Financial Statements and Management Report

December 31, 2020

Open edge networking

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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 also 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 289, 315 and 315e 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, 2020, or the financial year ending on that date, unless stated otherwise.

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, costs 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 and opportunity report" section further below.

Strategy and control design

ADVA's strategic goals are focused on growth & profitability, innovation, operational excellence, individual development of our employees and customer experience. 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 debt[2] and as a non-financial criterion customer experience 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 debt 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.

[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 debt is calculated by subtracting cash and cash equivalents from total financial debt comprising of current and non-current financial liabilities and current and non-current lease liabilities.

[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.

General economic and market conditions

The global economy at the beginning of 2021

In its December 2020 edition of the World Economic Outlook (WEO), the International Monetary Fund (IMF) provided the following view on the state of the global economy:

In its latest World Economic Outlook, the IMF raised its outlook for global economic growth this year by 0.3 percentage points. For 2021, the IMF expects a global growth of 5.5%. The IMF has even raised its outlook for the USA by 2.0 percentage points (+5.1%). Things look worse for the euro zone, where the IMF revised its outlook down by 1.0 percentage points to 4.2%. The outlook for China is only slightly adjusted from 8.2% to 8.1%. The IMF emphasizes that the forecasts still consist a relatively high degree of uncertainty. Although recent vaccine approvals have raised the hope of a trend reversal in the pandemic, resurgent waves of infections and new mutations of the virus are cause for concern. The strength of the recovery is expected to vary significantly from country to country. Various factors, such as access to vaccines and the effectiveness of political measures against the pandemic, will determine whether national economies will recover.

Economic experts from various banks confirm the uncertainties driven by Covid-19. The economy is currently suffering from a harsh winter, characterized by extensive corona restrictions. For the euro area, a sustained decline in infection rates is not expected until late spring. The vaccination measures could lead to sufficient immunization of the population by Autumn. Accordingly, the experts expect the euro area to recover during Q2 2021. In addition, private consumers could spend some of the savings that were made during the corona restrictions. According to Commerzbank estimates, this amount is around 5% of disposable income in the euro area.

The development in Germany, however, is also subject to the results of the suspension of the bankruptcy filing obligation in 2020. The deadline was recently extended to April 2021. Some economic experts criticize the fact that various companies are being kept alive with external financing and assume that Germany will experience a massive wave of insolvencies in 2021.

The U.S. economy reached its low in April 2020 and rebounded as contact restrictions eased as the virus was initially contained. This recovery continued in the final months of 2020 but lost its momentum. The growth drivers include both, private consumption and, above all, residential construction, which is benefiting from the low interest rates. For USA additional consumption through “involuntary” savings is also expected to begin in spring 2021. Nevertheless, many experts anticipate another wave of infections, which is why many states have tightened their measures to fight the pandemic. Economic experts therefore only expect solid growth in Q1 2021 but an increasing dynamic in the second half of the year, when vaccinations, similar to the euro area, speed up.

The current crisis has once again pointed out the importance of an efficient telecommunications infrastructure. Despite all challenges in the stability of the supply chain, ADVA has proven its good market position with one of its most successful financial years. The main pandemic-related challenges that prevailed in the first wave of infections persist during the huge second wave. These are mainly securing the supply chain and a possible recession-related decrease in demand. Europe and EMEA are major sales markets for ADVA - so the global development of the pandemic and the impact on the global economy are relevant. However, the network equipment industry has been shown to be less susceptible to recessive trends. ADVA mastered the Covid-19-related challenges very well in 2020 and the company is confident that it will be able to supply its customers with innovative solutions in a timely and top-quality manner in 2021.

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.

The tension between high development costs and tough competition has led to a strong selection of network equipment providers, and only a few providers have been able to assert themselves. Market participants with insufficient innovative strength or business models that are not profitable have largely disappeared from the market. This has led to changed market conditions. In addition, the Covid-19 pandemic has significantly changed the way we see the importance of network infrastructure. Politicians and businesses have realized that a high-performance communication infrastructure is vital for economies and companies in the age of home offices, video conferences and virtual collaboration. We are also experiencing a market environment in which security and trust are becoming increasingly important. As a result of growing security threats and a greater appreciation of the dangers, numerous manufacturers from the Far East are currently being pushed out of western networks.

In recent years, ADVA has consistently invested in the development of innovative solutions and has brought excellent solutions in the field of secure data transmission to the market. ADVA's network technology enables the construction of a high-performance communication 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) networks 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 provides timing solutions required for the construction of mobile broadband networks and globally distributed data centers. Especially in Europe, there still is a backlog in the expansion of communication infrastructure. The introduction of 5G mobile technology has further intensified the investment pressure.

ADVA is well positioned in several areas of the WDM market, the core segment of the overall optical networking hardware market. 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. Finally, ADVA provides differentiated network synchronization solutions for mobile networks and expands the feature set of the portfolio to address timing requirements for other industries. The total addressable market for ADVA is estimated to be USD 16 billion[4] in 2020, growing to USD 17 billion by 2024 while the possible additional opportunities resulting from the shift from Asian suppliers (especially Huawei) to European suppliers are not quantified (see also the chapter ”market, target customers and growth drivers”).

[4] Omdia, ”Optical networks forecast”, published July 2020 and ”Service provider switching and routing forecast”, September 2020

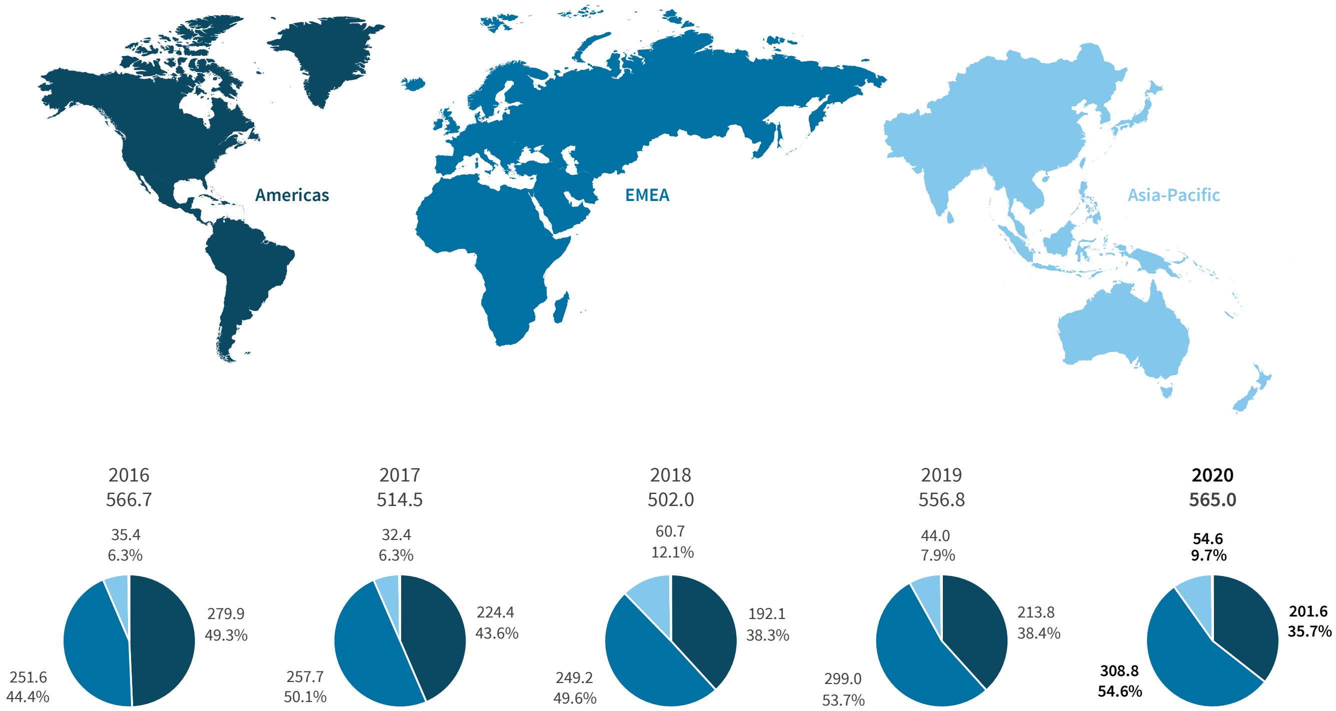
Business development and operational performance of the group

Revenues

Revenues represent one of the four key performance indicators for ADVA. In 2020, the group generated revenues of EUR 565.0 million, an increase of 1.5% on revenues of EUR 556.8 million in 2019. Despite the current pandemic situation, demand in 2020 was pleasingly strong. Home office, the increased use of e-learning, video conferencing and streaming services led to increased network utilization, while less investments were made in network access solutions for private companies. The group reported revenues of EUR 140.6 million in Q4 2020. This corresponds to a decrease of 4.2% compared to Q3 2020 and of 7.0% compared to Q4 2019. This is mainly due to the US dollar devaluation negatively impacting revenues denominated in US dollar.

