Financial Statements and Management Report

December 31, 2018

CONTENTS

COMBINED MANAGEMENT REPORT

Basis of preparation

This report combines the group management report of ADVA Optical Networking group (“the group”, “ADVA Optical Networking” or “ADVA”), comprising ADVA Optical Networking SE (hereafter referred to as “the company”, “ADVA Optical Networking SE” or “ADVA SE”) and its consolidated subsidiaries, and the management report of ADVA Optical Networking SE.

The combined management report of ADVA Optical Networking SE was prepared in accordance with sections 315 and 315a of the German Commercial Code (Handelsgesetzbuch, HGB) and German Accounting Standards (Deutsche Rechnungslegungsstandards) No. 17 and 20 (DRS 17 and 20).

All information contained in this report relates to the status on December 31, 2018, or the financial year ending on that date, unless stated otherwise.

The purchase price allocation for the acquisition of MRV Communications group has been finalized in 2018. According to IFRS 3.49 prior period information in the balance sheet has been adjusted accordingly.

Forward-looking statements

The combined management report of ADVA Optical Networking SE contains forward-looking statements using words such as “believes”, “anticipates” and “expects” to describe expected revenues and earnings, anticipated demand for optical networking solutions and anticipated liquidity from which internal estimates may be inferred. These forward-looking statements are based on the beliefs of the Management Board and respective assumptions made, and involve a number of unknown risks, uncertainties and other factors, many of which are beyond ADVA Optical Networking’s control. If one or more of these uncertainties or risks materializes, or if the underlying assumptions of the Management Board prove incorrect, actual results can differ materially from those described in or inferred from forward-looking statements and information. Unknown risks and uncertainties are discussed in the “risk report” section further below.

Strategy and control design

ADVA’s strategic goals are focused around growth & profitability, innovation, operational excellence and our employees. The strategic goals are reviewed by both the management board and the supervisory board on a yearly basis and amended where appropriate. Each of these goals are defined in detail and then broken down into specific departmental and individual targets. The strategic goals are traced to each individual employee, so that each employee can focus and be evaluated on his/her individual performance and contribution to ADVA Optical Networking’s overall performance.

ADVA measures the accomplishment of its strategic goals against revenues, pro forma operating income[1], net liquidity[2] and as a non-financial criterion customer satisfaction as measured by the net promoter score[3]. These metrics represent the group’s key performance indicators. The management board sets target values for all four metrics for the coming year and measures actual values against the target values on a monthly basis for revenues and pro forma operating income, on a quarterly basis for net liquidity and on a yearly basis for the net promoter score. In case of deviations from plan, corrective action can be taken quickly. This information is summarized and communicated to the management board in monthly, quarterly and yearly reports.

General economic and market conditions

The global economy in 2018

The year 2018 was marked by much political and economic turmoil. Most of the factors that created uncertainty in the markets over the past year continue to be relevant and are by no means resolved in 2019. In its January 2019 edition of the World Economic Outlook, the International Monetary Fund (IMF) provided the following view on the state of the global economy:

“The global expansion has weakened. Global growth for 2018 is estimated at 3.7 percent, as in the October 2018

[1] Pro forma operating income is calculated prior to non-cash charges related to the stock compensation programs and amortization and impairment of goodwill and acquisition-related intangible assets. Additionally, non-recurring expenses related to restructuring measures are not included.

[2] Net liquidity is calculated by subtracting current and non-current financial liabilities as well as current and non-current finance lease obligations from cash and cash equivalents.

[3] The net promoter score is obtained by asking customers a single question on a 0 to 10 rating scale: "How likely is it that you would recommend our company to a friend or colleague?" Based on their responses, customers are categorized into one of three groups: promoters (9-10 rating), passives (7-8 rating) and detractors (0-6 rating). The percentage of detractors is then subtracted from the percentage of promoters to obtain a net promoter score.

World Economic Outlook (WEO) forecast, despite weaker performance in some economies, notably Europe and Asia. The global economy is projected to grow at 3.5 percent in 2019 and 3.6 percent in 2020, 0.2 and 0.1 percentage point below last October's projections.

"The global growth forecast for 2019 and 2020 had already been revised downward in the last WEO, partly because of the negative effects of tariff increases enacted in the United States and China earlier that year. The further downward revision since October in part reflects carry over from softer momentum in the second half of 2018 – including in Germany following the introduction of new automobile fuel emission standards and in Italy where concerns about sovereign and financial risks have weighed on domestic demand – but also weakening financial market sentiment as well as a contraction in Turkey now projected to be deeper than anticipated.

"Risks to global growth tilt to the downside. An escalation of trade tensions beyond those already incorporated in the forecast remains a key source of risk to the outlook. Financial conditions have already tightened since the fall. A range of triggers beyond escalating trade tensions could spark a further deterioration in risk sentiment with adverse growth implications, especially given the high levels of public and private debt. These potential triggers include a "no-deal" withdrawal of the United Kingdom from the European Union and a greater-than-envisaged slowdown in China."

While macroeconomic changes do not necessarily have a direct impact on the market for networking technology, it is important to acknowledge that ADVA generates the majority of its revenue in developed countries. The company's largest customer group is communications service providers, which in turn play a critical role in the process of digitization and the construction of economically relevant communications infrastructure.

Market environment for ADVA

The addressable market for ADVA is determined by the digitization of ecosystems and the resulting increase in demand for cloud-based solutions and the underlying communication networks. The rapid adoption of digital processes across all industries, the creation and use of artificial intelligence, and the ubiquitous use of high-definition video over mobile and fixed networks are important and sustainable growth drivers for the market.

ADVA's network technology enables the construction of a high-performance communications infrastructure that serves as the basis for the digital economy, the industrial internet of things (Industrial IoT) – often referred to as Industry 4.0 in Germany – and the digitization of ecosystems. The company addresses important applications in this growth market. Fiber optic transmission technology delivers scalable bandwidth for network operators' infrastructure and the data center interconnect (DCI) of large enterprises and internet content providers. At the edge of the network, the company's cloud access technology with virtualization enables fast and flexible provision of cloud services. In addition, the company's synchronization technology ensures the highest performance in the construction of mobile broadband networks and globally distributed data centers. Especially in Europe, there has been a backlog in the expansion of communications infrastructure since the 2008 financial crisis. The upcoming introduction of 5G mobile technology further intensifies the investment pressure.

ADVA is well positioned in the WDM market, the core segment of the overall optical network market, in many areas. The adjacent market for Ethernet-based network access solutions is gaining new momentum with the introduction of virtualized network features. Here, the company's solutions can address more and more new growth applications and open up additional opportunities. ADVA is the technological leader in synchronization technology. The total addressable market for ADVA is estimated to be USD 14 billion[4] in 2018, growing to USD 21 billion by 2023 at a CAGR (2018-2023) of 7.6% (see also the chapter "Market, target customers and growth drivers").

[4] Industry analyst estimates for access, metro and long-haul WDM equipment ("optical") and access switching & routing ("packet edge") relevant to ADVA. Sources: Ovum, "optical networks forecast 2018-2023" published January 2019 and "service provider switching and routing forecast 2018-2023", published August 2018

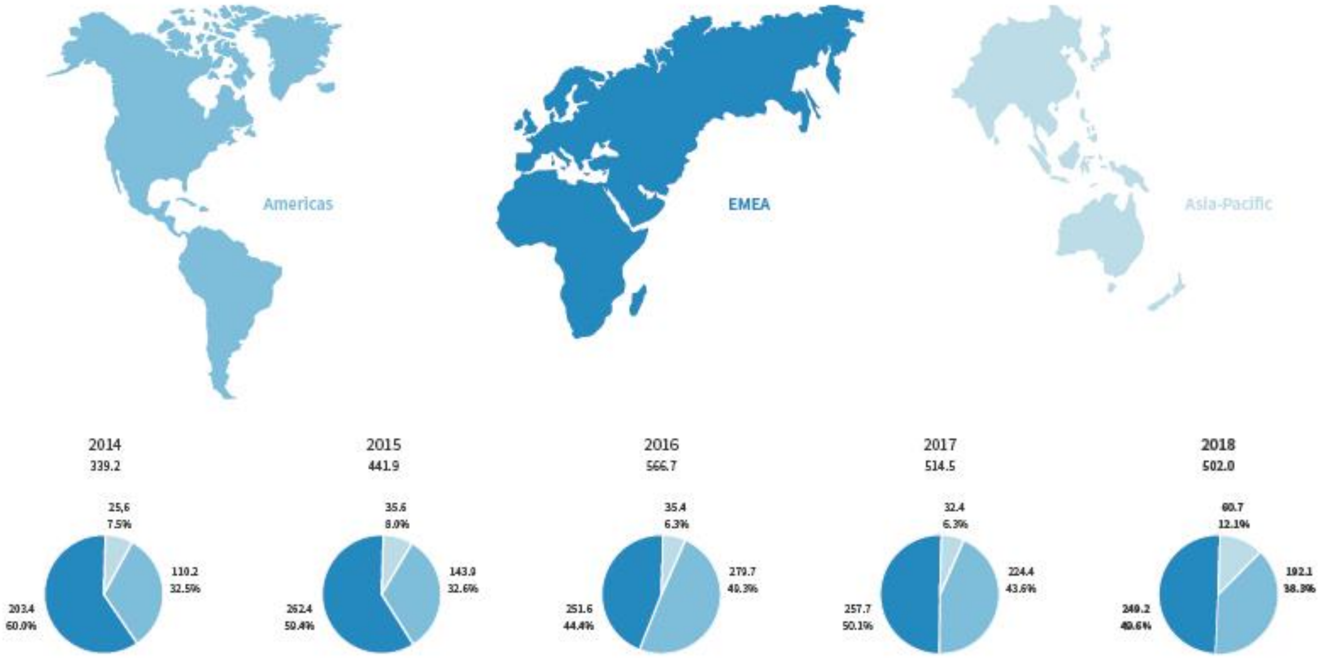
Business development and operational performance of the group

Revenues

Revenues represent one of the four key performance indicators for ADVA. In 2018, the group generated revenues of EUR 502.0 million, a decrease of 2.4% on revenues of EUR 514.5 million in 2017. The decrease is mainly attributable to the significant decline in revenue with one of the largest Internet content providers (ICP) in North America. This major customer had contributed high sales in the first half of 2017, which could not be fully compensated in 2018. In contrast, quarterly sales increased sequentially in all four quarters in 2018 and reached the amount of EUR 131.5 million in Q4 2018, representing a growth of 4.2% compared to the previous quarter

Revenues by region

(in millions of EUR and relative to total revenues)



In 2018, EMEA (Europe, Middle East and Africa) was reported as the most significant sales region, followed by the Americas and at third place Asia-Pacific.

Year-on-year, EMEA revenues of EUR 249.2 million in 2018 were down from EUR 257.7 million in 2017. This is primarily due to slightly weaker sales in some countries outside Central Europe, the Middle East and Africa. In Central Europe, on the other hand, business developed again very positively.

In the Americas, revenues decreased from EUR 224.4 million in 2017 to EUR 192.1 million in 2018. This decrease is a direct result of the decline in orders by a major customer in the ICP segment as already mentioned above.

In the Asia-Pacific region, revenues significantly increased from EUR 32.4 million in 2017 to EUR 60.7 million in 2018, mainly attributable to the acquisition of the MRV group in 2017. MRV had a respectable presence with customers in APAC, including major customers. As a result, business activity in this region is slightly less affected by fluctuating project business and, as a percentage, makes a greater contribution to the group's total revenue than in previous years.

Results of operations

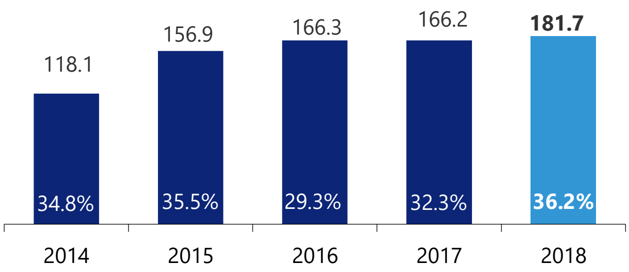
(in millions of EUR, except earnings per share)	2018	Portion of revenues	2017	Portion of revenues
Revenues	**502.0**	**100.0%**	**514.5**	**100.0%**
Cost of goods sold	-320.3	63.8%	-348.3	67.7%
Gross profit	**181.7**	**36.2%**	**166.2**	**32.3%**
Selling and marketing expenses	-63.5	12.7%	-62.9	12.2%
General and administrative expenses	-35.0	7.0%	-36.3	7.0%
Research and development expenses	-76.6	15.3%	-69.0	13.4%
Other operating income and expenses, net	8.4	1.7%	6.4	1.2%
Operating income	**15.0**	**3.0%**	**4.4**	**0.9%**
Interest income and expenses, net	-1.4	0.3%	-0.8	0.2%
Other financial gains and losses, net	-1.1	0.2%	-3.8	0.7%
Income/(loss) before tax	**12.5**	**2.5%**	**-0.2**	**0.0%**
Income tax expense (benefit), net	-2.8	0.6%	-4.0	0.8%
Net income/(loss)	**9.7**	**1.9%**	**-4.2**	**0.8%**
Earnings per share (in EUR)				
basic	0.19		-0.09	
diluted	0.19		-0.09	

Cost of goods sold and gross profit

Cost of goods sold decreased from EUR 348.3 million in 2017 to EUR 320.3 million in 2018, primarily due to the lower revenues. Cost of goods sold includes amortization charges for capitalized development projects of EUR 28.4 million in 2018 after EUR 29.0 million in 2017.

Gross profit

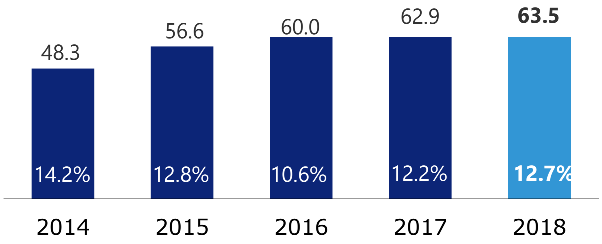
(in millions of EUR and relative to total revenues)



Gross profit improved to EUR 181.7 million in 2018 after EUR 166.2 million in 2017, comprising 36.2% and 32.3% of revenues, respectively. The development of the group's gross margin in general is impacted by variations in regional revenue distribution and in product and customer mix.

Selling and marketing expenses

(in millions of EUR and relative to total revenues)

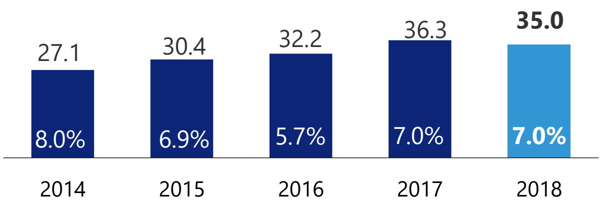


Selling and marketing expenses of EUR 63.5 million in 2018 were slightly up from EUR 62.9 million in 2017, and comprised 12.7% and 12.2% of revenues, respectively. This increase is mainly attributable to increased personnel expense predominantly due to increased variable remuneration and expenses related to the issuance of stock options.

ADVA continues to invest in post-sales customer service and intensified direct-touch activities with those key customers served via indirect distribution channels. Establishing direct contact enables the group to work more closely with its end customers and better understand their specific requirements, which in turn helps in developing market-relevant products.

General and administrative expenses

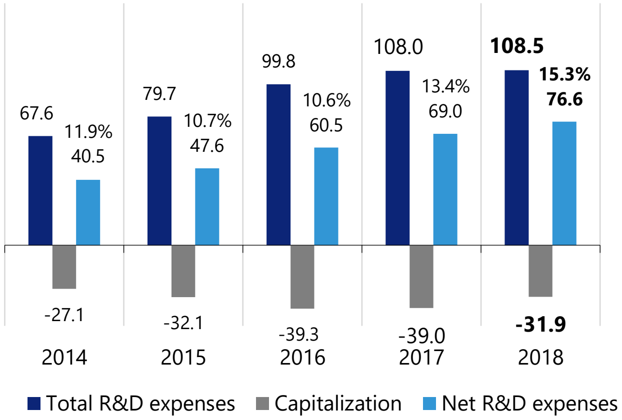
(in millions of EUR and relative to total revenues)



General and administrative expenses at EUR 35.0 million in 2018 were down from EUR 36.3 million recorded in 2017. The share of total revenues remained stable at 7.0% in 2017 and 2018. The decline resulted primarily from higher costs incurred in 2017 related to the integration of the MRV Communications group.

Research and development expenses

(in millions of EUR and relative to total revenues)



ADVA's research and development activities are driven by the distinct emphasis on differentiating its innovative connectivity solutions for cloud and mobile services and working with customers and partners to identify and meet their current and future needs. The resulting key technologies and products simplify complicated network structures and supplement existing solutions.

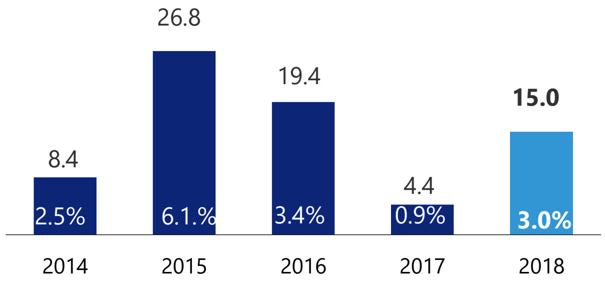
During 2018, research and development activities were focused on the following three technology areas:

- Enhancements to the open optical transport solution including the development of the new TeraFlex™ terminal
- A new generation of 100G products including NFV software for the company's cloud access portfolio
- Ultra-precise synchronization technologies for 5G mobile networks

At EUR 76.6 million in 2018, net research and development expenses were up from the EUR 69.0 million in 2017, thereby constituting 15.3% of revenues in 2018 after 13.4% in the prior year. Capitalization of development expenses of EUR 31.9 million in 2018, was down from EUR 39.0 million seen in 2017. The capitalization rate in 2018 amounted to 29.4% (prior year: 36.1%). The increase in net R&D expenses mainly relates to the decrease in capitalization in the area of network functions virtualization.

Operating income

(in millions of EUR and relative to total revenues)



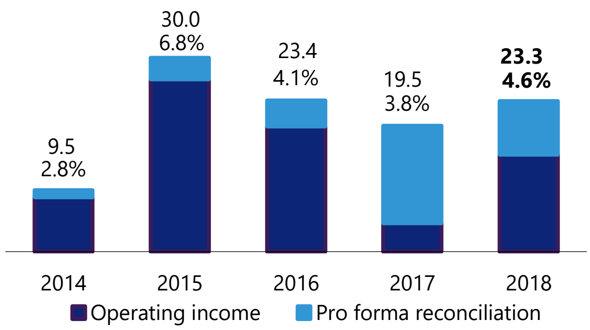
Net other operating income and expenses amounted to positive EUR 8.4 million in 2018, up from positive EUR 6.4 million in the prior year. This item is mainly impacted by subsidies received for specific research activities and release of provisions created in earlier periods.

Total operating expenses increased from EUR 161.8 million in 2017 to EUR 166.7 million in 2018, representing 33.2% of revenues in 2018 after 31.4% in the prior year.

Overall, ADVA reported a significantly increased operating income of EUR 15.0 million in 2018 after an operating income of EUR 4.4 million in the prior year. The increase in operating result is largely due to the improved gross margin.

Pro forma operating income

(in millions of EUR and relative to total revenues)

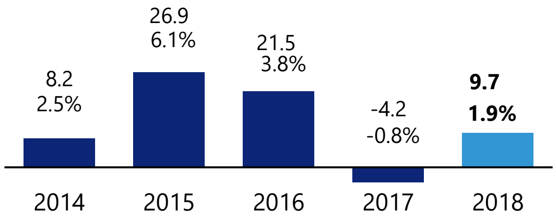


Pro forma operating income[1] represents one of the four key performance indicators for the group. As pro forma operating income excludes non-cash charges related to stock compensation and business combinations as well as non-recurring expenses related to restructuring measures, ADVA's management board believes that pro forma operating income is a more appropriate measure than operating income when benchmarking the group's operational performance against other telecommunications equipment providers.

The increase of pro forma operating income from EUR 19.5 million in 2017 to EUR 23.3 million in 2018 is mostly due to the improved operating income discussed above. However, pro forma operating income increased at a lower rate as one-time restructuring expenses that negatively impacted operating income have been excluded in the pro forma calculation in the prior year.

