

## 2 GROUP MANAGEMENT REPORT

### 2.1 BASIS OF THE VA-Q-TEC GROUP

#### 2.1.1 Business model, market and strategic orientation

##### 2.1.1.1 Business model and market

va-Q-tec is a worldwide technologically leading supplier of highly efficient products and global solutions in the thermal insulation area. va-Q-tec offers customers from a wide range of industries high-performance insulation solutions that enable them to significantly increase their energy efficiency. The offerings of va-Q-tec in the Group's divisions of Products, Systems and Services are applied in thermo-logistics, the refrigeration and food industry, in industrial and technical applications such as water boilers, the construction industry and in the mobility area.

In its Products division, the company develops, produces and markets innovative vacuum insulation panels ("VIPs") and phase change materials ("PCMs"). VIPs are high-performance insulation panels between 5 mm and 50 mm in diameter that are particularly suited to space-saving and energy-efficient thermal insulation. PCMs are cold and heat storage materials that absorb and store thermal energy. Various temperature ranges can be established through utilizing various storage materials such as paraffins and salt solutions.

In its Systems division, va-Q-tec manufactures passive thermal packaging, containers and boxes through combining VIPs and PCMs, which maintain constant defined temperature ranges for up to 200 hours without recourse to external energy.

In its Services division (Serviced Rental), va-Q-tec operates a fleet of rental containers which it produces itself and which allow temperature-sensitive transports to be operated securely and cost-efficiently compared with actively cooled containers. va-Q-tec has run this business through its UK subsidiary since 2011. For this purpose va-Q-tec has built up an extensive global partner network consisting of airlines, forwarders and service partners such as Lufthansa, IAG, Qatar Airways and Cathay Pacific. Since 2015, va-Q-tec AG has also been operating a business for thermal transport boxes the company produces itself. In addition, va-Q-tec assumes accompanying services in the area of preconditioning, preparation and dispatch preparation of thermal packaging systems for well-known

customers such as Swiss Post. Such integrated transport solutions from a single source are increasingly in demand in the healthcare sector.

In addition, va-Q-tec offers consulting services for all aspects of thermal insulation, for example to bring technical equipment into higher energy efficiency classes.

With this portfolio, va-Q-tec serves customers from the following target sectors:

- Healthcare and Logistics; e.g. rental and sale of containers and transport boxes for temperature-sensitive transports
- Appliances and Food, e.g. insulation of refrigeration/freezing equipment and food containers
- Technics and Industry, e.g. insulating water boilers, pipelines, laboratory equipment and ultra-low temperature refrigeration units
- Building, e.g. building insulation (façades, roofs, floors)
- Mobility, e.g. insulation in refrigeration trucks, cars, trains and aircraft

In the target sectors, all solutions are subject to high demands on the performance and service life of the thermal insulation, usually with very limited installation space.

Growth potentials in the Healthcare and Logistics target market arise from the increasing globalization of clinical research and pharmaceutical production. At the same time, demand for temperature-sensitive biotech drugs is rising constantly. Demands made of product safety ("good distribution practice of medicinal products for human use" – GDP) are becoming increasingly more stringent. Growth drivers for the Group's businesses in the target markets of Appliances and Food, Technics and Industry, Building and Mobility especially include rising energy efficiency, regulation and urbanization.

##### 2.1.1.2 Strategic orientation

va-Q-tec operates in a very dynamic, innovation-driven and global market environment.

Within this market environment, va-Q-tec pursues the objective of expanding its position as one of the globally leading providers of highly efficient products and solutions in the thermal insulation area, and helping to shape temperature-managed logistics long-term. To reach this goal, va-Q-tec pursues, in particular, three strategic approaches:

### **I. Technology leadership**

va-Q-tec is focusing on securing and further expanding its innovation and technology leadership in the thermal insulation area. va-Q-tec stands for its "Always the Right Temperature" mission statement in the TempChain of the healthcare industry and many other end applications. The company works continuously on innovative technologies, process innovations and new business models that can change not only TempChain logistics but also thermal insulation in many industries in the future, such as in the mobility area and in the case of technical applications. va-Q-tec aims to constantly enhance its own innovative strength and capability. This approach focuses on advanced VIP types such as for higher temperatures, new thermal packaging and innovative materials. In addition, va-Q-tec strives to further improve thermologistics under the keyword "TempChain 4.0" with "intelligent" boxes and containers as well as accompanying software and simulation tools. In accordance with this objective, the Group invests in highly qualified personnel, product development and fundamental research. Selected investments, such as acquiring an interest in the Cologne-based materials start-up SUMTEQ GmbH in order to gain access to its new technologies, also form part of the strategy. Above and beyond this, va-Q-tec pursues cooperation ventures with technology partners in externally supported R&D projects. The medium-term target remains to defend the leading technology position and further expand it.

### **II. Growth**

va-Q-tec's end markets offer great growth opportunities due to the wide range of applications of the technology platform consisting of Products, Systems and Services. va-Q-tec is strongly focused on growth: the company's processes, organizational structure and business model are aligned to scalability and to the consistent leveraging of growth opportunities. The company is on a clearly defined expansion path with its increasingly international presence, maintaining its solid financing base and focus on business relationships with major customers.

va-Q-tec is oriented to high-growth markets which at the same time offer the company attractive target margins, albeit also incurring high upfront costs. Pharmaceutical and biotech customers are of great significance for va-Q-tec: in its target market of Healthcare and Logistics, its most important pillar, va-Q-tec generated 69% of its revenue in 2019 (previous year: 59%). In the temperature-managed logistics area, the global healthcare industry relies increasingly on va-Q-tec's high-quality passive solutions.

At present, potential healthcare customers are still frequently using packaging solutions based on conventional insulation materials and basic water and ice mixtures. With the rising quality requirements made of TempChains – according to "good distribution practice" – customers are substituting these types of basic solutions with high-performance thermal packaging. At the same time, va-Q-tec's rental models ("Serviced Rental") are aimed at customers for which a purchase is not economically viable. With precisely customized rental solutions for high-performance thermal packaging, va-Q-tec also offers them a product with an attractive price/performance relationship. For this reason, va-Q-tec expects to grow further globally in the Healthcare and Logistics target market over the coming years, while outperforming the growth rates of the underlying markets for (healthcare) cold-chain logistics. The aim is to become the globally leading provider of services and packaging solutions in this market.

In the other target sectors, too, the company is endeavoring to benefit to an above-average extent from growth opportunities, such as the energy efficiency trend. The company's technology platform, which has grown over the past years, is to be established in defined target markets. In the medium term, va-Q-tec is aiming for further growth in the Appliances and Food area. With higher regulatory requirements made of the energy efficiency classes of refrigerators, such equipment is increasingly being fitted with VIPs. VIPs from va-Q-tec – with their insulation performance testable in the manufacturing processes of Original Equipment Manufacturers (OEMs) – will benefit particularly from this trend. In the e-commerce area, major international providers and start-ups are currently implementing new business models to deliver food products purchased online directly to end-consumers. We believe the transportation of frozen and easily perishable food to the end-customer will be regulated even more stringently in the future. The high-performance thermal packaging of va-Q-tec are particularly suited to such transports.

In addition, growth in VIP product sales is also anticipated in the target market of Technics and Industry through introducing energy efficiency classes for water boilers and piping insulation, for example. Here, too, manufacturers are equipping their premium products with va-Q-tec VIPs to achieve the best energy-efficiency class. The last three years reflect the medium-term phases typical for va-Q-tec's dynamic growth markets: for example, revenues in the Products division (the majority of which are in the technology and industry sectors as well as refrigeration appliances and food) have almost doubled since 2016 and have now settled at a high level.

The end markets of mobility and construction offer additional growth areas in the medium and long term. In Q1 2019, va-Q-tec underlined the strategically important expansion of its technology leadership in the mobility area, including by jointly applying for the “Crystal Cabin Award” with Airbus Operations GmbH. The international innovation award honors outstanding concepts in the area of aircraft cabin interiors. Here, too, va-Q-tec vacuum insulation panels ensure significantly enhanced energy efficiency.

Overall, the company anticipates – on the basis of normalized economic conditions – continued revenue growth in the mid to high percentage range year-on-year over the next three years, with such growth deriving mainly from the Services and Systems businesses.

### III. Profitability

Profitability is indispensable in order to secure the company’s long-term success and performance as well as its competitiveness. EBITDA profitability forms the third pillar of the corporate strategy and represents a significant corporate steering metric. In view of very high development, set-up and other start-up costs, this objective is of particular importance.

Various measures in the operational excellence area are being continuously advanced to deliver profitable growth. The Management Board’s cost-cutting initiatives were bundled under the “Power 20+” performance program in the 2018 financial year and primarily concern measures to continuously optimize and harmonize quality, sales processes, organization, resource consumption and purchasing, and IT systems throughout the Group. Economies of scale accompany the expansion of the Group’s business activities and corresponding sales revenue growth: the terms on which the Group can purchase intermediate products and third-party services improve significantly with revenue growth, and the rising purchasing volumes that accompany such growth. The cost increases for Group support functions such as personnel, marketing, financial accounting and controlling do not match the top-line growth rate. However, the stock exchange listing requires the highest quality level, entailing corresponding expenditure. Various aspects of vertical integration into downstream stages of the value chain contribute to improving profitability. This includes services and business models such as the rental of boxes and containers (“Serviced Rental”). This forward integration and control of upstream value steps to improve profitability forms a central element of the corporate strategy. In the phase of the company’s development to date, the dominant focus continued to be on sales revenue growth.

As a result of the aforementioned operative and strategic measures, the company is aiming – on the basis of normalized economic circumstances – for a medium to long-term improvement in the EBITDA margin to in excess of 20%.

### Group structure, employees, investments and steering

No new subsidiaries were established during the reporting period. A total of eight companies thereby formed the va-Q-tec Group as of the end of the reporting period, comprising the German parent company and seven foreign subsidiaries. The Group’s three reporting segments are derived from these eight companies – the German segment (va-Q-tec AG), the UK segment (va-Q-tec Ltd (UK) and the Other segment (va-Q-tec Ltd (Korea), va-Q-tec Inc. (USA), va-Q-tec Switzerland AG (Switzerland), va-Q-tec Japan G.K. (Japan), va-Q-tec Uruguay S.A. (Uruguay) and va-Q-tec SG Pte. Ltd. (Singapore)).

The parent company va-Q-tec AG wholly owned all seven foreign subsidiaries as of 31 December 2019.

In the German segment, va-Q-tec AG covers all three segments (Products, Systems and Services). Since 2015, the business with rental boxes has been reported in the “Services” segment. va-Q-tec Ltd (UK) primarily comprises the “Services” segment with its focus on the rental business of (returnable) containers. The “Other” segment comprises the business activities of the other subsidiaries, which are mainly allocated to the Systems and Services divisions. The South Korean subsidiary is responsible both for the procurement of raw materials and input materials for the Group and for the sale of va-Q-tec products in its domestic market. In addition to sales activities, the subsidiary in the USA is primarily engaged in business development in North America. The company continued to realize significant investments in personnel and business development at the US subsidiary during 2019. Warehousing and office spaces were rented, and a local management team was appointed on the US East Coast with the aim of establishing local production of thermal packaging systems, a repair station for rental containers and a local center to rent small boxes. va-Q-tec Switzerland AG renders services (conditioning and cleaning of rental boxes, “fulfilment services”) for Swiss Post and other customers in the cold-chain logistics area. Through its fleet of thermal boxes, Swiss Post makes recourse to va-Q-tec’s technology and process experience. As a sales company, the subsidiary in Japan pursues the objective of enhancing the perception of va-Q-tec as a locally rooted provider in the world’s third-largest economy, and of distributing va-Q-tec products and services there. With the subsidiaries in Uruguay and Singapore/Southeast Asia, the aim is to further intensify sales presence in Latin America and Singapore/Southeast Asia.

