# Sustainability Report 2021

# SUSTAINABLE YEARS



WE SOLVE THERMAL CHALLENGES

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va-Q-tec AG Sustainability Report 2021



# Key sustainability figures 2021

**591 NUMBER OF EMPLOYEES (YEAR AVERAGE)** 2020: 489

## 104,063 REVENUE (THOUSANDS OF EUROS)

2020: 72,105

12,445,002 KILOWATT HOURS CONSUMED (KWH)

2020: 10,706,187



# va-Q-tec's business model

va-Q-tec has been developing and producing innovative, high-performance thermal insulation as well as providing related services since 2001. va-Q-tec's thermal transport boxes enable constant temperatures without external energy supply over a period of up to more than 200 hours. With this product and service portfolio, the company is one of the technologically leading global suppliers of highly efficient products and complete solutions in the area of vacuum insulation and so-called Temperature Controlled Supply Chains ("TempChains") - in other words, logistics relating to temperature-sensitive products. va-Q-tec offers customers from a wide range of industries high-performance solutions that significantly enhance energy efficiency. As a consequence, va-Q-tec offers attractive, sustainable unique selling propositions in these respective market segments.

## Long-lasting heating and cooling without energy supplies

va-Q-tec is one of the world's leading manufacturers of highly efficient thermal insulation. Unique selling points include the far above-average insulating properties and the minimal materials required for this purpose. As far as products are concerned, va-Q-tec develops, produces and sells vacuum insulation panels (VIPs) for insulation as well as thermal energy storage components referred to as phase change materials (PCMs).

va-Q-tec's service portfolio delivers total solutions for customers from a wide range of industries. Examples of areas where the Group's offerings are deployed include thermal logistics, the refrigeration and food industries, and in technical applications such as hot water tanks and piping, the construction industry, and the mobility sector. va-Q-tec's effective and space-saving products reduce costly energy consumption in frequently used applications, such as in refrigerators and freezers, the transportation of temperaturesensitive pharmaceuticals, applications in vehicles, aircraft and buildings, and in the sheathing of equipment. The high performance of the products and services as well as their broad range of applications are reflected in their high level of competitiveness internationally and the long-term sustainability of va-Q-tec's business model. These activities add value for customers, shareholders, employees, business partners and all further stakeholders. Value creation also makes a positive contribution to the community through various tax payments.

#### va-Q-tec Group key data

EUR millions	2019	2020	2021
Total income (revenues)	64.7	72.1	104.1
Wages and salaries	18.9	22.0	27.7
Tax payments	0.6	0.08	0.6
Consolidated net profit or loss	-2.6	-1.4	2.2

va-Q-tecc AG is a medium-sized high-tech company whose shares have been listed on the Regulated Market (Prime Standard) of the Frankfurt Stock Exchange since 30 September 2016. As a listed company, va-Q-tec is subject to various disclosure and transparency obligations under stock exchange and capital market regulations. Above and beyond mandatory publications, va-Q-tec informs investors on a continuous and comprehensive basis.

### **Business divisions**

The va-Q-tec Group has three business divisions.

The **"Products"** division develops, produces and sells highly efficient and thin vacuum insulation panels ("VIPs") for insulation as well as thermal energy storage components (heating/cooling accumulators) – so-called phase change materials ("PCMs") – for reliable and energy-efficient thermal energy storage.

VIPs are suitable for particularly space-saving and energy-efficient thermal insulation. They function with the vacuum as a thermal insulator. PCMs, heat and cold storage materials, reliably absorb thermal energy and release it continuously over an extended period of time. By using different temperature storage materials such as kerosenes or salt solutions, and gels based on them, a wide temperature range between -70 °C and +70 °C is covered.

In its **"Systems"** division, va-Q-tec develops, manufactures and sells passive thermal packaging, containers and boxes through combining VIPs and PCMs, which maintain constant defined temperature ranges for up to 240 hours without recourse to external energy.

Since 2011, through its "Services" (Serviced Rental) division, va-Q-tec has been operating a fleet of high-performance thermal rental containers and boxes within a global partner network in order to establish reliable temperature-sensitive logistics chains (TempChains). The partner network includes airlines (such as Lufthansa, Swiss and Turkish Airlines Cargo). For logistics companies such as Kühne & Nagel and Swiss Post, va-Q-tec provides accompanying services in the area of preconditioning, preparation and shipment preparation of thermal packaging systems. Such integrated and rental-based shipment solutions ("TempChain as a service") from a single source are increasingly in demand from the pharmaceuticals industry.

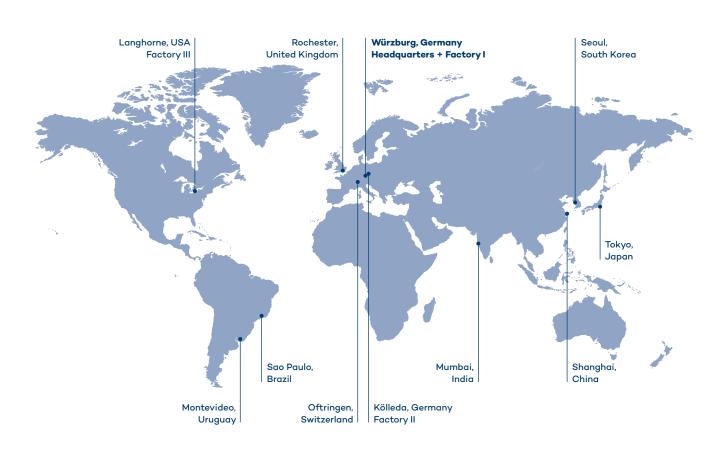
### Locations

va-Q-tec employs more than 600 people worldwide and maintains production sites in Würzburg, which is also home to the Group headquarters, and in Kölleda, Thuringia, as well as a manufacturing facility in the USA. Further va-Q-tec subsidiaries are located in Switzerland, Korea, Japan, Uruguay, Singapore and the USA. The service business with rental containers is also managed from Rochester in the UK.

### **Extensive partner network**

va-Q-tec cooperates with a number of companies in order to round off its range of services: Energy Technology Cluster of Bayern Innovativ GmbH, BayStartUP GmbH, Linn High Therm GmbH, Deutsche Börse Venture Network, Zentrum für Digitale Innovationen Mainfranken. In addition, va-Q-tec is a member of energie-cluster.ch, Gütegemeinschaft PCM e.V., Fördergemeinschaft für das Süddeutsche Kunststoff-Zentrum e.V., Nachhaltigkeitsabkommen Thüringen, PolymerMat e.V. Kunststoffcluster Thüringen, and VIPA International in Brussels.

Research partnerships exist with the Fraunhofer Institute for Silicate Research ISC, the Fraunhofer Institute for Process Engineering and Packaging IVV, the Forschungsinstitut für Wärmeschutz e. V. München (FIW) and the Julius Maximilian University of Würzburg.





# va-Q-tec's sustainability concept

va-Q-tec's business model and corporate culture are closely intertwined with sustainability. Its range of products and services offers customers highly efficient products and total solutions in the area of vacuum insulation and TempChain logistics. Customers thereby save valuable thermal energy, reduce their emissions and improve their cost positions.

Reflecting the company's history and business aspirations, va-Q-tec is active in many places both within the company and along the value chain with projects and measures relating to sustainability and makes a tangible contribution to a sustainable economy. This includes the topics relating to the environment, employees, society and corporate governance. va-Q-tec aims to meet the highest standards in this context.