Net income (loss)

(in millions of EUR and relative to total revenues)



Given the favorable development of operating income ADVA reported net income of EUR 9.7 million for 2018, after a net loss of EUR 4.2 million in 2017. Beyond operating income, the net result in 2018 included net interest expenses of EUR 1.4 million (prior year: EUR 0.8 million) and net other financial losses of EUR 1.1 million (prior year: net other financial loss of EUR 3.8 million) relating to the translation of foreign currency assets and liabilities and to gains and losses on hedging instruments. Moreover, an income of EUR 0.4 million from the write-up of an asset for sale has been included in 2018.

In 2018, the group reported an income tax expense of EUR 2.8 million after an income tax expense of EUR 4.0 million in 2017. The tax expense in 2018 predominantly represents the common group tax rate applied on income before tax. In 2017, the tax expense was mainly due to effects from the changed US tax rate as well as income tax prepayments.

Earnings per share

Basic and diluted earnings per share were EUR 0.19, each, in 2018 after EUR -0.09, each, in the prior year. Basic average shares outstanding increased by 0.2 million to 49.8 million in 2018, due to capital increases from the exercise of stock options. Diluted weighted average shares outstanding were at 50.2 million in 2018. Due to the net loss reported in 2017 no dilution effects had to be considered in the earnings per share calculation.

Summary: Business development and operational performance

Operating income increased significantly in 2018 compared to the previous year due to the increase in gross margin. Furthermore, ADVA reported a lower tax expense as well as an improved other financial result. Consequently, the net result improved significantly in 2018.

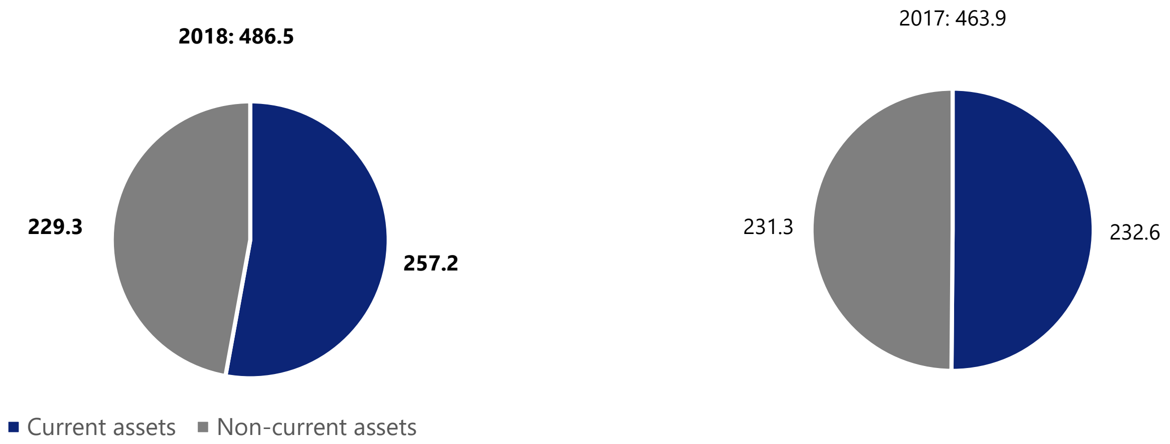
Net assets and financial position of the group

Balance sheet structure

ADVA's total assets increased by EUR 22.6 million or 4.9%, from EUR 463.9 million at year-end 2017 to EUR 486.5 million at the end of 2018.

Assets

(on December 31, in millions of EUR)



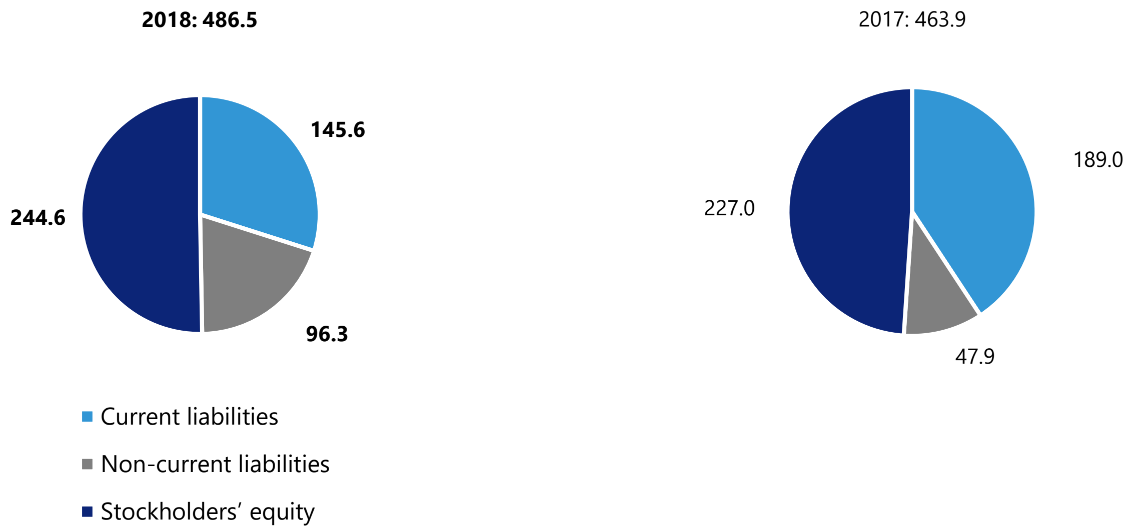
Current assets increased by EUR 24.6 million or 10.6% from EUR 232.6 million on December 31, 2017 to EUR 257.2 million on December 31, 2018 and comprised 52.9% of the balance sheet total after 50.1% at the end of the prior year. The increase in current assets was mainly driven by a significant rise in trade accounts receivable by EUR 16.6 million to EUR 97.9 million. Days sales outstanding increased to 68 days in 2018 after 60 days reported 2017. At the same time, cash and cash equivalents and inventories increased. Cash and cash equivalents were at EUR 62.7 million at the end of December 2018 up by EUR 4.3 million compared to prior year, mainly due to higher income before tax. Inventories increased from EUR 81.7 million at the end of 2017 to EUR 85.7 million at December 31, 2018, while inventory turns remained fairly stable at 4.0x in 2018 after 4.1x reported in 2017.

Non-current assets decreased by EUR 2.0 million from EUR 231.3 million at year-end 2017 to EUR 229.3 million on December 31, 2018. Within non-current assets, other intangible assets decreased mainly due to scheduled amortization by EUR 5.3 million to EUR 31.5 million. At the same time, deferred tax assets decreased by EUR 3.3 million to EUR 7.3 million at the end of 2018. Deferred tax assets and liabilities are presented net in accordance with relevant netting requirements. On the other side, capitalized development projects increased by EUR 2.7 million to EUR 87.9 million at year-end 2018. The increase was largely driven by developments of the future product platform for innovative connectivity solutions. Moreover, goodwill increased by EUR 2.4 million to EUR 70.4 million mainly due to foreign exchange rate changes.

Meaningful additional assets belonging to ADVA are the broad and global customer base of several hundred service providers and thousands of enterprises, the ADVA, Oscilloquartz and Ensemble brands, the vendor and partner relationships and a highly motivated and skilled global team. These assets are not included in the balance sheet. Customer satisfaction as measured by the net promoter score[3] represents one of the group's four key performance indicators.

Liabilities

(on December 31, in millions of EUR)



With respect to equity and liabilities, current liabilities decreased significantly by EUR 43.4 million from EUR 189.0 million at year-end 2017 to EUR 145.6 million at the end of 2018, primarily due to decreases in current financial liabilities by EUR 59.7 million as discussed in section financial liabilities. Current provisions decreased by EUR 7.0 million mainly due to the inclusion of one-time restructuring measures in 2017. At the same time, trade accounts payable increased significantly by EUR 24.0 million to EUR 63.2 million at year-end 2018, with days payable outstanding reduced to 55 days in 2018 from 59 days in 2017. The increase in trade accounts payable is driven by the order-oriented timing of material purchases.

Non-current liabilities at EUR 96.3 million at year-end 2018 were significantly up from EUR 47.9 million reported at prior year end. Within non-current liabilities, non-current financial liabilities increased by EUR 52.6 million to EUR 70.1 million at the end of 2018. Financial liabilities are explained in more detail in a separate section. At the same time, deferred taxes reported in liabilities decreased by EUR 1.7 million to EUR 10.8 million at the end of 2018.

Stockholders' equity increased by EUR 17.6 million from EUR 227.0 million at year-end 2017 to EUR 244.6 million at the end of 2018, mainly due to net income of EUR 9.7 million reported in 2018. In 2018, capital increases totaling EUR 0.8 million from the exercise of stock options, and stock compensation expenses totaling EUR 1.4 million, were reported.

Balance sheet ratios

The equity ratio improved to 50.3% at the end of 2018, after 48.9% at year-end 2017. The non-current assets ratio amounted to 106.7% on December 31, 2018, with stockholders' equity covering the non-current assets.

(on December 31, in %)		**2018**	**2017**
Equity ratio	Stockholders' equity / Total assets	50.3	48.9
Non-current asset ratio	Stockholders' equity / Non-current assets	106.7	98.2
Liability structure	Current liabilities / Total liabilities	60.2	79.8

Capital expenditures

Capital expenditures for additions to property, plant and equipment in 2018 amounted to EUR 14.0 million, up from EUR 10.6 million in 2017, largely reflecting higher investments in technical equipment.

Capital expenditures for intangible assets of EUR 34.2 million in 2018 were down from EUR 44.0 million in the prior year. This total consists of capitalized development projects of EUR 31.9 million in 2018 after EUR 39.0 million in 2017, and investments in software licenses and other intangible assets of EUR 2.3 million in 2018 after EUR 5.0 million in 2017. Investments in capitalized development projects are mainly driven by development activities for the new FSP 3000 CloudConnect™.

Cash flow

(in millions of EUR)	2018	Portion of cash	2017	Portion of cash
Operating cash flow	60.4	96.3%	27.1	46.5%
Investing cash flow	-48.1	76.7%	-90.5	155.1%
Financing cash flow	-8.2	13.1%	36.9	63.2%
Net effect of foreign currency translation on cash and cash equivalents	0.2	0.3%	0.0	0.0%
Net change in cash and cash equivalents	**4.3**	**6.8%**	**-26.5**	**45.4%**
Cash and cash equivalents at the beginning of the period	58.4	93.2%	84.9	145.4%
Cash and cash equivalents at the end of the period	**62.7**	**100.0%**	**58.4**	**100.0%**

Cash flow from operating activities at EUR 60.4 million in 2018 was significantly up EUR 33.3 million from EUR 27.1 million in 2017. This development was largely due to increase in income before tax and lower usage of cash in working capital.

Cash flow from investing activities was negative EUR 48.1 million in 2018 after negative EUR 90.5 million in the prior year. The use of funds for investing activities in 2017 was largely due to the acquisition of MRV Communications. At the same time, capital expenditures for capitalized development projects in 2018 decreased compared to the previous year.

Finally, cash flow from financing activities at negative EUR 8.2 million in 2018 was significantly down compared to the 2017 level of positive EUR 36.9 million. The net cash inflow in 2017 was mainly impacted by the acceptance of a new loan used for financing of the acquisition of MRV Communications. In 2018, the cash outflows mainly included scheduled servicing of existing debt.

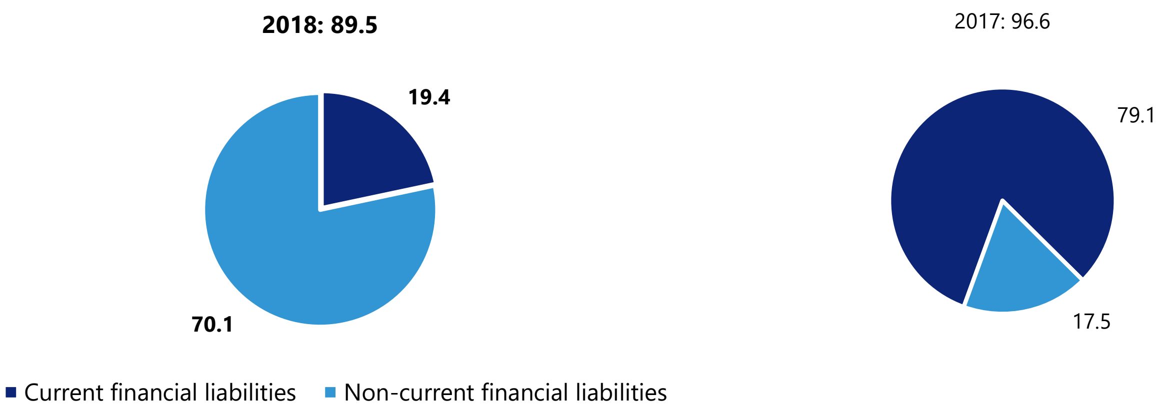
Overall, including the net effect of foreign currency translation on cash and cash equivalents of EUR 0.2 million (2017: EUR 0.0 million), cash and cash equivalents essentially increased by EUR 4.3 million in 2018, from EUR 58.4 million at year-end 2017 to EUR 62.7 million at the end of 2018, after a decrease of EUR 26.5 million in the prior year.

Financing and liquidity

ADVA's financial management is performed centrally by ADVA Optical Networking SE. Its objective is to provide sufficient funds to ensure ongoing operations and to support the group's projected growth. Beyond the strong equity base appropriate for the business, ADVA finances its business by means of liabilities with maturities typically exceeding the life of the assets being financed. For any liability taken, ADVA is focused on minimizing related interest cost, as long as access to funds is not at risk. Excess funds are generally used to redeem.

FINANCIAL LIABILITIES

(on December 31, in millions of EUR)



Financial liabilities decreased from EUR 96.6 million at year-end 2017 to EUR 89.5 million at the end of 2018. In 2018, a current bridge financing facility for the acquisition of the MRV Communications group, has been refinanced via a syndicated loan of nominal EUR 65.0 million with a total maturity of five years. Therefore, the current portion significantly decreased by EUR 59.7 million to EUR 19.4 million while the non-current portion was up from EUR 17.5 million on December 31, 2017, to EUR 70.1 million at the end of December 2018. All financial liabilities were exclusively denominated in EUR at the end of 2017 and 2018.

On December 31, 2018, the group had available EUR 10.0 million (on December 31, 2017: EUR 8.0 million) of undrawn committed borrowing facilities in respect of which all conditions had been met. The credit line was also renegotiated as part of the refinancing.

Further details about the group's financial liabilities can be found in note (16) to the consolidated financial statements.

NET LIQUIDITY

Net liquidity[2] represents one of the four key performance indicators for the group. Due to the increase in cash and cash equivalents and decrease in financial liabilities in 2018, ADVA's net liquidity at negative EUR 26.8 million on December 31, 2018, improved by EUR 11.4 million compared to year-end 2017. Cash and cash equivalents of EUR 62.7 million on December 31, 2018, and of EUR 58.4 million on December 31, 2017, were invested mainly in EUR, USD and in GBP. At year-end 2018 and 2017, access to EUR 0.3 million of cash and cash equivalents was restricted.

(on December 31, in millions of EUR)	2018	2017
Cash and cash equivalents	62.7	58.4
financial liabilities		
current	-19.4	-79.1
non-current	-70.1	-17.5
Net liquidity	**-26.8**	**-38.2**

ADVA's reports liquidity ratios as follows:

(on December 31)		2018	2017
Cash ratio	$\frac{\text{Cash and cash equivalents}}{\text{Current liabilities}}$	0.43	0.31
Quick ratio	$\frac{\text{Monetary current assets*}}{\text{Current liabilities}}$	1.11	0.74
Current ratio	$\frac{\text{Current assets}}{\text{Current liabilities}}$	1.77	1.23

* Monetary current assets are defined as the sum of cash and cash equivalents, short-term investments and securities and trade accounts receivable.

Return on capital employed

Return on capital employed (ROCE) in 2018 was at 4.8%, essentially up from 1.4% reported in 2017. This development is largely due to the increased operating result reported in 2018.

(base data in millions of EUR)	2018	2017
Operating income	15.0	4.4
Average total assets*	472.7	470.4
Average current liabilities*	163.4	154.8
ROCE $\frac{\text{Operating income}}{\text{Ø total assets − Ø current liabilities}}$	**4.8%**	**1.4%**

* Arithmetic average of five quarterly period-end values (Dec. 31 of the prior year and Mar. 31, Jun. 30, Sep. 30 and Dec. 31 of the year).

Summary: Net assets and financial position

Mainly due to the positive net result and the refinancing of the short-term bridge loan by a syndicated loan with a total maturity of five years the net assets and financial position of ADVA improved in 2018.

Transactions with related parties

Transactions with related individuals and legal entities are discussed in notes (39) and (40) to the consolidated financial statements.

Performance of ADVA Optical Networking SE

In addition to reporting on the ADVA Optical Networking group, the following sections provides information on the performance of ADVA Optical Networking SE.

ADVA Optical Networking SE is the parent company of the group and performs the group's management and corporate functions. It takes on major group-wide responsibilities such as finance and accounting, corporate compliance and risk management, strategic and product-oriented R&D activities as well as corporate and marketing communications worldwide.

ADVA Optical Networking SE's individual financial statements are prepared in accordance with the German Commercial Code. The complete individual financial statements are published separately.

Branch offices and organization

The company maintains its registered office in Meiningen, Germany. This is also the location of the main production and development facility of the company (351 employees at year-end 2018). Branch offices are located in Berlin, focusing on software development of the company's products (45 employees) and in Martinsried/Munich, where the company maintains its headquarter with all central functions and the sales & marketing organization (126 employees). On December 31, 2018, further branch offices were located in Hanover (10 employees), Courtaboeuf/Paris, France (17 employees), Madrid, Spain (2 employees), Helsinki, Finland (1 employee), Grottaferrata/Rome, Italy (13 employees), Vienna, Austria (3 employees), Zurich, Switzerland (2 employees), Dubai, United Arab Emirates (1 employee) and Centurion/Pretoria, South Africa (4 employees). ADVA is organized according to functional areas across all international locations.

Operational performance

In 2018, ADVA Optical Networking SE generated revenues of EUR 325.5 million, a slight increase of 1.2% compared to prior year's revenues of EUR 321.7 million.

EMEA continued to be the most important sales region in 2018, followed by the Americas and Asia-Pacific. EMEA revenues decreased slightly by 1.2% from EUR 217.6 million in 2017 to EUR 214.9 million in 2018, representing 66.0% of total revenues after 67.6% in 2017. In the Americas, revenues decreased by 18.9% from EUR 81.7 million in 2017 to EUR 66.3 million in 2018. This decrease was mainly due to reduced revenues with subsidiaries. The corresponding share of total annual revenues decreased from 25.4% to 20.4%. In the Asia-Pacific region, revenues were up significantly up by 97.5% from EUR 22.4 million in 2017 to EUR 44.3 million in 2018. The Asia-Pacific region comprised 13.6% of total revenues in 2018 after 7.0% in 2018. This increase is mainly driven by sales to a former customer of the MRV group.

Cost of goods sold decreased from EUR 209.6 million in 2017 to EUR 201.8 million in 2018, decreasing the share in total revenue from 65.2% to 62.0% in 2018.

Gross profit increased from EUR 112.1 million or 34.8% of revenues in 2017 to EUR 123.7 million or 38.0% of revenues in 2018. The development of the gross margin is impacted by variations in regional revenue distribution and in product and customer mix.

Selling and marketing expenses increased from EUR 30.7 million in 2017 to EUR 32.3 million in 2018. General and administrative expenses decreased to EUR 14.7 million from EUR 16.8 million in 2017. Considering capitalization of development expenses, decreasing from EUR 39.0 million in 2017 to EUR 31.9 million in 2018, research and development expenses totaled EUR 91.6 million or 28.1% from revenues compared to EUR 73.7 million or 22.9% from revenues in the prior year. The increase mainly results from higher recharges of subsidiaries. Other operating result (other operating income less other operating expenses) declined to EUR 0.6 million from EUR 1.6 million in 2017.

The company generated a net loss after tax of EUR 14.5 million in 2018, compared to a net loss after tax of EUR 7.5 million in 2017.

Summary: Business development and operational performance

Overall, the business development and operational performance declined, mainly driven by a disproportional increase in operating expenses offset partly by the increase in gross profit.

Net assets and financial position

ADVA Optical Networking SE's balance sheet total increased by EUR 12.8 million from EUR 322.7 million at year-end 2017 to EUR 335.5 million at year-end 2018. Non-current assets decreased from EUR 211.0 million to EUR 199.9 million on December 31, 2018, representing 59.6% of total assets after 65.4% at the end of the previous year. Current assets increased to EUR 134.5 million from EUR 110.0 million in 2017, representing 40.1% of total assets after 34.1% at the year-end 2017. The decline in non-current assets was mainly driven by a decrease in financial assets of EUR 25.5 million to EUR 73.4 million, partly offset by an increase in intangible assets with EUR 13.8 million to EUR 115.2 million.

