an independent laboratory, so it meets AHRI 700-certified standards.



The EMEA Development Center: research and development at its finest

As part of its commitment to delivering products from EMEA, for EMEA, DENV has long dedicated significant resources to product development. In the beginning, design activity was limited at DENV, with most of the work coming from DIL. As production in Europe began to ramp up, and the EU market started to grow in a different direction from other regions, it became clear that DENV would need to increase its development activities and capabilities.

This new commitment was cemented with the launch of the EMEA Development Center (EDC) in 2011. Underpinning Daikin Europe's focus on innovation, the centre is based in Ostend, with satellites in Ghent (Belgium), the Czech Republic, Germany, Turkey and Italy.

Most recently, Daikin has decided to invest in moving its R&D activities to Ghent. A state-of-the-art new building and test rooms will expand the existing R&D facilities in Ghent, which will be opened in 2024 and will enhance the collaboration with Ghent University.



The upgrading of the EMEA Development Center (EDC) marks a new chapter for R&D at Daikin.



DENV President Toshitaka Tsubouchi presenting the upgraded EDC facility in Ghent

Based on Ghent's Technology Park, where the current R&D office is located, the upgraded facility will enjoy a number of assets including good accessibility, proximity to university campuses, and the availability of a technology cluster home to start-ups and academic spin-offs with whom Daikin can collaborate in the development of innovative new solutions.

Originally, the development team consisted of just four engineers, who crafted their designs using pencil and paper until the 1980s, when the first CAD systems were introduced. Alongside this, there was one person doing testing continuously in the test rooms. This early team of developers focused mainly on chillers and packaged air-conditioning units. However, as the market in Europe grew steadily, so the need for local production of residential air conditioning (RA), Sky Air and VRV increased.

A team was then created to tackle the transfer of the production of these products from Japan to Europe. In the early days, the responsibilities of the local product development team – at the time part of the Manufacturing Division – was focusing on the adaptation of direct expansion products, originally designed in Japan, for optimal production in the Ostend Plant.

As sales rose further, it became increasingly clear that the same design from Japan did not always fully fit European needs. The product development team started to enlarge their responsibilities and began also making major modifications to match European requirements. The specific need for more aesthetically pleasing designs for RA indoor units was one example of this, and this led to the birth of Daikin Emura.



The launch of Daikin Emura, a more aesthetically pleasing design



The €140m new facility in Ghent will count 14 floors of office spaces and 6 floors of the most advanced test rooms.

In 2006, the development and launch of Daikin Altherma was the next milestone in this journey of increased development responsibilities. While responsibilities for development grew further, and so too did the capability for development, in 2011 it was time to split the development team from the Manufacturing Division. The EMEA Development Center (EDC) as a separate division was born.

Today, the EDC is a much larger group, with more than 500 development colleagues across Europe. While the development of chillers moved over to Daikin Applied in Italy following the acquisition of McQuay, the EDC remains responsible for innovations in residential and commercial air conditioning, heating and refrigeration, with Daikin Altherma as the top product.

The next chapter in the EDC's story is the opening of a €140 million new facility in Ghent. This will include fourteen floors of office spaces, combined with six floors of state-of-the-art test rooms. The 23 test chambers cover 4,000m² and are some of the most advanced of their type in the world, including an EMC test room to test the electromagnetic compatibility of products (unique in the industry). The new nZEB (nearly Zero Energy Building) is built to the most advanced energy-efficiency standards, such as the BREEAM "Excellent" certificate.

Ghent University will rent one floor, and the building will be located in the Science Park Ardoyen, part of the Ghent University Technology Park. This will allow Ghent University and the EDC to work even more closely together than they have before, with a focus on new heating and refrigeration technologies, the Internet of Things (IoT) and artificial intelligence (AI).



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State-of-the-art facilities allow equipment testing down to -25°C.

Putting innovations to the test

Testing is a vital part of the process of designing, developing and manufacturing the innovations that have shaped the growth of Daikin in Europe, and it has been a major focus in the decades since production began in Europe, for Europe. Indeed, rigorous testing is central to Daikin's core value of 'absolute credibility', a fact reflected in being the first ever European air-conditioning manufacturer to be awarded ISO9001 certification in 1994.

State-of-the-art product testing facilities at the Daikin Ostend factory enable engineers to replicate the exact climatic conditions of countries around the world, from 50°C heat to -25°C freeze and relative humidities of up to 100% at these minus temperatures. They are also able to reproduce harsh snow conditions. These enable a deep understanding of how products behave in a wide spectrum of conditions, as well as giving an accurate picture of a product's operating noise, capacity, efficiency, reliability, safety and serviceability.

In addition to intensive factory-based checks, DENV has an even more realistic testing environment: a real house. Based in Zandvoorde, just 5km away from



The Daikin House is DENV's living showroom.



His Royal Highness Prince Philippe visited the Daikin House in 2008.

the factory in Ostend, the Daikin House is a place where units can be installed and experienced in a genuine residential setting, built as a private house rather than specifically for Daikin.

With a floor space of 150m², the house is representative of a typical house: average size and with a reasonable level of insulation. This enables the EDC to test new products and features in the environment for which they are designed, with sensors in all the rooms to measure their effectiveness.

The Daikin House serves as a living showroom. It came into its own in the early years of Daikin Altherma, when heat pumps were very new to society. The house was used to demonstrate not just how easily the heat pump could be fitted to a real home, but also the comfort it could bring and the energy savings that it could realise.

Hundreds of people have since visited the Daikin House, from installers to architects, each of them receiving a far more realistic impression of life with a Daikin appliance than a showroom could ever provide. Even His Royal Highness Prince Philippe made a special visit in 2008 to learn more about heat pumps and their potential.

A second house, built in a test room, will soon open in Daikin Industries Czech Republic (DICz), bringing realistic testing to a whole new Daikin region.



The future of Daikin innovation

With the environment now the all-encompassing focus, the future of innovation at Daikin is clear: by 2050, achieve net zero CO_2 emissions while providing safe and healthy air and a comfortable environment for end users. More broadly speaking, the five business units into which DENV has expanded each present market opportunity, not least the shift from traditional heating to heat pumps and the phasing out of gas boilers.

DENV Vice President Wim De Schacht predicts a sharp rise in demand for Daikin heat pumps.



Innovation is central not just to the past, present and future growth of Daikin in Europe, but also to its durable contribution to society. As the need for energy-efficient heating and cooling becomes ever more pressing, "the one million residential heat pumps currently produced by Daikin will triple or multiply four or five times," predicts DENV Vice President Wim De Schacht, who also believes that industrial refrigeration and reducing food waste will be a key area for future innovation.

Nobuhiko Matsuda, Co-Department Manager DENV Strategic Planning, adds: "Daikin's innovation and differentiation have expanded the frontiers of Daikin technology applications and have uncovered new needs for user comfort and energy savings in the HVAC-R field." Words such as technology, differentiation and innovation are the most straightforward expressions of Daikin's DNA, with two of their ten Group Philosophy points backing this up:

1 Create new value by anticipating the future needs of customers
2 Contributetosocietywithworld-leading technologies

"Now, DENV is rapidly strengthening its technological and product development capabilities in the field of heat pump heating, with the aim of becoming a future global technology development

centre of heat pump heating and hot water supply," Nobuhiko continues.

"Daikin Europe, which initially specialised in air conditioning, has grown to become a manufacturer with complete coverage of the entire HVAC-R market. A manufacturer with this kind of all-round leadership is very unique in the European market. Our challenge for the future is to take advantage of this position, catch the trend of digitalisation and pursue innovation that will lead to further contributions to the creation of a sustainable society."

Indeed, digitalisation and connectivity is a key theme emerging for the future of DENV. Meeting individual users' needs will be achieved by utilising IoT, cloud computing and apps, which enable system monitoring, energy consumption optimisation and proactive maintenance even for residential and light commercial use, enhancing customer satisfaction. This achieves a broader aim of getting closer to customers.

Society's digitalisation is reflected in the steep rise of smart buildings and customers' demand for smart usage of HVAC-R equipment. With this in mind, DENV is developing IoT platforms both for end-customers and professional installers. Utilising apps and remote cloud management systems will optimise the end-user experience and improve ease of operation.

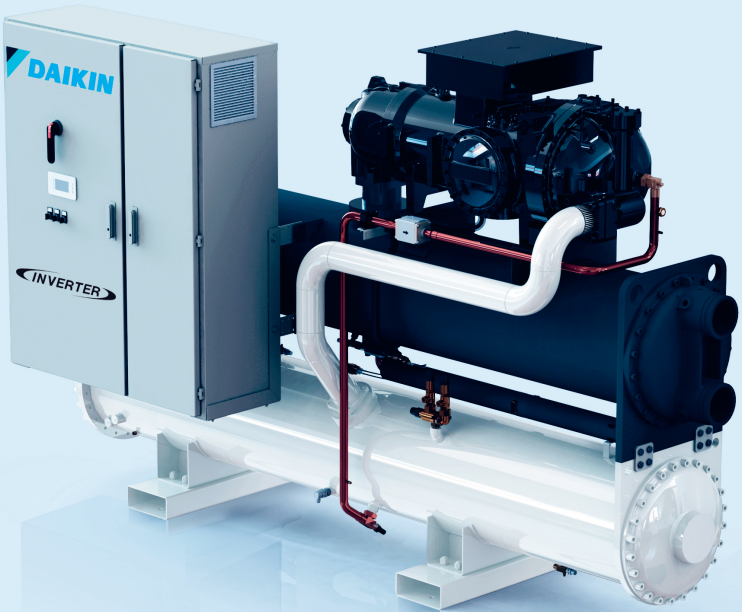
Crucially, it will also optimise electricity consumption and reduce CO_2 through optimisation of self-consumption, connectivity to smart grids for load balancing and predictive maintenance. The result: climate-neutral equipment. To achieve this, there is much work going into the development of a HomeHub, particularly to cover the residential market, and Daikin Cloud Service to cover the commercial applications.

Alongside this, other product development will have decarbonisation as a key focus in both residential and commercial settings. Tightening regulations surrounding the use of F-gases make this particularly challenging given the energy efficiency achieved with them so far in the very heat pumps that are already transforming the market. Daikin's innovative strength will be put to the test in the coming years to meet these diverse requirements if it is to prevail in the battle for market leadership.



Digitisation and connectivity will be a crucial focus for the future of DENV.




DAIKIN
INVERTER

Daikin summits Mont Blanc

When DENV launched its new VZ series of inverter-driven water-cooled chillers in 2016, the target was to reach the highest performance in heat exchange technology available on the market. Characterised by its top-class efficiency level and connectivity, the VZ series is also conveniently compact, designed to make it easy to install and fit through existing doorways. What better way to demonstrate its ease of installation than by installing it at the top of a mountain?

Chosen to reflect 'the highest peak in chiller technology', Europe's highest peak, Mont Blanc, provided a breath-taking backdrop to the PR stunt that would launch the product. When it proved impossible to take the product up on the Skyway gondola lift, the unit was airlifted by helicopter in several parts, each weighing less than 500kg to overcome the weight limitations of the aircraft. The assembly of the different pieces was practised beforehand in Cecchina, with a crane standing in for the helicopter.

For the official launch event, 150 customers from 20 different countries were taken to Mont Blanc by coach and invited to board the gondola lift up the mountain. After an introduction to the product by Daikin Applied Europe's COO, Claudio Capozio, and Marketing Manager, Marco Calanca, guests made their way to the snowy scene outside, where the VZ unit was awaiting them. With many guests wearing Daikin woolly hats to keep the chill off, the alpine environment proved the perfect setting to reflect the VZ range's superior cooling capabilities.

"I've been to many launches like these over the years, and they can be fairly dry affairs," commented one guest. "Because of the imagination shown and the information given, the presentation and launch of this new chiller stands out hugely from all the others I've ever been to."

The alpine environment was the perfect place to showcase VZ's superior cooling performance.



The VZ launch saw 150 Daikin customers ascend Mont Blanc.




DAIKIN
WE
ARE
FAMILY
WE
ARE
FAMILY

CHAPTER 3

50 Years of People

Daikin employer branding through the ages

Much of Daikin's story has been one of growth. Little wonder, then, that the concept of 'growth' also played a key role in Daikin's branding as an employer in Belgium. From the early days, employer branding conveyed the message that Daikin is an environment in which one can grow as an employee. The "Growing, did you say?" slogan, used in 1992, also referred, unmistakably, to the amount invested in the development of the Ostend site.

Later campaigns carried a more cryptic description linked to images of children, conveying the message to "keep looking up" – in other words, growth without limits. The symbol of the child reflected the human side of Daikin's employer branding and the idea of growing with the company.

Today, the literal reference to the teamwork that gives oxygen to the organisation remains topical in Daikin's employer value proposition. Indeed, this campaign is currently being promoted across the EMEA region.

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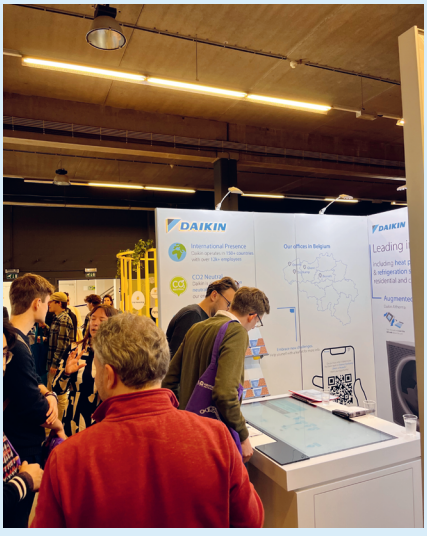
At this job fair in 2023, Daikin aimed to introduce students to the company.





Noriyuki Inoue believes that the cumulative growth of all Group members forms the basis of the Daikin Group's development.



Bringing out the best

When former DENV Chairman Frans Hoorelbeke first started working for Daikin Europe 47 years ago, it was a company of 68 people. Today, it employs over 13,000 people worldwide. The secret to this success is a commitment to people. As Daikin Industries' Chairman Noriyuki Inoue comments: "We have reached where we are today by consistently believing that the cumulative growth of all Group members serves as the foundation for the Group's development."

The idea of establishing a workplace in which employees can feel the greatest fulfilment in life, an environment in which they can work with a vitality and sense of purpose, and demonstrate their full potential to achieve growth, is one of the key elements of People-Centred Management, and a guiding principle for the way Daikin Europe N.V. (DENV) operates.

Over the years, Daikin Industries Limited (DIL) has tried to put into words what it stands for and what makes it great, expressing the Group's values, philosophy, ethical principles and People-Centred Management approach. Such guiding principles are vital for a fast-growing company that covers all corners of the world. When in doubt, they guide the actions of DENV; they form an internal compass.

But such principles are only the tip of the iceberg. Much is tacit knowledge and difficult to put into words. The only way to understand it is to live and breathe it.

The philosophy of People-Centred Management

"When a new person starts, we say 'Welcome to the Daikin family'," Frans Hoorelbeke comments. "This is how we want to be linked to each other and take care of each other."

"So many companies say, 'people are our greatest assets'," says Masatsugu Minaka, Chairman of the Board of DENV. "But our People-Centred Management (PCM) philosophy is that 'we care about people and we believe in their unlimited potential'. Our people are the fundaments of our growth as a company. Working at Daikin is a long-term commitment from both sides, like a marriage."

For Daikin, this long-term commitment is all about creating "an environment of trust", of true trustworthy relationships with a human touch and a warm heart, and with plenty of opportunities to learn and grow. The aim is for the organisation to be a second home, an environment in which people feel they are respected and dare to take on challenges. One can only grow by stretching oneself and taking up new challenges. The right environment and the support and coaching of a good manager are key to this.

The principle of PCM is at the heart of Daikin's DNA. First used in an interview given by Noriyuki Inoue, 'PCM' is no buzzword. It has been central to the Daikin way of doing things from the beginning – from day-to-day management to handling complex and evolving situations, such as financial crises and the pandemic.

A company can only grow and succeed if it takes on challenges and adapts to change. This is the same for people, who need to be able to take on challenges and risks without the fear of failure. As Noriyuki Inoue comments, "People who do not take on challenges do not fail; failure is the price for nurturing talent. We pride ourselves on providing space to develop and experiment. Trial and error are natural steps in a growth path. If we want people to take initiative and learn, failure is part of their learning process. Sooner or later, everyone encounters difficult periods in their career – we want to be there for our people at these moments as well."



From day one, PCM has been central to the Daikin way of life.

Mutual trust, empathy and communication are crucial to Daikin's sense of family.



This management philosophy is supported, like everything else in Daikin, by the Company's Core Values. This trio of core values is set out in a small booklet familiar to many, outlining the company's guiding principles for all to read, digest and revisit:

- **Absolute Credibility**: building trusted relationships with people (colleagues, customers, business partners and communities) through dialogue
- **Enterprising Management**: creating an environment where every employee is encouraged and feels confident to take initiative
- **Harmonious Personal Relationships**: creating an environment where we all work together with the dedication to meet our goals and challenges

Belief in and adherence to these three tenets is arguably what gives Daikin its strong sense of being one big family. Guiding everyone in the organisation, and informing those outside it, they are not empty words – they are a way of life.

"The core is simple," says Frans Hoorelbeke. "It is about mutual trust, being empathic, communicating, saying thank you to your colleagues and being proud to be part of an excellent company. It is about encouraging people and allowing people to make mistakes; it is about resilience and passion."

It is also about making sure everyone's voice is heard. "Every opinion is important," adds Carl Lievens, Managing Director of Daikin Airconditioning Central Europe (DACE). "We invite people to speak out – everybody can contribute."

As an example of how to create an environment in which people work together with dedication to meet goals and challenges, Lievens describes a novel way in which the Daikin vision was developed and cemented in the minds of its employees. Speaking about DACE's 'Road to 2020' action plan, he explains how employees were involved on a larger scale in the development of the action plan, and in the end came up with a word cloud, based on the vision encapsulated in the roadmap.

"They printed this word cloud on towels and gave one to everybody," he says. "So whenever the employees were in the bathroom taking a shower, they remembered how we created our vision together, feeling proud to have contributed to it!"

Of course, the guiding principle of 'harmonious personal relationships' does not just refer to Daikin Europe's relationships with its employees. Equally important is its relationships with suppliers, customers and even competitors. "At the end of the day, we are a business that has to make money," says Wim De Schacht, Vice President of DENV. "But a relationship won't last if one party is taking advantage of the other."



Daikin's principle of 'harmonious personal relations' extends outside the company.

A unique method of cooperation: the European Works Council

Over the years, the scope of Daikin Europe activities has taken on an increasingly European dimension as new entities have popped up in the EMEA region. For this reason, alongside Belgium's official and legal national consultative bodies, in 2002 Daikin took the initiative of founding the European Works Council (EWC), a European consultative body to cope with this international scope. The move was fully in line with Daikin's core value of harmonious personal relationships, representing a commitment to work together with social partners in EMEA to reach Daikin's goals.

"I always link the milestone of the realisation of EWC with an important personal milestone, because it coincided with the birth of my youngest son," says Hilde Goossens, General Manager HR of DENV. "The agreement in principle to found EWC happened right before my son arrived, and then a month before the first EWC meeting I came back from parental leave. I refer to the founding date of EWC as the birth of my two babies."

From day one, the EWC has planted the seed for a unique method of cooperation, as this consultative body applies to all DIL subsidiaries in Europe. It immediately increased cross-border alignment between different divisions and intensified the ties between different affiliates, as well as synergies with other affiliates, such as Daikin Chemical Europe, American Air Filter, Daikin Applied Europe, J&E Hall and, very recently, Duplomatic MS.

From the start, Chairman Inoue fully supported the concept of the EWC and the way of working in a constructive manner it represents, and it was he who requested that the EWC be made into the unique consultative body embedded in the Daikin way it is today. There is still a substantial commitment from top management towards the EWC, with many DENV Board of Directors members present at every meeting.

Each time, half of the meeting is reserved for Question and Answer sessions, during which everyone may speak their mind. In keeping with the Daikin way, the EWC allows those assembled to exchange views in an informal and personal way during the joint dinner, attended by people from both employee and employer sides.



Hilde Goossens, DENV's General Manager of HR, recalls the founding of the EWC.

