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Annual Report 2017

## IMPORTANT CONSOLIDATED FIGURES AT A GLANCE

EUR'000	2017	2016	2015
Sales revenues	85,362	86,595	71,543
Industrial Systems	33,257	35,674	30,789
Semiconductor Systems	52,105	50,921	40,754
Gross profit	19,092	20,413	16,699
in % sales revenues	22.4	23.6	23.3
R&D expenses	2,632	2,970	3,236
EBITDA	5,480	6,506	2,441
in % sales revenues	6.4	7.5	3.4
Operating result (EBIT)	3,027	3,890	95
in % sales revenues	3.5	4.5	0.1
Consolidated net result	5,593	2,931	-1,449
in % sales revenues	6.6	3.4	-2.0
Total assets	119,096	94,736	88,279
Shareholders' equity	45,129	40,305	37,941
Equity ratio in %	37.9	42.5	43.0
Employees as of 31.12.	385	377	361
Incoming orders	163,927	70,493	101,472
Order backlog	129,079	50,623	67,833
Book-to-bill-ratio	1.92	0.81	1.42
Cash Flow from operating activities	38,969	-4,441	5,448
Net financial position	29,133	-8,902	-3,377

<sup>1)</sup> Circulating shares on average 21,749,988



# PVA TePla AG

AS A VACUUM SPECIALIST FOR HIGH-TEMPERATURE AND PLASMA TREATMENT PROCESSES, PVA TEPLA AG IS ONE OF THE WORLD'S LEADING SYSTEM ENGINEERING COMPANIES IN THE FIELDS OF HARD METAL SINTERING, CRYSTAL GROWING, THE USE OF PLASMA SYSTEMS FOR SURFACE ACTIVATION AND ULTRA-FINE CLEANING AS WELL AS SYSTEMS FOR QUALITY INSPECTION.

#### INNOVATIVE DEVELOPMENTS

With its systems and services, PVA TePla enables and supports the innovative manufacturing processes and developments of its customers, primarily in the semiconductor, hard metal, electrical/electronic and optical industries – as well as in the energy, photovoltaic and environmental technologies.

#### INDIVIDUAL SOLUTIONS

The company provides its customers with customized solutions from a single source. These range from technology development through tailor-made design and construction of production facilities right up to an after-sales service that covers all four corners of the globe.

#### JOINTLY WITH OUR CUSTOMERS

The company will use its systems to enter the latest fields of application jointly with its customers – be they next-generation wafers for use in the semiconductor or photovoltaic industries, powdered-metal technology, new crystals for the optoelectronic industry, fiber-optics for data transmission or the development of high-tech materials and surfaces.

#### FOR OUR SHAREHOLDERS

GROUP FINANCIAL STATEMENTS

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## Foreword by the Management Board

DEAR SHAREHOLDERS AND BUSINESS PARTNERS,

In fiscal year 2017, with revenue of EUR 85.4 million and an operating result before depreciation and amortization of EUR 5.5 million – corresponding to a margin of 6.4% (the guidance was 6.0%) – the PVA TePla Group reached its targets, in the process taking a big step forwards. This took place in the context of a comparatively low order backlog of only EUR 50 million to the beginning of the year (as against EUR 68 million in 2016) and in view of considerable throughput times for system orders averaging twelve months.

In the past fiscal year, the company managed to considerably increase incoming orders – EUR 164 million after EUR 70 million in the previous year. This means not only a positive trend for the current year, but also considerable growth expectations for 2019 and 2020 as well as subsequent years.

What was particularly pleasing was that all product areas contributed to this growth. Both segments received more incoming orders than in the same period of the previous year. Incoming orders for vacuum systems in the Industrial Systems division surged by almost 50% to EUR 40.4 million (previous year: EUR 27.1 million) and in the Semiconductor Systems division to EUR 123.5 million (previous year: EUR 43.4 million), almost tripling its income orders figure. In this segment the focus was on two large orders for crystal growing systems for the manufacture of silicon crystals in the semiconductor industry, together totaling approximately EUR 70 million, received by our subsidiary PVA Crystal Growing Systems. These two orders will impact sales revenues and earnings in 2019 and 2020. But the other two business units, Plasma Systems and Analytical Systems, also posted significant growth rates exceeding 20%, with ultrasound measuring systems even gaining more than 50%. The success is also impacting operating cash flow in a significant fashion. With this year's figure of EUR 39.0 million, it is considerably higher than the previous-year figure of EUR -4.4 million. One of the reasons here is the willingness of our customers to accept higher pre-payments.

Parallel to optimizing our cost structure, the operating activities continued to move forwards. To expand business operations in which has been our biggest market for many years – China – alongside our long-established subsidiary in Beijing in the Industry business, we have developed a further company in Xían focusing on sales and service in the semiconductor market. Here the key focus of the company is developing further suppliers for the PVA TePla semiconductor systems. An initial very positive success of the company came with signing a technology cooperation agreement to develop semiconductor wafer production in China with a company of the Golden Concord Group (GCL) in March this year.

In the framework of a strategic initiative of the central Chinese government to become more independent of imports in semiconductor products, there is a strong upturn in demand in China for production systems for microelectronics and for the wafer industry. Here the PVA TePla Group is also anticipating notable orders in future.

The PVA TePla AG posted excellent performance in 2017. In the second half of the year, the price momentum for our share increased considerably, with the share posting considerable price gains. Alongside positive company reports, the share also benefited from market assessments for the semiconductor market. The share closed 2017 at EUR 12.00, posting an excellent performance over the year, with prices soaring over 400%.

Due to the cooperation agreement concluded with the GCL Group in March 2018, the PVA TePla Management Board anticipates consolidated sales revenues at a level of EUR 94 million and EBITDA of around EUR 11 million.

On behalf of our managing directors and employees, we would like to thank you, our shareholders, for your trust in and commitment to our company.

Alfred Schopf Chief Executive Officer

Oliver Höfer Chief Operating Officer

## Report from the Supervisory Board

In fiscal year 2017, the Supervisory Board performed all duties required of it according to the law and the Articles of Association, and continuously monitored the work of the Management Board of PVA TePla AG in addition to advising the Management Board on a regular basis. It critically examined the proposed resolutions of the Management Board and put forward suggestions at the Supervisory Board meetings on the basis of the detailed written and verbal reports of the Management Board. The Management Board regularly, promptly and comprehensively informed the Supervisory Board with regard to key economic figures of the Group and business areas, other fundamental aspects of corporate management and planning, strategy, risk management, and compliance. The Management Board informed the Supervisory Board of a variety of business transactions not requiring approval and discussed them with it. The Supervisory Board was involved in decisions of fundamental importance. The Supervisory Board adopted the resolutions required according to the law or the Articles of Association. This was also done by circulation when necessary. In addition to the meetings and reports, the Chairman of the Supervisory Board and his Supervisory Board colleagues regularly obtained information on the current situation in discussions with the Management Board.

#### COOPERATION BETWEEN THE SUPERVISORY BOARD AND THE MANAGEMENT BOARD

The meetings of the Supervisory Board were characterized by open and intensive dialog with the Management Board. The Supervisory Board members were able to comprehensively prepare for meetings and resolutions on the basis of the documents made available by the Management Board.

In 2017, the Supervisory Board convened for four ordinary and one extraordinary, telephone Supervisory Board meeting(s). All members of the Supervisory Board attended these meetings. No committees were formed due to the size of the Supervisory Board (three members). All matters that would have been addressed by committees were addressed by the full Supervisory Board.

#### CONFLICTS OF INTEREST

There were no potential conflicts of interest of Management Board and Supervisory Board members requiring immediate disclosure to the Supervisory Board and notification to the Annual General Meeting.

#### MAIN AREAS OF CONSULTATION

The Supervisory Board dealt in depth with the ordering, sales revenues and earnings situation of each of the subsidiaries at all Supervisory Board meetings. The market situation and competitive situation, as well as the opportunities and risks in the product areas, were discussed in detail with the Management Board and managing directors. Other topics discussed were the development of personnel of the subsidiaries at management level and the composition of the Management Board. During the extraordinary telephone-conference meeting on February 20, 2017, in which all Supervisory Board members took part, the contract of employment of Management Board member Alfred Schopf was discussed in detail and approved. In addition, a report was given on selection of the auditors for the 2017 financial statements, resulting in the proposal of Ebner Stolz GmbH & Co. KG.

At its first ordinary meeting of 2017 on March 24, the Supervisory Board spoke at length about the 2016 consolidated financial statements, the market situation, the business situation and order expectations of the subsidiaries in the current fiscal year. The main items of discussion at the meeting were management matters at individual subsidiaries including the appointment of a managing director as well as extension of a managing director's contract of employment.

During its meeting on June 20/21, 2017, the Supervisory Board again intensively discussed the business situation of the individual subsidiaries as well as the options for relocating production in the event of capacity bottlenecks at individual subsidiaries. Activities of managing directors at individual subsidiaries as well as corporate governance matters such as diversity and targets of the Supervisory Board were discussed. Potential acquisitions of companies were also addressed.

During its meeting on September 18, 2017, the Supervisory Board spoke at length about business development, in particular about developments in sales revenues, incoming orders and the earnings situation of each of the subsidiaries, as well as matters relating to capacity planning. The various options for collaboration between the subsidiary PVA Crystal Growing Systems and the Golden Concord Group (GCL) were discussed intensively, and the status of possible acquisitions was presented by the Management Board.

The focus of the Supervisory Board meeting on November 30, 2017 was corporate planning for 2018 to 2020 for the holding company and for the individual subsidiaries. The Management Board and the managing directors of the subsidiaries with the highest sales revenues reported to the Supervisory Board on matters including comprehensive budget plans for the subsidiaries for the coming years. The individual budgets were adopted. Other topics dealt with were the formation of a branch in India aimed at covering the semiconductor market, and the planned cooperation agreement with the Golden Concord Group (GCL). The Management Board explained in detail the development of and suggested adjustments to the risk management system, which the Supervisory Board noted and approved.

### CORPORATE GOVERNANCE AND DECLARATION OF COMPLIANCE

At the meeting on November 30, 2017, the Management Board and Supervisory Board discussed items including the update of the declaration of compliance with the German Corporate Governance Code pursuant to Section 161 of the German Stock Corporation Act (AktG). This declaration was discussed at the Supervisory Board meeting, and it was deemed that the existing version would remain in place until certain details were clarified. The updated version of the declaration of compliance was adopted at the beginning of 2018. Deviations from this Code were discussed intensively between the Management Board and Supervisory Board and justified. The Management Board reports on corporate governance, including for the Supervisory Board, in accordance with Item 3.10 of the Code on the company's website at: http://www.pvatepla.com/pva-tepla-service/investor-relations/corporate-governance.

The election of the auditors Ebner Stolz GmbH & Co. KG, Wirtschaftsprüfungsgesellschaft Steuerberatungsgesellschaft to audit the financial statements and consolidated financial statements for fiscal year 2017 was proposed to the Annual General Meeting. The Supervisory Board satisfied itself of the independence of the auditor in accordance with Section 107(3) Sentence 2 AktG, and obtained and assessed a corresponding declaration of independence. In line with a resolution by the Supervisory Board, the auditor performs no consultancy services for the Group. Following approval by the Annual General Meeting, the Supervisory Board issued the mandate to the auditor and set the audit fee. The main focal points of the audits of the annual and consolidated financial statements for 2017 were also coordinated between the Supervisory Board and the auditor.

The self-evaluation was performed on the basis of a detailed questionnaire and interviews, and the review of the efficiency of the Supervisory Board provided for in the German Corporate Governance Code was thus carried out.

#### DEPENDENCY REPORT

The Management Board prepared a dependent company report for the reporting year in accordance with Section 312(3) AktG. This report was audited by Ebner Stolz GmbH & Co. KG, Wirtschaftsprüfungsgesellschaft Steuerberatungsgesellschaft and issued with an unqualified audit opinion with the following wording: "In accordance with our duly performed audit and assessment, we confirm that 1) the factual statements in the report are correct and that 2) the amounts paid by the companies with respect to the legal transactions listed in the report were not unduly high." The dependent company report was submitted to the Supervisory Board, which subjected it and the legal transactions and measures listed therein to an independent review pursuant to Section 314(2) AktG. This did not give rise to any objections. At the meeting on March 23, 2018, the auditor reported on the main findings of the audit.

#### ANNUAL FINANCIAL STATEMENTS

Ebner Stolz GmbH & Co. KG, Wirtschaftsprüfungsgesellschaft Steuerberatungsgesellschaft audited the annual financial statements and consolidated financial statements to December 31, 2017 as well as the management report and Group management report for the fiscal year 2017 of PVA TePla AG. The auditor found that the present annual and consolidated financial statements were prepared in compliance with the German Commercial Code (HGB) and the International Financial Reporting Standards (IFRS) and gave an accurate reflection of the actual net assets, financial position, and income situation. The annual and consolidated financial statements along with the combined management report and Group management report received an unqualified audit opinion. The financial statements together with the management reports and the respective audit reports by the auditor were sent to each member of the Supervisory Board. The Supervisory Board assessed them and discussed them in detail at the meeting on March 23, 2018. At this meeting, the auditor reported on the main findings of the audit. We examined the annual financial statements, the management report and the auditor's statement on the situation assessment by the Management Board as well as the recommendation for use of retained earnings, the consolidated financial statements and the Group management report. There were no objections. We therefore approve the results of the audit of the financial statements. We approve the annual financial statements and consolidated financial statements prepared by the Management Board. The annual financial statements are thus adopted in accordance with Section 172 Sentence 1 AktG. We are in agreement with the management reports and in particular the assessment of the future development of the company. The Supervisory Board endorses the Management Board's proposal to carry over the reported unappropriated surplus to new account.

### COMPOSITION OF THE SUPERVISORY BOARD AND MANAGEMENT BOARD

At the end of 2016, CFO Henning Döring asked the Supervisory Board for permission to step down early in order to pursue new challenges. The Supervisory Board granted its approval with effect from February 28, 2017. Responsibility for finance was transferred to CEO Peter Abel on an interim basis. Alfred Schopf was appointed as CFO on April 1, 2017. After the end of the Annual General Meeting on June 21, Alfred Schopf also assumed the role of CEO from Peter Abel, who was standing down from the Management Board but would remain available as a consultant on corporate strategy. Consequently, the Management Board of PVA TePla AG now comprises Alfred Schopf (CEO) and Oliver Höfer (COO).

There were no changes to the makeup of the Supervisory Board in the reporting period.

#### **THANKS**

The Supervisory Board wishes to thank the management and all employees for their dedicated work in the past fiscal year.

Wettenberg, March 2018

On behalf of the Supervisory Board

Alexander von Witzleben Chairman of the Supervisory Board of PVA TePla AG

## PVA TePla on Capital Markets

#### EQUITY MARKET – STOCK EXCHANGE

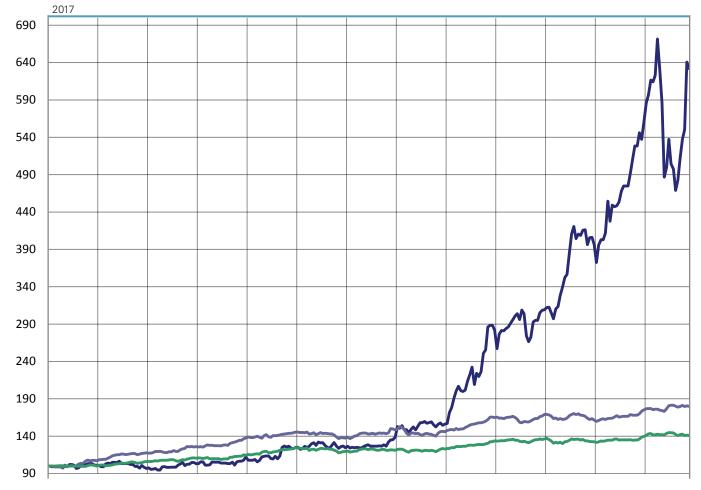
Economic data in Europe and the US was strong overall in 2017, generating positive sentiment among investors. In particular, technology stocks and small caps saw aboveaverage cash inflows in the first six months and performed very well. A lack of alternatives due to the European Central Bank's ongoing low interest-rate policy continued to attract investment in equities, driving indices to new alltime highs. The DAX reached a then-record level of 12,951 points in June. The ECB's raising of its growth forecast for the Eurozone convinced investors that the economy was in robust health, and the prospect of a tax reform in the US gave a further boost to equity markets. Following the strong performance of global equity markets, companies had now reached very high valuations. The DAX hit its year

PVA TePla shares key figures		2017	2016
Earnings per share (EPS)	EUR	0.26	0.13
Annual high	EUR	12.00	3.13
Annual low	EUR	2.15	2.28
Closing rate as of Dec. 31	EUR	12.00	2.28
Performance of PVA TePla shares	%	+458	-8
Performance of Technology All Share	%	+35	0
Performance of DAXSubs. Advanced Industrial	0/	. 00	. 10
Equipment	<u>%</u>	+68	+16
Number of shares at year-end	Mio.	21.75	21.75
Market capitalization at year-end	Mio. EUR	261	49.6

high of 13,525 points at the beginning of November, and the MDAX, SDAX and TecDAX also achieved new record levels. Disappointing company results and renewed doubts over the success of the US tax reform saw share prices tumble, triggering substantial profit-taking in the last quarter. However, at least the US stock exchanges recovered quickly. Sound economic data on both sides of the Atlantic heralded a recovery on the stock exchanges. The DAX rose by 12% and the MDAX gained 18% in 2017.

#### **DEVELOPMENT OF PVA TEPLA SHARES**

PVA TePla AG shares performed extremely well in 2017. In the first few months, they initially hovered around the EUR 2.30 mark before gradually improving from the end of May. Thus the share price increased by more than 25% in the first half-year alone, and was quoted at EUR 2.90. In the second half of the year, the pace grew rapidly, and PVA TePla shares posted further substantial price gains. Company reports benefited the share, as did the opinions of analysts, who successively upgraded their positive estimates - in connection with outstanding market prospects in the semiconductor market - from September. In particular, the analyst at Hauck & Aufhäuser issued another good outlook with a price target of EUR 13.00 along with a buy recommendation. PVA TePla shares ended 2017 at EUR 12.00 after an outstanding year that saw their price soar by over 400%.



Performance of PVA TePIa shares January 2017 – February 2018 in % 1-day-interval

PVA TePla AG DAXSubs. Advanced Industrial Equipment Tec All Share

#### COMMUNICATION WITH THE CAPITAL MARKET

In the last fiscal year, discussions with institutional and private investors mainly focused on the long-term prospects of PVA TePla's subsidiaries, particularly in the semiconductor market. Discussions centered on systems for the production of industrial crystals for power electronics – e-mobility is regarded as a key market driver.

#### ANNUAL GENERAL MEETING

The Annual General Meeting of PVA TePla was held at the Giessen Congress Center on June 21, 2017. The items on the agenda were passed with a large majority, and around 53% of shareholders were in attendance.

In his presentation to shareholders, outgoing CEO Peter Abel explained the various metrology systems for non-destructive quality inspection. Laser-based analytical systems for inspecting wafers and a wet-chemical method of identifying metallic impurities on their surfaces were presented in a brief overview. The presentation ended with the outlook for the markets relevant to the PVA TePla Group.

COO Oliver Höfer gave an overview of the formation of a further subsidiary in China, a response to the growing prominence of the semiconductor industry there. He also described the assembly-line production already introduced at the Jena production location and the associated significant increase in productivity. This will also be introduced at the existing location in Corona in the US.

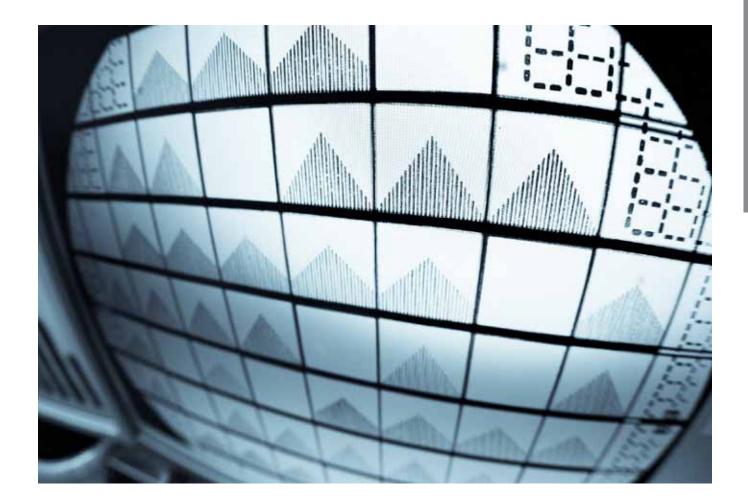
CFO Alfred Schopf, who became the new CEO following this Annual General Meeting, introduced himself before explaining the business figures for 2016 to the shareholders. Compared with the previous year, sales revenues were up significantly and consolidated net profit improved by EUR 4.4 million to EUR 2.9 million.

CEO Peter Abel finished by giving an outlook for 2017 as a whole.

Supervisory Board Chairman Alexander von Witzleben bade farewell to PVA TePla AG's founder and CEO Peter Abel, and thanked him for his many years of successful work for the company, to applause from shareholders. He expressed his pleasure that Mr. Abel would be continuing to serve the company in an advisory capacity.

Shareholding structure	Э
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Free float	71.0 %
PA Beteiligungsgesellschaft	29.0 %





### GROUP MANAGEMENT REPORT

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This financial report comprises the combined Management Report, the consolidated financial statements and the Group Notes. Moreover, the Company Management Declaration and the remuneration report available at http://www.pvatepla.com/ en/pva-tepla-service/investor-relations/corporate-governance form an integral part of this combined Management Report.

## Group Management Report

#### 1. BASIC PRINCIPLES OF THE GROUP

#### **Business Activities**

The PVA TePla Group, headquartered in Wettenberg, Germany, offers its customers systems for the production and refinement of high-quality materials, which are processed under high temperature, vacuum and under high pressure conditions and in plasma, for example.

The market for these systems is closely tied to the latest developments in materials and surface treatment technologies, such silicon wafer technology for microelectronics, silicon carbide water technology for high-performance electronics and wafer technology for mono or multicrystalline solar cells in the Crystal Growing Systems business unit,

structural material technologies for aviation and aerospace, energy technology and hard metal tools in the Industrial Systems business unit,

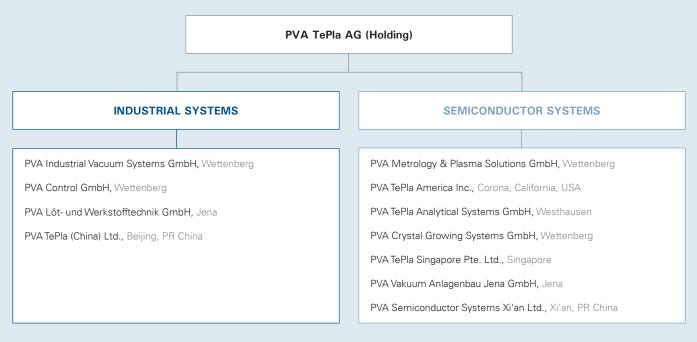
production technologies for micro-electronic-mechanical systems (MEMS) and high-brightness light-emitting diodes (HB LED) as well as technology for the fabrication of ultrathin wafers in the Plasma Systems business unit, technology for hydrophobic layers on electronic components and for plastics in medical technology in the Coating Systems business unit,

technology for non-destructive quality inspection of wafers using laser light and complex semiconductor components using scanning acoustic microscopy in the Analytical Systems business unit.