Revenues by region

(in millions of EUR and relative to total revenues)



In 2020, EMEA (Europe, Middle East and Africa) was again the most significant sales region, followed by the Americas and Asia-Pacific.

Year-on-year, EMEA revenues of EUR 308.8 million in 2020 were up from EUR 299.0 million in 2019. ADVA is strong in this region, using its mature partner strategy and achieving good results thanks to a broad and loyal customer base.

In the Americas region, revenues decreased from EUR 213.8 million in 2019 to EUR 201.6 million in 2020. The decrease in revenues was mainly due to the devaluation of the US dollar against the euro.

In Asia-Pacific, revenues strongly increased from EUR 44.0 million in 2019 to EUR 54.6 million in 2020. The region is predominated by project-based business, leading to greater fluctuations in individual periods.

Results of operations

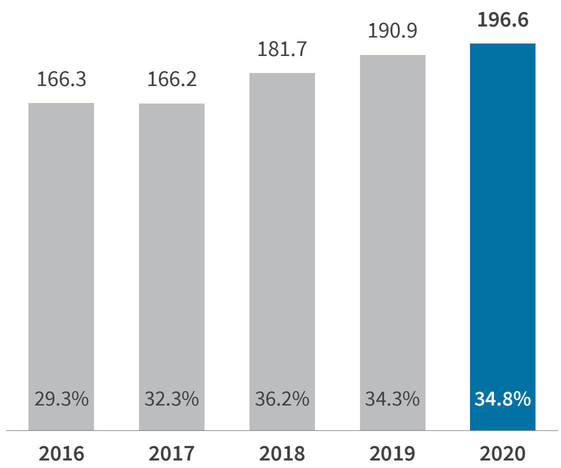
(in millions of EUR, except earnings per share)	2020	Portion of revenues	2019	Portion of revenues
Revenues	**565.0**	**100.0%**	**556.8**	**100.0%**
Cost of goods sold	-368.4	65.2%	-365.9	65.7%
Gross profit	**196.6**	**34.8%**	**190.9**	**34.3%**
Selling and marketing expenses	-60.8	10.8%	-72.8	13.1%
General and administrative expenses	-35.9	6.4%	-35.1	6.3%
Research and development expenses	-75.0	13.3%	-75.2	13.5%
Other operating income and expenses, net	2.6	0.5%	4.2	0.8%
Operating income	**27.5**	**4.9%**	**12.0**	**2.2%**
Interest income and expenses, net	-2.6	0.5%	-2.3	0.4%
Other financial gains and losses, net	-0.1	0.0%	-0.8	0.2%
Income before tax	**24.8**	**4.4%**	**8.9**	**1.6%**
Income tax expense (benefit), net	-4.5	0.8%	-1.9	0.3%
Net income	**20.3**	**3.6%**	**7.0**	**1.3%**
Earnings per share (in EUR)				
basic	0.40		0.14	
diluted	0.40		0.14	

Cost of goods sold and gross profit

Cost of goods sold increased from EUR 365.9 million in 2019 to EUR 368.4 million in 2020, primarily due to the higher revenues. Cost of goods sold includes amortization charges for capitalized development projects of EUR 37.3 million in 2020 after EUR 33.5 million in 2019.

Gross profit

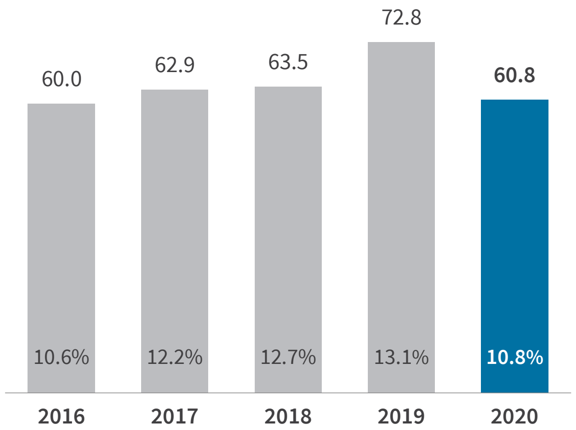
(in millions of EUR and relative to total revenues)



Gross profit improved to EUR 196.6 million in 2020 after EUR 190.9 million in 2019, comprising 34.8% and 34.3% of revenues, respectively. The Group's gross margin in 2020 was impacted by the USD devaluation against the euro, as a significant portion of the cost of sales is incurred in this currency. In general, the development of the group's gross margin is impacted by variations in regional revenue distribution and in product and customer mix.

Selling and marketing expenses

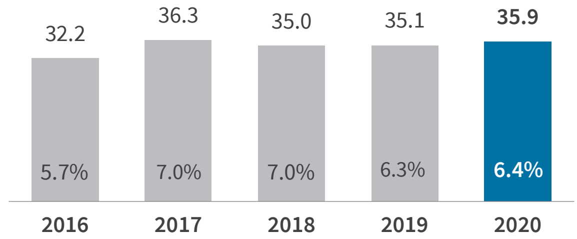
(in millions of EUR and relative to total revenues)



Selling and marketing expenses of EUR 60.8 million in 2020 were down from EUR 72.8 million in 2019 and comprised 10.8% and 13.1% of revenues, respectively. This decrease is mainly attributable to restructuring measures carried out in the previous year and to the reduction in travel expenses in 2020 due to the current Covid-19 situation.

ADVA continues to focus on after-sales customer service and 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

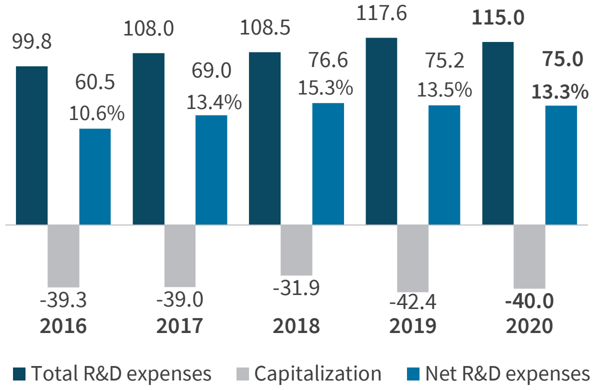


(in millions of EUR and relative to total revenues)

General and administrative expenses were at EUR 35.9 million in 2020 and slightly up from EUR 35.1 million recorded in 2019. The share of total revenues was at 6.4% in 2020 after 6.3% reported in 2019.

Research and development expenses

(in millions of EUR and relative to total revenues)



Net research and development expenses of EUR 75.0 million were at the same level as the EUR 75.2 million reported in 2019, thereby constituting 13.3% of revenues in 2020 after 13.5% in the prior year. Capitalization of development expenses of EUR 40.0 million in 2020 was slightly down from the EUR 42.4 million seen in 2019. The capitalization rate in 2020 amounted to 34.8% (prior year: 36.1%).

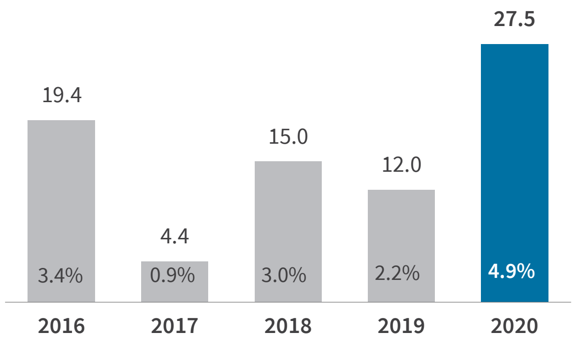
ADVA's research and development activities are driven by the distinct emphasis on differentiating its innovative connectivity solutions for cloud and mobile services and working with customers and partners to identify and meet their current and future needs. The resulting key technologies and products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

During 2020, 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 and a new generation of open line system (OLS)
- A new generation of 100G products including network functions virtualization (NFV) software for the company's cloud access portfolio
- Ultra-precise synchronization technologies for 5G mobile networks and other industry verticals.

Operating income

(in millions of EUR and relative to total revenues)



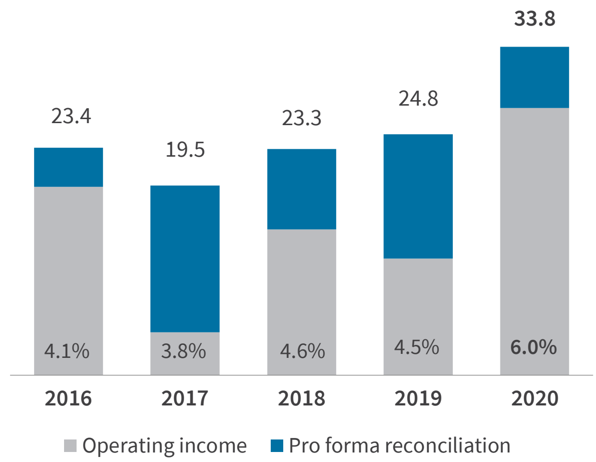
Net other operating income and expenses amounted to positive EUR 2.6 million in 2020, down from positive EUR 4.2 million in the prior year. This item is mainly impacted by subsidies received for specific research activities and release of provisions recorded in earlier periods.