Speaking for all employees: balance and diversity in the EWC

Emmanuelle Lefèvre-Neau, EWC Secretary (Daikin France), looks back on her time with Daikin and the EWC.

I was four years old when Daikin Europe was founded, but I now have 34 years of experience within the French affiliate of this large Group celebrating its 50th anniversary in Europe today.

Thanks to the initiative of our mother company in Ostend and the Belgian trade unions, in 2002 I had the chance to participate in the creation of the EWC, a body that regularly brings together many of the European economic territories DENV is active in, for direct, open and constructive exchanges. Sometimes these exchanges are on sensitive transnational subjects, between colleagues but especially with our management. It is an exceptional opportunity to be able to engage in dialogue in this way, and I am proud to have been collaborating on this for all these years.

Our big family keeps growing. In recent years we have been able to welcome new companies that allow us to expand our offering to stand out in a difficult and very competitive market. Indeed, everything moves very quickly in today's world. Product ranges, technologies and new tools to which we must constantly adapt. Blue-collar or white-collar, we are all essential to the growth of our beautiful company, which leads us all towards the same goal: the continuous improvement of our services to all our customers.

Among our values, the notion of balance is very important for working in harmony:

- The balance of young, dynamic employees with seniors whose experience should not be a burden but rather valuable know-how to draw on.
- The balance of a good, trusting relationship between management and employees, with complete transparency. We need 'leaders' who motivate teams.
- The balance between our professional and private lives, which remains a sensitive point for everyone on a daily basis: an employee who is happy and fulfilled in their work is inevitably less absent, more productive, more creative, more motivated and simply loyal!
- And finally, a balance close to my heart: that between men and women. But this is another adventure for the next few years...

Every day is a mini personal challenge for each of us, and over the months and years, the EWC team tirelessly carries the messages of all employees. This allows our diversity to become a strength through dialogue and constructive communication, which will ultimately enable Daikin Europe to remain the market leader, on the top step of the podium.

—

Emmanuelle Lefèvre-Neau helped create the EWC in 2002.





Giving people the freedom to challenge themselves is fundamental to Daikin's PCM philosophy.

Entrepreneurship: building a company through the initiative and excellence of all employees

'Keeping the entrepreneurial spirit alive' is a principle that ties in closely not just with the company's ability to seize market opportunities, further strengthen its corporate structure and respond quickly to external shocks, but also with the idea of continually providing people with new challenges.

"Part of our PCM philosophy is giving people the freedom to challenge themselves to try something new, without the need to worry about what happens if they make a mistake," says Wim De Schacht. "It's when you do something and fail that you learn the most. The important thing is to try, learn and never give up."

"It's important, looking back at our fusion and strategy plans, to give direction to people and where they want to work," says Wim. "Even people who aren't at manager level can still be given responsibility for a project and be told: this is your domain, this is your budget – set it up and then report back to us."

Keeping people's careers with Daikin challenging is key to their longevity. Saïdja Geirnaert, Department Manager, DENV – Service Solution, comments: "I think what makes it fascinating for me is that whenever you have the feeling that you've learned a lot and you start to get into a comfortable situation, there is always a new challenge. And what I like about the company is that you're given the freedom to take on any challenge you want."

Lifetime gifts: Sami Monastiriotis reflects on his international assignments with Daikin

My journey with Daikin started in Greece in July 2008, in the Supply department. Six years later, I moved to my first international assignment in Daikin Saudi Arabia (DKSA) as Manager Sales Planning, Marketing and Supply Chain. In 2019, I briefly came back to Daikin Greece as a Sales Manager for two years, before leaving for a second overseas assignment in 2021. This took me to Daikin Middle East and Africa (DAME) as Department Manager Sales Planning, where I have since taken on several additional responsibilities.

Sami Monastiriotis joined Daikin in Greece in 2008.



The learning curve of my first assignment was a very steep one, necessitating maturing as a professional and more so as a human being. Working, let alone living, in a completely different society forces you to become adaptable. In terms of culture, you put what you know and what you are comfortable with on the shelf or park it. More importantly, if there is a trigger that sets off your intellectual curiosity, you immediately start absorbing the cultural, natural and social wealth the country to which you are dispatched pours out to you.

In terms of business, you quickly understand that the core mission is to infuse Daikin culture among your local colleagues, some of whom you will recruit and grow during your assignment. I joined DKSA just six months into the company's operations, when it had 14 people and a turnover of a little under 14MUSD. When my assignment ended in 2019, DKSA had grown to a 70MUSD company with 110 colleagues.

My professional growth, both within Daikin and individually, took off. My international assignment experience meant so much to me that it never left my mind to one day take on another assignment. Landing in a country or region in which you immediately need to put your explorer's cap on and navigate through the complicated canals of commerce and culture fills me with excitement. For as long as I can serve this purpose, international assignments will be a priority for me.

I would, without a doubt, recommend an international assignment to anyone interested in growing themselves and who have a natural curiosity to learn about people and cultures outside their comfort zone. Learn a language, check how an affiliate operates on the ground if you are from HQ, be an ambassador or steward to the core philosophy of Daikin; help people grow, absorb the pride, the passion or the



Sami and his colleagues at DKSA.

dissatisfaction of customers by meeting them on the ground in their shop!

The best learning experience I encountered during my assignment is a recurring one and it has to do with business development/sales and network expansion: go with your gut. Being on the ground unleashes your creative potential in commerce and strategy. In an international assignment, you can't be limited to PowerPoint. This is enterprising management. Each country, even each city, can have a strategy. Catching the sweet scent of opportunity is where our role comes in, and the great part of it is that this is what Daikin supports. You may fail, but it does not matter because that is life and life goes on; but the honest, passionate trying and pursuit is what counts. Here I can say that Daikin follows through on its Core Value of enterprising management, and for Sales or Sales Planning, an international assignment can set free that potential in you.

After my first try, and in the assignment of DKSA, I had several; I gained the confidence to accept failure and success equally, because both come bearing lifetime gifts.

A career for life: a commitment based on trust and openness

However much variation there is in the local culture across Daikin's wide geographical coverage, one of the noteworthy characteristics that Daikin entities have in common is how long people stay with the company. Indeed, the Japanese approach of a job being for life is very different from the Western concept of employment.

"At Daikin, we take this mutual commitment based on trust and openness very seriously," says Wim De Schacht. "We do not dismiss people easily. Dismissals are extremely exceptional for us. This would also not make sense if you believe in the unlimited potential of your people. Even if someone's job has been automated or made redundant, we will always first look for other job opportunities to offer. There are usually plenty, especially in periods of growth! Many people have changed jobs and even mastered totally new fields of activities with success. As long as people have the drive to learn new things, to contribute to the success of a team, finding a new job opportunity for them within Daikin will be our priority."



Otto Oberhumer was Managing Director and Corporate Advisor to DACE, joining the company in 2005.

This is something Otto Oberhumer, former Managing Director and Corporate Advisor of DACE, remembers being struck by when he first joined DACE in 2005. "From the beginning, it was very clear that Daikin Europe was mainly driven by this cultural framework of DIL," he says. "There is a huge difference compared with big European companies, and even more with big American ones. It's also typical Daikin and typical Japanese to have someone joining as a school leaver and staying until retirement."

"A lot of the people in the DACE leadership community have grown in the company," adds Carl Lievens. "Many of them came in as graduates and made their way in the company over 10 or 15 years. These people now have a really big impact on what we do, how we do things and how successful we are."



The career history of Toshitaka Tsubouchi, DENV's current President, embodies Daikin's belief in giving people opportunities.

As Wim comments, the ideal of lifetime employment is not always easy, particularly in a tight labour market, when people are spontaneously contacted by other employers as is the case today. "There's more fluctuation now, but we still want to stick to our premise that if you come to us, you can come for a career," he says.

This concept of giving people opportunities within the company is crucial to the Daikin management style. "I remember when I was first a manager, my boss said that if you recruit somebody, it is your responsibility that he or she succeeds," remembers Wim.

A striking example of this is provided by current DENV President, Toshitaka Tsubouchi. In the early days of his career, Tsubouchi – a trainee who at that time needed to develop his English skills – was dispatched to Scotland to be trained under Daikin distributor David Macqueen. "This shows you the commitment of the Japanese management, and their skill at seeing where people need to develop," David comments. "That trainee is now President!"

Danny Velle – my 30 year career at Daikin

I applied to Daikin because I had read that a major expansion was coming for DENV. At the time, I was working a second job in a garage to earn an extra penny. At my Daikin job interview, I suddenly realised that I had forgotten to wash my hands in the garage. I hid my dirty hands until Willy Brackx, Assistant Manager in DENV Manufacturing and one of my interviewers, asked me why. I replied truthfully: that after my regular work, I also worked in a garage and had forgotten to wash my hands. I remember his reply: "Don't be ashamed of your working hands, because this is what we need – good, hard workers." And so I was recruited and started my career at DENV, which had 167 workers at the time.

My first working day at DENV, 1 December 1992, felt like every first day of school or work. I was very nervous, but at the same time very excited. I was given a work table with a few boxes of copper tubes, a cart with bottles of gas and oxygen and a burner. I was allowed to train independently all day long to learn how to braze, a special welding technique.

After a few weeks, DENV's first "Indoor Wall-Mounted Unit" assembly line – also known as the FT line – was officially opened and many prominent people were present, including the Belgian Prime Minister of the day (the late Jean-Luc Dehaene). This was also one of my first Daikin parties. I was so impressed by how we, as workers, were allowed to enjoy the company parties.

When I was called to the production manager's desk, I thought I had done something wrong. But he said: "We have seen that as a 23-year-old, you have a sense of responsibility and are not afraid to work hard. We are going to start up Piping2 and we need a chief. Would you like to do that?"

I said yes, and that's how I became line chief, helping build Piping2, the new brazing shop for the new lines that were to come – I was very proud of it. DENV was growing enormously at the time, and when it became necessary to switch to a shift system, I became a foreman. We worked very hard on a two-shift system, and you could feel that there was a very



Danny Velle explaining procedures during the Factory Olympics.

good vibe among everyone to grow and improve. Many parties and events were given by the management to thank us for our hard work.

In the autumn of 1998, it was time to immerse ourselves in Japanese culture and the *kaizen* idea. In May 1999, I had to go to Japan with three other line chiefs. It was a culture shock for us. The first Monday we went to the Kanaoka factory by bus; we were immediately surprised by the punctuality, structure and loyalty of the Japanese people. We completed a three-week programme. I spent two weeks in the Kanaoka factory to learn the Production of Daikin System (PDS) and one week at FUSO, a subcontractor, to learn how to make improvements to brazing. The days were long, but during the weekend we could do some sightseeing and enjoy Japanese culture.

My third promotion came soon after we had to go to Ghent for the day to take some tests in a company that specialised in analysing your capabilities as a manager, as a person and as a leader between your operators (which is very important in a Japanese company). A few weeks later, I was promoted to supervisor of Piping 1 and 2. Together with two foremen, four line chiefs and a hundred operators, I was responsible for delivering piping sets to the factory, supplying numerous product lines.

It was a very difficult period, as we had become white-collar workers, but at the time I had hardly ever seen or used a

Brazing Meister Marc Bertens (right) trains DENV factory workers.



computer. When I was asked to make a "spreadsheet", I was really out of my depth – fortunately, there is always the mentality of education and growth in Daikin.

A turning point in my career came in 2015 when I was having a coffee in the break zone with my colleague and friend Marc Bertens. I was then supervisor of the R2X and Marc had been promoted in Japan to Brazing Meister. He told me that he was looking for a successor to take over his job when he retired. I said well that would be something for me and we started laughing because I had been a production supervisor for so long and he told me, "They will never let you go from production".

In the spring of 2016, Marc got the bad news that he had cancer. Only six months later, I was alone with him in intensive care. I took his hand and with tears in my eyes, I told him, "Marc, I will take over your work and I will continue and expand all the beautiful work you have done in DENV and Europe." He squeezed my hands gently as a sign of reassurance that he would have a successor.

After Marc passed away, a new era as brazing trainer started for me. I was sent to the training centre in Japan to follow a ten-week programme and I graduated as a Regional Brazing Trainer, the second level of trainer. After being a Regional Trainer for five years, I was able to complete more training to become a Global Trainer, graduating in June 2022. Nowadays I am mainly busy building a trainer structure in Europe, because I too have to make sure that there are brazing trainers in all Daikin's European factories.

My final career goal is to reach the last and highest level as a brazing trainer, and this is to become Meister – as I promised Marc. Within two years, I intend to have the chance to achieve this. After that, I want to ensure that there are well-trained brazing trainers everywhere in Europe, and that the next generation is ready to support Daikin's continued growth in Europe.

I still give the same training and education as I once received when I started in DENV, with not much talking but with hard work, using common sense and never forgetting that Daikin gave me the opportunities that made me who I am now – an employee of the Daikin family. And every day I go to work in my company with great enthusiasm and motivation. Thank you, Daikin.



Danny Velle's aim is to ensure that there are well-trained brazing trainers everywhere in Europe.



Giving everyone the chance to contribute is central to Daikin's philosophy of collaboration.

Japanese heritage

The Japanese characteristic of long-lasting relationships is one of the numerous features of Daikin Europe that prompts many to ponder whether it is a Japanese company or a Belgian one. This is a question often asked of Frans Hoorelbeke, who comments: "I always say we are a little bit of both. What we learned from our Japanese roots is the long-term vision, the eye for detail and continuous improvement, and the drive for consensus in decision-making and teamwork. What we inherited from Belgium is the hard-working and skilled workforce, the language skills and a sense of diplomacy. I think the combination of these skillsets works very well and is key in the expansion of the company."

Meanwhile, Daikin Europe has developed into an international group with its own unique culture, blending a typical European business style with a unique Japanese management philosophy that incorporates many Japanese best practices into daily operations. These include the following concepts.

The concept of *gemba*

In everything Daikin does, personal connection and collaboration are key. It is important to give everybody the opportunity to contribute, not just to "do their job". It is also normal practice for top

management to visit "the floor" regularly. Monthly Board of Director (BOD) factory tours allow top management to see and experience for themselves what is going on in the factory, and give them the chance to listen to employees' feedback and suggestions. This is now equally valid and common practice in the sales or supporting environment.

The concept of *kaizen*

Kaizen – continuous improvement – is present not just in the engineering environment and factory floor, but throughout DENV. Individual suggestions are valued, listened to, acted upon and continually monitored, something that also fosters the growth of people with the company. Indeed, kaizen proposals are even presented at BOD level, directly from the floor.

The concept of PDCA

Plan Do Check Act (PDCA) is another important concept. Short cycles of PDCA allow quick improvement, as well as enabling people to monitor their own progress and learn along the way.

The five 'Whys'

Drilling down to the finer details is about challenging people to think about topics from the angles of different stakeholders. This enables them to arrive at better solutions and decision-making, which equally supports the growth of the people themselves and develops a wider perspective in the process.



Kaizen and PDCA value individual suggestions and are commonly known concepts at DENV factories.



Bernard Dehertogh, Deputy General Manager Sales

"The Japanese way of approaching things is very structured, questioning every single detail, gradually going deeper and deeper until you truly find the root cause," explains Deputy General Manager Sales Bernard Dehertogh. "It goes into what they call the five 'Whys' – the thinking being that you can only really convince yourself that you've understood something if you can answer five consecutive 'whys.'"

The concept of *ringi*

The *ringi* process involves taking a proposal to different stakeholders in the organisation, capturing the view from different angles, learning other parts of the organisation and, simultaneously, learning about the tacit knowledge of the company.

This in-depth understanding provides a firm foundation for building strategies and action plans and, crucially, for adapting quickly to the unexpected, whether shock or opportunity. DENV's Japanese headquarters has always repeated that a first-class execution is far more important than an excellent strategy. This is one of the driving forces of Daikin in its daily operations.

The unique cultural combination of Europe and Japan is not easy to grasp when joining DENV from other companies. "Newcomers are educated in the Daikin culture, but we have noticed that it is not easy to bring in new people at management level because of this unique culture," says Frans. "And because culture is mainly tacit knowledge, you have to learn by experience. Currently, we see that the majority of people in leadership positions have grown in the organisation, but the continued growth of the organisation will require also bringing in new people at management level."

Facing the challenges of acquisition

The meeting of Japanese and Belgian cultures takes on an added dimension in the context of DENV's numerous acquisitions, during which a third culture is added into the mix. In acquisitions, it is important to be able to fall back on strong values – and People-Centred Management!

Dries Laheye, Senior Project Manager, DENV-M&A and Organisational Design, discovered this first-hand when dispatched to Zanotti when it was acquired by DENV in 2016. He describes the process of assimilating the acquired company into the Daikin way of doing things, and how people are central to it. "One of the main aspects of my role as a Daikin expert here at Zanotti is to bring people on board so that they understand what we want to achieve and how. It takes a lot of time and energy in the beginning."

"First you respect the previous situation, then you study how the company works, and then you take decisions and start to implement changes. You try to bring in the Daikin culture and way of working, step by step, almost teaching the people how it works – trying to convince them that this is the right way. Then you get people who start acting as ambassadors of this way of working, and suddenly the culture change happens very quickly – a kind of snowball effect."

Indeed, these Daikin ambassadors are the key to the quick integration of acquired companies. By bringing the employees of the acquired company into contact with ambassadors, Daikin can share its unique way of working and introduce the new employees into the broader Daikin community. This links in with the importance of the personal



PCM was crucial to integrating Zanotti when it became part of Daikin in 2016.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connection and collaboration mentioned earlier – an idea that also extends to a strong relationship with top management.

"There's an understanding about the situation from top management – they understand the difficulties, and they put their trust in you," Dries says. "I really felt that trust towards me personally, directly from the top."

Coupled with Daikin's "never give up" philosophy, this PCM approach made all the difference to Dries, giving him confidence as he set to work to strengthen the organisation. "Once the company is acquired, it means this is a Daikin company, and we will take care of it and its people," he says.

Zanotti's expertise in the refrigeration market opened new opportunities for DENV.

Tuur Depoortere on how international experiences reflect PCM

Even during the recruitment process, I mentioned that I was interested in an international experience. Actually, as a young graduate, it was one of the reasons why I chose Daikin as an employer! I joined the company in September 2017 as an IT Compliance Analyst in Ostend, and after mentioning my interest again during the yearly evaluation, the ball got rolling!

A challenge in Finland awaited me, and to prepare me for that role, I moved to the Corporate Planning Department in the Brussels office, where I worked for three months before moving to Finland in January 2021. Overall, it has been a very valuable and interesting experience and I would recommend it to everyone working in Daikin!

Allowing and facilitating rotations within the group is, in my opinion, one of the best ways in which the PCM culture is demonstrated within Daikin. Understanding the dynamic of an affiliate or office cannot be taught from the headquarters. Working in the office also improves collaboration with HQ, as 'knowing people in Belgium' can build bridges for local staff.

Being lucky enough to work in a very small office allows one to take many initiatives and really encourages entrepreneurship while benefiting from the experience of the group. It's also very valuable meeting (international) people while living abroad, as it brings together many different cultures and views on the world.

Tuur Depoortere joined Daikin in 2017 in Ostend before making the move to Finland.



Recruiting the best

People often stay with Daikin for their entire careers, but every employee was once a newcomer. In many cases, it is down to the hard work of HR that they were drawn to the company in the first place. Indeed, the question of how to attract top talent to DENV has seen some creative recruitment campaigns over the years.

Steven Van Impe, Deputy General Manager DENV Manufacturing, recalls that this issue surfaced when he was stationed in the UK during the integration of three former distributors into one Daikin UK organisation. Daikin was not a well-known company in the London area, resulting in problems recruiting candidates of a sufficient calibre to create a united Daikin UK strategy and execution. "There were positions in the organisation – mainly on the planning side, typical Japanese jobs – that we were having difficulty filling, and we didn't have the right people in the acquired organisations," Steven recalls. "So we started a campaign."