Although the sustainability activities described in this report form part of a deliberate, targeted and, above all, effective sustainability concept at va-Q-tec, they have not yet been integrated into a holistic and written sustainability strategy. This has changed over the course of 2022. In the future not only will the company's sustainability activities become more transparent, but they will also, in particular, be perceivable as consistent and targeted measures in the light of va-Q-tec's sustainability concept. Examples include ensuring climatic conditions and resource availability for future generations – which currently means significantly reducing greenhouse gas emissions, and using as few materials as possible. As a responsible employer, va-Q-tec ensures safe workplaces, responsible working conditions and attractive training and development opportunities. The company's social commitment within its region ranges from support for topclass sports to targeted individual sponsorship of athletes as well as cultural activities.

As part of developing a formal sustainability strategy, va-Q-tec will also implement the corresponding implementation, analysis and control structures. Sustainability management is the direct responsibility of the Management Board. The position of an ESG officer, who will coordinate and significantly further the topic, has also already been established. At management level, the respective officers from all three business units, including Research and Development, as well as staff departments such as Personnel, Legal/Compliance and Controlling, are involved.

# Extensive dialog with stakeholders

va-Q-tec's stakeholders include its employees, customers, business partners, suppliers and shareholders. At the same time, va-Q-tec is in constant dialog with participants in the capital market, in science and research, the media, local and regional politics, associations, nongovernmental organizations (NGOs) as well as residents at its sites. Constructive and open dialog with key stakeholder groups is important for va-Q-tec's business performance and success. The Group relies on continuous dialog with stakeholders as an important part of shaping its corporate responsibility. va-Q-tec identifies potential for optimization in the systematic institutionalization of stakeholder dialog.

Stakeholder group	Dialog format	Topics
Employees	Personal dialog with managers as well as the personnel department, intranet, employee information	Work-life balance, appropriate pay, personnel development, good workplaces (ergonomics, occupational health and safety), health promotion
Capital market (shareholders, banks, analysts, proxy advisors)	Direct dialog (by telephone, e-mail, conferences, roadshows), reporting/ financial reports, Annual General Meeting, other individual discussion formats	Business model, business development, reporting, compliance with covenants/agreements, planning and risk management
Customers (end customers, leasing customers)	Personal communication with sales and product managers, digital communication, dialog offerings on the website and by phone, service center	Range of services, individual solutions, customer service, quality, sustainability, energy efficiency
Suppliers/business partners	Regular communication	Flow of information, clear agreements, fair behavior, timely payments, reasonable prices, reliability
Public/society	Press relations, website, multipliers, events, provision of infrastructure	Promotion of sports and culture
Science/universities	Joint research projects	Exchange of knowledge/knowledge transfer, financial support of research projects, technical exchange
Media/press	Press releases, press events	Innovations, new products, partnerships
Associations/NGOs	Communication within regional and supra-regional networks, support of joint initiatives	Basic innovations, standardization, overall economic conditions, standards

# Materiality of sustainable issues

In winter 2021/2022, va-Q-tec was accompanied by an external partner in conducting its first materiality analysis. It involved managers from all areas of the company. At the related workshop, participants also contributed their experience and insights from their dialog with various stakeholders of va-Q-tec AG. In a future update of the materiality analysis, va-Q-tec plans to also include external stakeholders as part of a survey in accordance with legislative and further frameworks.

The selection of the topics that are essential for the va-Q-tec Group was conducted in a multi-stage process.

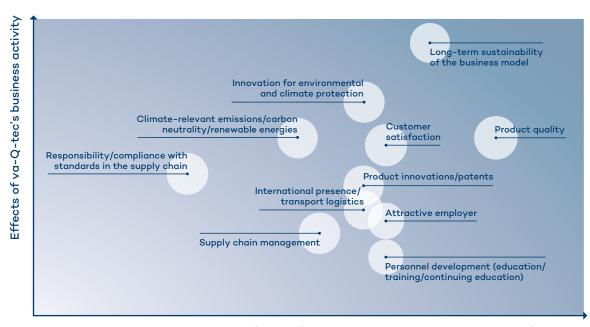
- In the run-up to the materiality analysis, a catalog of potentially material topics was drawn up on the basis of international and national standards and frameworks as well as a peer group analysis and company-specific factors. The topics were discussed at a workshop.
- Managers from all areas of the company then evaluated the catalog of topics in terms of materiality from three perspectives:
  a) significance of the topic for va-Q-tec (outside-in), b) impact of va-Q-tec's business

activities in relation to the topic (inside-out), and c) significance from the perspective of stakeholders. The results were evaluated, and in some cases topics with the same focus were integrated.

 The results were then presented to the Management Board, who were given the opportunity to contribute their views on effects and impacts. To this end, they contributed their priorities for the issues that were identified.

As a consequence of the multi-stage process, a total of eleven essential topics emerged for va-Q-tec. These are visualized in the following graphic. The size of the circles indicates the importance for the stakeholders. The larger the circle, the more important the issue is to stakeholders.

As part of the materiality analysis, va-Q-tec has identified the topics that are outstanding with regard to its business performance and the impact of its business activities. Particular importance is ascribed to these issues in the context of the corporate strategy's ESG relevance. Where this has not already been done, va-Q-tec intends to successively develop concepts, targets and management approaches for these topics. Suitable and meaningful key figures should reflect the related performance.



Significance for va-Q-tec's business success and performance

va-Q-tec AG Sustainability Report 2021



# The company's value chain

va-Q-tec covers the entire value chain: from the development of vacuum insulation panels to their production and distribution in highly specialized industries. Only a few other (semi-) finished products are purchased, the majority from Germany, and to a small extent from other European Union or OECD countries.

### **Suppliers**

An important reason for the high quality and performance of va-Q-tec products is the fact that they are largely manufactured in-house. va-Q-tec usually only purchases the raw materials for VIPs and PCMs, which in turn are then manufactured at the production sites in Würzburg and Kölleda. For this reason, the upstream supply chain – purchases are mainly made from suppliers in Germany – is comparatively short, and by far the largest part of the value creation takes place at va-Q-tec itself, also due to the technological knowledge required for this purpose. va-Q-tec purchases 95 percent of its materials in Germany, which is why the sustainability risks in the value chain are very low. va-Q-tec pays attention to compliance with human rights and appropriate working conditions at the respective manufacturers of the purchased goods and services. In the case of foreign suppliers, va-Q-tec requires compliance with the international supplier code of the Responsible Business Alliance is required. va-Q-tec demands corresponding declarations of commitment or conducts audits in a two-year cycle of significant suppliers (defined on the basis of purchasing volume).

### Processes

va-Q-tec has designed its production processes for maximum resource efficiency. As a consequence, waste has been continuously reduced to date, so that the volume of materials that cannot be used for products is very low. A company suggestion scheme, which helps in the ongoing optimization of production processes, has also contributed to this positive trend. The energy required for manufacturing and office operations is obtained by va-Q-tec, including partly through the use of a photovoltaic system (at the Kölleda site) and from a combined heat and power (CHP) system. Procured electricity is purchased externally as "green electricity". The respective coordination activities are realized by the energy officers in cooperation with the environmental officers.

#### Constant optimization of the service portfolio

The cutting of panels for vacuum insulation panels is always planned in such a way that the resultant scrap volume is as small as possible. In the future, data from production planning will already flow into the production of the panels and their panel size, so that no scrap pieces remain after cutting for boxes, containers or other applications.

In the future, the shapes of the panels and also entire solutions will be made fit for further applications through modifications. Continuous research and development will ensure the availability of further improved core materials.

va-Q-tec products are already outstanding in thermal terms. In the future, all mechanical components will also reach the same performance level, such as through subsequent weight savings in containers. The "Box" product group, for example, is being expanded to include new mechanical specifications to make it applicable in additional segments.

va-Q-tec organizes corresponding processes within the company according to the ISO 9001 quality management standard, the ISO 14001 environmental management standard and the ISO 50001 energy management standard, and is also certified accordingly. Two environmental audits are conducted at va-Q-tec every year.

va-Q-tec is working hard to continuously improve its structures and processes, not least in order to successfully manage its steady growth and to be able to meet high demands in relation to products and customer service at all times and without compromise. Production safety for employees and the environment as well as high energy efficiency and low emission intensity are self-evident requirements for all processes.