Total operating expenses decreased from EUR 178.9 million in 2019 to EUR 169.1 million in 2020, representing 29.9% of revenues in 2020 after 32.1% in the prior year.

Overall, ADVA reported a significantly increased operating income of EUR 27.5 million in 2020 after an operating income of EUR 12.0 million in the prior year. The improvement in operating result is largely due to an increase in gross margin combined with decreased operating cost.

Pro forma operating income

(in millions of EUR and relative to total revenues)

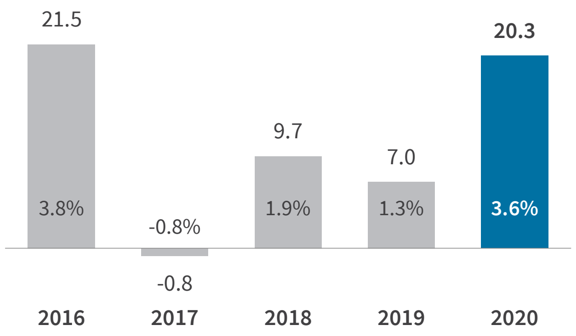


Pro forma operating income represents one of the four key performance indicators for the group. As pro forma operating income excludes non-cash charges related to stock compensation and business combinations as well as non-recurring expenses related to restructuring measures, ADVA's management board 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.

Corresponding to operating result, the pro forma operating result increased significantly from EUR 24.8 million in 2019 to EUR 33.8 million in 2020. In contrast to the previous year, the reconciliation items did not include any special effects.

Net income (loss)

(in millions of EUR and relative to total revenues)



Given the strongly increased operating income, compared to 2019, ADVA reported significantly improved net income of EUR 20.3 million for 2020, after a net income of EUR 7.0 million in 2019. Beyond operating income, the net result in 2020 included net interest expenses of EUR 2.6 million (prior year: EUR 2.3 million) and net other financial losses of EUR 0.1 million (prior year: net other financial loss of EUR 0.8 million). Other financial losses mainly relate to the translation of foreign currency assets and liabilities and to gains and losses on hedging instruments. Moreover, 2019 included expenses of EUR 1.4 million from the write-off of an investment.

In 2020, the group reported an income tax expense of EUR 4.5 million after an income tax expense of EUR 1.9 million in 2019, representing a tax rate of 18.15% (previous year: 21.09%). In 2020, the increased current income tax expense results from the significant improvement of ADVA's income. The reduction of the tax rate compared to the prior year is due to the positive tax result of ADVA Optical Networking SE and thus utilization of tax loss carry forwards.

Earnings per share

Basic and diluted earnings per share were EUR 0.40 each, in 2020 after EUR 0.14 each, in the prior year. Basic average shares outstanding increased by 0.3 million to 50.3 million in 2020, due to capital increases from the exercise of stock options. Diluted weighted average shares outstanding were at 50.6 million in 2020.

Summary: Business development and operational performance

Operating income as well as net income increased significantly in 2020 compared to the previous year due to the improved gross margin and the decrease of operating expenses.

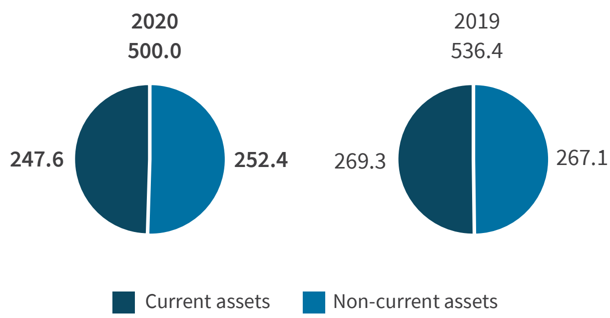
Net assets and financial position of the group

Balance sheet structure

ADVA's total assets decreased by EUR 36.4 million or 6.8%, from EUR 536.4 million at year-end 2019 to EUR 500.0 million at the end of 2020.

Assets

(on December 31, in millions of EUR)



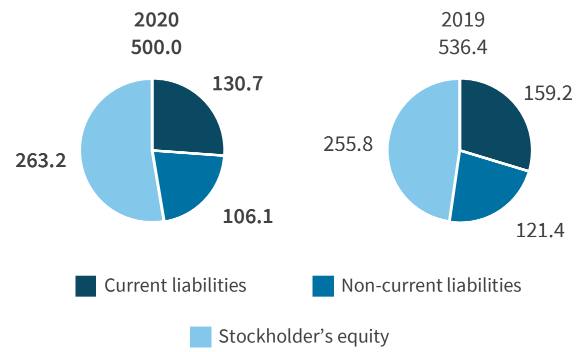
Current assets decreased by EUR 21.7 million or 8.0% from EUR 269.3 million on December 31, 2019, to EUR 247.6 million on December 31, 2020, and comprised 49.5% of the balance sheet total after 50.2% at the end of the prior year. The decline in current assets was mainly driven by a decrease in inventories by EUR 15.2 million to EUR 90.1 million. The decrease in inventories reflects in particular the utilization of inventory capacities built up in the previous year. This increase in purchasing in 2019 was made to prevent negative effects of the trade dispute between the USA and China. Inventory turns decreased from 4.0x in 2019 to 3.9x in 2020. Trade accounts receivable also decreased from EUR 96.2 million to EUR 83.9 million at the end of December 2020 in particular due to the improvement in receivables management. DSO improved from 66 days reported in 2019 to 58 days in 2020. At the same time, cash and cash equivalents at EUR 64.9 million were EUR 10.6 million up at year-end 2020, mainly due to the decreased operating expenses as well as lower usage of funds for net working capital.

Non-current assets decreased by EUR 14.7 million from EUR 267.1 million at year-end 2019 to EUR 252.4 million on December 31, 2020. This decrease results in particular from lower right- of-use assets amounting to EUR 25.4 million at year-end 2020 compared to EUR 32.0 million on December 31, 2019 due to scheduled depreciation. In addition, goodwill decreased by EUR 5.0 million to EUR 67.0 million at the end of 2020 due to exchange rate effects. Intangible assets from business combinations decreased from EUR 20.9 million in 2019 to EUR 15.0 million at the end of 2020, in particular due to scheduled amortization and exchange rate effects f. In contrary, capitalized development projects increased from EUR 96.2 million to EUR 98.6 million at the end of 2020. Deferred tax assets increased by EUR 0.9 million to EUR 7.2 million at the end of 2020. Deferred tax assets and liabilities are presented net in accordance with relevant netting requirements.

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 recognized 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 by EUR 28.5 million from EUR 159.2 million at year-end 2019 to EUR 130.7 million at the end of 2020. The decrease is mainly due to the significant reduction in trade accounts payables by EUR 29.2 million to EUR 44.2 million at the end of 2020. DPO decreased to 55 days in 2020 compared to 63 days in the previous year. The reduction in trade accounts payable resulted in particular from demand-oriented purchases of materials as well as from premature settlement of trade payables to strengthen the supply chain. These measures were essential due to various bottlenecks in the availability of components.

Non-current liabilities at EUR 106.1 million at year-end 2020 were also down from EUR 121.4 million reported at prior year-end. Non-current liabilities to banks decreased by EUR 14.6 million to EUR 47.1 million at the end of 2020 due to scheduled repayments. Financial liabilities are explained in more detail in a separate section below. In addition, non-current liabilities from leases were EUR 6.4 million lower at EUR 22.0 million.

Stockholders' equity increased by EUR 7.4 million from EUR 255.8 million at year-end 2019 to EUR 263.2 million at the end of 2020, mainly due to net income partly offset by negative effects from currency translation in other comprehensive income. In 2020, capital increases totaling EUR 1.3 million from the exercise of stock options, and stock compensation expenses totaling EUR 1.2 million were reported.

Balance sheet ratios

The equity ratio improved to 52.6% at the end of 2020, after 47.7% at year-end 2019. The non-current assets ratio amounted to 104.3% on December 31, 2020, with stockholders' equity fully covering the non-current assets.

(on December 31, in %)		2020	2019
Equity ratio	Stockholders' equity / Total assets	52.6	47.7
Non-current asset ratio	Stockholders' equity / Non-current assets	104.3	95.8
Liability structure	Current liabilities / Total liabilities	55.2	56.7

Capital expenditures

Capital expenditures for additions to property, plant and equipment in 2020 amounted to EUR 13.6 million, down from EUR 16.9 million in 2019, largely reflecting lower investments in land and equipment.

Capital expenditures for intangible assets of EUR 44.7 million in 2020 were up from EUR 43.6 million in the prior year. This total consists of capitalized development projects of EUR 39.9 million in 2020 after EUR 42.4 million in 2019, and investments in concessions and software licenses and other intangible assets of EUR 4.8 million in 2020 after EUR 1.1 million in 2019. Investments in capitalized development projects are mainly driven by development activities for open optical transmission technology including the new TeraFlex™ terminal and the new generation of 100G products.