To manage the three reporting segments, the management monitors these areas individually and across the Group based on detailed and regular reports. The management steers the allocation of resources based on this information and institutes countermeasures where performance falls short of target. A streamlined Group structure ensures the Group management can effectively control and coordinate the subsidiaries' important business decisions.

Central metrics of the va-Q-tec Group that serve corporate steering by the management include revenue, earnings before interest, tax, depreciation and amortization (EBITDA) and the equity ratio. Compared with the previous year, the steering system at va-Q-tec AG has not changed. The Group's specific steering metrics are presented in greater detail below:

Revenue growth represents the basic indicator of business growth and the attractiveness of the Group's products, systems and services. Viewed at the level of the reporting segments and geographic distribution, revenue also serves as an indicator of the success and performance of the Group's business models.

EBITDA serves as the metric for profitability. To this is then added as a subsidiary measure the EBITDA margin measured in relation to total income as a benchmark for the Group's operative performance and profitability. As a fast-growing technology company, va-Q-tec invests significant proportions of its financial resources in machinery, plant and its fleet of containers and boxes for rental services. Furthermore, in the 2018 reporting period the company completed the aggregation of its Würzburg locations into a single management, technology and logistics center. A high level of depreciation during the current phase of establishing infrastructure and fleet distorts the actual picture of financial performance. For this reason, EBITDA, as an earnings figure before depreciation presents a more meaningful metric of the company's performance.

The equity ratio provides information about the strength of the va-Q-tec Group's balance sheet, its capacity to withstand crises, its creditworthiness and its credit risk. In the medium term, the company regards an equity ratio with a target range between 35% and 40% as representing a balanced relationship between debt and equity, and consequently of the risk distributed among equity investors and creditors.

In the area of non-financial performance indicators, the number of employees serves as an indicator and central steering metric of the growth in the Group's operating activities.

The following overview shows the growth in the relevant steering metrics. A detailed discussion of the key figures can be found in section 2.2.4 "Financial position and performance".

kEUR unless stated otherwise	2019	2018	Δ 19 / 18
Revenue	64,667	50,708	+28 %
EBITDA (IFRS)	9,673	3,027	+220 %
<i>EBITDA margin (IFRS)</i>	13 %	5 %	
Equity ratio	40 %	41 %	
Year-average number of employees	464	444	+20

### 2.1.2 Research and development

va-Q-tec is one of the leading technology innovators in the development and production of energy efficient and space-saving VIPs, high-performance PCMs and thermal packaging systems. The research and development area is of strategic importance to secure and further extend the company's technology leadership in the thermal insulation areas. Group research at va-Q-tec operates across the whole company, developing technologies for future-viable products and solutions for the Group companies.

va-Q-tec operates a portfolio of internal and external R&D projects that not only serve basic research on VIPs but also relate to five of the target sectors defined by va-Q-tec that require advanced thermal heat insulation and energy storage.

As a spin-off from a university – the Bavarian Centre for Applied Energy Research (ZAE Bayern) – va-Q-tec maintains partnerships with international associations, research institutions, universities and colleges. Internally, the company has established its own R&D organization with extensive capacities for basic research and, in particular, application-oriented research.

The past years' successful R&D activities have created a portfolio of patents which is reflected in the leading technology platform.

The worldwide unique va-Q-check® quality control system enables the insulation of VIPs to be controlled before use, or boxes and containers to be approved for reuse through measuring internal gas pressure. va-Q-tec VIPs are thereby the only heat insulation whose performance and efficacy can be measured and controlled at the place of use. This fosters confidence and trust in the VIP technology and enables va-Q-tec to meet its high-quality requirements of a demanding customer group, including complying securely, and on an evidenced basis, with the thermal protection requirements for cold chain transportation, for example. The patented va-Q-pro is a largely freely formable, powder-filled VIP, from which holes and sections can be cut on the production side and which can be manufactured in three-dimensional geometry. These properties and flexible structuring possibilities allow va-Q-pro to be deployed in very different application areas, including for batteries in e-vehicles or to insulate parts of aircraft, such as the galley, for example.

va-Q-tec conducted basic research in 2019 in applying VIPs in entirely new temperature ranges, for example. While conventional VIPs are typically deployed in the -80 to +80°C temperature range, va-Q-tec is working on expanding VIPs' deployment range through optimally combining various case materials and core materials, e.g. in temperature classes from 80 to 180°C as well as >400°C. The interest held in the Cologne-based start-up SUMTEQ is of strategic importance in the area of fundamental research for core VIP materials. The joint target of va-Q-tec and SUMTEQ remains the pilot testing and market launch of SUMTEQ's submicroporous foams as a further high-performance insulation material. This strategic partnership offers both companies the opportunity to contribute their respective specialist and technical research and development expertise, and thereby generate added value for customers. During the reporting period, SUMTEQ, supported by va-Q-tec's expertise, commenced small-series production, thereby reaching a significant milestone towards large-scale production and marketing.

In the year under review, va-Q-tec worked mainly on expanding and improving its existing product portfolio.

In the Products area (vacuum insulation panels), work was carried out on the further development of the existing portfolio and the new development of a panel class for medium and high temperatures. Such panels can be used wherever temperatures of up to approximately 400°C prevail on the one hand, and where very good insulation is required on the other hand, e.g. ovens for industry and food.

With the stackable "va-Q-tray", a thermal packaging system, food can be transported in such a way that it remains warm, cold or frozen for hours, or in some cases days. The temperature-holding time can optionally be extended by PCM rechargeable batteries. With the va-Q-tray, for example, bakery branches can be supplied efficiently with fresh produce: in contrast to existing styrofoam systems, va-Q-tray meets the highest hygiene and temperature chain requirements, can be used universally (e.g. as a portable refrigerator), and as a combinable system with non-insulated standard containers. In addition to the hygienic advantages, this also results in cost savings because additional refrigerated vehicles can be dispensed with.

"va-Q-med" was significantly further developed with external logistics partners in the past financial year. It ensures safe last-mile logistics without temperature deviations directly to the receiver. Unlike conventional, inefficient one-way packaging or CO<sub>2</sub>-intensive extra transports with refrigerated vehicles in congested inner cities, the va-Q-med boxes enable environmentally compatible, traffic-reducing and at the same time safe transport logistics. The transport system consists to a large extent of vacuum insulation panels. va-Q-tec phase change materials ("PCMs") supplement the strong insulation performance of VIPs. They ensure reliable and energy-efficient temperature control in the required range.

In order to control these logistic processes, va-Q-tec is increasingly developing advanced software and simulation solutions under the key term "TempChain 4.0". In combination with va-Q-tec thermal packaging, these enable the smart control of TempChains. To this end, IT resources were strengthened further in the period under review.



The technology platform is secured through around 170 industrial property rights and filings for industrial property rights. These relate mainly to efficient manufacturing methods for powder-filled VIPs as well as the va-Q-check® quality control system, a sensor technology to measure vacuums in VIPs. A total of 8 industrial property rights were filed, including 4 patents and 4 registered designs.

The company made further investments in its research and development area in the year under review. Expenditure for this area amounted to kEUR 2,417, around the previous year's level (kEUR 2,451). Research and development costs of kEUR 300 in total (previous year: kEUR 144) were capitalized in the reporting period.

## 2.2 BUSINESS REPORT

### 2.2.1 Macroeconomic environment and Group-specific conditions

In many regions of the world, the general uncertainty dampened growth during the past financial year. Many companies postponed investments. In some countries, private households also increased their savings ratio. Especially for Germany, which is particularly dependent on exports, forecasts for macroeconomic growth in 2019 had to be significantly reduced. Above all, trading tensions and uncertainties, for example regarding Brexit, weighed on corporate sentiment. The United Kingdom left the European Union on 31 January 2020. However, with the completion of the political withdrawal, no future economic issues have been settled. va-Q-tec is closely monitoring possible effects of Brexit through a dedicated team close to the Management Board. Overall, assuming a constructive solution, va-Q-tec does not expect any significant negative effects, especially on business in the UK reporting segment. Although operational control derives from the UK, the real added value is generated by the globally distributed container fleet. For further information on the opportunities and risks arising from Brexit, please refer to the report on opportunities and risks.

The outbreak of coronavirus may give rise to macroeconomic risks that could lead to significant declines in the affected regions or the global economy. For further information on coronavirus in connection with va-Q-tec, please see the report on opportunities and risks.

The International Monetary Fund (IMF) estimates that the world economy expanded by 2.9% in 2019. Provided political risks ease slightly in 2020, and US fiscal policy continues to exert a supportive effect, economic growth

could accelerate again in the second half of 2020. Accordingly, the IMF expects growth of 3.3% for 2020. Developing and emerging economies will make an above-average contribution to global growth, according to the forecast. As a globally active Group, va-Q-tec consequently sees itself exposed to both opportunities and risks in macroeconomic terms.

Key revenue drivers for the va-Q-tec Group include the two end-markets of Healthcare and Logistics as well as Appliances and Food, which together account for an 88% share of consolidated revenue.

With its German and UK segments, va-Q-tec is active in the market for thermal packaging systems – particularly for the healthcare industry as the most important sales market for va-Q-tec. Market research agency MarketsandMarkets takes an optimistic view of market growth over the coming years: over the 2016 to 2021 period, MarketsandMarkets expects an average annual growth rate of 9.1%, whereby va-Q-tec assumes the relevant market subsegments (high-performance packaging systems) will grow faster. More stringent regulatory requirements made of cold-chain logistics (according to “Good Distribution Practice”) are making ever more efficient packaging systems necessary for pharmaceutical industry customers. Moreover, market research agency IMARC assumes that 27 of the 50 top-selling medications worldwide will require cold-chain logistics in the 2 to 8°C range by 2020. va-Q-tec is convinced it can grow faster than the market with its high-quality system solutions for sale as well as rental solutions (“Serviced Rental” of thermal packaging systems). Especially with groundbreaking rental solutions, va-Q-tec aims to enter markets that conventional thermal packaging systems have served to date.

Germany alone has almost 20,000 pharmacies that are increasingly subject to regulations for transport and temperature logistics according to “Good Distribution Practice” (GDP). Our va-Q-tec transport solutions, e.g. based on va-Q-med technology, guarantee secure last mile logistics directly to the recipient without temperature deviations. With the va-Q-med-Box, va-Q-tec has the opportunity to play a crucial role in shaping the future of pharmacy and last-mile logistics.

After the healthcare industry, manufacturers of refrigeration and freezing equipment are the second most important customer. According to an estimate by ResearchAndMarkets, the market for vacuum insulation panels will grow by 20% annually between 2019 and 2026.

Overall, va-Q-tec addresses growing markets with its product business with VIPs. In Germany, approximately 60% of primary energy is harnessed for thermal purposes – refrigeration or heating in other words – according to the Working Group on Energy Balances (AGEB). With a worldwide increase in primary energy prices for consumers, greater awareness among customers about energy saving and more stringent statutory regulation, the economic and political incentive is increasing to invest in energy efficiency. This is leading to very interesting business opportunities for va-Q-tec products.