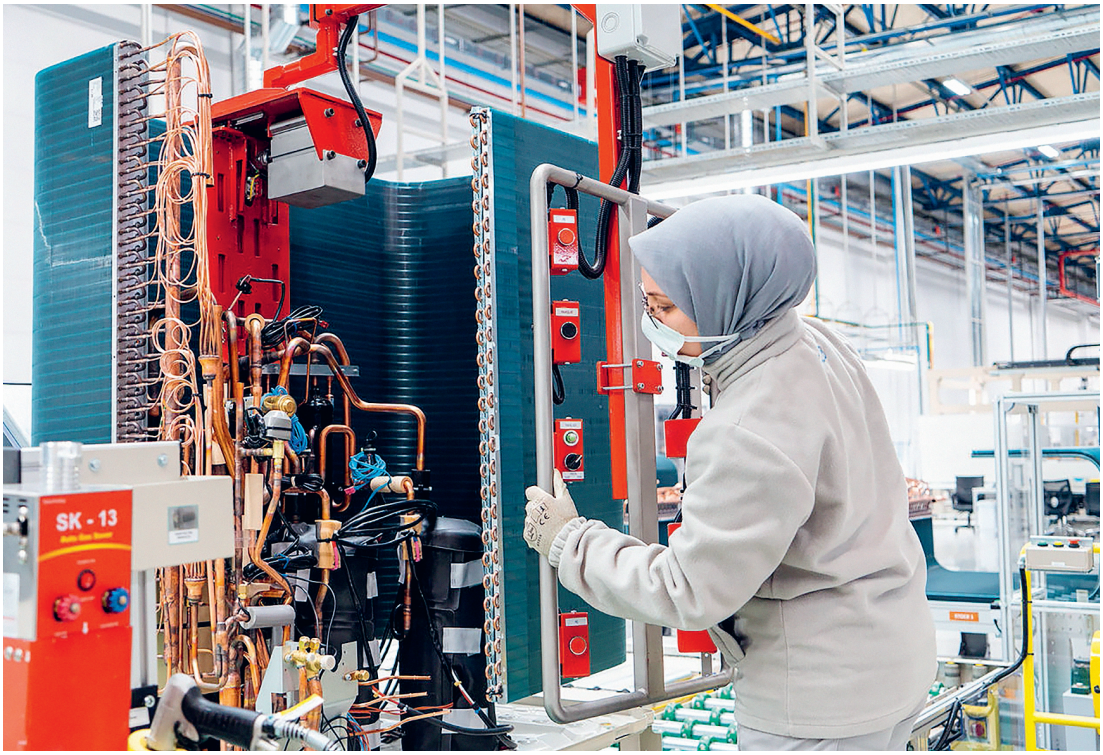
As part of that campaign, Daikin UK took out an advert in the *Sunday Times*, after lengthy discussion of how to attract candidates in London without mentioning either the salary or the company. The aim: to attract 'rough diamonds' – people who would be motivated by a challenge, not by salary alone, and who would be a good fit with the company and its values. The advert featured a rising sun – a Japanese reference, of course – accompanied by a short text about an interesting job in a dynamic organisation, within a planning environment.

The response was excellent, with an international array of candidates applying from institutions such as the London Business School and Imperial College London.

Recruiting in the wake of Communism

Meanwhile, in Central Europe, the challenging business conditions entailed by the opening up of countries formerly behind the Iron Curtain presented a different recruitment problem for DACE. "We have a long history of finding managers who are able to lead bigger teams, but when we tried to expand in the Central European air-conditioning market, we just couldn't find the people," remembers Carl Lievens. "The industry wasn't sufficiently well developed that there were people available to manage our expansion."

For this reason, in 2005, DACE ended up setting up its own academy – the Daikin Sales Academy – where it went directly to universities and schools and took fresh graduates. These graduates would spend three years being educated by Daikin, beginning in the back office and slowly moving into sales. There, 10% of their time was invested in additional education and training to bring them up to the level required.



DENV was able to overcome the staff shortages it faced in the course of its 50-year history.

The strategy worked: "I would say roughly a third of my current management team comes from this time where we very intensively took fresh university graduates and they made their way in the company," says Carl.

Manpower issues

Elsewhere, manpower issues have hit DENV on several occasions over the decades – particularly in the 1970s and 80s, when making the transition from traditional practices to the more flexible way of working needed for industrial modernisation. The recession associated with the 1976 oil crisis resulted in the creation, via retraining, of a multi-skilled workforce that could adapt to change without the need to lay anybody off.

But it was the heatwaves of the 2000s, and the overwhelming increase in demand for residential units that accompanied them, that spelled real trouble for Daikin recruitment. "We had foreseen an upsurge in sales, but not at all to that extent," remembers Filip De Graeve, Managing Director of Daikin Germany and former General Manager HR of DENV. This upsurge meant that the blue-collar workforce of people on fixed contracts was not enough to meet demand, even with the seasonal workers on six-month and short-term temporary contracts. "We had huge problems in finding enough

fixed and temporary workers in an already difficult labour market."

It was clear that creative approaches would be required to solve the manpower issues and cope with the increased demand on production capacity. Coming up with a solution required extensive cooperation between HR, production management and local governments. The unemployed were one source of potential new workers, as were universities.

Another way DENV found of attracting recruits was to widen its net well beyond Ostend. One target was Limburg in eastern Belgium, the opposite side of the country. Jobs were sold on the lure of living and working by the sea, with buses and lodging offered as incentives to encourage people to apply. Around this time, the idea of 'Daikin on Tour' came to fruition, an initiative that saw a Daikin-branded campervan driving out to people's homes or local areas, to spare them the effort of coming in for interviews.

Fast forward to 2021 and DENV was once again faced with issues finding blue-collar workers. This has meant supplementing the local workforce with a substantial number of foreign workers, with efforts made to attract people to come from abroad to work at Daikin – even those with an insufficient grasp of the Flemish language. Once again, creativity has had to be employed to integrate foreign workers in the factory in all aspects (such as translating work instructions and organising language training).

The DENV factory has workers from numerous nationalities thanks to recruitment efforts.






DAIKIN
TRAININGCENTER

Training and lifelong learning

Recruitment is, of course, only the first stage in Daikin's investment in its people. Training and lifelong learning are the foundation stones of the overall product and service quality offered by Daikin, and their importance has been recognised right from the beginning – for customers, specifiers, installers, distributors and staff alike. In the early years of DENV, its own staff travelled to the Kanaoka Factory at DIL in Japan, but later on, this became too difficult because the factory could not afford to have technicians absent for two or three weeks at a time.

To solve this problem, DENV's first training centre was opened in 1985, first in some of the rooms adjacent to the old warehouse in Ostend and then in its own Portacabins for two years while the new office block was under construction. The facility came of age in 1987 with the opening of a new training environment and the setting up of technical courses aimed first at distributors and then installers, architects, specifiers and even end users.



Daikin's first training centre opened in 1985 in Ostend.

By the end of 1993, the centre had moved again, to its own purpose-built training area designed for both practical and theoretical instruction. The centre was equipped with the best facilities available, including practical workshop space, audio-visual product demonstration rooms, an electronics study centre and an outdoor climate simulation room.

Further upgrading in 1999 gave the centre the capacity to accommodate as many as 1,000 trainees a year. Courses focused on teaching the installation, servicing and repair of Daikin products, balancing classroom-based theory with practical 'hands-on' workshops. The aim: to help widen customer understanding and satisfaction, to keep them abreast of the latest developments and innovations, as well as raise the overall quality of air-conditioning installation and maintenance.

Today, the training centre has been completely integrated into the Daikin Europe Academy, established in 2006 under the initiative of the late Dirk Salembier, former HR Director of DENV, and Hilde Goossens, current General Manager HR of DENV, in close cooperation with the DENV Service & Sales Division. At that time, a Daikin Europe Academy (DEA) Board was established to host external executive trainers. The role



The late Dirk Salembier helped establish the Daikin Europe Academy in 2006.

of the DEA is to educate both staff and customers, from providing a thorough grounding in the products to how to install, repair and service them. Key skills are also taught related to job execution and career development, covering everything from language and communication skills to negotiation and sales, right up to leadership and strategy.

A crucial part of the successful running of these courses is to ensure that external teachers are well-versed in the Daikin philosophy and culture. To this end, among others, an annual meeting brings together external teachers to brief them on DENV's strategy and future plans, and therefore what skills people will need.

Roy White, partner-trainer from Impact International, is involved in Daikin's leadership development initiatives. He says: "For any leadership development to be successful, it should be set within the context that the participants are facing on a daily basis. Models and theories that are not placed, discussed and adapted within the individual business context run the risk of not being relevant to the challenges leaders face."

"In our work with Daikin, there has always been a strong emphasis on working with real leadership challenges and providing tools that can be taken and applied immediately in the workplace. This is facilitated by regular updates and discussions as well as a high-level sharing of strategic plans that demonstrates a level of trust, as well as a commitment to keeping the development relevant. This has been a major factor in the success of our relationship with Daikin and an example of a true partnership approach."

Similar academies and training centres exist in all other Daikin entities in the Group and have provided extensive learning opportunities over the years. For this reason, they form an important part of DENV's PCM approach, operating on the understanding that the growth of the employee will support the growth of the company.

The Daikin Olympics

Meanwhile, on the factory floor, a different kind of training mentality flourishes: the idea of healthy competition. The Daikin Olympics has its origins in Japan, and the thinking behind it is to encourage workers to develop their skills in competition with one another. The idea is that competition lies within each of us, and by challenging each other, one can develop oneself at a higher level.

When the concept was first imported from Japan to Europe, the skill selected for the contest was copper-to-copper welding, known as brazing. Brazing is a skill not taught in schools, but it is a core competence for the blue-collar workers of an air-conditioning factory. Each factory must find its best brazers, selecting the top three to enter the contest. The final competitors are then invited to Japan, where a jury of Japanese management picks out the winners.

The initial Olympics was so successful that similar competitions for other manufacturing skills and for logistics have since been created. This encourages excellence in all core activities and competencies, as well as instilling pride in those who win and giving other workers a standard to work towards – with the incentive that it could be them taking part in the Olympics next year.





The Daikin Olympics puts workers' skills to the test.

Part of the family

Employees, suppliers and customers are by no means the only people important to Daikin Europe. The company's commitment to people extends to the families of its staff, and beyond that to the neighbours who live in the areas around Daikin's factories and offices.

From its earliest days, DENV has sought to welcome employees' close relatives and make them feel part of the Daikin family. This was reflected in the fact that Japanese top management frequently invited employees to their own homes.

"They were very kind to us," remembers Lieve Vanhooren, a former Daikin colleague in the Supply and Logistics department. "We had close contact with our Japanese manager. They would invite us to dinners at their home, or to the Japanese restaurants in Brussels or Bruges."

Family life was an important part of this. "Japanese people like family life," Lieve explains. "We are all one Daikin family. Mr Yamada, who was then the President, promoted the family, which meant that husbands, wives and children were invited to events and dinners as well."

Employees' loved ones have always been welcomed into the Daikin family.





Robert Kagabo recalls the growth of his family while on international assignment

My Daikin journey began after my graduation on 6 January 2006. My mechanical engineering school was in Anderlecht, which is also where I was located, so it was natural that after graduation I applied for the DENV Brussels office in Anderlecht, Brussels.

It all started in the Distributor Development department (the cowboys, as our reputation was back then), where I was Area Sales Responsible and learned the importance of the *gemba.* After two years, the next step for me was to be closer to the market and to pursue my growth in an affiliate. At the end of April 2009, I remember receiving a call from my manager, Philip Brangers, on a Friday afternoon, offering me an opportunity as head of the heating business in France – and that required starting on Monday! At that time, single and flexible, I seized the opportunity.

Since then, another four assignments have come my way: Senegal, Kenya, Nigeria and Denmark. And my family has grown during the journey: first meeting my wife in France, my first child being born in France and my second born in Nigeria. Reflecting on the professional experience, regardless of the country, the business, the common denominator, has been about doing it the Daikin way: with people at the centre, *gemba*, *kaizen*, entrepreneurship, harmony and with integrity.

On the other hand, from a family perspective, we have developed our own way to live the experience, which can be summarised as: living in harmony together and with others. This is something I developed through trial and error in response to questions such as: who moves? The whole family, or do I commute? Where is home? Which culture: own or host?

I did not anticipate how the journey would unfold, but my main feeling is one of being grateful for the opportunities and people encountered along the way.

—

Robert Kagabo's Daikin journey has taken him to numerous countries.





Open Door Day gives Daikin employees the chance to show their families where they work.

Open Door Day

This "Daikin family" philosophy continued even as the company grew and grew. One popular event was the 'Open Door Day', held in the year of the 25th anniversary celebrations.

The thinking behind this event was to give employees the opportunity to show their families their workplace and a typical 'day in the life' at Daikin. The aim was to create a sense of belonging for the employee and his or her family, as Filip De Graeve remembers, by demonstrating that the Daikin factory is the most modern around, and a nice, warm place to work – a far cry from the outdated image that comes to mind for most people when they hear the word 'factory'.

Organised by a cross-departmental, cross-hierarchical team, guests began with a guided tour of the factory where they could see the production lines in action. The tour ended with a series of four tents outside the factory – one for each season of the year. The 'Four Seasons' theme was chosen to reflect the weather, and more generally climate, which has obvious links with air conditioning and heating. Each tent gave guests the experience of a different season, with icebergs for winter, palm trees for summer, and so on. At the end, visitors reached a large tent with music, theatrical performances, food and drink, and activities for the children.

The overarching message sums up the Daikin philosophy: "We are one family, we are united, we are one Daikin team," Filip summarises. "Next to our excellent quality products and the most extensive sales network in the market, our people are the core of our business. Creating this feeling of belonging to this organisation, with its culture and values, knits us together and makes us react as one team towards all stakeholders. This remains the strength of the company."

Time to celebrate

Celebration is an important part of the feeling of belonging, making every employee feel appreciated for their efforts in contributing to the growth of Daikin Europe. And there have been many reasons to celebrate over the years! As well as taking pride in marking anniversaries every five years, DENV has also enjoyed celebrating other milestones, such as the production of a million split units.

DENV always has the creativity to bring people together in celebration, even if that was only virtually under the challenging circumstances of COVID-19 lockdowns. Celebration is also a key element of DENV's relations with those

outside the organisation. It ties in with a wider sense of community that keeps relationships strong with the people who live in the neighbourhoods around its factories and offices. Christmas is the perfect opportunity each year to show the neighbours that Daikin cares, and this is done through a long-standing tradition of delivering Christmas presents.

The custom began as a Japanese import from Masatsugu Minaka, Chairman of the Board of DENV, and Hiroshi Tanaka, former DENV President. The Japanese had already recognised that in instances in which industrial facilities were located in residential areas, it was important to ensure good relations with the neighbours. As a company, it is crucial to interact continuously with local stakeholders and to keep communication lines open at all times so that you can build constructive dialogues. Hosting large festivals was one way to build these good relationships, but Christmas presents were somewhat easier to organise!

Originally, neighbours were given Christmas cake, but that has since been replaced by a gift package which, in Ostend, is distributed to 60 or 70 households. The presents are hand-delivered by top management, including Vice President Wim De Schacht. "Sometimes you stay a little while longer and have a talk – sometimes up to an hour," Wim says. "People appreciate that, and it's a way to check that everybody is okay and to see whether they have any comments. It's a typical Daikin tradition."



Daikin staff celebrate 40 years of DENV.

Omotenashi

Having worked at Daikin Europe for over 30 years, Els Boute, Senior Executive Secretary, has long been closely involved in organising corporate events. Her contribution began with Daikin's 20th anniversary celebrations, when she took care of the communication between Frans Hoorelbeke and the official dignitaries. "I still remember the positive response letter from our Prime Minister's office with the signature of Jean Luc Dehaene himself," Els recalls. "I was quite impressed. From the 25th anniversary onwards I have been – together with the other executive secretaries, including Isabelle Maes – part of the organisation and hospitality team."

Over the years, the events got bigger, with more guests to take care of, but never failing to meet the great expectations of Daikin's guests and management. "We try to make each of them feel they are being treated as a Very Important Person," Els explains. "With each visit of our guests from Japan, I was intrigued by the great lengths to which our Japanese colleagues go to look after their guests."

Els' colleague Kumiko Ikeya, Section Manager Executive Office, explains that this is the concept of *omotenashi*: the "ultimate" or "Japanese" hospitality, meaning to wholeheartedly look after guests. The term is a microcosm of the country itself, representing the Japanese mindset of hospitality centring around care rather than expectation. It is an implicit understanding that there are no menial tasks if the result ensures a great experience for a guest.

It has been embedded in the Daikin way of working ever since.

—

Kumiko Ikeya, Isabelle Maes and Els Boute are experienced at running corporate events.



Powering through the pandemic

DENV has weathered many storms over the decades, but the COVID-19 pandemic was an external shock nobody was prepared for. On February 21st, 2020, the first Covid case in Italy was announced. Since it was located within the borders of one of the 10 so-called "red towns", on the same day at 22.00 the South Europe warehouse operating for Daikin was closed. The offices of Daikin Airconditioning Italy (DACI) in Milan and the production plant of Daikin Zanotti were in the epicentre. Their early experiences of adapting to this rapidly changing situation proved valuable for the rest of the group and put Daikin's PCM principles into practice.

As the pandemic spread into other countries, Zanotti and DACI found themselves becoming something of an 'Experience Centre' for other companies in the group, with daily reports to top management and information exchange to allow entities to learn from each other.

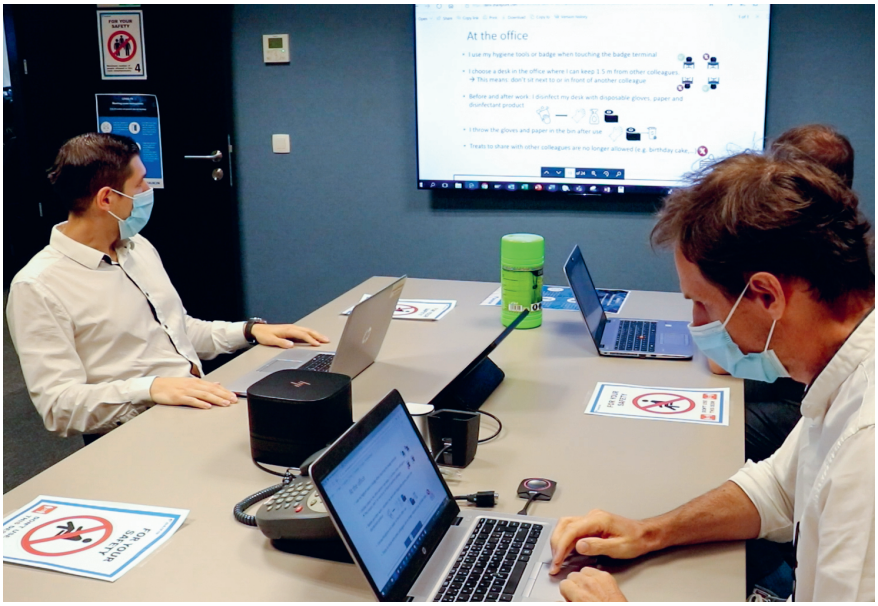
The biggest challenge for Zanotti was that factory workers clearly could not work from home, meaning that strict safety measures needed to be implemented immediately. "We reorganised the factory and shifts to limit how many people were in at a time, allowing more distance," Dries Laheye recalls. Personal protective equipment was introduced, provided by the company, with extra supplies coming in from Daikin Turkey, which had a surplus.



Dries Laheye helped Zanotti weather the COVID-19 storm.

A key element of Zanotti's COVID-19 response was to immediately start creating awareness among all employees, so that everyone understood the danger and the need to take care of themselves not just at work but at home. This swift reaction to the unfolding situation meant that the factory was only closed for a limited number of days, which was a major exception in a region where most factories were closed for several weeks.

Claudio Bettella, European Supply Chain Department Manager at DACI, recalls overcoming one of the major challenges, namely "the complete reorganisation of the logistic flows". He remembers: "Thanks to the support that we received from Daikin France



Spaces were reorganised to minimise health risks to employees.

(DAF), Daikin Spain (DACS) and Daikin Industries Czech Republic (DICz), we managed to partially restore the operation and fulfil scheduled deliveries just 16 days after the closure of the South Europe warehouse."

The great uncertainty and lack of information at the time often required lateral thinking to identify new solutions, with great success. "Every week there was a new government decree and every week there was great cooperation and flexibility to meet them," recalls Irene Parravicini, DACI's HR and General Affairs Department Manager. "This was from the employees' side as well as organisation capability from the managerial side to reorganise spaces, ways of working and all the equipment necessary to support our workers. A big thanks to our technicians who supported all our customers. In the worst period, managing the intervention in hospitals was not easy, and we also have to thank DIL and DAUK, who were able to support us with masks and all the other necessary health equipment."