Cash flow

(in millions of EUR)	2020	Portion of cash	2019	Portion of cash
Operating cash flow	97,1	149.7%	66.9	123.3%
Investing cash flow	-58,4	89.9%	-60.3	111.2%
Financing cash flow	-26,7	41.3%	-14.5	26.8%
Net effect of foreign currency translation on cash and cash equivalents	-1,4	2.2%	-0.5	0.8%
Net change in cash and cash equivalents	**10,6**	**16.4%**	**-8.4**	**15.5%**
Cash and cash equivalents at the beginning of the period	54,3	83.6%	62.7	115.5%
Cash and cash equivalents at the end of the period	**64,9**	**100.0%**	**54.3**	**100.0%**

Cash flow from operating activities of EUR 97.1 million in 2020 was up EUR 30.2 million from EUR 66.9 million in 2019. This improvement was mainly due to the strongly increased income before tax as well as decreased cash outflows for net working capital.

Cash flow from investing activities was negative EUR 58,4 million in 2020 after negative EUR 60.3 million in the prior year. In 2020, capital expenditures for property, plant and equipment and capitalized development projects decreased compared to the previous year.

Finally, cash flow from financing activities at negative EUR 26.7 million in 2020 was significantly up compared to the 2019 level of negative EUR 14.5 million. The net outflow results mainly from scheduled repayments and interest payments for existing liabilities to banks. In 2019, in addition inflows from a new loan in the amount of EUR 10.0 million was included.

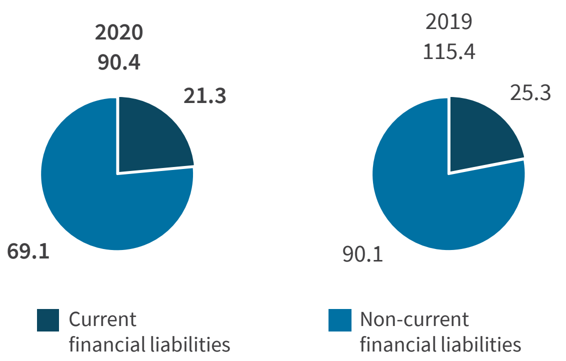
Overall, including the net effect of foreign currency translation on cash and cash equivalents of negative EUR 1.4 million (2019: negative EUR 0.5 million), cash and cash equivalents increased by EUR 10.6 million in 2020, from EUR 54.3 million at year-end 2019 to EUR 64.9 million at the end of 2020, after a decrease of EUR 8.4 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 useful 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 liabilities.

FINANCIAL LIABILITIES

(on December 31, in millions of EUR)



In 2020, financial liabilities decreased significantly by EUR 25.0 million to EUR 90.4 million at the end of 2020. As a result of scheduled repayments, current liabilities to banks decreased to EUR 15.5 million in 2020, down from EUR 19.2 million at the end of 2019, and non-current liabilities to banks decreased to EUR 47.1 million at the end of December 2020, down from EUR 61.8 million at the end of the previous year. Current lease liabilities remained largely stable year-on-year at EUR 5.8 million, while non-current lease liabilities reduced to EUR 22.0 million.

In 2020, the loans at IKB Industriekreditbank of EUR 12.5 million were fully repaid.

All financial liabilities were exclusively denominated in euro at the end of 2019 and 2020.

On December 31, 2020, the group had available EUR 50.0 million (on December 31, 2019: EUR 10.0 million) of undrawn committed borrowing facilities.

Further details about the group's financial liabilities can be found in notes (15) and (16) to the consolidated financial statements.

NET DEBT

Net debt[2] represents one of the four key performance indicators for the group. As a result of the decline in financial debt and a simultaneous increase in cash and cash equivalents, ADVA's net debt improved significantly by EUR 35.6 million to EUR 25.5 million at the end of 2020. Cash and cash equivalents of EUR 64.9 million on December 31, 2020, and of EUR 54.3 million on December 31, 2019, were invested mainly in euro, USD and in GBP. At year-end 2020 and 2019, access to EUR 0.2 million of cash and cash equivalents, each, was restricted.

Net debt as of December 31 is calculated as follows:

(in millions of EUR)	**2020**	**2019**
Liabilities to banks		
current	15,5	19.2
non-current	47,1	61.8
Lease liabilities		
current	5,8	6.1
non-current	22,0	28.3
Cash and cash equivalents	-64,9	-54.3
Net debt	**25,5**	**61.1**

As of December 31, ADVA reports liquidity ratios as follows:

		2020	2019
Cash ratio	Cash and cash equivalents / Current liabilities	0.50	0.34
Quick ratio	Monetary current assets* / Current liabilities	1.14	0.95
Current ratio	Current assets / Current liabilities	1.90	1.69

* 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 (ROCE)

Return on capital employed in 2020 was at 7.3%, significantly up from 3.3% reported in 2019. The improvement is mainly due to the higher operating result in 2020. Capital employed increased by EUR 7.5 million, in particular due to the decrease in average current liabilities in 2020.

(base data in millions of EUR)	**2020**	**2019**
Operating income	27.5	12.0
Average total assets*	519.9	517.6
Average current liabilities*	146.0	151.2
ROCE $= \frac{\text{Operating income}}{\text{Ø total assets} - \text{Ø current liabilities}}$	**7.3%**	**3.3%**

* 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

ADVA's net assets and financial position improved in 2020 mainly due to the decline in financial debt with a simultaneous increase in cash and cash equivalents due to the improved cash flow from operating activities.

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 provide 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 undertakes essentially all 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 related individual financial statements are published separately.

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. In Martinsried/Munich, the company maintains its headquarter with all central functions and the sales and marketing organization. Furthermore, ADVA maintains some small to midsize national and international offices.

Operational performance

In 2020, ADVA Optical Networking SE generated revenues of EUR 378.3 million, an increase of 5.3% compared to prior year's revenues of EUR 359.3 million. Despite the current pandemic situation, demand in 2020 was pleasingly strong.

EMEA remained the most important sales region in 2020, followed by the Americas and Asia-Pacific. Sales in EMEA increased by 4.4% from EUR 245.9 million to EUR 256.6 million. The share of total revenues decreased slightly from 68.4% in 2019 to 67.8% in 2020. ADVA SE is strong in the EMEA region and leveraging its mature partner strategy and achieving good results thanks to a broad and loyal customer base. In the Americas region, revenue decreased by 1.8%, from EUR 77.3 million in 2019 to EUR 75.8 million in 2020. The regional share of total annual revenue decreased to 20.1% in 2020 from 21.5% in 2019. In Asia-Pacific, revenue increased by 27.1% from EUR 36.1 million in 2019 to EUR 45.9 million in 2020. The region is predominated by project-based business, leading to greater fluctuations in individual periods. The Asia-Pacific region contributed 12.1% to total revenue in 2020, after 10.0% in 2019.

Cost of goods sold increased from EUR 222.0 million in 2019 to EUR 231,6 million in 2020. The corresponding share in total revenue of 61,2% reduced compared to 2019 (61.8%).

Consequently, gross profit increased from EUR 137.3 million or 38.2 % of revenues in 2019 to EUR 146.7 million or 38,8 % of revenues in 2020. The development of the gross margin is impacted by variations in regional revenue distribution and in product and customer mix.

Selling and marketing expenses significantly decreased from EUR 38.6 million in 2019 to EUR 28.8 million in 2020. This decrease is mainly due to intragroup license agreements with subsidiaries expiring in 2019 as well as decreased costs due to restructuring measures implemented in the prior year and a reduction in travel costs in 2020 due to the current Covid-19 situation.

General and administrative expenses increased to EUR 18.4 million from EUR 15.2 million in 2019. This was mainly due to higher expenses for cloud-based software applications as well as higher costs for patent legal support.

Considering the decrease in capitalization of development expenses from EUR 42.4 million in 2019 to EUR 40.0 million in 2020, research and development expenses totalled EUR 92,7 million or 24,5% from revenues compared to EUR 91.8 million or 25.6% from revenues in the prior year.

Other operating result (other operating income less other operating expenses) decreased due to increased foreign currency losses to EUR 0.2 million from EUR 1.6 million in 2019.

Furthermore in 2020, EUR 49.8 million was distributed to the company from affiliated companies (previous year: EUR 4.0 million), positively impacting the result after taxes to EUR 54.7 million after the negative EUR 6.3 million seen in the previous year.

Summary: Operational performance

Overall, the business and operational performance developed very positive compared to the previous year. This is mainly the result of an increase in net profit due to the dividend distributions from affiliated companies as well as an increase in gross profit in 2020 compared to previous year.

Net assets and financial position

The total assets of ADVA Optical Networking SE increased by EUR 40.7 million from EUR 315.2 million at year-end 2019 to EUR 355.9 million at year-end 2020. Non-current assets increased from EUR 171.7 million to EUR 205.0 million on December 31, 2020, representing 57.6% of total assets after 54.5% at the end of the previous year. The increase in non-current assets was mainly driven by an increase in financial assets of EUR 33.3 million to EUR 76.3 million primarily due to an increase of shares in affiliated companies of EUR 2.8 million and the issuance of new loans to affiliated companies due to the conversion of accounts receivable of EUR 40.7 million which was partly offset by repayment of a prior year loans of EUR 11.9 million. Current assets increased to EUR 149.9 million from EUR 141.6 million in 2019, representing 42.1% of total assets after 44.9% at year-end 2019. The increase in current assets mainly results from the increase in trade receivables from EUR 38.1 million in the previous year to EUR 50.4 million due to increased revenues in Q4 of the current year versus prior years Q4. Other assets decreased from EUR 3.9 million in the previous year to EUR 1.1 million at year-end 2020 mainly due to lower tax receivables.