# Great sales potential for sustainable products

va-Q-tec is active in attractive, structurally growing markets whose long-term growth will be driven by rising thermal energy efficiency. Increased efforts to save energy in all sectors of the economy are expected to strengthen demand for energyefficient products, systems and services from va-Q-tec. This is particularly true in target markets that – from va-Q-tec's perspective – are still small today, such as Technics & Industry, Building, and Mobility.

According to va-Q-tec's experts, the European "Green Deal", or the pricing of carbon emissions agreed as part of climate protection programs, will also lead to rising demand for high thermal insulation in various areas, especially for building insulation.

Ever-increasing requirements for energy efficiency in industry are opening up further application possibilities for va-Q-tec, such as in measurement and control technology. Driving forces include rising energy prices, increasing attention to energy efficiency labels, and decreasing margins of error in thermal performance.

Equally, va-Q-tec's rental container system delivers sustainability and environmental compatibility. The boxes can be reused many times, and in the event of transport damage, only individual components, such as side panels, can be replaced, while the rest of the box can continue to be used.



# va-Q-tec products and services

The basis for all offerings is a material developed by va-Q-tec, the vacuum insulation panel (VIP), which is protected with numerous patents. The panel's pressure-stable core material consists of a compressed, highly porous, extremely fine-particle, amorphous silica powder (silica, silicon dioxide). The powder core is packed gas-tight with a high-barrier film (plastic film vaporized with aluminum) using a special technique and evacuated, i.e. pumped empty of air. VIPs are also extremely well protected from air and water vapor penetration due to the special film used. Further core materials used to manufacture the panels include pressure-stable, open-cell polyurethane foams and glass fiber nonwovens. The vacuum-packed core board panels - usually rectangular in shape and almost any size - function as a thermal insulator, as the conduction of heat through the air has been eliminated by evacuation.

In addition, va-Q-tec produces self-developed thermal energy storage components, so-called Phase Change Materials (PCMs), colloquially also referred to as "cold packs", for the reliable and energy-efficient storage of thermal energy. In other words, PCMs are cold and heat storage materials that absorb and store thermal energy. By using different storage materials such as kerosenes or salt solutions, and gels based on them, temperature ranges between -70 °C and +70 °C can be covered at present.

#### High degree of flexibility

In principle, the panels can assume almost any shape, and curves can be produced without loss of performance, as well as edges, with which panels of any size can be assembled into cube-shaped containers without gaps and thermal bridges using a specially developed technique/method. Depending on the application type, the panels offer five to ten times the thermal insulation performance of conventional, air-filled insulating materials of the same thickness. In other words, a va-Q-tec panel with a wall thickness of two centimeters replaces e.g. 20 centimeters of standard fiber or foam insulation. As a consequence, refrigerators equipped with VIPs consume up to 50 percent less electricity than appliances with the same volume but insulated differently. va-Q-tec panels are deployed wherever the available space is limited and at the same time very good thermal insulation is required.

va-Q-tec's offering is divided into Products, Systems and Services:

- Products are vacuum insulation panels (VIPs) or phase change materials (PCMs) purchased by customers for insulation, such as in refrigerators, on buildings, and for wrapping pipes, or for cooling and keeping containers warm without their own energy supplies.
- Systems are combinations of boxes, containers (VIPs), and energy storage components (PCMs). These thermal (packaging) systems are used for reliable and energy-efficient passive temperature control and can maintain a defined interior temperature range on a constant basis for several days without external energy.
- Services comprise va-Q-tec's supplementary product-related services, such as the rental of preconditioned boxes and containers. This offering is mainly used by the pharmaceutical and biotech industries. To ensure optimum availability in this context, va-Q-tec currently maintains an inventory of more than 3,200 rental containers and several tens of thousands of boxes.

### Service areas

va-Q-tec already supplies products and solutions for numerous business sectors. The offering is successively adapted to the needs of other industries and applications.

### **HEALTHCARE & LOGISTICS**

For more than a decade, va-O-tec has been supplying mainly pharmaceutical, biotech and logistics companies worldwide with thermal packaging: customized transport solutions for temperature-sensitive products. However, these products can also be used on a sustainable basis for food transportation. The stackable "va-Q-tray", for example, a thermal packaging system, transports food on such a well-insulated basis that it remains hot, cold or frozen for several hours without energy input. The period can also be extended by the additional use of cooling accumulators, the PCMs. Bakery branches can be supplied with fresh goods in an energy-efficient manner using va-Q-tray: in contrast to existing systems made of styrofoam, va-Q-tray meets the highest requirements in terms of hygiene and temperature chain, the system can be used universally (e.g. as a portable refrigerator), and can be combined with non-insulated standard containers. In addition to the hygiene benefits, this also leads to cost savings as additional refrigerated vehicles as well as refrigerators at branch operations can be dispensed with.

Thermal energy efficiency	22%	TempChain: Temperature Controlled	Supply Chain	<b>78</b> %
High Performance Insulation Solution			Thermal transport systems: boxes & containers	
Appliances Technics & Indus Building - Mobili		Pł	arma & Healthcare - Industrial Products Food - Consumer	
Products	22%	Systems	36% Services	42%

#### **APPLIANCES & FOOD**

va-Q-tec is one of the world market leaders in vacuum insulation panels (VIPs) for refrigerators, freezers and ultra-low temperature freezers mainly for stationary food storage. Space-saving and highly efficient VIPs from form the basis for simple and very effective energy-saving measures in this area. va-Q-tec's innovative vacuum insulation panels with specially developed silica powder as core material achieve a particularly long service life of up to ten years and thereby often outlast the technical service life of the refrigeration units in which they are installed.

## Environmentally compatible recycling at the end of the life cycle

The vacuum insulation panels (VIPs) are also characterized by their durability of up to 50 years. The materials of the VIPs can be collected and recycled, provided that they are reintroduced into the manufacturing process. The core board, the microporous silica powder, is a valuable raw material that can be reprocessed after recycling, such as into a new vacuum insulation board. The same applies for glass fiber and polyurethane. The film of the vacuumized envelope cannot be reprocessed for new products, but can be thermally recycled as fuel. Already today, 10 to 20 percent of newly manufactured panels consist of material recycled from discarded panels. The material of the cold packs is always fully recycled as a matter of principle.

### BUILDING

In recent years, va-Q-tec has developed innovative insulation solutions for the construction industry that are used in both new buildings and renovations. Compared to conventional insulation materials, the vacuum insulation panels offer not only a significantly reduced thickness but also a high insulating effect: at the same installation height, the panels have five times the insulating performance of other insulation materials, on the basis of construction regulatory approvals. The panels' modular structure allows a high degree of flexibility with a wide range of sizes and shapes. va-Q-tec panels showcase their advantages - a significant reduction of heating energy consumption - especially when a strong insulating effect is required with limited space availability.

Architects and engineers can save 80 percent of the space needed to insulate facades, roofs, floors, parapet elements and conservatories. The panels are distinguished by their durability.