Lockdown

For Daikin, as for the rest of the world, the impact of the pandemic and its successive lockdowns were huge, with many customers across Europe simply stopping business and receiving financial support from their respective governments instead. This meant that while Daikin was able to continue production and keep people in work, the number of orders fell dramatically.

Despite this, government support was kept to an absolute minimum and Daikin honoured its contract to its people to the greatest extent possible. As the pandemic progressed, it began to present new opportunities; for example, for the refrigeration business, with the increased demand for supermarket and food cold chain refrigeration being joined by the need for technology to cool and freeze vaccines.

"Since the beginning of the lockdown period, the DACI sales organisation successfully and quickly switched to a totally new way of taking care of the market and customers," recalls Irene Parravicini. "Thanks to an efficient use of technologies, centrally provided by Group IT, we have been able to do thousands of "virtual visits", through which we kept up close relationships with loyal customers, monitoring in real time the evolution of business trends even in the worst moments of the last 30 years."

In factories all over Europe, the Middle East and Africa, Daikin managed to keep its people safe while continuing normal activities as much as possible. While the circumstances of the pandemic were extreme, this example of DENV caring for its people is reflective of the company's wider approach.



The pandemic presented new opportunities for supermarket refrigeration.

Looking to the future

As DENV continues to grow and looks to a bright and prosperous future, the number of opportunities for collaboration across borders is only increasing. This presents a world of opportunities for the people of Daikin. With international mobility across DENV's companies across EMEA comes the opportunity for personal growth for its employees, enhancing the prospects that come from a long career in a people-centred business.

Meanwhile, an increase in international recruitment to an already diverse organisation brings with it further opportunities for DENV. With the internationalisation of the company, it has access to an ever wider set of perspectives and ideas that can only enhance its ability to understand its markets.

Of course, internationalisation is not without its challenges. How does one maintain a sense of connection between all members of the Daikin family when they are so diverse and spread across the world in different time zones? It is a challenge that goes hand in hand with that of virtual working, a practice that is in some ways in conflict with DENV's traditional corporate culture of *gemba* and daily communication at the desk. Over the next five decades, PCM will be central to finding ways to continue this spirit of close cooperation and the ability of DENV to remain close to its people.

Daikin faces the challenge of merging virtual working into its corporate culture.



Stepping out of comfort zones: lessons learned from international assignments

Anouschka Dubois recalls: I started my career in Daikin Europe 19 years ago, fresh from university. I took on different roles within the HRM and General Affairs Department – HR Planning Officer, HR Business Partner – until, in 2015, I took up the challenge of becoming the HR Manager of ROTEX GmbH, currently known as Daikin Manufacturing Germany (DMGG). As well as being a great professional experience, it was a wonderful personal experience that I could share with my family. We managed to build a very strong family relationship and fantastic memories of our time over there.

The learning experience was huge due to the very challenging circumstances I encountered. Experiencing 'live' the HR and business challenges from an affiliate point of view helped me to understand their needs, priorities and way of working, which is very important. Having an extensive Daikin network in HQ and affiliates helped the team a lot in overcoming challenges, and being able to use the strengths of our Daikin Group.

Being immersed in a new language showed me how fast you can learn if you are open to it. It changed me not only on a professional level, but also from a personal point of view, as I gained more self-confidence to get out of my comfort zone and try new things. I am very grateful to have been given the opportunity for this unique experience, which proves to be a major added value for my current role in the HRM and General Affairs Department as Section Manager responsible, among others, for International Assignments.

Anouschka Dubois joined Daikin 19 years ago, fresh from university.



Paweł Bednarczyk says: I started working in Daikin Airconditioning Poland (DAPO) in September 2015. After 10 months, I had been offered a hybrid position as a Dealer Sales and Consulting Sales engineer in the Lublin region. This meant that I lived in Warsaw, but I was travelling for business in the Lublin area two or three days a week. After two years, I came back to Warsaw full time to work in Dealer Sales as a Sales Engineer. I spent a total of seven years in DAPO, and since September 2021 I have been working as a Business Operations Analyst in DX Commercial SBU in DENV.

I had started working for a big air-conditioning installation company during my full-time master's degree studies. After graduation, I took a job at the design office, where I had been working for a year and a half and had realised that I wanted to specialise in HVAC systems. When one of my friends, who was working for DAPO at the time, informed me about its assessment centre, I immediately applied. I was the only person taking part in the assessment centre who received a full-time job offer then.

I can recommend this kind of international opportunity to anyone who wants to grow and is not afraid to step outside their comfort zone. This assignment gave me the chance to see our Daikin business from a completely different perspective and to experience the HVAC-R business on a different scale. Moreover, an international assignment creates the occasion to develop one's contact network. It is very useful in daily work, as well as in long-term projects that require the involvement of different departments and countries.

From my personal perspective, it is worth mentioning that working in such a multinational team creates opportunities to learn about other cultures and countries and to start new friendships. Living in a foreign country allows one to explore a new place and travel more to the neighbouring countries, which is very interesting and helps one to develop.



Paweł Bednarczyk recommends international assignments to those wanting to step out of their comfort zone.

The power of our people

The 50th anniversary is a good time to reflect on why we can and should be so proud to celebrate the past 50 years, and on what we have achieved during this time.

"Due to its tremendous and continuous growth, the current DENV organisation is no longer comparable with the DENV organisation when I was appointed 31 years ago," says Masatsugu Minaka. "I firmly believe that this growth has only been made possible by the drive, enthusiasm and development of each and every employee of the Daikin Group."

"When external trainers visit Daikin, they always comment on our employees' enthusiasm and passion for learning, which reflects their willingness to grow," says Hilde Goossens. Even during dinners on multi-day training, Daikin colleagues keep talking about learning with passion.

It is important that we continue to show our appreciation to all Daikin colleagues and stakeholders who have contributed to this growth in one way or another. This will lay the foundation for the next 50 years.

Daikin's 50th anniversary is a time to be proud of achievements.

DAIKIN | 50 YEARS & BEYOND

CELEBRATING DAIKIN EUROPE'S 50TH ANNIVERSARY


DAIKIN

CHAPTER 4

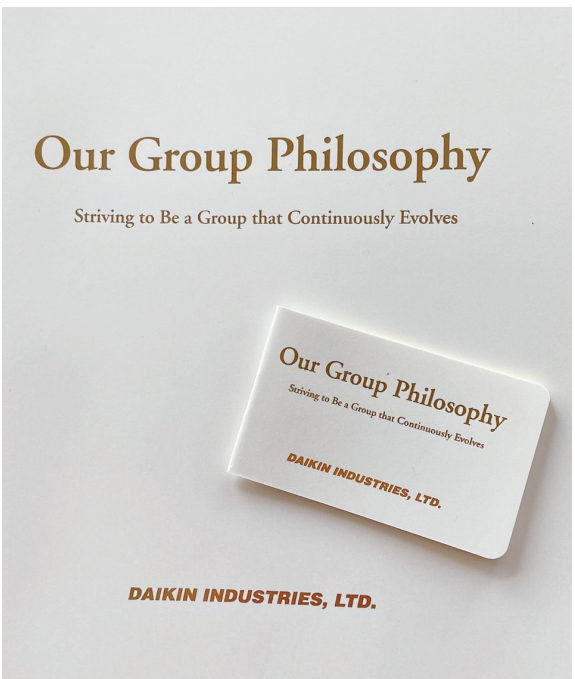
50 Years of Responsibility

A philosophy to do business by

In the early 2000s, Daikin Industries Limited (DIL) formulated a 'Group Philosophy' that would facilitate a common management style. The aim: to expand business operations globally. The thinking behind this was to inspire the corporate group to become a trusted global company, with a foundation based on three key corporate values: absolute credibility, harmonious personal relations and enterprising management.

The philosophy, still central to Daikin Europe N.V. (DENV) today, consists of ten principles, including ones that emphasise environmental friendliness, world-leading technology, earning society's trust and people-centred management. Applying this philosophy to decision-making allows employees worldwide to take pride in the organisation they work for, to build trustworthy relations with society, to generate innovative ideas and to take flexible actions.

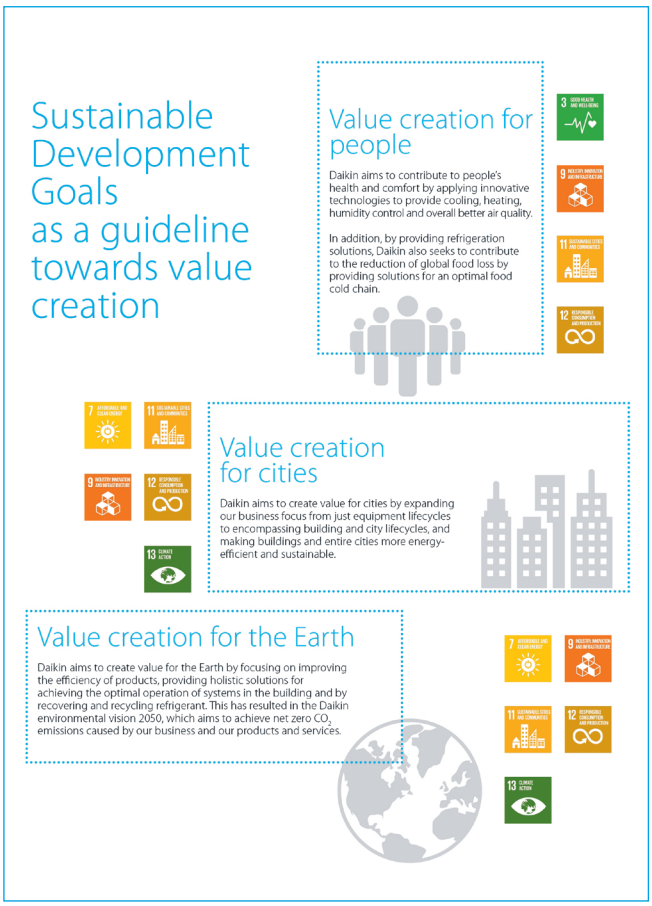
At the time when the philosophy was first issued in 2002, it was distributed to all members of the global group in a printed booklet. Every department in DENV organised sessions to go through the book and discuss its contents. This meant that employees were encouraged to develop a deep grasp of the intentions behind it, instilling awareness that Daikin's business activities should benefit society and the environment as a common business practice.



Daikin's Group Philosophy shapes a common management style.

Accompanying the book was a mini summary booklet that every employee could slip into their pocket. Honorable Senior Advisor Frans Hoorelbeke has been taking it with him to many events for over 20 years: "I always keep my Corporate Philosophy close at hand," he reveals. "I even quoted from it on the occasion of a royal company visit during an economic mission."

Daikin's CSR actions are centred on people, cities and planet and contribute to the UN SDGs.



For Daikin, this group philosophy is part of a wider emphasis on Corporate Social Responsibility (CSR), which is about being committed to a sustainable future and being trusted by society. This means more than the strict observance of legal compliance. It is about being sensitive to the needs of the different groups of people the business comes into contact with – from factory employees to installers, salespeople to end users – and to the needs of the environment.

Daikin's CSR actions can be summarised in its aim to create value for people, for cities and for the Earth. With these actions, DENV contributes to the United Nations Sustainable Development Goals (SDGs). Launched in 2015, the UN SDGs provide a global framework for building a sustainable future. They aim to promote action by all kinds of organisations, from small start-ups to global companies, governments, research institutes and academia and so on.

CSR is woven into the fabric of all Daikin's business activities, in the belief that it strengthens business performance as well as contributing to society. Focusing on value creation for society, and with the SDGs as guiding principles, DENV's sustainability initiatives approach the subject of CSR and building a sustainable future from a number of angles, as will be seen in this chapter.

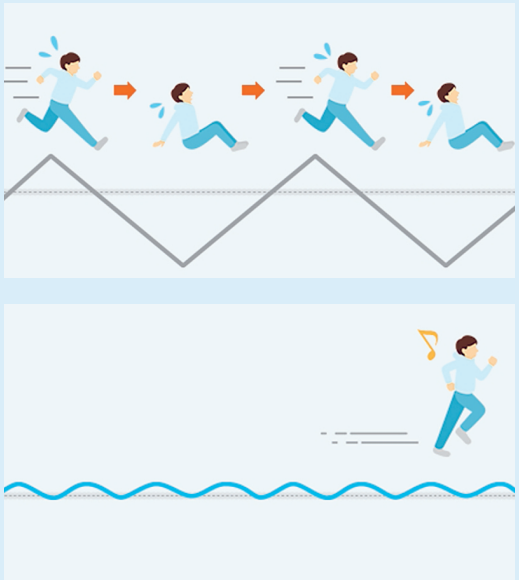
Environmental responsibility

Environmental responsibility is a topic that Daikin has been taking seriously for decades – long before the conversation on climate became imperative – and sustainability remains one of the main motivations of its corporate mission.

In the 1970s and 80s, DENV focused on expanding sales of products that pursued energy-saving performance from the early stages of the business. This was a response to the energy crisis at the time and sought to reduce energy consumption by air conditioning. The introduction of Variable Refrigerant Volume (VRV) technology for commercial buildings was one of the most eye-catching of such efficiency innovations.

Then, in 1984, Daikin introduced inverter technology, which revolutionised energy efficiency in general. This technology controls the rotation speed of the motor on the outdoor unit. Instead of putting energy into starting and stopping, the inverter adjusts the speed of the motor so that it speeds up or slows down and runs more efficiently over time. The energy-saving effect can be up to 50% compared to non-inverter units. The inverter ratio in Daikin's residential units is nearly 100%, and the company actively promotes the use of inverter technology throughout the entire industry.

In contrast to non-inverter units, which lose energy by starting and stopping the motor, inverter units save energy by constantly adapting the motor speed to a room's temperature.





In the 2000s, DENV began developing solutions for low carbon heating in Europe, where combustion heating is still the norm. 2006 saw the release of the Daikin Altherma heat pump for residential use in homes, followed a year later by the highly efficient VRV heat pump becoming available for extreme cold regions. In such regions, where temperatures can drop to as low as -25°C, the Daikin VRV provides an alternative to combustion heating in large commercial applications.

Since 2007, the VRV is capable of operating in temperatures as low as -25°C.

Green Heart Factories

In 2005, as part of its ongoing commitment to a greener future, DIL introduced a certification scheme for its factories worldwide to signify environmentally conscious manufacturing. Known as Green Heart Factories (GHF), the scheme is based on in-house standards for environmental and social performance, as well as providing the means for all employees to play their part. Biodiversity conservation and the introduction of renewable energy use are among the aspects recognised by the scheme.

From the early days to the present day, DENV has been committed to the exact same goal: manufacturing in



an environmentally conscious way. In the mid-1990s, ISO launched a series of industry standards for responsible management, with ISO9001 released in 1994 as the standard defining the requirements for a quality management system. Based on the principles of customer focus, continuous improvement and process approach, DENV obtained the certificate in the year it was launched. Subsequently, further standards were consistently rolled out, such as the ISO14001, which is particularly relevant for environmental protection, and the OHSAS18001 covering health and safety at work.

Conscious of the importance of sharing best practices for tackling environmental challenges as a group, DENV then organised a series of environmental conferences. The first in Europe was held in 2002 at the newly opened office in Brussels. On the agenda was "environmental responsibility" in the broad business sense, not just in manufacturing.

Over the years that followed, each business domain started looking into its own field of work. By 2005, DENV was holding its first factory environmental conference to define targets on minimising the impact of the manufacturing process on the environment. For the first time, colleagues from the (then recently-built) Daikin factories in the Czech Republic joined.

In the same year, DIL launched the first GHF scheme, which would subsequently evolve along with each new FUSION plan. The philosophy behind the GHF was to make sure a strong *kaizen* approach to environmental matters was established in each factory. It also helped to align data, making it easier to ascertain the priority actions.

In its first five years, the GHF scheme focused on Japanese plants, but that would soon change. Under FUSION 15 (2011 to 2015), it was rolled out to factories outside Japan. At the time, participating in the scheme meant replying to a detailed questionnaire on factory operations. The questions were on a variety of sustainability topics, such as how the factory dealt with waste, wastewater, groundwater pollution, social responsibilities and so on. In these early days of the GHF, much weight was given to the standards in place, such as completed ISO certifications.





DENV obtained ISO certification the year it was launched, a reflection of its exceptional standards.



The first Global Environmental Meeting was held in Japan in 2013.

Participating in the GHF programmes was intense, with a programme packed with best practice sharing and action plans on specific environmental themes. In 2011, the first European GHF conference was held in the Daikin Czech Republic (DICz) factory. The following year, both DICz and DENV Ostend received their first GHF Certificate. In 2015 DENV received the Super GHF certificate, with the best result of all factories worldwide.

With FUSION 20 (2016 to 2020), DIL introduced a medal system (bronze, silver, gold and platinum) for the GHF scheme, along with a change in parameters to obtain the award, designed to encourage each business site to strive for the highest possible ranking. DENV factories are very active in the scheme, and in 2017, the third Global GHF conference was held, again in DICz. With a state-of-the-art energy monitoring system on its production line level, the DICz team were the subject of much inspiration for attendees.

The GHF conferences have become important moments to align on ambitions. With the carbon challenge rising to the fore, consensus was reached at the Shanghai GHF conference to reduce CO_2 emissions from manufacturing by 30% by 2030. Since the start of FUSION 25 (2021 to 2025), the GHF programme has been reformulated to be closely aligned with the UN SDGs and reducing greenhouse gas emissions.

Sustainable energy use to reduce greenhouse gas emissions is one of the areas in which DENV and the factories in EMEA are already taking great strides. In 2019, DENV in Ostend made a notable

move when it joined the local 'Heat Network' (*warmtenet*) project, in which energy is generated by the local waste incinerator. Thanks to this, offices and production halls are now heated in a sustainable way. In 2020, the Daikin Turkey (DTAS) factory in Hendek also joined the GHF programme. They accelerated their actions on sustainable energy through the installation of LED lighting, solar thermal panels and a large photovoltaic park.

Refrigerants

A refrigerant is a working fluid used in the refrigeration cycle of air-conditioning systems and heat pumps where they undergo a repeated phase transition from a liquid to gas and back again. They transfer heat energy from one area to another that needs heat.

Each refrigerant has its own specific characteristics, and it is Daikin's policy to select the best-performing refrigerant for a specific application need. Daikin balances several considerations, such as the refrigerant's contribution to the energy efficiency of the unit, its recyclability, its global warming potential and Ozone Depletion Potential, safety aspects (such as flammability) and cost-effectiveness.

The DTAS factory in Hendek, which joined the GHF programme in 2020



What is global warming potential?

Global warming potential (GWP) is an indicator used to compare the global warming impacts of different gases, including refrigerant gases. The higher the GWP, the greater the impact on global warming.

The GWP of a refrigerant is its global warming impact relative to the impact of the same quantity of carbon dioxide (CO_2) over a 100-year period. The higher the GWP, the more a given gas warms the Earth compared to CO_2 over that time period. So CO_2, by definition, has a GWP of 1, because it is the gas being used as the reference.

Natural refrigerants have an extremely low GWP. Examples include CO_2, propane and ammonia. Synthetic or man-made refrigerants, such as fluorinated Hydrofluoroolefins (HFOs) and Hydrofluorocarbons (HFCs), have varying GWP depending on the type.

Before looking at the future, it is helpful to look back at how the role and impact of refrigerants have changed over the past 50 years. In 1985, scientists discovered a hole in the ozone layer over Antarctica. This was the starting point for concerns over the ozone-depletion potential (ODP) of chemical gases and refrigerants, which led to the Montreal Protocol. Daikin was using very safe and stable refrigerants, but some had ozone depletion impact. In the 1990s, Daikin was one of the first in the industry to adopt refrigerants with zero ODP (R410A in 1998 and R407C in 1997).

In the same decade, another major environmental challenge started gaining attention: global warming and climate change. The United Nations had started to study the phenomenon via their



In the 1990s, Daikin led the way in adopting zero ODP refrigerants.