Mainly due to the net loss reported in the current year, stockholders' equity decreased from EUR 148.7 million at year-end 2017 to EUR 135.0 million at year-end 2018 and represented 40.2% of the balance sheet total after 46.1% at the end of 2017. Liabilities increased from EUR 146.5 million to EUR 168.5 million. The increase in liabilities is primarily due to the increase of liabilities to affiliated companies of EUR 18.5 million as well as the increase in trade accounts payables of EUR 10.0 million. This was partly offset by a decrease of liabilities to banks of EUR 6.6 million. Provisions increased from EUR 12.0 million in 2017 to EUR 15.2 million in 2018 mainly due to higher outstanding invoices related to material purchases.

Capital expenditures

Total capital expenditures amounted to EUR 60.0 million in 2018 (prior year: EUR 105.8 million). Thereof, EUR 4.3 million (prior year: EUR 3.5 million) were attributable to property, plant and equipment, EUR 50.5 million (prior year: EUR 43.7 million) to intangible assets and EUR 5.2 million to financial assets (prior year: EUR 58.6 million). Investments in property, plant and equipment mainly relate to measuring and test equipment. Investments in intangible assets relate to purchase of new technologies and intellectual property rights. Financial assets relate primarily to shares in and loans to affiliated companies. Prior year capital expenditures for financial assets was predominantly impacted by the acquisition of the MRV group.

Liquidity

The development of cash and cash equivalents is analyzed in as follows:

(in millions of EUR)	2018	2017
Operating cash flow	39.9	25.1
Investing cash flow	-29.2	-75.9
Financing cash flow	-6.8	36.9
Net change in cash and cash equivalents	**3.9**	**-13.9**
Cash at banks and in hand at the beginning of the year	7.4	21.3
Cash and cash equivalents at the end of the year	**11.3**	**7.4**

During 2018 and 2017, the company was able to meet all payment obligations.

Cash and cash equivalents of EUR 11.3 million on December 31, 2018, and of EUR 7.4 million on December 31, 2017, were denominated mainly in EUR and USD. Due to the increase in cash and cash equivalents and the decrease in liabilities to banks in 2018, ADVA Optical Networking SE´s net liquidity increased from negative EUR 89.2 million in 2017 to negative EUR 78.7 million in 2018.

Financing

Liabilities to banks decreased from EUR 96.6 million at year-end 2017 to EUR 90.0 million at the end of 2018. In 2018, a short-term bridge financing facility for the acquisition of the MRV Communications group, was refinanced via a syndicated loan of nominal EUR 65.0 million with a total maturity of five years. Further information on this loan and on the covenants agreed can be found in notes (16) and (34) of the consolidated financial statements. All financial liabilities were exclusively denominated in EUR at the end of 2017 and 2018.

On December 31, 2018, the company had available EUR 10.0 million (on December 31, 2017: EUR 8.0 million) of undrawn committed borrowing facilities in respect of which all conditions had been met.'

The following table provides an overview of interest terms and the maturity of each financial liability at year-end 2018:

(in millions of EUR)	Dec. 31, 2018	Maturity		
		≤ 12 months	13 – 36 months	> 36 months
Loans of IKB Deutsche Industriebank	12.5	6.25	6.25	-
	5.0	2.5	2.5	-
	7.5	3.75	3.75	-
Syndicated loan	65.0	6.0	21.0	38.0
Total financial liabilities	**90.0**	**18.5**	**33.5**	**38.0**

Dividend payments

In 2018 there were no dividend payments for 2017 (prior year: nil for 2016). ADVA Optical Networking SE does not plan to pay out a dividend for 2018.

Summary: net assets and financial position

While increasing its net liquidity during 2018, the company's net assets declined.

Events after the balance sheet date

There were no events after the balance sheet date that materially impacted the net assets and financial position of the group and ADVA Optical Networking SE on December 31, 2018, or the groups and the company's financial performance for 2018. Similarly, there were no events considered material for disclosure.

Share capital and shareholder structure

On December 31, 2018, ADVA Optical Networking SE had issued 49,930,955 no par value bearer shares (December 31, 2017: 49,735,549). The common shares entitle the holder to vote at the Annual Shareholder´s Meeting and to receive dividends in case of a distribution. No restrictions are attached to the common shares. No other class of shares had been issued during the reporting period.

At year-end 2018, EGORA Holding GmbH held a total of 7,456,749 shares or 14.93% of all ADVA Optical Networking SE shares outstanding (at year-end 2017: 7,456,749 shares or 14.99% of all shares outstanding). 5,930,902 of these shares or 11.88 % of all shares outstanding (at year-end 2017: 5,930,902 shares or 11.92% of all shares outstanding) were held by EGORA Ventures GmbH, a 100% subsidiary of EGORA Holding GmbH, and the remaining 1,525,847 shares or 3.05% of all shares outstanding (at year-end 2017: 1,525,847 shares or 3.07% of all shares outstanding) were held directly by EGORA Holding GmbH. Both EGORA companies have their registered offices in Fraunhoferstrasse 22, 82152 Martinsried/Munich, Germany. Additionally, at year-end 2018, Teleios Capital Partners LLC, registered office Baarerstraße 12 in 6300 Zug, Switzerland, held 10,104,243 shares or 20.25%[5] of all ADVA Optical Networking SE shares outstanding (at year-end 2017: 7,469,936 shares or 15.02%). No other shareholder has filed with the company to have held more than 10% of the company's shares outstanding on December 31, 2018. Further details on share capital and shareholder structure are disclosed in note (21) to the consolidated financial statements.

Restriction of voting rights and share transfers

At year-end 2018, the management board of ADVA Optical Networking SE had no knowledge of any restrictions related to voting rights or share transfers.

Appointment and dismissal of management board members

The appointment and dismissal of members of the management board of ADVA Optical Networking SE follows the direction of the German Stock Corporation Act (Aktiengesetz, AktG), the German SE Implementation Act (SE-Ausführungsgesetz, SEAG) as well as the provisions in section 6 of the company's current articles of association as of February 8, 2019. According to these articles, in principle the supervisory board appoints the members of the management board and does so for a maximum period of five years. However, it is the company's practice to appoint the members of the management board for two years only. Repeated appointment is possible. According to the company's s the management board of ADVA Optical Networking SE shall regularly consist of two individuals and the supervisory board shall have the right to determine and appoint a higher number of individuals. If the management board consists of more than one individual, the supervisory board may appoint one member of the management board chief executive officer or speaker of the management board, and another member his or her deputy. The supervisory board may recall an already-effective appointment for important reasons. In 2018, no appointments or dismissals of management board members were affected. ADVA Optical Networking SE's management board consisted of Brian Protiva (chief executive officer), Christoph Glingener (chief technology officer), Ulrich Dopfer (chief financial officer) and Scott St. John (chief marketing & sales officer) throughout the year.

Changes to articles of association

Following article 9 SE Regulation in conjunction with section 50 SEAG, amendments to the articles of association of ADVA Optical Networking SE are made pursuant to section 179 AktG in conjunction with Section 133 AktG, as well as the provisions in section 4 para. 6 and section 13 para. 3 of the current articles of association of the company dated February 8, 2019. Accordingly, in principle any changes to the articles of association other than purely formal amendments need to be resolved by the shareholders' meeting. However, the shareholders' meeting has authorized the supervisory board to change the version of the articles of association in accordance with capital increases from authorized capital and conditional capital.

Issuance and buy-back of shares

The rights of the management board to issue new shares are regulated in section 4 paragraphs 4 and 5k of the articles of association as of February 8, 2019, of ADVA Optical Networking SE. According to ADVA Optical Networking SE's current articles of association the management board is authorized with approval of the supervisory board to increase the capital stock by up to 24,048,215 new shares from authorized capital, amounting to a total of EUR 24,048,215 against cash or contribution in kind with possible exclusion of subscription rights

[5] Capital shares refer to the total number of voting rights at the respective notification date. A change in the total number of voting rights after the notification date was not taken into account.

(authorized capital 2015/I). As of December 31, 2018, the authorized capital amounted to EUR 24,048,215, so that at that time the management board have been capable of issuing up to 24,048,215 shares, commensurate to 48.16% of total shares outstanding. In addition, as of December 31, 2018, a conditional capital of EUR 4,973,554 were recorded in the commercial register (conditional capital 2011/I). The conditional capital can only be used for granting stock option rights to members of the management board, to employees of the company and to management and employees of affiliated companies. The conditional capital increase is put into effect only if, when and insofar the holders of the option rights exercise these rights. 195,406 new shares were already created in 2018 as a result of the exercise of stock options but will only be registered in the trade register after the balance sheet date. Thus, the number of shares that can be issued by the management board from the two tranches of conditional capital is reduced to 4,778,148.

At year-end 2018, the management board was authorized to buy back up to a total of 10.0% of the existing share capital at the time of resolution by the annual general meeting or – if this value is lower – at the time the authorization will be exercised. This right was granted to the management board by a resolution of the shareholders' meeting on May 20, 2015 until May 19, 2020. Shares bought back may be used for all legally permitted purposes, in particular as consideration for the acquisition of companies, parts of companies or investments in companies, for issuing stock to employees of the company or affiliated companies, for serving share subscription rights from the company's stock option plans, and for redeeming the shares pursuant to the legal provisions.

Takeover bid-driven change of control provisions

At year-end 2018, a bilateral loan with redemption value of nominally EUR 12.5 million (repayable in 16 equal quarterly installments since March 2017), a bilateral loan with redemption value of nominally EUR 5.0 million (repayable in 16 equal quarterly installments since March 2017), a bilateral loan with redemption value of nominally EUR 7.5 million (repayable in 12 equal quarterly installments since March 2018), and a syndicated loan with a redemption value of nominally EUR 65.0 million (repayable in half-yearly installments as well as a final installment on the due date from June 2019), respectively, are part of ADVA Optical Networking SE's financial liabilities. In addition, the syndicated loan has an undrawn credit line of EUR 10.0 million at the reporting date. In the event of a potential takeover bid-driven change in control of ADVA Optical Networking SE, the creditors have the right to terminate these loans with immediate effect.

As of December 31, 2018, for the event of a takeover bid-driven change in control there have been no recourse agreements in place with any of the members of the management board or with any of the group's employees.

Declaration on corporate governance and corporate governance report

Compliance with the rules of proper corporate governance is of great importance to ADVA, it is the foundation for the group's success. According to section 289f and § 315d of the German Commercial Code (Handelsgesetzbuch, HGB), ADVA Optical Networking SE is obliged to publish a "declaration on corporate governance", and section 161 of the German Stock Corporation Act (Aktiengesetz, AktG) in connection with section 3.10 of the German Corporate Governance Code as amended on February 7, 2017, recommends that management board and supervisory board shall prepare a "corporate governance report". In order to facilitate public access to all respective data, ADVA integrates the "declaration on corporate governance" and the "corporate governance report" into one single publication on its website www.advaoptical.com (About Us / Investor Relations / Corporate Governance).

Nonfinancial report

In order to facilitate public access to all respective data, ADVA decided to publish a separate nonfinancial report on its website www.advaoptical.com (About Us / Sustainability) until April 30, 2019.

Definition of aims and terms for the rise of the women portion in the supervisory board, the management board and in both leadership levels below the management board

Following the entry into force of the "Law on Equal Participation of Women and Men in Management Positions in the Private and Public Sector" (FüPoG), the supervisory board of ADVA Optical Networking SE had set a target of 33.33% for the company's supervisory board, and a target of 0% for the management board of the company, both to be achieved by June 30, 2017. As of June 30, 2017, the proportion of women on the supervisory board of ADVA Optical Networking SE has been 33.33% and on the management board 0%. So, both targets were achieved. For the following period, the supervisory board determined at its meeting on November 15, 2017, that a women's portion of 33.33% in the supervisory board shall be maintained until

March 31, 2021, and a women's portion of 0% in the management board until December 31, 2021. As of December 31, 2018, these shares have already been realized.

Following the entry into force of the FüPoG, the management board of ADVA Optical Networking SE had set an 8% women's share for the first management level and a 30% women's share for the second management level below the management board; both to be achieved by June 30, 2017. As of June 30, 2017, the women's portion on the first management level has been 7%, and 32% on the second management level, exceeding the self-imposed target on the second management level, but slightly missing the self-imposed target of the first management level. This was due to an in-house change of a reporting line that lifted a male executive from the second to the first management level; besides that, the management structure and team remained unchanged at both management levels. For the following period, ADVA Optical Networking SE's management board has set a target of 7% for the women's share on the first level of management and of 30% on the second level of management below management board, both to be achieved until June 30, 2022. As of December 31, 2018, the women's portion on the first management level has been 13%, and 31% on the second management level; thus, these shares have already been realized.

Remuneration of the management and the supervisory board

The compensation of ADVA's management board members consists of fixed and variable components. In addition to a fixed salary, the members of the management board receive two kinds of variable compensation which are assessed based either on short-term aspects or on long-term criteria focusing on the sustainable development of the group. As additional long-term variable compensation, the management board members receive stock options within the scope of ADVA's stock option program. The compensation for the members of the management board includes capped variable compensation components (short-term variable compensation, long-term variable compensation, newly issued options), and provides upper and lower limits for the four targets of the short-term variable compensation.

In 2018, the fixed salaries of all members of the management board remained unchanged. The short-term variable compensation of all four members of the management board was based on the group's pro forma operating income[1] (40%), the group's revenues (20%), and the group's net liquidity[2] (20%) as well as individual goals agreed with each member of the management board at the beginning of the year (20%). The short-term variable compensation is determined annually as compensation for the current year at the discretion of the supervisory board. Furthermore, a long-term variable compensation focusing on the sustainable development of the group was agreed which will be paid to the members of the management board after three years, provided that a year-by-year increased minimum group pro forma operating income is met for each of the three years. All members of the management board additionally receive a company car or a car allowance. Moreover, ADVA bears the costs of the directors & officers liability insurance for the management board members, taking into account the statutory deductible amount. These benefits are partially taxable by the members of the management board as non-cash benefits. In addition, ADVA grants stock options to members of the management board. These option rights authorize the members of the management board to purchase a set number of shares in the company once a fixed vesting period has elapsed and the goal to increase the share price by at least 20% has been reached.

Total management board compensation payable for 2018 and 2017 was EUR 2,099 thousand and EUR 1,538 thousand, respectively. During both years, there were no long-term service contracts in the sense of IAS 19 for any member of the management board. In 2018 and 2017, no loans were granted to the members of the management board. As of December 31, 2018 and 2017, no receivables outstanding from members of the management board have been reported.

Value of benefits granted for the reporting period

(in thousands of EUR)	Brian Protiva				Christoph Glingener				Ulrich Dopfer				Scott St. John			
	Chief executive officer				Chief technology officer				Chief financial officer				Chief marketing & sales officer			
													(from October 1, 2017)			
	2018	**2017**	**2018 (Min)**	**2018 (Max)**	**2018**	**2017**	**2018 (Min)**	**2018 (Max)**	**2018**	**2017**	**2018 (Min)**	**2018 (Max)**	**2018**	**2017**	**2018 (Min)**	**2018 (Max)**
Fixed compensation	253	253	253	253	253	253	253	253	253	253	253	253	253	63	253	253
Fringe benefits	11	14	11	11	14	13	14	14	20	18	20	20	20	5	20	20
Total	**264**	**267**	**264**	**264**	**267**	**266**	**267**	**267**	**273**	**271**	**273**	**273**	**273**	**68**	**273**	**273**
Short-term variable compensation (1 year)	221	167	-	536	150	113	-	361	142	101	-	340	142	28	-	360
Multi-year variable compensation:																
Long-term variable compensation (3 years)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stock option plans (7 years)	157	-	-	6,700	-	-	-	6,500	-	-	-	5,133	210	257	-	5,000
Total	642	434	264	7,500	417	379	267	7,128	415	372	273	5,746	625	353	273	5,633

Actual contribution for the reporting period

	Brian Protiva				Christoph Glingener				Ulrich Dopfer				Scott St. John			
	Chief executive officer				Chief technology officer				Chief financial officer				Chief marketing & sales officer			
													(from October 1, 2018)			
(in thousands of EUR)	2018	2017	2018 (Min)	2018 (Max)	2018	2017	2018 (Min)	2018 (Max)	2018	2017	2018 (Min)	2018 (Max)	2018	2017	2018 (Min)	2018 (Max)
Fixed compensation	253	253	253	253	253	253	253	253	253	253	253	253	253	63	253	253
Fringe benefits	11	14	11	11	14	13	14	14	20	18	20	20	20	5	20	20
Total	**264**	**267**	**264**	**264**	**267**	**266**	**267**	**267**	**273**	**271**	**273**	**273**	**273**	**68**	**273**	**273**
Short-term variable compensation (1 year)	221	167	221	221	150	113	150	150	142	101	142	142	142	28	142	142
Multi-year variable compensation:																
Long-term variable compensation (3 years)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stock option plans (7 years)	-	-	-	-	-	-	-	-	9	-	9	9	-	-	-	-
Total	**485**	**434**	**485**	**485**	**417**	**379**	**417**	**417**	**424**	**372**	**424**	**424**	**415**	**96**	**415**	**415**

The compensation of the members of ADVA's supervisory board, beyond the reimbursement of out of pocket expenses, only consists of fixed compensation paid out quarterly.

The total compensation payable to the members of ADVA's supervisory board for 2018 amounted to EUR 235 thousand, after EUR 235 thousand for 2017.

Furthermore, ADVA bears the cost of the directors & officers liability insurance for all members of the supervisory board. During 2018, no loans or advance payments were granted to members of the supervisory board.

Detailed information on the compensation structure of the individual members of the management and supervisory boards can be found in note (40) to the consolidated financial statements.

Employees

On December 31, 2018, ADVA had 1,886 employees worldwide, including 31 apprentices (prior year: 1,894 including 27 apprentices).

On average, ADVA had 1,856 employees during 2018, down from 1,858 in 2017. Furthermore, there were 24 and 19 temporary employees working for ADVA at year-end 2018 and 2017, respectively.

Personnel expenses in the group increased from EUR 171.6 million in 2017 to EUR 173.0 million in 2018, representing 33.4% and 34.5% of revenues, respectively.

On December 31, 2018, ADVA Optical Networking SE had 575 employees, thereof 30 apprentices (prior year: 572 employees, thereof 27 apprentices). This corresponds to an increase of 3 employees or 0.5% versus the end of the prior year.

The breakdown of employees of ADVA SE by functional area is as follows:

(on December 31)	2018	2017	Change
Purchasing and production	161	157	+4
Sales, marketing and service	116	118	-2
Management and administration	81	85	-4
Research and development	187	185	+2
Apprentices	30	27	+3
Total employees	**575**	**572**	**+3**

Personnel expenses in the ADVA SE decreased from EUR 47.9 million in 2017 to EUR 46.8 million in 2018, representing 14.4% of revenues in 2018 compared to 14.9% in 2017.

The employee compensation packages comprise fixed and variable elements and include stock options. These compensation packages enable employees to participate appropriately in the success of the group, and support employee retention, while at the same time rewarding individual efforts, teamwork, innovation and productivity. Furthermore, employees who perform exceptionally well, or who make suggestions for significant improvements are recognized through the group's spot award program. In addition, the group is committed to offering all employees comprehensive on-the-job training, as well as specific continuing education opportunities in order to advance their personal and professional development.

The group offers different types of continuing education programs through the ADVA university, based on employee development needs. These needs are identified, documented, and reviewed semi-annually, within an electronic performance appraisal and competency management system.

Within ADVA, all relevant local regulations for health and safety in the workplace are complied with, and in some countries are regularly monitored by independent engineering offices for safety in the workplace.

ADVA is committed to the creation of a workplace free of discrimination and harassment. The group recruits, hires, trains and promotes individuals on all job levels without regard to race, religion, ancestry, sexual orientation, marital status, national origin, age, gender and physical or mental disability. ADVA is committed to a fair and equitable workplace where everyone is a respected and valued member of the team. The group’s core values (teamwork, excellence, accountability and motivation) and leadership principles (integrity & honesty, decisiveness and respect) guide employees and managers in all business activities.

An efficient employee representation without trade union ties is in place on a global basis, reflecting the international employee base and overall orientation of the group.

At its main production and development facility in Meiningen, Germany, ADVA currently provides 30 apprenticeship positions, whereof 17 lead to professions as electronic technician for devices and systems, office management assistant and as specialist for warehouse logistics. In Meiningen, Germany, the company is among the most recognized apprenticeship providers for industrial electronics professions in its region. In addition, ADVA offers a dual study program in Germany that provides on-the-job work experience to students pursuing degrees. Currently 12 students are trained within this program.