### **TECHNICS & INDUSTRY**

va-Q-tec supplies a wide range of products and solutions for the manufacturing and processing industries. Panels are used in a wide range of industrial applications thanks to their high flexibility: examples include the sheathing of hot water storage units, for enclosing industrial plants (heat shield) or for sheathing pipelines (district heating, process heating and cooling, drinking water lines) for laboratory equipment (freezers, incubators, chromatographs and climatic chambers) or for ovens and dryers (industrial ovens, climatic chambers and drying ovens). va-Q-tec's Technics & Industry applications hugely reduce the loss of heating and cooling energy and thereby customers' energy requirements. This means significantly improved energy efficiency for customers and, as a rule, lower greenhouse gas emissions intensity.

### MOBILITY

Thanks to their thin walls and flexible design scope, va-Q-tec vacuum insulation panels enable completely new technical solutions in automotive engineering, aviation, shipping and rail transport. Space-saving and lightweight panels can also significantly enhance energy efficiency in cars and refrigerated trucks. The battery in an electricdrive vehicle, for example, can be well protected from capacity-draining cold. Refrigerated trucks and freight containers require less energy for cooling. The interior insulation of aircraft or aircraft equipment can be implemented in a weight- and space-saving manner while maintaining the same performance. This also applies to shipbuilding and rail transport.

### MAJOR BENEFITS IN LOGISTICS CHAINS

va-Q-tec offers services for setting up a temperature-sensitive logistics chain, the so-called Temperature Controlled Supply Chain, or "TempChain". Companies can rent containers and boxes from va-Q-tec to reliably operate supply chains for temperature-sensitive goods. For this purpose, va-Q-tec has established an efficient network with renowned logistics partners such as Lufthansa, Swiss and Turkish Airlines Cargo, and provides accompanying services in the area of preconditioning, preparation and shipment preparation of thermal packaging systems for customers such as Kühne & Nagel and Swiss Post. Such integrated and rental-based shipment solutions ("TempChain as a service") from a single source are increasingly in demand from the pharmaceuticals industry.

va-Q-tec's TempChain solutions enable, for example, the transportation and storage of medicines, vaccines, investigational medicinal products and clinical samples as well as further pharmaceutical and biotechnological products. Foodstuffs and temperature-sensitive electronic and optical devices can also be transported at a constant temperature.

## Temperature-constant transportation of a wide variety of goods and merchandise

TempChain solutions transport hepatitis drugs as well as urine and blood samples for doping tests at major international sports competitions. At present, the transport solutions are widely used in the national and international distribution of coronavirus vaccines. Outside the healthcare sector, va-Q-tec systems protect very sensitive optoelectronic devices, valuable and sensitive art objects as well as archaeological finds. Dutch company ASML, the world's largest supplier of lithography systems for the semiconductor industry, uses va-Q-tec thermal containers and boxes for numerous international transports: the most important components of these systems - of great importance for the production of modern, highperformance chips - are manufactured with extreme precision and are particularly temperature-sensitive.

### Impact on the environment

The sustainable impact of va-Q-tec's products is enormous, as the generation of heating and cooling is particularly energy-intensive. The optimal harnessing of energy requires efficient insulation of buildings and plants, for example. Vacuum insulation panels insulate around ten times more effectively than conventional insulation materials and at the same time are very slim. In a wide range of applications, such as construction, refrigeration and freezer industry or water heater insulation, customers can save energy by using VIPs and thereby also reduce their own carbon footprints.

# High energy input for the generation of heating and cooling

A total of 60 percent of primary energy in Germany is deployed for thermal purposes, in other words, heating and cooling. With the help of efficient insulation, a large part of this energy can be saved. For example, if district heating pipes are insulated with vacuum insulation panels, heat loss can be reduced by up to 60 percent Great potential also exists for savings in further areas: the battery of an e-vehicle is insulated, its range increases by over 10 percent

In combination with VIPs, they enable customers to transport mostly high-value, sensitive goods and merchandise at stable temperatures with minimal energy input. Thanks to these features, VIPs reduce costs for customers and significantly improve their carbon footprint. At the same time, the share of rejects or spoiled goods in the respective transport volume decreases.

The recyclability of products, such as the transport boxes, also reduce the impact on the environment. As individual components of the box, particularly the installed vacuum panels, can also be replaced, the life cycle of a product is extended accordingly.



# **Research and development**

va-Q-tec has closely linked sustainability with its business strategy. The broad range of applications of va-Q-tec's product portfolio enables continued good sales opportunities and further revenue growth in all business areas as awareness of energy efficiency continues to grow and regulatory requirements become more stringent. Furthermore, with increasing product complexity, such as temperature-sensitive medicines and electronic components, the need for reliable and stable temperature chains in logistics is growing. Profitability is nonetheless indispensable in order to secure the company's long-term success and performance, as well as its competitiveness. An adequate profit margin is required, particularly in view of necessary research and development expenditures. va-Q-tec achieves this with two approaches: firstly, the integration of as many links as possible in the (downstream) value chain into the company's own service provision, and, secondly, and above all, the consolidation and extension of technology leadership in the relevant

market segment (thermal insulation and TempChain logistics). At this point, va-Q-tec interlocks sustainable action with business development.

For example, va-Q-tec is constantly developing vacuum insulation panels – and with them the potential for saving energy and limiting greenhouse gas emissions. Numerous types of vacuum insulation panels have already been created over the past 20 years. In the meantime, VIPs can even be produced in 3D forms, such as with va-Q-pro technology. va Q-tec is continuously working on innovative technologies, process innovations and new business models that can significantly improve not only temperature chain logistics, but also thermal insulation in many industries, such as mobility and technology. va-Q-tec aims to continuously enhance its own innovative capabilities. This is leading to ever wider temperature bandwidths, new formability and – in the overall concept – new application possibilities. While conventional VIPs are typically used in the temperature range from -70 °C to +70 °C, va-Q-tec is working on extending this temperature range by optimally combining different case materials and core materials so that temperature classes of 80 °C to 180 °C, or even in excess of 400 °C, will be possible in the future.

For more efficient control of logistics processes, va-Q-tec is developing state-of-the-art software and simulation solutions under the heading of "TempChain 4.0" and has further increased its IT resources for this purpose in 2021. Newly developed service solutions ("va-Q-nection") support customers in the secure and regulatory-compliant monitoring of temperature levels during transport (electronic power measurement). This solution enables the reliable traceability of temperature performance in the interior of the thermal boxes. The va-Q-nection app enables the recipient to read out the temperature report with a mobile device regardless of location, without accessing the shipment and without interrupting the temperature chain by opening the transport packaging.

#### Regular testing of the performance of panels

The patented va-Q-check® quality control system, the only one of its kind in the world, checks the insulation before vacuum insulation panels are used by measuring the internal gas pressure, before boxes and containers are released to the customer. va-Q-tec VIPs are thereby the only thermal insulation in the world whose performance and effect can be measured and documented at the point of use. This creates confidence in VIP technology and enables va-Q-tec to meet the high quality requirements of a demanding clientele. The temperature requirements for TempChain transports can thereby be met safely and demonstrably. In addition, the insulating effect of VIPs can be accurately determined before the first delivery and in the following years of use. Panels are discarded when their insulating effect falls below a set level.

va-Q-tec develops reusable PCM cold packs that can reliably cool in the cryogenic range down to minus 70 °C. For lower temperatures, currently mainly dry ice (solid carbon dioxide) is used, which requires a lot of energy to produce. With the cooling insert, the dry ice is consumed and is not reusable. Furthermore, dry ice is a hazardous material because large amounts of carbon dioxide are released during use. For this reason, certain safety regulations must be observed when using dry ice: for example, the amount of dry ice that can be transported by air freight is limited. As an alternative to dry ice, energy-efficient PCM cooling batteries can now be used for power-free cooling. These are easier to handle and are not subject to any restrictions in use.

For continuous product development and increasingly sustainable (environmental) effects, va-Q-tec not only invests in highly qualified personnel and basic research, but also agrees on partnerships and makes equity investments in companies. va-Q-tec pursues cooperation with technology partners in externally funded research and development projects, especially with the University of Würzburg.