### 2.2.2 Business trends

After a strong first half of the year, the Group's dynamic growth continued in the second half of the year, so a 28% increase in revenues from kEUR 50,708 to kEUR 64,667 (kEUR +13,959) was achieved that in the 2019 financial year. The company benefited in particular from a significant expansion of its customer base in its strategically important Services business.

During the 2019 financial year, significant successes have been achieved as part of the Power 20+ program (see below), with cost efficiency improving in areas such as purchasing, network management and production. In addition to accelerated growth in the high-margin Services business, this contributed to the considerable earnings improvement. Earnings before interest, taxes, depreciation and amortization (EBITDA) more than tripled to kEUR 9,673 compared to kEUR 3,027 in the previous year, with a significant margin increase from 5% to 13%.

As a consequence, the revenue forecasts, which had already been raised in the course of the financial year, were even exceeded, and EBITDA reached the upper end of the range. Due to the positive business trend, with the publication of the 9M figures the Management Board decided to raise the revenue and EBITDA forecast, which for the H1 earnings release had been specified at the upper end of the range. The Management Board had previously assumed around 20% year-on-year revenue growth for FY 2019. The expected revenue growth for the 2019 financial year was then raised to 23% to 26% compared to the previous year. In addition, va-Q-tec continued to expect an EBITDA margin of 11% to 14% for the 2019 financial year, compared with an EBITDA margin of 5% in the 2018 financial year.

### Products division (sale of vacuum insulation panels and phase change materials)

In its Products division (sale of vacuum insulation panels and phase change materials), va-Q-tec has benefited over recent years from increasing energy efficiency requirements, e.g. for refrigerators or hot water storage tanks. New customers from promising industries and end applications, such as the aviation sector, were acquired. In Q1 2019, va-Q-tec underlined this, including by jointly applying for the "Crystal Cabin Award" with Airbus Operations GmbH. The international innovation award honors outstanding concepts in the area of aircraft cabin interiors. Revenues in the Products business were slightly down on the strong prior-year basis at kEUR 18,440 (previous year: kEUR 20,122). Revenues in this area have almost doubled since 2016 and, when looking at the last three years, the medium-term cycles typical of va-Q-tec's dynamic growth markets are also reflected in this business segment. In the refrigerator and freezer segment, however, end markets are also feeling increasing competitive pressure from Asia and Eastern Europe.

### Systems division (sale of thermal packaging systems)

In the Systems division, which is often influenced by large projects in individual quarters, revenue rose by 33% year-on-year, from kEUR 11,307 to kEUR 15,054 (kEUR +3,746). Of particular significance for va-Q-tec in 2019 was a project order from kohlpharma, a pharmaceuticals reimporter. In future, transport systems deploying va-Q-med® technology will now ensure reliably constant transportation temperatures, so that kohlpharma's customers also receive their medicines at top quality in the particularly critical 2-8°C range. As early as 2017 va-Q-tec delivered to the Swiss Post the first high-performance thermoboxes for the transport of pharmaceutical products for pharmacies, and commands significant experience in handling large transport volumes. va-Q-tec supplied kohlpharma with a fleet of reusable transport systems in 2019. The company will also support kohlpharma in the design of a requalification concept.

### Services division (Serviced Rental of thermal packaging systems)

In 2019, the Services division continued on the very positive trend that began in Q4 2018: in the reporting period, va-Q-tec generated revenues of kEUR 29,811, which corresponds to an increase of 62% or kEUR 11,425 compared to the previous year. The Services business thereby comprised the most important growth area in the past financial year, contributing 46% of Group revenue. The attractive rental business thereby replaced the product business as the highest-revenue business area in 2019. Revenues with existing major customers for the "Serviced

Rental" of containers continued to perform well, and with continuously growing volumes. In addition, the leasing of containers to customers with a formerly small contribution to revenue was expanded, in some cases very significantly. In the course of the strong expansion of business, the need for repositioning empty containers by air freight also grew, so that the gross profit margin failed to be improved in percentage terms, despite the significant increase in revenue. In the rental of small thermal transport boxes, the business with a large customer from the pharmaceutical industry in the USA was further expanded. Overall, the company benefited from a significant expansion of its customer base.

### National and international business trends

In 2019, va-Q-tec made strategic progress in extending its technological leadership. The *WirtschaftsWoche* weekly business magazine ranks va-Q-tec second in its listing of "Germany's most innovative medium-sized companies in 2019". Innovative va-Q-tec insulation solutions are finding potential applications both in established regions as well as in the end markets of Appliances and Food (refrigerators and commercial refrigeration) and Technics and Industry (hot water tanks). The attractiveness for other areas, e.g. for mobility applications and in the construction sector, not only opens up additional growth prospects but also potential for technological differentiation.

The company also continued on its course of internationalization. The subsidiaries in the USA and Switzerland have performed well and are making substantial revenue contributions. The two new subsidiaries in Uruguay and Singapore founded just last year are already contributing more than expected to Group revenue. Overall, va-Q-tec has expanded its international network to seven subsidiaries and has thereby established strong positions for itself in the most important global markets.

va-Q-tec generates a total of 68% of its revenues outside Germany (previous year: 65%).

In China, va-Q-tec created a basis for market entry in Q4 2019 and opened a new TempChain Service Center (TSC) in Shanghai together with its partner Worldwide Logistics. The Chinese pharmaceutical market is the second largest in the world after the US market. Its volume is set to expand USD 200 billion by 2022, according to estimates. This market's annual growth rates for temperature-controlled transport and storage are the highest in the world. Thanks to the strategic partnership with Worldwide Logistics, va-Q-tec is able to offer Chinese customers optimal availability and access to its box and container rental fleet.

In addition, customers worldwide are in a position to organize goods flows to China via the TSC in Shanghai. Following the establishment of new subsidiaries in Japan, South Korea and Singapore, the opening of the TSC underscores the company's growth ambitions in Asia.

### "Power 20+ " performance program further advanced in 2019

The Management Board launched the "Power 20+" program in Q4 2018. This initiative has two clear strategic priorities: firstly, a focus on profitable sales revenue growth, e.g. by optimizing sales processes in the Services division; secondly, a focus on continuous cost efficiency in production, purchasing, logistics and supporting areas such as IT. Over 60 specific projects and measures in 2019 were in place for the two strategic priorities, which were regularly measured, monitored and adapted in terms of their effectiveness. In total, the program contributed over EUR 3 million to the earnings improvement in 2019. Many of the measures will continue to contribute to increased efficiency beyond 2019. For this reason, the program will be continued in 2020 and further developed as a constant endeavor for ideas for improvements and cost savings.

### Extension of the appointment of Stefan Döhmen (CFO)

At its last meeting, the Supervisory Board of va-Q-tec AG appointed Stefan Döhmen, the company's CFO, to the Management Board for a further three years until the end of 2022. With this contract extension, the Supervisory Board acknowledges Mr. Döhmen's important contributions within his department to the successful development of va-Q-tec AG since its IPO. Mr. Döhmen has further professionalized and efficiently structured his department as a whole, and complements Dr. Kuhn very well in his role as CEO.

### 2.2.3 Non-financial performance indicators

#### Employees at va-Q-tec

As a technology company with extensive coverage of the value chain, va-Q-tec ascribes particular significance to its staff and their qualifications. The employees' knowledge, skills, further development and commitment are essential for the further success and performance of va-Q-tec. Staff received both in-house and external training measures during the year under review. Along with corresponding functional training sessions for employees, the focus was on the cross-functional topic of project management. va-Q-tec employs a high number of students, especially in research and development. A total of 14 working students were employed at va-Q-tec (previous year: 18). The average of employees (excluding Management Board members and trainees) grew in the previous by 20, from 444 in the previous year to 464 in the 2019 financial year.



## 2.2.4 Business results and analysis of the financial position and performance

### Results of operations

kEUR unless stated otherwise	2019	2018	Δ 19/18
Revenues	64,667	50,708	+28 %
Total income	72,817	61,364	+19 %
Cost of materials and services	-28,993	-25,722	+13 %
Gross profit	43,824	35,642	+23 %
Personnel expenses	-22,389	-20,403	+10 %
Other operating expenses	-11,762	-12,212	- 4 %
EBITDA	9,673	3,027	+220 %
EBITDA margin on total income	13 %	5 %	-
EBITDA margin on revenue	15 %	6 %	-
Depreciation and amortization	-12,232	-9,864	+24 %
EBIT	-2,559	-6,837	+63 %
Result from equity accounted investments	-68	-110	-
Fair value measurement of SUMTEQ	1,771	-	-
Net financial result	-1,063	-828	+28 %
EBT	-1,919	-7,775	+75 %

Overall, new order intake in the 2019 financial year lay significantly above the previous year's level. The order book position



as of 31 December 2019 also increased further compared with the previous year, supporting the company's positive outlook. Given this, va-Q-tec grew its revenues in the past financial year by a very strong 28% year-on-year to reach kEUR 64,667.

The revenue growth was driven to a particularly significant extent by the Services division ("Serviced Rental" of thermal packaging systems), which recorded an increase in revenue of kEUR 11,425, from kEUR 18,386 to kEUR 29,811 (+62%). In the Systems division (thermal packaging systems), revenues grew by kEUR 3,747, from kEUR 11,307 to kEUR 15,054 (+33%). Compared with a very strong prior-year basis, the business with Products was down by kEUR 1,682, from kEUR 20,122 in 2018 to kEUR 18,440 (-8%).

In view of the positive business trend, the Management Board had decided, at the time of the publication of the 9M figures, to raise the revenue and EBITDA forecast which it had originally issued at the start of the year, and which at the time of the half-year results it had further specified at the upper end of the range. Until that time, the Management Board had assumed approximately 20% year-on-year revenue growth for FY 2019. The expected revenue growth for the 2019 financial year was then raised to 23% to 26% compared to the previous year. In addition, va-Q-tec continued to expect an EBITDA margin of 11% to 14% for the 2019 financial year. This adjusted forecast was exceeded with the final figures in terms of revenue with growth of 28%, and at the upper end of range in terms of EBITDA with a margin of 13%.

The German segment (va-Q-tec AG) contributed kEUR 34,442 to consolidated revenue (previous year: kEUR 33,650), the UK segment (va-Q-tec UK) kEUR 24,917 (previous year: kEUR 14,737), and the Other segment kEUR 5,308 (previous year: kEUR 2,321).

Total income in 2019 reported weaker growth than the rate of revenue growth, and was up by 19% to kEUR 72,817. Work performed by the company and capitalized (which is included in total income) of kEUR 3,947 in the reporting period was generated mainly from the continued expansion of the container and box fleets (previous year: kEUR 5,620). Other operating income of kEUR 4,498 (previous year: kEUR 3,748) arose largely from releasing the special item deriving from container sale-and-leaseback transactions. This special liability item arose by the end of 2018 from the sale of self-produced containers by the parent company va-Q-tec AG or by va-Q-tec UK Ltd to leasing companies, and subsequent finance leaseback by the UK subsidiary. It represents the difference between the market price of the container and

its production cost, and is released over a five-year depreciation period and added to other operating income (please see note 3.2.1 "Sale and finance leaseback transactions" in the notes to the consolidated financial statements for more information). Due to the introduction of the new IFRS 16 accounting treatment of leasing transactions, no new special items on the liabilities side will be formed. Instead, the containers will only be capitalized at production cost at Group level.