Mainly impacted by the net profit from the current business year, equity increased from EUR 129.9 million at year-end 2019 to EUR 185.8 million at year-end 2020 and represented 52.2% of the balance sheet total after 41.2% at the end of 2019. Due to the income from affiliated companies in the amount of EUR 49.8 million, the equity of ADVA Optical Networking SE increased significantly. The profit distributions result mostly from prior year operating profits of three wholly owned subsidiaries of ADVA Optical Networking SE.

Liabilities decreased from EUR 155.1 million in the prior year to EUR 134.6 million. This change essentially results from the decrease in trade payables by EUR 14.2 million, in particular from demand-oriented purchases of materials as well as from premature settlement of trade payables to strengthen the supply chain and the reduction in liabilities to credit institutions by EUR 8.8 million due to scheduled repayments. This effect was partly offset by the increase in other liabilities by EUR 2.7 million. Provisions increased from EUR 12.7 million in 2019 to EUR 13.5 million in 2020. Deferred income increased from EUR 6.5 million in the previous year to EUR 11.0 million in 2020 due to an increase in completed service agreements.

Capital expenditures

Investments in 2020 reached EUR 97.4 million (previous year: EUR 51.4 million). Thereof, EUR 44.6 million (previous year: EUR 43.4 million) was related to investments in intangible assets, EUR 3.5 million (previous year: EUR 5.7 million) on property, plant and equipment, and EUR 49.3 million on financial assets (previous year: EUR 2.3 million). The investments in intangible assets result from the addition of self-created industrial property rights and similar rights and values. The investments in property, plant and equipment mainly include expenditures for measuring and testing equipment. Financial assets mainly relate to shares in and loans to affiliated companies.

Liquidity

The development of cash and cash equivalents analyses as follows:

(in millions of EUR)	2020	2019
Operating cash flow	47,2	32.4
Investing cash flow	-36,2	-20.0
Financing cash flow	-7,5	-8.8
Net change in cash and cash equivalents	**3.5**	**3.6**
Cash and cash equivalents at the beginning of the year	14.9	11.3
Cash and cash equivalents at the end of the year	**18.4**	**14.9**

During 2020 and 2019, the company was able to meet all payment obligations.

Cash and cash equivalents of EUR 18.4 million as of December 31, 2020 and EUR 14.9 million as of December 31, 2019 were mostly invested in euro and USD. Due to the increase in cash and cash equivalents and the decrease in liabilities to banks, ADVA Optical Networking SE's net debt improved from EUR 66.6 million at the end of 2019 to EUR 54.3 million at the end of 2020.

Financing

Liabilities to banks decreased from EUR 81.5 million at year-end 2019 to EUR 72.7 million at the end of 2020 due to scheduled repayments. All liabilities to banks were exclusively denominated in euro and USD at the end of 2019 and 2020. Liabilities for factoring relates to a repayment obligation from a new factoring agreement whereby the significant credit risks were not transferred.

On December 31, 2020, the company had available EUR 50.0 million (on December 31, 2019: EUR 10.0 million) of undrawn committed borrowing facilities.

The following table provides an overview of the maturity of each liability to banks at year-end 2020:

(in millions of EUR)		Maturity		
		≤ 12 months	13 – 36 months	> 36 months
Loan of Deutsche Bank	10.0	-	10.0	-
Syndicated loan	53.0	15.0	38.0	-
Factoring	9.7	9.7	-	-
Total	**72.7**	**24.7**	**48.0**	**-**

Dividend payments

In 2020 there were no dividend payments for 2019 (prior year: nil for 2018). ADVA Optical Networking SE does not plan to pay out a dividend for 2020.

Summary: Net assets and financial position

Due to the significant increase in accumulated profit, the company's equity could be strengthened massively. In addition, the decrease in financial liabilities and the simultaneous increase in cash led to a significant improvement of ADVA Optical Networking SE's net assets and financial position.

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, 2020, and the groups and the company’s financial performance for 2020. Similarly, there were no events considered material for disclosure.

Disclosures under takeover law in accordance with Section 289a (1) HGB and Section 315a (1) HGB

Share capital and shareholder structure

On December 31, 2020, ADVA Optical Networking SE had issued 50,496,692 no-par value bearer shares (December 31, 2019: 50,181,966). The common shares entitle the holder to vote at the Annual Shareholders' 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 2020, EGORA Holding GmbH with registered office in Fraunhoferstrasse 22, 82152 Martinsried/Munich, Germany held a total of 7,456,749 shares or 14.77%[5] of all ADVA Optical Networking SE shares outstanding (at year-end 2019: 7,456,749 shares or 14.86% of all shares outstanding). Additionally, at year-end 2020, Teleios Capital Partners LLC, registered office Baarerstraße 12 in 6300 Zug, Switzerland, held 9,760,828 shares or 19.38%[6] of all ADVA Optical Networking SE shares outstanding (at year-end 2019: 11,217,927 shares or 22.36%). No other shareholder has filed with the company to have held more than 10% of the company's shares outstanding on December 31, 2020. 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 2020, 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 May 13, 2020. 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 statutes, 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 revoke an already effective appointment for important reasons. In 2020, 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 51 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 considering a 75% majority vote, 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 May 13, 2020. 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 May 13, 2020, 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 24,965,477 new shares from authorized capital, amounting to a total of EUR 24,965,477 against cash or contribution in kind with possible exclusion of subscription rights (authorized capital 2019/I). As of December 31, 2020, the authorized capital amounted to EUR 24,965,477, so that at that time the management board was capable of issuing up to 24,965,477

[5] Capital shares refer to the total number of shares held in relation to the share capital as of December 31, 2020.

[6] Capital shares refer to the total number of voting rights of the latest respective notification prior to December 31, 2020. A change in the total number of voting rights after the notification date was not taken into account.

shares, equating to 49.75% of total shares outstanding. In addition, as of December 31, 2020, a conditional capital of EUR 5,018,196 was 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 and insofar as the holders of the option rights exercise these rights. 314.726 new shares were already created in 2020 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 conditional capital is reduced to 4,703,470.

At year-end 2020, 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 Shareholders' Meeting or – if this value is lower – at the time the authorization is exercised. This right was granted to the management board until May 21, 2024, by a resolution of the shareholders' meeting on May 22, 2019. 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 2020, a bilateral loan with redemption value of nominally EUR 10.0 million (repayable on the final due date), and a syndicated loan with a redemption value of nominally EUR 53.0 million (repayable from June 2020 in half-yearly installments as well as a final installment on final the due date), respectively, are part of ADVA Optical Networking SE's financial liabilities. In addition, the syndicated loan has two undrawn credit lines of EUR 10.0 million and EUR 40.0 million, respectively, 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, 2020, 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.

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% on the supervisory board shall be maintained until March 31, 2021, and a women's portion of 0% on the management board until December 31, 2021. As of December 31, 2020, these shares have already been achieved.

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, 2020, the women's portion on the first management level has been 5% and at the second management level 39%. This exceeded the self-set target on the second management level, although it was slightly below the target on the first management level. The reason for this was the departure of two women on the first management level, with a replacement by a woman on the second management level. The other position was not filled.

Separate nonfinancial report

In order to facilitate public access to all respective data, ADVA decided to publish a separate nonfinancial report on its website www.adva.com (About Us / Sustainability) simultaneously with the publication of the annual report on February 25, 2021.

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 variable compensation for the members of the management board includes capped 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 2020, 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 debt (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 of EUR 808 thousand for the management board focusing on the sustainable development of the group during 2020 to 2022 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, 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.

During both years, there were no long-term service contracts in the sense of IAS 19 for any member of the management board. In 2020 and 2019, no loans were granted to the members of the management board. As of December 31, 2020, there was a receivable from one member of the management board in the amount of EUR 6 thousand (previous year: none). There were no receivables from the other members of the management board (December 31, 2019: none).

Total management board compensation payable according to section 314 paragraph 1 no. 6a HGB for 2020 and 2019 was EUR 2,224 thousand and EUR 1,695 thousand, respectively. The following tables show the benefits granted and paid to the members of the management board for the reporting period in accordance with the German Corporate Governance Code in the version dated February 7, 2017.