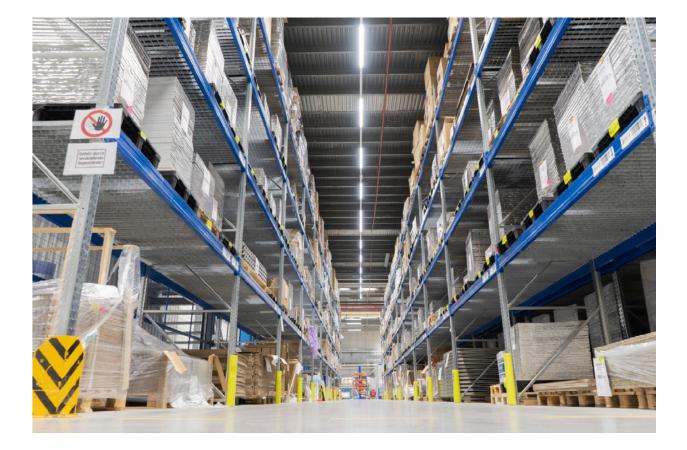
The investment in Cologne-based materials start-up SUMTEQ is intended to support the piloting and market launch of SUMTEQ's submicroporous foams as a further highperformance insulation material. The investment in the high-tech startup ING3D in Fürth is intended to realize the production of extremely lightweight, non-combustible and arbitrarily shaped lightweight materials.

The Mineral Direct Laser Sintering (MDLS) process, for which ING3D has filed a patent application and which is the first purely mineral/ceramic printing process worldwide, opens up completely new possibilities in material production: the ceramic raw material used can be processed into ecologically compatible and at the same time cost-effective molded parts. This is done without the previously necessary plastic content in the starting material. This results in single-variety, ecologically safe, lightweight objects. The end products can be deployed multifunctionally, thereby offering advantages in terms of acoustic and thermal insulation as well as fire protection, especially in small spaces. These properties and the combination with va-Q-tec's VIP insulation technology enable completely new approaches in the construction and automotive industries.

With the "va-Q-shell pipe" insulation system, which was newly developed in 2021 and launched on the market together with Finnish partner Uponor, pipelines can be thermally insulated in a costefficient, secure and environmentally compatible manner.

This enhances energy efficiency, such as in industrial plants, building installations as well as in local and district heating networks. va-Q-shell pipe is suitable for insulating pipes that are not insulated in the factory, as well as for retrofitting. Thanks to its material properties, it improves energy efficiency by up to 60 percent while reducing insulation thickness by up to 50 percent. In 2021, va-Q-tec invested EUR 3.653 million in research and development, an increase of 36 percent over the previous year. va-Q-tec's technical knowledge is secured by more than 220 industrial property rights and applications for industrial property rights. These mainly concern efficient production methods for powder-filled vacuum insulation panels, the va-Q-check quality control system and a sensor technology for measuring the vacuum in the panels. In 2021, 24 IP rights were filed, including 22 patent applications and two utility model applications.

Services also form part of va-Q-tec's research and development. For the Group, it is thereby not only a matter of launching new or further developed products on the market, but also of developing suitable services for the TempChain.





# **Environmental performance**

va-Q-tec's business model comprises products, solutions and services relating to thermal insulation. It consequently stands to reason that the lowest possible resource utilization also ranks as a top priority in the design of products and production processes. For this reason, va-Q-tec products are becoming smaller and lighter despite rising performance levels, and services are becoming more effective and efficient. Thanks to the strong growth in 2021 and the investments in the production site in Kölleda, as well as the steady rise in business trips and events following the coronavirus pandemic, some of the absolute metrics listed below reported an increase.

### Volume of energy consumed\*

kWh	2020	2021
Fuel (gasoline and diesel for the fleet)	210,103	545,983
Heating oil	0	0
Natural gas	6,914,653	7,446,786
Electricity of which from renewable	3,581,431	4,452,233
energies ("green electricity")	0	4,452,233
Total energy consumed	10,706,187	12,445,002

\* Locations and operations in Germany

The highest energy demand at va-Q-tec occurs in production.

The target is to reduce energy consumption by 1.5 percent in relation to revenues (applying 2019 as the baseline)

#### **Greenhouse gas emissions\***

Tonnes / tonnes of CO2e equivalents (CO2e, market		
based)	2020	2021
Scope 1 (direct emissions)	1,299.39	2,396.90
Scope 2 (indirect emissions)	618.72	504.93
Scope 3 (indirect emissions, upstream and downstream)	78,400.83	106,816.61
Total greenhouse gas emissions (CO2e)	80,318.95	109,821.17
Emissions in relation to operating output (CO2e)	0.00095	0.00090

\* Locations and operations in Germany

Global business activities lead to a comparatively large number of flights taken.

#### CO2 offset\*

Tonnes of CO₂e	2020	2021
Volume of CO <sub>2</sub> offset with certified/credited projects CO <sub>2</sub> volume	3,056.32	5,122.00

\* Forest reforestation projects in the Hessian Rhön and in Uruguay.

#### **Electricity generation\***

kWh	2020	2021
	1,643,900	1,932,635
Solar power generated by va-Q-tec	77,338	72,312

\* Solar power is generated with the company's own photovoltaic system, and electricity and heating energy are generated with gas-fired combined heat and power (CHP) units.

The target is to save 20,000 kWh through the heat/cooling management in the CHP. Furthermore, an additional 20,000 kWh is expected to be generated through a baseload analysis or shutdown of the Inpow facilities. All greenhouse gas emissions were recorded in collaboration with NatureOffice. Compared to the previous 2020 year, the data basis for the carbon footprint in the 2021 reporting year was significantly improved. The significantly more granular recording of some values, such as inclusion of the CHP plant and the complete new recording of some areas, led to a significantly increased volume of CO<sub>2</sub>e equivalents overall. The detailed Corporate Carbon Footprint (CCF) is available on request. Work on the strategy has continued this year.

va-Q-tec has organized all its economic activities in such a way that harmful impacts on the environment and natural resources, are mitigated, significantly reduced or even avoided. va-Q-tec's core business comprises the development and manufacture of products and services to significantly reduce energy requirements due to heat and cold losses. Environmental protection is consequently a declared corporate objective. By providing information about products and potential applications, va-Q-tec aims to raise awareness among customers and business partners in relation to thermal insulation solutions in both stationary and mobile operation. As a consequence, va-Q-tec has established an active environmental management system. This is also certified according to ISO 14001.

va-Q-tec focuses in its development and production on materials that offer maximum recyclability and high energy efficiency. va-Q-tec's approach to sustainability emphasizes efficient processes, low levels of greenhouse gas emissions, and low levels of waste generated. For business reasons alone, this approach to sustainability is constantly reviewed and optimized. The Management and Supervisory boards of va-Q-tec AG intensively follow these processes, whereby the suggestions and wishes of the interest groups (stakeholders) are taken into consideration.

#### Water utilization\*

Cubic meters	2020	2021
Volume of the total amount of water utilized	5,152	7,362
of which: Volume of water bound in products		

\* va-Q-tec withdraws the required water volumes from the public mains and can discharge wastewater into the public sewer system.

#### Waste volumes\*

Tonnes	2020	2021
Total volume of waste	486.89	687.71
of which: Volume to be disposed of separately	10.40	10.90
of which: Volume that can be recycled	49.90	61.20

\* Waste is sorted according to material groups as correctly as possible and transferred to disposal companies for further professional utilization. Part of the waste is also used or recycled by va-Q-tec itself.

Hazardous waste is disposed of properly and is generally sent for thermal recycling.