High-tech materials and their surfaces will undoubtedly depend on production processes under vacuum and high temperature conditions and in plasma in future, which means the product range and technologies of the PVA TePla Group.

#### **Reporting Segments**

The PVA TePla Group is divided into two divisions: Industrial Systems and Semiconductor Systems. The chart provides an overview of the organizational units and how the main subsidiaries are allocated to the divisions:



#### CHANGES TO THE REPORTING SEGMENTS

There were no relevant changes to the reporting structure in 2017, compared to the consolidated financial statements as of December 31, 2016.

#### **Corporate Management**

Controlling in the PVA TePla Group is based on operational performance indicators related to the income statement (consolidated sales revenues, gross profit, gross margin, operating result (EBITDA, EBITDA margin), net result for the period and segment result), balance sheet figures such as the equity ratio and liquidity performance indicators such as liquidity position, the net financial position and liquidity reserves.

The most significant financial performance indicators for managing results of operations are consolidated sales revenues and the operating result before depreciation and amortization (EBITDA) and the resulting EBITDA margin. These figures are calculated on a monthly basis at segment level and represent an essential internal management tool.

The order situation is determined on a monthly basis using the relevant incoming orders and order backlog figures at segment level. The resulting book-to-bill ratio shows the ratio of incoming orders to sales revenues in a given period. A book-to-bill ratio above 1 indicates that incoming orders are higher than sales revenues, meaning a future increase in sales revenues can be expected. If the book-to-bill ratio is below 1, it means a decline in sales revenues is to be expected.

In addition to the monitoring of customers' and suppliers' payment targets, liquidity and liquidity reserves in the form of credit and guarantee lines are continuously monitored and a rolling cash flow forecast is calculated on a monthly basis in order to manage the liquidity situation. The net financial position, the balance of current and non-current financial liabilities and cash and cash equivalents, is reported on a quarterly basis. The Group-wide and segment-related weighted average cost of capital (WACC) and average cost of debt are reviewed on an annual basis.

#### **PVA TePla** – Performance Figures

Profitability	Orders	Liquidity
Sales revenues	Incoming orders	Net liquidity and liquidity reserves
Gross result (=sales revenue less cost of sales)	Book-to-bill ratio (ratio of incoming orders to sales revenues in a given period)	Net financial positi- on (balance of cur- rent and noncurrent financial liabilities and cash)
Operating result (EBITDA)	Order backlog	

#### **Research and Development**

The cost of research and development totaled EUR 2.6 million for the Group in the reporting period (previous year: EUR 3.0 million). It should be noted here that the PVA TePla Group almost exclusively carries out the further development of products and processes as part of customer orders, meaning that the related expenditures are not included in the cost of research and development. A selection of R&D activities in the individual divisions is described in the section below:

In the Industrial Systems division, PVA Industrial Vacuum Systems GmbH is currently developing a 200-bar pressure sintering system for hard metal tools (the present standard is 100 bar). This systems technology, likely to achieve market maturity in 2018, will enable the hard metal industry to achieve a new level of quality, particularly in the micro-grain carbide industry. Another key area of development in 2017 was the design of a high-temperature pressure sintering system for sintering non-oxide ceramics. The system, likely to be delivered in spring 2018, is designed for sintering temperatures of more than 2000°C and has a 60-bar pressure level.

In the area of high-vacuum processing systems with fully metallic heating for brazing of vacuum interrupters for the electrical industry, the rapid cooling concept was thoroughly revised and designed on the basis of a blower and heat exchanger arranged in the process chamber. The rapid cooling concept is characterized by a faster cooling rate, and therefore significantly increases the throughput of the systems. In the PlaTeG-PulsPlasma®Nitriding Systems business unit, work focused on the development of large-scale systems for the hardening process. This stemmed from rising demand for systems for nitriding large components such as large tools for the automobile industry or bars for plastic injection-molding machines. Shaft systems were developed on a customer-specific basis, particularly for treating long, narrow components that have to be loaded while suspended in order to avoid changes in dimensions and shape. Another focal point was the development of sensorcontrolled post-oxidation of stainless steel components to increase their resistance to corrosion and wear. This meant that PulsPlasma®nitriding could also be made available for applications in aerospace technology as well as the offshore industry.

In the Semiconductor Systems division, new system subassemblies for fully automatic wafer treatment by global customers in the semiconductor industry were developed at PVA Metrology & Plasma Solutions GmbH. These include read heads that read the quality code on the lead frames to be treated (lead frames are carrier strips made of metal or plastic for electronic components).

At PVA TePla Analytical Systems GmbH, a new modular concept for standardization of automated ultrasound microscopes was developed. This enables inline systems be configured in accordance with a modular concept. It reduces internal assembly and delivery times and makes it easier to organize global customer service. Regarding the development of new transducers (transducers are ultrasound excitation and measuring heads), coating processes were optimized. This improves the resolution capacity of the microscope by virtue of higher frequencies. Signal processing for correction of focus positions during the scanning process is also improved.

PVA Crystal Growing Systems GmbH is currently involved in research projects for silicon-based photovoltaics that are being funded by the German Federal Ministry for Economic Affairs and Energy. One research project is aimed at enhancing crystallization processes for high-quality solar cells with a view to reducing costs. In the ongoing project, productivity for crystal-growing based on the Czochralski method has been increased by approx. 25% through use of a newly developed reloading system. For the floatzone technology, in which the crystalline silicon base material is remelted into a low-oxygen monocrystal inductively and without the use of other auxiliary materials, an optimized inductor is being developed that enables an 8-inch process and therefore larger crystals for wafers in power electronics. The inductors are in the testing phase.

For manufacture of thin silicon rods that are needed for production of polysilicon via the Siemens process, a new inductor concept has increased productivity of the CGS plant by 100%. It is now possible to produce two thin rods in parallel in a single process step instead of just one thin rod as before.

In collaboration with an international customer, the growing of silicon carbide (SiC) crystals via the PVT (physical vapor transport) method is being optimized. SiC material is primarily used in LED production as well as in power electronics. Along with process control, the research work – a basic process is already in place – is also focused on optimizing preparation of the growing process. Another important factor here is preparation of the 2,600°C process zone in order to ensure growing of high-quality crystals for 4-inch and 6-inch wafers. Inhouse computer simulations are performed for optimum process control.

PVA Crystal Growing Systems GmbH is the only system manufacturer that is a member of a Norwegian research association established in 2017. Six institutes and 13 industrial partners whose joint aim is to manufacture highly efficient solar cells with due consideration of strict environmental aspects, i.e. a low CO<sup>2</sup> footprint and increased productivity, are represented in this association.

#### Disclosures Relevant to the Right to Take Over

The required disclosures related to the right to take over pursuant to Section 315a (1) of the German Commercial Code (HGB) are provided below.

#### COMPOSITION OF SHARE CAPITAL

As of December 31, 2017, the issued share capital of PVA TePla AG consisted of 21,749,988 individual no-par bearer shares with a nominal value of EUR 1.00 each.

### RESTRICTIONS WHICH AFFECT VOTING RIGHTS OR THE SALE / TRANSFERABILITY OF SHARES

There are no restrictions of voting rights or the sale/transferability of shares.

### SHAREHOLDINGS THAT EXCEED 10% OF VOTING RIGHT

According to disclosures filed with the company, PA Beteiligungsgesellschaft mbH, Wettenberg held a share of voting rights as of December 31, 2017, above the 10% threshold.

### SHARES WITH SPECIAL RIGHTS THAT IMPART THE RIGHT OF CONTROL

There were and are no shares with special rights that impart the right of control.

#### CONTROL OF VOTING RIGHTS BY EMPLOYEES HOLDING SHARES IN THE COMPANY

There is no control of voting rights by employees holding shares in the company.

### APPOINTMENT AND REVOCATION OF MANAGEMENT BOARD MEMBERS

The appointment of PVA TePla AG Management Board members is done in accordance with Section 84 of the German Stock Corporation Act (AktG), and Section 6 (2) of the PVA TePla AG Articles of Incorporation. The following is established therein:

» Article 2: The appointment of members of the Management Board, the revocation of their appointment as well as the concluding, the amendment and the termination of contracts of employment with members of the Management Board are effected by the Supervisory Board. The same applies to the appointment of a member of the Management Board as chairman or as spokesman of the Management Board.

#### AUTHORITY OF THE MANAGEMENT BOARD TO ISSUE OR REPURCHASE SHARES

As of December 31, 2017, the Management Board is authorized via Annual General Meeting resolution to issue new shares from authorized capital in the amount of EUR 10,874,994.00 by June 20, 2022. The Management Board is authorized via Annual General Meeting resolution to buy back shares amounting to 10% of authorized capital by June 18, 2018.

#### COMPANY AGREEMENTS CONTINGENT UPON A CHANGE OF CONTROL AS THE RESULT OF A TAKEOVER BID

The current master agreements with the banks are based on a largely unchanged shareholder structure and, in case of a change in control, calls for renegotiation or, in one case, specifies that the bank has a right to cancellation. The provisions for a publicly funded research and development project also include a special right to cancellation in case of a change in control. There are no other agreements that are contingent upon a change of control as the result of a takeover bid.

#### CHANGE OF CONTROL PROVISION

In the event of a change of control, Management Board members receive benefits that should not exceed 150% of the severance payment cap (value of two years' remuneration including benefits).

#### Company Management Declaration (Section 289f in conjunction with Section 315d of the German Commercial Code)

The company management declaration pursuant to Section 289f of the German Commercial Code (HGB) and the remuneration report are available as part of the corporate governance report on the website of PVA TePla AG in the section "Investor Relations – Corporate Governance" or directly under the following link: www.pvatepla.com/pvatepla-service/investor-relations/corporate-governance. The remuneration report describes the basics of the remuneration system pursuant to Section 315a (2) of the German Commercial Code and also forms an integral part of the 2017 consolidated financial statements of PVA TePla AG.

#### **Dependency Report**

In 2017, PA Beteiligungsgesellschaft mbH held the majority of votes at the Annual General Meeting of PVA TePla AG. The Management Board of PVA TePla AG therefore prepared a dependency report for fiscal year 2017 pursuant to Section 312 of the AktG.

The 2017 report includes the following final statement by the Management Board: "We declare that according to the information known to us at this time, our company engaged in legal transactions with dependent companies pursuant to Section 312 of the AktG and received appropriate compensation in all cases. The company did not take or fail to take any reportable measures."

#### 2. ECONOMIC REPORT

#### Macroeconomic and Sector Environment

#### MACROECONOMIC ENVIRONMENT

The economic upturn became faster and wider in 2017. In many countries, economic data sprang a pleasant surprise and exceeded expectations. The International Monetary Fund (IMF) forecast inflation-adjusted global growth of 3.7% for 2017, compared to 3.2% in 2016. In the industrialized countries, growth picked up significantly from 1.7% in 2016 to 2.3% in 2017. At 4.7%, the rate of growth in the emerging and developing countries surpassed the prioryear level by 0.3%.

After a lengthy weak phase, global trade and industrial production saw a major revival in 2017. Global trade is likely to have risen by 4,7%, and industrial production by 3.5%. Consequently, there was a marked improvement in industrial capacity utilization, and the weak phase of investment activity came to an end:

- » The German economy also saw a significant upturn in 2017. Overall, gross domestic product grew by 2.2%, outstripping the average of the last ten years (+1.3%). The upturn was driven by robust private consumption (+2.0%), government spending (+1.4%) and investment in buildings (+2.6%). Businesses also invested more in equipment once again, resulting in an above-average increase here (+3.5%). However, this growth-rate lagged behind those typically seen in previous upturns. In this healthy economic environment, the average employment level for the year was also 1.5% up on 2016, rising by 653,000 to just under 44.3 million. This is the highest rise since 2007.
- » Growth in the EU and the Eurozone reached its highest level for ten years in 2017. According to Eurostat, the statistical office of the European Union, gross domestic product in the EU and the Eurozone expanded by 2.5% in real terms. The economy gained considerable momentum in nearly all Eurozone countries. Impetus stemmed from foreign trade as well as the domestic economy. Industrial production was up by an estimated 2.7% on the previous year. Capacity utilization, employment and investment were all higher.
- » After a slow start to the year, the US economy increasingly gained pace as 2017 progressed. Macroeconomic output grew by 2.3%, compared with just 1.5% in the previous year. Consumption and investment both contributed to this.
- » Growth accelerated in **Japan** in 2017. A GDP growthrate of 1.8% is expected, double the prior-year figure of 0.9%. Along with private consumption, investment also saw an upturn as a result of the expansive economic policy.
- » The economy in **PR China** grew by 6.8% in 2017 according to the IMF. The National Bureau of Statistics of China puts the increase at 6.9%. Accordingly, economic growth was again rather stronger than in the previous year. At the end of the year, growth rates for investment, industrial production and retail sales decreased. In its fight against air pollution, the government closed numerous companies at the end of the third quarter and the beginning of the fourth, and insisted that they introduce modernization measures to reduce environmental pollution.
- » In India, the real rate of growth is expected to remain high at 6.7% (fiscal year 2017/2018), albeit lower than in the previous year. Following the sudden currency

reform in November 2016, the introduction recovery of raw material prices helped to overcome the recession in **Russia and Brazil**. According to the IMF, economic output in Russia and Brazil is likely to have risen by 1.8% and 1.1% respectively.

#### SECTOR DEVELOPMENTS

The PVA TePla Group saw positive development in the markets of particular relevance to the Group in the past fiscal year. There were further capacity increases in the hard metal market in Europe and Asia. Investment in the semiconductor market increased substantially.

- » 2017 finally brought an upturn for German mechanical engineering as a result of a sharp rise in demand for capital goods. For instance, inflation-adjusted growth in real production in the sector was 3.1% according to provisional figures published by the Federal Statistical Office. Growth in production was almost entirely driven by increased imports, which reached an estimated EUR 167 billion, thus exceeding the prior-year level by more than 7%. Deliveries to China and the US accounted for the bulk of this growth. The EU countries also featured here, albeit with lower growth rates. Overall, growth on the export markets was more broad-based in regional terms, after exports to many developing and emerging countries such as Russia and Brazil returned to growth last year.
- » In 2017, there was a real-terms increase of 8% in incoming orders, compared to the previous year. Domestic demand rose by 5%, while orders from abroad soared by 10%. Here too, there was only a slight divergence: While incoming orders from euro countries were 11% higher than in the previous year, incoming orders from non-euro countries grew by 9%.

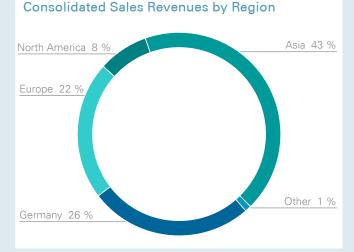
In Germany, sales revenues across the electronics industry increased by 7.2% in 2017. International revenues (+8.8%) rose more sharply than domestic revenues (+5.3%). Inflation-adjusted production in the electrical industry grew by 4.6% year-on-year between January and November 2017. Exports again proved to be particularly robust: Between January and November 2017, total sector exports were up by 10.1% on the previous year at EUR 183.3 billion. According

to estimates, they came close to the EUR 200 billion mark for the whole of last year, reaching a fourth consecutive record level. Most exports went to China in 2017, followed by the US and France. Sector exports to China increased between January and November of last year by 18.1% year-on-year to EUR 17.4 billion.

#### **Business Development**

#### SALES REVENUES

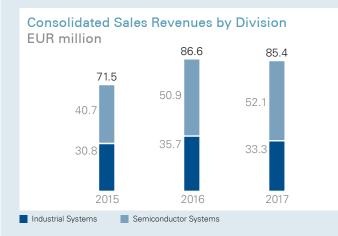
The PVA TePla Group generated consolidated sales revenues of EUR 85.4 million (previous year: EUR 86.6 million), on a par with the previous year. Germany accounted for 26% of consolidated sales revenues (previous year: 34%). The Asian market continued to be very important, with the region accounting for 43% of total sales revenues (previous year: 44%). A total of 22% (previous year: 14%) of sales revenues were generated in other European countries. North America accounted for 8% (previous year: 7%) of total sales revenues, as in the previous year.



The section below provides a detailed description of sales revenues generated by the Industrial Systems and Semiconductor Systems divisions.

The Industrial Systems division achieved sales revenues totaling EUR 33.3 million in 2017 (previous year: EUR 35.7 million). This slight decrease is due to the lower order backlog with which the division started the fiscal year. In the second half of the year, the order situation improved significantly, but did not make a larger contribution to sales revenues in 2017 because of the long project lead times. The division accounted for 39% of the total sales revenues for the Group. Sintering systems for hard metal production accounted for around half of system sales revenues in the Vacuum Systems business unit. The remaining sales revenues were distributed across the remaining product portfolio, e.g. systems for the vacuum brazing of metals and ceramics, systems for cleaning graphite, and plasma nitriding systems used to harden steel surfaces. Over 60% of sales revenues for Vacuum Systems were generated in Asia in fiscal year 2017.

Sales revenues in the Semiconductor Systems division amounted to EUR 52.1 million in 2017 (previous year: EUR 50.9 million), thus accounting for 61% of the total sales revenues for the PVA TePla Group. Crystal growing systems for the semiconductor and photovoltaic industries as well as plasma systems accounted for around three-quarters of sales revenues in this division, with other sales revenues stemming from the Analytical Systems business unit.

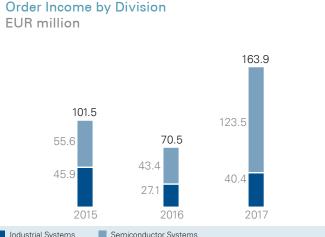


#### **INCOMING ORDERS**

At EUR 163.9 million, total incoming orders for the Group in fiscal year 2017 were well above their level in the previous year (EUR 70.5 million). The book-to-bill ratio of 1.9 at Group level (previous year: 0.8) reflects this trend. Both the Industrial Systems division and the Semiconductor Systems division benefited from the increase in incoming orders.

At EUR 40.4 million (previous year: EUR 27.1 million), the Industrial Systems division received far more incoming orders than in the same period of the previous year, thus accounting for 25% of total incoming orders. The positive business development was primarily attributable to a sharp rise in orders for hard-metal sintering systems. Over 70% of orders for Vacuum Systems came from outside Germanv.

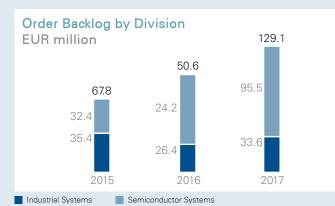
The Semiconductor Systems division almost trebled its incoming orders, which totaled EUR 123.5 million (previous year: EUR 43.4 million). This represents 75% of the total incoming orders of the PVA TePla Group. The figure includes two orders for crystal growing systems for the manufacture of silicon crystals totaling around EUR 70 million. These two orders will impact on sales revenues and earnings in 2019 and 2020. The other two business units, Plasma Systems and Analytical Systems, also posted significant double-digit growth.



#### Industrial Systems

#### ORDER BACKLOG

The PVA TePla Group's order backlog is reported after deducting sales revenues previously recognized applying the percentage of completion method (PoC). The Group's order backlog totaled EUR 129.1 million as of December 31, 2017 (previous year: EUR 50.6 million). As a result of the use of IFRS 15, the order backlog increased by EUR 3.5 million as of January 1, 2018. The order backlog in the Industrial Systems division as of December 31, 2017 stood at EUR 33.6 million (previous year: EUR 26.4 million). The order backlog of the Semiconductor Systems division stood at EUR 95.5 million (previous year: EUR 24.2 million).



#### PRODUCTION

In 2017, systems production and contract processing were performed in Germany at the Wettenberg, Westhausen and Jena locations. The production location outside Germany is Corona in the United States. Vertical integration remained at the previous level across all areas. A small number of parts are manufactured inhouse. This allows for flexible adjustment of production capacity as necessary to meet changes in demand when the level of incoming orders fluctuates.

In 2017, production capacity at the Jena and Wettenberg, Germany, locations was fully utilized owing to the use of flexitime models.

#### Position

#### **RESULTS OF OPERATIONS**

In 2017, an operating profit (EBITDA) of EUR 5.5 million (previous year: EUR 6.5 million) and an EBITDA million of 6.4% were attained, thus meeting the forecast of an EBITDA margin of 6% published at the beginning of 2017. The operating profit (EBIT) amounted to EUR 3.0 million (previous year: EUR 3.9 billion), resulting in a margin of 3.5% (previous year: 4.5%). Consolidated net profit for the year came to EUR 5.6 million (previous year: 3.4%). The usability of existing loss carryforwards within the next 3 years means that the tax results contains accrued income from the recognition of deferred tax assets of EUR 3.4 million.

Based on consolidated sales revenues of EUR 85.4 million (previous year: EUR 86.6 million), gross profit amounted to EUR 19.1 million (previous year: EUR 20.4 million). The gross margin of 22.4% was lower than last year's figure (23.6%). Gross profit was hit by costs for warranties and write-downs of work in progress amounting to EUR 1.2 million.

At EUR 9.3 million, selling and distributing expenses were up on the previous year (EUR 8.9 million) due to higher expenses for sales employees. Administrative costs were decreased significantly once again to EUR 5.1 million (previous year: EUR 5.8 million). The administrative cost ratio therefore decreased to 5.9% (previous year: 6.7%). R&D costs of EUR 2.6 million (previous year: EUR 3.0 million) were slightly lower than in the previous year and primarily consisted of development project expenses in the ultrasound measuring systems, crystal growing, plasma and metrology business units. The net balance of other operating expenses and income of EUR 1.0 million (previous year: EUR 1.2 million) was almost at the same level as the previous year. Other operating income of EUR 2.6 million (previous year: EUR 2.8 million) predominantly included income from grants in the context of R&D projects (EUR 0.7 million, previous year: EUR 0.9 million), income from exchange rate differences (EUR 0.6 million, previous year: 0.7 million) and income from the release of provisions (EUR 0.7 million, previous year: EUR 0.3 million). Other operating expenses of EUR 1.6 million (previous year: EUR 1.6 million) were on a par with the previous year and primarily related to expenses from exchange rate differences (EUR 0.7 million, previous year: EUR 0.8 million) and specific valuation allowances for trade receivables (EUR 0.1 million, previous year: EUR 0.1 million).

The Industrial Systems division achieved an operating result (EBIT) of EUR 0.2 million (previous year: EUR -0.2 million) as a result of increased warranty costs and subsequent costs. In the Semiconductor Systems division, an operating result (EBIT) of EUR 5.2 million (previous year: EUR 6.7 million) was attained. "Holding costs" were reduced to EUR 2.4 million (previous year: EUR 2.6 million).