Value of benefits granted for the reporting period

	Brian Protiva				Christoph Glingener				Ulrich Dopfer				Scott St. John			
	Chief executive officer				Chief technology officer and chief operations officer				Chief financial officer				Chief marketing and sales officer			
(in thousands of EUR)	**2020**	**2019**	**2020 (Min)**	**2020 (Max)**	**2020**	**2019**	**2020 (Min)**	**2020 (Max)**	**2020**	**2019**	**2020 (Min)**	**2020 (Max)**	**2020**	**2019**	**2020 (Min)**	**2020 (Max)**
Fixed compensation	253	253	253	253	253	253	253	253	253	253	253	253	253	253	253	253
Fringe benefits	7	9	7	7	10	14	10	10	14	15	14	14	14	15	14	14
Total	**260**	**262**	**260**	**260**	**263**	**267**	**263**	**263**	**267**	**268**	**267**	**267**	**267**	**268**	**267**	**267**
Short-term variable compensation (1 year)	335	206	-	536	243	146	-	380	219	131	-	340	232	147	-	360
Multi-year variable compensation:																
Long-term variable compensation 2019 - 2021	-	89	-	-	-	63	-	-	-	57	-	-	-	60	-	-
Long-term variable compensation 2020 - 2022	89	-	-	89	63	-	-	63	57	-	-	57	60	-	-	60
Stock option plans (total duration 7 years)	69	-	-	1,000	69	-	-	1,000	-	-	-	-	-	-	-	-
Total	**753**	**557**	**260**	**1,886**	**638**	**476**	**263**	**1,706**	**543**	**456**	**267**	**664**	**559**	**475**	**267**	**687**

Actual contribution for the reporting period

(in thousands of EUR)	Brian Protiva				Christoph Glingener				Ulrich Dopfer				Scott St. John			
	Chief executive officer				Chief technology officer and chief operations officer				Chief financial officer				Chief marketing and sales officer			
	2020	**2019**	**2020 (Min)**	**2020 (Max)**	**2020**	**2019**	**2020 (Min)**	**2020 (Max)**	**2020**	**2019**	**2020 (Min)**	**2020 (Max)**	**2020**	**2019**	**2020 (Min)**	**2020 (Max)**
Fixed compensation	253	253	253	253	253	253	253	253	253	253	253	253	253	253	253	253
Fringe benefits	7	9	7	7	10	14	10	10	14	15	14	14	14	15	14	14
Total	**260**	**262**	**260**	**260**	**263**	**267**	**263**	**263**	**267**	**268**	**267**	**267**	**267**	**268**	**267**	**267**
Short-term variable compensation (1 year)	335	206	335	335	243	146	243	243	219	131	219	219	232	147	232	232
Multi-year variable compensation:																
Long-term variable compensation (plan 2019 and 2020)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stock option plans (total duration 7 years)	213	59	213	213	366	59	366	366	108	-	108	108	-	-	-	-
Total	**808**	**527**	**808**	**808**	**872**	**472**	**872**	**872**	**594**	**399**	**594**	**594**	**499**	**415**	**499**	**499**

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 2020 and 2019 amounted to EUR 235 thousand, each.

During 2020, 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, 2020, ADVA had 1,870 employees worldwide, including 22 apprentices (prior year: 1,903 including 24 apprentices).

On average, ADVA had 1,882 employees during 2020, down from 1,909 in 2019. Furthermore, there were 39 and 35 temporary employees working for ADVA at year-end 2020 and 2019, respectively.

Personnel expenses in the group decreased from EUR 187.8 million in 2019 to EUR 181.9 million in 2020, representing 33.7% and 32.2% of revenues, respectively.

On December 31, 2020, ADVA Optical Networking SE had 597 employees, thereof 22 apprentices (prior year: 598 employees, thereof 23 apprentices). This corresponds to a decrease of one employee or 0.2% versus the end of the prior year.

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

(on December 31)	**2020**	**2019**	**Change**
Purchasing and production	169	155	+14
Sales, marketing and service	115	141	-26
Management and administration	98	95	+3
Research and development	193	184	+9
Apprentices	22	23	-1
Total employees	**597**	**598**	**-1**

Personnel expenses in the ADVA SE slightly increased from EUR 50.0 million in 2019 to EUR 50.7 million in 2020, representing 13.4% of revenues in 2020 compared to 13.9% in 2019.

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 22 apprenticeship positions, whereof 11 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 eight students are trained within this program.

Risk and opportunity report

ADVA's future development offers a broad variety of opportunities. It is however also subject to 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 and profit predictability, a comprehensive risk management system has been established which is coordinated by the Internal Audit and Risk Management 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 considering common international standards and best practices such as the COSO framework[7] 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 five areas, growth and profitability, innovation, operational excellence, people and customer experience. 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 traced to each employee so that every individual can focus

[7] 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.

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 debt[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, pro forma operating income and net debt on a monthly 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, forecasted and actual revenues and expenditures. The structure and content of these reports is continuously adapted to the most current requirements.

ADVA regularly monitors the creditworthiness of its 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 the anticipated group development within the next three to twelve months is put together 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, considering 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 compliance management system. 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 in case of uncertainties or questions.

All implemented measures and processes of the risk management system as well as of the compliance management system are continuously reviewed and improved.

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 is or exceeds EUR 3 million in terms of ADVA's three-year business plan (in 2019 this threshold was EUR 1 million). 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 internal audit and risk management 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 material risk items directly and informally to the internal audit and risk management 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 14 risks as major risks at the end of 2020 (end of 2019: 20), which are discussed in detail below. The lower number of major risks compared to 2019 mainly results from the increase in threshold applied (see above). The change in threshold was made to set the focus on the most important risks.

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 regards to the fluctuation of income from investments and the recoverability of shares in affiliated companies. ADVA Optical Networking SE does not consider this risk to be material.

Major risks 2021-2023

1 Inadequate go-to-market support

2 Perceived lack of scale or innovation capability

3 Loss of key customers or channel partners

4 Market pricing pressure

5 Uncompetitive product cost

6 Wrong product strategy

7 Geopolitical and trade risks

8 Cyber risks

9 Supply shortages

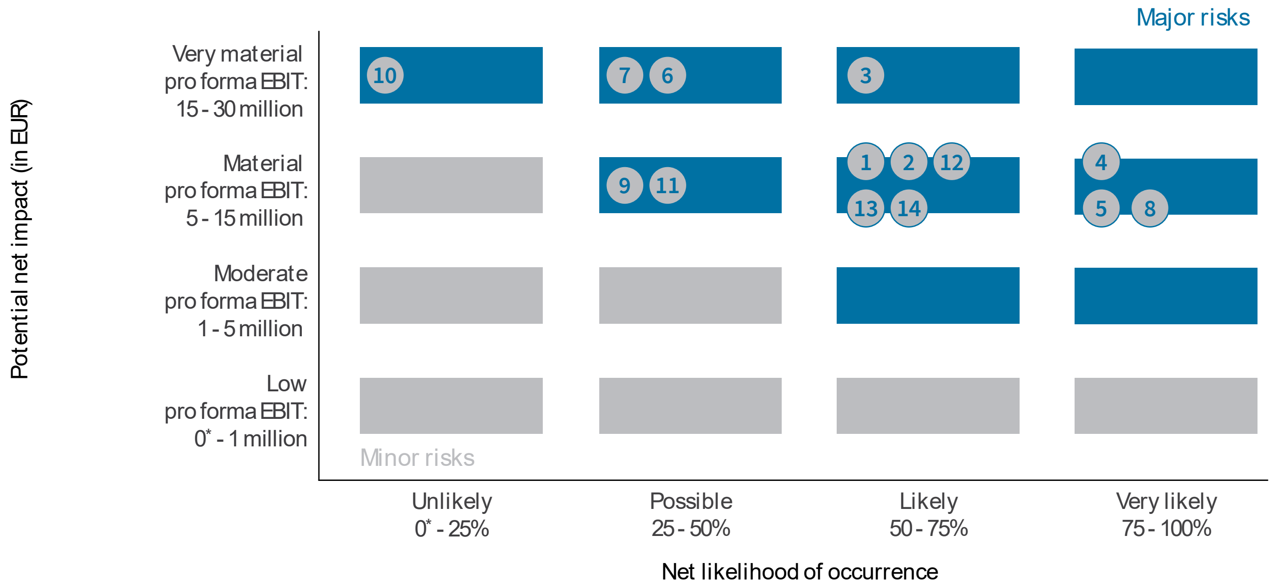
10 Unsatisfying supplier and manufacturing quality

11 Loss of knowledge, skills, relationships and overall capacity

12 Compliance violations by intermediaries

13 Unsatisfying product software design quality

14 Uncompetitive products due to delayed release



Growth and profitability risks

INADEQUATE GO-TO-MARKET SUPPORT (LIKELY; MATERIAL)

ADVA operates in an industry characterized by rapid technological change. Examples include the ongoing convergence of Layer 2 and 3 at the network edge, the emergence of new disrupting technologies such as NFV and the growing importance of network synchronization. In order to benefit from such developments, ADVA has substantially increased its product portfolio during the last few years and continuously develops new products and features in order to meet customer requirements. Supporting the market introduction of new and enhanced products and technologies requires significant investments in resources, tools and procedures. Inadequate go-to-market support may result in delays in selling newly developed products and solutions, undermining ADVA's growth and profitability targets.