The cost of materials and services was up by 13% from kEUR 25,722 to kEUR 28,993, below the average rate of total income growth, and leading to a cost of materials ratio of 40% (previous year: 42%). At the same time, the cost of purchased services as part of the cost of materials rose by kEUR 4,196 to kEUR 12,642 (previous year: kEUR 8,446), mainly due to the necessary repositioning of empty air freight containers and other container rental business costs in the course of the strong expansion of business in this area.

Personnel expenses were up from kEUR 20,403 in the previous year to kEUR 22,389 in the 2019 financial year (+10%), thereby decreasing significantly to 31% in relation to total income (previous year: 33%). The absolute increase is mainly due to new hires at the foreign subsidiaries, higher bonuses and management bonuses based on the significantly improved results compared to the previous year, as well as salary updates of hires from 2018.

Other operating expenses reduced from kEUR 12,212 in the previous year to kEUR 11,762 (-4%) in the reporting period. Measured against total income, this results in a lower other operating expense ratio of 16% (previous year: 20%). The reason for the reduction was closely monitored cost control as part of the Power 20+ program. In addition, in 2019 the duplication and relocation costs incurred in the previous year in connection with the move to the new Group headquarters in Würzburg and the new production hall in Kölldeda will no longer apply. The effect of the introduction of lessee accounting according to IFRS 16 and the associated initial recognition of lease liabilities in relation to other operating expenses was kEUR 1,018.

As a result of these developments, earnings before interest, tax, depreciation and amortization (EBITDA) reported a very sharp improvement, from kEUR 3,027 in the previous year to kEUR 9,673. This corresponds to a significantly better EBITDA margin of 13% in relation to total income (previous year: 5%). The Group forecast of an EBITDA margin on total revenues of between 11% and 14%, which was adjusted in the context of the 9M publication, was thereby achieved at the upper end of the range. In relation to revenue, this represents a 15% margin, compared to 6% in the previous year.

Depreciation and amortization increased by 24% to kEUR 12,232 (previous year: kEUR 9,864) due to the substantial investments realized in previous years and the significantly higher depreciation deriving from the first-time application of IFRS 16. The effect on depreciation of the introduction of lessee accounting according to IFRS 16, and the associated initial recognition of rights of use, amounted to kEUR 976.

Earnings before interest and tax (EBIT) improved by kEUR 4,278, from kEUR -6,837 in previous year to kEUR -2,559.

The attractiveness of the investment in SUMTEQ GmbH is clearly illustrated by the change from equity accounting to fair value accounting: in 2019, this results in non-recurring income of kEUR 1,771. The change was necessitated because va-Q-tec AG is no longer able to exercise significant influence over the investment company following the entry of new shareholders with, in some cases, higher shareholdings, changes in the articles of association of SUMTEQ GmbH, and the termination of the chairmanship of the advisory board of SUMTEQ GmbH.

The net financial result amounts to kEUR -1,063 after kEUR -828 in the previous year, which is attributable to the annualization of the costs of the external financing assumed.

For the 2019 reporting period, this leads to a significantly reduced pre-tax loss (EBT) of kEUR -1,919, compared to a loss of kEUR -7,775 in the same period of the previous year, driven by the significantly improved EBITDA and EBIT figures and additionally due to the one-time effect described above in connection with the accounting for the SUMTEQ investment.

#### German reporting segment (va-Q-tec AG)

kEUR unless stated otherwise	2019 (IFRS)	2018 (IFRS)	Δ 19/18
Revenues	44,028	44,565	-1%
EBITDA	1,009	580	-74%
Equity ratio	56%	57%	
Average number of employees	398	390	+8

In the German reporting segment (va-Q-tec AG), revenues decreased slightly by kEUR 537 (-1%), from kEUR 44,565 in the previous year to kEUR 44,028 in 2019. The decline in revenue was mainly attributable to the sharp reduction at the start of the year in the sale of containers to leasing companies and the UK subsidiary, and slight declines in revenue in the Products division. Revenues in this area have almost doubled since 2016 and, when looking at the last three years, the medium-term cycles typical of va-Q-tec's dynamic growth markets are also reflected in this business segment. In the refrigerator and freezer segment, however, end markets are also feeling increasing competitive pressure from Asia and Eastern Europe. EBITDA amounted to kEUR 1,009 (previous year: kEUR 580). The average number of employees rose by 8 to 398 (previous year: 390).

#### UK reporting segment (va-Q-tec UK Ltd.)

kEUR unless stated otherwise	2019 (IFRS)	2018 (IFRS)	Δ 19/18
Revenues	26,255	16,044	+64%
EBITDA	8,665	4,334	+100%
Equity ratio	16%	15%	
Average number of employees	41	37	+4

Revenues in this segment grew by 64% from kEUR 16,044 in the previous year to kEUR 26,255 in 2019. In addition, service revenue generated with a major pharmaceutical customer, for which revenue was still declining in 2018, strengthened again. Revenues with existing major customers for the "Serviced Rental" of containers continued to perform well, and with continuously growing volumes.

In addition, the leasing of containers to customers with a formerly small contribution to revenue was expanded, in some cases very significantly. In the course of the strong expansion of business, the need for repositioning empty containers by air freight also grew, so that the gross profit margin failed to be improved in percentage terms, despite the significant increase in revenue. EBITDA was down up kEUR 4,331, from kEUR 4,334 in the previous year to kEUR 8,665 in 2019. The average number of employees rose from 37 to 41.

### Other reporting segment

kEUR unless stated otherwise	2019 (IFRS)	2018 (IFRS)	Δ 19/18
Revenues	6,511	4,089	+59%
EBITDA	-186	53	
Equity ratio	-7%	10%	
Average number of employees	25	17	+8

The subsidiaries in Uruguay, Korea, Japan, Switzerland, Singapore and the USA, which together form the Other reporting segment, reported a significant increase in revenue overall. This is driven by higher sales and purchasing commissions and mainly by significantly growing own revenues in the regions. The subsidiaries in the USA and Switzerland performed especially well and are now making substantial revenue contributions. Our two new subsidiaries founded just last year in Uruguay and Singapore are already contributing more than expected to Group revenue. All subsidiaries in the Other reporting segment are particularly important for local presence, the expansion of regional operating activities, and the perception of va-Q-tec as a reliable global and regional partner. EBITDA decreased to kEUR -186 after kEUR 53 in the previous year due to the start-up costs of the new foreign companies. The average number of staff amounted to 25 (previous year: 17).

### Financial position

#### Principles and goals of financial management

The financing strategy of va-Q-tec is oriented to providing the funds required for strong growth. Recourse is made in this context to various financing instruments such as loans, leasing, factoring, overdrafts and government subsidies. Existing financing instruments were optimized

continuously in terms of their structures and interest rates. In total, va-Q-tec has adequate liquidity for the needs of a rapidly growing company as of 31 December 2019 with bank balances plus open credit lines of more than EUR 10 million. Together with further financing facilities of up to EUR 5 million, which are in negotiation, the financial scope would amount to more than EUR 15 million. In connection with the expiration of the multi-bank master loan agreement on 31 December 2020, the company is also holding discussions with banks and financial institutions on short- and medium-term debt financing instruments.

### Liquidity

kEUR	2019	2018
Net cash flow from operating activities	7,188	-3,653
Net cash flow from investing activities	-8,942	-11,965
Net cash flow from financing activities	-2,972	22,624
Net change in cash and cash equivalents	-4,664	6,953

Der Net cash flow from operating activities including working capital changes amounted to kEUR 7,188 in 2019, kEUR 10,841 above the adjusted level of kEUR -3,653 in the prior year. Before working capital changes, va-Q-tec generated a positive cash flow from operating activities of kEUR 5,808 as of the balance sheet date, compared with kEUR -419 in 2018.

The improvement in cash flow reflecting working capital changes is due to the reduction in inventories of kEUR 333 in 2019, among other factors. Inventories had continued to report a sharp increase in the previous year (kEUR 2,384), in particular to ensure the ability to deliver during the relocation-related standstill of the production lines and in part to increase safety stocks of materials required for production and the initial equipment of subsidiaries abroad. Cash flow from trade payables was also slightly positive in the reporting period (kEUR +127; previous year: kEUR -1,277). Despite the significant increase in revenue, trade receivables decreased considerably as of the balance sheet date as part of an expansion of factoring, so that here too a positive cash flow of kEUR 920 was generated (previous year: kEUR 427). The effect of the expansion of factoring on the cash flow from operating activities amounted to kEUR 498 in 2019. In addition, the first-time application of IFRS 16 led to a positive effect on cash flow from operating activities of kEUR 965. Cash flow from financing activities developed in the opposite direction accordingly.

Cash flow from investing activities changed from kEUR -11,965 in the prior-year period to kEUR -8,942 in 2019. The previous year's figure for actual investments was still influenced by the countervailing utilization or release of short-term time deposits (kEUR +9,000). The purchase of property, plant and equipment resulted in kEUR -8,746 of cash flow, compared with kEUR -19,789 in the previous-year period. The reason for this decrease is the planned decline in investments, since the most important investments and initiatives for further growth towards EUR 100 million in revenue were largely completed faster than originally planned in 2018.

Cash flow from financing activities in the amount of kEUR -2,972 (previous year: kEUR 22,624) arises from the scheduled net repayment of liabilities to banks and leasing companies compared to the significantly higher new borrowings to finance long-term investments and working capital requirements in the previous year.

The first-time application of IFRS 16 had no effect on the cash flow statement, as neither the capitalization of the rights of use of leased assets nor the accounting of the corresponding lease liabilities resulted in any cash inflow or outflow. As a result of the application of IFRS 16, the actual payment of the lease obligations is reflected as cash outflow from financing activities and no longer as cash outflow from operating activities as in the previous year. In the 2019 financial year, this effect of the payments of lease obligations of va-Q-tec amounted to kEUR 965.





## Net assets and capital structure

### Assets

kEUR	31/12/2019	31/12/2018
<b>Non-current assets</b>		
Intangible assets	2,233	2,437
Property, plant and equipment	68,879	69,390
Investment property	1,614	1,614
Contract assets	158	157
Equity accounted interests	-	580
Financial assets	2,474	184
Other non-financial assets	1,100	647
Deferred tax assets	2,319	2,961
<b>Total non-current assets</b>	<b>78,777</b>	<b>77,970</b>
<b>Current assets</b>		
Inventories	10,676	10,924
Trade receivables	6,666	7,557
Other financial assets - of which term deposits (6-12 months): kEUR 0 (previous year: kEUR 9,000)	586	334
Current tax assets	230	135
Other non-financial assets	1,364	1,073
Cash and cash equivalents	7,490	12,154
<b>Total current assets</b>	<b>27,012</b>	<b>32,177</b>
<b>Total assets</b>	<b>105,789</b>	<b>110,147</b>

Compared with 31 December 2018, property, plant and equipment decreased slightly by a total of kEUR 511 to a level of kEUR 68,879 as of 31 December 2019. Total non-current assets rose by kEUR 807 to kEUR 78,777 as of 31 December 2019. This is primarily due to the change in accounting necessitated for the SUMTEQ investment from equity accounted to the fair value method, as a significant influence on the financial and business policy decisions of the investment no longer exists following the changes in the agreements under company law and the entry of new

shareholders as part of a capital increase. From 7 June 2019, the investment will instead be recognized at fair value under financial assets. Fair value measurement leads to the investment being recognized on the balance sheet in the amount of kEUR 2,283 compared with an equity accounted valuation of kEUR 580 as of 31 December 2018, which highlights the attractiveness of the investment in SUMTEQ GmbH.