Intergovernmental Panel on Climate Change (IPCC), which resulted in a series of international meetings on climate change. The most important was the ratification of the Kyoto Protocol in 1997, when nearly all countries in the world adopted targets to reduce greenhouse gas emissions. More recently, at the Paris Agreement in 2015, global leaders agreed to take action to keep global temperature rise below 1.5°C.

Amidst these discussions, Daikin began developing products using the refrigerant R32, with a much lower GWP than conventional refrigerant. The first products running with R32 were Daikin's residential air conditioners, introduced in 2012. R32 was Daikin's answer to providing a refrigerant that meets high levels of safety and efficiency over the entire product lifecycle, but more importantly with a GWP of only 675 – much lower than that of the previous generation of refrigerants. Daikin also introduced R32 in commercial and applied applications, and offered patents to many countries, eventually providing free access to some basic patents for all, to encourage the adoption of R32 to the benefit of society. R32 requires less refrigerant volume to generate the same performance as R410A, and it is more energy efficient. If a unit is operating for 20 years, the environmental impact is lower.

R-32

Daikin introduced products using R32 as refrigerant, which assures high levels of safety and energy efficiency.



The Ururu Sarara RA, Daikin's first R-32 unit in Europe

DENV's L∞P programme pioneers the circular economy for refrigerants.

Furthermore, installation, maintenance and correct end-of-life disposal to prevent refrigerant leaks are crucial to keeping the environmental impact as low as possible.

In recent years, DENV and its affiliates have been initiating and participating in projects to control refrigerant handling and improve their circular use. By actively pursuing partnerships in its search for environmental solutions, DENV aims to multiply actions and realise results. An important role in this lies with Daikin's installers and service partners, who DENV supports in the recovery, reclaim and reuse of refrigerants, known as '3R'.

One such initiative is the L∞P by Daikin. In 2019, DENV launched this circular economy model for the R410A refrigerant – the first of its kind in the industry – to promote the recovery, reclamation and reuse of the refrigerant R410A.

In 2015 the EU introduced a quota on the amount of greenhouse gases that can be introduced in Europe, with the aim of drastically reducing emissions from these greenhouse gases. The L∞P model drew the attention of Daikin's installer network and end customers due to several increases in quota restrictions, as prices for virgin refrigerant were rising and installers found benefit in reclaiming the refrigerant present in old units. DENV's L∞P programme is designed to help them with that task, and to ensure that reclaimed refrigerant is reused in the manufacturing of new products.

LOOP BY DAIKIN

Another initiative is the Retradeables trading platform. Supported by the EU LIFE project started in Slovakia, the Czech Republic and Hungary, it is another demonstration project for a circular economy to recover, recycle and reuse refrigerants. It is intended to help shift installers' mindsets towards recovered refrigerant as an asset. This includes a quality assurance function to overcome the obstacle of turning 'waste' into a 'recyclable material' and thereby making it tradeable. DENV and DACE have a leadership role in the initiative, with their own dedicated team working to promote the platform and its objectives.

Elsewhere, Daikin Italy was one of the promoters of a partnership deal for the circular economy in the Italian HVAC industry, with funding from the European Commission. The partnership aims to develop solutions and technologies to reduce the environmental impact of air-conditioning systems, such as reducing waste and increasing the use of recycled materials.

As part of this, Daikin Italy launched its own Green Installer Project, offering a range of services to both installers and end users, such as providing information on energy efficiency and renewable energy, as well as offering training and certification to installers. This evolved into the 'Exceed Clima' project, the first voluntary collection and recycling system for professionals in the HVAC sector.

Daikin is at the forefront of refrigerant 3R initiatives in other countries, too. In the UK, Daikin's 'Partner with Confidence' initiative has the same ambition. This innovative approach was awarded the 2020 ACR News Award for 'Environmental Initiative of the Year'.

The promotion of refrigerant recycling contributes to SDG 12, 'Responsible production and consumption'.

Natural HVAC-R 4 LIFE – exploring the use of CO_2 as refrigerant

While the refrigerant circularity projects focus on man-made refrigerant, there are other ongoing initiatives to explore the viability of natural refrigerants in a HVAC-R ecosystem.

DENV's Natural HVAC-R 4 LIFE is just such a research project supporting the company-wide vision to reduce carbon emissions to Net Zero by 2050. Viable solutions resulting from this research project can contribute to significant CO_2 emission reductions in real-life cold chains, in particular food cold chains. Co-funded by the European Union's LIFE programme, it is being run in collaboration with Daikin Germany, Daikin France, AHT Cooling Systems and Tewis.



The Natural HVAC-R 4 Life project investigates the potential of CO_2 as a refrigerant.



A Conveni-Pack CO_2 prototype on a supermarket rooftop in Berlin, Germany

The project aims to investigate the possibilities for lowering the climate impact of a combined refrigeration, air conditioning and heating solution for convenience stores by using CO_2 as a refrigerant.

The Natural HVAC-R 4 LIFE monitoring project started at DENV's Ostend plant, where the first Conveni-Pack CO_2 prototype was developed and tested in a simulated convenience store. The prototype included a heat recovery functionality with the option to add cold storage at a later stage.

Following successful initial on-site testing, several supermarkets in Germany and France have been selected to receive installed prototypes, which will be monitored for their energy efficiency and safety performance. Knowledge sharing will be a key part of this project, both from the point of view of training installers and customers, and in terms of sharing wider insights with policymakers and standardisation bodies for the purposes of reviewing and updating safety and energy-related standards and labels.

Advocacy to promote innovation for society

In 2006, DENV established a dedicated team to handle advocacy activities for the DENV group. Unlike lobbying, which targets the individual decision-making of politicians, advocacy aims to promote and build bonds across several societal stakeholders and the industry to support or recommend a specific cause or policy. DENV aims to facilitate the introduction of innovative HVAC-R technologies in policy discussions in support of a more sustainable future.

One of Daikin's longstanding advocacy colleagues is Els Baert. As a fresh graduate in Chemical Engineering with a Master's in Environmental Sanitation, Els started at DENV 25 years ago. "Since the beginning of my career, I have been working on energy performance and refrigerant safety," she explains. "First at our EMEA Product Development Center, and since 2006 at our Environmental Research Center (ERC)." Els' position at DENV has enabled her to take on different roles in standardisation and in working groups of associations such as Eurovent.



Els Baert has spent her whole career working on energy performance and refrigerant safety.

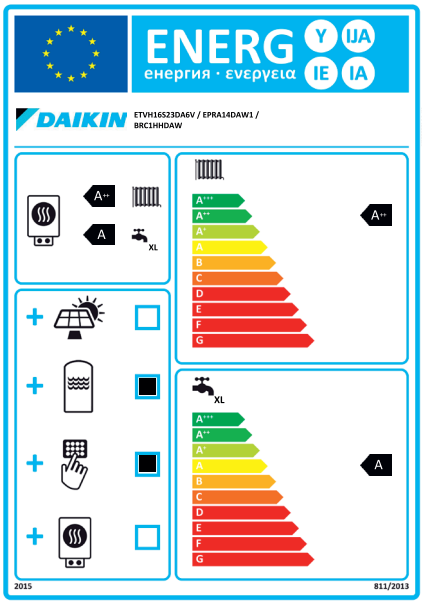
Eurovent is a European association that gives a voice to more than 1,000 member manufacturers and federations active in the HVAC-R industry. As an established stakeholder, it builds bridges across the HVAC-R industry and its associations, and with policy-makers on different levels. Over the past decades, Els and her ERC colleagues have supported important shifts in environmental policies, regulations and standards, paving the way for the introduction of innovative technologies in the market. One of the key topics on Els' agenda has been the development and introduction of the lower flammability (2L) classification for refrigerants in standards. The adoption of this new classification enabled the industry to shift to lower GWP refrigerants, such as R32.

During a recent Eurovent summit in Turkey in October 2022, ten people were awarded the title 'Legends of Eurovent'. In recognition of her devotion, commitment and invaluable contribution to the European HVAC-R industry, Els was literally put in the spotlight as the 'Most Impactful Woman'. "An absolute surprise," concedes Els. "I was very honoured and proud of this acknowledgement of the work we accomplished together. I think that one of my strengths is that I bring Daikin's holistic view to the negotiation table, since we have a broad scope and a wide range of energy-efficient HVAC-R solutions. It's important for us to drive the market with more sustainable innovations and work to achieve a large-scale rollout of those innovations that benefit consumers and the environment alike."

Another important domain in which ERC has been active is the EU Energy Labelling and Ecodesign legislation. Ecodesign sets EU-wide standards for minimal energy efficiency of units, while energy labels provide consumers with a clear and simple indication of the energy efficiency of a unit. Daikin considers it important that products are properly rated so that better technologies can show their benefits in terms of energy consumption. Furthermore, consumers should have access to comparable energy labels, enabling them to make well-informed, sustainable choices and to save on their energy bills.



Els Baert receives a Eurovent award for her work on environmental policies, regulations and standards.



Energy labels allow customers to make informed and sustainable choices.

"Energy labels have to be made in such a way that, for example, heat pumps can be properly compared to conventional technologies for the same application, for example to fossil fuel boilers," explains Els. "We must keep on supporting comparable energy labels, directing consumers towards efficient heating and cooling equipment."

"This work continues in the many revisions of Ecodesign and Energy Labelling regulations in all product ranges," Els continues. "But there is more. The HVAC-R industry has a big impact on the sustainability of the building stock (houses, offices and so on). Our work is never done, never boring and for sure important in the light of building a sustainable society. Many topics are on our table, such as refrigerants, sustainable product regulation, the credibility of data and so on. In Europe in particular, the REPowerEU programme creates many opportunities and challenges. We work to contribute to the ambitions by proposing realistic and ambitious solutions on the road to a net zero society," she concludes.

Achieving Net Zero: "By 2050, Daikin will achieve Net Zero CO_2 emissions while providing safe and healthy air"

The carbon challenge

Heating, cooling and ventilating a space consumes energy. So does keeping food or vaccines at a safe temperature. The equipment used to create healthy and comfortable living conditions has a considerable carbon impact throughout its entire lifecycle. Sustainable HVAC-R solutions that help protect our planet are key to realising a carbon-neutral society. Today, air conditioners consume 10% of all electricity in the world, and while demand for cooling is expected to increase, Daikin takes its responsibility to continue reducing the energy consumption of its equipment very seriously.

In colder climates, such as in Europe, heating and hot water production account for more than 80% of household energy consumption, and today most of that energy is still based on fossil fuels. Key to addressing this is to develop and produce low-carbon alternatives for heating, and to integrate Daikin products and controls in smart energy networks that make the most of renewable energy sources. Circular economy processes are

also critical to reducing the impact of Daikin's products on global resources, while its heat pumps can deliver decarbonisation results for society as a whole.

Daikin's carbon impact in a nutshell

Daikin has analysed the carbon impact of its equipment and found that 90% of total CO_2 emissions is generated while the product is being used. Another 9% comes from end-of-life disposal of the units, while designing, manufacturing and transporting the equipment accounts for over 1% of Daikin's total CO_2 emissions.

The challenge the HVAC-R industry faces is therefore not only about manufacturing products in a carbon-neutral way. The biggest challenge is ensuring that Daikin equipment delivers what it is intended to do in a carbon-neutral way throughout its full lifecycle, and that includes the installation, use phase and end-of-life of the equipment.

Our carbon reduction targets and actions

Daikin's Environmental Vision 2050 provides the roadmap for achieving Net Zero, with five-year intervals set for specific targets and measures included under the Fusion strategic management plans. Daikin is committed to reducing the greenhouse gas emissions generated throughout the entire lifecycle of its products.

Furthermore, DENV will continue to create solutions that link society and customers as it works with stakeholders to reduce greenhouse gas emissions to net zero. Using IoT and AI, as well as open innovation attempts, DENV will meet the world's needs for air solutions by providing safe and healthy air environments, while at the same time contributing to solving global environmental problems.

Daikin's upcoming global carbon reduction targets are to reduce total CO_2 emissions by 30% by 2025, and by 50% by 2030 (both compared to the 2019 'Business As Usual Scenario'). These are global targets to which DENV contributes.

Developing a sustainable, healthy society

Daikin's Corporate Social Responsibility (CSR) is broader than respecting the planet's boundaries and helping to solve environmental challenges. The value that Daikin's products and solutions bring to society, as well as the way Daikin acts as an organisation towards societal stakeholders, are equally important aspects of the company's CSR.



A Sky Air unit in a restaurant, showing that air conditioners were no longer the bulky, utilitarian devices they were once considered.

Over the past 50 years, DENV has introduced innovative technologies in the EMEA region that improve people's health and comfort through cooling, heating, humidity and indoor air quality control. On a broader scale, there has been a shift in focus from equipment lifecycles to looking at whole buildings and cities, as can be seen in the NEDO projects and other partnerships discussed later in this chapter.

Through products and services

HVAC-R equipment contributes to SDG 3 'Good Health and Well-Being'. In light of the COVID-19 pandemic, the value of air purification has become very important. This is just one example of how Daikin equipment contributes to a healthier and more sustainable society.

For a long time, air conditioners were seen as a luxury item; they were expensive and not widely available, so most households did not have them. They were mostly known as 'coolers' and seen as bulky, utilitarian equipment. Toshitaka Tsubouchi, President of DENV, remembers that when he joined Daikin back in 1987, he wondered whether working for his new employer would provide a sense of purpose – whether he wanted to sell coolers as a job.



But in fact, to this day, air conditioning has contributed significantly to the development of many countries. Singapore's founding father and first prime minister, Lee Kuan Yew, said, "Singapore would not have developed without air conditioning. Air conditioning makes it possible to do business in hot areas, improves air quality and helps protect people from temperature extremes."

"While working for Daikin, I realised how much air conditioning could contribute to society, and I became proud of Daikin's air conditioning business," adds Tsubouchi.

Air conditioning may have started out as what seemed a luxury, but today, modern society cannot function without it. Many investments have been made in air-conditioning systems in order to increase productivity and comfort in the workplace. It is Daikin's responsibility in the 21st century to reaffirm the value of air conditioning and to provide cooling throughout the world while curbing global warming.

The same logic can also be applied to heating products. Being able to heat indoor spaces has enabled civilisations to develop. Throughout history, heating was done by burning fossil sources such as wood, and later coal, gas and oil. Our society is at a turning point, moving towards a fossil fuel-free society. And solutions for low carbon, fossil fuel-free heating are crucial.

In 2009, thanks to the strong advocacy work of DENV colleagues and industry associations, outdoor thermal energy was recognised as a renewable energy source. DENV has been improving heat pump technology and developing energy-efficient heating equipment to support this shift in society. A milestone product in this was DENV's hydronic heat pump, better known as 'Daikin Altherma', which provides heating as well as domestic hot water. These solutions for residential homes are revolutionising the way we heat our homes in Europe, in the same way the VRV swept the commercial HVAC market in the 1980s and 90s.

← Daikin's air conditioning systems increase comfort and productivity in the workplace.

Daikin Altherma is revolutionising the way we heat our homes.



→ Daikin's pioneering heat pump technology enables society to shift to renewable energy while heating and cooling rooms in an energy-efficient way.

Daikin Altherma is commonly known for residential applications. However, it is not only residential buildings that are served by heat pumps. In fact, all air conditioners use heat pump technology to transport heat from the air to indoor and outdoor spaces. Daikin's heat pump equipment, both residential and commercial, is used in Zero Energy Buildings (ZEB) in all EMEA regions. Thanks to their smart controls, they can be steered to minimal energy consumption while providing the necessary comfort to the people inside.

DENV's heat pumps and heat pump technology contribute significantly to SDG 11, 'Sustainable cities and communities', as well as to SDG 7, 'Affordable and clean energy'. In the past 10 years, DENV has also been active in setting up a sustainable cold chain offering. Refrigeration equipment can help in reducing food waste and safely transporting temperature-sensitive goods such as vaccines. A sustainable cold chain, which consumes little to no energy, is just as important for the realisation of a fossil fuel-free society as heat pumps.

The Overseas Smart Community Demonstration Project took place in Manchester, UK, from 2014 to 2016.



Through partnerships

The initiatives around the circular economy of refrigerants discussed earlier in this chapter are only part of the story. There are many more partnerships and research projects in which Daikin is active to realise large-scale contributions to a sustainable society. This section looks to highlight some of the projects in which DENV teams up with various stakeholders in the housing and energy sector to bring value for whole neighbourhoods and cities. With these, DENV contributes to several of the SDGs.

Government-funded NEDO project: smart communities in Manchester

The New Energy and Industrial Technology Development Organization (NEDO) is one of the largest research and development organisations in Japan. Part of its mission is to support Japanese companies in exporting their technology. DENV was able to contribute to two major NEDO projects designed to help trial future technologies that will help people live in more sustainable ways.

DENV's first NEDO project was an 'Overseas Smart Community Demonstration Project', which took place between 2014 and 2016 in Manchester, a northern city of the United Kingdom with Low Carbon 'Pioneer City' status. It focused on the social housing sector and testing the implementation and use of air source heat pumps on a large scale.



What is Demand Response?

Demand response is the control of the peaks and troughs of electricity demand from individual homes, to match the supply of electricity from sources that are difficult to control.

Specifically, there are methods to increase electricity demand during times of high power generation by, for example, recharging storage batteries, and to reduce the number of power-consuming appliances when the supply of power is limited. Smart grid-ready equipment is typically equipment that is able to read signals through the grid to adjust the timing of when they use energy. In many regions in Europe, power companies have already set up different electricity rates for different time periods to match electricity demand and supply. Many also offer incentives to consumers who respond to requests to save electricity.

Hydronic heat pumps are particularly well-placed to play a role in demand response. They can heat up water for heating the home and for domestic hot water when delivery of electricity peaks. The heat pump then stores the heat for some time, and emits the heat at a later point when it is needed to heat up the room. In this sense, they can make optimal use of energy when it is being generated.

Equalising the amount of electricity generated and consumed is known as 'energy balancing'. On an aggregated scale beyond the individual units, demand response opens up the possibility of building financial models to measure the energy saved and trade that energy on the market. 'Negawatt' is a new term for measuring the amount of energy saved, which can be commercialised.

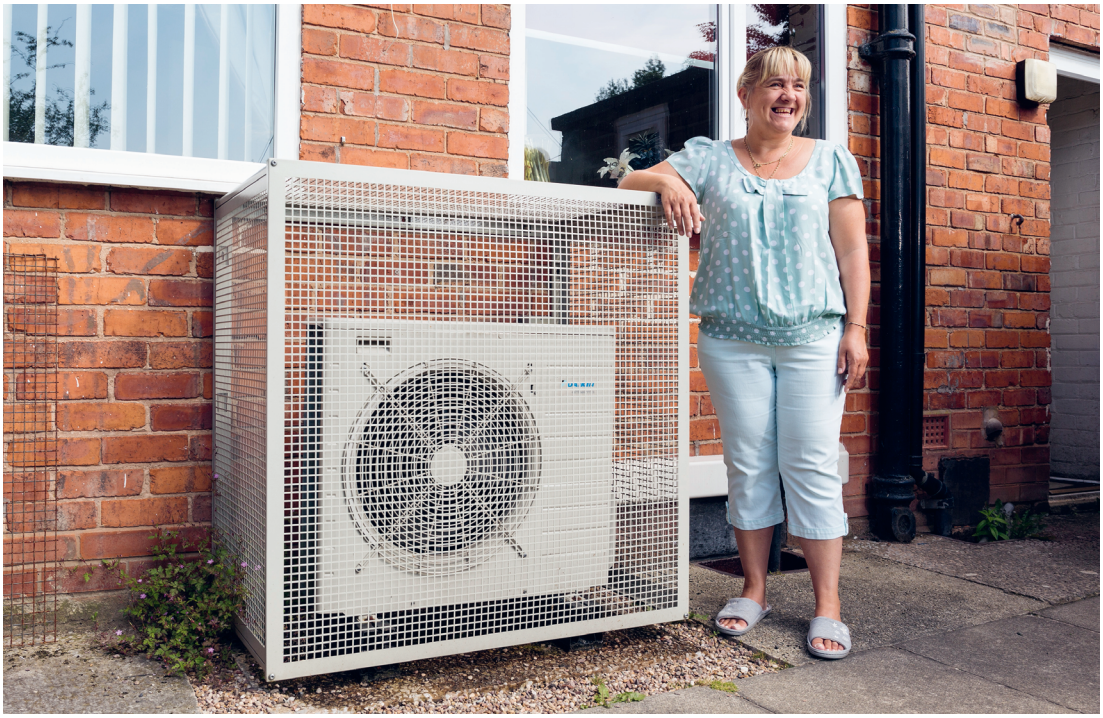


The Manchester NEDO project brought demand response technology to social housing in the city.