Risk report

ADVA’s future development offers a broad variety of opportunities. It is however also subject to various risks, which in certain cases could endanger the group’s continued existence. The management board has implemented a comprehensive risk management and internal control system that enables the detection of risks in a timely manner and allows the group to take corrective action and to benefit from identified opportunities. An integral aspect of the group’s strategy is its ability to anticipate developments in the marketplace and future customer needs. Special emphasis is given to product development, the quality of the group’s products and the validation, selection and oversight of key business partners.

Risk management system

Since ADVA was founded in 1994, its business has become more diversified. The group markets its products and solutions in part via a variety of distribution partners but has become less dependent over the years due to continued investment in a direct distribution model in core geographies. Beyond focusing on enhancing revenue predictability, a comprehensive risk management system has been established. The risk management system is subject to scheduled reviews by the group’s internal audit function.

Being a globally operating company, ADVA implemented its risk management system on the basis of applicable laws and regulations such as Germany's BilMoG and KonTraG and by taking into account common international standards and best practices such as the COSO framework[6] and the ISO 31000 auditing standard. It is closely integrated with supporting management systems such as the group’s compliance management system. The management board nevertheless recognizes that a risk management system cannot in all cases prevent the occurrence of events that may cause material damage to the group.

ADVA’s strategic goals are the basis for its risk management system. These goals are organized into four areas, growth and profitability, innovation, operational excellence and people. The strategic goals are reviewed by the management board and the supervisory board on a yearly basis and amended where appropriate. They also constitute the basis for the group’s three-year business plan, which is reviewed and updated annually. Each of these goals is defined in detail and then broken down into specific departmental and individual targets. The strategic goals are

[6] Five major accounting organizations formed a group known as COSO (Committee of Sponsoring Organizations of the Treadway Commission) to provide guidance on evaluating internal control. They issued this guidance as the COSO Internal Control Framework.

traced to each employee, so that every individual can focus and be evaluated on his/her own performance and contribution to ADVA's overall success.

ADVA measures the accomplishment of its strategic goals against revenues, pro forma operating income[1] and net liquidity[2] as well as the non-financial criterion of customer satisfaction measured by the net promoter score[3]. These metrics represent the group's key performance indicators. The management board sets target values for all four metrics for the year to come and measures actual values against the target values: revenues and pro forma operating income on a monthly basis, net liquidity on a quarterly basis and the net promoter score on an annual basis. Corrective action is taken quickly should a deviation from the plan occur or be reasonably predicted to occur. This information is summarized and communicated to the management board in monthly, quarterly and yearly reports.

Moreover, budgets are reviewed on a monthly basis and adjustments are made if necessary. The group's accounting, controlling and treasury departments provide globally consolidated reports on available cash funds and the development of margins and current assets (e.g. inventories and receivables) on a monthly and quarterly basis. These reports also include budgeted/forecast and actual revenues and expenditures. The structure and content of these reports is continuously adapted to the most current requirements.

ADVA regularly monitors the credit-worthiness of all customers and updates credit limits as needed. Material expenditures and investments must be approved in advance through an electronic purchase order system. In conjunction with continuously updated revenue and cash forecasts, a detailed monthly preview of anticipated group development within the next three to twelve months is produced and communicated to the management board. Moreover, the group's accounting, controlling and legal departments review potential legal and litigation risks on a quarterly basis in order to obtain a reliable estimate of the potential loss, taking into account all relevant information and expectations. Finally, ADVA's management board discusses all significant business transactions with the supervisory board and obtains its approval if necessary.

In order to ensure observance of all applicable laws and regulations and to support the group's ongoing growth and internationalization, the management board implemented a combined risk management and compliance function. Key compliance measures include a code of conduct, a range of group-wide policies, the training of employees and the active encouragement to report suspected incidents of non-compliance and to seek support when having questions. All implemented measures and processes for risk management as well as compliance are continuously reviewed and improved. In 2017 the group had implemented improved processes for risk identification and quantification which were continued and further refined throughout 2018.

ADVA differentiates between two main categories of risks and opportunities – those considered major and those considered non-material. A risk or opportunity is considered major if its expected net impact on the group's pro forma operating income exceeds EUR 1 million in terms of ADVA's three-year business plan. If not attributable to the pro-forma operating income, the group's net income is used as reference. The expected net impact is calculated by multiplying the potential net impact of a particular risk or opportunity with its net likelihood of occurrence.

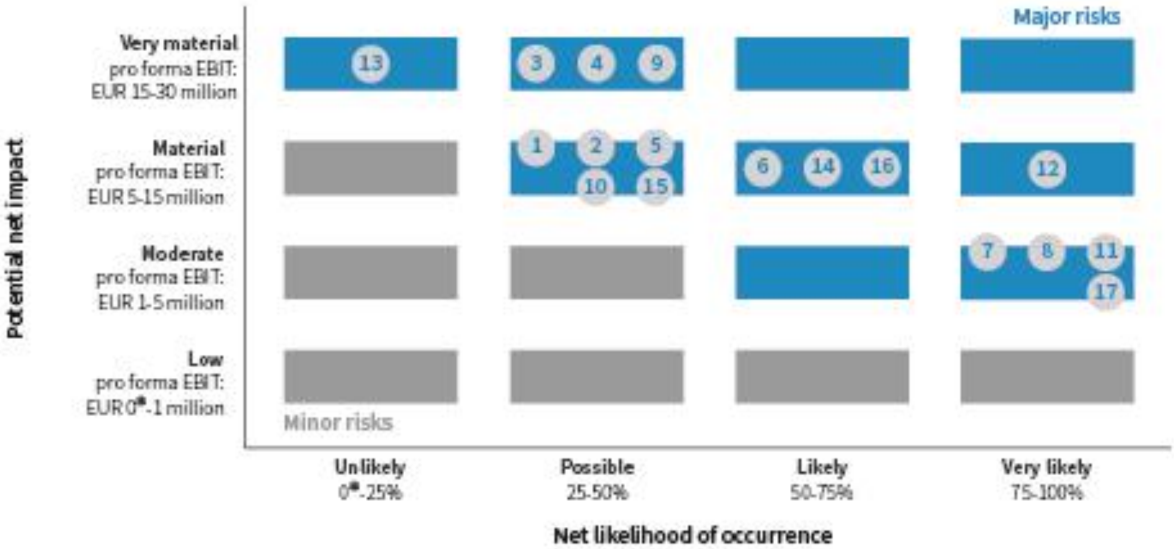
For each major risk the group assigns a dedicated risk owner who is responsible for defining and implementing an adequate and effective response for risk mitigation. Adherence with this process is monitored by the group's compliance function which conducts structured reviews with each risk owner according to a defined schedule and at a minimum three times per year. Should any such major risk materialize, the assigned risk owner has the responsibility to immediately report this to the management board. Independent of specific risk ownership, all employees of ADVA are asked to escalate additional obvious risk items directly and informally to the group's compliance function and the chief financial officer. Risk identification and reporting is supported by monthly reports and regular webinars in which the management board informs the global management team about the current business development, outlook and goals.

Based on the outlined analytical tools and processes, ADVA ranked 17 risks as major risks at the end of 2018 (end of 2017: 16), which are discussed in detail below.

The risks and opportunities of ADVA Optical Networking SE essentially correspond to those of the group. In addition to the risks listed here, there is also a risk with regard to the recoverability of shares in affiliated companies. ADVA Optical Networking SE does do not consider this risk to be material.

Major risks 2019-2021

1 Loss of key customers or channel partners
2 Decrease in standard margin (STM)
3 Wrong product strategy
4 Uncompetitive product cost
5 Uncompetitive products due to delayed release
6 Product design quality and regulatory compliance
7 Alleged intellectual property infringements by ADVA
8 Alleged intellectual property infringements by supplier
9 Supplier and manufacturing quality
10 Supply shortages
11 U.S. – China trade conflict
12 IT security
13 Foreign currency fluctuations
14 Compliance violations by intermediaries
15 Bribery
16 Loss of knowledge, skills, relationships and overall capacity
17 Harassment or discrimination claims or proceedings



Growth and profitability risks

LOSS OF KEY CUSTOMERS OR CHANNEL PARTNERS (POSSIBLE; MATERIAL)

The loss of key customers or channel partners would have significant impact on ADVA's business. This risk may originate to some extent from changes in customer demands and the group's ability to meet these requirements reliably and in a timely manner. Additionally, mergers and acquisitions have the potential to negatively impact the group should this result in the decision to consolidate vendors and technology partners in a way that either reduces ADVA's share of the customer spend or eliminates the use or distribution of the group's solutions. However, for most key revenue customers, the group has deployed thousands of systems over a multi-year period and, as a result, there is a certain dependency with these customers and the related channel partner on ADVA and its products, which are integrated into the customer's workflows and processes. For key customers and channel partners, the group furthermore ensures continuous performance and satisfaction through a dedicated team of professionals.

DECREASE IN MARGINS (POSSIBLE; MATERIAL)

Procurement is a key focus area for customers and their cost-saving initiatives. Purchases, especially for multi-year projects are often conditioned on gradual price decreases. In addition, several products are essentially being commoditized with many competing vendors. The group has many preventive action plans in place. Most important is its focus on innovation. In order to successfully defend higher prices, the group consistently pushes the limits of new technology in its products, improves its processes, and communicates the value, reliability, scalability, cost-effectiveness, performance and technological leadership of its solutions to all of its customers.

Innovation risks

WRONG PRODUCT STRATEGY (POSSIBLE; VERY MATERIAL)

The market for innovative connectivity solutions for cloud and mobile services is highly competitive and subject to rapid technological change. Competition in this market is characterized by various factors, such as price, functionality, service, scalability and the ability of systems to meet customers' immediate and future network requirements. Should ADVA be unable to quickly adapt to changing market conditions, customer requirements or industry standards, the group's development would be impacted negatively. Since some of the group's competitors operate in a broader market and have considerably more resources available due to their greater size, ADVA must continue to focus its efforts on those technologies and features that are expected to supersede the current ones. The likelihood of wrong development decisions is minimized by a series of preventive actions that include running advanced technology projects, running a team of navigators to decide on strategic direction, industry and competitor analysis, keeping the group's development roadmap up-to-date, testing product visions with customers, monitoring and influencing standardization and staying close to customers in order to identify differentiating technology opportunities. In addition, the group has implemented a highly flexible and adaptive development organization and processes to quickly adjust to changing requirements.

UNCOMPETITIVE PRODUCT COST (POSSIBLE; VERY MATERIAL)

ADVA achieves cost leadership through its ability to scale economically and through the optimization of product design. The loss of cost leadership would drastically reduce the group's success in winning new business and would have a negative effect on gross and operating margins. The significant pricing pressure for innovative connectivity solutions must be met strategically by improving processes, controls and technology while maintaining adequate R&D budgets, as well as operationally by achieving cost leadership in sourcing product components. A dedicated team identifies competitive price and cost targets for new products, monitors product cost changes throughout the development process and negotiates, tracks and forecasts product and related component costs. Achievement of the group's annual cost reduction targets for sourcing components is supported by monthly and quarterly status reports to the group's management board.

UNCOMPETITIVE PRODUCTS DUE TO DELAYED RELEASE (POSSIBLE; MATERIAL)

High competition and rapid technological change are the decisive characteristics of the market for innovative connectivity solutions for cloud and mobile services. Continuous success not only requires the identification of innovative solutions for future network and customer requirements by maintaining cost leadership, but to also release such innovations at the projected time as delays may undermine their competitiveness. As a result, ADVA implemented a joint development and operations organization ("DevOps") clustered into technology value streams in order to maximize effectiveness and break up barriers. All streams thereby operate according to one common tool-supported development process.

PRODUCT DESIGN QUALITY AND REGULATORY COMPLIANCE (LIKELY; MATERIAL)

Increasing pressure on product development timelines and growing product complexities that need to be supported by limited R&D resources present challenges for product design quality and regulatory compliance. While timelines are largely driven by market and customer demands, the increase in product complexity is due to a variety of different factors, including technical requirements, legacy infrastructure, and the desire to address the needs of a maximum number of ADVA's growing customer base. For risk mitigation, the group implemented a tool-supported development process with clearly defined requirements for each development stage, realistic project planning including adequate risk management, and consistent and comprehensive testing during all development phases supported by transparent reporting of the achieved quality levels.

ALLEGED INTELLECTUAL PROPERTY INFRINGEMENTS BY ADVA (VERY LIKELY; MODERATE)

Third parties may assert that ADVA has violated their intellectual property rights and claim license fees, indemnities or a discontinuation of production and marketing of affected products. Related disputes could result in considerable cost to ADVA, while also diverting management and technical resources. For mitigation, the group has implemented adequate guidelines to avoid infringements in the first place. ADVA also uses and continuously extends its own patent portfolio as defense. A dedicated team is available to assess and appropriately act on any asserted intellectual property infringement.

ALLEGED INTELLECTUAL PROPERTY INFRINGEMENTS BY SUPPLIER (VERY LIKELY; MODERATE)

Besides ADVA itself, the group's suppliers may also be approached by third parties claiming intellectual property infringements. As a consequence, the group may be unable to source a particular component as required for its own solutions. To protect against such risk, ADVA's contract templates include intellectual property provisions to ensure authorized use of third-party intellectual property and to indemnify the group against the resulting damage of any infringement. In addition, multi-sourcing of components is pursued wherever technologically and economically feasible.

Operational excellence risks

SUPPLIER AND MANUFACTURER QUALITY RISKS (POSSIBLE; VERY MATERIAL)

ADVA's product quality is significantly influenced by its suppliers and contract manufacturers. Failure of a single part may cause the whole system to be dysfunctional. Early detection of component as well as production deficiencies is thus critical for the group's success. Deteriorating quality could not only lead to delays in installation, return of products or cancellation of orders, but also to penalties and lawsuits, contract terminations and liability claims. Preventive actions to avoid quality deterioration include close collaboration with key suppliers during the development of critical components, structured and tool-based processes for supplier and manufacturer identification and qualification, robust contracting including adequate indemnifications, and regular audits of key suppliers and all manufacturers.

SUPPLY SHORTAGES (POSSIBLE; MATERIAL)

ADVA sources product components either based on forecasts or upon receipt of a customer purchase order. Any shortage in the required material can thus have a significant negative impact on the group's performance. For mitigation, ADVA implemented tool-based processes for demand forecasting as well as the structured identification and consistent monitoring of suppliers, in particular suppliers of single source components. This includes the introduction of alternatives during the design phase of a new product.

U.S. – CHINA TRADE CONFLICT (VERY LIKELY; MODERATE)

A substantial number of components for the group's solutions as well as the final assembly of various product lines originates or takes place in China. Throughout 2018, the U.S. and China introduced tariffs covering roughly 80% of the U.S. export volume to China and more than 50% of the Chinese export volume to the U.S. Covered product categories include the group's switching and routing solutions originating in China and exported to the U.S. While a temporary agreement to refrain from any additional tariffs was reached between the U.S. and China towards the end of 2018, there is a significant risk of a further escalation which may result in additional costs for ADVA depending on its ability to pass-on any such increases to its suppliers and customers.

IT SECURITY RISKS (VERY LIKELY; MATERIAL)

Stolen credit card information, personal data and business data from major companies have become the topic of frequent business headlines. Unauthorized access to the group's information systems and confidential data can not only cause material damage but also result in penalty payments for violating the EU GDPR. ADVA implemented technical and non-technical means to reduce its IT security risk exposure, e.g., by investing in IT security resources and by implementing a variety of technological and process-based safe-guards, including a so-called "business continuity" solution.

FOREIGN CURRENCY RISKS (UNLIKELY; VERY MATERIAL)

Due to a major portion of the group's revenues and costs being generated in foreign currencies, ADVA's profit is particularly subject to fluctuations in the EUR/USD, GBP/USD, EUR/ILS and EUR/PLN exchange rates. In 2018, on a net basis, the group realized significant GBP inflows and USD outflows. To combat fluctuations, the USD net cash flows are in part hedged against GBP using forward exchange agreements. The duration of such agreements follows ADVA's communication to the capital markets. With the acquisition of MRV Communications in 2017, the group substantially decreased its exposure in USD however increased its risk exposure towards ILS due to material development activities in this region. Information on the sensitivity of the group's net income to fluctuations in foreign exchange rates is provided in note (33) to the consolidated financial statements.

People risks

COMPLIANCE VIOLATIONS BY INTERMEDIARIES (LIKELY; MATERIAL)

ADVA markets its products and solutions in part via a variety of distribution partners due to required economies of scale, local (legal) requirements and in order to benefit from existing contractual as well as personal relationships and post-sale support organizations. While the group's ability to control the partners' activities are limited, compliance violations by intermediaries may, under specific circumstances, be attributed to ADVA. For mitigation, ADVA implemented robust risk-based due diligence procedures including upfront vesting of new intermediaries and periodic reviews and updates. Furthermore, resale contracts include robust compliance representations. Commission-based setups are tightly controlled and avoided where possible.

BRIBERY (POSSIBLE; MATERIAL)

ADVA markets its products and services around the world. In recent years, its customer base and operational setup have become substantially more international. To ensure ethical behavior in all business situations, robust procedures and controls were implemented. If violated, the consequences for the group could be severe, including material fines, the breach of customer contracts and a general loss of reputation. ADVA has a dedicated anti-corruption program in place, which is based on a strong tone from the top and supported by a central compliance department and dedicated regional compliance officers, means for (anonymous) reporting of concerns, tight controls on all financial transactions, continuous and risk-based monitoring of activities and the periodic auditing of all implemented measures through an independent function.

LOSS OF KNOWLEDGE, SKILLS, RELATIONSHIPS AND OVERALL CAPACITY (LIKELY; MATERIAL)

Solid economic growth coupled with rapid digital transformation has led to shortages of skilled workers within the technology industry and companies are vying for each other's talent. While particularly intense in developed countries, competition for talent has increased all over the globe including Poland, China and India where ADVA operates major R&D facilities. As a result, the group is challenged to retain and nurture its employees in order not to lose their knowledge, skills and relationships required to develop, sell and maintain the group's innovative products and solutions.

HARASSMENT OR DISCRIMINATION CLAIMS OR PROCEEDINGS (VERY LIKELY; MODERATE)

ADVA is committed to ensure equal employment opportunities without regard to race, religion, gender and any other protected factor and to prevent any related unwelcome behavior i.e. harassment. The group is proud about its international and diverse setup and employment base, and its open, transparent and respectful culture and management style. While multiple actions are taken to ensure ethical conduct of everyone working for the group globally, there is a high likelihood off alleged or actual violations, which may result in costly legal proceedings for the group depending on the allegations' nature, scope and location.

Minor and financial risks

Beyond the discussed 17 major risks, there is a broad range of minor risks that can also have a negative impact on ADVA. These uncertainties include financial risks such as the inability to secure financing, the risk of early maturity of loans due to the breach of material contractual obligations in connection with loan agreements and committed borrowing facilities totaling EUR 89.5 million, impairment of intangible assets and changes in interest rate levels, time risks related to carrier investment cycles and to distribution partnerships, legal risks pertaining to potential claims under product and warranty liabilities, supply shortages and/or currency risks through BREXIT as well as general macro-economic risks and risks related to acquisitions. However, the management board of ADVA does not consider any of these or other uncertainties to be likely or to have a major impact on the group.

Changes to the overall risk situation and the classified major risks in 2018

During 2018, ADVA's major risks slightly changed mainly due to increasingly fast and intertwined innovation cycles blurring the line between product cost cutting by developing new innovative solutions and cost reductions in sourcing components, diverging supplier and manufacturer quality risks, an ongoing trade conflict between the U.S. and China and the increasing importance and (global) competition for talent. Specifically, 12 risks remained the same as in 2017, four risks were consolidated into two, and three new major risks were added. The overall risk situation nevertheless remained largely the same as the group's continued diversification and internationalization helped to balance all new or increased major risks.

Opportunity identification

The identification of opportunities is largely identical to the processes, tools and concepts as described in the "risk management system" section above. The annual definition of the group's opportunities is supported by the management board, which has regular discussions with key customers and industry thought leaders in order to identify new opportunities and technological trends. Throughout the group, agile processes maximize the group's ability to take advantage of newly identified trends. Current major opportunities are as follows:

MARKET SHARE GAIN IN DCI (LIKELY; VERY MATERIAL)

With more than 20 years of expertise in interconnecting data centers ADVA is a leading contender in the DCI space. In addition to broad success with private enterprise networks the company has gained a lot of traction with hyperscale ICPs. The revenue contribution from this customer group was less than 10% in 2018 – significantly lower than in previous years. In 2019 the new TeraFlex™ terminal of the FSP 3000 CloudConnect™ family is coming to market, providing 50% more capacity than the leading competitor's current product. TeraFlex™ has been successfully trialed by several customers in 2018 and will go into commercial ramp up in 2H2019. Due to the superior performance of the product there is a significant opportunity to win new footprint in important ICP accounts and to once again increase the group's market share.