The net balance of interest income and interest expenses was EUR -0.7 million (previous year: EUR -0.8 million), including EUR -0.3 million due to the discounting of pension provisions and EUR -0.3 million relating to the deferral of payments with an effect on interest as well as incurred expansion costs in the scope of the syndicated loan contract.

Earnings before tax amounted to EUR 2.3 million (previous year: EUR 3.0 million) and the consolidated result amounted to EUR 5.6 million (previous year: EUR 2.9 million). Income taxes, which totaled EUR 3.3 million (previous year: EUR -0.1 million), comprised current tax expenses/tax refunds of EUR -0.6 million (previous year: EUR -0.1 million) and deferred tax income of EUR 3.9 million (previous year: EUR -0.02 million).

#### Comparison of Results of Operations with Forecast for 2017

For fiscal year 2017, the PVA TePla Group expected consolidated sales revenues on the scale of EUR 85 million and an EBITDA-margin in the order of 6%. The Industrial Systems and Semiconductor Systems divisions were each expected to account for half of the sales revenues. This forecast was supported by an order backlog of EUR 50.6 million on December 31, 2016 and the assumption that anticipated incoming orders in the first half of 2017 would generate sales revenues and earnings.

Sales revenues in the Industrial Systems division were at EUR 33.3 million due to order shifts, while in the Semiconductor Systems division they totaled EUR 52.1 million due to higher incoming orders. The forecast for the Group was fulfilled with consolidated sales revenues of EUR 85.4 million and an operating result (EBITDA) of EUR 5.5 million, equivalent to a margin of 6.4%.

#### FINANCIAL POSITION

#### Capital Structure

As of the reporting date, the PVA TePla Group reported a net financial position (balance of cash and cash equivalents and current and non-current financial liabilities) of EUR 29.1 million (previous year: EUR -8.9 million).

A consortium loan agreement for EUR 7.5 million mixed line (cash and guaranteed lines) and EUR 27.5 million, as well as an increase option for additional guaranteed lines of up to EUR 20 million with a term of 36 months was signed in August 2015. Full use of this increase option was made in fiscal year 2017. No cash lines (previous year: EUR 2.7 million) had been drawn, and EUR 41.1 million (previous year: EUR 19.3 million) of the guaranteed lines had been utilized as of the reporting date. The company still also has a credit line of EUR 3.7 million secured by charges on land and drawn at the reporting date, which will decline by EUR 0.3 million on schedule every six months until December 2022.

#### Investments

At EUR 0.9 million (previous year: EUR 0.8 million), the investment volume in 2017 was at the same level as the previous year. In the fiscal year, EUR 2.0 million was reclassified from inventories to property, plant and equipment, and financial assets contain a non-current customer receivable of EUR 1.7 million. These items were non cash-effective. These investments were mainly attributable to plant and office equipment.

#### Liquidity

In 2017, operating cash flow was very positive at EUR 39.0 million (previous year: EUR -4.4 million), as a result of high advance payments to pre-finance the order backlog. Operating cash flow fluctuates heavily from one reporting date to the next in the Vacuum Systems and Crystal Growing Systems business units due to the project structure of orders and methods of payment. We receive considerable advance payments at the beginning of a project, which influence net cash flow positively if there are large orders. Cash flow is negative during order processing, whereas near the delivery date, the remaining amount due is paid, except for a small residual installment.

Due to the extent of the investment measures described above, cash flow from investing activities amounted to EUR -0.6 million (previous year: EUR -0.6 million). Cash flow from financing activities amounted to EUR -7.8 million (previous year: EUR +1.0 million) and, in addition to the regularly scheduled repayments of long- and short-term loans of EUR 0.9 million, includes repayment of short-term working capital borrowings. Interest payments totaled EUR 0.2 million (previous year: EUR 0.6 million). Total cash flow in fiscal year 2017 including exchange rate differences amounted to EUR +30.5 million (previous year: EUR -4.0 million).

#### NET ASSET SITUATION

Total assets amounted to EUR 119.1 million as of December 31, 2017, EUR 24.4 million higher than the figure of EUR 94.7 million as of December 31, 2016 (previous year).

The value of property, plant and equipment increased slightly to EUR 29.4 million (previous year: EUR 28.8 million) as a result of reclassifications from inventories of internally generated systems lent to customers and used for test purposes (EUR 2.0 million), investments (EUR 0.9 million) and writedowns compensating for these (EUR 2.5 million). Intangible assets remained almost unchanged at EUR 8.6 million (previous year: EUR 8.8 million). The value of derivative goodwill remains unchanged at EUR 7.8 million, which is tested for impairment at least once a year. Noncurrent financial assets of EUR 1.7 million (previous year: EUR 0.0 million) contain a non-current receivable from the sale of storage facilities. Deferred tax assets of EUR 7.9 million (previous year: EUR 5.3 million) were well up on the previous year due to the increase in deferrals on loss carryforwards. Overall, non-current assets totaled EUR 47.6 million, compared with EUR 42.9 million in the previous year. Current assets increased by EUR 19.7 million to EUR 71.5 million (previous year: EUR 51.8 million). Inventories fell to EUR 16.3 million (previous year: EUR 21.1 million), largely due to the sale of storage facilities (EUR 2.8 million) as well as the reclassification of loaned equipment for customers and equipment used for test purposes (EUR 2.0 million). Due to the low order backlog at the beginning of 2017 and the associated lower settlement volume in the last guarter of 2017, future receivables from manufacturing contracts decreased by EUR 6.1 million to EUR 6.1 million (previous year: EUR 12.2 million), and trade receivables fell by EUR 1.4 million to EUR 11.3 million. The biggest change in current assets occurred in cash and cash equivalents. They rose by EUR 30.5 million to EUR 33.0 million (previous year: EUR 2.5 million). This increase stemmed from the high level of incoming orders and the associated rise in advance payments received.

On the liabilities side of the balance sheet, non-current liabilities (including non-current provisions) declined by a small margin to EUR 19.7 million (previous year: EUR 21.8 million). The reported value of pension provisions increased to EUR 14.9 million (previous year: EUR 14.3 million), largely due to the decrease in the discount rate. Non-current

financial liabilities decreased to EUR 3.0 million (previous year: EUR 3.8 million) due to the scheduled repayment of bank loans. Deferred tax assets fell to EUR 1.4 million (previous year: EUR 2.8 million) mainly due to lower deferred taxes in connection with the accounting of long-term construction contracts pursuant to IAS 11.

Current liabilities increased to EUR 54.3 million (previous year: EUR 32.6 million) as a result of advance payments received. Current financial liabilities were reduced by EUR 6.7 million to EUR 0.9 million (previous year: EUR 7.6 million). Advance payments received on orders rose to EUR 37.1 million (previous year: EUR 10.5 million) on account of higher incoming orders in the last quarter of 2017.

Trade payables fell to EUR 3.7 million (previous year: EUR 4.9 million). Obligations from contract manufacturing remained at the same level as the previous year at EUR 1.0 million. Accruals increased to EUR 5.1 million (previous year: EUR 4.7 million). Other current provisions were almost unchanged at EUR 2.4 million (previous year: EUR 2.3 million). These include provisions for warranty costs and subsequent costs.

Based on the consolidated result of EUR 5.6 million (previous year: EUR 2.9 million), equity increased to EUR 45.1 million (previous year: EUR 40.3 million). Due to the much higher total assets, the equity ratio decreased from 42.5% in the previous year to 37.9%.

#### EMPLOYEES

The Group had 385 employees on the balance sheet date (previous year: 377 employees). Headcount in the Industrial Systems division remained almost constant at 181 (previous year: 182), as did the number employees in Semiconductor Systems: 169 compared with 164 (Dec. 31, 2016). From a regional perspective, the largest share of employees by far is in Germany at 343 (previous year: 340). There were 22 employees in the USA at the end of 2017 (previous year: 21), while 20 people were employed in Asia (previous year: 16). In fiscal year 2017, the number of apprentices in PVA TePla Group amounted to 15 (previous year: 13). These young men and women were being trained in commercial or industrial professions.

### SUMMARY ASSESSMENT OF ECONOMIC DEVELOPMENT

PVA TePla can look back on a positive fiscal year which corresponded with the original forecasts. At EUR 85.4 million, sales revenues were at the same level as the previous year, and an operating profit (EBITDA) of EUR 5.5 million was achieved. The gross margin came to at 22.4%.

The incoming order situation in the past year progressed very positively. In addition to the very pleasing incoming orders for crystal growing systems of over EUR 70 million, all other business units also posted considerable double-digit percentage growth. The Group order backlog was increased by around 150% compared with December 31, 2016, and stood at EUR 129.1 million as of December 31, 2017. This order backlog will contribute to sales revenues until the middle of the year 2020.

### 3. RISK, OPPORTUNITY AND FORECAST REPORT

#### **Risk and Opportunity Report**

The divisions of the PVA TePla Group are exposed to an array of risks that are inextricably linked to corporate activities. Risk is understood to be the possibility of events or activities jeopardizing the ability of the Group or one of its divisions to reach its targets. At the same time, it is also important for the PVA TePla Group to identify opportunities for the company, take advantage of these opportunities and reinforce the Group's competitive position. Risks and opportunities are not offset against one another. Risks and opportunities are presented as follows.

#### Assessment of probability of occurrence / Potential scale

Level		Probability of occurrence	
Improbable	0% <	Probability of occurrence	≤ 20%
Possible	20% <	Probability of occurrence	≤ 70%
Probable	70% <	Probability of occurrence	≤ 100%
Level		Potential scale	
Low	EUR 0 <	Scale	< EUR 500 thousand
Moderate	EUR 500 thousand $\leq$	Scale	< EUR 1.000 thousand
High		Scale	≥ EUR 1.000 thousand

Risks are assessed on the basis of probability of occurrence as either "improbable", "possible" or "probable", as well as in terms of the potential scale of the risk. The valuation of the potential scale refers to the operating result (EBIT) of the PVA TePla Group.

#### RISK AND OPPORTUNITY STRATEGY

The risk and opportunity strategy is embedded in the corporate strategy and is designed to secure the continuation of the company as a going concern and guarantee its further development. The resulting strategy assesses the risks and opportunities of business activities. In the core activities of the company/the Group, we make a conscious decision to enter into limited and containable risks, if they make appropriate compensation likely or are inevitable. In some cases, we allocate the risks to other parties. This mainly includes concluding suitable insurance policies. This process is conducted in close cooperation with an experienced and specialized insurance broker. It is regularly reviewed for efficiency and optimized where necessary.

Other risks, which are not related to core and support processes, are avoided as far as possible. A "Risk Manual" has been made available to the members of the Management Board and employees, which includes instructions on processes and a catalog of measures to safeguard appropriate and sustainable risk management. The manual details the specific processes involved in risk management. It aims at the completeness of all risk-related activities and measures, i.e. the identification, assessment, controlling, reporting and monitoring of risks. Based on defined risk categories, risks at divisions, operating units as well as central units are identified and assessed according to their likelihood and potential damage.

#### RISK MANAGEMENT

Due to the organizational structure, risk management is carried out locally in the PVA TePla AG, in the subsidiaries and business processes. The Management Board members and Managing Directors are therefore responsible for central processes of the risk management system. The main objective of the risk management system is the early recognition of risks, in order to regularly provide the Management Board with up to date information on the current risk situation within PVA TePla. The Management determines the limits for the reporting structure. The duties of those in charge include developing and where necessary installing measures to prevent, mitigate and hedge against risks. The main risks as well as the implemented measures are regularly monitored.

The risk reports are regularly compiled and analyzed by central risk management and checked and discussed by the Management Board and Supervisory Board. In addition to regular reporting, a reporting system has been installed within the Group to immediately report the occurrence of unexpected risks. The system also includes an annual risk inventory, in which all of the risks relevant to the Group are reported and their relevance and possible effects are assessed. Measures to reduce identified risk are defined and their implementation is monitored.

The risk management system enables the Management Board to identify material risks at an early stage and to implement countermeasures. The key features of the risk management system described above are applied throughout the Group. As far as processes in financial disclosure are concerned, this means that identified risks are reviewed and assessed, particularly for their potential impact on disclosures in the respective financial reports. The idea is to provide important information at an early stage about potential changes in the fair value of assets and liabilities, possible impairments and important information to assess the necessity of forming and reversing provisions.

The adequacy and efficiency of the risk management system is reviewed on a regular basis at Management Board level and adjusted where necessary.

In 2007, an internal audit system was also established. An auditing firm was commissioned to set this up. The Management and Supervisory Boards agreed a mediumterm plan, according to which all divisions of the PVA TePla Group will be systematically audited.

#### INTERNAL CONTROL AND RISK MANAGEMENT SYSTEM FOR THE GROUP FINANCIAL DISCLOSURE PROCESS

The objective of the methods and measures we have put in place is to secure the assets of the company and enhance operating efficiency. The internal control system that has been implemented is intended to ensure the reliability of accounting and reporting and to ensure compliance with internal rules as well as legal regulations and the Articles of Association. We assure the adequate separation of functions and have also implemented appropriate spans of control. Furthermore, we make sure that responsibilities do not overlap and that tasks, expertise and responsibilities are pooled. We have also integrated controls into the workflows. Key components of these structures and controls include strict compliance with the system of checks and balances for all essential accounting processes, effective and precisely defined access rights for our IT systems, spot checks of employees at all levels by the respective superior, the use of uniform Group-wide reporting and forms, and control over the structural and process organization including the key operational company processes within the scope of our certified quality management system. The essential features of the internal control system described above apply to all functional areas. In the accounting process, the implementation of the structural and process organization controls within the internal control system assures data integrity for the information that flows into financial reporting.

In addition to these controls implemented in the organization, the individual functional areas are also monitored by superiors and, if applicable, the internal audit department. In this case, the internal audit department is responsible for reviewing the functioning and effectiveness of the internal control system. In order to conduct the audit, the internal audit department has comprehensive information and review rights.

Consolidation and the Group accounting process are based on the decentralized preparation of financial statements by each of the Group companies. These financial statements are prepared and submitted according to uniform Groupwide standards and data formats. The central accounting system is connected with the ERP system through numerous interfaces.

The entire process is controlled and verified by the central Group Accounting and Controlling department. Here, the data is also verified with regard to form and content. All of the employees involved in the process receive training at regular intervals. The parts of the internal control system relevant to financial reporting are reviewed in terms of effectiveness by the auditor as part of a risk-oriented approach.

In conclusion, we would like to point out that neither an internal control system nor a risk management system can ensure with absolute certainty that the related objectives will be achieved. Like all discretionary decisions, resolutions to implement suitable systems can also be incorrect in principle. Controls may not be adequate on a case by case basis due to simple errors or mistakes, or changes to environment variables may be recognized too late in spite of corresponding monitoring. The PVA TePla Group differentiates between business opportunities and risks, operational opportunities and risks, and financial opportunities and risks. These constitute the pivotal areas for the Group. Opportunities and risks do not exist to the same extent in all sub-segments. The following generally provides a net presentation of risks (by measures).

#### Business Opportunities and Risks

#### Assessment of the German Economy

In view of the ongoing upturn, the German federal government expects a growth rate of 2.4% for 2018. The boom in residential construction and investment in public infrastructure continues to ensure full order books, in turn prompting companies to invest more. The German economy is further boosted by dynamic exports and buoyant private consumption. Experts at the VDMA predict that exports to the US and to EU countries (excluding the United Kingdom) will grow at roughly the same rate as in 2017. Machinery exports to China are likely to continue to grow, but probably at a slower pace, as the level of deliveries reached in 2017 is high and the structural transformation of the Chinese economy favors consumer goods and services. Of course, there are also chances of a stronger economic recovery in 2018. One condition for this positive scenario would be for the Chinese government to further decelerate the pace of reform to avoid a slowdown in growth, causing German machinery exports to China to keep on rising almost unbridled. Employment is likely to increase further in this economic environment, although a new record employment level will lead to a challenging situation on the labor market. This bottleneck will contribute to increased disruption of production in some areas. The working population is expected to rise by just under 500 thousand people to 44.8 million in 2018.

#### Assessment of the Global Economy

Many early indicators suggest that the global economic upturn is continuing. In 2018, the International Monetary Fund (IMF) expects real global growth of 3.9%. Despite the continued slight slowing of growth in China to 6.6% (6.8% in 2017), slightly increased growth of 4.9% is forecast for the emerging and developing countries as a whole. Economic growth in Brazil is likely to increase slightly to 1.9%. GDP growth of 1.7% is expected for Russia. For Russia, researchers predict that economic growth will pick up to 7.4% in fiscal year 2018/2019.

According to current estimates, the pace of growth in the industrialized countries in 2018 is likely to be on a par with the previous year at 2.3%, with substantial differences in national trends. The US started 2018 with a huge raft of tax cuts, with a reduction in corporate tax to 21% as the centerpiece. This is expected to massively stimulate investment activity, with a likely impact in the US and among key trading partners. Consequently, accelerated economic growth of 2.7% is expected for the US. Positive economic growth is expected in Canada (2.3%), the Eurozone (2.2%), the United Kingdom (1.5%) and Japan (1.2%), but at a lesser pace than last year. The forecast could prove to be excessively cautious, particularly in the case of the Eurozone and Japan. Early indicators suggest accelerated growth in the Eurozone.

In the short term, the risks to the global pace of growth appear to be balanced. Better performance is possible, as the growth in economic activity may bolster the sound financial conditions, and vice versa.

#### **Market Risks**

The key risk in the markets in which PVA TePla operates is the fluctuation in customers' investment activity, the global economy and political developments in general, and global competitive and price pressures. Statements regarding future developments of individual markets or decisions relating to economic policy in emerging markets cannot be made with sufficient accuracy. In addition, there are many risks at the level of international politics: these include the North Korea conflict, further developments in relations between the EU and Turkey, the future situation in Spain (Catalonia conflict), the lingering threat of protectionism in the US and elsewhere, US sanctions against Russia and its business partners abroad, as well as the significant tension between Saudi Arabia, Israel and Iran.

The semiconductor business, a key sector for the Group, is traditionally highly cyclical in nature. Although the semiconductor industry has enjoyed average annual growth rates well above those of most so-called old-economy industries in recent decades, this average includes periods of both robust growth and recession. According to market research institutions, investment activity in the semiconductor industry was stagnant or declining between 2011 and 2016, but will increase significantly from 2017. Investments in wafer capacity, an essential market for PVA TePla, were, in particular, subject to heavy fluctuation in recent years. Major wafer manufacturers stepped up investments considerably in 2017.

In the Industrial Systems division, the focus of business is on hard metal sintering systems, with a high percentage in China. Considerably higher volatility has been registered in this business unit since 2012. The introduction of new technologies leading to the substitution of existing materials could have a lasting effect on markets.

#### **Market Opportunities**

In markets such as hard metal manufacturing, the semiconductor industry and photovoltaics, the PVA TePla Group provides process technologies that will remain a firm part of each respective value chain in the future. In the area of heat treatment systems, new user markets can be developed in the "diffusion bonding" application. Examples of markets in which these types of processes could be used include the aviation industry or the tool industry. In the semiconductor industry, for example, these process technologies could include systems for growing high-purity silicon crystals or silicon carbide crystals for high performance electronics - particularly in e-mobility - or analytical systems for non-destructive quality control in LED or MEMS production. The ongoing reduction of structure widths in chip production will also boost demand for inspection systems for examining chip quality. Demand for plasma and analytical systems is correlated with trends in semiconductor markets (e.g. MEMS, LED, OLED/PLED, IGBT). Further growth for these products of PVA TePla is expected due to the anticipated growth in the semiconductor market in the medium term and new applications for plasma systems in the semiconductor/life science/industrial sectors. The semiconductor market will see stronger growth in the medium term, driven by the acceleration in connectivity of devices in industry and the private sector (i.e. "Internet of Things, Industry 4.0"). The budget for 2018 also includes moderate estimates in relation to sales revenues from new and further developments with small unit sales forecast. This was due to attempts to reduce the reliance on systems with a short product lifecycle that is difficult to forecast.

#### **Economic Risks**

Analysts envisage real global economic growth of 3.9% for 2018. Despite this positive outlook, the overall economic situation remains highly uncertain. The implications of current political developments in a number of key countries for the global economy - for example the Brexit issue - remain uncertain at present. The debt crisis in the established industrialized countries continues to fester and may prove detrimental to the economies of the emerging markets, a key market for the PVA TePla Group. The Chinese market is extremely important to PVA TePla, especially in the area of vacuum systems. The slowdown of economic development in China over the past few years and of the correlation between products manufactured using PVA TePla systems and the expansion of infrastructures means that there is a chance of investment restraint. The sanctions imposed on Russia by the West concern a market that is of interest to the PVA TePla Group, not least because Russian customers have shown a desire to expand and widen the country's technological basis.

These market and economic risks are reduced by diversifying the range of products and services across different sectors including semiconductors, photovoltaic, tool making and hard metal technology, the production of high-quality metals and ceramics, the automotive and aerospace industries, and the electrical and electronic engineering sectors. The effects of cyclical, foreseeable fluctuations in market volume are primarily offset by increasing or decreasing outsourcing levels, although unexpectedly high demand can give rise to production bottlenecks. The strategy of maintaining a relatively low level of vertical integration allows rapid response in this regard. The PVA TePla Group also provides high-quality contract processing work such as plasma treatment, high-vacuum brazing and heat treatment of components in which greater customer demand has historically been seen in times of generally restrained capital expenditure.

#### **Risks from Technological Developments**

The risk of losing orders due to a new, unexpected technology appearing on the market (horizontal entry) or due to new competitors is monitored worldwide and assessed by continuous observation of the latest research and development and published studies specific to the various sectors, and by maintaining dialog with key customers, research institutes and the markets. In addition to ongoing development activities, technological product optimization is further supported by, among other things, an inhouse laboratory as well as the operation of inhouse service centers in which materials are processed for customers. Here, the company's development department stays abreast of the latest material quality requirements of customers. The technical complexity of our products and rapid technological advances pose research and development-related risks. Medium and long-term success is dependent on developing marketable products and generating sufficient revenues within appropriate time frames in order to provide adequate cash flow for the group's internal financing. The technical complexity of our products and the high standards demanded by our customers may also give rise to risks that can generate increased warranty-related expenditures. "Special projects" with particular technological challenges may involve handling risks. These risks are countered by the introduction of continuous project controlling. In addition, it is sometimes necessary to decline high-risk projects.

#### **Opportunities from Technological Developments**

As a supplier of technologies for the production and processing of materials, parts and components for high-tech industries, where vacuum and high temperature play a key role for production, new areas of application for materials produced using our systems may result in additional demand. Moreover, new requirements for materials requiring new types of systems in our areas of expertise may arise. In view of climate change, energy savings to slow down the pace of global warming are a priority. New materials which lead to a considerably longer service life of devices and structures especially contribute to energy savings. New materials for lightweight construction also improve energy efficiency. This will significantly improve the opportunities for our systems technology in the development and production of materials to be developed around the world.