Daikin was one of several partners working with the Greater Manchester Combined Authority, replacing old, inefficient heating systems with 540 cutting-edge electrical and hybrid air-source heat pumps. The aim of the demonstration project was to develop a better understanding of the challenges these systems present, identify solutions and establish business models for electricity aggregation.

Indeed, the replacement of fossil fuel heating with heat pumps could increase electrification and increase the burden on the electricity infrastructure, especially at peak times. Furthermore, the renewable energy sources that will be increasingly used are produced under uncontrolled weather conditions, such as sunlight and the wind needed to rotate wind turbines. In the decarbonised society of the future, the challenge will be to ensure that renewable energy is consumed at the same time as it is produced, so that energy supply and demand are balanced. Demand response technologies are becoming increasingly important as a means to achieve this.

The Manchester project demonstrated the importance of collaboration with Distribution Network Operators. These organisations are the operators of the electric power distribution system, which delivers electricity to most end users. Collaboration with them is needed to prevent capacity issues such as blackouts, and to ensure that technology needs



Daikin's heat pump halved resident Deborah Stevens' monthly gas bill while keeping her home warm.

can be adapted to the needs of residents. Low-tech solutions are often required, and it is important to educate and persuade people, many of whom are unfamiliar with heat pump and demand response technology, about the benefits of using heat pumps.

The lessons learned from this pilot project provide valuable insights into what will be necessary for a more widespread roll-out of heat pump technology to other housing associations, in the UK and beyond. The project also proved a fertile soil for further actions.

In February 2023, DENV and Greater Manchester signed a landmark partnership in an effort to reduce carbon emissions and boost innovation for net zero energy. The five-year agreement will retrofit up to 1,000 homes in Greater Manchester with low-carbon HVAC-R solutions and will act as a testbed for new net zero technologies and services.

Through this project, Daikin is using its unique know-how and technology to work with local authorities to solve the social problem of a shortage of heat pump installers. The partnership will contribute to Greater Manchester's goal of achieving carbon neutrality by 2038.

Government-funded NEDO project: Automated Demand Response in Lisbon, Portugal

The NEDO project in Lisbon (2016 to 2020) aimed to assess the feasibility of Automated Demand Response and Virtual Power Plant technology in office buildings. Working with partners such as LNEG, Everis, Efacec, Next Kraftwerke, Mitsui and Arup, the project was made possible with the support of Lisbon City Hall and other local businesses. Daikin was responsible for installing and managing the air-conditioning systems, as well as developing the supporting cloud architecture for automated and optimised control. The project was officially launched in June 2018. It gave a helpful snapshot of the picture at the moment, concluding that the technology of heat pumps and demand response is ready. The study noted these are essential for decarbonisation, being flexible assets that already exist and can work with the grid and building.



A ceremony marked the opening of the first phase of the Lisbon NEDO project.

EU-funded oPEN Lab, Genk, Belgium

The oPEN Lab project in Genk, Belgium, will turn a residential area of 30 existing homes into a Positive Energy Neighbourhood, meaning more energy will be produced on the site than is consumed. The project collaboration, launched in 2021, is led by VITO (Flemish Institute for Technological Research) and includes several Belgian research institutes and industry partners, including Daikin, which is lending its expertise in heat pump technology. The oPEN Lab project has received funding from the European Union's Horizon 2020 Research and Innovation Framework Programme.



Laurent Van Thournout believes a huge renovation wave is needed to make homes more sustainable in the future.

"In the decades ahead, a huge renovation wave is needed to make our homes more sustainable," says Laurent Van Thournout, Deputy General Manager at EDC. "It is estimated that buildings account for more than a third of all CO_2 emissions in the EU. Almost 200 million buildings are considered inefficient, with the vast majority of them built in the previous century."

Most of the technology needed to realise this transformation is already available and widely used in the construction of new homes, but renovation still presents the construction industry with considerable challenges. "With our participation in pilot projects like oPEN Lab, we are laying the groundwork for the development of new solutions that will eventually make renovation easier and more affordable for everyone," Laurent concludes.

The oPEN Lab project will see the creation of a Positive Energy Neighbourhood in Genk, Belgium.

oPEN Lab

TARTU
PAMPLONA
GENK

LEADING THE TRANSITION TO POSITIVE ENERGY NEIGHBOURHOODS

Caring for people

Daikin is a company with a long history of caring for its people.

One of DENV's three core values is defined as 'harmonious personal relations', and the People-Centred Management (PCM) philosophy is rooted in this. This company culture provides an atmosphere in which people can freely express themselves and are empowered to take action in the face of opportunity. Daikin Group knows that people are its greatest resource. The PCM philosophy seeks to unlock employees' unlimited potential by providing challenges for those seeking personal growth.

As a global company, diversity is essential for successfully developing products, services and solutions for each region, and in 2023, DENV is active in over 120 countries and employs over 80 nationalities in Belgium. DENV promotes local roots and international rotations of human resources across Europe, the Middle East and Africa (EMEA) to nurture diversity and create strong, dynamic teams. Furthermore, DENV prioritises health, safety and job security to ensure that these diverse teams stay focused on performing at their best.

The ideal of 'harmonious personal relationships' is one of Daikin's core values.



DENV is active in over 120 countries, employing over 80 nationalities in Belgium alone.



→ Paper cranes symbolised hope as well as donations to the Great East Japan Earthquake.

In times of need, employees of Daikin care for each other more than ever. When the world is confronted with global humanitarian crises, Daikin employees set up solidarity actions to raise money for the victims or people impacted. This was the case, for example, after the disaster in Fukushima, following which DENV colleagues together with many schoolchildren in the neighbourhood of Ostend folded paper crane birds. Each bird represented a symbol of hope and a financial contribution by Daikin. After Hurricane Harvey in 2017, when many Daikin US colleagues lost their homes, DENV colleagues sprang into action. It was the same for Daikin Malaysian colleagues after the heavy floods of December 2021.

When Russia invaded Ukraine in 2022, DENV Group colleagues raised funds by selling handmade goods and organising cultural and sports events in which employees participated, and more than 40,000 euros was donated to Voices of Children, a Ukrainian child support organisation.

In February 2023, when several big earthquakes hit Turkey and Syria, DENV colleagues quickly came together for another fundraising activity, in close cooperation with Daikin Turkey colleagues. DENV has shown its appreciation of these efforts by matching the funds raised.

Importantly, Daikin and its employees do not just spring into action when there is a crisis or disaster. Caring for each other, for others and for the local communities in which DENV operates is embedded in Daikin's DNA.

→ DENV Group colleagues organised a number of initiatives in support of Ukraine, including sunflower planting.





DAIKIN

We need your help
to build a new future
for Ukraine

HOPE FOR
UKRAINE

A joined effort from all Daikin employees!

Caring for the local community

DENV believes it is important to invest in strong working relations with the local communities in which it is active. Helping local communities thrive brings benefits for both the company and the community.

A long-standing example of this is the way DENV works with sheltered workplaces in Flanders. These organisations, known in Flemish as '*maatwerkbedrijven*' or 'tailor-made companies', are designed to provide job opportunities to people with disabilities and are subsidised by the government, allowing them to offer competitive products and services on the open market. Currently, there are 140 such companies in Flanders, providing employment to over 23,000 people. DENV works with several tailor-made companies in the region, utilising their services to carry out subtasks in the manufacturing process.

The longest-running partnership is with Oesterbank, located near Daikin's Ostend factory. This relationship, established in 1990, sees 150 or more Oesterbank employees providing subassembly and kitting services. WAAK, based in Kuurne, has worked with DENV for over 20 years, with nearly 100 of its employees carrying out Daikin manufacturing activities.

Bruges-based Footstep also provides spot welding work for the Ostend factory, as well as garden maintenance since 2021. Sowepo in Poperinge, run by former

DENV top management and local politicians visit Oesterbank, with which the company has partnered since 1990.



Daikin employee Gunther Bamelis, specialises in the programming, sorting and repairing of Daikin Printed Circuit Boards. And Gunther is not the only employee who moved to the social economy. Hein Moerman, formerly part of DENV as well, is now heading up another tailor-made company, OptimaT, based in Lichtervelde near Ostend. Its employees have long been assisting local Daikin suppliers in the painting of metal parts and the making of wooden pallets.

The collaborations continue to be a great success. "We are very happy with their contribution," says former Deputy General Manager, General Affairs and HR, Hans Lingier. "These are very professional companies and they also have their own management systems, and many have ISO certification, so they are competitive and well-run businesses," he continues. "We know that the people working at Oesterbank are very proud that they can contribute to Daikin. If you go over there, you will see images of Daikin. People feel connected and proud that they're contributing to the making of our units." So it is no surprise that through their business philosophy and their connection with us, they are strongly appreciated as DENV suppliers.







↗ Oesterbank employees are proud of the contribution they make to Daikin.

→ Former Daikin employee Gunther Bamelis runs the tailor made company Sowepo.

Caring for the nature that surrounds us

Forests are nature's air conditioners, controlling the temperature of the planet and nourishing the air. Supporting biodiversity has long been one of Daikin's core values, as well as being embedded in the Daikin Green Heart Factory programme. DIL contributes to global reforestation projects, and DENV is doing its bit by focusing on supporting local on-site and off-site biodiversity via a cooperation with local nature associations.

The aim of DENV's on-site biodiversity efforts in Ostend is to make the green areas around the production site a more attractive prospect for indigenous plant, bird and insect species. Over the past five years, DENV has cultivated an eco-roadside area, as well as installing beehives, an insect hotel in the shape of the Daikin logo and nest boxes for birds of prey. A similar initiative has been set up by Daikin France (DAF), who has beehives on the rooftop of their offices in Paris.

DENV's off-site goals are to strengthen and enlarge the local city forests in cooperation with local associations. These activities are organised by the Ostend team and are carried out by a team of volunteers with the support of the Daikin Entertainment team. Their efforts focus on strengthening biodiversity and on raising awareness among Daikin employees and their family members.

In 2015, DENV organised its first tree planting session in a local nature area named 'Raversijde'. In the following years, tree planting sessions have been organised at the Ostend city forest near the factory, with activities paused only during the COVID-19 pandemic. These planting efforts resumed at the end of 2022, and to date DENV members and their families have planted over 50,000m² of trees!

An insect hotel is among the wildlife-friendly features at DENV in Ostend.





Daikin's first tree planting session took place in a local nature reserve near Ostend in 2015.

Other production sites are equally active in building out local schemes for biodiversity and the protection of the habitat of birds. In 2021, Daikin Turkey (DTAS) started a project to plant 1 million trees by 2050. For the first phase of this endeavour, DTAS is cooperating with Aegean Forest Foundation and 50,000 saplings have already been donated to the İzmir Kınık region. DTAS also aims to raise awareness of the importance of trees by donating a sapling on behalf of each individual household product customer.

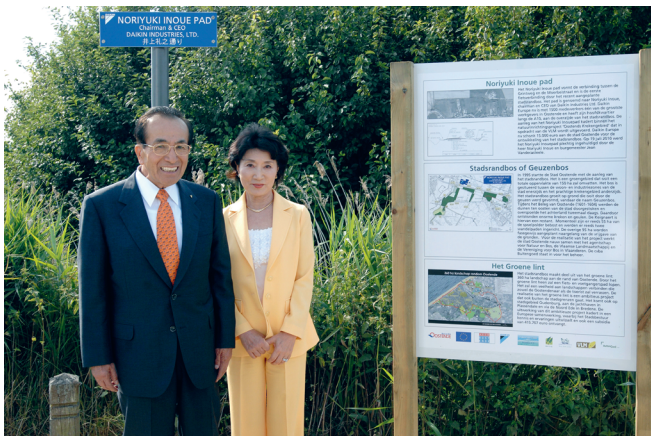
The Noriyuki Inoue path

In recognition of Daikin's contribution to planting trees in the Ostend area – an activity that supports the city's 'Green Belt' policy – the city authorities have honoured DENV by naming a woodland path after its Chairman, Noriyuki Inoue.

Known as the Noriyuki Inouepad, the path runs through the new woodland of the urban fringe forest to Zandvoorde and is popular with walkers and cyclists. It runs along the spot where the Quaet Castle (or the Duvelstorre) stood in the Middle Ages.

The path symbolises the gratitude of the city of Ostend towards Daikin, not only for its instrumental role in the creation of the forest buffer zone, but also in acknowledgement of its status as the area's top employer.





DTAS celebrates the planting of 20,000 saplings in a memorial forest.

Noriyuki Inoue is proud of the pathway named after him, which symbolises Daikin's contribution to tree planting in the area.





The Japanese Garden

The Noriyuki Inoue path is expressive of the bond between Ostend and Japan, but there is an even more prominent area of Ostend symbolic of this enduring partnership.

The idea for the garden came about when Frans Hoorelbeke accompanied the Mayor of Ostend, Julien Goekint, on a scouting visit to the Japanese city of Shirahama in 1996. During the trip, a brainstorming session was held on how best to express the close ties between Ostend and its main employer, DENV. The idea was put forward to create a Japanese garden in the city.

As it happened, a 3,000m² walled garden in the 'Royal Villa' – formerly a holiday resort for the Belgian Royal Family – had been identified as being in need of revitalising. The opportunity to upgrade this special location and create a new tourist attraction made the site ideal. A Japanese architect was chosen to design and project manage the creation of the garden.

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The beautiful Japanese Garden symbolises the enduring partnership between Ostend and Japan.

HRH Prince Philippe opened the Japanese Garden with Noriyuki Inoue and other CEOs of top Japanese companies in the area.



The beautiful Japanese garden was named Shin-Kai-Tei, with each part of the name chosen for its symbolism:

- **SHIN** means deep, profound and distinguished, referring to the rich history of both Japan and Belgium.
- **KAI** means the sea or ocean, a reflection of the garden's location close to the sea. Watching sunrise and sunset over the water brings humans and nature closer together.
- **TEI** means garden or sanctuary, appropriate for a place for visitors to find peace, to reflect and to connect with nature.

The Japanese garden was officially opened on July 20, 2001, in a Shinto ceremony by HRH Prince Philippe, together with Inoue, the CEOs of top Japanese companies and the city authorities of Ostend.

As is typical of Japanese gardens, Shin-Kai-Tei is full of symbolism. The central pond in the shape of a turtle symbolises antiquity and durability, while the water represents life. It flows from east to west, because the sun – the source of all life – rises in the east. The rocks rising out of the water represent life's obstacles.

Shin-Kai-Tei is a Kaiyushiki-style walking garden, with a *kaiyu*, or walk, that takes visitors through a delightful variety of different paths, views and landscapes, including stepping stones and a bamboo forest. There are authentic features to look out for along the way, such as climbing wisteria and stone ornaments, as well as an *azumaya*, or summer house, where visitors can sit and enjoy the garden.

The future of responsibility at DENV

The world is changing, and the voice of society on social and environmental issues is louder than ever. Companies are called to their responsibilities. Growing awareness of the impact of business on people and planet has resulted in a decisive shift in perspective, from one of pure profit-focus to one of people, profit and planet.

DENV is the leader in the HVAC-R industry in the EMEA region, and with that comes the responsibility to take on social and environmental challenges. DENV has a moral obligation to ensure that its business is conducted in a way that respects people and planet, and the power of its products and services can make a real difference.

Achieving carbon neutrality is one of the most pressing matters of our time, but there are many more challenges for society. Daikin Europe must put its innovation power into being a contributor to society, for example with heat pump and refrigeration technology and air purification capabilities. This will bring value for the company as it helps society move towards a better world.

The success of DENV is not only dependent on its products and services, but also on how it acts as a responsible corporate citizen. DENV is committed to making positive contributions to society by taking an active role in tackling social, economic and environmental issues. This commitment extends to its employees, who play an integral role in ensuring that Daikin's responsibility is upheld. From the decisions they make in their daily work to their contributions to charitable initiatives, DENV's employees have the power to make a difference in creating a healthy, safe and sustainable future, both for DENV and beyond.



Daikin's employees play a vital role in upholding its responsibilities.

Message from Yasushi Yamada

SENIOR EXECUTIVE OFFICER, DIL

I would like to congratulate Daikin Europe on its 50th anniversary.

Over the past 50 years, Daikin Europe has achieved remarkable growth. During that time, I have also been a part of the journey on many occasions. I am deeply moved when I look back on the trajectory of development over the years. I look forward to Daikin Europe's further growth and would like to share my thoughts on the future, focusing on areas in which I have had a particularly deep involvement.

Firstly, I hope that the Daikin Europe Group will continue to develop as a first-class manufacturing base by inheriting and refining the DNA of 'Daikin as a manufacturer'.

Daikin Europe's production began at the Ostend plant in Belgium and today has expanded to include factories for air conditioning, heating and refrigeration products in many countries, such as the Czech Republic, the UK, Germany, Turkey, Italy, Austria, UAE and so on. In 2024, Daikin Europe's largest ever dedicated heat pump heating factory will be completed in Poland.

I have visited a number of Daikin Europe factories and provided management advice on manufacturing. Daikin Europe has responded by taking on various challenges, from building relationships with suppliers to upgrading production technology, and has now established a unique production system in which several factories work together as if they were a single factory. I am now filled with gratitude that I was able to play a part in this growth.

In the future, Daikin Europe will have to tackle different challenges in this environmentally advanced region, such as heat pumps, refrigerants, digitalisation and the networking of production, and the development of recycling technology. In these efforts, I ask you to take up the challenge of thoroughly pursuing QCD (quality, cost and delivery) in the Daikin way, and aiming for the highest level.

I also want management to motivate and inspire creativity, at all times, among everyone working on the manufacturing frontline, whether it is the promotion of automation or the application of digital technology to the transmission of skills.

We believe that the source of the competitiveness of the Daikin way of manufacturing is the penetration of 'People-Centred Management' into the production sites. I sincerely hope that Daikin Europe will become such a renowned group of engineers and technicians that other Daikin production sites around the world will ask Daikin Europe to send people to help them set up new plants and solve problems.

Another thing that I want is for Daikin Europe to continue to be good at building networks outside the company.



Daikin Europe is also a model for the Daikin Group in the area of advocacy. From the perspective of maximising the value created by Daikin technology for customers and society, we have continued to make steady efforts to advocate for optimal rule-making by utilising our networks with political and industry organisations. One of the major results of these efforts was that the thermal energy in the air used by heat pumps was recognised as a renewable energy source by the EU in 2009. This was the catalyst for the rapid spread of heat pump heating today.

The close information exchange meetings with experts from industry and academia, as well as policy makers, known as 'Konwakai', which were initiated at my suggestion, will continue to play an important role in the development of Daikin Europe's external networks. Please disseminate the potential of Daikin's technology towards Net Zero in 2050 and promote HVAC-R solutions that meet social demands.

I would also like to see more active collaboration with industry, government and academia on the occasion of the establishment of the EMEA Development Center (EDC) in Ghent in 2024, such as the promotion of smart cities through partnerships with EMEA municipalities, and new value proposals through collaboration with outstanding European universities and start-up companies, which cannot be achieved by the company alone.

I believe that these efforts to build networks in multiple fields will make Daikin Europe even stronger and help it continue to demonstrate leadership in the industry. Daikin Europe initiates many projects that are beneficial to society, and is always invited to participate in such external projects. I want Daikin Europe to continue growing in this way.

Both the vitalisation of production sites through 'People-Centred Management' and the creation of networks outside the company will be set back if you are satisfied with the status quo. Always have high aspirations, set goals, make steady efforts and strive towards your big dreams. I hope that Daikin Europe will continue to grow in the future by demonstrating its inherent ambition and tenacity.



CHAPTER 5

50 Years of Excellence

A story of excellence

From the most granular level – its relationships with individuals, be they employees, neighbours, installers, distributors, customers or competitors – to taking on issues that affect the whole planet, the story of Daikin's 50 years in Europe has been characterised by "thoroughness in ordinary things". It is from this thoroughness that Daikin Europe N.V. (DENV) derives its "excellence".