ADDITIONAL DEMAND FOR VIRTUAL PACKET EDGE SOLUTIONS THROUGH ENTERPRISE IT PARTNERS (LIKELY; VERY MATERIAL)

More and more enterprises are embracing a so-called multi-cloud architecture, leveraging an optimum mix between private and public cloud solutions. With the advent of artificial intelligence in enterprise IT, cloud adoption is further accelerating and service providers are responding by redefining their strategies at the network edge. CSPs in particular are using NFV to add value to their connectivity services and convert enterprise IT spend into revenue for their managed services. Thanks to NFV, service providers can create and deliver new services quickly anywhere on the globe. ADVA has the world's most comprehensive portfolio of fiber-based Ethernet access solutions that empower industry-leading data connectivity services. In addition to the FSP 150 hardware, it is the company's Ensemble software architecture that provides further competitive differentiation. In 2017, ADVA successfully qualified its Ensemble Connector software for use in Verizon's "universal CPE" solution, earning its first software revenues. The solution has also been selected by Colt in 2018 and additional CSPs have been lined up. What's new is that also big IT service providers that specialize in turn-key solutions for the Fortune 500 enterprises have started to embrace NFV as a service delivery vehicle for their solutions. ADVA has forged close partnerships with some of the world's leading enterprise IT suppliers. The group sees potential for numerous new customer wins and a higher proportion of software sales in this area.

INCREASING STRATEGIC IMPORTANCE OF SYNCHRONIZATION TECHNOLOGY (VERY LIKELY; MATERIAL)

The ongoing expansion of mobile networks towards LTE-Advanced (4.5G), as well as the preparations of mobile network operators for the fifth generation of mobile technology (5G), lead to more stringent requirements for time and frequency synchronization in carrier networks. ADVA's Oscilloquartz technology is industry-leading and continues to win competitive tenders. Oscilloquartz technology is gaining momentum with customers and is expected to make an increased contribution to consolidated revenue and margin. In addition to the increasing demands of mobile network operators for high-precision synchronization solutions, Oscilloquartz technology is also gaining traction in other applications. The synchronization of global databases of internet content providers, the synchronization of power grids with decentralized power generation as well as requirements from the fields of meteorology offer additional opportunities for this portfolio.

INFORMATION SECURITY AND REGIONALIZATION (VERY LIKELY; MATERIAL)

Large companies are concerned about the security of their data and business processes and are therefore building new data protection and storage solutions, which in turn require transmission technology to connect the geographically dispersed sites. In addition, the EU's GDPR, which came into effect in 2018, led to increased data protection requirements for all companies operating in Europe. In the meantime, the signs of national demarcation are multiplying on the political world stage. In many places, demands for regional solutions are becoming louder. This inevitably affects the technical realization of the cloud as well as the selection of the corresponding equipment suppliers. ADVA is the leading European specialist in optical transmission technology and the trusted partner of thousands of companies. ADVA's ConnectGuard™ security portfolio provides customers with comprehensive protection in different network scenarios and brings numerous competitive advantages. ADVA, a European company with strong visibility and presence in data center and network operators worldwide expects a positive market environment resulting in solid and profitable growth.

PORTFOLIO CROSS-SELLING (LIKELY; MATERIAL)

The acquisition of MRV Communications in 2017 further broadened ADVA's global customer base and provided inroads to networks that were previously not accessible. Since ADVA covers a much wider range of applications than MRV, the group can offer more solutions to the inherited customers. There have been several examples of successful cross-selling in 2018 and there is a high likelihood that additional network applications within the established customer base of MRV can be addressed and thus more revenue generated.

MARKET CONSOLIDATION (LIKELY; MATERIAL)

In 2018 one of the most aggressive competitors in the optical networking space got acquired by an US-American equipment manufacturer. The takeover further reduces the number of companies focusing on optical networking solutions. ADVA is the remaining European specialist for this technology and has established itself as a trusted partner. Through the acquisition of Overture in 2016 and the acquisition of MRV in 2017, the group has contributed to the consolidation and gained more strength and relevance. A consolidated competitive landscape leads to slower market price erosion and new opportunities for ADVA to enter new accounts as primary or secondary source.

Changes to the overall opportunity situation and the classified major opportunities in 2018

Compared to the previous year, the company beliefs that its opportunities have slightly increased in all aspects; number, likelihood as well as materiality. Not only the upcoming introduction of the new TeraFlex™ terminal but also the group's technology leadership in virtual packet edge solutions and synchronization technology are resulting in a significant potential for further revenues and profitable growth. Coupled with increasing demands for information security and regionalization, proven success in cross-selling and a consolidated competitive landscape, the group has all reason for looking ahead with optimism.

Overall opportunity and risk assessment

Based on careful inspection of the group's opportunity and risk profile at the time of the preparation of the combined management report, the management board of ADVA believes that the group's opportunities in the market for innovative connectivity solutions for cloud and mobile services clearly outweigh the risks identified. The management board has not identified any risks that pose a danger to ADVA's survival or endanger the future of the group. ADVA's overall balance between opportunity and risk is at about the same level as it was at the time of the publication of the 2017 combined management report.

Internal controls related to financial reporting

The management board of ADVA is responsible for establishing and maintaining an adequate system of internal controls. It has implemented an internal control system that enables the management board to ensure completeness, accuracy and reliability of financial reporting at group and legal entity level. When designing its internal control system, ADVA used the COSO framework as a key reference and source of guidance. The internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting. No system of internal control over financial reporting, including one determined to be effective, may prevent or detect all misstatements.

CONTROL ENVIRONMENT

The control environment is the foundation of the internal control system in every organization. ADVA fosters an environment of openness and integrity with a clear commitment to excellence, competence and the development of its employees. The group's leadership principles of integrity/honesty, decisiveness and respect are based on this philosophy, and the culture is reflected in the overall tone set by the management board. ADVA has a clear organizational structure with well-defined authorities and responsibilities. The bodies charged with the governance and control of the group (management board, supervisory board) actively participate in the running and steering of the business. The business is managed on a global basis and run via functional areas. Financial steering of the group and financial stewardship for individual legal entities is handled by the chief financial officer, under the audit committee's control.

RISK ASSESSMENT

As part of the internal controls related to financial reporting, the risk assessment follows the process described in the "risk management system" section.

CONTROL ACTIVITIES

At an individual entity level, ADVA's larger and more complex business units use an integrated enterprise resource planning solution, which also serves as general ledger system. Information technology controls have been implemented to restrict user access, ensure proper authorization of changes to the system and efficient handling of user help desk requests. Specific processes are defined and applied for the following reporting cycles in these business units: cash reporting, revenue recognition, accounts payable, capitalization of development expenses and recognition of subsidies for research, inventory reporting, fixed assets, payroll and provisions. ADVA carries out monthly analytical reviews and quarterly balance sheet reviews based on a four-eye principle between the local accounting and the consolidation functions.

For the consolidated financial statements, the balance sheet and income statement positions requiring a significant degree of judgment and estimation when being valued are determined and analyzed with the involvement of management. This is the case for impairment testing reviews (annual or when a triggering event occurs), capitalization of development projects (when the industrialization stage is reached) and tax reporting, specifically deferred taxes (quarterly). ADVA additionally carries out monthly intercompany reconciliations as part of the consolidation process and analytical reviews of actual vs. expected results based on a four-eye principle between the financial planning and the consolidation functions.

All business units follow a set of global accounting policies and reporting guidelines. The financial statements preparation process is monitored globally via a calendar that is communicated to all involved parties on a monthly basis. Checklists are completed both in the individual business units as well as at the consolidation level to ensure completeness of all closing steps. Periodic reviews by group management are conducted to detect errors and omissions.

INFORMATION AND COMMUNICATION TOOLS

The internal control system at ADVA is supported by tools to store and exchange information, enabling the management board to make informed business decisions about financial reports and disclosures. The following components ensure proper information and communication for financial reporting:

- Accounting systems for individual entities are matched to the degree of complexity of the business unit. For most entities, an integrated enterprise resource planning system, which also serves as general ledger system, is in place. All local accounts are mapped to the group chart of accounts, which is used group-wide.
- The group consolidation is supported by a database tool which is linked to the enterprise resource planning and financial planning systems via interfaces. The global financial planning system is used extensively in analyzing actual vs. expected results and thus monitoring the results of the consolidation.
- There are global accounting policies for the more complex financial statement positions of the group and a group chart of accounts for all other positions. Accounting policies are updated regularly and are implemented only after a thorough internal review and training.

INTERNAL MONITORING

As part of the ongoing monitoring, the chief financial officer is informed about all material misstatements and control breakdowns at group and business unit level on a quarterly basis in the executive summary to the financial statements. The reporting of deficiencies follows the principles of open and transparent communication. Follow-up is ensured through regular calls where corrective actions are presented.

Internal financial audit

ADVA maintains an internal audit function to regularly assess financial processes and systems.

Based on an annual risk assessment, the internal audit function develops an audit plan proposal for the upcoming year. The proposed plan is presented to, aligned with, and finally ratified by the audit committee. The internal audit function performs internal audit reviews throughout the year according to the audit plan. Audit results are discussed with responsible managers. In case of identified process or system weaknesses, the internal audit function makes recommendations and improvement actions are defined and agreed with the responsible manager(s). The progress of these and their success on removing the identified weaknesses is reviewed by the audit function. The state of internal auditing is reported quarterly to the audit committee and includes feedback about the progress of audits performed versus the audit plan, about the results of terminated audit reviews and about improvements resulting from actions taken.

ADVA’s risk management system is part of the internal audit universe and as such subject to recurring internal audit reviews.

Outlook

The consolidation trend in the network equipment industry continued in 2018. The takeover of ADVA’s competitor Coriant by the US network supplier Infinera further reduced the number of direct competitors in the field of optical networking technology. In addition, the trade tensions between China and the USA had a negative impact on the acceptance of the technology giant Huawei in the western world. Both events reduced price pressure in the market. Industry analysts estimate that numerous market segments in 2018 showed growth. According to these estimates ADVA’s addressable market has grown by approximately 2.5%.

In 2018, the ADVA group successfully solidified its position in the market and was able to grow revenues sequentially in all four quarters with positive profitability. The company's outlook for 2019 is positive.

The statements in this chapter apply to the ADVA group as well as to ADVA Optical Networking, SE. Further details on the projected market environment up to the year 2023, as well as the resulting opportunities, can be found in the "General economic and market conditions” section and in the "Business overview" section.

In order to ensure sustainable corporate success, ADVA focuses on the following long-term strategic objectives:

- Grow global revenues and profitability through extensive sales and marketing activities, focusing on large customers, new customer acquisition and the service and software business.
- Expand the group’s proven innovation leadership and increase market share by meeting strategic customers’ demand for innovative connectivity solutions.
- Maintain operational excellence by further focusing on industry-leading processes and best-in-class execution, ensuring product and service quality leadership, improved efficiency and increased overall customer satisfaction.
- Recruit, retain, motivate, educate and nurture the group’s employees to sustainably achieve high levels of performance, personal growth and job satisfaction, while keeping employee turnover low.

Looking back at 2018, ADVA made good progress in most of these strategic elements:

2018 revenues were 2.4% below the 2017 level and thus slightly below the expectations of the management board communicated in the group management report 2017. There, the board had aimed for a slight increase in revenues in the lower single-digit percentage range for 2018. However, the strong ICP revenues from the first half of 2017 could not be fully compensated for in 2018. Thus, despite sequential growth in Q1 and Q2, the first half of 2018 remained below the revenue levels of 2017. It was not until Q3 that the company's revenue figures once again showed year-over-year growth.

Overall, however, ADVA's performance in many respects was positive in 2018. The integration of former competitor MRV, which was acquired in 2017, proceeded according to plan and was successfully completed in Q2. All relevant customers have been retained and successfully nurtured. The expected synergies were realized and there were first cross-selling successes. In addition, ADVA won new customers in all regions. Margins developed positively and the contributions from the company's technology investments in recent years were also positive. In particular the Oscilloquartz synchronization technology, which has been vigorously modernized and expanded since 2014, has contributed significantly, increasing sales with very good profitability and is expected to grow at an above-average rate in 2019.

The group's pro forma operating result in 2018 of EUR 23.3 million, or 4.6% of sales, was EUR 3.8 million higher than the EUR 19.5 million reported in 2017, or 3.8% of sales. As a result, the management board's expectation in the 2017 annual report that the pro forma operating result would reach a mid-single digit level as a percentage of revenues was reached. At EUR 15.0 million, or 3.0% of sales, operating profit in 2018 was significantly higher than the EUR 4.4 million, or 0.9% of sales, achieved in 2017. The increase is attributable to the efficient integration of MRV, consistent cost management and positive margin development.

In terms of innovation leadership, ADVA made good progress in all three major areas of technology in 2018. The final integration of the MRV portfolio and the associated expansion of the FSP 150 product family have further strengthened the company's competitiveness in cloud access solutions. In addition, new products featuring 100G technology were launched on the market. And, thanks to continued significant development efforts on network functions virtualization (NFV), additional customers have been acquired, who are expected to deliver significant revenues in 2019. Optical transmission technology continued to advance in the past fiscal year with new capabilities for the FSP 3000 CloudConnect™ platform, which was launched in 2016: The new TeraFlex™ terminal is the first product in a new generation of technology that operates at data rates of up to 600Gbit/s per wavelength. The new terminal has already been successfully tested by potential customers such as Tencent and will be commercially available in the first half of 2019. In the technology environment of Oscilloquartz, the company launched the OSA 5440, a new product that helps network operators deliver 5G-grade network synchronization.

Overall, the company's solution portfolio is more versatile and competitive than ever. All of the technologies in which the group invests are strategically significant and valuable for advancing global digitalization. ADVA is well-positioned to help customers build and grow their network, capitalizing on the megatrends cloud and mobility, as well as new technology such as edge computing, artificial intelligence, and the internet of things.

As far as operations are concerned, ADVA has further reinforced the excellent quality of its processes. Thanks to an innovative, globally standardized process landscape and an efficient IT infrastructure, US rival MRV, acquired in August 2107, was quickly integrated. The restructuring program launched in connection with the acquisition was successfully completed in the first half of 2018 and has generated the desired synergy effects. The bridge loan taken out in 2017 for the MRV acquisition was replaced in 2018 by a long-term syndicated loan.

Net liquidity stood at negative EUR 26.8 million at the end of 2018 and improved significantly year-on-year by EUR 11.4 million. However, the expectation of the management board communicated in the group management report 2017 to gradually return to positive net liquidity by the beginning of 2019 was not met. In addition to the somewhat weaker revenue development mentioned before, this is also due to the higher capital tied up in current assets.

As for customer satisfaction, ADVA uses the net promoter score metric to track progress. The company remained slightly below the value of 56% achieved in 2017. However, by achieving 52%, the high, positive level of at least 40% aspired to by the management board was once again clearly exceeded.

With attractive compensation programs and a rewarding work environment with comprehensive education opportunities, the group was able to largely maintain the high motivation of its employees and moderate turnover rates. However, following the restructuring program associated with the MRV acquisition, the company experienced an unusually high attrition rate especially in

North America. Now that restructuring has been complete for more than two quarters, the increased turnover can be seen as a temporary phenomenon.

Following the small decline in revenues in the past financial year, the company aims to return to significant sales growth in the upper single-digit percentage range in 2019. In addition, the profitability of the group as measured by the pro forma operating result as a percentage of sales is expected to increase beyond the 2018 level. The reduced number of competitors due to industrial consolidation, the planned market launch of new products and the following factors, which are also described in the section "Risk report" under "Opportunities", will play a decisive role in this regard:

- The digitalization of society is progressing. More and more applications for daily life are migrating to the cloud. Thus, the strategic importance of a reliable, global and secure communication infrastructure is growing. The construction and expansion of fiber-based infrastructure is set to accelerate even further. Specialists in optical networking and transmission technology such as ADVA will benefit from this development.
- The virtualization of network functions is changing the business models of network operators, enabling them to provide innovative and customer-optimized services globally. In addition to the FSP 150 product family, it is ADVA's Ensemble software solution that provides additional market differentiation. NFV is driving convergence in the markets for access solutions and expanding ADVA's addressable market. The group sees potential for numerous new customer wins and a higher proportion of software sales in this area.
- Security in information technology is becoming increasingly important and more stringent data protection requirements are impacting on the cloud. The company expects a trend towards regionalization in the technical implementation of data centers and in the selection of the corresponding suppliers. ADVA is the leading European specialist in transmission technology and a reliable partner for thousands of companies. Its ConnectGuard™ security portfolio provides customers with comprehensive protection in different network scenarios and brings numerous competitive advantages. ADVA, as a European company with strong visibility and presence with data center and network operators worldwide, is well positioned in this field.
- The strategic importance of synchronization technology continues to increase. The progressive expansion of mobile networks towards LTE-Advanced (4.5G), as well as the efforts of network operators to prepare for the fifth generation of mobile technology (5G), create stricter requirements regarding time and frequency synchronization in networks. ADVA's Oscilloquartz product portfolio is industry-leading, winning numerous sync bid tenders in 2018, and promises to outperform revenue growth and margins in 2019.
- With the acquisition of MRV in 2017, ADVA's customer base has grown worldwide, giving access to networks where the group was previously not present. With ADVA covering a much wider range of applications than MRV did previously, the group can now offer more solutions to those customers. As a result, there is a chance that additional network applications in the networks of this customer base can be addressed and thus more revenue generated. At the same time, the number of network suppliers in the market has continued to decline and Huawei, a globally powerful technology group, is experiencing headwinds and political pressure in many markets. As a result of this market consolidation, ADVA's position in the global environment has improved, and the company's profile as a European specialist and reliable partner for innovative network technology is now even sharper.

Despite macroeconomic turbulence, digitization is progressing worldwide. The global megatrends cloud and mobility, as well as the development and use of artificial intelligence and the internet of things, continue to drive demand for scalable, secure and environmentally sustainable communications infrastructure. Special investment pressure prevails at the so-called network edge. The edge of the network involves concepts such as edge computing, and it is here there that densification of infrastructure is necessary for the fifths generation mobile technology (5G). All three of ADVA's technology legs are strategically important in this environment, and the company's product portfolio has many differentiating features

In addition to the group’s technological competence, it is also increasingly the personality profile of the company that generates positive market resonance. ADVA's brand promise to be a reliable partner for open network solutions, true to the company’s slogan "connecting, extending and assuring the cloud" positions ADVA as an attractive network supplier in key growth markets. The combination of application-optimized innovation, short development and delivery times, a broad and growing customer base and a balanced distribution model differentiates ADVA from comparable companies and leads to a profitable, sustainable business model.

Against the background of the above-mentioned factors and taking into account planning parameters such as personnel and currency exchange rates, the management board of ADVA expects year-on-year revenue growth for 2019 to be in the upper single-digit percentage range. Under this assumption, the management board also expects that the pro forma operating result will exceed 2018 levels, still in the mid-single-digit percentage range of revenues. ADVA's net liquidity was reduced by the acquisition of MRV in August 2017, in line with the purchase price. The aim of the company is to ensure rapid debt relief and consistent compliance with the defined objectives of capital management, which are described in Note (34) to the consolidated financial statements. For the financial year 2019, the management board expects a further, significant improvement of the company’s net liquidity.

The group will continue to selectively invest in product development, technology and revenue-generating opportunities. In addition, the management board expects, due to the continued focus on innovation, quality and service, that customer satisfaction measured by 2019's net promoter score will once again be at high positive levels of at least 40%. Actual results may differ materially from expectations if risks materialize or the underlying assumptions prove unrealistic. The major risks facing ADVA are discussed in the “Risk report” section.