#### **Risks from Trade Barriers**

As an international Group with a high share of export business, PVA TePla is essentially susceptible to trade barriers or sanctions. Current geopolitical developments mean that there is a trend towards intensification in both of these areas. This relates to Russia in particular, but may also affect other regions, such as the US, depending on political developments. PVA TePla continually reviews the need for export licenses and, in the case of high-risk orders, hedges the political risk through capital goods credit insurance policies. A susceptibility to trade barriers will always remain, as contracts with insurance companies are only a limited option when political risks escalate. PVA TePla counters this potential development by operating subsidiaries in key markets, meaning that corresponding supply chains can alternatively be set up in the relevant countries and any trade barriers that may arise can be bypassed.

Risk category	Probability of occurrence	Scale	Category of opportunity	Scale
Market risks	Probable	High	Market opportunities	High
Global economic risks	Possible	Moderate		
China economic risks	Possible	High		
Risks from technological developments	Possible	High	Opportunities from tech- nological developments	High
Risks from trade barriers	Possible	High		

#### Operating Opportunities and Risks

#### Sales risks

In some regions, PVA TePla's subsidiaries work with commercial companies and depend on their agency activity to a certain extent. By setting up a further subsidiary in China, we have set up sales channels of our own, particularly in the semiconductor sector. In addition, establishment of a further company is being planned. The sales strategy is also regularly reviewed.

Delivery delays may result in penalty risks or extra costs. Stronger project management is intended to reduce delivery delays and further improve lead times.

#### **Risks from suppliers**

The risk of delivery delays and non-delivery is countered by identifying and pre-screening additional suppliers in combination with close monitoring of existing suppliers. Dependence on individual suppliers cannot be ruled out, but is largely limited by having multiple qualified suppliers for key components wherever possible, and diversifying deliveries among them. The risk of supplier failure (e.g. as a result of insolvency) is substantially reduced by considering the supplier's economic situation and the systematic selection and evaluation of alternative suppliers. Care is taken to ensure that all major suppliers have adequate quality management systems and third-party liability insurance coverage in place.

#### Capacity planning risks

The sharp rise in the order backlog in the Crystal Growing Systems business unit at the end of fiscal year 2017 caused full utilization of the employees responsible for production there, meaning that production bottlenecks are possible. Through increased collaboration with temporary works and, possibly, third-party companies as well as staff pooling within the Group, capacity can be used without causing future overcapacity by increasing headcount.

#### Personnel risks

The success of the PVA TePla Group primarily depends on its employees and their expertise. However, competition for skilled employees and managers in the industries and regions in which PVATePla operates is intense. The Group's future success therefore largely depends on its ability to hire, integrate and retain qualified personnel. Strategic personnel planning, for qualified personnel and management level, as well as cooperations with German universities and research institutes are intended to prevent this from happening. Demographic developments are forcing the company to deal with an aging workforce and secure a young generation of gualified specialists and managers. In the case of a higher fluctuation rate, loss of expertise is likely, especially in the areas of engineering and commissioning. This risk is to be prevented by documenting expertise, extending redundancy and holding performance reviews. Should the personnel risk materialize, it is expected to impact the business activities and also the results of the PVA TePla Group depending on the extent of the bottlenecks in personnel.

#### Risks in connection with information technology

The risk of IT equipment failures and the threat posed by software viruses and other malware (such as so-called Trojans) are reduced through regular and appropriate backups, adopting suitable protective measures against external influences (e.g. constantly updated virus protection systems and firewalls) and maintaining suitable access control systems and password changes. In view of the increased threat of cybercrime and attacks by hackers ("enterprise down"), additional precautions were implemented such as additional training for employees and extra security programs. Despite all precautions, IT problems and the related negative impact on business processes and unauthorized data access cannot be completely ruled out.

#### **Risks from Legal Disputes**

At present, there are no legal disputes involving PVA TePla AG or its subsidiaries. A subsidiary of PVA TePla AG, PVA TePla America, Inc., faced legal proceedings due to claimed defects of a plasma system. This legal dispute was ended in 2017 with no major impacts on the result of operations.

The international business activities of PVA TePla AG and its subsidiaries mean that the companies are exposed to various legal risks. National and international contract drafting and taxation are particularly important areas here. Direct impacts on the result of operations and the net asset situation are possible in these areas. The risk arising from sales and service contracts is essentially minimized through the use of standardized terms and conditions. In the case of special contracts, the wording and content are initially examined inhouse, if applicable with the involvement of an external legal advisor. The specialist knowledge required to assess day-to-day business is provided by qualified employees. Product liability risks are covered by corresponding insurance policies.

Risk category	Probability of occurrence	Scale
Sales risks	Probable	High
Risks from suppliers	Possible	High
Personnel risks	Possible	High
Capacity planning risks	Possible	High
Risks in connection with information technology	Possible	High
Legal disputes	Improbable	Low

Financial Opportunities and Risks

### Liquidity Risks and Risks from Failing to Meet Loan Commitments

Due to the conclusion of a syndicated loan agreement in August 2015 for a mixed line of EUR 7.5 million (cash and guarantee line) and EUR 27.5 million in guarantee lines, as well as an already utilized option to increase these lines by EUR 20 million with a term of 36 months, PVA TePIa AG has a stable financing structure. Negotiations on extending this financing structure are already under way. PVA TePla also has a long-term credit line related to investment property, currently amounting to EUR 3.3 million, which can be utilized for operating funds at any time and decreases half-yearly by EUR 333 thousand. The Group therefore has sufficient credit lines for financing operations, including the expansion of business volume, and sufficient guarantee lines for the provision of advance payment guarantees to customers.

The syndicated loan agreement defines financial covenants for compliance with specific financial indicators. In the event that targets are missed, there is the risk of a financial covenants breach which could lead to the extraordinary right of termination for the lender. Even though there are no indications at the current time of negative deviations from the target and potential financial covenant breaches, there remains a residual risk that, in the event of failing to meet the targets, the credit lines and guaranteed lines could be significantly reduced or completely terminated. Given that the Group has financing alternatives even in this scenario, the Management Board does not believe that the PVA TePla Group is at risk of short- or medium-term insolvency.

**Risks and Opportunities from Changes in Exchange Rates** 

Despite hedging of exchange rate risks in individual transactions, there is a risk that the EUR/USD exchange rate in particular may move unfavorably, eroding our competitive position in this currency zone and exerting pricing pressure. The risk of currency volatility is largely countered by corresponding hedging activities.

No hedging measures are generally taken in the Group in relation to changes in valuation relating to the conversion of net assets at foreign Group companies outside of the Eurozone and their income and expenses. The tendency towards a "weaker" euro compared to the US dollar continues to strengthen our position against competitors in the dollar currency zone.

#### **Risks from Tax Issues**

Because of the volume of major orders from abroad, the complexity of the related tax issues has increased. These particularly include the topics transfer pricing and business between the companies of the PVA TePla Group and VAT, especially on services and tax arrangements for employees who are sent abroad. We address these issues in close cooperation with our tax advisors and have not identified any material risks in this area. However, there are increasing expenses with respect to these consultations, the internal administration and the implementation of regulations with the associated registrations.

#### **Risk Reporting on the Use of Financial Instruments**

Financial instruments arise as part of PVA TePla's core business activities (e.g. trade receivables and payables). Financial instruments are used to finance business activities (e.g. loans from banks) or they arise from business activities (e.g. investment of excess current liquidity). In addition, derivative financial instruments are utilized to eliminate or limit risks from operating activities (e.g. exchange rate risks) or from financing (e.g. interest rate risks). Financial instruments are not used in isolation without connection to actual business activities. Opportunities and risks in connection with the respective relevant financial instrument categories are presented below (for further information see note 27 of the Group notes):

#### Trade Receivables:

Liquidity and credit risks involved in financing business operations are reduced, in the case of major orders, by means of customer/supplier financing. A contractual installment payment schedule is negotiated in most cases, starting at an average of 30% minimum due upon receipt of the order for a single system. Collateral arrangements (e.g. letters of credit) are also frequently required to protect against default on receivables, in combination with receivables monitoring.

#### Other Receivables:

Due to the short-term nature of the items, there is no significant market risk.

#### Payments in Advance:

The individual Group companies primarily make payments in advance only to suppliers for larger deliveries/major components. On the purchasing side, advance payments are only made in return for a corresponding advance payment guarantee. Such guarantees ensure that the Group does not incur any discernible risks.

Financial Liabilities:

- » This item primarily includes bank loans to finance investments and working capital.
- » These loans are all either agreed at fixed interest rates for the entire term or hedged accordingly in the case of loans with variable nominal interest rates, effectively rendering them synthetic fixed interest-rate loans.
- » Effective March 3, 2014, two fixed-interest real estate loans, which were secured by charges and land, for a new building in Wettenberg, Germany, for a total of EUR 5,684 thousand were terminated and combined into a new loan of EUR 6,000 thousand with a term until December 2022. The new loan has already been synchronized with existing interest hedges of EUR 6,000 thousand.
- » As market interest rates at the balance sheet date were once again lower than the interest rates underlying the aforementioned hedging transactions, a provision for other liabilities was necessary totaling EUR 462 thousand (previous year: EUR 647 thousand) in the consolidated financial statements and a provision for impending losses totaling EUR 488 thousand (previous year: EUR 585 thousand) was necessary in the singleentity financial statements of PVA TePIa AG.
- » A long-term loan for the financing of buildings at the Wettenberg, Germany, location was not utilized. When utilized, this loan with a variable nominal interest rate and no underlying interest rate hedge offers a low market risk from changes to corresponding market interest rates.
- » Due to the extremely low interest rates environment at the moment and as there is no anticipated rise in market rates in the medium term, no interest hedge has been concluded yet for this loan.

Trade Payables:

» These are short-term items predominantly settled in Euros. Hence there is no relevant market or credit risk.

Other Liabilities:

Due to the short-term nature of the items, there is no significant market risk.

Exchange Rate Hedging:

- » A large proportion of Group sales revenues, including those of PVA TePla AG, are generated in foreign markets. Projects are predominantly billed in Euros, including for non-Eurozone countries. Otherwise, in each individual case, the hedging of currency risks is assured by means of forward exchange contracts. Since these are closed positions in relation to the underlying transaction with matching payment amounts and deadlines, there is no significant market risk. Calculations for the underlying transactions are based on the respective hedged forward rates.
- » Due to the aforementioned selection of suppliers from around the world, some purchases are made in foreign currencies. US Dollar cash balances are used to a limited extent to meet payment obligations via natural hedging. Other foreign currency obligations and larger US Dollar payments are hedged with forward exchange transactions whose payment structure corresponds with the underlying transaction, thereby avoiding currency risk. Please refer to the explanations above for delivery/materials procurement risks.

Interest Rate Hedging:

- » Some of the loans to finance new facilities were concluded at variable nominal interest rates and the interest rate was hedged, effectively making these synthetic fixed interest rate loans.
- » For more details concerning risks arising from these financial instruments, please refer to the information above on financial liabilities.

Risk category	Probability of occurrence	Scale
Liquidity risks	Improbable	Low
Risks from financial covenants breaches	Improbable	High
Risks from changes in exchange rates	Improbable	Low
Risks from tax issues	Improbable	Low
Risks from financial liabilities	Improbable	Moderate

### GENERAL STATEMENT BY THE MANAGEMENT BOARD

The Management Board of PVA TePla AG is responsible for the risk management of the Group and assesses the Group's risks and opportunities. Their conclusions are summarized as follows.

#### Summary

The Group's fundamental risk profile in fiscal year 2017 did not change compared to 2016. The main risks stem from the market developments mentioned above, the related reticence of our customers to invest, technological developments, the supplier risk and risks from trade barriers. The company is countering this develop by continuing to work on increasing its sales activities in markets which will become more attractive in future. Personnel risks, IT security risks, risks from legal disputes and the risks from credit covenant breaches remained unchanged in the last financial year. Risks potentially jeopardizing the continued existence of the company and the Group as a going concern are monitored by means of suitable countermeasures. We consider all other risks to only have low residual risks on account of their low likelihood, their low potential damage or countermeasures that have been taken. The opportunities presented in this report constitute both untapped potential for the PVA TePla Group but also significant challenges. The fundamentally flexible production structure means that PVA TePla Group companies are well equipped to capitalize on any opportunities that may arise.

#### **Forecast Report**

The forecast report describes the expected business development of the PVA TePla Group in fiscal year 2018. The statements in this chapter were made on the basis of the current Group portfolio and customers' portfolios and the above-mentioned assumptions on future macroeconomic and industry developments. The actual results may, as is often the case in the project business, deviate substantially from the forecast development if the underlying assumptions later prove to be incorrect.

For fiscal year 2018, the PVA TePla Management Board anticipates consolidated sales revenues on account of the cooperation agreement with the GCL Group from March 2018 on the scale of EUR 94 million and an operating result (EBITDA) on the scale of EUR 11 million.

Wettenberg, March 23, 2018

PVA TePla AG Management Board

Q(

Alfred Schopf Chief Executive Officer

Oliver Höfer Chief Operating Officer





# GROUP FINANCIAL STATEMENTS

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# **Group Financial Statements**

## CONSOLIDATED BALANCE SHEET

ASSETS EUR'000	Notes	Dec. 31, 2017	Dec. 31, 2016
Non-current assets			
Intangible assets	(4)	8,585	8,807
Goodwill		7,808	7,808
Other intangible assets		777	949
Payments in advance		0	50
Property, plant and equipment	(5)	29,427	28,782
Land, property rights and buildings, including buildings on third party land		22,902	23,738
Plant and machinery		3,310	3,926
Other plant and equipment, fixtures and fittings		2,944	1,043
Advance payments and assets under construction		271	75
Non-current investments		1,739	11
Deferred tax assets	(10)	7,886	5,291
Total non-current assets		47,637	42,891
Current assets			
Inventories	(6)	16,334	21,092
Raw materials and operating supplies		7,335	9,239
Work in progress		8,459	11,205
Finished products and goods		540	648
Coming receivables on construction contracts	(7)	6,137	12,224
Trade and other receivables	(8)	15,903	15,999
Trade receivables		11,280	12,704
Payments in advance		3,865	1,954
Other receivables		758	1,341
Tax repayments		68	16
Cash	(9)	33,017	2,514
Total current assets		71,459	51,845
Total		119,096	94,736

The following notes are an integral part of the Group Financial Statements.

LIABILITIES AND SHAREHOLDERS' EQUITY EUR'000	Notes	Dec. 31, 2017	Dec. 31, 2016
Shareholders' equity	(11)		
Share capital		21,750	21,750
Revenue reserves		27,876	22,281
Other reserves		-4,413	-3,642
Minority interest		-84	-84
Total shareholders' equity		45,129	40,305
Non-current liabilities			
Non-current financial liabilities	(13)	3,001	3,768
Other non-current liabilities		306	551
Retirement pension provisions	(14)	14,887	14,339
Deferred tax liabilities	(22)	1,376	2,786
Other non-current provisions	(15)	143	342
Total non-current liabilities		19,714	21,786
Current liabilities			
Short-term financial liabilities	(16)	883	7,648
Trade payables		3,717	4,871
Obligations on construction contracts	(17)	979	964
Advance payments received on orders	(18)	37,050	10,450
Accruals	(19)	5,073	4,745
Other short-time liabilities		3,487	1,569
Provisions for taxes		616	49
Other short-term provisions	(15)	2,448	2,349
Total current liabilities		54,253	32,645
Total		119,096	94,736

The following notes are an integral part of the Group Financial Statements.

# CONSOLIDATED INCOME STATEMENT

EUR'000	Notes	Jan. 1 - Dec. 31, 2017	Jan. 1 - Dec. 31, 2016
Sales revenues	(20)	85,362	86,595
Cost of sales		-66,270	-66,182
Gross profit		19,092	20,413
Selling and distributing expenses		-9,333	-8,889
General administrative expenses		-5,079	-5,836
Research and development expenses	(21)	-2,632	-2,970
Other operating income		2,562	2,763
Other operating expenses		-1,583	-1,591
Operating result (EBIT)		3,027	3,890
Finance revenues		257	143
Finance costs		-945	-988
Financial result and share of profits from associates		-688	-845
Net result before tax		2,339	3,045
Income taxes	(22)	3,254	-114
Consolidated net result for the year		5,593	2,931
of which attributable to			
Shareholders of PVA TePla AG		5,593	2,931
Minority interest		0	0
Consolidated net result for the year		5,593	2,931
Earnings per share			
Earnings per share (basic) in EUR	(23)	0.26	0.13
Earnings per share (diluted) in EUR		0.26	0.13
Average number of share in circulation (basic)		21,749,988	21,749,988
Average number of share in circulation (diluted)		21,749,988	21,749,988

# CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

EUR'000	Jan. 1 - Dec. 31, 2017	Jan. 1 - Dec. 31, 2016
Consolidated net result for the year	5,593	2,931
of which attributable to shareholders of PVA TePla AG	5,593	2,931
of which attributable to minority interest	0	0
Other comprehensive income		
Items that may be reclassified to profit or loss		
Currency changes	-366	113
Income taxes	0	0
Changes recognized outside profit or loss (currency changes)	-366	113
Changes in fair values of derivative financial instruments	0	0
Income taxes	0	0
Changes recognized outside profit or loss (derivative financial instruments)	0	0
Total of items that may be reclassified to profit or loss	-366	113
Items that will never reclassified to profit or loss		
Changes in pension provisions	-569	-958
Income taxes	165	278
Changes recognized outside profit or loss (pension provisions)	-404	-680
Total of items that will never reclassified to profit or loss	-404	-680
Other comprehensive income after taxes (changes recognized outside profit or loss)	-770	-567
of which attributable to shareholders of PVA TePIa AG	-770	-567
of which attributable to minority interest	0	0
Total comprehensive income	4,823	2,364
of which attributable to shareholders of PVA TePla AG	4,823	2,364
of which attributable to minority interest	0	0

# CONSOLIDATED CASH FLOW STATEMENT

EUR'000	Jan. 1 - Dec. 31, 2017	Jan. 1 - Dec. 31, 2016
Consolidated net result for the year	5,593	2,931
Adjustments to the consolidated net result for the year for reconciliation to the cash flow operating activities:		
+ Income taxes	-3,254	114
- Finance revenues	-257	-143
+ Finance costs	945	988
= Operating result	3,027	3,890
+/- Income tax payments	-12	-34
+ Amortization and depreciation	2,453	2,616
-/+ Gains/losses on disposals of non-current assets	41	-4
+/- Other non-cash expenses/income	246	-469
	5,755	5,999
-/+ Increase/decrease in inventories, trade receivables and other assets	6,409	-11,048
+/- Increase/decrease in provisions	-298	602
+/- Increase/decrease in trade payables and other liabilities	27,103	6
= Cash flow from operating activities	38,969	-4,441
+ Proceeds from disposals of intangible assets and property, plant and equipment	0	117
- Payment of intangible assets and property, plant and equipment	-891	-699
+ Interest receipts	257	1
= Cash flow from investing activities	-634	-581
- Payments from redumption of debt and loans	-877	-789
+/- Change in short-term bank liabilities	-6,765	2,335
- Payment of interest	-163	-557
= Cash flow from financing activities	-7,805	989
Net change in cash	30,530	-4,033
+/- Effect of exchange rate fluctuations on cash	-27	55
+ Cash at the beginning of the period	2,514	6,492
= Cash at the end of the period	33,017	2,514

EUR'000	Shared issues		Other Revenue equity com- reserves ponents		Pension provisions	Total	
	Number						
As at January 1, 2016	21,749,988	21,750	19,349	205	-3,279	38,024	

21,750

21,750

21,750

2,931

22,279

22,279

27,872

5,593

0

0

113

318

318

-366

-48

0

0

# CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

21,749,988

21,749,988

Total income

Total income

Dividend

As at December 31, 2016

As at January 1, 2017

As at December 31, 2017 21,749,988

Dividend

Total share-

holders'

interest

37,491

2,364

40,305

40,305

45,129

4,823

0

0

Minority

interest

2,364

40,387

40,387

45,210

4,823

0

0

-680

-3,959

-3,959

-4,363

-404

0

0

-84

0

0

-84

-84

0

0

-84

# Group Notes

#### A. GENERAL INFORMATION AND BASIS OF PRESENTATION

#### 1. GENERAL INFORMATION

#### Domicile and Legal Form of the Company

PVA TePla AG is a stock corporation in accordance with German law. The Company is entered in the Commercial Register of the Giessen Local Court under HRB 6845. The registered address of the Company is 35435 Wettenberg, Germany.

#### **Business Activities**

PVA TePla AG (the "PVA TePla Group", "PVA TePla" or the "Group") offers its customers systems for the production and refinement of high-quality materials, which are processed for example under high temperature, vacuum, high pressure and in plasma.

The market for these systems is closely tied to the latest developments in materials and surface treatment technologies, such as silicon wafer technology for microelectronics, silicon carbide water technology for high-performance electronics and wafer technology for mono or multicrystalline solar cells in the Crystal Growing Systems business unit,

in the Industrial Systems business unit, this involves technologies for structural materials for aviation and aerospace, energy technology for hard metal tools,

in the Plasma Systems business unit the production technologies for micro-electronic-mechanical systems (MEMS) and high brightness light emitting diodes (HB LED) as well as technology for the fabrication of ultra-thin wafers, technology for hydrophobic layers on electronic components and for plastics in medical technology in the Coating Systems business unit and

technology for non-destructive quality inspection of wafers using laser light and complex semiconductor components using scanning acoustic microscopy in the Analytical Systems business unit.

High-tech materials and their surfaces will undoubtedly continue to depend on manufacturing processes under vacuum, high temperatures, high pressure and in plasma in the future, and therefore on the product range and technologies of the PVA TePla Group. With locations in Germany, the USA, China, Taiwan and Singapore, PVA TePla maintains business relationships around the world.

The fiscal year for PVA TePla AG and its subsidiaries is the calendar year.

The business activities of the Group are divided into two segments: Industrial Systems and Semiconductor Systems. The Group's reporting is also organized according to this structure. In addition, Holding costs are reported separately.

#### **General Principles and Accounting Standards**

The consolidated financial statements of PVA TePla for the fiscal year from January 1 to December 31, 2017 have been prepared in accordance with the IFRS regulations issued by the International Accounting Standards Board (IASB) as of the balance sheet date and with the binding interpretations of the International Financial Reporting Interpretations Committee (IFRIC).

In addition, the notes to the financial statements contain certain disclosures to meet the requirements of section 315e (1) HGB. In accordance with section 315e HGB in conjunction with section 315 HGB, the consolidated financial statements under IFRS have been supplemented by a Group management report.

The income statement has been prepared in accordance with the cost of sales method of presentation.

The consolidated financial statements convey a true and fair view of the net assets, financial position and results of operations of PVA TePla.