DENV's success has been about more than its sage strategy of localisation and its policy of people-centred management. Always leading the way in innovation, DENV has proved an influential force in the development of environmentally friendly technologies and has long been committed to advocacy on subjects relating to the air-conditioning industry as a whole. When competitors want to know where the industry is heading, it is to Daikin that they turn.

Daikin leads the way in developing environmentally friendly technologies, as demonstrated by its raft of sustainability certifications.


Lloyd's Register

Certificate of Approval

This is to certify that the Management System of:

Daikin Europe N.V.

Zandvoordestraat 300, 8400 Oostende, Belgium

has been approved by LRQA to the following standards:

ISO 14001:2015

P.G. Cornelissen - Area Manager North Europe

Issued by: Lloyd's Register EMEA

for and on behalf of: Lloyd's Register Quality Assurance Limited

This certificate is valid only in association with the certificate schedule bearing the same number on which the locations applicable to this approval are listed.

Current issue date: 2 March 2019
Expiry date: 1 March 2022
Certificate identity number: 10176289

Original approval(s):
ISO 14001 – 17 February 1998

Approval number(s): ISO 14001 – 0016568

The scope of this approval is applicable to:

Development, manufacturing, sales, technical support and customer service related to heat pumps, airconditioners, applied systems and refrigeration units.

UKAS

001


Lloyd's Register

Certificate of Approval

This is to certify that the Management System of:

Daikin Europe N.V.

Zandvoordestraat 300, 8400 Oostende, Belgium

has been approved by LRQA to the following standards:

ISO 50001:2011

P.G. Cornelissen - Area Manager North Europe

Issued by: Lloyd's Register EMEA

for and on behalf of: Lloyd's Register Quality Assurance Limited

Current issue date: 2 March 2019
Expiry date: 1 March 2022
Certificate identity number: 10176291

Original approval(s):
ISO 50001 – 14 January 2015

Approval number(s): ISO 50001 – 00019167

The scope of this approval is applicable to:

Development of production processes, manufacturing, sales and technical support related to heat pumps, airconditioners, applied systems and refrigeration units.

UKAS

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VC·DO 2018

Laureaat Vaka Charter Duurzaam Ondernemen

vcdo

Toegekend door de evaluatiecommissie van het VCDO West-Vlaanderen aan

Daikin Europe
Oostende

op basis van het duurzaamheidsbeleid en de acties uitgevoerd in de cyclus 2017-2018 in lijn met de duurzame ontwikkelingsdoelstellingen van de Verenigde Naties

Uitgereikt op 21 juni 2018
geldig tot 30 juni 2019

Veerle De Moy
Voorzitter van de evaluatiecommissie
VCDO West-Vlaanderen

Kamer van Koophandel West-Vlaanderen

POM

What makes a good company?

"I'm 80 years old, and one of the questions I'm still trying to find an answer to is: what makes a good company?" observes Hiroshi Tanaka, DENV President from 1995 to 1998 and now Executive Advisor at Daikin Industries Limited (DIL). "I still don't know the answer!"

Between them, the former directors of DENV have numerous stories that go some way to answering this question. Good strategy is one aspect. "Our core business is air conditioning," explains DIL Audit and Supervisory Board Member Kosei Uematsu, "but Panasonic (for example) had so many product lines and air conditioning was only one of them."

"We concentrated our efforts on one sector. Carrier did this too, but their product line was American-style – mid- and larger-sized air conditioning. We were concentrating on a smaller, packaged range – another big difference. In Europe, the demand for room air conditioning and packaged air conditioning increased steadily thanks to Daikin's hard work. Our product line and endeavours resulted in a new trend in Europe."

Today, Daikin Europe develops excellent products that meet the needs of the European market and delivers them to European customers thanks to outstanding manufacturing and sales capabilities. However, Hiroshi Tanaka observes that, "Unlike today, Daikin Europe was not profitable 30 years ago when I arrived."

The origin of Daikin Europe's current sales excellence lies in the fact that, during more challenging periods in the company's history, it continually refined its strategy and reminded itself that sales efforts are the driving force of the business, and that profits cannot be realised without sales.



Daikin produces in Europe, for Europe, and the products stand the test of time – as this old Daikin unit in Bruges shows.



Hiroshi Tanaka has been with Daikin through some challenging periods in its history.

"At that time, Panasonic and other brands dominated the market and we were a relatively unknown player," Hiroshi continues. "Europe was hit by a cool summer and product inventories built up. The human resources manager said that if this continued, he would have to lay off 60 factory workers."

"'What do you want to do?' I asked the human resources manager. He replied that he wanted to avoid layoffs. I asked the sales manager, 'What do you want to do?' He said that he did not want to lay off his colleagues. I told him that the way to avoid layoffs is to become profitable. To be profitable, you have to sell more and more. Deficits are bad. Product inventories are bad. 'These are sales' responsibility,' I said. 'Make a profit, pay state taxes and fulfil our corporate responsibility.' I didn't do anything in particular; that's all I did to inspire my Belgian colleagues. And they responded by taking effective action."

Another strategy at which DENV has excelled is staying close to the market. "Localisation is a tactic we adopted that our competitors didn't," comments DIL Senior Executive Officer Shigeki Morita. "I believe what's most important is that we developed and manufactured products close to the market. Unlike our competitors, our entire range is developed and manufactured locally."

Being close to the market has proven to be a key strength, but it is the involvement of the customers in those markets in the development of DENV's products – and sending engineers out into the market – that has demonstrated the company's excellence. Strong relationships locally and between the sales affiliates and Daikin Europe have enabled the success of the company's close proximity to the market.

"In all our European factories, there's an excellent working relationship between local staff and Japanese personnel seconded to those locations," Shigeki explains. "We aim to manage our European plants as one big factory, but we also want to create a sense of autonomy, so that those in charge of each factory feel that it's their plant."

While operating under this 'one big factory' idea, the diversity of ideas enabled by DENV's network of factories across Europe has been a key source of excellence. "We have all kinds of ideas from people all over Europe, so we've laid the groundwork for dealing with any challenges that may arise," says Shigeki. "Daikin Europe will continue to grow and develop in the future, but no matter how large it becomes, I would like to see the 'one factory' policy maintained."



The following photos showcase some of DENV's largest production sites.

← DENV factory, Ostend, Belgium

↗ DDC manufacturing site, Brno, Czech Republic

→ AHT assembly line, Rottenmann, Austria


DAIKIN DEVICE CZECH REPUBLIC s.r.o.
DAIKIN





Aerial view of the DICz plant, Pilsen, Czech Republic



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Aerial view of
the DDMG factory,
Güglingen,
Germany



Zanotti production line, Pegognaga, Italy



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Wiring station at
the Hubbard factory,
Ipswich, UK

People

People are at the heart of DENV's success at all levels of the business, and while people are its strength, it is the unique way in which Daikin develops its employees that distinguishes it as excellent. As Junichi Sato, DENV President from 1998 to 2005, comments, "The reason why Daikin has become such a good company is that its employees have been so strong. Daikin is a normal company, and the people who joined us are ordinary people, but they've shown great ability in their work at Daikin. Our Chairman, Noriyuki Inoue, says, 'When compared to people at other companies, Daikin staff may be ordinary when they join us, but given opportunities to grow in their role and challenge the status quo, they do so with greater power than other companies' employees.'"

"People who join Daikin Europe stay with us for a long time," adds Kosei Uematsu. "Which says a lot about Daikin's company culture."

Strong leadership is essential to all this. "During the commemorative signing ceremonies that followed acquisitions, we addressed all the employees, and welcomed them to the Daikin Group," says Junichi. "This was preceded by inviting the managers, those who would serve in executive roles, to a managers' meeting."

"The top managers were invited to offer their opinions on a very wide range of topics, from management philosophy to parts disposal, to which we responded. This is how Daikin's DNA, or heart – or whatever you want to call it – is conveyed. I think that is a kind of strength."



Managers' meetings, such as the FUSION Forum 25, are crucial to conveying Daikin's DNA.



Reforms have significantly improved productivity on the R2 production line for VRVs.

Such is the strength of DENV's workforce that employees have sometimes stood by Daikin even in the face of doubts from the labour unions. Shigeki Morita recalls the long negotiations with workers' unions in 2014 concerning the launch of reforms aimed at boosting productivity in the Ostend factory. "We wanted to make the plant a better factory, to ensure it could survive in the environment we were exposed to. But the workers' union doubted the changes and challenged our proposals."

"Then I realised that the workers on site were eager to move forward with the reforms and ended up playing an active role in bringing the project to fruition. This meant that productivity on the R2 production line for VRVs significantly improved. Once we had one successful case, more followed. It was this that led to the *kaizen* improvement activities, where we had people coming up with ideas from the bottom up. The outcome of these activities led to us winning the Factory of the Future Award in 2017 in Belgium, and I am convinced that a close collaboration between management and workers on the floor boosted the motivation of all employees."

The Factory of the Future Award was a direct result of DENV's kaizen improvement activities.




DAIKIN
FACTORY OF THE FUTURE
2017
2020
2023

A Factory of the Future

For its commitment to a smart and sustainable future, Daikin Europe's Ostend factory has been recognised as a model for the most future-oriented factory three times running. After winning the Factory of the Future Award for the first time in 2017, the factory won it again in 2020, and a third time in 2023, securing the title for another three years.

The award recognises the factory's transformation into a high-performing plant and continuous investments in new technology, digitisation and smart processes. Together, these investments make the Ostend factory one of the most advanced in Europe for the manufacture of air conditioning, heat pumps and refrigeration. This, combined with the strong collaboration of manufacturing and development, has led to short lead times during the development of many innovative products.

Since the second award win in 2020, further investment has upgraded the production facilities, almost creating a new factory. In 2022 alone, a new press line, automatic warehouse, assembly line and several new piping centres were installed to guarantee

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Ostend employees gather for the opening of the new R6 production line in 2022.



the steep growth of the heating business in Europe. In 2023, the manufacturing capabilities will be further strengthened with the additions of a new assembly line for heating, new coil and painting lines and further investment in pipe making machinery.

To enable a quick response to market changes, the factory has seen investment in flexible, self-learning and adaptable production systems. Around 25 Automated Guided Vehicles are now present in the factory, delivering pipes, switch boxes and heat exchangers to the production line. Gradually, robots have become an increasing feature of the factory floor, carrying out tasks such as the assembly, manipulation and heat exchanger leak testing.

Alongside automation, DENV's Factory of the Future is also making increasing use of digitisation to streamline operational processes. Advanced camera systems for inspecting finished products have been optimised, alerting operators to where adjustments are required. Similarly, tube bending machines and automatic cells are connected with a 3D measuring bench that inspects the first tube and makes automatic adjustments to the machines where necessary.

Automation and digitisation are undoubtedly key success factors that will be further elaborated to secure the future of the factory.



Automation will help secure the future success of the factory.

Sphere of influence

Another key factor in Daikin's success in Europe is its ability to look beyond its own company to the world as a whole, both at the community level and across the continent and globe.

A notable example of DENV's influence at the European level is its environmental advocacy, not only for Daikin and its industry, but also to protect people's lives. Jiro Tomita, Senior Associate Officer of DIL, recalls that in October 2005, the EU Parliament's Environment Committee suddenly adopted a bill that would ban the use of HFC refrigerants almost entirely from 2010. The bill was to be debated in the main EU Parliament, and, if passed at a time when alternative new refrigerant technology was not yet available, the air-conditioning equipment sector would become completely unviable.

"A serious crisis was suddenly upon us," Jiro remembers. "If this bill were to be accepted in its initial form in the EU plenary session, it would be disastrous not only for Daikin, but also for the air-conditioning industry." With two weeks to go before the debate, DENV's Sales and Manufacturing Divisions and EU affiliates worked in cooperation with JBCE, an agency of the Japanese Ministry of Economy, Trade and Industry (METI). "We met many EU parliamentarians in person and made a desperate appeal to them about the importance of HFC refrigerants," explains Jiro.



Jiro Tomita remembers the incident that led to Daikin advocating on environmental issues.

In the end, the day was saved: "We were able to successfully repeal the HFC ban bill, although the vote in the European Plenary was very close," he recalls. "If we had not been able to repeal it, our company would not have grown as much as it has today. It was a horrifying case when I think about it. Following that incident, all countries are now phasing out HFC over time. This marked a turning point in the recognition that rules are made, not accepted. This incident led to the company now advocating on environmental issues on a global scale."

The Renewable Energy Directive on heat pumps was another bill on which DENV was quick to lend its voice. "Until then, only hydro, wind, solar, biomass and geothermal had been certified as renewable energy in Europe," Jiro explains. "This would not allow Europe to realise its committed policy to increase the share of renewable energy to 20% by 2020. So we started advocating the approval of energy from air and water for renewable energy as well. We thought we could make great use of heat pump technology."

Using the knowledge gained from lobbying the HFC ban bill, DENV was vocal in proposing that heat pumps using air heat sources can make a significant contribution to reducing CO_2 emissions. "It took some time, but in 2008, the European Parliament passed a bill defining air and water heat sources as renewable energy sources, which was passed unanimously with flying colours. We watched the live coverage of the European Parliament on TV and were very impressed to see a number of parliamentarians raise their hands and explain to Parliament a proposal that took our position into account."

"It is important for companies to keep a close eye on trends in standards and regulations, which can be a matter of life or death for their business, and in some cases advocate within their organisations to change the standards and regulations in their respective countries. This activity needs to be backed up by technology, so engineers must take the lead in this regard," Jiro concludes.

At the opposite end of the scale, numerous instances may be cited of DENV nurturing relationships with local communities – particularly with the neighbours of its factories, as we have already seen with community events and delivering Christmas cake. Hiroshi Tanaka illustrates the point with another anecdote. "In Belgium, it's always raining, and if someone is driven up to the entrance of the Ostend factory, the driver has to get out of the car to go to the reception in the rain," he explains. "But he may be our customer in the future, and we wanted to make sure the driver didn't get wet. So we had a roof built over the entrance area. It was rather expensive – over €100,000."

Similarly, he points to the tennis court at the entrance of the same site. "There was some open space at the site entrance, and the idea of turning it into a tennis court was suggested. When that idea came up, I agreed, but on one condition – always make sure that the neighbours can come in and play tennis if they want to. They needed a place to store their belongings, so I had a locker room installed. It was a way to show our gratitude and appreciation to the neighbours. Showing gratitude is very important. There's an idea, an intention, behind these two things."

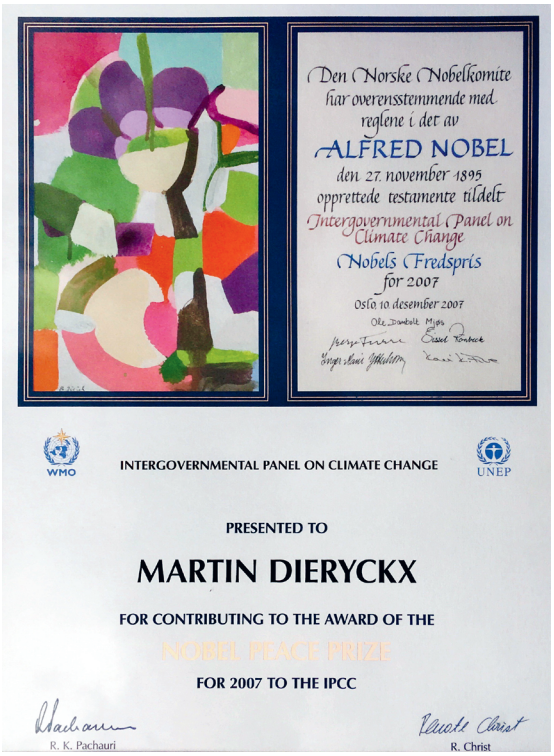
Nobel Prize winners

As we saw in the previous chapter, Daikin's commitment to reducing the impact of its industry on the environment has led to numerous innovations in refrigerants and technologies. The outstanding research and development that was central to these achievements also led to Daikin's involvement in perhaps the most prestigious accolade of all: the 2007 Nobel Peace Prize.

The winning report was entitled *Safeguarding the Ozone Layer and the Global Climate System*, from the Intergovernmental Panel on Climate Change (IPCC) in association with Al Gore, who split the award 50/50 with the IPCC. DENV's Martin Dieryckx, General Manager of the Environmental Research Center (ERC), led Daikin's involvement, and it is his name listed in the authors of Chapter 3 of the report.

"My first activity within the United Nations was when we were speaking about climate change and the impact of refrigerants and the industry on it," he remembers. "We were looking into the social impact of climate change, and especially the role of refrigerants in this context. The most interesting thing was to see how, if we're not careful, climate change can lead to war."

"We see things happening today because of climate change; people are emigrating," Martin explains. "If we don't take action on this immigration, we get conflict. People take big risks for immigration, even risking their lives. We have to be very careful that smaller conflicts sparked by immigration don't escalate into large global conflicts. That message was already clear in 2004, when we finalised our report. And a lot of people recognised this, and that's why they awarded the Nobel Peace Prize."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Climate Change
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for 2007
Oslo 10 desember 2007
WMO
INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE
UNEP
PRESENTED TO
MARTIN DIERYCKX
FOR CONTRIBUTING TO THE AWARD OF THE
NOBEL PEACE PRIZE
FOR 2007 TO THE IPCC
R. K. Pachauri
R. Christ

The certificate presented to Martin Dieryckx recognising his contribution to the 2007 Nobel Peace Prize

Martin's chapter looks at the safety aspects of refrigerant change amidst climate change.



While this issue provided the report's overall context, Martin's chapter focused on the social impact and offered a technical analysis of the safety aspects of developing a different type of refrigerant as the need for air conditioning increases due to climate change. The need to balance providing affordable cooling with developing refrigerants that won't deplete the ozone layer (the biggest issue at the time) or cause environmental damage was a key factor. The question posed was: is it technically feasible to develop a product that is both safe and has no detrimental impact on the climate or ozone layer?

At the time, the answer to that question was that yes, it is feasible – but it was not affordable. "That was the dilemma that we had to solve," Martin says. "We had to be very clear about this in our report; just because something is technically possible, doesn't necessarily mean that a society can feasibly achieve it, if you consider everyone."

As Martin concludes, the issue of energy poverty is still highly topical today. 16 years on from the Nobel Peace Prize win, affordable cooling for all is a challenge that looks set to exercise DENV and the wider industry in the years and decades to come.

Royal associations

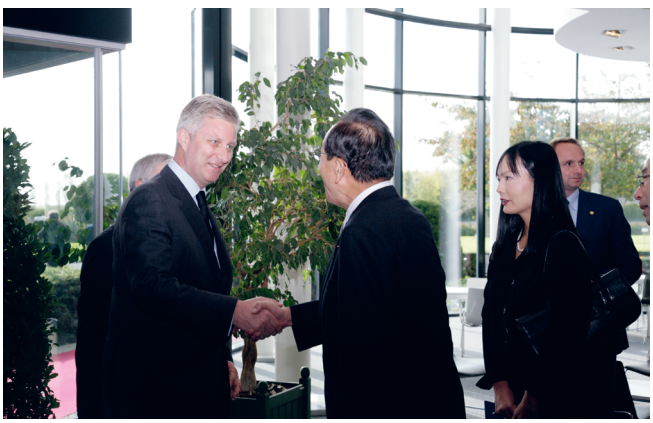
DENV's recognition by the Belgian Royal Family is further proof of the company's national and international renown.

An environmental conference fit for a prince

In 2008, DENV's 35th anniversary was marked with a fitting event given the company's renewed focus on sustainability: an Environmental Forum. Held in the conference room at Daikin's Ostend premises and also at the Daikin House, the event hosted numerous VIPs, including the Mayor of Ostend, the Japanese Ambassador, members of the European Parliament and, most notably, Philippe – then the Crown Prince of Belgium and now King. Top management from Japan also attended.

Addressing those assembled, then DENV Chairman Frans Hoorelbeke commented: "In my opinion there is a clear sense of responsibility and commitment among all of us to address the pressing challenge of climate change. Developing

Daikin's Environmental Forum was attended by the Crown Prince of Belgium, now the King, along with members of the European Parliament and Japanese top management.







new visions of rational electricity supply and transmission, demand management, green energy projects, passive house approach, energy-saving heat pumps and energy-aware consumers is an on-going process. There are both challenges and sufficient opportunities to achieve a good balance between total indoor air quality and optimising energy efficiency in buildings. It is our collective responsibility to contribute to creating a better world for all of us and for future generations."