### The target is to reduce the volume of waste to < 99.7 percent compared to 2020.

va-Q-tec always prepares a sustainability analysis of (new) products over their entire expected useful life and optimizes both potential and requisite areas. Careful attention is paid to the use of sustainable building materials and to minimizing the volume of materials used. In addition, va-Q-tec is increasingly focusing on digitalization and innovation in order to (1) reduce energy demand, greenhouse gas emissions and material requirements, (2) incorporate the most sustainable technology currently available, and (3) enhance the benefits of products and related services for customers.

va-Q-tec's certified environmental management system has recorded all processes, materials and services within the company and evaluated them in terms of their sustainability performance. The environmental management system thereby covers va-Q-tec's activities comprehensively and completely. va-Q-tec's investment, planning and realization processes are aligned with ecological and social sustainability criteria and the requirements of good corporate governance. va-Q-tec's Management Board is responsible for the Group's sustainability performance. Naturally, va-Q-tec complies with all worldwide applicable environmental regulations, in particular the very stringent regulations in Germany and the European Union.

"Green electricity" is purchased for va-Q-tec's offices and production facilities. Technical equipment under va-Q-tec's administration is usually used far beyond its average useful life by means of appropriate upgrading; afterwards, it is sent for professional recycling. va-Q-tec has integrated a company suggestion scheme in its product development and environmental management areas. All types of regulations and work process methods relating to sustainable activities have been discussed with and approved by va-Q-tec's Management Board. The Management Board checks that these are applied correctly and reviews the results. va-Q-tec AG Sustainability Report 2021



# **Employees as a success factor**

va-Q-tec is a company that has grown rapidly and significantly in recent years thanks to the special energy-saving properties of its products and services. The qualification and motivation of the employees is indispensable for the company's long-term performance and success. Given this, the major challenge for va-Q-tec's personnel department is to recruit a sufficient number of employees with the required skills and interests, and then to retain them at the company over the longer term.

va-Q-tec is continuously working on this challenge. On the positive side, employees stay with the company for a comparatively long time before voluntarily changing employer. For example, the employee turnover rate at va-Q-tec in 2021 amounted to just three percent (see the table on p. 32), while the average annual employee turnover rate for the manufacturing sector in Germany stands at around 18 percent, according to Germany's Federal Statistical Office. The compatibility of work and family life is also important for va-Q-tec. Part-time programs are common practice after parental leave; the return rate after parental leave amounts to over 90 percent.

### Result of extensive efforts: va-Q-tec's attractiveness as an employer

In a highly competitive labor market for skilled workers in the manufacturing industry, va-Q-tec is consistently attractive as an employer. However, just like other companies, it also faces the challenge of a shortage of skilled workers. va-Q-tec receives applications both in response to public job advertisements and on the basis of recommendations from (former) employees and business partners. The high-tech company's positive reputation in the labor market represents a further attraction.

In addition, va-Q-tec's good networking within the region and intensive contacts with the Julius Maximilian University in Würzburg play a significant role. Activities at va-Q-tec are characterized by a positive working atmosphere and appreciative employee interactions. va-Q-tec supports employees in the (further) development of their personal qualifications and strengths. Regular development meetings between employees and managers with the definition and documentation of individual performance and development goals are mandatory. The Management Board and managers are available for employee discussions within an appropriate framework.

## Several reasons for the attractiveness of va-Q-tec as an employer:

#### **Monetary incentives**

- Performance-based compensation
- · Company pension scheme
- Occupational accident insurance
- Employee share issues

### **Employee development**

- Study-related work at the company
- Support for assignments abroad
- · Large number of company training courses

#### **Social incentives**

- Flexible working hours
- · Family-friendly working time arrangements
- (such as part-time programs)

### **Non-monetary incentives**

- Leasing offers for electric bicycles
- Company suggestion scheme
- Canteen
- Fruit and drinks
- Promotion of sports activities
- Employee events (summer party, Christmas party, ski trip)

va-Q-tec has been very committed to the company's attractiveness as a sought-after employer in recent years. These measures are paying off tangibly and measurably, with a comparatively stable workforce and a pleasant working atmosphere. This has been helped by the fact that no compulsory redundancies or layoffs have ever been necessary as a consequence of restructuring. To systematize this situation, va-Q-tec conducted an employee satisfaction survey in the production area for the first time during the course of 2022. This is currently being evaluated.

### As a matter of course: safeguarding employee rights

Stringent Group-wide observance of employee rights is a matter of course for va-Q-tec. As a consequence, va-Q-tec has been certified according to the requirements of the SA 8000 labor standard since 2017. The requirements contained in this regulation apply to both va-Q-tec AG and all of its subsidiaries worldwide. To ensure compliance with these rules, audits are conducted twice every year. The certification as well as the audits are carried out by TÜV Süd. The current certificate is valid until 2024, following comprehensive recertification in 2021.

Managing directors of va-Q-tec subsidiaries are required to monitor compliance with the corresponding requirements. Most of the international sites are sales locations where there is generally no production and only a small number of employees work in each case. For this reason, critical issues such as child labor do not play a role in this context. Rochester, UK, from where the rental business with refrigerated containers is organized, is va-Q-tec's largest foreign site. Due to the nature of its activities, most of the employees are highly qualified and high standards of employment apply.

#### SA 8000 as a benchmark for employee well-being

With the SA 8000 standard, the international nongovernmental organization "Social Accountability International" (SAI) has defined minimum requirements for the working and social conditions of employees, workers and also temporary workers of internationally active companies. Application of the requirements occurs on a voluntary basis and in these cases is reported to SAI. SA 8000 is based on the relevant conventions of the International Labor Organization (ILO), a specialized agency of the United Nations (UN).

### The basis of va-Q-tec's personnel policy: equal opportunities and diversity

The central principle of va-Q-tec's personnel policy is equal pay for equal performance regardless of gender. va-Q-tec pays identical salaries to women and men in comparable positions. In addition, va-Q-tec gives preference to female employees with the same qualifications, especially in areas and at levels with a lower quota of women, in order to increase the corresponding proportion in these areas.

va-Q-tec strictly rejects discrimination against persons on the grounds of race or ethnic origin, gender, religion or belief, disability, age or sexual identity. Discrimination on the grounds of both individual attitudes and collective mentalities are not tolerated.

Diversity aspects – in other words, different educational backgrounds and degrees, experience, ages, origins, genders and other personal characteristics – are a welcome criterion at va-Q-tec in the context of employee recruitment, even if, all other things being equal, the respective applicants' qualifications are decisive, irrespective of other individual personal characteristics.

va-Q-tec strives to further strengthen diversity in the workplace and promote the development of a more inclusive workforce. va-Q-tec pursues a dedicated diversity policy to this end. At va-Q-tec, the Management Board is responsible for all sustainability topics and initiatives, and thereby also for diversity.

va-Q-tec AG leaves its employees completely free to form organizations among themselves in any manner. It goes without saying that va-Q-tec complies with all legal regulations applicable in Germany in this context. This also includes employees' freedom of association. va-Q-tec guarantees its employees the right to freedom of association and collective bargaining: a negotiation process between employers and employees aimed at reaching agreements regulating labor wages, conditions and benefits is absolutely permissible throughout the Group. The involvement of the management and employees in employee rights issues is ensured via a so-called Social Performance Team. It is composed of cross-departmental management representatives and employee representatives who are appointed by all employees in a secret ballot.

### Compliance with ILO labor standards

Without exception, va-Q-tec adheres to the relevant conventions of the International Labor Organization (ILO), a specialized agency of the United Nations (UN). As a matter of principle, va-Q-tec's personnel policy makes provision whereby solely employees' professional qualifications and work performance form the assessment criteria, thereby excluding any person-specific characteristics.