PERCEIVED LACK OF SCALE OR INNOVATION CAPABILITY (LIKELY; MATERIAL)

Industries and consumers increasingly rely on networks for their daily business operations. As the discussions around 5G illustrate, the strategic importance of networks for societies and nations is ever increasing. As a result, the group's customers are more intently seeking out vendors who offer leading innovation and engagement models, and who have the financial strength and sustainability to deliver on these over the long-term. With ADVA being one of the smaller companies in the network equipment industry, a certain risk arises that customers may have doubts about ADVA's ability to execute on its (product) strategy. Nevertheless, the group's proven track record in meeting this challenge does help to mitigate the risk.

LOSS OF KEY CUSTOMERS OR CHANNEL PARTNERS (LIKELY; VERY MATERIAL)

The loss of key customers or channel partners would have significant impact on ADVA's business and may arise from changes in customer demands and the group's ability to meet them, or mergers and acquisitions of existing customers that result in the decision to consolidate vendors and technology partners in a way that either reduces or eliminates ADVA's share of the consolidated entity's spend. However, for most key revenue customers, the group has deployed thousands of systems over a multi-year period which are integrated in operational workflows and processes and, as a result, there is a certain dependency on ADVA and its products. For key customers and channel partners, the group furthermore ensures continuous performance and satisfaction through a dedicated team of professionals. While Covid-19 had some short-term stimulating effects on the telecommunications industry, the long-term impact depends on many factors, particularly how long the pandemic will last and how long and deep any associated economic recession will be. The UK is a highly important sales market for ADVA with one of its main customers operating there. Preventive measures were taken to avoid delays in deliveries due to Brexit and to maintain the same service levels as in the past. It is unclear though what impact the Brexit will have on the UK and on ADVA's customers' businesses on the long term.

MARKET PRICING PRESSURE (VERY LIKELY; 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

UNCOMPETITIVE PRODUCT COST (VERY LIKELY; MATERIAL)

ADVA achieves cost advantages through its ability to scale economically and through the optimization of product design. The loss of competitive product cost 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 monitored by monthly and quarterly status reports to the group's management board. The establishment of parallel production lines in different territories to mitigate geopolitical and supply chain risks (see below) leads to an increase in capital expenditures and operational cost. ADVA diligently assesses the advantages and disadvantages of second sources and parallel production lines versus the additional cost incurred.

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. Another competitive factor which is gaining importance is sustainability. 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.

Operational excellence risks

GEOPOLITICAL AND TRADE RISKS (POSSIBLE; VERY MATERIAL)

The U.S.-China trade conflict has evolved to be more than a dispute over the existing bilateral trade imbalance, but also the future technology leadership (5G technology, computing, semiconductors, etc.) and national security concerns. Growing trade tensions emerged also between the U.S. and the European Union (EU) and may result in higher tariffs and more non-tariff barriers that could be slowing down trade on both sides. Uncertainty also exists with regards to the Brexit and the short and mid-term implications on the UK's economic growth and trade volume with the EU. With tariffs and other forms of trade barriers being increasingly used as tools to enforce a political agenda, a flexible supply chain and manufacturing process that is less dependable on and can react swiftly in response to political decisions is key in preparing ADVA for 2021 and beyond. It is part of ADVA's plan to lessen the dependency on China which is followed through with additional qualifying contract manufacturing sites in Southeast Asia. Since more customers are asking for products originating from TAA designated countries, ADVA is also planning to significantly increase its European manufacturing operations. The expected increase in manufacturing unit cost due to the higher labour cost in Europe, is planned to be reduced by higher grades of automation and robotics.

CYBER RISKS (VERY LIKELY; MATERIAL)

The integrity, confidentiality and availability of our information systems and data is key for the functioning of our business processes and consequently for the company's success. Cyber-attacks against organizations are increasing worldwide in both, quantity and quality, and attackers are more frequently targeting midsize companies like ADVA. Cyber-crimes are committed by a wide range of perpetrators ranging from single hackers to professional organizations partially operating on behalf of national governments. The motives for cyber-attacks are similarly wide ranging from ransom extortion to industrial espionage and sabotage. Preventing from, and combatting cyber threats is a never-ending challenge which in ADVA is accomplished by a series of measures. These include among others the continuous monitoring of the information security risk landscape, making staff aware for cyber threats through adequate trainings, fast patch management, restrictive access right management, a centralized information technology function which enforces rigid and global security policies, regular review of the information technology disaster recovery plan and incident management as well as network, system and application monitoring. Although information security measures are continuously improved and adapted to combat new threat profiles, there is no guarantee that the measures will prevent ADVA from cyber-crimes.

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. This may be caused by natural disasters which are expected to occur in higher frequency and at larger scales due to the climate change, pandemics, political conflicts, or specific problems of a supplier. Some components undergo strongly varying demand cycles. Particularly semi-conductor capacities notoriously fluctuate between supply shortages and over-capacities. The unexpected strong recovery of the China economy after the Covid-19 downturn coupled with the growing demand for electric cars and consumer goods, is likely to result in capacity shortages at semiconductor foundries and in extended lead times and rising prices. 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. Since the breakout of Covid-19, supply chain management closely monitors the development of infections and political agendas in the countries ADVA is doing business in or is sourcing materials or manufacturing products to early identify potential interruptions and derive mitigating activities. ADVA also prepared itself for the expected interruptions caused by the Brexit. Among other measures ADVA built up buffer stocks for UK customers in British territory. It is unclear though whether these measures will be sufficient to fully satisfy customer demands.

UNSATISFYING SUPPLIER AND MANUFACTURING QUALITY (UNLIKELY; 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 levels 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.

People risks

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

The digital transformation continues at a rapid pace and has led to a permanent shortage of skilled workers within the technology industry. While particularly intense in developed countries, competition for talent is fierce all over the globe. As a result, the group is continuously 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. The global economic downturn due to Covid-19 followed by hiring freezes and layoffs seen in organizations worldwide slowed down the battle for talent. However, we assume this effect to be of temporary nature, only.

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 and capabilities. 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 vetting of new intermediaries and periodic reviews and updates. In addition, ADVA's sales agreements contain clauses in which the intermediaries guarantee compliance with the rules. Existing commission-based compensation is tightly controlled and new contracts are avoided where possible.

Customer Experience

UNSATISFYING PRODUCT SOFTWARE DESIGN QUALITY (LIKELY; MATERIAL)

ADVA develops, manufactures and sells solutions for a modern telecommunication infrastructure. While mostly hardware based, it is increasingly software that drives the product performance and feature set. In order to support ADVA's growth targets by addressing a maximum number of customer needs, the group's limited R&D resources need to support a growing number of features. To enable this, the group applies a software development methodology commonly referred to as "Agile." It is embedded into a tool-assisted development and release process supported by continuous transparency and reporting on the achieved quality levels.

UNCOMPETITIVE PRODUCTS DUE TO DELAYED RELEASE (LIKELY; 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 to maximize effectiveness and break up barriers. All value streams operate according to one common tool-supported development process.

Minor and financial risks

Beyond the discussed 14 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 totaling EUR 63.0 million and committed borrowing facilities totaling EUR 50.0 million as well as the risk of customer defaults, foreign currency risks despite of ADVA's efforts to reduce the exposure by natural hedging and by the partial hedging of excess foreign currency flows, balance sheet risks such as the impairment of intangible assets and changes in interest rate levels. Uncertainties also exist with regards to the timing of carrier investment cycles and to distribution partnerships, to legal risks pertaining to potential claims under product and warranty liabilities as well as patent rights, to people related risks including bribery, corruption, harassment and discrimination and to secure confidentiality of personal and business sensitive data. Moreover, to 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 have a major impact on the group in case of their occurrence.

Changes to the overall risk situation and classified major risks in 2020

During 2020, the number of ADVA's major risks decreased by six mainly due to the increased threshold for risks classified as major risk (EUR 3 million and higher versus EUR 1 million and higher before). Cyber risks are newly reported as a major risk taking into account the higher risk exposure for mid-size companies described above. The risk "global tariffs" evolved into the broader risk "geopolitical and trade". In summary, twelve risks remained largely unchanged, one risk was added, and one was extended in scope. Seven risks reported as major risks so far are now considered as minor risks due to the changed thresholds. The group's Net Promoter Score recovered in 2020 and met the target of 50% (2019: 44%). The Covid-19 pandemic marked the most important change in the overall risk situation in 2020 compared to 2019. Particularly the risk of interruptions of the supply chain was omnipresent and required close monitoring of the Covid-19 situation in the countries in which ADVA purchased, manufactured and sold its products. The ADVA staff was protected from the very beginning by extensive hygiene measures and home office use. The direct and indirect impact of Covid-19 on ADVA's business results was marginal though.

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 GAINS IN EUROPE (VERY LIKELY; VERY MATERIAL)

The Covid-19 pandemic has highlighted the economic importance of digitization and a high-performance communications infrastructure and has prompted a rethink in politics and business. The use of device technology with questionable origin is now viewed very negatively, especially with regards to the expansion of 5G and the industrial applications associated with it. In many industrialized nations of the Western world, the dependence on large Chinese network equipment suppliers, in particular Huawei, is perceived as a serious threat. After the USA, the affected network operators in Europe are now also working on concepts to free themselves from this dependency and are actively looking for alternatives. For ADVA, as an established company headquartered in Europe, the new dynamics create additional opportunities.