The conference began with a discussion between people from all over Japan and Europe, adjudicated by an external Master of Ceremonies along with Martin Dieryckx. "We had experts from outside the organisation," Martin remembers. "Professor Belmans, for example, was an expert on energy policy in Europe, and we had a talk about green energy by Luc Desender. There were themes devoted to different environmental topics – energy and energy policies, sustainable development of products, environment consciousness by the user and large users' responsibility."

Flemish then-Minister-President Kris Peeters addresses the Environmental Forum.



Numerous local politicians and dignitaries attended.





Prince Philippe took a keen interest in the environmental topics discussed.

Following this discussion, there was good feedback from the Prince, who Martin remembers being highly interested in the subject. Delegates, including the Prince, were taken on a tour of the Experience Centre – then known as the Solution Plaza – where the focus was mainly on products, and in particular heat pumps. They were then able to see the practical installation of a Daikin Altherma heat pump in situ in the nearby Daikin House, followed by a reception during which the Prince could talk with attendees.

"The big challenge was that the Prince's advisor gave us a very limited time – we had exactly two hours for the whole programme, from 2.55pm to 4.55pm to be precise," Martin recalls. "It was very well organised, Daikin style; very punctual, which is typical of Daikin. And I think the Prince was extremely satisfied."

The consensus from the conference was that Daikin should focus on heat pumps as the importance of reducing the impact of energy consumption on climate change grows. In reaching this conclusion, DENV again showed itself to be well ahead of its time. "Deciding that this should be the focus of your business was unusual fifteen years ago," Martin comments. "We anticipated a political push towards it, and today, that's exactly what's happening – heat pumps have become the new product standard in the heating sector."

Noriyuki Inoue received his honour at the Royal Palace.



Recognition by royalty

The Environmental Conference was not the only brush with royalty that Daikin has had over the years. Two of the most prominent figures in DENV's history have had the honour of being decorated with awards granted on behalf of the Crown.

On 10 November 1998, at the time of DENV's 25th anniversary, Chairman Noriyuki Inoue was decorated as 'Commander in the Order of the Crown'. The proposal that this decoration be granted to Inoue was initiated by Gustaaf Dierckx, Ambassador of Belgium in Japan, and by Philippe de Buck van Overstraeten, General Manager of Fabrimetal (Belgian Association of Employers in the metal industry).

"The ceremony took place at the Royal Palace," remembers Frans Hoorelbeke, "and the fact that he was invited to the Palace, and that the decoration was presided over by the Crown Prince, deeply impressed Mr Inoue, as can be seen in the photos. His special words of thanks, in Japanese, expressed a deep respect and appreciation for the Royal Family."

"This decoration is seen not only as an appreciation of Daikin Industries for its investment performance in Belgium," Inoue said in his speech, "but also as an encouragement to continue to support the further expansion of Daikin Europe so that it can contribute even more to the economy of Belgium and the welfare of its people."

The occasion was also distinguished by a speech by Elio Di Rupo, Vice Prime Minister in charge of Economic Affairs, Telecommunication and Foreign Trade, in which he stressed the contribution of Inoue and Daikin to the Belgian economy. "Your sympathy towards Belgium

is a precious stone in the ring that both Belgium and Japan cherish," he remarked.

But an even greater honour was to come some years later, when Inoue was decorated as 'Commander in the Order of Leopold I' – the highest honour a non-Belgian can receive – on 3 October 2013, coinciding with DENV's 40th anniversary. This time, the decoration was proposed by Luc Liebaut, Ambassador of Belgium in Japan. On this occasion, HRH King Philippe was not available to present the medal, and instead HRH Princess Astrid held a meeting with Inoue and his wife at the Palace, during which she expressed her appreciation for the contribution of Inoue and of Daikin to the Belgian economy.

Later that day, in the evening, Inoue was awarded the decoration by Johan Vande Lanotte, Vice Prime Minister of Belgium and Minister of Economic and Consumer Affairs, in the presence of 600 high-profile guests. In his speech, Vandelanotte acknowledged some of DENV's notable technological innovations, in particular Daikin Altherma, concluding with a simple message: "I believe that being competitive in today's world is only possible if we hold up successful companies like Daikin as an



Elio Di Rupo, Vice Prime Minister in charge of Economic Affairs, Telecommunication and Foreign Trade in 1998



Noriyuki Inoue is decorated by Johan Vande Lanotte, Vice Prime Minister of Belgium, in 2013.

example, that lead us towards creating an environment where talent of all kinds can develop and flourish."

Four years later, on 28 November 2017, Frans Hoorelbeke was honoured with the same award, 'Commander in the Order of Leopold I', a proposal instigated by Marc Lambotte, General Manager of Agoria, and Peter Demuynck, General Manager of the Flanders Region of Agoria (Belgian Association of Employers in Building, Metal, Digital, Telecom and Aeronautics Industries).

The decoration was awarded by Kris Peeters, Vice Prime Minister and Minister of Labour, Economic and Consumer Affairs and Foreign Trade, on the occasion of the General Assembly of Agoria, which was attended by 400 people. In his speech, Peeters noted that over the past 40 years, Frans Hoorelbeke had been "a driving force behind the ever-deepening Belgian-Japanese relations."

"Not only has his leadership aided Daikin's growth throughout Europe and the world, but it has also brought welfare to Belgium," Peeters added. "Frans Hoorelbeke's role and ongoing work for Daikin, as well as his extensive knowledge of Japan and Japanese culture, are key reasons why Daikin remains so firmly embedded in our country to this day."

Frans Hoorelbeke was decorated 'Commander in the Order of Leopold I' in 2017.





Daikin in unexpected places: Flower-growing in The Netherlands

The Netherlands is famous for its flowers, but how do growers plan their crops to ensure that there is an ample supply for special occasions such as Mother's Day? The answer: by using Daikin chillers to simulate natural growing conditions!

Plants grow well when their roots are at the right temperature; if they are too cold they will not grow, even when exposed to sunlight. Growers can control the rate at which plants grow and when they flower if they can regulate the temperature of the roots and greenhouses. For instance, if the weather has been warm and sunny in the days

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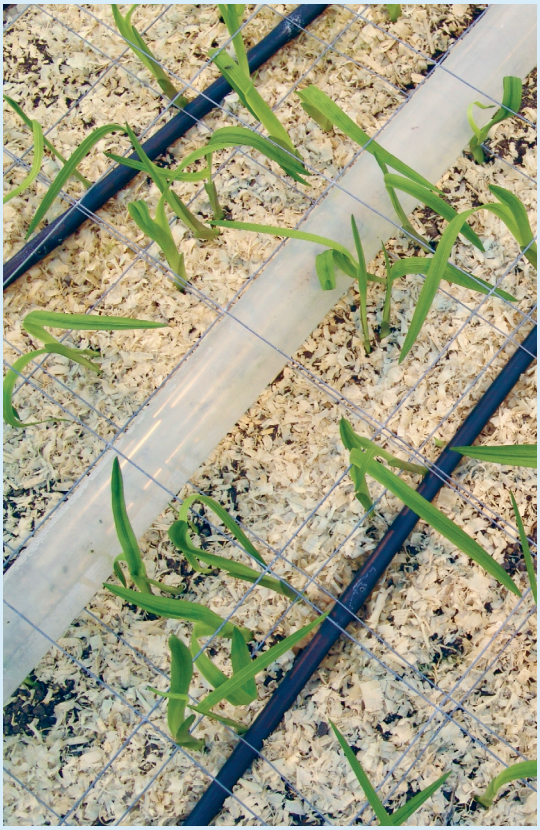
Plants grow well when their roots are at the right temperature.







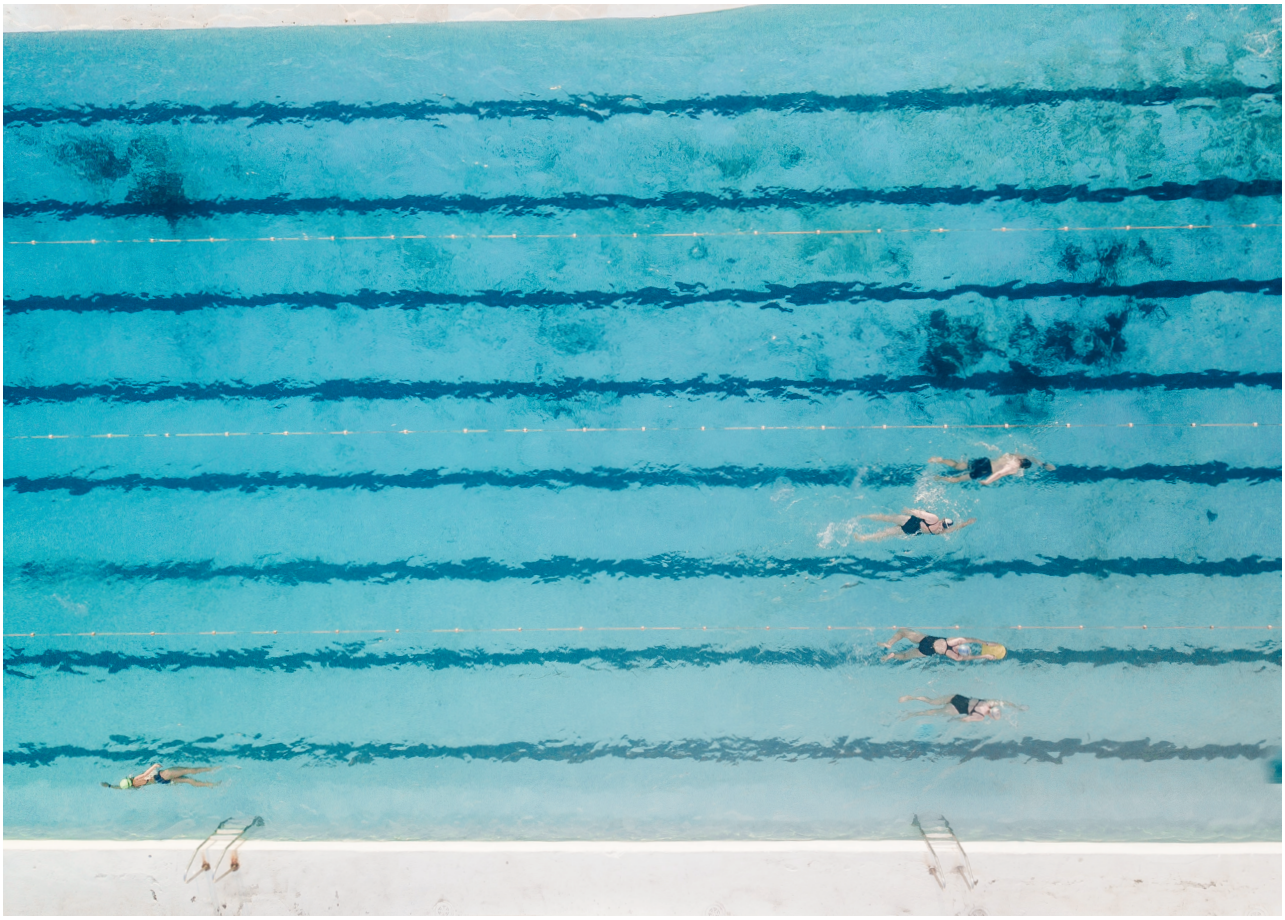
leading up to Mother's Day, the plants may flower too soon to be sold for this special occasion. However, this can be avoided by delivering cold water directly to the roots through the pipes, thus preventing early flowering.

To provide this degree of temperature regulation, in 2003 Daikin Europe installed EUWD80MX chillers with a total capacity of 250kW in greenhouses at the Kwekerij W. Koornneef farm in Maasdijk, The Netherlands. By lowering the water temperature from 12 to 6°C, the units enable growers to delay flowering and time it to coincide perfectly with important revenue-generating dates on the commercial calendar. So, when people celebrate birthdays, or other special occasions like Valentine's Day and Mother's Day, it's probably thanks to Daikin!

↖ Growers can delay blooming for important occasions by lowering the water temperature.

↑ DENV installed EUWD80MX chillers in greenhouses in Maasdijk, The Netherlands.

→ Daikin technology is also used in other unexpected places, such as swimming facilities and breweries.









Message from Masanori Togawa

PRESIDENT, DIL

I would like to congratulate Daikin Europe on its 50th anniversary. Since production began in 1973 at the Ostend plant in Belgium, the company has achieved great growth. This is thanks to the tireless efforts of many of your predecessors, and thanks to each and every one of you.

I believe that there are three main factors that have contributed to Daikin Europe's growth.

The first is the 'organisational strength' that brings together people from different backgrounds and enables you to maximise the potential of each individual. Since the 1990s, you have built up a strong sales network across Europe by acquiring distributors in various countries and making them your own. In recent years, new colleagues have joined, such as refrigeration and service companies, and today Daikin Europe is a company with colleagues from more than 65 countries and a wide range of backgrounds.

It is never easy to unite an international organisation made up of diverse colleagues with different languages, nationalities and cultural backgrounds into a single team. However, as the business frontlines expand globally and the cultures, customs and values of customers continue to diversify, Daikin's unique diversity management, which enhances the power of individuals with different personalities into an organisational strength, is the source of our competitive edge. This will become increasingly important as times change.

I hope that Daikin Europe will continue to build on its strength of solidarity, continue to grow its businesses and further enhance its presence in the Daikin Group.

The second is the 'ability to transform', which has converted repeated difficulties and changes in the environment into opportunities and achieved business growth. Daikin Europe's history has not been a smooth one. In the late 1970s, for example, when the Oil Crisis led to a significant drop in demand, the company implemented aggressive management reforms, including drastic

production efficiency improvements through high-mix, low-volume production and the establishment of sales bases, thereby consolidating its business foundations.

In 2003, when the whole of Europe was enveloped in extreme heat, you showed foresight in anticipating a tectonic shift in the European air-conditioning market and rapidly launched a factory in the Czech Republic. As a result, you were able to capture the subsequent surge in demand ahead of the competitors.

When the Lehman Brothers collapse hit the European economy hard in 2008 and the market environment changed radically, you saw it as an opportunity to fundamentally rethink your existing strategy. You established an R&D base to take on the challenge of developing products originating in Europe, and reorganised the roles of the production sites across Europe, thereby creating a business structure that has led to the current growth.

In order to turn changes in the environment into opportunities, it is necessary to constantly gather first-hand information on the market and quickly detect changes. At the same time, we must reject conventional orientation, adopt a 'from-now-on' mindset, and make management decisions that are a step ahead of our rivals. The source of Daikin Europe's ability to change is the spirit of innovation that has been handed down since the company was founded. I hope that Daikin Europe will continue to fully demonstrate this great strength.

The third is the 'ability to take on new challenges'. As I have already mentioned, Daikin Europe has grown by constantly taking on new challenges, such as the realisation of a multinational group, the active participation of excellent personnel across national borders, the establishment of its own sales networks in various regions, the establishment of production bases near the markets, and active expansion into emerging regions such as the Middle East and Africa.

This will play an even greater role in the future growth of the Daikin Group. In particular, our current focus on the conversion from combustion heating to heat pump heating, and the development of refrigeration solutions in the cold chain, are fundamental to the realisation of carbon neutrality and the reduction of food loss. This is a socially important business.

The world is asking "How are companies contributing to society

and increasing employee satisfaction?" You have a great opportunity to contribute to the realisation of a sustainable society, as well as to business growth, through innovative products and services that make use of environmental technologies. Please be bold enough to take up new challenges.

Management is a 'human activity', and the source of a company's competitiveness is its people. Daikin's Group Management Philosophy states that "the cumulative growth of each individual is the foundation of the company's growth".

I expect each and every one of you working for Daikin Europe to grow strong and achieve further development based on your passion and capabilities for execution. I also hope that you will continue to contribute to society by building relationships of trust with suppliers, customers and local communities.

Glossary

AHU	Air Handling Unit
AI	Artificial Intelligence
CSR	Corporate Social Responsibility
DAB	Daikin Belgium (Daikin Airconditioning Belgium N.V.)
DAC	Daikin Airconditioning Corporation Ltd (Malta)
DACE	Daikin Central Europe (Daikin Airconditioning Central Europe HandelsGmbH) – DENV subsidiary with headquarters in Vienna, covering Austria and Eastern European Markets through its own affiliates, sales offices and sales agents.
DACI	Daikin Italy (Daikin Airconditioning Italy S.p.A.)
DACS	Daikin Spain (Daikin Airconditioning Spain S.A.)
DAF	Daikin France (Daikin Airconditioning France S.A.S.)
DAG	Daikin Germany (Daikin Airconditioning Germany GmbH)
DAGR	Daikin Greece (Daikin Sistimata Klimatismou Hellas Anonimi)
DAME	Daikin Middle East and Africa (Daikin Middle East & Africa FZE) – DENV subsidiary with headquarters in Dubai, UAE, covering the Middle East and African markets through its own affiliates, sales offices and independent distributers network.
DANL	Daikin Netherlands (Daikin Airconditioning Netherlands B.V.)
DANO	Daikin Norway (Daikin Airconditioning Norway AS)
DAPO	Daikin Poland (Daikin Airconditioning Poland Sp. z.o.o.)
DAPT	Daikin Portugal (Daikin Airconditioning Portugal S.A.)
DASA	Daikin South Africa (Daikin Airconditioning South Africa (Pty.) Ltd)
DASW	Daikin Sweden (Daikin Sweden AB)
DAUK	Daikin United Kingdom (Daikin Airconditioning UK Ltd.)
DDC	DENV Factory in Brno, Czech Republic (Daikin Device Czech Republic s.r.o.)
DEA	Daikin Europe Academy
DEBS	DENV Business Support branch in Warsaw, Poland
DECC	Daikin Europe Coordination Center N.V.
DEFO	DENV Finland Sales Office in Helsinki, Finland
DEIO	DENV Ireland Sales Office in Dublin, Ireland
DENV	Daikin Europe N.V.
DESI	DENV satellite office (IT) in Madrid, Spain
DICz	DENV Factory in Pilsen, Czech Republic (Daikin Industries Czech Republic s.r.o.)
DIL	Daikin Industries Limited – Mother company of DENV, with global headquarters in Osaka, Japan.

DKSA	Daikin Saudi Arabia (Daikin Airconditioning Saudi Arabia LLC)
DMGG	DENV Factory in Güglingen, Germany (Daikin Manufacturing Germany GmbH)
DTAS	Daikin Turkey (Daikin Isıtma ve soğutma Sistemleri Sanayi Tic A.Ş.) – DENV affiliate that is both a factory and sales organisation.
EC	European Community (1993 – 2003)
EDC	EMEA Development Center (DENV)
EEC	European Economic Community (1957 – 1993)
EMEA	Europe, Middle East and Africa
EPC	European Procurement Center
ERC	Environmental Research Center (DENV)
EU	European Union (1992 – present day)
EWC	European Works Council
GHF	Green Heart Factory programme
GWP	global warming potential
HQ	Headquarters
HVAC	Heating, Ventilation and Air conditioning
HVAC-R	Heating, Ventilation, Air conditioning and Refrigeration
IoT	Internet of Things
IPCC	Intergovernmental Panel on Climate Change (of the United Nations)
NEDO	New Energy and Industrial Technology Development Organization – A national research and development agency in Japan.
OAPEC	Organization of Arab Petroleum Exporting Countries
ODP	Ozone Depletion Potential
PCM	People Centred Management
PDCA	Plan Do Check Act
PDS	Production of Daikin System
RA	Residential Air Conditioning
SBU	Strategic Business Unit
SDG	Sustainable Development Goals (defined by the United Nations)
TIC	Technology and Innovation Center (DIL)
UN	United Nations
VRF	Variable Refrigerant Flow – A technology that circulates only the minimum amount of refrigerant needed during its operation.
VRV	Variable Refrigerant Volume – Heating and cooling technology that alternates the refrigerant volume in a system to match a building's precise requirements, invented by Daikin in 1982.
(n)ZEB	(nearly) Zero Energy Building

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