#### **Balancing professional and private life**

va-Q-tec aims to promote work-life balance, opportunities for physical exercise, and long-term health maintenance. For example, all employees are offered a free sports and workout opportunity.

In order to give all va-Q-tec employees the opportunity to vote, elections are announced via notices and circulars. The result of the election is shared transparently with all employees, presenting the team appointments and their tasks. The two German sites in Würzburg and Kölleda each have Social Performance Teams. This team reports to the Management Board at least once a year in the context of a meeting.

This structure enables the submission of suggestions and proposals for improvements. Between these meetings, regular reports are made to the Management Board by the Head of Personnel. Decisions made are shared with all va-Q-tec employees in the form of employee information, notices and circulars. va-Q-tec wishes to be an employer where employees feel comfortable and are able to develop, and which demonstrates its appreciation. va-Q-tec promotes an atmosphere that enables employees to be creative and innovative. This culture is characterized by personal responsibility and a passion for sustainability. Leadership is also important: committed managers who can motivate, develop and support their colleagues are of particular importance to va-Q-tec.

### Key success factor: training and development

va-Q-tec attaches far greater importance to personnel development than to personnel administration. In addition to classic vocational training and on-the-job training, va-Q-tec consequently ascribes a high priority to individual employee development. va-Q-tec promotes the commitment of its employees to their own further training and supports appropriate and goaloriented requests for training. No time limit is set for this.

### Apprenticeships at va-Q-tec

Industrial clerk, IT specialist for system integration, warehouse logistics specialist, office clerk, physics lab technician, mechatronics technician; dual study program: International Business Administration and Management

#### Active personnel policy

va-Q-tec places a focus on personnel development: not only on general training and further development but also on special individual employee development in relation to personal wishes, qualifications and strengths – from languages to job- and topic-specific content to foreign assignments in order to gain relevant experience. Only a comprehensive offering can maintain and enhance the company's attractiveness as an employer, in order to thereby attract and retain the best talent. The prerequisites in this context include a personnel culture that is put into practice, and employees' development prospects.

### Protected environment: occupational health and safety

Occupational health and safety ranks as a very high priority at va-Q-tec. Safety officers are deployed in the production areas in order to monitor the proper and safe realization of all processes and the professional operation of all machines. These specialists meet once a month for a discussion with the company doctor. The number of occupational accidents increased from eight to ten in the years 2020 to 2021. Among other factors, this reflects the large number of newly recruited employees.

The sickness rate remained virtually unchanged from 2020 to 2021. With the help of return-to-work interviews, we additionally try to find out whether absences are attributable to work-related reasons. In such cases, we make adjustments promptly to the extent possible.

A multi-year project with the AOK health insurance company represents a further step towards the continuous improvement of employee health. This aims to provide better preventive care for illnesses that occur particularly frequently among the workforce. These illnesses are defined via an evaluation of absences and reasons for absences. The program, called va-Q-care, will be officially launched at the end of 2022.

## Number of employees in the va-Q-tec Group by region

	31/12/2020	31/12/2021
Total number of employees	541	634
in Germany	84.3%	83.9 %
Rest of the European Union*	9.4 %	0.0 %
Rest of Europe**	0.4 %	9.8 %
Rest of world***	5.9 %	6.3 %
Total	100%	%
Number of different nationalities,		
for example:	15	31

\* excluding Germany \*\* excluding Germany and EU

\*\*\* excluding Europe

# Number of employees in the va-Q-tec Group by gender and age group

	31/12/2020	31/12/2021
Total employees	541	634
Women	28.9 %	30.1%
Men	71.1 %	69.9 %
Total	100 %	100 %
Under 30 years (only for the parent company)	30.0 %	24.0 %
30 to 50 years (only for the parent company)	48.0 %	54.0 %
Over 50 years (only for the parent company)	22.0 %	22.0 %
Total	100 %	100 %

## Number of employees in the va-Q-tec Group by function

	31/12/2020	31/12/2021
Total employees	541	634
Managers (first two management levels)	4.1%	3.3 %
Production	56.1%	58.8%
Sales	17.2 %	15.5 %
Administration	19.8 %	19.1 %
Trainees	2.8 %	3.3 %
Total	100 %	100 %

### Workforce

### turnover\*

	2020	2021
Employee turnover rate	4.5 %	3.0 %

\* according to the calculation method of the Confederation of German Employers (BDA)

The target is to keep the employee turnover rate constant at 3.0 percent.

### Occupational health and safety

	2020	2021
Number of occupational accidents	8	10
Number of employees on sick leave as a percentage of all employees (Germany)	4.31%	4.48%

The target is to reduce the number of occupational accidents to zero and to keep the sickness rate at a maximum of 4.5 percent.

#### In-house training

	2020	2021
Number of training sessions		234
Number of employees trained		1,862
Number of employees in supported vocational qualifications such as master, master craftsman, and laboratory manager	5	9
Total training duration (hours)		
Number of hours as part of these supported vocational qualifications	1,605	1,946

va-Q-tec AG Sustainability Report 2021



# Social commitment

va-Q-tec is not only an attractive employer in the Würzburg region, but also plays an active role in social life. One focus here is the promotion of culture and sports. va-Q-tec supports people and projects that meet its own aim of exceptional business performance. At the same time, such support should be given as close as possible to the respective location.

Examples of recipients of such funding include the Mozart Festival and the Mainfranken Theater, both in Würzburg. Sporting support was provided to the s.Oliver Würzburg men's Bundesliga basketball teams and the QOOL Sharks Würzburg women's Bundesliga 2nd division basketball team. In addition, va-Q-tec supports the 2nd Bundesliga handball team Rimparer Wölfe in the Würzburg district. va Q-tec also sponsored individual athletes from the region in the year under review, such as Olympic long-distance swimmer Leonie Beck. An innovative concept was developed in sports promotion: va-Q-tec gives top athletes the opportunity to work in the company in parallel with their training. A further area of va-Q-tec's social commitment is the promotion of MINT education – in other words, the imparting of knowledge in mathematics, information technology, natural sciences and technology. With the company's roots in the University of Würzburg, this undertaking also reflects a close connection to the company's location.

In addition to culture and sports, va-Q-tec was involved in a further social project in the reporting year. Initially in Erfurt, near the production facility in Kölleda, Thuringia, a vaccination center was supported in the cooling of vaccines. Vaccines must be stored continuously at refrigerator temperatures of 2 °C to 8 °C until they are administered. For this purpose, within two weeks va-Q-tec developed a special inlay for the thermal transport solution va-Q-tray for storing filled vaccine syringes, which were provided to the center free of charge.



# Governance

Good corporate governance as a success factor: governance enjoys a high priority at va-Q-tec. Special attention is paid to corporate management that is not only guided by law and order, but above all by the principles of reputable business – this forms the basis of whatever va-Q-tec undertakes. This also means that the corporate structures – in other words, the organization, reporting lines and administrative processes – are adapted to reflect the company's growth and size in order to remain efficient.

### **Compliance management**

Integrity and reputation are crucial factors for success in the company's partnership with its customers, suppliers, employees, shareholders and further stakeholders. We ascribe the highest importance to reputable business conduct, stringent compliance with legislation, and the uncompromising adherence to corresponding internal rules of conduct. va-Q-tec is committed to free and fair competition. This naturally includes the prevention of bribery and corruption. Preventive requirements are formulated in va-Q-tec's Code of Conduct.