#### New Statements Issued by the IASB

The IASB has issued the following standards, interpretations and amendments to existing standards that could be relevant for the PVA TePla Group, which were not yet mandatory in the reporting period and which have not been applied early by PVA TePla. In addition, other standards and interpretations were passed. As expected, they did not have any material impact on the consolidated financial statements.

Standard/ interpretation		Mandatory application	Adoption by the EU Commission*	Effects
Amend. IAS 7	Cashflow statement	January 1, 2017	Yes	No material
IFRS 9	Financial instruments	January 1, 2018	Yes	Additional note disclosures
IFRS 15	Revenue from contracts with customers	January 1, 2018	Yes	The explanation is presented below the table
Clarifications to IFRS 15	Clarifications to Revenues from Con- tracts with Customers	January 1, 2018	Yes	The explanation is presented below the table
IFRS 16	Leasing	January 1, 2019	Yes	The assessment of implications of the application of IFRS 16 for the con- solidated financial statements is not complete. We assume at this time that there will be no effects.
Annual improve- ments to the IFRS cycles 2014-2016	Amendments to IFRS 1, IFRS 12, IAS 28	January 1, 2018	No	No material
IFRIC 22	Foreign Currency Transactions and Advance Consideration	January 1, 2018	Yes	No material
IFRIC 23	Uncertainty over Income Tax Treatments	January 1, 2019	Yes	Additional note disclosures
Amend. IFRS 9	Prepayment features with negative compensation	January 1, 2019	Yes	Additional note disclosures
Annual improve- ments to the IFRS cycles 2015-2017	Amendments to 3, IFRS 11, IAS 12 und IAS 23	January 1, 2019	Yes	No material

\*As of January 2018

PVA TePla AG generally implements new standards and interpretations only as the application becomes required. An internal assessment on the effects of applying IFRS 15 in comparison to the existing regulatory framework came to the following conclusions:

The PVATePla Group currently realizes sales revenues from construction contracts in accordance with the provisions of IAS 11, which in fact are very similar to the provisions of IFRS 15.35 et seq. in terms of the timeframe for sales realization, but do not have congruent implementation criteria. Up to now, PVA realized almost all its system sales in the Industrial segment in the context of IAS 11. The previous standard was also applied in the Semiconductor segment, particularly with larger crystal growing systems. The application of the temporal method pursuant to IFRS 15 is generally not limited to production contracts with customers, but applicable to all contractual obligations that fulfill the criteria of IFRS 15.35. Against the background of PVA TePla's business activities, this relates in particular to the fulfillment of the criteria of IFRS 15.35 c) and thus the creation of an asset without an alternative use (similar to IAS 11) and also a legal claim to payment of services already rendered including an appropriate profit surcharge.

In view of the contracts currently subject to IAS 11, this presupposes an option to enforce payment claims including an appropriate profit surcharge in the event that a contract is terminated. The complete examination of the order backlog as of December 31, 2017 showed that some systems in the Industrial segment can no longer be shown using the temporal method. In the fiscal year, these orders had a revenue volume of EUR 1.4 million and a pro rata result of EUR 0.3 million. As some of these orders are longterm construction contracts with a duration of more than one year, in previous years pro rata revenues and (EUR 2.2 million) and pro rata results (EUR 0.4 million) were generated.

The sales revenues date arising from contractual obligations according to IAS 18 may be postponed to a minor extent. The importance of multi component contracts beyond the legal regulation on warranty commitments is estimated to be immaterial.

#### **Reporting Currency and Currency Translation**

The consolidated financial statements are prepared in euros (EUR). Currency translation is performed in accordance with the functional currency concept set out in IAS 21 (The Effects of Changes in Foreign Exchange Rates), which focuses on the primary economic environment. The translation of assets and liabilities as well as contingent liabilities and other financial obligations is performed at the prevailing rate on the balance sheet date (middle rate). By contrast, income statement items are translated using average exchange rates for the fiscal year, while shareholders' equity is translated at historical rates. Translation differences arising from exchange rate fluctuations between different fiscal years are reported in "Other reserves" under shareholders' equity. Evaluation in subsequent periods is performed in accordance with IAS 21.23.

Cumulative exchange differences from the currency translation of subsidiaries were not set to zero on the transition date (January 1, 2004), but instead are shown as a separate item in consolidated shareholders' equity.

The material exchange rates of countries outside the Eurozone that are included in the consolidated financial statements are as follows:

EUR = 1	Average exchange rate		Exchange r balance sl	
	2017	2016	Dec. 31, 2017	Dec. 31, 2016
USA (USD)	1.12928	1.1066	1.1993	1.0541
China (CNY)	7.62644	7.3496	7.8044	7.3202
Denmark (DKK)	7.43865	7.4454	7.4449	7.4344
Singapore (SGD)	1.55822	1.5278	1.6024	1.5234
Taiwan (TWD)	34.36600	35.6982	35.6300	33.9742

#### **Estimates and Assumptions**

Estimates and assumptions relate in particular to allowances for bad debts, the degree of completion of customerspecific production orders, the amount and likelihood of utilization of other provisions, the measurement of goodwill and the recognition of deferred tax assets from tax loss carryforwards. Management bases its judgment of these assumptions and estimates on past experience, estimates from experts (e.g. lawyers, rating agencies and associations) and the results of carefully weighing up different scenarios. Changes in the economic situation that deviate from the assumptions applied and that lie beyond the control of management may result in the actual amounts differing from the original estimates. If the original basis of estimation changes, accounting for the respective balance sheet items will be adjusted with an effect on the income statement.

#### Roundings

The tables and figures used in these notes are based on precisely calculated amounts that are subsequently rounded to the nearest thousand euros. Accordingly, rounding differences within the tables cannot always be avoided.

#### 2. CONSOLIDATION

#### **Companies Included in Consolidation**

The present consolidated financial statements of PVA Te-Pla include fully consolidated subsidiaries. All subsidiaries in which PVA TePla holds a majority of the shareholders' voting rights (control) are fully consolidated. The following companies are included in the consolidated financial statements as of December 31, 2017 on a fully consolidated basis:

Name	Corporate domicile	Ownership interest
PVA TePla AG (parent company)	Wettenberg, Germany	
PVA Control GmbH	Wettenberg, Germany	100 %
PVA Industrial Vacuum Systems GmbH	Wettenberg, Germany	100 %
PVA Löt- und Werkstofftechnik GmbH	Jena, Germany	100 %
PVA TePla (China) Ltd.	Beijing, PR China	100 %
PVA Metrology & Plasma Solutions Taiwan Ltd.	Hsinchu, Taiwan	100 %
PVA Crystal Growing Systems GmbH	Wettenberg, Germany	100 %
PVA Metrology & Plasma Solutions GmbH	Wettenberg, Germany	100 %
PVA TePla America Inc.	Corona / CA, USA	100 %
PVA TePla Analytical Systems GmbH	Westhausen, Germany	100 %
PVA TePla Singapore Pte. Ltd.	Singapore	100 %
PVA Vakuum Anlagenbau Jena GmbH	Jena, Germany	100 %
Xi'an HuaDe CGS Ltd.	Xi'an, PR China	51 %
PVA Semiconductor Systems Xi'an Ltd.	Xi'an, PR China	100 %

PVA Semiconductor Systems Xi'an Ltd., a company founded in 2016, was included in the consolidated financial statements for the first time. However this did not entail any significant impact on the consolidated financial statements.

No further changes have occurred since the 2016 consolidated financial statements.

#### **Principles of Consolidation**

The financial statements of the companies included in the consolidated financial statements have been prepared in accordance with IFRS 10 (Consolidated Financial Statements) and IAS 27 (Consolidated and Separate Financial Statements) on the basis of uniform accounting and valuation principles.

The consolidation of investments in subsidiaries is carried out according to IAS 36, under which the cost of acquisition of the participating interests are offset against the fair values of the assets and liabilities acquired. Any excess of cost over fair value is recognized as goodwill and subject to impairment testing at least once a year. If there is an excess of fair value over cost, this is recognized in income after the fair values of the assets and liabilities acquired have been reviewed. If less than 100% of the shares are acquired, the historical cost of the participating interest is offset against the proportionate fair values of the assets and liabilities acquired. Minority interests are recognized in shareholders' equity at the amount of the remaining fair values, including profits and losses attributable to them.

If the percentage shareholding of the parent changes after control is acquired (step acquisition), any difference is recognized directly in equity without impact on the income statement.

#### 3. ACCOUNTING AND VALUATION PRINCIPLES

#### Intangible Assets

Intangible assets primarily consist of the proportion of goodwill arising in connection with company acquisitions, which represents the excess of the purchase price over the net fair value of the net assets acquired.

The treatment of company mergers before the transition date was retained by invoking the exemption option under IFRS 1. In accordance with IFRS 1, goodwill amounts were transferred to the IFRS opening balance sheet at their carrying amounts in accordance with the previous accounting standard, providing the recognition criteria for intangible assets and contingent liabilities were met. Goodwill is not subject to amortization but instead is tested for impairment at least once a year or whenever there are indications of impairment and, if necessary, is written down to its lower fair value.

Other intangible assets with limited useful lives are carried at cost, reduced by normal straight-line amortization from the date on which they are first ready for use. Useful lives of three to eight years (for software: three to five years) are applied. Amortization of intangible assets is allocated to the functional areas utilizing the assets concerned. Useful lives are reviewed annually and, if necessary, adjusted to meet future expectations.

Internally generated intangible assets are capitalized when IAS 38 criteria are met. After they are capitalized for the first time, the assets are carried at cost less cumulative depreciation and cumulative impairment. Capitalized development costs contain all directly attributable costs plus their share of overheads and are depreciated over their scheduled useful life. Internally generated intangible assets that are not yet complete are subject to an annual impairment test.

#### Property, Plant and Equipment

Property, plant and equipment is carried at cost less cumulative depreciation. Depreciation is recognized on a straight-line basis over the expected useful life of the asset; in the case of tenants' fixtures or leasehold improvements, if appropriate, in accordance with the shorter duration of the lease. Pursuant to IAS 20.24, investment subsidies and tax-free investment contributions received are deducted from the book value of the relevant assets. Borrowing costs that are directly attributable to the acquisition, construction or production of a qualifying asset should be capitalized as part of the cost of that asset. Expenditure for maintenance and repairs is expensed in the period in which it is incurred. The cost of an asset and the related cumulative depreciation are derecognized when assets are scrapped or disposed of, with any book gains or losses recognized in the income statement under "Other operating income" or "Other operating expenses".

Depreciation is conducted according to the following economic useful lives:

	Years
Buildings	25 - 33
Plant and machinery	3 - 20
Other plant and equipment, fixtures and fittings	2 - 14

Low-value assets with an acquisition value of no more than EUR 410 are fully depreciated in the year of acquisition. All other assets with acquisition values greater than this are capitalized and depreciated over their normal useful lives.

Depreciation of property, plant and equipment is allocated to the functional areas utilizing the respective assets.

# Impairment and Write-downs of Intangible Assets and Property, Plant and Equipment

Where the value of intangible assets or property, plant and equipment calculated using the principles described above is greater than the value attributed to them at the balance sheet date, impairment losses and write-downs are recognized accordingly. The fair value to be applied is calculated on the basis of either the net proceeds of sale or the present value of the estimated future cash flows from the use of the asset, whichever is higher. Impairment losses and write-downs are reported in other operating expenses.

In accordance with IAS 36, the carrying amount of goodwill is reviewed by way of an impairment test at least once a year. This test must be completed annually and whenever there is an indication that the value of the cash-generating unit has been impaired.

Goodwill is allocated to cash-generating units in accordance with IAS 36 (Impairment of Assets). In accordance with IAS 36.80 (b), each cash-generating unit may not be larger than a segment for the purposes of segment reporting.

PVA Industrial Vacuum Systems GmbH is treated as an independent cash-generating unit in the Industrial Systems segment. The goodwill of PlaTeG GmbH was transferred to this company after its merger in the 2015 fiscal year.

Within the Semiconductor Systems segment, impairment tests on goodwill are conducted in three cash-generating units. As in the previous year, this affects the subsidiary PVA TePla Analytical Systems GmbH based in Westhausen.

PVA Crystal Growing Systems GmbH is also treated as an independent cash-generating unit since 2015. The goodwill of PVA TePla AG was transferred to this company after leasing the business operations. PVA Metrology & Plasma Solutions GmbH is also treated as an independent cash-generating unit since 2015. The goodwill of Munich Metrology GmbH was transferred to this company after the merger in the 2015 fiscal year.

This breakdown of cash-generating units also corresponds to the levels at which the related goodwill is monitored and managed.

The recoverable amount of each cash-generating unit is calculated as its value in use via the discounted cash flow method. Using this method, cash flows are discounted on the basis of the adopted medium-term business plan with a planning horizon of three years and an extrapolation of this plan in line with expected market trends. Underlying these discounted cash flow calculations are forecasts for each cash-generating unit, which are based on the financial budgets approved by management and also used for internal purposes.

Key assumptions for the purpose of determining the fair value of each cash-generating unit by management include assumptions regarding the development of incoming orders, sales revenues, margins, investments and personnel. The values of these parameters are based on past experience as well as foreseeable future developments. 1% was applied as the growth rate for the extrapolation of the budget figures in calculating the perpetual annuity for all cash-generating units.

The discount rate is based on the segment-specific weighted average cost of capital of the companies (WACC approach) and contains a reasonable risk premium. The parameters market risk and beta have the largest effect on the calculation of impairment.

Necessary write-downs are identified by comparing the carrying amounts of the cash-generating units with the recoverable amounts. If the carrying amount of a cash-generating unit exceeds the recoverable amount, the carrying amount of that cash-generating unit is written down by the difference. The impairment loss will be allocated to goodwill and higher amounts will be distributed proportionately between the assets of the cash-generating unit. Impairment losses are reversed if the reasons for their recognition no longer exist. The reversal of an impairment loss is limited to the amortized carrying amount that would have resulted if no impairment losses had been recognized in the past. Income from such reversals is reported in "Other operating income." Impairment losses on goodwill may not be reversed.

#### Leasing

All agreements under which the right to use an asset for a fixed period of time is transferred in exchange for payment are deemed to be leases. This also applies to agreements where the transfer of such a right is not expressly stated. Based on the risks and opportunities of leased item, an assessment is made whether the lessee (so-called finance leases) or the lessor (so-called operating leases) has the economic ownership of the leased item.

PVA TePla AG is the lessee of property, plant and equipment and lessor in connection with the leasing of its own buildings. In fiscal year 2017, as in the previous year, all leases of PVA TePla were treated as operating leases with lease installments expensed as incurred.

#### Inventories

Inventories are recognized at cost in accordance with the weighted average cost method or net realizable value, whichever is lower. In accordance with IAS 2 (Inventories), cost includes not only directly attributable costs, but also production and material overheads as well as write-downs. Fixed overheads are taken into account on the basis of the normal capacity utilization of the production facilities. The cost of idle production capacity is recognized in income under "Cost of sales". Write-downs are charged on inventories when their costs exceed the expected net realizable value. The net realizable value is the expected disposal proceeds less any costs which are incurred until the sale.

#### **Coming Receivables on Construction Contracts**

As part of the partial recognition of sales revenues from customer-specific construction contracts based on the percentage of completion, any amount due from customers for contract work is reported as an asset in accordance with IAS 11.42. This item is shown separately under "Future receivables on construction contracts".

#### Receivables

Receivables are carried at their nominal amount.

Appropriate bad debt allowances are recognized for trade receivables in order to cover possible default risks.

#### Cash

Cash comprises all freely available liquid funds such as cash in hand and cash in current accounts, as well as other current bank balances available.

#### **Derivative Financial Instruments/Exchange Rate Hedging**

In individual cases, sales are concluded in foreign currencies. As a rule, forward exchange contracts are entered into hedge exchange rate risks in these cases.

These cases are represented as fair value hedges. The measurement effects resulting from changes in exchange rates for assets (trade receivables) recognized in the balance sheet or open sales transactions in foreign currencies are measured at fair value while the adjustment of the carrying amount for reflecting the fair value is recognized in the income statement as a component of other operating expenses or income. In accordance with IFRS, hedging instruments are also measured at fair value. If hedging is implemented completely, the opposing effects on earnings will compensate each other.

#### **Derivative Financial Instruments/Interest Rate Hedging**

Interest rate hedges were concluded to hedge interest rate risks for the financing of investments in new buildings. If the hedge relationship is effective, the positive market value of these instruments is recognized under "Other receivables." In this case, the offsetting entry is reported in equity under "Other reserves." The negative market value of these instruments is reported under other financial liabilities. The offsetting entry of the market value is reported in "Other reserves" without impact on the income statement.

For ineffective hedge relationships, changes in market value are recognized in the income statement in the financial result (net finance revenue or net finance costs). As in 2017, the negative market values of all financial derivatives in fiscal year 2015 were reported as expenses in net finance costs under other financial liabilities.

#### **Deferred Investment Grants from Public Funds**

Some items of capital expenditure are supported by investment subsidies and tax-free investment grants. In accordance with IAS 20.24, these amounts are deducted from the carrying amount of the relevant assets.

#### **Presentation of Equity**

With the publication of amendments to IAS 1, new regulations regarding the presentation of other comprehensive income were introduced, which are applicable for fiscal years beginning on or after July 1, 2012.

PVA TePla AG will keep the separate presentation of income statement and the statement of comprehensive income. The presentation of other comprehensive income was changed so that individual subtotals can be shown for those that can be reused and those that cannot.

#### Payables

In accordance with IAS 39, liabilities are carried at amortized cost on the balance sheet date, which generally corresponds to the amount due on settlement.

#### **Obligations on Construction Contracts**

As part of the partial recognition of sales revenues from customer-specific construction contracts based on the percentage of completion, any amount due to customers for contract work is reported as a liability in accordance with IAS 11.42. This results from the excess of invoiced amounts over the corresponding proportionate revenue. These items are reported separately under "Obligations on Construction Contracts" on the balance sheet in the same manner as "Future receivables on Construction Contracts".

Only partial payments that are due on the basis of the progress of each individual system, and hence that meet the scope of progress billing, are recognized as invoiced amounts. Payments received at the inception of the order or partial payments that do not correspond to the progress of completion are presented separately as advance payments.

#### **Obligations from Pension Commitments**

Obligations from direct pension commitments are calculated in accordance with IAS 19 (Employee Benefits) using the projected unit credit method while taking future salary and pension adjustments into account. Actuarial reports are obtained annually for this purpose. The service cost for pension beneficiaries is derived from the scheduled change in provisions for pension commitments.

Pension obligations in Germany are calculated on the basis of the biometric 2005 G mortality tables issued by Professor Dr. Klaus Heubeck. There are no pension obligations outside Germany. Actuarial gains and losses have a direct impact on the consolidated balance sheet and are recognized in other comprehensive income.

#### Accruals

Accruals are liabilities payable for goods or services received that are neither paid nor invoiced or formally agreed upon by the supplier at the balance sheet date. This also includes amounts owed to employees.

#### **Other Provisions**

In accordance with IAS 37 (Provisions, Contingent Liabilities and Contingent Assets), provisions for other financial obligations are recognized when a present obligation towards a third party arises from a past event, future settlement is probable and the amount can be reliably estimated. Non-current provisions with a remaining term of more than one year are recognized at the amount required to settle the obligation, discounted to the balance sheet date.

#### **Deferred Taxes**

Taxes are deferred in accordance with IAS 12 (Income Taxes) for temporary differences arising between the amounts in the consolidated balance sheet and the tax base of the companies included in consolidation, as well as for consolidation adjustments and tax loss carry-forwards. Deferred tax assets and liabilities are also recognized for temporary differences arising from company acquisitions, with the exception of temporary differences on goodwill. Deferrals are recognized in the probable amount of the tax charge or relief in subsequent fiscal years. Tax assets from deferrals are only recognized if it is reasonably certain they will be recovered. Due to volatility in the market environment and repeated budget deviations in the past years, the time period for determining whether loss carry-forwards can be realized was limited to three years. Provided utilization of loss carry-forwards appears likely for 2018 to 2020 based on the current budget, loss carry-forwards were reported in deferred tax assets. Conversely, loss carry-forwards not expected to be realized until after 2020 were not or no longer recognized. Given the limited forecast period, only loss carry forwards of EUR 20,263 thousand were regarded as recoverable and relevant write-downs were carried out. The assumption of recoverability it based on a detailed three-year budget and the secured revenues for the 2018 to 2020 fiscal years resulting from the order backlog.

Deferred taxes are calculated on the basis of the tax rates in force or announced in the individual countries at the realization date in accordance with the current legal situation.

#### **Revenue Recognition**

Sales revenues are recognized as soon as the goods are delivered or the services are performed, the transfer of risk has taken place and no technical risks or specific opposing contractual regulations exist. All sales revenues are recognized on the date of delivery or performance, as management regards other services and sales arrangements, such as seminars and training, as immaterial to the serviceability of the systems. Income from services and repair work is recognized when the related projects are completed.

Income from customer-specific construction contracts is generally realized in accordance with IAS 11 (Construction Contracts) on the basis of the progress of the work (percentage of completion method), as a reliable estimate of the outcome of the contract the products to be delivered, the terms of payment and the manner in which the work is to progress is clearly defined in the contracts and the fulfillment of the contractual arrangements by both the purchaser and the seller is considered to be probable. The degree of completion is determined as the ratio of the costs incurred as of the balance sheet date to the estimated total costs (cost-to-cost method). Anticipated losses from longterm construction contracts are immediately expensed in full. If not all of the criteria mentioned above are met for individual orders, what is known as the zero profit margin method is applied. Accordingly income is only realized in the amount of costs that have already been incurred and are likely to be covered by corresponding proceeds. During the production period, sales revenues are only realized in the amount of the order costs and therefore without a profit component. Billing for contracts that are not for joborder manufacturing only takes place after performance is complete.

Warranty provisions are recognized as of the balance sheet date for realized sales revenues. These provisions are based on estimates and past experience.

#### **Research and Development Expenses**

PVA TePla is engaged in high-tech mechanical engineering in single unit and small series production. The continued development of products is closely linked to research into new procedures and processes and the development of new product features. Activities in these two areas partially alternate in the course of a project. Accordingly, the separation of research and development activities, and hence the separation of the respective costs, does not generally offer sufficient information value. Similarly, an estimate of probable benefits is too unreliable in light of the uncertainties in future market trends.

This means that of the conditions specified in IAS 38 (Intangible Assets) for the capitalization of development costs, two important criteria are not met. Accordingly, such costs are not capitalized. Research and development expenses are therefore usually expensed in the period in which they are incurred.

Renowned research and development institutions work with us to a minor extent under cooperation agreements (service contracts). Provided adequate indication as to the usability of the development results is available and the other IAS 38 conditions are met, internally generated intangible assets are capitalized.

#### Interest

Interest and other borrowing costs are expensed in the period in which they are incurred.

#### **Other Financial Obligations**

A discount rate of 2.8% (previous year: 4.5%) has been applied in determining the present value of other financial commitments.