Despite the revenue growth, inventories decreased by kEUR 248 to kEUR 10,676 (previous year: kEUR 10,924), which is also due to the normalization of safety stocks, which increased in the previous year, and pre-production ahead of the interruption of production in Würzburg due to the relocation. Despite the revenue growth, trade receivables also declined significantly, with a reduction of kEUR 891 to kEUR 6,666 as of 31 December 2019 compared to 31 December 2018 (previous year: kEUR 7,557). In addition to an improvement in the payment behavior of customers in the UK, this is also due to an expansion of factoring in the 2019 financial year beyond the factoring practiced exclusively on a selective basis with individual customers in previous years. Current other financial assets increased by kEUR 252 from kEUR 334 to kEUR 586 as of 31 December 2019, due to receivables from the factoring company, e.g. for deposits. Total current assets rose from kEUR 32,177 as of 31 December 2018 to kEUR 27,012 as of 31 December 2019. Total assets reduced from kEUR 110,147 to kEUR 105,789 as of 31 December 2019.

### **Investments**

The main focus of investment activity, which was significantly reduced in 2019 compared with 2018 and 2017, was on continued investment in real estate in Kölleda, the slowdown in the expansion of the container fleet for the global container rental business, and the expansion of the thermobox fleet, as well as major IT projects. A total of kEUR 11,312 gross was invested in property, plant and equipment, of which kEUR 2,405 was invested in the container fleet (previous year: kEUR 10,517) and kEUR 525 in intangible assets (previous year: kEUR 1,623). In addition, the first-time application of IFRS 16 as of 31 December 2019 resulted in a balance sheet effect from the capitalization of rights of use in the amount of kEUR 2,183. Property, plant and equipment, net of depreciation and other movements, fell slightly from kEUR 69,390 to kEUR 68,879. Especially the investments already realized in 2017 and 2018 form the basis for the further expansion of the company towards a revenue level of EUR 100 million.

**Equity and liabilities**

kEUR	31/12/2019	31/12/2018
<b>Equity</b>		
Issued share capital	13,090	13,090
Treasury shares	-54	-54
Additional paid-in capital	46,158	46,158
Consolidated total other comprehensive income	-26	-39
Retained earnings	-16,461	-13,895
<b>Total equity</b>	<b>42,707</b>	<b>45,260</b>
<b>Non-current liabilities</b>		
Provisions	73	79
Bank borrowings	22,840	24,732
Other financial liabilities	5,333	6,814
Other non-financial liabilities	6,547	9,310
<b>Total non-current liabilities</b>	<b>34,793</b>	<b>40,935</b>
<b>Current liabilities</b>		
Provisions	130	62
Bank borrowings	11,404	9,400
Other financial liabilities	6,867	4,873
Liabilities from contracts with customers	308	19
Trade payables	4,485	4,594
Tax liabilities	42	79
Other non-financial liabilities	5,053	4,925
<b>Total current liabilities</b>	<b>28,289</b>	<b>23,952</b>
<b>Total Equity and liabilities</b>	<b>105,789</b>	<b>110,147</b>

Due to the loss incurred overall by the Group, the Group's equity decreased by kEUR 2,553 to kEUR 42,707, although this still

corresponds to a very solid equity ratio of 40% as of 31 December 2019 owing to the likewise significantly lower level of total assets (31 December 2018: 41%).

Long-term bank borrowings consist primarily of real estate loans with terms of 15 to 20 years, and fixed interest rates

at the current low level. Liabilities decreased from kEUR 24,732 to kEUR 22,840 due to the scheduled repayment of loans. Current bank borrowings reported a rise from kEUR 9,400 to kEUR 11,404, reflecting greater utilization of overdraft lines.

Non-current other financial liabilities reduced from kEUR 6,814 to kEUR 5,333. Within this item, the sale-and-finance-leaseback financing for the container fleet, in particular, declined significantly from kEUR 5,942 to kEUR 3,956. Due to the first-time recognition in accordance with IFRS 16 in the amount of kEUR 1,298, the total value of long-term leasing liabilities nevertheless only decreased by kEUR 688 to kEUR 5,254. Non-current other non-financial liabilities decreased significantly by kEUR 2,763 from kEUR 9,310 to kEUR 6,547, primarily due to the decline in special items for container profits. Development banks disbursed no funds for investments to va-Q-tec in the reporting period (previous year: kEUR 1,664). Other current financial liabilities rose from kEUR 4,873 to kEUR 6,867, primarily due to the first-time recognition of rights of use in accordance with IFRS 16 (kEUR 896) and the increase in liabilities for outstanding invoices by kEUR 477 in total. Other current non-financial liabilities changed on balance by only kEUR 128. Within this item, above all the special item for deferred container profits fell by kEUR 469, while liabilities for employee bonuses and profit-sharing increased by kEUR 572 as a result of the significantly improved results.

Liabilities to banks plus equipment leasing (including leasing liabilities of kEUR 2,194 from the first-time recognition under IFRS) accounted for kEUR 42,382, or 40% of total assets (previous year: kEUR 42,186, 38%). At the level of the UK reporting segment, further financing transactions were concluded as part of the container fleet expansion, which, however, were allocated to bank borrowings due to contractual changes. For this reason, the total volume of finance leases decreased by kEUR 2,111, from kEUR 8,054 in the 2018 year to kEUR 5,943 in the 2019 financial year. Current liabilities and provisions stood at kEUR 28,289 in the financial year under review, representing 27% of total equity and liabilities (previous year: kEUR 23,952, 22%). The Group's non-current liabilities amounted to kEUR 34,793 as of 31 December 2019, corresponding to 33% of total assets (previous year: kEUR 40,935; 37%). Trade payables reduced slightly to kEUR 4,485, compared with kEUR 4,594 in the previous year.

#### **Overall statement on business progress**

va-Q-tec returned to its growth track with dynamic EBITDA and earnings performance in the most profitable financial year in the company's history. In 2019, the Group reported very strong revenue growth year-on-year. The Services division ("Serviced Rental" of thermal packaging systems) is driving this growth to a very significant extent.

The Products division (sales of vacuum insulation panels and phase change materials) maintained the previous year's high level, and further growth, including project-based growth, was achieved in the Systems division (thermal packaging).

EBITDA more than tripled year-over-year thanks to growing service revenues with high EBITDA margin and disciplined cost control from the "Power 20+" program. It is particularly noteworthy that operating cash flow is clearly positive and that va-Q-tec continues to report a very good equity ratio.

## **2.3 FORECAST**

### **2.3.1 Outlook**

The following forecasts for the trend in management metrics were made under the assumption of the macroeconomic conditions for 2020 described in section 2.2.1. They are also based on the expected positive growth rates in the market for VIPs and insulation materials overall. A high growth dynamic is expected in the market for thermal packaging and services, particularly in the high-performance thermal packaging segment. These assumptions are underpinned by estimates produced by market research institutes IMARC and ResearchAndMarkets, which already expect growth in the low double-digit percentage range (see 2.2.1 Macroeconomic environment and Group-specific conditions). Above and beyond this, va-Q-tec expects to benefit to an above-average extent from the megatrends of energy efficiency, regulation of cold chains (product safety), and the globalization of value chains. Also taking into consideration the opportunities and risks entailed in operating activities as outlined in section 2.4.2, the company identifies growth levers in tapping new markets and application areas in terms of both products (e.g. last mile to the pharmacy, the utilization of rental containers for temperature-sensitive goods outside the pharmaceuticals industry, TempChain 4.0 applications) and geography (new and further developed country markets such as North America).

#### **Overall statement**

The spread of coronavirus is currently hitting the global economy hard. It is uncertain with which severity and duration this will also affect va-Q-tec. It is almost impossible to provide reliable guidance at the present time. After revenues reported very strong growth over the past five years at an average of 25% per year, and again at a very strong rate of 28% in 2019, va-Q-tec would expect, under normalized economic conditions, medium to strong

revenue growth for the 2020 financial year compared to 2019, in its three reporting segments and underlying business areas. Strong to very strong revenue growth is expected especially in the Services division. However, in view of the current economic uncertainties caused by the coronavirus pandemic, on a precautionary basis we are at present assuming only moderate to medium growth. The Group generates around 70% of its revenues in the healthcare sector, which is likely to be one of the least affected sectors of the economy worldwide, as medical care for the population is likely to be a priority. In va-Q-tec products, vital drugs and raw materials for drugs with a market value of several billions of euros are transported annually.

As far as earnings before interest, tax, depreciation and amortization (EBITDA) are concerned, the company expects – on the basis of normalized economic conditions – strong year-on-year growth for the 2020 financial year thanks to operating economies of scale and a changed product mix reflecting a growing proportion of higher-margin services. On a precautionary basis, the company is not anticipating any margin improvement compared to 2019 due to possible additional costs and potential revenue losses caused by the coronavirus pandemic.

The company expects the equity ratio to reduce slightly in the 2020 financial year, but to remain within the target range of 35 to 40%.

Under normalized economic conditions, the number of employees will increase slightly in 2020 in the context of international business expansion, or remain constant in the context of the coronavirus pandemic.

As a consequence, the Management Board of va-Q-tec AG expects – under normalized economic conditions – above-average revenue growth compared with the target markets, accompanied by a further significant improvement in EBITDA profitability compared with 2019. In view of current developments, the Management Board assumes at present, on a precautionary basis, that the coronavirus pandemic will have a negative impact, thereby implying revenue growth in the moderate to medium range, accompanied by constant EBITDA profitability.

### 2.3.2 Forward-looking statements

This report includes forward-looking statements based on current assumptions and forecasts of the management of va-Q-tec AG. Such statements are subject to risks and uncertainties. These and other factors can lead the company's actual results, financial position, development or performance to differ significantly from the estimates provided here. The company assumes no obligation of any kind to update such forward-looking statements and adjust them to future events or developments.

This document is an English translation of an original German document; in the event of discrepancies, the original German version shall prevail and take precedence over the English translation of the document. For technical reasons, formatting differences may arise between the accounting documents contained in this document and those published due to legal requirements.

For reasons of better readability, the masculine form is predominantly used in this annual report. Nevertheless, the information refers to persons of any gender.



## 2.4 REPORT ON OPPORTUNITIES AND RISKS

### 2.4.2 Risk management and internal control system

Risk management va-Q-tec is based on three main aspects:

- a risk-aware corporate culture
- a formalized risk management system
- the internal control system

#### **Anchoring risk awareness within the corporate culture**

All successful business activity is connected with the conscious assumption of risks. It is crucial to the corporate governance of va-Q-tec that existing and newly added risks be handled in such a way to enable them to be managed actively, and incur as few losses as possible. Opportunities in a business sense should also be exploited to enhance the company's value for all stakeholders. va-Q-tec enjoys a high degree of "risk awareness", which is communicated openly and transparently. From the Management Board's perspective, risk awareness that is translated into practice forms one of the most efficient instruments for handling risks. If employees are aware of risks and manage them professionally, the risk of losses being incurred because of risks materializing is diminished. Risks are disclosed and managed proactively and transparently in such an environment. The establishment and company-wide communication of compliance guidelines also fosters greater awareness of compliant behavior. A compliance management system is in place that defines a code of conduct for both internal and external business activity. The compliance officer appointed in this context records, processes and reports to the Supervisory Board and its Audit Committee on all relevant compliance cases.