Meiningen, February 19, 2019

Brian Protiva	Christoph Glingener
Ulrich Dopfer	Scott St. John

ADVA OPTICAL NETWORKING SE, MEININGEN – FINANCIAL STATEMENTS FOR THE FINANCIAL YEAR JANUARY 1 TO DECEMBER 31, 2018

Balance Sheet on December 31, 2018

(on December 31, in thousands of EUR)	Note	2018	2018	2017
Assets				
A. Fixed Assets	3.1.1			
I. Intangible assets				
1. Self-constructed industrial and similar rights and assets, and licenses in such rights and assets	3.1.2	90,263		86,807
2. Purchased industrial and similar rights and assets, and licenses in such rights and assets	3.1.3	24,938		14,568
3. Goodwill		9		15
			115,210	**101,390**
II. Property, plant and equipment				
1. Land, land rights and buildings, including buildings on third-party land		4,359		4,487
2. Plant and machinery		5,593		5,375
3. Other equipment, furniture and fixtures		693		674
4. Payments on account and assets under construction		637		58
			11,282	**10,594**
III. Financial assets				
1. Shares in affiliated companies	3.1.4	28,162		27,449
2. Loans to affiliated companies	3.1.5	43,913		70,175
3. Investments	3.1.6	1,374		1,374
			73,449	**98,998**
B. Current Assets				
I. Inventories				
1. Raw materials, consumables and supplies		11,359		12,319
2. Work in process		1,471		1,330
3. Finished goods and merchandise		31,306		26,675
4. Payments on account		3,961		2,207
			48,097	**42,531**
II. Receivables and other assets				
1. Trade accounts receivable	3.1.7	44,894		39,856
2. Receivables from affiliated companies	3.1.8	28,729		18,664
3. Other current assets	3.1.9	1,490		1,585
			75,113	**60,105**
III. Cash at banks and in hand			**11,321**	**7,396**
C. Prepaid expenses			**1,058**	**1,671**
Total assets			**335,530**	**322,685**

Balance Sheet on December 31, 2018

(on December 31, in thousands of EUR)	Note	2018	2018	2017
Equity and liabilities				
A. Equity	3.1.10			
I. Subscribed capital		49,931		49,736
(Conditional capital EUR 4,778 thousand)				
(prior year: 4,576 thousand)				
II. Capital reserve		34,648		34,033
III. Retained earnings				
Other retained earnings		2,551		2,551
IV. Accumulated profit		47,839		62,360
			134,969	**148,680**
B. Provisions				
1. Provisions for pension and similar obligations	3.1.11	570		519
2. Tax provisions	3.1.12	-		210
3. Other provisions	3.1.13	14,598		11,292
			15,168	**12,021**
C. Liabilities	3.1.14			
1. Liabilities to banks		90,000		96,561
2. Advance payments received		65		51
3. Trade accounts payable		26,288		16,331
4. Liabilities to affiliated companies	3.1.8	44,426		25,929
5. Other liabilities		7,742		7,606
thereof for taxes		*1,139*		*702*
thereof for social security		*262*		*308*
			168,521	**146,478**
D. Deferred income			**7,461**	**6,528**
E. Deferred tax liabilities	3.1.15		**9,411**	**8,978**
Total equity and liabilities			**335,530**	**322,685**

Income Statement for the Period from January 1 to December 31, 2018

(in thousands of EUR from January 1 to December 31)	Note	2018	2017
1. Revenues	3.2.1	325,484	321,710
2. Cost of goods sold	3.2.2/3.2.3	201,762	209,624
3. Gross profit		**123,722**	**112,086**
4. Selling and marketing expenses	3.2.3	32,252	30,742
5. General administrative expenses	3.2.3	14,719	16,829
6. Research and development expenses	3.1.2/3.2.3	91,587	73,682
7. Other operating income	3.2.4	10,392	9,307
thereof currency translation		*8,329*	*5,788*
8. Other operating expenses	3.2.5	9,772	7,687
thereof currency translation		*9,326*	*7,491*
9. Operating Income (EBIT)		**-14,216**	**-7,547**
10. Income from other securities and loans classified as financial assets		1,957	1,660
thereof from affiliated companies		*1,957*	*1,660*
11. Other interest and similar income		7	1
thereof interest income from discounting		*5*	*-*
12. Interest and similar expenses		1,287	779
thereof interest expenses from compounding		*-*	*51*
13. Tax expense (benefit) net	3.2.6	981	857
thereof deferred taxes		*434*	*947*
		-304	**25**
14. Result after taxes		**-14,520**	**-7,522**
15. Other tax expense (benefit), net		1	8
16. Net loss for the year		**-14,521**	**-7,530**
17. Profit carried forward		62,360	69,890
18. Accumulated loss/ profit (+)		**47,839**	**62,360**

Notes to the Financial Statements 2018

1. Preparation of the Annual Financial Statements

The annual financial statements of ADVA Optical Networking SE (hereinafter referred to as “the Company”) for the financial year ended 2018 were prepared in accordance with the regulations of the German Commercial Code (Handelsgesetzbuch, HGB) as amended by the Accounting Conversion Directives (BilRUG) and the SE regulations in connection with the German Corporation Law (AktG). The classification of income and expenses in the income statement is based on their function within the Company. For the sake of clarity, when disclosure options exist, the appropriate disclosures are provided in the notes to the financial statements.

2. General Information on Corrections, Accounting Policies & Valuation and Currency Translation

2.1. Information about the Company

The Company is a Societas Europaea located in Märzenquelle 1-3, 98617 Meiningen, Germany and is registered at the district court Jena under HRB number 508155.

ADVA Optical Networking SE is classed as a large company in accordance with the Germany Commercial Code (HGB) § 267. The business year is equal to the calendar year. The financial statements for the year ended December 31, 2018 were authorized for issue in accordance with a resolution of the Management Board on February 19, 2019.

The company develops, manufactures and sells networking solutions for a modern telecommunication infrastructure. Its products are based on fiber-optic transmission technology combined with Ethernet functionality and intelligent software for network management and virtualization. Furthermore, the portfolio includes timing and synchronization solutions for networks.

Telecommunications service providers, private companies, universities and government agencies worldwide use the Group’s systems. ADVA Optical Networking SE sells its product portfolio both directly and through an international network of distribution partners.

2.2. Accounting Policies and Valuation

2.2.1. Intangible and Tangible Assets

Intangible and tangible assets are recognized at acquisition or production costs, including incidental costs, less scheduled depreciation. Depreciation is based on a straight-line method pro rata temporis. Impairment charges are recognized in case of a permanent diminution in value.

Intangible assets with finite lives are amortized on a straight-line basis over the expected useful economic lives of the assets as follows:

- Goodwill — 4,5 years
- Capitalized development projects — 3 to 5 years
- Purchased technology — 4 to 7 years
- Software and other intangible assets — 3 to 7 years

Depreciation on property, plant and equipment is calculated over the estimated useful economic lives of the assets as follows:

- Buildings — 20 to 25 years
- Technical equipment and machinery — 3 to 4 years
- Factory and office equipment — 3 to 10 years

From the fiscal year 2018 low-value assets will no longer be fully expensed in the year of acquisition. The option to expense costs immediately will not be used. Self-constructed tangible assets are capitalized at production costs including appropriate material and production overhead costs. General administrative expenses are not capitalized and are therefore not included in the production costs. Investment subsidies are deducted from the acquisition or production costs.

2.2.2. Government Grants

Government grants are recognized where there is reasonable assurance that the grant will be received and all the attached conditions will be met. When the grant relates to an expense item, it is recognized as income over the period necessary to match the grant on a systematic basis to the costs that it is intended to compensate. Where the grant relates to an asset, it is recognized as a reduction of purchase costs and released as a reduction of amortization expense over the expected useful economic life of the related asset.

2.2.3. Research and Development Projects

Development expenses for new products are capitalized as Self-constructed industrial and similar rights and assets, and licenses in such rights and assets if

- they can be unambiguously assigned to those products,
- the products under development are technically feasible and can be marketed,
- there is reasonable certainty that the development activity will result in future cash inflows.

Capitalized development projects include all costs that can be directly assigned to the development process, including borrowing costs.

The straight-line method of amortization is used from the start of production through the estimated selling periods for the products developed (generally between three and five years).

Completed as well as ongoing development projects are tested for impairment on the balance sheet date or when there is an indication of potential impairment. Impairment losses are recognized if appropriate.

Research costs are expensed as incurred.

2.2.4. Financial Assets

Shares in and loans to affiliated companies as well as investments are recognized at the cost of acquisition including transaction costs less impairment charges in case of a permanent diminution in value.

2.2.5. Inventories

Inventories are recognized at the lower of acquisition or production cost, including incidental costs and allowances, or at the market value or fair value. The cost of purchase is determined by the average method. Production costs include material costs, direct manufacturing costs, depreciation on production-related assets and necessary manufacturing overhead costs. General administrative expenses and interest expenses are not included in production costs.

2.2.6. Accounts Receivable and Other Assets

Accounts receivable and other assets are in accordance with the strict lowest value principle and stated at nominal value, taking into consideration appropriate value adjustments for all identifiable risks. Receivables and other assets are subject to the strict lower of cost or market principle.

The bad debt allowance is calculated in accordance with the International Financial Reporting Standard (IFRS) 9 starting from the financial year 2018. The relative default risk of the receivables from the payment history of the last three years is taken into account.

2.2.7. Cash and Cash Equivalents

Cash and cash equivalents are stated at nominal value.

2.2.8. Prepaid Expenses

Prepaid expenses include payments recorded in the current reporting period that are related to a defined period after the balance sheet date.

2.2.9. Subscribed Capital

Subscribed capital is recognized at nominal value.

2.2.10. Pensions and Similar Obligations

Pensions and similar obligations are actuarially measured using the projected unit credit method. Future obligations are measured and discounted at the net present value based on proportionately acquired pension rights known at the reporting date. Specified parameters for the future development are considered and affect the measurement of future benefits.

2.2.11. Taxes

Current income tax assets and liabilities for the current and prior periods are measured at the amount expected to be recovered from or paid to the taxation authorities. The tax rates and tax laws used to compute the amount are those that are enacted or substantively enacted on the balance sheet date.

2.2.12. Provisions

Provisions are made for all identifiable risks to an adequate extent considering the principles of commercial prudence and are recognized at the settlement amount. Other Provisions with a remaining term of more than one year are discounted using the average rate of the last 7 years.

2.2.13. Liabilities

Liabilities are stated at the settlement amount. The settlement amount of loans is the nominal value.

2.2.14. Deferred Income

Deferred income is recognized for receipts reported in the current period as far as they represent income for a defined period after the reporting date.

2.2.15. Deferred tax

Deferred tax is provided using the liability method on temporary differences on the balance sheet date between the tax bases of assets and liabilities and their carrying amounts for financial reporting purposes.

Deferred tax liabilities are recognized for all taxable temporary differences.

Deferred tax assets are recognized for all deductible temporary differences as well as for tax losses carried forward to the extent that it is probable that taxable profit will be available against which the deductible temporary differences respectively tax losses carried forward can be utilized.

The carrying amount of deferred tax assets is reviewed on each balance sheet date and reduced to the extent that it is no longer probable that sufficient taxable profit will be available to allow the deferred tax asset to be utilized.

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply to the year when the asset is realized or the liability is settled, based on tax rates (and tax laws) that have been enacted or substantively enacted on the balance sheet date. Future changes in tax rates are recognized on the balance sheet date if their impact is materially certain as part of the tax legislation process.

Deferred tax assets and deferred tax liabilities are offset in the balance sheet.

2.2.16. Derivative Financial Instruments

Common instruments like forward contracts options are used to protect against changes in interest rates and foreign currency rates.

A provision is recognized for pending loss transactions. No financial instruments qualify for hedge accounting in the sense of §254 HGB in 2018 and 2017.

2.3. Currency Translation

Conversion into EUR of fixed asset purchases is made at the exchange rate on the date of purchase. Accounts receivable, other assets and liabilities are converted at the spot exchange rate on the balance sheet date.

Gains and losses on currency translation are recorded in the income statement as other operating income and expenses.

The foreign exchange rates are:

	Spot rate on 31. Dec. 2018
USD	1.14540
GBP	0.90273
CHF	1.12270
PLN	4.30280
ILS	4.31280
CNY	7.87780
SGD	1.56420
HKD	8.97160
INR	80.22550
BRL	4.44270
JPY	126.40000
SEK	10.27730
AUD	1.62150

2.4. Revenues

Sale of Goods

Revenue from the sale of goods is recognized when the significant risks and rewards of ownership of the goods have passed to the buyer, usually on delivery of the goods.

Product returns that are estimated according to contractual obligations and past revenues statistics are recognized as a reduction of revenues.

Rendering of Services

Revenues arising from the sale of services primarily derive from maintenance, installation services and training and are recognized when those services have been rendered. Installation services are recognized as revenue if the final installation has been approved by the customer. Generally, maintenance services are reported as deferred revenue and recognized as revenue straight-line over the contract period. Training is recognized as revenue immediately after supply of the service.

In arrangements with customers that include delivery of goods as well as rendering of services, the shipment of the goods is separated from the rendering of the services if the goods have a stand-alone value for the customer and the fair value of the service can be reliably determined. Both components of the transaction are measured at their proportionate fair value.

Discounts, rebates and other sales taxes are deducted from revenues.

Revenues for Licenses

Revenues for Licenses relate to payments for the usage of intellectual property rights recorded at the time they are incurred.

2.5. Cost of Goods Sold

Cost of goods sold comprises the costs incurred in the production and rendering of services. This item subsumes both the direct cost of materials and production directly assignable to a product and indirect (overhead) costs, including the depreciation of production equipment, amortization of production related intangible assets and write-downs on inventories. Cost of goods sold also includes changes to the warranty provision. Income from the reversal of write-downs on inventories reduces the cost of goods sold, which also includes amortization of purchased technologies and amortization of capitalized research and development projects.

License payments to ADVA Optical Networking group companies relate to usage of intellectual property rights and are recognized in Selling and Marketing expenses.

3. Notes and Information on selected items of the Annual Financial Statements

3.1. Balance Sheet

3.1.1. Fixed Assets

The development of fixed assets from January 1 to December 31, 2018 is disclosed in the following schedule:

(in thousands of EUR)	Accumulated Historic cost					Accumulated depreciation				Net book values	
	Jan. 1, 2018	**Additions**	**Disposals/ retirements**	**Reclassi-fications**	**Dec. 31, 2018**	**Jan.1, 2018**	**Additions***	**Disposals/ retirements**	**Dec. 31, 2018**	**Dec. 31, 2018**	**Dec. 31, 2017**
I. Intangible assets											
1. Self-constructed industrial and similar rights and assets, and licenses in such rights and assets	206,092	31,872**	-	-	237,964	119,285	24,416	-	147,701	90,263	86,807
2. Purchased industrial and similar rights and assets, and licenses in such rights and assets	41,795	18,661	-	47	60,503	27,227	8,338	-	35,565	24,938	14,568
3. Goodwill	284	-	-	-	284	269	6	-	275	9	15
	248,171	**50,533**	**-**	**47**	**298,751**	**146,781**	**36,760**	**-**	**183,541**	**115,210**	**101,390**
II. Property, plant and equipment											
1. Land, land rights and buildings including buildings on third-party land	9,878	256	-	3	10,137	5,391	387	-	5,778	4,359	4,487
2. Plant and machinery	40,020	2,958	2,413	3	40,568	34,645	2,676	2,346	34,975	5,593	5,375
3. Other equipment, furniture and fixtures	6,063	412	41	-	6,434	5,389	392	40	5,741	693	674
4. Payments on account and assets under construction	58	632	-	-53	637	-	-	-	-	637	58
	56,019	**4,258**	**2,454**	**-47**	**57,776**	**45,425**	**3,455**	**2,386**	**46,494**	**11,282**	**10,594**
III. Financial assets											
1. Shares in affiliated companies	27,449	713	-	-	28,162	-	-	-	-	28,162	27,449
2. Loans to affiliated companies	76,261	4,456***	30,718***	-	49,999	6,086	-	-	6,086	43,913	70,175
3. Investments	1,374	-	-	-	1,374	-	-	-	-	1,374	1,374
	105,084	**5,169**	**30,718**	**-**	**79,535**	**6,086**	**-**	**-**	**6,086**	**73,449**	**98,998**
Total	**409,274**	**59,960**	**33,172**	**-**	**436,062**	**198,292**	**40,215**	**2,386**	**236,121**	**199,941**	**210,982**

*Thereof depreciation of additions EUR 8,020 thousand in period 2018

**In 2018, borrowing costs of EUR 359 thousand (2017: EUR 511 thousand) related to development projects with an expected duration of more than 12 months were capitalized. Borrowing costs were capitalized applying the weighted average rate of the financial liabilities of 1.7%.

***Thereof EUR 4,456 thousand of additions and EUR 3,586 thousand of disposals from foreign currency valuation of loans issued in USD and ILS

3.1.2. Self-Constructed Industrial and Similar Rights and Assets, and Licenses in Such Rights and Assets

Research and development expenses for the financial years 2017 and 2018 as well as capitalized development projects are included in the table below:

(in thousands of EUR)	2018	2017
Research expenses	2,442	2,432
Development expenses	121,017	110,282
Research & Development expenses	123,459	112,714
Thereof capitalized development projects	-31,872	-39,032
Total Research & Development Expenses in income statement	**91,587**	**73,682**

3.1.3. Purchased Industrial and Similar Rights and Assets, and Licenses in Such Rights and Assets

Net book values of purchased industrial and similar rights and assets and licenses in such rights and assets can be analyzed as follows:

(in thousands of EUR)	31. Dec. 2018	31. Dec. 2017
Purchased technology Oscilloquartz	619	1,293
Purchased technology FiSEC	412	702
Purchased hardware technology Overture	1,145	2,203
Purchased software technology Overture	2,135	2,827
Purchased technology Ringo	1,333	2,221
Purchased technology Acacia	506	844
Brand Ensemble	85	128
Purchased technology MRV Israel	6,393	-
Customer Relationship MRV	8,811	-
Other Software licenses	3,499	4,350
Total	**24,938**	**14,568**

3.1.4. Shares in Affiliated Companies

On December 31, 2018, ADVA Optical Networking SE held directly or indirectly shares in 23 (December 31, 2018: 27) affiliated companies as follows:

(in thousands)			Equity	Net Income/loss (-)	Share in Equity owned directly	owned indirectly
ADVA Optical Networking North America Inc. Norcross/Atlanta (Georgia), USA	USD	*	120,567	54,109	-	100%
ADVA Optical Networking Ltd. York, United Kingdom	GBP	**	13,830	1,446	100%	-
Oscilloquartz SA Saint-Blaise, Switzerland	CHF	*	8,599	502	100%	-
ADVA Optical Networking sp. z o.o. Gdynia, Poland	PLN	**	27,531	2,637	100%	-
ADVA Optical Networking Israel Ltd. Ra'anana/Tel Aviv, Israel	ILS	*	-93,801	27,333	100%	-
ADVA Optical Networking (Shenzhen) Ltd. Shenzhen, China	CNY	**	54,187	4,463	100%	-
Oscilloquartz Finland Oy Espoo, Finland	EUR	*	80	37	100%	-
ADVA IT Solutions Pvt. Ltd. Bangalore, India	INR	*	66,805	-168	-	100%
ADVA Optical Networking Trading (Shenzhen) Ltd. Shenzhen, China	USD	*	1,156	204	-	100%
ADVA Optical Networking Singapore Pte. Ltd. Singapore	SGD	**	3,406	180	100%	-
ADVA Optical Networking Hongkong Ltd. Hongkong, China	HKD	**	4,391	735	-	100%
ADVA Optical Networking (India) Private Ltd. Gurgaon, India	INR	*	101,033	39,678	1%	99%
ADVA Optical Networking Serviços Brazil Ltda. São Paulo, Brazil	BRL	*	1,659	227	99%	1%
ADVA Optical Networking Corp. Tokyo, Japan	JPY	*	83,985	866	100%	-
ADVA Optical Networking AB Kista/Stockholm, Sweden	SEK	**	1,902	174	100%	-
ADVA NA Holdings Inc. Norcross/Atlanta (Georgia), USA	USD	*	60,717	95	100%	-
ADVA Optical Networking Pty Ltd. Sydney, (New South Wales), Australia	AUD	*	1,369	10	-	100%
MRV Communications GmbH i.l., Darmstadt, Germany	EUR	*	-5,424	38	-	100%
ADVA Optical Networking B.V. Etten-Leur, Netherlands	EUR	*	238	13	100%	-
Charlotte's Web Ltd. Israel	USD	*	-52,520	663	-	100%
NBase Communications Ltd. Israel	USD	*	16,920	-1	-	100%
Jolt Ltd. Israel	USD	**	0	6,129	-	100%
NBase Fibronics Ltd. Israel	USD	*	-3,746	78	-	100%

* Prepared in accordance with the International Financial Reporting Standards (IFRS) for the period ended December 31, 2018.
** Prepared in accordance with local commercial law for the period ended December 31, 2017.

3.1.5. Loans to Affiliated Companies

Loans to affiliated companies are due within one to five years.

The loans to affiliated companies can be analyzed as follows:

(in thousands of EUR)	2018	2017
ADVA NA Holdings Inc.		
Norcross/Atlanta (Georgia), USA	-	8,338
ADVA Optical Networking Israel Ltd.		
Ra'anana, Israel	4,521	4,684
MRV Communications Americas Inc.		
Chelmsford, (Massachusetts), USA*	-	56,803
ADVA Optical Networking North America Inc.		
Norcross/Atlanta (Georgia), USA*	39,042	-
Oscilloquartz Finland Oy		
Espoo, Finnland	350	350
Total	**43,913**	**70,175**

*As a result of the merger of MRV Communications Americas Inc., Chelmsford, (Massachusetts), USA on April 1, 2018, the loans were transferred to ADVA Optical Networking North Americas Inc.