#### B. NOTES ON INDIVIDUAL BALANCE SHEET ITEMS

#### 4. INTANGIBLE ASSETS

Changes in intangible assets in the year under review and in the previous year are shown in the consolidated statements of changes in fixed assets for the years 2017 and 2016.

Goodwill is allocated to cash-generating units as follows:

Goodwill EUR'000
4,831
2,734
193
50
7,808

In the course of impairment testing, the recoverable amount for the main cash-generating units was determined based on the value in use. A segment-specific cost of capital was calculated to discount the expected cash flows in determining the value in use. The cost of capital for the units under review was between 11.6% and 13.0%.

The underlying assumptions of key planning indicators (such as sales revenue growth, cash flows, discount rates) reflect past experience and are set according to external information sources. Planning is based on a financial planning horizon of three years. For an impairment test, growth of 1% has been set for cash flow for the following period.

The underlying USD/EUR exchange rate is 1.1993. The cash flow is discounted according to cost of capital approach while taking into account specific tax effects of the segments.

For cash generating units with significant goodwill we have made the following assumptions:

For the Analytical Systems business unit, we expect average geometric sales revenue growth (CAGR determination) of 6% (previous year: 7%) in the next three years due to the continued high-level of investments in the semiconductor industry and the further effects of sales activities. In the Crystal Growing Systems business unit, we are anticipating a considerably increased level of sales revenues for 2019 and 2020. This brings the perpetual annuity back down to the current level. There were no impairment writedowns to the lower value in use for fiscal year 2017 (previous year: EUR 0 thousand).

After determination of the recoverable amount of the cashgenerating units it is evident that potentially assessed deviations from the material assumptions would not lead to the carrying amounts of the units being higher than the recoverable amounts.

Information on the approach and assumptions used for impairment testing are found under note 3 of the Group notes.

#### 5. PROPERTY, PLANT AND EQUIPMENT

Changes in property, plant and equipment in the year under review and in the previous year are shown in the consolidated statements of changes in fixed assets for 2017 and 2016, which are attached as an appendix.

Land has been encumbered with a charge in the amount of EUR 18,000 thousand in order to secure the PVA TePla AG loans for the financing of new facilities in Wettenberg. One of these loans is valued at EUR 3,666 thousand (previous year: EUR 4,333 thousand) on the balance sheet date and has a remaining term until January of 2023. The second

loan was not drawn as of the reporting date (EUR 3,333 thousand) and was fully drawn in the previous year to finance working capital (EUR 4,000 thousand).

For the land charges mentioned above, an agreement to assign the restitution claim and a non-recurring loan undertaking were concluded between the affected banks within the scope of the syndicated loan contract concluded in August 2015. Therefore the land charges serve as front-ranking collateral under the contractual relationship mentioned above and only second-ranking collateral under the syndicated loan contract. With the conclusion of the syndicated loan contract, an additional land charge of EUR 7.3 million was registered for the Jena location.

Subsidiary PVA Löt- und Werkstofftechnik GmbH, Jena, Germany concluded an installment purchase contract in fiscal year 2010 to finance a brazing furnace, for which PVA TePla AG has issued a directly enforceable guarantee and an extended retention of title to the leasing company. On December 31, 2017 the book value of the furnace was EUR 397 thousand (previous year: EUR 466 thousand). On the other hand, the carrying amount of the loan was EUR 82 thousand as of year end (previous year: EUR 188 thousand).

In order to secure PVA TePla AG's loan for the financing of the photovoltaic plant in Wettenberg, the plant was assigned as security. The book value of the photovoltaic plant was EUR 78 thousand on December 31, 2017 (previous year: EUR 86 thousand), and the loan valued at EUR 19 thousand (previous year: EUR 35 thousand) has a remaining term until December 2018.

There are no other material restrictions on ownership or title in respect of the property, plant and equipment reported.

#### 6. INVENTORIES

Inventories in 2017 include write-downs of EUR 4,225 thousand (previous year: EUR 3,898 thousand). Write-downs are primarily attributable to typical write-downs for non-marketability and reductions for loss-free valuation.

The significant inventories of the Group companies were transferred by way of security under a syndicated loan contract. This includes the inventories of PVA TePla AG, PVA Vakuum Anlagenbau Jena GmbH, PVA TePla Analytical Systems GmbH and PVA Industrial Vacuum Systems GmbH. Retention of title by suppliers to the extent customary in the industry applies as well.

#### 7. COMING RECEIVABLES ON CONSTRUCTION CONTRACTS

Contract costs accounted for using the percentage of completion method and revenues from work in progress in the system construction business are as follows:

EUR'000	Dec. 31, 2017	Dec. 31, 2016
Capitalized production costs including contract profits	10,297	28,105
for which advance payments received (progress billings)	-4,160	-15,881
Total	6,137	12,224

Additional advance payments received for PoC orders in the amount of EUR 9,945 thousand (previous year: EUR 8,086 thousand) are included in the advance payments of EUR 37,050 thousand (previous year: EUR 10,450 thousand) reported under current liabilities. Obligations on construction contracts in the amount of EUR 979 thousand (previous year: EUR 964 thousand) – on contracts where payments received according to the percentage of completion exceed the contract costs incurred plus proportionate profits – are also shown under current liabilities. Further information can be found under notes 17 and 18.

#### 8. RECEIVABLES

Trade receivables consist of the following:

EUR'000	Dec. 31, 2017	Dec. 31, 2016
Trade receivables	11,609	13,052
Bad debt allowances	-329	-348
Total	11,280	12,704
Total	11,280	12,7

In the course of ordinary business, supplier credit is granted to a broad range of customers. The creditworthiness of customers is regularly reviewed. Bad debt allowances are recognized to cover potential risks.

Write-downs on trade receivables developed as follows in the fiscal year:

EUR'000	2017	2016
Write-downs on January 1	348	524
Currency translation differences	0	0
Addition	315	120
Utilization	-334	-38
Release	0	-259
Write-downs on December 31	329	348

The trade receivables of the Group companies were ceded under a syndicated loan contract. These include the trade receivables of PVA TePla AG, PVA Vakuum Anlagenbau Jena GmbH, PVA TePla Analytical Systems GmbH, PVA Crystal Growing Systems GmbH, PVA Metrology & Plasma Solutions GmbH and PVA Industrial Vacuum Systems GmbH. Other receivables are composed as follows:

207
307
194
190
67
584
342

Derivative financial instruments are carried at market value. Due to their short-term nature, the market value of other items does not significantly deviate from the carrying amounts presented.

#### 9. CASH

Cash and cash equivalents of EUR 33,017 thousand (previous year: EUR 2,514 thousand) primarily consist of current bank balances. Cash in hand amounted to EUR 9 thousand (previous year: EUR 5 thousand). Cash and cash equivalents also includes EUR 112 thousand that was deposited as collateral for a bank guarantee.

#### 10. DEFERRED TAX ASSETS

For further details, please refer to note 22 "Income taxes".

#### 11. SHAREHOLDERS' EQUITY

#### Share Capital

As of December 31, 2017, PVA TePla AG issued no-par value shares with a nominal interest in the share capital of EUR 1.00 each.

#### **Contingent and Authorized Capital**

There was no contingent capital as of December 31, 2017.

At the Annual General Meeting on June 21, 2017, the old authorization of the Management Board to increase the share capital valid until June 30, 2017 was canceled.

At the same time, the Annual General Meeting of PVA TePla AG authorized the Management Board to increase the Company's share capital with approval of the Supervisory Board on one or more occasions during the period until June 20, 2022 by a total of up to EUR 10,874,994 by issuing 10,874,994 new no-par value bearer shares against cash and/or non-cash contributions with shareholders' subscription rights excluded to the extent permitted by law. No capital increases from this authorized capital were resolved in 2017.

#### 12. DEFERRED INVESTMENT GRANTS FROM PUBLIC FUNDS

PVA TePla has received financial incentives from various public authorities under government business development programs, including funding for the construction of production facilities. Pursuant to IAS 20.24, investment subsidies and tax-free investment contributions received are deducted from the book value of the relevant assets.

#### 13. NON-CURRENT FINANCIAL LIABILITIES

Non-current financial liabilities totaling EUR 3,001 thousand (previous year: EUR 3,768 thousand) were all liabilities to bank and are primarily the result of loans for financing the construction measures in Wettenberg.

Non-current financial liabilities are composed as follows:

EUR'000	Dec. 31, 2017	Dec. 31, 2016
Non-current financial liabilities	3,767	4,557
Portion of non-current financial liabilities due in less than one year	-766	-789
Non-current financial liabilities less current portion	3,001	3,768

The average weighted interest rate for non-current financial liabilities was 1.24% (previous year: 1.04%). Non-current financial liabilities were reduced to EUR 3,001 thousand (previous year: EUR 3,768 thousand) due to scheduled loan amortization.

The repayment commitments for these non-current financial liabilities are structured as follows:

EUR'000	2017	2016
Due		
Up to 1 month	344	343
Between 1 and 3 months	21	19
Between 3 and 1 year	402	421
Between 1 and 5 years	2,668	2,774
More than 5 years	333	1,000

The loan for the financing of investments in machinery for the subsidiary PVA Löt- und Werkstofftechnik GmbH, Jena, Germany is secured through the transfer of ownership of the assets to be financed. The carrying amount of this collateral on December 31, 2017 was EUR 397 thousand (previous year: EUR 466 thousand).

#### 14. PENSION PROVISIONS

Provisions for pension obligations are recognized on the basis of pension plans for commitments to pay retirement, invalidity and dependents' benefits. The amount of benefit usually depends on the number of years of service and the salary of the respective employee. Pension commitments exist at PVA TePla AG, PVA Industrial Vacuum Systems GmbH, PVA Crystal Growing Systems GmbH and PVA Vakuum Anlagenbau Jena GmbH and refer exclusively to former commitments. New pension commitments are generally no longer granted.

Obligations are calculated using the projected unit credit method, under which future obligations are measured on the basis of the proportionate benefit entitlement acquired as of the balance sheet date. Measurement takes into account assumptions on trends for the relevant factors affecting the amount of benefits.

There is no external financing via a pension fund. The resulting residual risks from accounting of pension obligations are related to risks from the change in actuarial parameters, which are shown in the table below. The largest risk is the interest rate, where we refer to the separate sensitivity analysis.

In detail, the calculation is based on the following actuarial premises:

in %	Dec. 31, 2017	Dec. 31, 2016
Income trend	3.00	3.00
Pension trend	1.25	1.25
Staff turnover	1.50	1.50

The interest rate used for calculation at PVA TePla AG for those with vested pension rights and retired persons was 1.5% (previous year: 1.75%), for PVA Industrial Vacuum Systems GmbH at 1.75% (previous year: 2.0%), for PVA Crystal Growing Systems GmbH at 1.85% (previous year: 2.0%) and for PVA Vakuum Anlagenbau Jena GmbH at 1.9% (previous year: 2.05%). Biometric parameters have been calculated on the basis of the 2005 G mortality tables issued by Professor Klaus Heubeck. The measurement of pension obligations is supported by actuarial reports.

The interest portion included in the pension expenses is reported under net interest income.

Changes in recognized provisions for pensions are as follows:

EUR'000	2017	2016
Pension provisions on Jan. 1	14,339	13,327
Expenditure on retirement pensions	976	1,401
Pension payments	-428	-389
Pension provisions on Dec. 31	14,887	14,339

At the balance sheet date, it can be assumed that EUR 475 thousand (previous year: EUR 437 thousand) will be fulfilled within the next twelve months and EUR 14,412 thousand (previous year: EUR 13,902 thousand) will be fulfilled at a later date (over a very long term for some portions).

Changes in the present value of future pensions are as follows:

EUR'000	2017	2016
Present value of future pensions on Jan. 1	14,339	13,327
Current service expense for services provided by employees in the fiscal year	146	149
Interest expense	260	295
Pension payments	-428	-389
Actuarial gains (-) and losses (+)	570	957
Present value of future pensions on Dec. 31	14,887	14,339

Current service cost and the positive past service cost due to an amendment to the pension regulations are included primarily in manufacturing costs and administrative expenses.

#### Sensitivity Analysis

When keeping to the other assumptions, the changes reasonably assumed possible on the balance sheet date would have influenced the defined pension plans as follows, based on actuarial gains and losses:

Effect in EUR'000 on Dec. 31, 2017	Increase Reduction	
Discount rate (0.25% change)	-542	574
Future pension increases (0.25% change)	467	-445

On December 31, 2017, the weighted average term of defined pension plans was 15.6 years.

Overview of the present value of pension obligations for the current year and previous years:

E	EUR'000	2017	2016	2015	2014	2013
	Pension obligations	14,887	14,339	13,327	13,975	11,377
	Actuarial gains -) / losses (+)	570	957	-203	2.370	-206

Actuarial gains and losses have a direct impact on the consolidated balance sheet and are recognized only in other comprehensive income.

#### **Defined Contribution Plans**

Defined contribution plans of relevance to PVA TePla take the form of the employer's statutory pension insurance contributions, pension fund contributions and direct insurance contributions. In fiscal year 2017, the corresponding expenditure amounted to EUR 2,191 thousand (previous year: EUR 1,945 thousand).

#### 15. OTHER PROVISIONS

Other provisions amounted to EUR 2,590 thousand (previous year: EUR 2,691 thousand) and changed during the reporting period as follows:

EUR'000	Jan. 1, 2017	Utilization	Release	Addition	Dec. 31, 2017
Warranty	1,178	389	274	800	1,315
Subsequent costs	584	537	110	672	609
Archiving	43	4	0	8	47
Penalties	299	158	34	37	144
Others	587	277	170	335	475
Total	2,691	1,365	588	1,852	2,590

Provisions were recognized solely in respect of obligations to third parties where utilization is highly probable. Provisions are measured at the amount of probable utilization.

Other provisions contain long-term components in the amount of EUR 542 thousand (previous year: EUR 342 thousand). These relate primarily to provisions for archiving as well as non-current payments in connection with long-term performance-based compensation for the Management Board, and are shown separately in the balance sheet. All other provisions are short-term in nature.

#### 16. CURRENT FINANCIAL LIABILITIES

PVA TePla AG concluded a new loan agreement with a banking consortium under leadership of Commerzbank AG, Frankfurt am Main in fiscal year 2015. The loan agreement has a term of 36 months and ends in August of 2018. Financing includes a bank credit line of EUR 7.5 million, a guaranteed credit line of EUR 27.5 million and an increase option for another EUR 20 million. This increase option was fully used in fiscal year 2017 so that the guaranteed credit line totaled EUR 47.5 million as of December 31, 2017. Interest is according to EURIBOR with a graduated margin based on the debt ratio. As of the reporting date no cash lines (previous year: EUR 2.7 million) had been drawn and EUR 40.9 million (previous year: EUR 19.5 million) of the guaranteed lines had been utilized. The syndicated loan agreement defines financial covenants for meeting common financial ratios.

#### 17. OBLIGATIONS ON CONSTRUCTION CONTRACTS

Among other things, the PVA TePla Group manufactures large-scale systems under customer-specific contracts for which customers make payments in accordance with the progress of the contract. The negative balance resulting from sales revenues and progress billing, which is recognized on the basis of the percentage of completion, is presented in the balance sheet as obligations on construction contracts.

Obligations on construction contracts are composed as follows:

EUR'000	Dec. 31, 2017	Dec. 31, 2016
Advance payments received (progress billing)	4,688	3,528
less contract costs incurred (incl. share of profit)	-3,709	-2,564
Total	979	964

#### 18. ADVANCE PAYMENTS RECEIVED ON ORDERS

The financing of the PVA TePla Group is largely based on the advance payments and interim payments received from customers, particularly in the case of larger contracts. The value of the advance payments received as of December 31, 2017 was EUR 37,050 thousand (previous year: EUR 10,450 thousand). Advance payments received on production orders according to IAS 11 are offset against the corresponding asset items according to the percentage of completion and are not included here.

#### 19. ACCRUALS

Accruals are liabilities payable for goods or services received that are neither paid nor invoiced or formally agreed upon by the supplier as of the balance sheet date. This also includes amounts owed to employees.

Accrued liabilities are composed as follows:

Dec. 31, 2017	Dec. 31, 2016
2,662	2,196
2,122	2,360
290	189
5,073	4,745
	2,662 2,122 290

All of the reported amounts are short-term in nature.

#### C. NOTES ON INDIVIDUAL INCOME STATEMENT ITEMS

#### 20. SALES REVENUES

PVA TePla principally generates its sales revenues through the sale of systems. Additional sales revenues are generated from services and by supplying spare parts (referred to collectively as after-sales service), as well as providing services for customers in the Company's own facilities (contract processing, mainly carried out by PVA Löt- und Werkstofftechnik GmbH, in the field of plasma treatment by PVA TePla America Inc., and in the vacuum field by PVA Industrial Vacuum Systems GmbH). Sales revenues can be broken down into these categories as follows:

2017	in %	2016	in %
65,133	76	66,827	77
15,081	18	15,117	17
3,872	5	3,102	4
1,276	1	1,549	2
85,362	100	86,595	100
	65,133 15,081 3,872 1,276	65,133         76           15,081         18           3,872         5           1,276         1	65,133         76         66,827           15,081         18         15,117           3,872         5         3,102           1,276         1         1,549

The following revenue from customer specific contract production resulted from the partial realization of sales revenues in accordance with the percentage of completion method for customer-specific contracts already initiated by the balance sheet date and reported as future receivables on construction contracts or obligations on construction contracts:

EUR'000	Dec. 31, 2017	Dec. 31, 2016
Revenue from customer-specific contract production	10,773	29,376
For which contract costs incurred	-9,248	-21,958
Gains from customer-specific contract production	1,525	7,418

### 21. RESEARCH AND DEVELOPMENT EXPENSES

Research and development expenses reported on the income statement amounted to EUR 2,632 thousand in 2017 and EUR 2,970 thousand in 2016. Income from research and development project grants of EUR 707 thousand and EUR 911 thousand was recognized separately under "Other operating income".

#### 22. INCOMETAXES

Income taxes are calculated on a best estimate basis for the projected weighted average tax rate for the full fiscal year.

A tax rate of 29% is applied. This includes corporation tax of 15%, a solidarity surcharge of 5.5% on corporation tax, and trade tax of 13.4%.

Deferred taxes were measured after they had been incurred using the tax rate stated above or country-specific tax rates for companies outside Germany.

The actual tax charge is based on probable future tax liabilities and repayment claims.

Income taxes are broken down as follows:

EUR'000	2017	2016
Actual tax expense	-631	-61
Current tax expenses	-633	-50
Prior-period tax charges (-) / income	2	-11
Deferred tax expense (-) / income	3,885	-53
Credit from tax loss carry-forwards	2,889	792
Other deferred taxes	996	-845
Income taxes	3,254	-114

Deferred taxes of EUR -165 thousand (previous year: EUR -278 thousand) were recognized directly in equity without affecting the income statement. These are attributable in full to effects recognized in equity for pension provisions.

The following table shows the reconciliation of expected and actual tax expense:

	2017		201	6
	EUR'000	in %	EUR'000	in %
Results before taxes	2,339		3,045	
Expected tax charges (-) / income	-678	-29	-883	-29
Tax rate changes	0	0	0	0
Changes in tax rates for foreign companies	6	0	7	0
Proportion of tax for permanent differences and temporary differences for which deferred taxes were not recorded	0	0	-66	2
Prior-period current income tax	2	0	-12	0
Change in allowances	4,059	174	905	30
Other effects & adaptions	-135	-6	-65	2
Actual tax charges (-) / income	3,254	139	-114	-4

Deferred taxes from differences in tax rates for foreign companies are due to the fact that PVA TePla Group companies outside Germany are subject to different tax rates than companies in Germany.

Deferred taxes relate to:

	Dec. 31,	, 2017	Dec. 31, 2016	
EUR'000	Deferred tax assets	Deferred tax liabilities	Deferred tax assets	Deferred tax liabilities
Non-current Assets	121	52	174	83
Inventories	71	118	354	118
Obligations on construction contracts	0	570	0	2,202
Receivables	0	87	0	90
Tax loss carry-forwards	5,583	0	2,709	0
Pension provisions	1,948	0	1,850	0
Other provisions / accruals	3	290	41	177
Others	160	260	190	116
Total	7,886	1,377	5,291	2,786
Balance of deferred tax		6,509		2,505

On December 31, 2017, the German companies have tax loss carry-forwards of EUR 22,016 thousand (previous year: EUR 23,056 thousand) that apply solely to the subsidiaries PVA Metrology & Plasma Solutions GmbH, Wettenberg, Germany and PVA TePla AG, Wettenberg, Germany.

PVA TePla America Inc. also has loss carry-forwards of EUR 2,435 thousand (USD 2.6 million in federal tax; USD 0.3 million in state tax), which will be utilized gradually starting from 2022 (federal tax) and from 2019 (state tax), unless utilized prior to that date, and can therefore only be used in part according to current plans.

Provided utilization of loss carry-forwards appears likely for 2018 to 2020 based on the current budget, loss carry-forwards were reported in deferred tax assets. Due to volatility and limited visibility the time period was limited to three years. Conversely, loss carry-forwards not expected to be realized until after 2020 were not or no longer recognized.

Given the limited forecast period, loss carry-forwards of EUR 22,016 thousand for the German companies and EUR 2,435 thousand for PVA TePla America Inc. were regarded as recoverable.

#### 23. EARNINGS PER SHARE

Consolidated net profit for the year before minority interests amounted to EUR 5,593 thousand (previous year: EUR 2,931 thousand). As in the previous year, an average of 21,749,988 no-par value shares was in circulation in fiscal year 2017.

Earnings per share are calculated as the consolidated net profit before minority interests divided by the weighted average number of shares outstanding during the year.

Calculation of earnings per share for 2017 and 2016:

	2017	2016
Numerator: Consolidated net result for the year before minority interests (EUR'000)	5,593	2,931
Denominator: Weighted number of shares outstanding - basic	21,749,988	21,749,988
Earnings per share (EUR)	0.26	0.13

At the balance sheet date, no stock options were issued to employees and members of the Management and Supervisory Boards entitling them to purchase PVA TePla AG shares. As a result, there were no dilution effects in regards to earnings per share as of December 31, 2017.

#### 24. APPROPRIATION OF NET PROFIT/ RETAINED EARNINGS

The separate financial statements of PVA TePla AG (according to commercial law regulations) as of December 31, 2017 report a net profit of EUR 5,486 thousand (previous year: net loss EUR 746 thousand) and retained earnings of EUR 11,406 thousand (previous year: EUR 5,919 thousand). These retained earnings represent the distributable amount of EUR 10,678 thousand in accordance with IAS 1.79(v).

The Management Board and Supervisory Board propose that the retained earnings reported in the 2017 annual financial statements amounting to EUR 11,406 thousand be carried forward to a new account at the same amount. There were no withdrawals from the share premium or retained earnings.

#### D. NOTES ON THE CASH FLOW STATEMENT AND ON CAPITAL MANAGEMENT

The cash flow statement has been prepared using the indirect method in accordance with IAS 7.20. The cash in the cash flow statement corresponds to the balance sheet item of the same name.