#### **Risk management system**

Risk management at va-Q-tec refers to the systematic engaging with risks, understood as negative events whose occurrence can incur losses and/or unforeseen costs within the company. To meet this requirement, internal and external risks for all segments and subsidiaries are systematically surveyed, measured, steered, managed and reported to the Management and Supervisory boards with the risk management system.

To supplement the existing internal and external control system, the Group management of va-Q-tec already implemented a further developed and formalized risk management system (RMS) in the 2016 financial year for this purpose. The RMS is based on the experience gained in recent years in identifying risks, e.g. the findings of the risk inventory compiled during the preparation of the risk inventories since 2017. At the meetings of the Management Board, the Audit Committee and the Supervisory Board, the developments/changes in existing risks and the emergence of new risks regularly form the subject of consultations. As in the previous year, the risk situation in the 2019 financial year was evaluated on the basis of two risk inventories as of the reporting date. In the interim, a regular exchange of information on the risk situation also occurred between those responsible for risk officers, risk managers, the Management Board and the Supervisory Board. Furthermore, the RMS was continuously further developed during the course of the 2019 financial year.

The aims of the risk management system at va-Q-tec are, as a matter of principle, to avoid, reduce and transfer risks, including through corresponding insurance cover, for example. Along with compliance with regulatory requirements, systematic risk management secures long-term and sustainable competitiveness. Such risk management also aims to identify potential going concern risks at an early stage. Risk management at va-Q-tec is not only a security instrument but also a management instrument. Identified risks also offer new business opportunities and competitive advantages.

The RMS is based on a reporting process, a defined risk inventory and risk assessment during the course of the year. As part of the risk inventory, the respective decision-makers and experts within the specialist areas appraise all significant risks. Risks identified within the va-Q-tec Group are measured according to their potential loss and taking event probabilities into account. The risks identified as part of the risk analysis are categorized into risk classes according to their event probability and impact, by multiplying their respective effect by their respective event probability. The bandwidth of event probabilities and effects starts with "very low" and ends with "very high". Risks can thereby be differentiated and prioritized according to the resultant expected risk value. The specialist areas are required to identify and report new risks as part of risk appraisal during the course of the year. The information that is aggregated in this manner is summarized in risk files that are addressed and reported to the Management Board of the va-Q-tec Group.

All risks – newly added as well as existing – are also to be monitored and reported continuously. Requisite countermeasures are launched quickly, and subsequently monitored.

New risks and significantly changed risks also form fixed agenda items at all regular management meetings, at all Management and Supervisory board meetings. They are discussed as part of results briefings between the Management Board of the va-Q-tec Group and the managers of the specialist areas. A review is also conducted as to whether risk minimizing measures that have already been taken are sufficient, or whether further steps are to be initiated (such as in terms of ad hoc capital market communications). The Group risk management system enables the company's management to identify significant risks at an early stage and in order to initiate countermeasures and monitor their implementation. The auditor also examines the risk early warning system to ensure it is suited to the early identification of going concern risks.

#### Accounting-related internal control system

va-Q-tec operates a clear organizational, corporate, as well as control and supervision structure. Planning, reporting, controlling and early warning systems and processes exist across the company for the comprehensive analysis and management of earnings-relevant risk factors and going concern risks. The functions in all areas of the (Group) financial accounting process (e.g. financial accounting, financial bookkeeping and controlling) are clearly allocated. To date, va-Q-tec AG has refrained from operating a separate internal audit function due to the company's somewhat small dimensions and limited complexity.

Use is mainly made of standard software (Navision) as far as installed financial systems are concerned. Standard consolidation software is used to prepare separate and consolidated financial statements. Here, existing structures have to be adjusted constantly to reflect the company's growth and changing conditions, such as capital market requirements.

The IFRS consolidated financial statements are prepared based on a standard reporting format for submission by all Group companies to the central administration in Würzburg. The validation processes applied there and additional plausibility checks ensure that the separate financial statements of the subsidiaries and of va-Q-tec AG are complete and correct.

The internal control and risk management system relating to the financial accounting process ensures that business transactions are recorded, processed and appraised correctly from a financial accounting standpoint, before being transferred to external financial reporting.

Payment transactions are performed electronically with embedded control mechanisms (two sets of eyes principle with a selected group of individuals). External service providers implement payroll transactions.

The organizational, corporate as well as controlling and supervisory structure determines the framework of the ICS. Clear statutory and in-house regulations and guidelines ensure a standard and proper financial accounting process. Check mechanisms within the areas directly involved in the financial accounting process, review by the internal control function, backup from the independent auditors and early risk identification by the risk management function are designed to ensure that (Group) financial accounting is free of error.

#### 2.4.2 Operating risks

va-Q-tec measures risks based on their estimated event probabilities and potential effects on the company's financial position and performance, as well as reputation. Measurement of risk loss levels and event probabilities leads to the following examples of key risk indicators.

Event probability	Loss level in EUR	Risk indicator
very low	0 - 50,000	1
low	50,000 - 500,000	4
medium	500,000 - 1,000,000	9
high	1,000,000 - 5,000,000	16
very high	> 5,000,000	25

The Management Board applies the following scheme to measure the characteristic of a risk based on its risk indicator:

Risk indicators	Risk characteristic
0 - 5	Gering
5 - 15	Mittel
> 15	Hoch

Overall, the following section presents risks after instituting countermeasures.

### Risks in the value chain

As a manufacturing company, va-Q-tec has to make recourse to suppliers for intermediate products. va-Q-tec procures the main raw materials, consumables and intermediate products from a limited number of key suppliers. For some materials, only a few purchasing sources are available due to the specific characteristics. It is consequently the objective in the purchasing strategy of va-Q-tec to reduce dependency on individual or a few suppliers by qualifying and selecting new suppliers ("dual" or "multiple" sourcing). As in previous years, in 2019 the company continued to newly qualify and select second and third tier suppliers for intermediate products and materials. The company also consciously includes international suppliers in its selection in order to avoid regional dependency. A medium risk exists for va-Q-tec AG overall due to its limited number of suppliers.

Production stoppages and operational interruptions represent a further risk. The company depends on the continuous operation of its production systems to ensure it can meet delivery requirements, especially to major industrial customers whose value chains are closely intermeshed with that of va-Q-tec. va-Q-tec manufactures at two geographically separate sites in Würzburg and Kölleda. Stoppage at one site has no significant effects on the other site, where production can continue. Where possible and economically feasible, the individual

production systems are also decoupled from each other through technical measures, so the stoppage of an individual system does not restrict the operation of other plants.

Besides the outage of existing systems, a risk can also arise in the insufficient overall capacity of the production systems. Along with productivity and efficiency improvements to the existing systems, the company's strong growth can also require early and forward-looking investment in capacity expansions, as the requisite plants sometimes require long delivery times. The company could nevertheless be surprised by sudden market developments, potentially being unable to satisfy all customer orders on the customers' requested dates. Through regular ad hoc reporting on new order trends between the sales areas and the Management Board, the company endeavors to identify such developments at an early stage and counteract them with appropriate measures. For example, such measures can temporarily consist of higher levels of security stocks, additional working shifts or the utilization of less appropriate plant for production, in order to bridge the time gap until additional capacities are commissioned. The Management Board also gauges the risk of long-lasting production outage from the aforementioned reasons as low, and also appraises the risk of insufficient capacity as low following the almost completed growth investments.

Rental services ("Serviced Rental") are particularly dependent on external logistics providers, which are not only responsible for operative processes at the network stations – for cleaning, warehousing and cooling processes, in other words – but also for transporting the preconditioned containers and boxes to the end-customers. This can lead to interruptions to operations, loss compensation claims and damage to reputation. Auditing and close-meshed controlling by the company's own logistics specialists serve to assure the quality of "Serviced Rental" for the pharmaceuticals industry globally. For this reason, the Management Board gauges this risk as medium.



**Personnel risks**

The company's operating activities and success depend on qualified managerial and key personnel. The company's very well-trained personnel has acquired specific knowledge, skills and commercial contacts, in part through working for the company for many years. va-Q-tec counters the risk of losing such staff not only through measures aimed at employee loyalty, but also through diversifying the knowledge base through the workforce: key staff departures at va-Q-tec are avoided through employee development, diversification of the knowledge base within the company, and compensation in line with the market. Employee motivation and satisfaction is also boosted through performance-based compensation components, regular further training and the good corporate culture with the possibility to help shape disruptive business models. The risks to which va-Q-tec is exposed due to a change of key staff are appraised as medium level risks.

**Market and competition risks**

The Group in its business activities has a strong focus on major industrial customers. This initially leads to a higher level of customer concentration. The company is constantly reducing the resultant risk through its growing number of customers, and diversification. Further protection exists thanks to a high level of customer loyalty, especially in the healthcare industry. The Group generally endeavors to establish and maintain a close, trusting and sustainable business relationship with all partners, employees and customers, and consequently gauges such risk as medium, and as a risk that can be reduced further.

As a fast-growing company, va-Q-tec might potentially be unable to effectively advance and shape its growth. The Group has almost completed a phase of significant investment in personnel, sales activities, rental fleets, infrastructure, and in research and development. To this extent, were actual growth to prove lower than planned, the risk exists of a negative effect on operating profits. As a matter of principle, the Management Board decides on such future investments with due objectivity and sense of proportion, and always based on specific expectations about market trends, as well as taking into consideration the ability to finance such investments. Insufficiently researched and/or excessively early investments are avoided as a consequence.

At the same time, significantly higher actual growth than planned generates the risk of a negative effect on the customer relationship due to non-compliance with delivery deadlines, delivery bottlenecks etc., and thereby also on the operating results. Here, too, sound judgement and the early identification of market developments through regular coordination with the sales areas constitute an important instrument to reduce risk, thereby identifying in good time the requirement for capacity expansions, with early decisions being made by the Management and Supervisory boards concerning the necessary investments in production plants and buildings. The Management Board assesses the residual risk as medium.

An intensification of the competitive environment also represents a significant risk. This can generate more pressure on prices and margins.

The company guards itself against such risk through two strategic levers, namely cost optimization measures and innovative products and services. Cost optimization includes, for example, increasingly automated production and the particularly efficient purchasing of intermediate products, with selective backwards integration to upstream value chain steps. The innovation topic includes research and development activities, which have already led to commercially successful, high-quality and particularly differentiated products since the company was formed. The company's range of products and services is distinguished from that of its competitors in many aspects: examples include the possibility to test the quality of the insulation in situ, or the production of VIPs with sections extracted and in three-dimensional form. Overall, the Group gauges the risk due to newly emerging competitors or a more aggressive competitive situation as medium.