3.1.6. Investments

On December 31, 2018, ADVA Optical Networking SE held 7.1% (prior year: 7,9%) of the shares of Saguna Networks Ltd., Nesher, Israel. On December 31, 2018, as well as on December 31, 2017 the book value of the investment amounted to EUR 1,374 thousand.

ADVA Optical Networking SE does not have significant influence over Saguna Networks Ltd.

3.1.7. Trade Accounts Receivable

Trade accounts receivable are non-interest-bearing and are due within 30 to 120 days, in general. For specific projects other payment terms may be agreed.

Trade accounts receivable are due within one year.

Customer credit notes for volume discounts and similar reasons are offset from trade receivables if offsetting is mandatory.

3.1.8. Receivables from and Liabilities to Affiliated Companies

Receivables from affiliated companies include trade receivables for goods and services of EUR 28,729 thousand. Accounts receivables from affiliated companies are due within one year.

Liabilities to affiliated companies include trade payables for goods and services of EUR 44,426 thousand. These payables are due within one year.

3.1.9. Other Current Assets

Other current assets recognized on the balance sheet are due within one year, with the exception of EUR 332 thousand (prior year: EUR 338 thousand) for rental deposits which are due within five years.

3.1.10. Equity

Common stock and share capital

On December 31, 2018, ADVA Optical Networking SE had issued 49,930,955 (prior year: 49,735,549) no par value bearer shares (hereinafter "common shares"), each representing a notional amount of share capital of EUR 1.00.

The common shares entitle the holder to vote at the annual general meeting and to receive dividends in case of a distribution. No restrictions are attached to the common shares.

Capital transactions

In connection with the exercise of stock options, 195,406 shares were issued to employees of the company and its affiliates out of conditional capital in 2018 (in 2017 in connection with the exercise of stock options 236,615 shares). The par value of EUR 195 thousand (prior year: EUR 237 thousand) was appropriated to share capital, whereas the premium resulting from the exercise of stock options of EUR 615 thousand (prior year: EUR 793 thousand) was recognized within capital reserve.

Authorized capital

According to the company's articles of association, the management board is authorized, subject to the consent of the supervisory board, to increase subscribed capital until May 19, 2020, only once or in successive tranches by a maximum of EUR 24,048 thousand by issuing new common shares in return for cash or non-cash contributions (conditional capital 2015/I). Subject to the consent of the supervisory board, the management board is further authorized to decide whether to exclude stockholders' subscription rights. Stockholders' subscription rights can be excluded for capital increases for cash contributions as well as contributions in kind if during the term of this authorization and in exclusion of shareholder subscription rights, the shares issued against contributions in cash or in kind do not exceed 20% of the share capital.

Conditional capital

The annual shareholder´s meeting on June 13, 2018, resolved to liquidation of the conditional capital 2003/2008. In addition, the conditional capital 2011/I has been increased by EUR 472 thousand to EUR 4,973 thousand. The resolutions were registered in the commercial register on June 21, 2018.

Considering the above described capital transactions, the total conditional capital on December 31, 2018 amounts to EUR 4,778 thousand.

The changes in share capital, authorized and conditional capital are summarized below:

(in thousands of EUR)	Share capital	Authorized capital 2015/I	Conditional capital 2003/2008	Conditional capital 2011/I
Jan. 1, 2018	**49,736**	**24,048**	**75**	**4,501**
Changes due to Annual Shareholder's Meeting resolutions	-	-	-75	472
Stock options exercised	195	-	-	-195
Dec. 31, 2018	**49,931**	**24,048**	**-**	**4,778**

Capital reserve

The capital reserve includes premium payments from the issuance of shares, as well as additional contributions to the Company's equity associated with the exercise of stock options.

In total 3,331,879 stock options were outstanding per December 31, 2018.

Premiums from outstanding stock options are not recognized in the capital reserve.

Retained earnings

As part of the first-time application of BilMoG, the deferred taxes resulting from the revaluation effects on January 1, 2010 amounting to EUR 2,551 thousand were recorded in other retained earnings.

Balance sheet profit

The balance sheet was prepared in consideration of the complete profit appropriation. The accumulated profit carried forward of EUR 62,360 thousand (prior year: EUR 69,890 thousand) and the net loss for 2018 of EUR 14,521 thousand (prior year: net loss EUR 7,530 thousand) resulted in an accumulated profit of EUR 47,839 thousand (prior year: EUR 62,360 thousand) on December 31, 2018. The accumulated profit is to be carried forward in full to new account.

Restriction of dividend distribution

Profits from the capitalization of development projects less deferred tax liabilities as well as changes in interest rates applied to discount pension provisions are blocked for dividend distribution.

The following amounts are blocked on December 31, 2018:

(in thousands of EUR)	2018	2017
Net of capitalized development projects and its deferred tax liabilities	64,474	62,041
Change of the average interest rate from pension provisions*	70	65
Total profits blocked for dividend distribution	**64,544**	**62,106**

* Pursuant to the HGB the valuation of pension obligations changed from 7 to 10 years according to the first sentences of Article 75 (6) EGHGB n.F. in conjunction with the first sentences of Article 253 (2) HGB n.F.

Voting rights

According to section 33 paragraph 1 and 2, section 38 paragraph 1 and section 40 of the German Securities Trading Law (Wertpapier-Handelsgesetz, WpHG) the company published the following information on the ADVA Optical Networking homepage in 2018:

Date of change in investment	Name of investment owner	Threshold limit	Share of voting rights
Nov. 28, 2018	Duke University Durham, North Carolina, USA	above 3%	3.01%
Oct. 10, 2018	Internationale Kapitalanlagegesellschaft mit beschränkter Haftung Dusseldorf, Germany	below 5%	4.94%
Oct. 1, 2018	DNB Asset Management AS Oslo, Norway	above 3%	3.01%
Sep. 19, 2018	Teleios Capital Partners LLC Zug, Switzerland	above 20%	20.25%
Sep. 3, 2018	Teleios Capital Partners LLC Zug, Switzerland	above 15%	15.57%
Jul 31, 2018	Morgan Stanley Wilmington, Delaware, USA	above 3%	3.76%
Jul 18, 2018	Internationale Kapitalanlagegesellschaft mit beschränkter Haftung Dusseldorf, Germany	above 5%	6.04%
May 24, 2018	Morgan Stanley, Wilmington, Delaware, USA	below 5%	3.54%
May 23, 2018	Morgan Stanley Wilmington, Delaware, USA	above 5%	5.06%
May 22, 2018	Internationale Kapitalanlagegesellschaft mit beschränkter Haftung Düsseldorf, Germany	above 5%	6.01%
Apr. 18, 2018	Internationale Kapitalanlagegesellschaft mit beschränkter Haftung Dusseldorf, Germany	above 5%	5.01%
March 27, 2018	Morgan Stanley Wilmington, Delaware, USA	below 5%	4.10%
March 26, 2018	Morgan Stanley Wilmington, Delaware, USA	above 3%; above 5%	9.13%
March 15, 2018	Internationale Kapitalanlagegesellschaft mit beschränkter Haftung Dusseldorf, Germany	below 5%	4.90%
March 7, 2018	Teleios Capital Partners LLC Zug, Switzerland	above 10%	10.01%
Dec. 11, 2017	Deutsche Bank AG Frankfurt am Main, Germany	below 3%	0.00%
Nov. 30, 2017	EGORA Holding GmbH Planegg, Germany	below 15%	14.99%
Nov. 23, 2017	Internationale Kapitalanlagegesellschaft mit beschränkter Haftung Dusseldorf, Germany	above 5%	5.13%
Nov. 15, 2017	Teleios Capital Partners LLC Zug, Switzerland	above 15%	15.03%
Sep. 27, 2017	Duke University Durham, North Carolina, USA	above 3%	3.01%
Jul. 28, 2017	The Goldman Sachs Group Inc. New York, USA	above 3%	4.39%
May 23, 2017	Dimensional Holdings Inc. Oviedo, Florida, USA	above 3%	3.01%
May 2, 2017	Ministry of Finance on behalf of the State of Norway Oslo, Norway	above 3%	3.19%
Feb. 20, 2017	Deutsche Asset Management Investment GmbH Frankfurt, Germany	below 3%	2.95%
Jan. 11, 2016	Morgan Stanley Wilmington, Delaware, USA	below 3%	1.63%

3.1.11. Provisions for Pensions and Similar Obligations

The provision for pensions and similar obligations relate to termination benefit payments due to employees of the Italian branch office and are required due to local statutory regulations (Trattamento di fine rapporta, appr. TFR). This pension entitlement is comparable to a deferred compensation scheme and is based on the level of income and the number of service years. The annual contribution is 7.4% of the employees' annual salary. The accrued sum yields an interest of 1.5% plus 75% of the local inflation rate. The calculation is based on the interest rate resulting from an assumed remaining term of 15 years. For each eligible employee the annual pro-rate entitlement is accrued during his service time.

At termination of the employment the employee is entitled to receive the accrued sum. This applies in case of reaching the retirement age of currently 63 years as well as in case of early termination of the employment contract. Early payment of certain parts of the accrued sum is possible in case of specified conditions. In the event of death payment of the accrued sum is made to the dependants.

Similar to the defined benefit pension plans according to International Financial Reporting Standards (IFRS/IAS 19) the present value of the pension obligation is calculated applying the projected unit credit method (PUC method). The pension obligation is unfunded and has to be considered as direct commitment to the entitled employees.

Following parameters were applied to calculate the present value of the entitlement:

(in %)	Dec. 31, 2018	Dec. 31, 2017
Discount rate	3.25	3.56
Salary level trend	2.00	2.00
Fluctuation	0.00	0.00

The biometric assumptions essential for the measurement of the pension obligations are RG 48 for life expectation and INPS FPDL Credito for invalidity.

The change in the present value of the pension obligation can be derived as follows:

(in thousands of EUR)	2018	2017
Present value of the obligation on Jan. 1	**519**	**452**
Interest expense	19	19
current service cost	59	46
Disbursements to employees	-	-49
Losses arising from changes in financial assumptions	-23	32
Other changes	-4	19
Present value of the obligation on Dec. 31	**570**	**519**

Changes in financial assumptions relate to the assumed discount rate and are included in interest and similar expenses. Due to the longer than expected sustained low interest rate environment the average interest rate applicable for the valuation of pension obligations changed from 7 to 10 years according to the first sentences of Article 75 (6) EGHGB n.F. in conjunction with the first sentences of Article 253 (2) HGB n.F. since March 11, 2016. As a result, a difference of EUR 70 thousand (prior year: EUR 65 thousand) was recorded in the current year. This difference will not be recorded and is blocked for dividend distribution. Other changes mainly relate to changes in salaries and are reported as personnel expenses.

No provisions are included for indirect pension obligations to employees of the Swiss branch office. The deficit from unrecognized pension obligations according to article 28 section 2 EGHGB amounts to EUR 215 thousand.

3.1.12. Tax Provisions

Tax provisions of EUR 0 thousand (prior year: EUR 210 thousand) include expected tax payments due to fiscal authorities applying current tax rates and tax legislations.

3.1.13. Other Provisions

On December 31, 2018 other provisions can be analyzed as follows:

(in thousands of EUR)	2018	2017
Personnel provisions	1,311	1,812
Invoices not yet received	9,118	5,065
Provision for Tax audit	274	274
Vacation provisions	570	553
Warranty provisions	3,085	3,273
Audit fees	240	315
Total	**14,598**	**11,292**

In 2018 personnel provisions do not include stock appreciation rights issued to employees of ADVA Optical Networking SE and its affiliated companies (prior year: EUR 144 thousand).

3.1.14. Liabilities

The maturity of the liabilities can be analyzed as follows:

(in thousands of EUR)		Maturity			
on December 31, 2018	Total	within one year	more than one year	thereof between one and five years	thereof more than five years
Liabilities to banks	90,000	19,400	70,600	70,600	-
Advance payments received	65	65	-	-	-
Trade accounts payable	26,288	26,288	-	-	-
Payables to affiliated companies	44,426	44,426	-	-	-
Other liabilities	7,742	7,672	70	70	-
thereof taxes	*1,139*	*1,139*	-	-	-
thereof social security	*262*	*262*	-	-	-
Total liabilities	**168,521**	**97,851**	**70,670**	**70,670**	**-**

(in thousands of EUR)		Maturity			
on December 31, 2017	Total	within one year	more than one year	thereof between one and five years	thereof more than five years
Liabilities to banks	96,561	79,061	17,500	17,500	-
Advance payments received	51	51	-	-	-
Trade accounts payable	16,331	16,331	-	-	-
Payables to affiliated companies	25,929	25,929	-	-	-
Other liabilities	7,606	6,719	887	887	-
thereof taxes	*702*	*702*	-	-	-
thereof social security	*308*	*308*	-	-	-
Total liabilities	**146,478**	**128,091**	**18,387**	**18,387**	**-**

On December 31, 2018 other liabilities mainly include EUR 4,167 thousand (prior year: EUR 3,404 thousand) for bonus payments due to employees and management board, EUR 1,139 thousand (prior year: EUR 702 thousand) for withholding taxes, EUR 503 thousand (prior year: EUR 490 thousand) for IP license fees and EUR 485 thousand (prior year: other current assets EUR 827 thousand) for research and development subsidies projects.

3.1.15. Deferred Taxes

Deferred taxes are recognized based on the liability method on temporary differences at the balance sheet date between the tax bases of assets and liabilities and their carrying amounts for financial reporting purposes. When calculating deferred taxes, a combined tax rate of 28.57% was applied.

Balance sheet position	Deferred tax category
Self-constructed industrial and similar rights and assets, and licenses in such rights and assets	liability
Goodwill	asset
Discount	asset
Purchased industrial and similar rights and assets, and licenses in such rights and assets	asset
Property, plant and equipment	asset
Inventories	liability
Loans to affiliated companies	liability
Provisions	asset
Trade accounts payable and liabilities to affiliated companies	liability
Trade accounts receivables and receivables to affiliated companies	asset

The corporate income tax loss carry forward on December 31, 2018 amounts to EUR 165,090 thousand (prior year: EUR 149,655 thousand) and the trade income tax loss carry forward amounts to EUR 158,709 thousand (prior year: EUR 142,126 thousand).

Above listed temporary differences reveal a surplus of liabilities. Considering the minimum taxation rules according to Article 10 d (2) of the German Income Tax Act (EStG), the company recognized deferred tax assets of EUR 15,545 thousand (prior year: EUR 14,894 thousand) on tax losses of EUR 54,410 thousand (prior year: EUR 52,203 thousand) which can be carried forward indefinitely.

Total deferred tax assets amount to EUR 17,929 thousand (prior year: EUR 17,333 thousand) and are offset against deferred tax liabilities of EUR 27,340 thousand (prior year: EUR 26,311 thousand).

As a result, the company recognized a deferred tax liability in the amount of EUR 9,411 thousand (prior year: EUR 8,978 thousand).

(in thousands of EUR)	31.12.2018	change	31.12.2017
Deferred tax assets	17,929	+596	17,333
Deferred tax liabilities	27,340	+1,029	26,311

3.2. Income Statement

3.2.1. Revenues

In 2018 and 2017, revenues included EUR 24,093 thousand and EUR 22,730 thousand for services, respectively. The remaining revenues relate mainly to product sales.

Revenues by region, classified according to shipment destination, are as follows:

(in thousands of EUR)	2018	2017
Germany	110,966	106,101
Rest of Europe, Middle East and Africa	103,932	111,453
Americas	66,316	81,738
Asisa-Pacific	44,270	22,418
Total	**325,484**	**321,710**

3.2.2. Material Expenses

Cost of goods sold include the material expenses of the Company, classified pursuant to section 275 paragraph 2, number 5 HGB. Material expenses totaled EUR 146,910 thousand in the financial year 2018 (prior year: EUR 157,079 thousand). Thereof, EUR 144,964 thousand (prior year: EUR 153,966 thousand) relate to expenses for raw materials and supplies and EUR 1,946 thousand (prior year: EUR 3,113 thousand) to costs of services.

3.2.3. Personnel Expenses

The company applies the cost of sale method, therefore personnel expenses are distributed according to the functional areas in cost of goods sold, selling and marketing, general and administrative as well as research and development expenses. In 2018, personnel expenses of the Company, classified pursuant to section 275 paragraph 2, number 6 HGB, amounted to EUR 46,783 thousand (prior year: EUR 47,881 thousand). Thereof EUR 40,078 thousand (prior year: EUR 41,123 thousand) were related to salaries and wages and EUR 6,705 thousand (prior year: EUR 6,758 thousand) were related to costs for social security. For pension plans EUR 83 thousand (prior year: EUR 105 thousand) were recognized in 2018.

3.2.4. Other Operating Income

Other operating income can be analyzed as follows:

(in thousands of EUR)	2018	2017
Income from currency translation	8,329	5,788
Grants received for research projects	1,614	1,462
Other	449	2,057
Other operating income	**10,392**	**9,307**

Other operating income includes income from other accounting periods and can be analyzed as follows:

(in thousands of EUR)	2018	2017
Income from release of provisions	247	856
Income from release of liabilities	88	777
Income from release of specific provisions for trade receivables	-	312
Income for other accounting periods	**335**	**1,945**

3.2.5. Other Operating Expenses

Other operating expenses can be analyzed as follows

(in thousands of EUR)	2018	2017
Expenses from currency translations	9,326	7,491
Other*	446	196
Other operating expenses	**9,772**	**7,687**

*This included expenses for other accounting periods with an amount of EUR 400 thousand in 2018 (prior year: EUR 128 thousand).

3.2.6. Income Taxes

The Company's income tax comprises corporate income tax (Körperschaftsteuer), solidarity surcharge (Solidaritätszuschlag) and trade income tax (Gewerbesteuer). The tax result also includes foreign income taxes for the Company's permanent establishments.

A reconciliation of income taxes based on the accounting profit and the expected domestic income tax rate of 28.57% (prior year: 28.53%) to effective income tax expense (benefit), net, is presented below:

(in thousands of EUR)	2018	2017
Result before tax	**-13,539**	**-6,665**
Expected statutory taxes	**-3,869**	**-1,902**
Taxes from prior years	401	-240
Tax-effects from unrecognized tax loss carry-forwards	3,914	2,435
Adjustments of deferred taxes from prior years	347	370
Non-deductible expenses and tax-free income	48	-55
Deductible tax expense	147	150
effect form trade tax additions	154	108
effect form trade tax reduction	-187	-
Change in deferred taxes due to tax rate change	12	-
Other differences	14	-9
Recognized income taxes	**981**	**857**
Effective tax rate	**-7.2%**	**-12.9%**

Income taxes include deferred taxes in the amount of EUR 433 thousand (prior year: EUR 947 thousand).

4. Other Information

4.1. Other Financial Obligations and Contingent Liabilities

Other financial obligations can be analyzed as follows:

(in thousands of EUR)		Maturity			
	Total	within one year	more than one year	thereof between one and five years	thereof more than five years
Obligations from rent agreements	2,210	530	1,680	1,465	215
Obligations from car leasing agreements	1,204	742	462	462	-
Purchase agreements	24,520	24,497	23	23	-
Other	148	148	-	-	-
Total	**28,082**	**25,917**	**2,165**	**1,950**	**215**

The Company granted an irrevocable guarantee of GBP 1,500 thousand (EUR 1,662 thousand) for liabilities of ADVA Optical Networking Ltd., York, United Kingdom, another guarantee of EUR 2,184 thousand for liabilities of ADVA Optical Networking (India) Private Ltd., Gurgaon, India, a guarantee of SGD 1.000 thousand (EUR 639 thousand) for liabilities of ADVA Optical Networking Singapore Pte. Ltd., Singapore and a guarantee of CHF 1,000 thousand (EUR 891 thousand) for liabilities of Oscilloquartz SA, Saint-Blaise, Switzerland.

The use of these guarantees is unlikely, as all subsidiaries are controlled for 100% by ADVA Optical Networking SE and appropriate countermeasures can be taken at an earlier stage.

4.2. Derivative Financial Instruments

Forward Rate Agreements

To hedge the foreign exchange risk on future cash flows, the Company entered into forward exchange contracts that mature in the first quarter of 2019. In 2018, unrealized losses for these foreign currency hedges amounted to EUR 15 thousand.

In prior periods, the Company entered into forward exchange contracts maturing in 2018. A net gain of EUR 290 thousand was realized on these transactions.

Declaration about Fair Value

The fair value and nominal value of these financial instruments on December 31 is as follows:

(in thousands of EUR)	Fair value		Nominal value	
	2018	2017	2018	2017
Forward rate agreements	108	12	8,786	15.108

The nominal value is the accounting value from which payments are derived (underlying transaction). Since the nominal value itself is not at risk, it is the potential for changes in foreign exchange rates, interest rates and prices that is hedged.