In order to detail, control and sanction these rules, va-Q-tec established a compliance manual in 2016 which covers all areas exposed to a risk of bribery and corruption or other significant violations of the law. The compliance manual is accessible to all employees as part of the central document management system. It is available in German and English editions. New employees are trained in the compliance guidelines at the start of their employment. Mandatory compliance training is provided by the personnel department. The control of compliance with rules and laws is the responsibility of a Chief Compliance Officer (CCO) at va-Q-tec, who has direct access to all processes and procedures in Germany, and in the case of foreign subsidiaries via their managing directors. Clear reporting channels are in place within the company for reporting suspected cases or violations of compliance requirements. As soon as the European Union's Whistleblower Directive is transposed into German law, compliance management will be updated accordingly.

#### Stringent compliance monitoring

Cases of corruption and bribery can adversely affect va-Q-tec's reputation and its financial position and performance. Efficient compliance management is consequently of central importance to the company's success. Rules of conduct and control measures are regularly reviewed for their appropriateness and effectiveness, and adjusted if necessary. Thanks to the quality of this management system and its track record to date, va-Q-tec considers the risk of significant corruption and bribery risks, as well as other irregular behavior leading to significant financial losses, to be low.

However, we also expect our business partners and suppliers to behave with integrity and in compliance with the law. To assess the compliance situation, for example, the type and number of any compliance incidents are recorded and discussed at each Supervisory Board meeting.

# IT security and data protection

In procurement, production planning and sales, the collection of relevant data and the analysis of such data in order to optimize processes (digitalization) is playing an increasingly important role. Given this, the stability and security of the information and communications technology (ICT) deployed are of great importance.

To protect against cyber-attacks and ensure the security of the entire ICT infrastructure, va-Q-tec again implemented numerous measures in the year under review. This includes, among other measures, hacker attacks simulated by contracted service providers: so-called penetration and vulnerability tests. The results attested a high security level of the systems utilized by va-Q-tec. The ongoing updating of protective devices and continuous testing to detect vulnerabilities is necessary to continue to prevent unauthorized access to systems and data at va-Q-tec in the future.

Extensive training is also provided to ensure a high level of employee awareness of IT security issues. In addition to the mandatory post-employment briefing for new employees, annual updates on IT security, end-user policy and data protection are also provided.

For data protection, va-Q-tec has developed a special set of rules that ensures compliance with legal regulations and standards. Data protection and the sensitive handling of personal data provided to the company are of extraordinary importance. All documents relating to data protection are reviewed, adjusted and updated on a regular basis. In addition, as part of internal data protection audits, random checks are carried out to ensure that the Internet and company email facilities are used in accordance with the rules.

As a consequence of this efficient overall concept, no unauthorized data taps occurred at va-Q-tec in the reporting year, nor were there any reportable data protection violations or notifications of violations of data protection regulations.

Overall responsibility for IT security and data protection lies with the Management Board. An external data protection officer and an internal data protection team are responsible for operational processes in day-to-day business. va-Q-tec's entire data protection organization forms part of the company's internal Information Security Management System (ISMS).

### **Human rights**

Compliance with human rights is a matter of course for an internationally active corporate group such as va-Q-tec. We condemn discrimination and harassment of any kind, such as on the basis of ethnic origin, gender or sexual identity, race, age, religious or ideological beliefs, and disabilities. For va-Q-tec, the validity of human rights also includes compliance with internationally recognized core labor standards, the rejection of all forms of forced and child labor, and the creation of good, fair, healthy and adequately remunerated working conditions.

As a matter of principle, the issue of human rights is particularly relevant for the Group and we believe that we adhere to the highest standards and take all measures to ensure that no abuses occur within our sphere of influence.

The Group has a zero tolerance policy in relation to human rights abuses, discrimination or harassment. As va-Q-tec produces exclusively in Germany, in Würzburg/Bavaria and Kölleda/Thuringia, and we comply with all applicable specifications and laws, the violation of human rights and resultant risks are very unlikely. There were also no violations of human rights within the company during the reporting period. The international locations are predominantly sales locations. There, too, the high importance of human rights is mandatory and employees receive regular instruction in this context. We consequently classify the risk with regard to human rights violations within the Group as insignificant.

va-Q-tec already developed a compliance manual in 2016, which serves as a set of guidelines for all employees to conduct themselves in a legally compliant and appropriate manner. It also includes explicit statements on the safeguarding of human rights. The issue is addressed with all employees as part of regular compliance training. These training courses take place as classroom or hybrid events. In the current business year, an e-learning project was initiated by the personnel department. The aim is to make relevant topics available to all employees worldwide as online training. This will also include the compliance topic. With the IT-based system, exams are also possible, as well as automated proof of attendance at a training or continuing development event.

va-Q-tec also requires that its suppliers respect human rights. To this end, suppliers are subjected to regular audits in accordance with SA 8000 standards, which cover this issue. The majority of direct suppliers are also based in Europe and are subject to the same high standards as va-Q-tec. Audits at suppliers are usually realized by on-site appointments. During the coronavirus pandemic, recourse had to be made to self-declarations. A supplier that violates human rights would not be engaged. In the reporting period, no reported violations of human rights arose at va-Q-tec suppliers.

In principle, violations of human rights and cases of discrimination could adversely affect va-Q-tec's reputation and its financial position and performance. Given the high importance our corporate culture attaches to this issue, and with our compliance management and a code of conduct, we have a comprehensive set of tools to virtually rule out violations of our compliance rules. All measures are regularly reviewed for effectiveness and adapted as necessary.

Thanks to the business model, high standards and a zero tolerance policy, risk exposure is considered to be insignificant.



# Formal sustainability reporting

With this voluntarily prepared report, va-Q-tec provides an overview of the company's sustainability performance in 2021. The report follows the requirements of the German Corporate Sustainability Reporting Implementation Directive (CSR-RUG) and is based on the recommendations of the German Sustainability Code (DNK). Carbon emissions are determined in accordance with the UN Greenhouse Gas Protocol (GHG). This report of va-Q-tec AG has not been audited by an external auditor.

### **Reporting framework**

To date, va-Q-tec has provided information on its website about its initiatives for sustainable business and responsible action. This is now the company's first stand-alone sustainability report, which is based on the German Sustainability Code in terms of reporting structure. The German Sustainability Code is a crossindustry transparency standard for reporting corporate sustainability performance and provides a comprehensive framework for reporting on non-financial performance of both German and international companies. va-Q-tec is committed to an annual reporting process.

The reporting company is the va-Q-tec Group. va-Q-tec AG is listed on the stock market and is a technologically leading provider of highly efficient products and solutions in the thermal insulation area. With its products, va-Q-tec enables customers to make their contribution to greater sustainability by helping them achieve energy efficiency goals and make effective use of thermal energy. va-Q-tec also strives for the highest sustainability standards in its own production activities. In the environmental area, this especially includes resource utilization, energy management and emissions, and ranges from social commitment and an attractive personnel policy to high governance standards.

Unless stated otherwise, the report covers all va-Q-tec sites. The list of consolidated subsidiaries can be found in va-Q-tec's Annual Report 2021. The reporting period is the 2021 calendar year. No significant changes occurred in the organization and in the supply chain during this period. The content of the sustainability report has not been externally audited.

va-Q-tec's sustainability report aims to inform stakeholders and the interested public about the Group's goals, activities and progress in the areas of products and services, the environment, employees and society, and corporate governance. It supplements and expands the related reporting in the annual report. In addition to this report, va-Q-tec also provides information on sustainability activities on the Internet: https://va-q-tec.com/en/company/sustainability/ The data contained in this report were collected and processed with the utmost care.

Nevertheless, transmission errors can never be completely ruled out. The forward-looking statements published in this report are based on expected developments and are for informational purposes only; they are consequently forecasts and assessments, and not definitive facts. The actual development of va-Q-tec may consequently diverge positively or negatively from these expected developments.



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