**Brexit**

In order to prepare va-Q-tec constantly and continuously for the UK's withdrawal from the EU and to be able to respond immediately, a cross-divisional and cross-border Brexit team was formed. Together with operating units at va-Q-tec UK and with the other Group companies, customers and logistics partners, Brexit risks have been and are being identified, and measures to avoid disruptions in the supply chain have been and are being derived. This includes, for example, technical enhancements in our ERP systems in order to be able to respond to extended customs requirements on the system side. Brexit generates risks for our business, for example due to a possible weakening of the economy. Supply chains may also shift, and medicines or their preliminary products may no longer be transported to the UK but rather to France, Germany and the Netherlands. If the drugs or preliminary products originate in the USA, they still have to be transported across the Atlantic. va-Q-tec's TempChain service centers on the European mainland provide opportunities to deal with such changed logistics chains. Generally, less revenue is calculated in pounds sterling than costs are incurred in pounds sterling. If the pound depreciates against the euro, opportunities for va-Q-tec will arise as a consequence. Possible tax benefits could also create opportunities for va-Q-tec. Overall, va-Q-tec consequently considers Brexit-related risk to be low.

**Coronavirus (COVID-19)**

In contrast to other industries, va-Q-tec's supply chain is less designed for just-in-time processes. Short-term disruptions in the supply chain can be partially offset as a consequence. Current events in Asia and Europe, such as factory closures, and restrictions on public life in response to the spread of coronavirus, represent a potential risk if they can lead to significant declines in economic growth and private consumption worldwide. In addition, a pandemic outbreak of the virus could result in the closure of factories or network stations of the Group if its own employees or partner companies in the supply chain are affected by quarantine measures. Events and trade fairs where va-Q-tec takes part could also be affected by these effects. Based on a preliminary assessment of the consequences, the Management Board views this risk in a differentiated manner and assesses it as a major risk overall, taking into consideration the risks identified to date. Increasing drug deliveries due to the coronavirus outbreak may provide va-Q-tec with an opportunity for greater demand in the healthcare and logistics sector. As a consequence, a medium risk due to coronavirus (COVID-19) remains in the overall picture. Current developments and restrictions will continue to be closely monitored together with our employees, customers, suppliers and partners.

**Cyclical target markets**

Especially the target sectors of Appliances and Food, Technics and Industry, and Building are dependent on the economic situation. The Management Board gauges this risk as low, as the underlying drivers of va-Q-tec's business (increasing regulation and energy efficiency) are less susceptible to economic cycles.

**Financial risks**

va-Q-tec's central finance department utilizes revolving liquidity plans in order to monitor liquidity risk. The Group was solvent at all times. Interest risks deriving from existing long-term lending facilities are partly hedged through interest-rate swaps. The Group is exposed to interest-rate risk on its short-term overdrafts, although such risk is currently unlikely to materialize. Currency risks are also limited due to the fact that most invoicing occurs in euros (the company's functional currency) as well as by way of the company's internationalization. Overall, the Group consequently gauges risks in its financial area as low.

va-Q-tec has invested more than EUR 80 million in business development since its IPO. According to the Management Board's current assessment, however, the slowdown that has now occurred in the pace of investment exerts only an insignificant effect on the targeted growth, as most of the planned business expansion investments have already been realized and completed since the IPO.

Liquidity was secured at all times in the 2019 financial year and was adequate for the needs of a rapidly growing company. For this reason, the Management Board gauges liquidity risk as low at present.

In an overall view of risks, va-Q-tec is predominantly exposed to general business risks (performance risks) and financial risks. The Management Board does not identify any individual or aggregated risks as going concern risks. The company is positioned both strategically and financially to leverage the business opportunities on offer to it.

**2.4.3 Future development opportunities****Increasing regulation**

Increasing regulation in cold-chain logistics for pharmaceutical products is enhancing the requirements made of the reliability of thermal packaging and consequently demand for high-performance thermal packaging. In terms of their conformity with regulatory requirements, the passive packaging solutions of va-Q-tec offer significant benefits compared with conventional solutions based on styrofoam and ice. va-Q-tec possesses extensive knowledge concerning regulatory compliance



in the respective countries and regions. Laborious and expensive qualification measures at healthcare industry customers – along with corresponding quality assurance and process documentation – deliver the requisite expertise for the successful implementation of packaging solutions for customers. Only a few companies are currently capable of successfully combining the necessary characteristics of thermal packaging within a complex, reliable and at the same time user-friendly offering. With its technology platform, va-Q-tec is one of the few companies worldwide to meet the high requirements. Increasingly complex regulation makes it necessary for a company to constantly further develop itself and research new technologies. In such an environment, high barriers to entering the market for thermal packaging are beneficial for va-Q-tec.

In other target sectors, too, demand for VIPs is increasing due to regulation: customers in the “Technics and Industry” target sector currently face a change in the regulatory environment in important core markets – like many household devices, heating system boilers have since recently been subject to the European Union’s Ecodesign Directive – in other words, their energy efficiency is made transparent to the end-consumer through a labelling system consisting of energy efficiency classes. Moreover, equipment with high energy consumption and a low energy efficiency class is excluded from the European domestic market. Customers of va-Q-tec currently use VIPs mainly to position premium boilers in the highest efficiency classes. In future, and with more stringent regulation, we believe VIP-insulated boilers from the premium segment will also encounter demand in the mass market.

### New markets

Since it was founded, va-Q-tec has worked on developing new products and services that open up additional markets and application possibilities for vacuum insulation. Along with basic research and product predevelopment – such as VIPs for entirely new temperature ranges – examples here include food logistics and the mobility area.

With va-Q-med-thermo-boxes, va-Q-tec can ensure safe logistics without temperature deviations directly to pharmacies. In Germany alone, almost 20,000 pharmacies need to be supplied with transport and temperature logistics in accordance with “Good Distribution Practices”. With the va-Q-med-Box, va-Q-tec has the opportunity to play a crucial role in shaping the future of pharmacy and last-mile logistics. This also offers opportunities in the area of logistics for online pharmacies.

To date, both va-Q-tec’s existing thermal packaging and thermal packaging in development, as well as its “Service Rental”, are designed for deployment almost exclusively in the healthcare industry. However, a trend to increasingly temperature-sensitive goods and manufacturing processes is now identifiable in many industries. As a consequence, growth opportunities arise from the development of new application areas with va-Q-tec technologies, such as food transport and the opto-electronics industry.

In the e-commerce area, major international providers and start-ups are currently implementing new business models to deliver food products purchased online directly to end-consumers. We believe the transportation of easily perishable food to the end-customer will be regulated even more stringently in the future. va-Q-tec’s high-performance thermal packaging are very well suited to such transports.

Strong growth opportunities are also on offer to va-Q-tec in the target sector of mobility: in the future, thermal management in vehicles with both conventional and electric engines will become increasingly significant. CO<sub>2</sub> can be saved in conventional vehicles through insulation measures in vehicle cabins and through storing heat energy from the cooling cycle. In vehicles with electric engines, range depends on the optimal working temperature of the vehicle battery as well as the electricity consumed by peripheral functions such as heating and interior air conditioning. In the opinion of va-Q-tec, Original Equipment Manufacturers (OEMs) can extend vehicle range in this context through deploying vacuum insulation.

In the building sector, the opportunity arises to benefit from the currently outstanding situation in the construction cycle, along with ever more stringent energy efficiency standards for new buildings and renovations. va-Q-tec VIPs could be deployed here to enhance energy efficiency.

Along with the aforementioned market opportunities in terms of products and services, the Management Board also identifies considerable future growth opportunities in geographic expansion. The internationalization of business activities and the company’s entry into new global markets open up major sales opportunities for the Group. Equally, its international presence can be exploited to tap new sources of raw materials, consumables and intermediate products, and for efficient purchasing.

### **Innovative services and offerings**

In the Products division (vacuum insulation panels), work was carried out on the further development of the existing portfolio and the new development of a panel class for medium and high temperatures. Novel high-temperature panels can be used wherever temperatures of up to approximately 400°C prevail on the one hand, and where very good insulation is required on the other hand, e.g. ovens for industry and food. With such VIPs, va-Q-tec can revolutionize the market for high-temperature insulation.

With the stackable “va-Q-tray”, a thermal packaging system, food can be transported in such a way that it remains warm, cold or frozen for hours, or in some cases days. The temperature-holding time can optionally be extended by PCM rechargeable batteries. With the va-Q-tray, for example, bakery branches can be supplied efficiently with fresh produce: in contrast to existing styrofoam systems, va-Q-tray meets the highest hygiene and temperature chain requirements, can be used universally (e.g. as a portable refrigerator), and as a combinable system with non-insulated standard containers. In addition to the hygienic advantages, this also results in cost savings because additional refrigerated vehicles can be dispensed with.

In the future, the innovative combination of hardware and IT solutions – referred to as “TempChain 4.0” – will become ever more important. Such new services and offerings, consisting of intelligent boxes, fleet data management, live tracking of temperature data, and predictive analysis in the area of temperature-controlled transports can be offered to customers with a premium.

By way of summary, the Management Board is of the opinion that the opportunities pertaining to the development and growth of the business outweigh the aforementioned risks.

### **2.4.4 Risk reporting on the deployment of financial instruments**

The Group is exposed to various financial risks due to its operating activities. The Group's risk management aims to minimize the potential negative effects on the Group's financial position. Financial instruments are only deployed to a limited extent at va-Q-tec.

In the German reporting segment, almost 90% of sales and approximately 95% of purchases were processed in euros. In the UK reporting segment, some sales revenues were generated in US dollars. The costs attributable to such revenues are largely also incurred in US dollars. Risk-reducing natural hedging consequently exists for the US dollar. The Management Board gauges the remaining currency risk relating to the US dollar as medium.

Interest rate hedging instruments continue to be in place in order to hedge interest payments on long-term loans at a standard market interest rate level. None of these hedges is recognized as a hedge in the meaning of IAS 9. The real estate loans taken out in 2018 were largely financed on a long-term basis with fixed interest rates over the term on the basis of the current, low interest level. No interest-rate hedge was arranged for existing variable interest overdrafts.

No separate financial instruments are held to hedge against default on receivables. The risk of defaults on receivables is relatively low due to the high credit standing of the customer base. Factoring was implemented at va-Q-tec AG in 2019 in order to further increase liquidity. Reverse factoring is currently only implemented for a small number of customers with long receivables terms (e.g. in Italy) as is customary in the market.

Above and beyond the financial instruments described here, the Group holds no further financial instruments that are important for appraising the Group's position or prospective development. Please refer to the sections on “Financial instruments” and “Risk management” in sections 4.4 and 4.6 of the notes to the consolidated financial statements for more details.

## 2.5 COMPENSATION REPORT

In accordance with its corporate government principles, va-Q-tec aims for performance-based and sustainable compensation for the work of the Management and Supervisory boards. Compensation comprises both basic and variable components.

### Management Board

In accordance with the requirements of the German Stock Corporation Act (AktG), and the recommendations of the German Corporate Governance Code (DCGK), the compensation of the Management Board members consists of both basic and variable elements. Variable compensation comprises a cash component paid as an annual bonus. All compensation elements are appropriate both individually and in their entirety. The Supervisory Board concerns itself intensively with the appropriateness and standard nature of Management Board compensation, taking into account all criteria set out in Section 87 of the German Stock Corporation Act (AktG) and Section 4.2.2 Clauses 4 and 5 of the German Corporate Governance Code (DCGK), such as the individual Management Board members' tasks, personal performance as well as the financial situation, performance and future prospects of va-Q-tec AG.

In March 2017 and again in December 2019, external compensation experts confirmed to the Supervisory Board the fundamental appropriateness of the Management Board compensation. The basic compensation corresponds to the annual basic salary; in addition, both Management Board members made use of a company car. D&O insurance is in place for all va-Q-tec Group boards. The Management Board members themselves bear the cost of the 10% deductible.