The fair value reflects the credit risk of the instrument. Since the Company only uses standard instruments for its hedges, the fair value is determined using market prices and is not netted against any contrary trend in the value of underlying transactions.

4.3. Corporate Bodies of ADVA Optical Networking SE

4.3.1. Supervisory Board

	Resident in	Occupation	External mandates
Nikos Theodosopoulos Chairman	Manhasset New York, USA	Founder and managing member, NT Advisors LLC, Manhasset, New York, USA	Member of the board of directors of Arista Networks, Inc., Santa Clara, CA, USA Member of the advisory board of Columbia Engineering Entrepreneurship, New York, NY, USA Member of the board of directors of Harmonic, Inc., San Jose, CA, USA Board member of Driving Management Systems, Inc., Colorado Springs, CO, USA
Johanna Hey Vice chairwoman	Cologne, Germany	Professor for tax law, University of Cologne, Cologne, Germany	Director of the Institut Finanzen und Steuern e.V., Berlin, Germany Member of the supervisory board of Gothaer Versicherungsbank VVaG, Cologne, Germany Member of the supervisory board of Gothaer Finanzholding AG, Cologne, Germany Member of the supervisory board of Cologne Executive School GmbH, Cologne, Germany Member of the supervisory board of Flossbach von Storch AG, Cologne, Germany
Hans-Joachim Grallert (until June 13, 2018)	Gröbenzell, Germany	Prof. em. Dr.-Ing.	Chairman of the management board "Eduard Rhein Foundation", Hamburg, Germany
Michael Aquino (since June 13, 2018)	Peachtree City, Georgia, USA	Consultant	-

4.3.2. Management Board

	Resident in	External Mandates
Brian Protiva Chief executive officer	Berg, Germany	Member of the board of directors of AMS Technologies AG, Martinsried, Germany
Christoph Glingener Chief Technology Officer	Jade, Germany	Member of the board of trustees of Fraunhofer Heinrich Hertz Institute, Berlin, Germany
Ulrich Dopfer Chief Financial Officer	Alpharetta Georgia, USA	-
Scott St. John Chief Marketing & Sales Officer	Raleigh North Carolina, USA	-

4.4. Employees

The Company employed an average of 545 employees and 26 apprentices (prior year: 546 employees and 24 apprentices), divided into the following functional areas:

Employees per functional area	2018	2017
Purchasing and production	164	158
Sales, marketing and service	115	120
Management and administration	82	87
Research and development	184	181
Apprentices	26	24
Total	**571**	**570**

4.5. Compensation of the Management Board

In 2018 and 2017, the Management Board of the Company consisted of the members stated below. Ulrich Dopfer and Scott St. John received remuneration from the subsidiary ADVA Optical Networking North America Inc., Norcross/Atlanta (Georgia), USA.

The total Management Board compensation according to § 285 Abs. 1 No. 9a HGB (German statutory regulations) was EUR 2,099 thousand in 2018 and EUR 1,538 thousand in 2017.

The value of benefits granted analyses across the individual Board members as follows:

(in thousands of EUR)	Fixed	Variable/bonus	Variable/ issuance of stock options	Total 2018	Total 2017
Brian Protiva Chief Executive Officer	264	221	157	**642**	434
Christoph Glingener Chief Technology Officer	267	150	-	**417**	379
Ulrich Dopfer Chief Financial Officer	273	142	-	**415**	372
Scott St. John Chief Marketing & Sales Officer	273	142	210	**625**	353

The fixed compensation includes non-performance-based considerations and fringe benefits (company car allowances). The variable compensation considers components related to short-term performance goals that are reported as other liabilities on December 31, 2018, as well as components based on long-term performance goals amounting to EUR 367 thousand (prior year: EUR 257 thousand) which in 2018 solely relate to issuance of options to Brian Protiva and Scott St. John (prior year: issuance of stock options to Scott St. John).

The Company paid pecuniary damage liability insurance premiums on behalf of members of the Management Board totaling EUR 12 thousand both in 2018 and 2017 (in equal amounts for each Management Board member), respectively.

In 2018 and 2017, no loans were granted to the members of the Management Board. At December 31, 2018, no receivables outstanding from members of the management board have been reported.

On December 31, the members of the Management Board held the following shares and had been granted the following stock options:

	Shares		Stock options	
	2018	2017	2018	2017
Brian Protiva Chief Executive Officer	401,030	401,030	335,000	260,000
Christoph Glingener Chief Technology Officer	-	-	325,000	325,000
Ulrich Dopfer Chief Financial Officer	500	500	256,667	259,667
Scott St. John Chief Marketing & Sales Officer	-	-	250,000	150,000

On December 31, 2018, the options to members of the management board were granted out of Plan XIVa (on December 31, 2017: out of Plan XIV and Plan XIVa). In 2017, Ulrich Dopfer held options from Plan XIV that were granted before he joined the ADVA Optical Networking management board. The option rights authorize the management board to purchase the said number of common shares in the company once the qualifying period has elapsed. Plan XIVa includes a profit limit of EUR 20.00 per option, whereas Plan XIV has no profit limitations.

The strike price for these option rights is

- EUR 5.05 for 103,000 options granted on August 15, 2012,
- EUR 3.90 for 130,000 options granted on November 15, 2013,
- EUR 3.19 for 60,000 options granted on May 15, 2014,
- EUR 5.15 for 150,000 options granted on May 15, 2015,
- EUR 8.70 for 401,667 options granted on May 15, 2016,
- EUR 4.98 for 150,000 options granted on November 15, 2017,
- EUR 5.79 for 175,000 options granted on May 15, 2018 respectively.

Further information on compensation of the Management Board is included in the remuneration report in the Management Report of the group.

4.6. Compensation of the Supervisory Board

The fixed compensation to be paid to the Supervisory Board for 2018 and 2017 totaled EUR 235 thousand and EUR 235 thousand, respectively. This amount can be analyzed by the individual Board members as follows:

(in thousands of EUR)	2018	2017
Nikos Theodosopoulos Chairman	100	100
Johanna Hey Vice Chairwoman	90	90
Hans-Joachim Grallert (until June 13, 2018)	20	45
Michael Aquino (since June 13, 2018)	25	-

The fixed compensation for the Supervisory Board of ADVA Optical Networking SE is paid out in quarterly installments. The fixed compensation for Q4 2018 amounting to EUR 59 thousand was paid out in January 2019 and is included in other liabilities.

The Group paid pecuniary damage liability insurance premiums on behalf of members of the Supervisory Board totaling EUR 12 thousand both in 2018 and 2017, respectively.

On December 31, 2018, no shares or stock options were held by members of the supervisory board (December 31, 2017: none).

4.7. Auditor's Fees

The auditor fees are disclosed in the consolidated accounts. Other services predominantly include services in the course of the implementation of new accounting standards.

4.8. Declaration of Compliance with Corporate Governance Code

Pursuant to Section 161 of the German Stock Corporation Law (AktG), the Management Board and the Supervisory Board have issued a declaration of compliance with the German Corporate Governance Code. This declaration is published on the Group's website (www.advaoptical.com).

4.9. Consolidated Financial Statements

The Company prepares consolidated financial statements for the smallest and biggest group of consolidation of affiliated companies. These consolidated financial statements can be viewed at the district court Jena under HRB number 508155.

5. Events after the balance sheet date

There were no events after the balance sheet date that materially affected the net assets and financial position of the Group on December 31, 2018, or its financial performance for 2018. Similarly, there were no events considered material to disclose.

Meiningen February 19, 2019

Brian Protiva Christoph Glingener

Ulrich Dopfer Scott St. John

AFFIRMATIVE DECLARATION OF THE LEGAL REPRESENTATIVES

We, the members of the Management Board of ADVA Optical Networking SE, to the best of our knowledge affirm that, in accordance with the applicable reporting principles, the management report and the financial statements of ADVA Optical Networking SE represent a true and fair view of the net assets, financial position and performance of the Company, together with a description of the principal opportunities and risks associated with the expected development of the Company.

Meiningen February 19, 2019

Brian Protiva	Christoph Glingener
Ulrich Dopfer	Scott St. John

INDEPENDENT AUDITOR'S REPORT

To ADVA Optical Networking SE, Meiningen

REPORT ON THE AUDIT OF THE ANNUAL FINANCIAL STATEMENTS AND OF THE MANAGEMENT REPORT

Audit Opinions

We have audited the annual financial statements of ADVA Optical Networking SE, Meiningen, which comprise the balance sheet as at 31 December 2018**,** and the statement of profit and loss for the financial year from 1 January to 31 December 2018, and notes to the financial statements, including the recognition and measurement policies presented therein. In addition, we have audited the management report of ADVA Optical Networking SE, which is combined with the group management report, for the financial year from 1 January to 31 December 2018. We have not audited the content of those parts of the management report listed in the "Other Information" section of our auditor's report.

In our opinion, on the basis of the knowledge obtained in the audit,

- the accompanying annual financial statements comply, in all material respects, with the requirements of German commercial law and give a true and fair view of the assets, liabilities and financial position of the Company as at 31 December 2018 and of its financial performance for the financial year from 1 January to 31 December 2018 in compliance with German Legally Required Accounting Principles, and

- the accompanying management report as a whole provides an appropriate view of the Company's position. In all material respects, this management report is consistent with the annual financial statements, complies with German legal requirements and appropriately presents the opportunities and risks of future development. Our audit opinion on the management report does not cover the content of those parts of the management report listed in the "Other Information" section of our auditor's report.

Pursuant to § [Article] 322 Abs. [paragraph] 3 Satz [sentence] 1 HGB [Handelsgesetzbuch: German Commercial Code], we declare that our audit has not led to any reservations relating to the legal compliance of the annual financial statements and of the management report.

Basis for the Audit Opinions

We conducted our audit of the annual financial statements and of the management report in accordance with § 317 HGB and the EU Audit Regulation (No. 537/2014, referred to subsequently as "EU Audit Regulation") and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer [Institute of Public Auditors in Germany] (IDW). Our responsibilities under those requirements and principles are further described in the "Auditor's Responsibilities for the Audit of the Annual Financial Statements and of the Management Report" section of our auditor's report. We are independent of the Company in accordance with the requirements of European law and German commercial and professional law, and we have fulfilled our other German professional responsibilities in accordance with these requirements. In addition, in accordance with Article 10 (2) point (f) of the EU Audit Regulation, we declare that we have not provided non-audit services prohibited under Article 5 (1) of the EU Audit Regulation. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions on the annual financial statements and on the management report.

Key Audit Matters in the Audit of the Annual Financial Statements

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the annual financial statements for the financial year from 1 January to 31 December 2018. These matters were addressed in the context of our audit of the annual financial statements as a whole, and in forming our audit opinion thereon; we do not provide a separate audit opinion on these matters.

In our view, the matters of most significance in our audit were as follows:

❶ Recoverability of shares in affiliated companies

❷ Accounting treatment of internally generated intangible assets

❸ Appropriateness of revenue recognition

Our presentation of these key audit matters has been structured in each case as follows:

① Matter and issue

② Audit approach and findings

③ Reference to further information

Hereinafter we present the key audit matters:

❶ Recoverability of shares in affiliated companies

① In the annual financial statements of the Company shares in affiliated companies amounting to TEUR 28,162 are reported. Shares in affiliated companies are measured in accordance with German commercial law at the lower of cost or fair value. The fair values of the material shares in affiliated companies are calculated using discounted cash flow models as the present values of the expected future cash flows according to the planning projections prepared by the executive directors. Expectations relating to future market developments and assumptions about the development of macroeconomic factors are also taken into account. The discount rate used is the individually determined cost of capital for the relevant financial asset. Based on the values calculated and other documentation, there was no need to recognize impairment losses in the fiscal year.

The outcome of this valuation exercise is dependent to a large extent on the estimates made by the executive directors of the future cash flows, and on the respective discount rates and rates of growth employed. The valuation is therefore subject to material uncertainty. In the light of this background and the highly complex nature of the measurement, this matter was of particular significance during our audit.

② As part of our audit, we assessed the methodology employed for the purposes of the valuation exercise, among other things. In particular, we assessed whether the fair values had been appropriately determined using discounted cash flow models in compliance with the relevant measurement standards. We based our assessment, among other things, on a comparison with general and sector-specific market expectations as well as on the executive directors' explanations regarding the key planning value drivers underlying the expected cash flows. In the knowledge that even relatively small changes in the discount rate applied can have a material impact on the values of the entities calculated in this way, we also focused our testing in particular on the parameters used to determine the discount rate applied, and evaluated the measurement model. Taking into consideration the information available, we believe that the valuation parameters and underlying assumptions used by the executive directors are appropriate overall for the purpose of accurately measuring the material shares in affiliated companies.

③ The Company's disclosures on shares in affiliated companies are contained in sections 2.2.4, 3.1.1 and 3.1.4 in the notes to the annual financial statements.

❷ Accounting treatment of internally generated intangible assets

① In the Company's annual financial statements internally generated industrial rights and similar rights and assets amounting to TEUR 90,263 are recognized. These represent the costs of developing new products which are permitted to be capitalized in accordance with § 248 Abs. 2 Satz 1 HGB. Capitalized own expenses contributed TEUR 31,872 to the net profit or loss for the financial year. Development costs of this type may only be capitalized subject to certain conditions. GAS 24, the application of which is recommended in the annual financial statements, sets out the conditions in detail. Nevertheless, the assessment of eligibility for capitalization still leaves considerable scope for the exercise of judgment. Against this background and due to the underlying complexity of the methodological requirements for the measurement, this matter was of particular significance for our audit.

② As part of our audit, we assessed the internal processes and controls for recording the development projects among other things. We also assessed the methodology used to calculate the expenses eligible for capitalization. We evaluated the eligibility for capitalization of each material project on the basis of the conditions set out in GAS 24. We evaluated the stage of progress of the particular project by means of discussions with members of staff in the R&D controlling department and inspection of the project documentation. We assessed the amount of the development costs capitalized and the recoverability of the development expenditure on the basis of suitable supporting evidence. In our view, the methodology applied by the Company for capitalizing development projects is appropriate, and the stage of completion of the projects and the development costs capitalized have been clearly documented.

③ The Company's disclosures on internally generated intangible assets are contained in sections 2.2.1, 2.2.3, 3.1.1. and 3.1.2 in the notes to the annual financial statements.

❸ Appropriateness of revenue recognition

① In the Company's annual financial statements revenue amounting to TEUR 325,484 is reported in the income statement. The revenue comprises sales of services and products. The related services agreements cover several financial years in some cases and deferred income is recognized in the balance sheet in order to allocate revenue to the correct period. The Company also performs the function of owning and selling licenses within the Group. This item represents significant amounts and is subject to particular risk in view of the complexity involved in recognizing revenue accurately; it was therefore of particular significance for our audit.

② As part of our audit, we assessed the processes and controls established by the Company for the purposes of revenue recognition. Our audit approach included carrying out tests of control as well as substantive audit procedures. Among other things, this included inspecting material new contracts in the financial year and evaluating their treatment in the financial statements. In addition, we used sampling techniques to establish that goods and services provided were billed and matched them with corresponding payments received, and we also assessed whether the revenue was recognized in the correct period.

We were able to satisfy ourselves that the processes and controls in place are appropriate for the purpose of ensuring that revenue is recognized appropriately.

③ The Company’s disclosures relating to revenue are contained in sections 2.4 and 3.2.1 of the notes to the annual financial statements.

Other Information

The executive directors are responsible for the other information. The other information comprises the following non-audited parts of the management report, which we obtained prior to the date of our auditor’s report:

- the statement on corporate governance pursuant to § 289f HGB and § 315d HGB included in section “Declaration on corporate governance and corporate governance report” of the management report

- the corporate governance report pursuant to No. 3.10 of the German Corporate Governance Code

The separate non-financial report pursuant to § 289b Abs. 3 HGB and § 315b Abs. 3 HGB is expected to be made available to us after the date of the auditor’s report.

Our audit opinions on the annual financial statements and on the management report do not cover the other information, and consequently we do not express an audit opinion or any other form of assurance conclusion thereon.

In connection with our audit, our responsibility is to read the other information and, in so doing, to consider whether the other information

- is materially inconsistent with the annual financial statements, with the management report or our knowledge obtained in the audit, or

- otherwise appears to be materially misstated.

Responsibilities of the Executive Directors and the Supervisory Board for the Annual Financial Statements and the Management Report

The executive directors are responsible for the preparation of the annual financial statements that comply, in all material respects, with the requirements of German commercial law, and that the annual financial statements give a true and fair view of the assets, liabilities, financial position and financial performance of the Company in compliance with German Legally Required Accounting Principles. In addition, the executive directors are responsible for such internal control as they, in accordance with German Legally Required Accounting Principles, have determined necessary to enable the preparation of annual financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the annual financial statements, the executive directors are responsible for assessing the Company's ability to continue as a going concern. They also have the responsibility for disclosing, as applicable, matters related to going concern. In addition, they are responsible for financial reporting based on the going concern basis of accounting, provided no actual or legal circumstances conflict therewith.

Furthermore, the executive directors are responsible for the preparation of the management report that as a whole provides an appropriate view of the Company's position and is, in all material respects, consistent with the annual financial statements, complies with German legal requirements, and appropriately presents the opportunities and risks of future development. In addition, the executive directors are responsible for such arrangements and measures (systems) as they have considered necessary to enable the preparation of a management report that is in accordance with the applicable German legal requirements, and to be able to provide sufficient appropriate evidence for the assertions in the management report.

The supervisory board is responsible for overseeing the Company's financial reporting process for the preparation of the annual financial statements and of the management report.

Auditor's Responsibilities for the Audit of the Annual Financial Statements and of the Management Report

Our objectives are to obtain reasonable assurance about whether the annual financial statements as a whole are free from material misstatement, whether due to fraud or error, and whether the management report as a whole provides an appropriate view of the Company's position and, in all material respects, is consistent with the annual financial statements and the knowledge obtained in the audit, complies with the German legal requirements and appropriately presents the opportunities and risks of future development, as well as to issue an auditor's report that includes our audit opinions on the annual financial statements and on the management report.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with § 317 HGB and the EU Audit Regulation and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer (IDW) will always detect a material misstatement. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these annual financial statements and this management report.

We exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the annual financial statements and of the management report, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our audit opinions. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal controls.

- Obtain an understanding of internal control relevant to the audit of the annual financial statements and of arrangements and measures (systems) relevant to the audit of the management report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an audit opinion on the effectiveness of these systems of the Company.
- Evaluate the appropriateness of accounting policies used by the executive directors and the reasonableness of estimates made by the executive directors and related disclosures.

- Conclude on the appropriateness of the executive directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in the auditor's report to the related disclosures in the annual financial statements and in the management report or, if such disclosures are inadequate, to modify our respective audit opinions. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Company to cease to be able to continue as a going concern.

- Evaluate the overall presentation, structure and content of the annual financial statements, including the disclosures, and whether the annual financial statements present the underlying transactions and events in a manner that the annual financial statements give a true and fair view of the assets, liabilities, financial position and financial performance of the Company in compliance with German Legally Required Accounting Principles.

- Evaluate the consistency of the management report with the annual financial statements, its conformity with German law, and the view of the Company's position it provides.

- Perform audit procedures on the prospective information presented by the executive directors in the management report. On the basis of sufficient appropriate audit evidence we evaluate, in particular, the significant assumptions used by the executive directors as a basis for the prospective information, and evaluate the proper derivation of the prospective information from these assumptions. We do not express a separate audit opinion on the prospective information and on the assumptions used as a basis. There is a substantial unavoidable risk that future events will differ materially from the prospective information.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with the relevant independence requirements, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, the related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the annual financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter.

OTHER LEGAL AND REGULATORY REQUIREMENTS

Further Information pursuant to Article 10 of the EU Audit Regulation

We were elected as auditor by the annual general meeting on 13 June 2018. We were engaged by the supervisory board on 23 August 2018. We have been the auditor of the ADVA Optical Networking SE, Meiningen, without interruption since the financial year 2010.

We declare that the audit opinions expressed in this auditor's report are consistent with the additional report to the audit committee pursuant to Article 11 of the EU Audit Regulation (long-form audit report).

GERMAN PUBLIC AUDITOR RESPONSIBLE FOR THE ENGAGEMENT

The German Public Auditor responsible for the engagement is Holger Graßnick."

sgd. Holger Graßnick	sgd. ppa. Sonja Knösch
Wirtschaftsprüfer (German Public Auditor)	Wirtschaftsprüferin (German Public Auditor)

Munich, February 19, 2019

PricewaterhouseCoopers GmbH
Wirtschaftsprüfungsgesellschaft