Business transactions not affecting cash have not been included in the cash flow statement.

Payments for investments in intangible assets and property, plant and equipment include only cash effective acquisitions. In the fiscal year, EUR 2.0 million was reclassified from inventories to property, plant and equipment, and financial assets contain a non-current customer receivable of EUR 1.7 million. These items were non cash-effective.

The primary objective of PVA TePla's capital management is to ensure the financial flexibility required to reach the defined growth and yield targets, thereby enabling growth in the Company's value. The contents of capital management cover shareholders' equity and the external borrowing necessary to finance the Company's operations. The key indicator for capital management is the equity ratio. Actual management is performed by optimizing yields and setting limits on the commitment of funds. Further objectives of capital management include ensuring the Group's liquidity by agreeing appropriate and sufficient credit lines and maintaining the current ratio of advance payments, as well as optimizing the financial result in order to improve yields.

The capital management of PVA TePla therefore includes the following:

EUR'000	Dec. 31, 2017	Dec. 31, 2016
Shareholders' equity	45,129	40,305
Current and non-current financial liabilities	3,884	11,416
Advance payments received	37,050	10,450
Total amount	86,063	62,171
Total assets	119,096	94,736
Equity ratio	37.9%	42.5%

Equity increased to EUR 45,129 thousand in the 2017 fiscal year (previous year: EUR 40,305 thousand). In fiscal year 2017, finance liabilities drawn at short notice of EUR 6,765 thousand were repaid. Due to an increased level of incoming orders, there was a higher level of advance payments received as of December 31, 2017 so that the balance sheet expanded and as a corollary the equity ratio declined.

#### E. ADDITIONAL DISCLOSURES

#### 25. SEGMENT REPORTING

The PVA TePla Group has been organized in the Industrial Systems and Semiconductor Systems segments as well as Holding costs. Performance is assessed and decisions regarding the assignment of resources to the segments are made on the basis of PVA TePla AG's two segments. The following segment reporting therefore follows the Group's organizational structures on PVA TePla's Group internal management system.

Sales revenues by segment for fiscal years 2017 and 2016 are as follows:

EUR'000	2017		2016	
	External sales revenues	Internal sales revenues	External sales revenues	Internal sales revenues
Segment revenues				
Industrial Systems	33,257	1,841	35,674	1,835
Semiconductor Systems	52,105	556	50,921	1,767
Consolidated revenues	85,362	2,397	86,595	3,602

The types of revenue shown in section 20 are accrued in both segments

The operating profit by segments for fiscal years 2017 and 2016 is as follows:

	2017		201	6
Operating profit by segment	EUR'000	in %	EUR'000	in %
Industrial Systems	174	0.5	-232	-0.6
Semiconductor Systems	5,212	10.0	6,723	13.2
Holding Costs	-2,365		-2,613	
Consolidation	6		12	
Consolidated operating result	3,027	3.5	3,890	4.5

The reconciliation of the segment results (EBIT) to the consolidated net result for the period is as follows:

Consolidation 6 12	EUR'000	2017	2016
	Total segment results	3,021	3,878
Consolidated operating profit (EBIT) 3.027 3.89(	Consolidation	6	12
	Consolidated operating profit (EBIT)	3,027	3,890
Financial result -688 -845	Financial result	-688	-845
Results before taxes 2,339 3,04	Results before taxes	2,339	3,045
Income taxes 3,254 -114	Income taxes	3,254	-114
Consolidated net result 5,593 2,93	Consolidated net result	5,593	2,931

Other significant non-cash-effective segment expenses were not incurred.

The following sales revenues by region were generated in fiscal years 2017 and 2016:

EUR'000	2017	in %	2016	in %
Sales revenues by sales region				
Asia	36,576	43	38,410	44
Germany	22,531	26	29,336	34
Europe (excluding Germany)	18,558	22	12,200	14
North America	7,113	8	5,968	7
Others	584	1	681	1
Consolidated revenues	85,362	100	86,595	100

As a matter of principle, transactions involving intersegment sales and revenues are conducted at arm's length conditions.

#### 26. FINANCIAL INSTRUMENTS

This section contains a summary presentation of the Group's financial instruments and derivative financial instruments. Details of the individual categories of financial instruments are provided in the notes on the respective balance sheet and income statement items.

#### Principles of the Risk Management System

In addition to default risk and liquidity risk, the Company's assets, liabilities and planned transactions are subject to risks from changes in exchange rates and interest rates. The aim of financial risk management is to minimize these risks through ongoing operating and finance-oriented activities. Selected derivative instruments are employed to hedge market price risks, depending on the assessment of the respective risk. Derivative financial instruments are used solely as hedging instruments, meaning that they

are not employed for trading or other speculative purposes. The basic details of the financial policy are established annually by the Management Board and monitored by the Supervisory Board. The Management Board is directly responsible for the implementation of the financial policy and ongoing risk management.

#### **Categories of Financial Instruments**

The financial instruments held by the Group are assigned to the following categories:

	Financia and lia carried at through p affectin	bilities fair value rofit / loss g profit	and rec	ed loans eivables		liabilities	PoC rece	
	Fair v			zed cost	Amortiz	ed cost	Amortiz	
EUR'000	2017	2016	2017	2016	2017	2016	2017	2016
Non-current assets								
Non-current financial assets	0	0	1,739	11	0	0	0	0
Current assets								
Coming receivables on construction contracts	0	0	0	0	0	0	6,137	12,224
Trade receivables	0	0	11,280	12,703	0	0	0	0
Other receivables and assets	23	0	4,670	3,381	0	0	0	0
Cash	0	0	33,017	2,514	0	0	0	0
Non-current liabilities								
Financial liabilities	0	0	0	0	3,001	3,768	0	0
Other liabilities	306	464	0	0	0	87	0	0
Current liabilities								
Financial liabilities	0	0	0	0	883	7,648	0	0
Trade payables	0	0	0	0	3,717	4,940	0	0
Obligations on construction contracts	0	0	0	0	0	0	979	964
Other liabilities	156	290	0	0	46,652	17,486	0	0
Net finance result	315	131	68	0	-480	-488	0	0

With the exception of financial liabilities carried at amortized cost, the carrying amounts in all categories largely correspond to the respective market values. No separate comparison of carrying amounts and market values is provided. In accordance with IFRS 7.27A, financial instruments measured at fair value must be assigned to different levels. PVA TePla AG's financial instruments measured at fair value are allocated to "level 2" at which measurement is based on stock exchange or market prices of similar instruments or on measurement models based on input parameters observable in the market.

The fair values of both forward exchange contracts and interest hedges were determined on the basis of discounted expected future cash flows, using market interest rates applicable to the remaining terms of the financial instruments.

The net gain of EUR 315 thousand (previous year: EUR 131 thousand) from the financial assets and liabilities measured at fair value through profit or loss comprises changes in the market value of derivative hedging instruments. The change in derivative hedging instruments resulted in measurement changes of EUR 86 thousand not impacting cash. All other changes were cash-effective.

The net gain from issued loans and receivables recognized at amortized cost amounted to EUR 0 thousand (previous year: EUR 0 thousand).

The net gain on financial liabilities recognized at amortized cost includes interest expense of EUR 480 thousand (previous year: EUR 488 thousand).

#### Credit Risk

The Company is exposed to counterparty default risk as a result of its operating activities and certain financing activities.

In its operating business, accounts receivable are monitored on a decentralized, ongoing basis. Default risks are taken into account through specific valuation allowances and flatrate specific valuation allowances. For the breakdown of receivables and valuation allowances, see Note 8. Valuation allowances were recognized for expected bad debts.

Theoretically, the maximum default risk is shown by the carrying amounts of the financial assets recognized in the balance sheet. The PVA TePla Group recognized valuation allowances of EUR 329 thousand (previous year: EUR 348 thousand) on trade receivables to cover known risks. Risks from advance payments are avoided with advance payment bonds. There are no discernible risks from other receivables. The PVA TePla Group did not have any other material agreements which could reduce the maximum default risk as of the balance sheet date.

#### **Liquidity Risk**

Revolving liquidity planning is performed in order to ensure the Company's solvency and financial flexibility at all times.

To the extent necessary, a liquidity reserve is held in the form of credit facilities and, if required, in cash.

For more information on the maturities of the individual financial liabilities, see the disclosures on the relevant balance sheet items in note 13. The maturity analysis of the derivative financial liabilities can be found in the sections "Currency risks" and "Interest hedges".

#### Market Risk

With regard to market price risk, the Company is exposed to currency risks, interest rate risks and other price risks.

#### **Currency Risks**

The Company's currency risks primarily result from its operating activities, financing measures and investments. Foreign currency risks with a significant impact on the Group's cash flow are hedged.

Foreign currency risks from operations primarily arise when planned transactions are settled in a currency other than the functional currency (EUR). These planned transactions relate in particular to expected future sales revenues invoiced in US dollars. Die PVA TePla AG and PVA Analytical Systems GmbH enter into forward exchange contracts to hedge payment obligations. These derivative financial instruments have a term to maturity of up to one year and hedge payment obligations of EUR 2,669 thousand (previous year: EUR 1,692 thousand) as of December 31, 2017. The expected net payments from currency hedging instruments are as follows:

Dec. 31, 2017	Dec. 31, 2016
1	-60
4	-26
21	-20
0	0
	1

Currency risks due to foreign currency invoices are mainly hedged by forward exchange contracts, meaning that changes in exchange rates from foreign currency transactions have no significant effect on profit/loss or shareholders' equity.

For the prospective effectiveness measurement it is checked that key parameters of hedging instruments (nominal amount, term, etc.) match the hypothetical derivatives, and the cumulative dollar offset method is used for the retrospective effectiveness measurement.

Interest income and expenses from financial instruments at the German companies are recognized in the functional currency (EUR). This means that foreign currency risks can only arise from the financial instruments and assets held by the individual companies outside Germany that would be taken directly to currency reserves in equity.

For this reason, only an equity-based sensitivity analysis is performed.

If the value of the euro had been 10% higher (lower) compared to the US dollar on December 31, 2017, the other reserves in equity would have been EUR 234 thousand lower (EUR 286 thousand higher) (December 31, 2016: EUR 216 thousand lower (EUR 263 thousand higher)).

If the value of the euro had been 10% higher (lower) compared to the other currencies relevant to the Group on December 31, 2017 the other reserves in equity would have been EUR 62 thousand lower (EUR 76 thousand higher) (December 31, 2016: EUR 65 thousand lower (EUR 79 thousand higher)).

#### **Interest Hedges**

The Company is mainly subject to interest rate risk in the Eurozone. Taking the existing and planned debt structure into account, the Company uses interest rate derivatives (interest rate swaps) in order to counteract interest rate risks.

In accordance with IFRS 7 interest rate risks are presented using sensitivity analyses. These represent the effects of changes in market interest rates on interest payments, interest income and expenses, other earnings components and, where applicable, shareholders' equity.

Sensitivity analyses in accordance with IFRS 7 were performed for financial derivatives (swaps) not forming part of an effective hedge. If the market interest rate as of December 31, 2017 had been 100 bp higher, earnings would have increased by EUR 80 thousand (previous year: EUR 120 thousand). If the market interest rate as of December 31, 2017 had been 100 bp lower, earnings would have decreased by EUR 85 thousand (previous year: EUR 127 thousand).

Interest rate hedges with a total original volume of EUR 11,600 thousand were entered into in order to hedge the interest rate risk for the financing of investments in new buildings at the Wettenberg site (previous year: Wettenberg). The outstanding balance of these hedging transactions on the reporting date of December 31, 2017 is EUR 3,666 thousand (previous year: EUR 4,333 thousand). The interest hedges have a term to maturity of up to six years. The expected net payments from interest hedging instruments are as follows:

Expected net payments EUR'000	Dec. 31, 2017	Dec. 31, 2016
Up to 1 month	-84	-97
Between 1 and 3 months	0	0
Between 3 months and 1 year	-73	-87
Between 1 and 5 years	-273	-363
More than 5 years	-33	-101

The remaining interest hedging instruments and underlying loans were concluded in 2007 on the basis of the corresponding interest rates. They hedge long-term, flexible financing for new construction at the Wettenberg location.

Effective on March 3, 2014, PVA TePla AG canceled two fixed-interest, mortgaged real estate loans for new construction in Wettenberg totaling EUR 5,684 thousand and combined then into a new loan for EUR 6,000 thousand with a term until December of 2023. The new loan was synchronized with existing interest hedging transactions for a total of EUR 6,000 thousand. However, effectiveness between the new underlying transactions and existing hedging transactions could not be achieved on the reporting date according to IFRS. The negative fair value of these hedging transactions was EUR -462 thousand on December 31, 2017 (previous year: EUR -647 thousand); fair value changes of EUR 185 thousand were recognized in financial expenses through profit or loss in the fiscal year (previous year: EUR 143 thousand) in financial income.

The corresponding contra-entry of the fair values of the interest derivatives as well as the applicable deferred taxes is made in other current and non-current financial liabilities as well as deferred tax assets or liabilities depending on changes in fair value.

#### **Other Price Risks**

At December 31, 2017 and December 31, 2016 the Company did not hold any financial instruments that were subject to other notable price risks.

#### 27. LEASING

PVA TePla is the lessee of property, plant and equipment and lessor in connection with the leasing of its own buildings. The leasing arrangements entered into by PVA TePla are all classified as operating leases. There are two main groups of leasing arrangements:

#### **Rent of Buildings**

PVA TePla has rented premises for production and administration from third parties at its sites in Kirchheim, Jena, Westhausen, Corona/California (USA) and Beijing (China) as well as in Singapore and Xi'an (China). In 2017, the monthly rent was EUR 2 thousand (previous year: EUR 10 thousand) at the Kirchheim site, EUR 4 thousand (previous year: 4 thousand) at the Jena site, EUR 9 thousand (previous year: EUR 8 thousand) for the Westhausen site, EUR 10 thousand (previous year: 10 thousand) for the Corona site, EUR 2 thousand (previous year: EUR 2 thousand) for the Beijing site EUR 1 thousand (previous year: EUR 0 thousand) for the Xi'an site and EUR 6 thousand (previous year: EUR 5 thousand) for the Singapore site.

The relevant rental agreements are standard agreements for the rental of commercial premises. In 2017, a total of EUR 279 thousand was paid under these agreements (previous year: EUR 466 thousand). Over the next few years, the minimum commitments can be broken down as follows:

EUR'000	Payments	Present value
Remaining terms		
Up to 1 year	320	312
Between 1 and 5 years	697	644
More than 5 years	0	0

#### Sublease of Buildings

Lease proceeds of EUR 17 thousand (previous year: EUR 5 thousand) were collected in 2017. Income from leasing over the coming years can be broken down as follows:

EUR'000	Payments	Present value
Remaining terms		
Up to 1 year	13	12
Between 1 and 5 years	0	0
More than 5 years	0	0

EUR'000	Payments	Present value
Remaining terms		
Up to 1 year	74	70
Between 1 and 5 years	136	120
More than 5 years	0	0

#### 28. CONTINGENT LIABILITIES AND OTHER FINANCIAL OBLIGATIONS

#### **Commitments from Current Agreements**

Commitments under rental and lease agreements are discussed above (see note 27).

#### Lease of Vehicles

PVA TePla AG restricts the number of company vehicles to an absolute minimum. As a matter of principle, cars for private use are provided on a priority basis to members of the Management Board and managing directors as well as individual employees with a great deal of external activities. Above and beyond this, fleet vehicles are used for business travel. Since 2004, new vehicles have been leased. In 2017, expenditures of EUR 154 thousand were incurred for such leases (previous year: EUR 129 thousand). Over the next few years, the minimum commitments can be broken down as follows:

EUR'000	Payments	Present value
Remaining terms		
Up to 1 year	129	124
Between 1 and 5 years	199	175
More than 5 years	28	21

#### **Other Leases**

In addition to the aforementioned leases, the Company has other leases which mainly pertain to operating and office equipment. In 2017, expenditures of EUR 54 thousand were incurred for such leases (previous year: EUR 102 thousand). Over the next few years, the minimum commitments can be broken down as follows: Total commitments from master purchase agreements can be broken down as follows:

EUR'000	Payments	Present value
Remaining terms		
Up to 1 year	279	267
Between 1 and 5 years	97	88
More than 5 years	0	0

Total commitments from other agreements (e.g. servicing agreements, security services) can be broken down as follows:

EUR'000	Payments	Present value
Remaining terms		
Up to 1 year	366	307
Between 1 and 5 years	15	3
More than 5 years	1	1

There were no contingent liabilities as of December 31, 2017.

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# 29. COST OF MATERIALS

The cost of sales for fiscal years 2017 and 2016 contains expenditures on materials as follows:

EUR'000	2017	2016
Cost of raw materials, consuma- bles and supplies and of goods purchased and held for resales	36,061	38,622
Cost of purchased services	3,168	3,766
Total cost of materials	39,229	42,389

The materials ratio (cost of materials to total sales revenues) amounted to 46.0% in fiscal year 2017, compared to 49.0% in the previous year.

# 30. PERSONNEL EXPENSES

Personnel expenses for fiscal years 2017 and 2016 are composed as follows:

2017 2016
alaries 24,883 24,661
es 4,472 4,393
nel expenses 29,355 29,055

In the previous year, personnel expenses included severance and release from employment costs pf EUR 531 thousand. As a proportion of sales, personnel expenses increased in fiscal 2017 to 34.4% after 33.6% in the previous year. This percentage increase is largely due to new staff as well as increased remuneration of members of the Management Board. Social security contributions in fiscal year 2017 include pension expenses of EUR 232 thousand (previous year: EUR 224 thousand). The average number of employees for the year was 378 (previous year: EUR 373).

The average number of employees by function has changed compared to the previous year as follows:

Number of employees by function (average for the year)	2017	2016
Administration	46	46
Sales	66	55
Engineering, research and development	74	82
Production and service	192	190
Total number of employees	378	373

The number of employees includes 10 temporary employees (previous year: 9).

# 31. AMORTIZATION AND DEPRECIATION

Depreciation and amortization are discussed in the disclosures on non-current assets (see notes 5 and 6).

### 32. RISK MANAGEMENT

The current risks and opportunities and PVA TePla's risk management system are presented in detail in the management report. For more information, refer to the risk and opportunity report in the management report.

# 33. EXECUTIVE BODIES OF THE COMPANY

The total remuneration of members of the Management Board in the 2017 fiscal year amounted to EUR 863 thousand. The remuneration of the Management Board members consists of a basic salary not based on performance, other benefits (mainly non-cash benefits from the use of a company car, subsidized contributions to health insurance and contributions to a pension fund) and performance-based, variable remuneration components in the form of bonus payments. The performance-based, variable remuneration component is different for each Management Board member.

There is no variable, performance-based or other bonus remuneration for the former CEO Peter Abel.

For the Chairman of the Management Board, Alfred Schopf, there is the following bonus regulation - a short-term bonus payment which is calculated as a percentage of consolidated net income for the year and which is limited in terms of amount. A long-term bonus of 1% of the market capitalization to the end of the contract period.

For the Chief Operating Officer, Oliver Höfer, there is the following bonus regulation - a short-term bonus payment which is calculated as a percentage of EBIT and which is limited in terms of amount. In addition, a one-off payment to settle long-term bonus claims from old contracts has been agreed.

For the former Chief Financial Office, Henning Döring, a short-term bonus payment was made for the 2016 fiscal year, calculated as a percentage of consolidated net income for the year and which is limited in terms of amount. On this basis, members of the Management Board received the following remuneration in fiscal year 2017:

EUR'000	Salary	Other benefits	Perfor- mance- related compo- nents	Total 2017	Total 2016
Peter Abel (until Jun. 21, 2017)	60	0	0	60	120
Alfred Schopf (since Apr. 01, 2017)	180	10	230*)	420	0
Oliver Höfer	180	17	156	353	256
Henning K. G. Döring (until Feb. 28, 2017	30	0	0	30	344
Total	450	27	386	863	720

<sup>\*)</sup> Payment of long-term compensation is made after a period of commitment of three years, taking into account market capitalization.

The values presented above for the performance-based component include amounts granted in 2017 for fiscal year 2016 less the amounts recognized and reported as provisions in fiscal year 2016. Provisions established in 2017 for fiscal year 2017 are also included.

The performance-based component for the Management Board includes a long-term, performance-based component of EUR 84 thousand in fiscal year 2017.

Non-current payments are due in connection with the longterm performance-based compensation mentioned above. All other remuneration listed above is payable over the short term. Employer contributions to pension insurance are not paid. Pension commitments exist solely based on the past, for the former CEO Peter Abel in the amount of EUR 814 thousand (previous year: EUR 747 thousand). There are no pension obligations for the other members of the Management Board.

No share options were granted to members of the Management Board in fiscal year 2017. The contracts for the members of the Management Board foresees settlement payments in the event of the premature termination of activities as member of the Management Board, the amount of which depending on contract of employment is limited up to two years' salary (settlement cap). In the event of change of control and a subsequent premature termination of Management Board activities, the members receive remuneration which should not exceed 150% of the settlement cap.

In 2017, EUR 66 thousand was paid to former members of the Management Board as pensions. As of the balance sheet date, there was a provision of EUR 808 thousand for these pension obligations.

#### Supervisory Board

In fiscal year 2017, the Supervisory Board of PVA TePla AG consisted of:

Alexander von Witzleben, Weimar (Chairman)

» Feintool International Holding AG, Lyss (President of the Administration Board)

Member of the following other supervisory bodies:

- » VERBIO Vereinigte BioEnergie AG, Leipzig (Chairman of the Supervisory Board)
- » Siegwerk Druckfarben AG & Co. KGaA, Siegburg (Member of the Supervisory Board)
- » KAEFER Isoliertechnik GmbH & Co. KG, Bremen (Member of the Advisory Board)

- » Arbonia AG, Arbon/Switzerland (President of the Advisory Board and CEO) (formerly AFG Arbonia-Forster-Holding AG)
- » Artemis Holding AG, Aarburg/Switzerland (Member of the Advisory Board)
- » Looser Holding AG, Arbon, Switzerland (President of the Advisory Board)
- Dr. Gernot Hebestreit, Leverkusen (Deputy Chairman) » Global Leader Clients and Markets, Grant Thornton International Limited, London/UK

Member of the following other supervisory bodies:

» Comvis AG, Essen (Deputy Chairman of the Supervisory Board)

Prof. Dr. Markus H. Thoma, Schöffengrund

» Professor of Plasma and Astronautics at the University of Giessen

The remuneration of the Supervisory Board is composed as follows:

EUR'000	Fixed remunera- tion 2017	Variable remunera- tion 2017	Fixed remunera- tion 2016	Variable remunera- tion 2016
Alexander von Witzleben (chairman)	50	0	50	0
Dr. Gernot Hebestreit	25	0	25	0
Prof. Dr. Mar- kus H. Thoma	25	0	25	0
Total	100	0	100	0

Members who leave the Supervisory Board during the fiscal year receive pro rata remuneration for their period of service.