In the 2018 financial year, a remuneration system was defined for the members of the Management Board, in which the long-term component of bonuses is to be anchored and the German Corporate Governance Code is to be taken into account to an even greater extent. This compensation scheme is valid for all financial years from 1 January 2018. The current Management Board contracts were adjusted accordingly as of the 2018 financial year. The new compensation scheme was also examined by external experts, and consequently complies with the requirements of the German Corporate Governance Codex. In developing the new system, the Supervisory Board took as its starting point the basic features of the previous remuneration system, which was still considered to be reasonable, and aligned it to even greater extent to sustainable corporate development and growth. Consequently, the annual variable remuneration is now

divided into a short-term and a long-term variable remuneration component. For both, a bonus target amount is defined for 100% target achievement. Both components at the one hand are limited upward, at the other hand however can also reduce to zero. The short-term variable compensation is based on three key figures, each of which is given a one-third weighting: revenue, Group EBITDA and return on capital employed (ROCE). The Supervisory Board sets targets for each of these parameters, with the entry hurdle for receiving any short-term variable compensation at all being 80% of the respective target values. In the area of target achievement between 80% and 115%, certain factors are determined for the calculation of the bonus, whereby the maximum factor is always 1.3 and the respective remuneration component is thereby capped. The exception is the EBITDA component of short-term variable compensation, where the factor can increase to 1.5 under certain circumstances. The long-term variable remuneration is based on the performance of the company's share price between two comparison periods. Here, too, an entry hurdle applies in such a way that a positive price performance of at least 5% must have occurred. In addition, a cap applies if the share price performance exceeds 15%. Of any gross compensation received as long-term variable compensation, the Management Board member must invest at least 50% in the company's shares, which are subject to a four-year lock-up period. Remuneration amounts above the cap are not paid out but credited – again up to a certain maximum amount – to a virtual sustainability bonus account of the Management Board member and can be used within certain limits to offset stock market price increases in relevant comparison periods which are below 10% but above 5%. Portions of the long-term variable compensation resulting from such compensation are to be invested exclusively in shares of the company that are subject to the aforementioned vesting period.

The Supervisory Board approves the annual Group targets to measure the variable cash component. It also sets the targets.

The Management Board members' contracts include no separate payments for the instance of a termination of their contracts due to a change of control.

The total compensation of the Management Board amounted to kEUR 659 in the 2019 reporting year (previous year: kEUR 568). The basic compensation amounted to kEUR 416 (previous year: kEUR 440); this also includes payments for benefits in kind such as a company car. Variable cash compensation stood at a total of kEUR 228 (previous year: kEUR 112). Defined contribution pension commitments have existed for the Management Board members since 2014. To this end, kEUR 15 (previous year: kEUR 15) was paid into an external, congruently reinsured pension fund in the year under review. For this reason, no provisions for pensions have been formed on the balance sheet. Accordingly, fixed compensation including benefits in kind and pension fund contributions accounts for 65% of total compensation (previous year: 80%).

No loans or advances were granted to members of the Management Board.

kEUR	Management Board compensation 2019	Management Board compensation 2018
Fixed compensation	382	407
Ancillary payments	34	34
One-year variable compensation	47	112
Multi-year variable compensation	181	-
Defined contribution plans	15	15
<b>Compensation, total</b>	<b>659</b>	<b>568</b>

In accordance with the AGM resolution dated 31 May 2016, va-Q-tec discloses the total compensation of the Management Board, but not the individual shares for the individual members. This practice complies with section 314 (1) No. 6, 286 (5) of the German Commercial Code (HGB).

### Supervisory Board

The AGM sets Supervisory Board compensation. The compensation of the Supervisory Board of va-Q-tec AG is regulated in Section 14 of the bylaws of va-Q-tec AG.

With effect as of 1 July 2017, the compensation of the members of the Supervisory Board was re-regulated by way of AGM resolution of 19 June 2017, in order to ensure that the compensation complies with the recommendations of the German Corporate Governance Code: Each member of the Supervisory Board who is not the Supervisory Board Chair or Deputy Supervisory Board Chair receives monthly fixed compensation of EUR 1,200 ("fixed compensation"). The Supervisory Board Chair received twice the fixed compensation and the Deputy Supervisory Board Chair receives 1.5 times this amount. To the extent that he or she is not also the Supervisory Board Chair or Deputy Supervisory Board Chair, the Audit Committee Chair receives 1.5 times the fixed compensation. To the extent that he or she is not also the Supervisory Board Chair or Deputy Supervisory Board Chair, the chair of a Supervisory Board committee that is not the Audit Committee receives 1.25 times the fixed compensation. Each member of the Supervisory Board who is also a member of the committee or of several committees of the Supervisory Board receives a meeting fee equivalent EUR 1,500 per committee meeting, albeit to a maximum of six committee meetings per financial year. If a member of the Supervisory Board is the chair of several Supervisory Board committees, he or she receives only the compensation for one committee, and specifically for the committee where the highest compensation is paid to the Supervisory Board member.

The Supervisory Board received compensation of kEUR 155 for the 2019 reporting year (previous year: kEUR 157). This total includes the reimbursement of the outlays incurred by each Supervisory Board member as well as the VAT incurred on his or her compensation and reimbursement of outlays. The company bore the cost of the premium for the existing D&O insurance concluded for the Supervisory Board members in the 2019 financial year. By AGM resolution of 19 June 2017, a deductible for the Supervisory Board members to be borne personally in relation to the D&O insurance was implemented in an amount of kEUR 100 for each member. The Supervisory Board members themselves bear the cost of the 10% deductible. Consultancy and other services in an amount of kEUR 40 (previous year: kEUR 31) were also compensated. These were commissioned and provided to accompany the Power20+ program and the financing.

**Financial year 2019**

kEUR	Compensation	Ex-penses	Con-sulting
Dr. Gerald Hommel	36	2	-
Winfried Klar	29	5	15
Uwe Andreas Krämer	15	-	-
Dr. Eberhard Kroth	17	1	25
Uwe Lamann	26	3	-
Dr. Barbara Ooms-Gnauck	19	2	-
<b>Total</b>	<b>142</b>	<b>13</b>	<b>40</b>

**Financial year 2018**

kEUR	Compensation	Ex-penses	Con-sulting
Dr. Gerald Hommel	36	4	-
Winfried Klar	31	4	24
Uwe Andreas Krämer	14	-	-
Dr. Eberhard Kroth	20	2	7
Uwe Lamann	26	2	-
Dr. Barbara Ooms-Gnauck	16	2	-
<b>Total</b>	<b>143</b>	<b>14</b>	<b>31</b>

**2.6 TAKEOVER LAW DISCLOSURES AND NOTES PURSUANT TO SECTION 315A HGB**

The following section presents the disclosures as of 31 December 2019 pursuant to Article 9 (1) lit. c) (ii) of the Council Regulation (EC) No. 2157/2001 on the Statute for a European company (SE) (SE-VO), Section 22 (6) of the Act to Implement Council Regulation (EC) No. 2157/2001 on the Statute for a European company (SE) (SEAG) in combination with Section 289a, Section 315a (1) of the German Commercial Code (HGB). Matters relating to Section 289a (1), Section 315a (1) HGB, which are not fulfilled at va-Q-tec AG, are not related. The following subsection provides an insight into the takeover law relationships as of the 31 December 2019 balance sheet date, and explains them in greater detail.

**2.6.1 Composition of the subscribed share capital**

The share capital of va-Q-tec AG amounts to EUR 13,089,502.00, and is divided into 13,089,502 ordinary registered shares. The share capital is fully paid in. The shares carry the same rights and obligations. Each share grants one vote at the general meeting of shareholders. Exceptions to this include shares the company itself holds (treasury shares), from which no rights accrue to va-Q-tec AG, such as the right to vote at the general meeting of shareholders. As of the balance sheet date, va-Q-tec AG held 13,566 treasury shares (previous year: 13,566). For information about changes in the treasury share position, please refer to the notes to the consolidated financial statements in this annual report.



### 2.6.2 Restrictions affecting voting rights or the transfer of shares

The Management Board is not aware of any currently valid restrictions affecting voting rights or the transfer of shares.

### 2.6.3 Interests in the share capital exceeding 10% of the voting rights

Pursuant to the German Securities Trading Act (WpHG), all investors reaching, exceeding or falling short of voting rights thresholds pursuant to Section 21 WpHG through purchase, sale, or in another manner, are required to report such transactions to the respective company and to the German Federal Financial Supervisory Authority (BaFin). To this extent, the Management Board of va-Q-tec AG is aware of the following individuals and companies whose interests exceed 10% of the voting rights:

Name	Country	Number of shares	Interest in the share capital
Share pool of the families of Dr. Joachim Kuhn and Dr. Roland Caps	Germany	3,275,000	25.02%
<b>TOTAL</b>		<b>3,275,000</b>	<b>25.02%</b>

#### Rules concerning the appointment and recall from office of Management Board members

Pursuant to Section 84 of the German Stock Corporation Act (AktG), and the bylaws of va-Q-tec AG, the Supervisory Board appoints the members of the Management Board. Pursuant to the company's bylaws, the Management Board consists of one or several individuals. The Supervisory Board determines the number of Management Board members. If the Management Board consists of several members, Management Board resolutions are passed with a simple voting majority. If the Supervisory Board has appointed a Management Board Chair and if the Management Board consists of at least three members the vote of the Management Board Chair is decisive given an equal number of votes on a resolution.-

#### Rules concerning bylaw amendments

Amendments to the bylaws require a resolution of the general meeting of shareholders. Resolutions by the general meeting of shareholders require a simple voting majority unless a greater majority is imperative by law.

### Management Board authorizations relating to the issuing and repurchase of shares

va-Q-tec AG has both approved share capital and contingent share capital as follows:

#### Approved share capital

Based on an AGM resolution of 31 May 2016, the Management Board is authorized to increase the share capital, with Supervisory Board assent, once or on several occasions until 30 May 2021 against cash and/or non-cash capital contributions by a total of up to EUR 4,278,187, whereby shareholders' subscription rights can be excluded.

#### Contingent capital

Pursuant to Section 6.5 of the company's bylaws, the share capital is conditionally increased by EUR 1,000,000 through issuing up to 1,000,000 new ordinary registered shares (Contingent Capital 2016). The Contingent Capital 2016 serves exclusively to grant shares on the exercise of conversion and option rights.

#### Significant agreements in the case of a change of control due to a takeover offer and compensation agreements in the case of a takeover offer

No significant agreements on the part of the company exist that are subject to a change of control following a takeover offer.

## 2.7 CORPORATE GOVERNANCE STATEMENT

The corporate governance declaration pursuant to Sections 289 f and 315 d of the German Commercial Code (HGB) includes, among other items, the declaration of compliance pursuant to Section 161 of the German Stock Corporation Act ("Declaration of Compliance"), relevant information on corporate governance practices and a description of the working methods of Management Board and Supervisory Board. The Corporate Governance Report, which forms part of the Annual Report, contains the Corporate Governance Statement.

The Corporate Governance Report is also available on the Internet at [www.va-q-tec.com](http://www.va-q-tec.com) in the Investor Relations section under the link <https://ir.va-q-tec.com/websites/vaqtec/German/530/erklaerung-zur-unternehmensfuehrung.html> zur Verfügung.