#### 34. RELATED PARTIES

Business transactions with related parties are on the one hand transactions with companies in which executive officers of PVA TePla AG have significant shareholdings or over which they exercise significant influence. On the other hand, these are business transactions with companies controlled by parties that may exercise significant influence on PVA TePla (particularly via participating interests in the Company). In the financial year, these were mainly transactions of PVA TePla AG with the main shareholder Peter Abel, in connection with an existing consulting contract. The business amounted to EUR 60 thousand. Furthermore, there are liabilities in the amount of EUR 10 thousand.

All transactions with related parties took place at arm's length conditions.

### 35. AUDIT FEES (SECTION 314 HGB)

The auditors' fees recognized as expenses for PVA TePla AG and the other companies of the PVA TePla Group amounted to:

EUR'000	2017	2016
Audit of annual financial statements	235	245
Other assurance or valuation services	0	0
Tax consulting services	0	0
Other services	0	0

Of the aforementioned costs, EUR 31 thousand relate to the previous year.

## 36. DECLARATION ON CORPORATE GOVERNANCE IN ACCORDANCE WITH ARTICLE 161 AKTG

The declaration of compliance with the German Corporate Governance Code as required by Section 161 of the German Stock Corporation Act (AktG) was again submitted by the Management Board and the Supervisory Board in the course of the fiscal year.

This declaration forms part of the separate corporate governance report and is permanently accessible to shareholders on the Company's website (www.pvatepla.com) along with the declarations for previous fiscal years.

#### 37. ADDITIONAL DISCLOSURES

The following companies included in the consolidated financial statements of PVA TePla AG have utilized the exemption pursuant to Section 264 (3) HGB:

- » PVA Löt- und Werkstofftechnik GmbH
- » PVA Control GmbH
- » PVA TePla Analytical Systems GmbH

- » PVA Vakuum Anlagenbau Jena GmbH
- » PVA Industrial Vacuum Systems GmbH
- » PVA Crystal Growing Systems GmbH
- » PVA Metrology & Plasma Solutions GmbH
- 38. AUTHORIZATION OF THE FINANCIAL STATEMENTS FOR PUBLICATION

On March 23, 2018, the Management Board of PVA TePla AG authorized the present consolidated financial statements for fiscal year 2017 to be released to the Supervisory Board. This represents the authorization for publication described in IAS 10.6.

#### 39. SIGNIFICANT POST-BALANCE SHEET DATE EVENTS

On March 5, 2018, PVA TePla AG concluded a technology and cooperation agreement with Xuzhou Jingrui Semiconductor Equipment Technology Co., Ltd., China, a Golden Concord Ltd. Group company (CLC). This agreement is expected to result in significant increases in liquidity and earnings.

Wettenberg, March 23, 2018

PVA TePla AG

Alfred Schopf Chief Executive Officer

Oliver Höfer Chief Operating Officer



# CONSOLIDATED STATEMENT OF CHANGES IN FIXED ASSETS

as at December 31, 2017

		Acquisition and manufacturing costs							
EU	JR'000	Jan. 1, 2017	Acquisitions 2017	Additions 2017	Transfers 2017	Disposals 2017	Exchange differences		
	Intangible assets								
	Goodwill	12,658	0	0	0	0	0	12,658	
2.	Intangible assets under development	0	0	0	0	0	0	0	
3.	Other intangible assets	5,481	0	87	58	19	-11	5,596	
4.	Payments in advance	50	0	0	-50	0	0	0	
	Total	18,189	0	87	8	19	-11	18,254	
	Property, plant and equipment								
1.	Land, property rights and buildings, including buildings	22.290	0	125		108		22 207	
	on third party land	33,380		125	2		-12	33,387	
	Plant and machinery	9,041	0	382	-296	29	-191	8,907	<u> </u>
3.	Other plant and equipment, fixtures and fittings	4,393	0	2,093	325	410	-21	6,380	
4.	Advance payments and assets under construction	74	. 0	256	-39	21	0	270	
	Total	46,889	0	2,856	-8	568	-224	48,945	
	Non-current investments								
1.	Other long-term receivables	10	0	1,729	0	0	-1	1,738	
	Total	10	0	1,729	0	0	-1	1,738	
	Total	65,088	0	4,672	0	587	-236	68,937	

	٨٥	umulated an	nortization an	d dopropiatio	n		Residual carry	
Balance	Additions	Transfers	Disposals	Write-ups	Exchange	Balance Dec. 31,	Dec. 31,	Dec. 31,
Jan. 1, 2017	2017	2017	2017	2017	differences	2017	2017	2016
4,850	0	0	0	0	0	4,850	7,808	7,808
0	0	0	0	0	0	0	0	0
4,533	310	0	18	0	-3	4,822	775	949
0	0	0	0	0	0	0	0	50
9,383	310	0	18	0	-3	9,672	8,583	8,807
9,643	962	0	108	0	-12	10,485	22,903	23,738
5,115	678	0	15	0	-182	5,596	3,312	3,927
3,350	503	0	405	0	-12	3,436	2,944	1,043
0	0	0	0	0	0	0	270	74
18,108	2,143	0	528	0	-206	19,517	29,429	28,781
0	0	0	0	0	0	0	1,738	10
0	0	0	0	0	0	0	1,738	10
27,490	2,453	0	546	0	-209	29,188	39,750	37,598

# CONSOLIDATED STATEMENT OF CHANGES IN FIXED ASSETS

as at December 31, 2016

				Acquisition a	and manufact	uring costs			
EUR'000		Jan. 1, 2016	Acquisitions 2016	Additions 2016	Transfers 2016	Disposals 2016	Exchange differences	Balance Dec. 31, 2016	
	gible assets								
1. Goodv	will	12,658	0	0	0	0	0	12,658	
	gible assets development	179	0	0	-179	0	0	0	
3. Other	intangible assets	5,035	0	68	357	0	3	5,481	
4. Payme	ents in advance	50	0	0	0	0	0	50	
Total		17,922	0	68	196	0	3	18,189	
Proper	rty, plant and equipment								
buildin	property rights and ngs, including buildings rd party land	33,377	0	0	0	0	3	33,380	
2. Plant a	and machinery	7,977	0	44	1,254	284	50	9,041	
	plant and equipment, es and fittings	4,021	56	269	64	20	3	4,393	
	nce payments and assets construction	1,327	0	261	-1,514	0	0	74	
Total		46,703	56	574	-196	304	56	46,889	
Non-c	current investments								
1. Other	long-term receivables	10	0	0	0	0	0	10	
Total		10	0	0	0	0	0	10	
Invest	tment property	303	0	0	0	303	0	0	
Total		64,938	56	642	0	607	59	65,088	

	Accumulated amortization and depreciation							ing values/
Balance Jan. 1, 2016	Additions 2016	Transfers 2016	Disposals 2016	Write-ups 2016	Exchange differences	Balance Dec. 31, 2016	Dec. 31, 2016	Dec. 31, 2015
4,850	0	0	0	0	0	4,850	7,808	7,808
0	0	0	0	0	0	0	0	179
4,261	271	0	0	0	1	4,533	949	775
0	0	0	0	0	0	0	50	50
9,111	271	0	0	0	1	9,383	8,807	8,812
8,661	979	0	0	0	3	9,643	23,738	24,716
4,420	820	0	173	0	48	5,115	3,927	3,558
2,820	546	0	19	0	3	3,350	1,043	1,201
0	0	0	0	0	0	0	74	1,327
15,901	2,345	0	192	0	54	18,108	28,781	30,801
0	0	0	0	0	0	0	10	10
0	0	0	0	0	0	0	10	10
303	0	0	303	0	0	0	0	0
25,315	2,616	0	495	0	55	27,490	37,598	39,623

# **Responsibility Statement**

"To the best of our knowledge we assure that in accordance with the applicable reporting principles, the Consolidated Financial Statements give a true and fair view of the net assets, financial position and profit or loss of the Group, and the Group Management Report - which has been combined with the Management Report of PVA TePla AG - gives a true and fair view of the development and performance of the business and the position of the Group, together with a description of the principle opportunities and risks associated with the expected development of the group."

Wettenberg, March 23, 2018

Chief Executive Officer

Alfred Schopf

Oliver Höfer Chief Operating Officer

# Independent Auditor's Report

#### Audit Opinions

We have audited the consolidated financial statements of PVA TePla AG, Wettenberg, and its subsidiaries (the Group), comprising the consolidated statement of financial position as at December 31, 2017, the consolidated statement of comprehensive income, the consolidated statement of changes in equity and the consolidated statement of cash flows for the fiscal year from January 1 to December 31, 2017, and the notes to the consolidated financial statements, including a summary of significant accounting policies.

In addition, we audited the Group management report of PVA TePla AG, Wettenberg, for the fiscal year from January 1 to December 31, 2017. We did not audit the contents of the Group's company management declaration published on the company's website, to which reference is made in section 1 of the Group management report, in compliance with German law.

In our opinion, based on the findings of our audit,

- the attached consolidated financial statements comply in all material respects with IFRSs, as adopted by the EU, and the additional requirements of German law pursuant to Section 315e (1) HGB and, in accordance with these requirements, give a true and fair view of the Group's net assets and financial position as of December 31, 2017, and of its results of operations for the fiscal year from January 1 to December 31, 2017, and
- the attached Group management report as a whole presents an accurate view of the Group's position. The Group
  management report is consistent with the consolidated financial statements, complies with German legal regulations
  and suitably presents the opportunities and risks of future development. Our audit opinion regarding the management report does not extend to the contents of the Group's company management declaration pursuant to Section
  315d HGB published on the company's website, to which reference is made in section 1 of the Group management
  report.

Pursuant to Section 322 (3) Sentence 1 HGB, we state that our audit has not led to any reservations with regard to the compliance of the consolidated financial statements or the Group management report.

#### Basis for the Audit Opinions

We conducted our audit of the consolidated financial statements and the Group management report in accordance with Section 317 HGB, the EU Audit Regulation (No. 537/2014; hereinafter "EU-AR"), and German generally accepted standards for the audit of financial statements promulgated by the Institut der Wirtschaftsprüfer (IDW). Our responsibility according to these regulations and standards is described in further detail in the "Responsibility of the Auditor for the Audit of the Consolidated Financial Statements and the Group Management Report" section of our auditor's report. We are independent of the consolidated companies in compliance with the provisions of European law, German commercial law and professional law and have fulfilled our other German professional obligations in compliance with these requirements. In addition, we declare pursuant to Article 10 (2) lit. f) EU-AR that we have provided no prohibited non-audit services referred to in Article 5 (1) EU-AR. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions regarding the consolidated financial statements and the Group management report.

#### Key Audit Matters in the Audit of the Consolidated Financial Statements

Key audit matters are such matters that, in our professional judgment, were the most significant in our audit of the consolidated financial statements for the fiscal year from January 1 to December 31, 2017. These matters were considered in connection with our audit of the consolidated financial statements as a whole and the formulation of our audit opinion; we do not provide a separate audit opinion on these matters.

We present the matters that we consider key audit matters below:

- 1) Goodwill impairment test
- 2) Deferred taxes on losses carried forward
- 3) Measurement of work in progress

#### 1) Goodwill impairment test

a) Risk for the financial statements

As of the reporting date, the consolidated statement of financial position shows four goodwill items with a total carrying amount of EUR 8.8 million. The impairment tests performed by the company provided no indications of impairment on goodwill.

The company's disclosures on goodwill are included in section B. 4) of the notes to the consolidated financial statements.

According to IAS 36.90, cash-generating units to which goodwill has been allocated shall be tested for impairment at least annually. Complex measurement models were used in this test based on expectations for the future development of the respective operating business and the resulting cash flows. The result of the impairment test therefore depends significantly on the influence of estimated values. In light of this, we believe these matters were particularly significant for our audit.

#### b) Audit approach and conclusions

As part of our audit, we checked the plausibility of the planning underlying the impairment tests of all material goodwill. We inspected the planning for potentially biased judgment.

As well as checking the plausibility of the underlying planning, we assessed planning accuracy by comparing the previous year's planning with the values actually achieved.

In addition, we examined the calculation methods used for correct methodology, the derivation of discount rates and, on a test basis, the accuracy of the calculations.

We validated the company's calculation results using complementary analyses, including sensitivity analyses.

As a whole, the measurement parameters and assumptions applied by the legal representatives match our expectations.

#### 2) Deferred taxes on losses carried forward

#### a) Risk for the financial statements

In the consolidated financial statements of PVA TePla AG, Wettenberg, deferred tax assets of EUR 7.9 million (of which EUR 5.6 million for losses carried forward) are shown in the consolidated statement of financial position. The recoverability of deferred tax assets from losses carried forward is measured on the basis of forecasts of the future profit situation. The starting point for the measurements underlying the capitalized losses carried forward are the expected future tax results, which are primarily provided by the projections compiled by the legal representatives for the next three years (medium-term planning).

In our view, these were key audit matters because they are highly dependent on the estimates and assumptions of the legal representatives and are subject to uncertainty.

The company's disclosures on the recognition of deferred tax assets from losses carried forward are included in sections A. 3) and C. 22) of the notes to the consolidated financial statements.

#### b) Audit approach and conclusions

As part of our audit, we assessed the measurement and the appropriateness of the recognition of deferred taxes on losses carried forward in order to assess their recoverability. In addition, we assessed the recoverability of tax assets from losses carried forward on the basis of the projections prepared by the legal representatives and evaluated the appropriateness of the basis used for the planning. In particular, we convinced ourselves that the projections underlying the measurements generally provide an appropriate measurement basis.

We verified the assumptions made by the legal representatives for the recognition and measurement of deferred taxes from losses carried forward, which are in line with the estimates made by the legal representatives.

#### 3) Measurement of work in progress

#### a) Risk for the financial statements

In the consolidated financial statements of PVA TePla AG, Wettenberg, assets of EUR 8.5 million are shown under "Work in progress" in the statement of financial position. They are measured at cost, including production and material overheads. With regard to the calculation of overheads and the expected contract costs and revenue, the measurement of inventories is subject to the management's discretion. Against this backdrop, in light of the significance for the determination of the percentage of completion in connection with proportional revenue recognition under construction contracts according to IAS 11 on the basis of the cost-to-cost method, and due to the size of the amount, the measurement of "work in progress" was particularly significant for our audit.

The company's disclosures on inventory measurement are included in section A. 3) of the notes to the consolidated financial statements.

#### b) Audit approach and conclusions

Initially, we assessed the correct adoption of costs from the upstream systems. We then reviewed the hourly production cost rates and material overhead rates used in the measurement with regard to the costs included in their calculation and any idle capacity costs to be eliminated. In particular, we critically scrutinized and checked the plausibility of the management's assumptions. We examined the parameters including the calculation of hourly rates and overheads to check correct derivation from accounting.

In addition, our audit procedures concentrated on correct measurement of work in progress at the lower of cost or net realizable value. To this end, we audited the sale proceeds with any charges already contractually agreed or with charges for similar assets on a test basis. With regard to the expected contract costs, we evaluated the risk reports, minutes of Management Board and Supervisory Board meetings and contract controlling reports and discussed these matters and estimates with the management and other appointed employees. The forecast quality of the expected costs was additionally assessed on the basis of terminated contracts by comparing expected costs with costs actually incurred on a test basis.

To identify contracts with potential cost increases, mass data analyses of costs were also carried out, taking account of the respective cost types and their expected accumulation over the course of production. Abnormalities were then scrutinized critically and discussed with the employees responsible for the contract.

We found no material errors in the measurement methods or in the calculations and consider the assumptions made to be balanced and appropriate.

#### Other Information

The legal representatives are responsible for the other information. The other information includes:

- The Group's company management declaration published on the company's website, to which reference is made in section 1 of the Group management report,
- the other parts of the annual report, with the exception of the audited consolidated financial statements and Group management report and our auditor's report, and
- the responsibility statement pursuant to Section 297 (2) Sentence 4 HGB on the consolidated financial statements and the responsibility statement pursuant to Section 315 (1) Sentence 5 HGB on the Group management report.

Our audit opinions regarding the consolidated financial statements and the Group management report do not extend to the other information, and accordingly we provide neither an audit opinion nor any other form of audit conclusion in this regard.

As part of our audit of the consolidated financial statements, we have a responsibility to read the other information and to evaluate whether it

- exhibits material discrepancies with the consolidated financial statements, the Group management report or the knowledge we have obtained during our audit, or
- otherwise seems significantly incorrect.

# Responsibility of the Legal Representatives and the Supervisory Board for the Consolidated Financial Statements and the Group Management Report

The legal representatives are responsible for preparing the consolidated financial statements, which in all material respects comply with IFRSs, as adopted by the EU, and the additional requirements of German law pursuant to Section 315e (1) HGB, and for the consolidated financial statements giving a true and fair view of the net assets, financial position and results of operations of the Group in accordance with these requirements. Furthermore, the legal representatives are responsible for the internal controls that they deemed necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

When preparing the consolidated financial statements, the legal representatives are responsible for assessing the Group's status as a going concern. In addition, they have a responsibility to disclose matters related to the status as a going concern, if relevant. They are also responsible for accounting on the basis of the going concern principle, unless they intend to liquidate the Group or discontinue its business operations, or there is no realistic alternative.

Moreover, the legal representatives are responsible for preparing the Group management report, which as a whole provides an accurate view of the Group's position and is consistent with the consolidated financial statements in all material respects, complies with German legal regulations and suitably presents the opportunities and risks of future development. The legal representatives are also responsible for the arrangements and measures (systems) that they considered necessary to enable the preparation of a Group management report in compliance with applicable German legal regulations and to allow sufficient, suitable evidence to be provided for the statements in the Group management report. The Supervisory Board is responsible for monitoring the Group's accounting process for the preparation of the consolidated financial statements and the Group management report.

# Responsibility of the Auditor for the Audit of the Consolidated Financial Statements and the Group Management Report

Our objective is to obtain reasonable assurance as to whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and whether the Group management report as a whole provides an accurate view of the Group's position and is in all material respects consistent with the consolidated financial statements and with the findings of the audit, complies with German legal regulations and suitably presents the opportunities and risks of future development, and to issue an auditor's report containing our audit opinions regarding the consolidated financial statements and the Group management report.

Reasonable assurance is a high level of assurance but not a guarantee that an audit carried out in compliance with Section 317 HGB, the EU-AR and German generally accepted standards for the audit of financial statements promulgated by the Institut der Wirtschaftsprüfer (IDW) will always uncover a material misstatement. Misstatements can result from transgressions or inaccuracies and are deemed material if it could be reasonably expected that they would individually or together influence the financial decisions made by users on the basis of the consolidated financial statements and Group management report.

We exercise due discretion during the audit and maintain a critical attitude. In addition,

- we identify and evaluate the risk of material misstatements, whether due to fraud or error, in the consolidated financial statements and the Group management report, plan and implement audit procedures in response to these risks and obtain audit evidence that is sufficient and appropriate to provide a basis for our audit opinions. The risk that material misstatements are not uncovered is higher in the case of transgressions than in the case of inaccuracies, as transgressions can entail fraudulent collaboration, falsifications, deliberate omissions, misleading depictions or the suspension of internal controls.
- we gain an understanding of the internal control system relevant for the audit of the consolidated financial statements and of the arrangements and measures relevant for the audit of the Group management report in order to plan audit procedures that are appropriate given the circumstances, but not with the aim of providing an audit opinion regarding the effectiveness of these systems.
- we evaluate the appropriateness of the accounting policies used by the legal representatives and the reasonableness of the estimated values presented by the legal representatives and the associated disclosures.
- we draw conclusions about the appropriateness of the going concern principle applied by the legal representatives and, on the basis of the audit evidence obtained, whether there is material uncertainty regarding events or circumstances that could cause significant doubt about the Group's ability to continue as a going concern. If we come to the conclusion that there is material uncertainty, we are obliged to call attention to the associated disclosures in the consolidated financial statements and in the Group management report in the auditor's report or, if these disclosures are inappropriate, to modify our respective audit opinion. We draw our conclusions on the basis of the audit evidence obtained up to the date of our auditor's report. However, future events or circumstances may mean that the Group is no longer a going concern.
- we evaluate the overall presentation, the structure and the content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements present the underlying transactions and events such that the consolidated financial statements give a true and fair view of the net assets, financial position and results of operations of the Group in accordance with IFRSs, as adopted by the EU, and the additional requirements of German law pursuant to Section 315a (1) HGB.
- we obtain sufficient appropriate audit evidence for the company's accounting information or business activities within the Group in order to provide audit opinions regarding the consolidated financial statements and the Group management report. We are responsible for directing, monitoring and implementing the audit of the consolidated financial statements. We bear sole responsibility for our audit opinions.
- bwe evaluate the consistency of the Group management report with the consolidated financial statements, its legality and the view it gives of the position of the Group.
- we conduct audit procedures regarding the forward-looking disclosures made by the legal representatives in the Group management report. On the basis of sufficient appropriate audit evidence, we examine the significant assumptions underlying the legal representatives' forward-looking disclosures in particular and evaluate the appropriateness of the derivation of the forward-looking disclosures from these assumptions. We do not provide a separate audit opinion regarding the forward-looking disclosures or the underlying assumptions. There is a considerable, unavoidable risk that future events will differ significantly from the forward-looking disclosures.

Topics for discussion with those responsible for monitoring include the planned scope and scheduling of the audit as well as significant audit findings, including any deficiencies in the internal control system that we find during our audit.

We issue a statement to the monitors to the effect that we have complied with the relevant independence requirements and discuss with them all relationships and other matters that can reasonably be assumed to affect our independence and the safeguards put in place to protect against this.

From among the matters that we have discussed with the monitors, we determine which matters were most significant in the audit of the consolidated financial statements for the current reporting period and are therefore the key audit matters. We describe these matters in the auditor's report, unless laws or other legal provisions preclude their public disclosure.

#### **Other Statutory and Legal Requirements**

#### Other Disclosures Pursuant to Article 10 EU-AR

We were elected as the auditor of the consolidated financial statements by the Annual General Meeting on June 21, 2017. We were engaged by the Supervisory Board on June 21, 2017. We have been the auditor of the consolidated financial statements of PVA TePla AG, Wettenberg, without interruption since fiscal year 2007.

We declare that the audit opinions contained in this auditor's report are consistent with the additional report to the Audit Committee according to Article 11 EU-AR (audit report).

#### **Responsible Auditor**

The auditor responsible for the audit is Mr. Carl-Markus Groß.

Frankfurt/Main, March 23, 2018

Ebner Stolz GmbH & Co. KG Audit Firm Tax Consulting Firm

Marcus Grzanna Auditor Carl-Markus Groß Auditor

# FINANCIAL CALENDAR

Date		Advise
May 9, 2018	Interim Announce- ment to the first quarter	
June 19, 2018	Annual Shareholders Meeting	Congress Center Giessen
August 10, 2018	Half-Year Report	
November 9, 2018	Interim Announce- ment to the third quarter	
November 26-28, 2018	German Equity Forum	Frankfurt

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