ACQUISITION OF NEW KEY CUSTOMERS AND DISTRIBUTORS IN THE U.S. (VERY LIKELY; VERY MATERIAL)

Telecom equipment customers typically enter into long-term relationships with their suppliers. Their installed systems usually have a deep impact on their operating processes and procedures, and a complete switch to a new supplier often involves considerable expenditure of time and money. Nevertheless, customers sometimes switch suppliers, whether for better prices, improved quality, to further develop networks, or because of corporate policy decisions. The political headwinds facing Chinese vendors, especially Huawei, in Europe and the United States present a major opportunity for ADVA to win new customers over the next 24 months. The US government launched a USD 1.9 billion program to replace Huawei and ZTE network equipment in communications networks. The program targets around 50 communications network operators who, if they are not already ADVA customers, represent potential new customers for ADVA. The Rural Digital Opportunity Fund (RDOF) provides USD 20 billion to US network operators for rural broadband expansion. This is another great opportunity for ADVA to acquire new customers. ADVA will systematically exploit these opportunities using an appropriate methodology.

PORTFOLIO CROSS-SELLING BASED ON UNIFIED NETWORK MANAGEMENT SOFTWARE (LIKELY; MATERIAL)

ADVA operates in three distinct technology segments: open optical transmission technology, programmable cloud access solutions and high-precision network synchronization. In addition to a variety of opportunities in each of these technology areas, the group sees a high likelihood of cross-selling between technologies supported by common network management software and cross-product security concepts. In recent years, ADVA has consolidated several previously separate software platforms into a common architecture that supports all technology areas. As this platform is used by several hundred of the group's customers, who typically have requirements for all three technology areas but are existing customers in only one or two areas, there are significant cross-selling opportunities.

ADDITIONAL DEMAND FOR PACKET-BASED ACCESS SOLUTIONS WITH INCREASING SOFTWARE CONTENT (LIKELY; MATERIAL)

With the introduction of 5G and the emergence of edge computing solutions, CSPs are redefining their strategies in the network access space. ADVA has invested heavily in expanding its cloud access portfolio to help CSPs find new revenue streams. As a result, ADVA has the world's most comprehensive portfolio of fiber-based Ethernet access and aggregation solutions that enable industry-leading data transmission. In addition to FSP 150 hardware, ADVA's Ensemble software portfolio provides virtual network solutions that enable CSPs to offer new services to enterprise IT departments. NFV enables CSPs to quickly create and deploy new services anywhere in the world. Driven by close partnerships with some of the world's leading enterprise IT suppliers, the group sees the potential for numerous new customer wins and a higher share of software revenue in this area.

ADDITIONAL DEMAND FOR SERVICES THROUGH USE OF MACHINE LEARNING (ML) AND ARTIFICIAL INTELLIGENCE (AI) (LIKELY; MATERIAL)

In the past fiscal year, ADVA was able to further increase its contribution to revenues through services. More and more customers are using the company's range of services in the planning, construction and commissioning of their networks. In addition, there are contracts for the maintenance and protection of networks already in operation. ADVA is continuously expanding its service catalog, for example using ML and AI to offer new services for improved network resilience. The pandemic has increased demand for all services and further significant revenue increases are possible.

INFORMATION TECHNOLOGY SECURITY (HIGHLY LIKELY; MATERIAL)

Large enterprises and government agencies are concerned about the security of their data and business processes and are therefore building new data backup and data storage solutions, which in turn require transmission technology to link sites. In addition, the EU's General Data Protection Regulation (GDPR), which came into force in 2019, is leading to increased data protection requirements for all companies operating in Europe. A few years ago, network technology primarily had to provide cost-effective bandwidth. Today, the focus is increasingly on security. This inevitably has an impact on the technical realization of the cloud as well as customers' selection of manufacturers. ADVA is the one remaining European specialist in optical transmission technology and a reliable partner for thousands of companies. Its ConnectGuard™ security portfolio offers customers 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, anticipates a positive market environment with additional opportunities in security-related infrastructure.

NEW MARKETS FOR SYNCHRONIZATION SOLUTIONS (VERY LIKELY; MATERIAL)

In addition to mobile network operators' increasing demands for high-precision synchronization solutions, ADVA's Oscilloquartz technology is gaining traction in other applications. Synchronization of global databases of internet content providers, accuracy of timestamps for financial trading, synchronization of power grids with distributed generation, time distribution in digital infrastructure deployment, and synchronization of media networks all offer additional opportunities for this technology segment.

EXPANSION OF ADDRESSABLE MARKET AND SHARE GAINS THROUGH DECARBONIZATION (POSSIBLE; MATERIAL)

According to current knowledge, climate change and the resulting threats to our planet are largely due to high CO_2 emissions worldwide. The transport of goods and people has played a not insignificant role in this. In addition, of course, the energy consumption of communication networks is also increasing as data traffic grows. This creates opportunities for ADVA: on the one hand, the lockdown in many parts of the world has shown that numerous economic processes, as well as processes of daily life, function with significantly less mobility. Home office and video conferencing have significantly reduced the need for business travel. The aspect of "green thanks to ICT" – i.e., more resource-efficient processes through the use of communications technology to replace the need for trips and flights – is stimulating digitization efforts around the world and having a positive effect on the growth of ADVA's addressable market. On the other hand, ADVA's activities in the area of sustainability are highly advanced. These are described in detail in the separately published sustainability report. The company's efforts to sustainably reduce the energy efficiency of its products as well as its own operational processes have been recognized by numerous organizations and go well beyond the commitment of direct competitors, especially from the US and the Far East. The company's innovation can reduce the energy consumption of communications networks. ADVA's customers, some of whom have set very ambitious climate targets, benefit from these improvements and appreciate the company's efforts. Now that some countries even require CO_2 levies to be paid, this also creates an economic advantage for network operators and, in turn, a competitive advantage for ADVA.

ADDITIONAL SALES OPPORTUNITIES FROM ONGOING MARKET CONSOLIDATION (POSSIBLE; MATERIAL)

Vendor consolidation in optical transmission technology will continue. In 2019, an Israeli competitor of the group was acquired by a US technology company. This acquisition further reduces the number of independent companies focusing on optical network solutions. ADVA is the remaining European specialist in this technology and has built a positive reputation among its customer base. Through the acquisition of Overture in 2016 and the acquisition of MRV in 2017, the group itself has contributed to the ongoing industry consolidation and gained strength and relevance. A consolidated competitive landscape can lead to slower market price erosion and new opportunities for ADVA to win additional customers as a primary or secondary supplier.

VERTICAL INTEGRATION FOR COST REDUCTIONS IN PRODUCT COMPONENTS AND NEW MARKETS (LIKELY; MODERATE)

ADVA is increasingly investing in the development of component technologies. These investments enable greater vertical integration and greater independence from suppliers. On the one hand, this leads to an improved cost structure for certain functions in ADVA's systems. On the other hand, ADVA benefits from an expansion of the total addressable market (TAM). The newly launched MicroMux family of pluggable transceivers will make a positive contribution to consolidated revenues and margins in 2021 and beyond, with strong growth potential.

Changes to the overall opportunity situation and the classified major opportunities in 2020

Compared to the previous year, the company believes that its opportunities have increased in all aspects: number, likelihood as well as materiality. Particularly the efforts of the western developed countries to remove Huawei and ZTE equipment from their networks provide new opportunities in a consolidating market. Coupled with increasing demands driven by information security requirements, high-precision synchronization required by new customer groups as well as its new range of software and service offerings, ADVA has a strong foundation for great performance.

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 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. Apart from the direct and indirect threats of the persistent Covid-19 pandemic, ADVA's overall balance between opportunity and risk has improved compared to the time of the publication of the 2019 combined management report. The management board has not identified any risk which would endanger the going concern of the ADVA group.

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 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 applying to the whole group. 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 and 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 meetings 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 in 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.

Outlook

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, as well as the resulting opportunities, can be found in the "General economic and market conditions” section and in the "Business overview" section.

The year 2020 was overshadowed by the global Covid-19 pandemic. With the rising spread of infection rates at the beginning of the year, uncertainties for the global economy began to grow. At the beginning of the Covid-19 crisis, ADVA was one of the first companies to point out in the 2019 management report that the city of Wuhan in China is a center for optoelectronic components and that supply constraints were to be expected due to lockdowns and plant closings that were being imposed. After the virus spread globally, the greatest risks for ADVA were the maintenance of supply chains and a possible decrease in demand. The company reacted swiftly and transferred around 80% of its workforce to a home-office environment. In addition, the company developed a strategy to absorb potential production and supply constraints due to a possible site closure by relocating to another site. Since there were only temporary interruptions in the supply chain, the delays in customer deliveries were largely made up in the third quarter, before further delays occurred in the fourth quarter due to renewed tightened lockdown measures. In addition, the management analyzed and selectively used government subsidy measures at an early stage and concluded a KfW credit line that can be used in the event of a significantly worsening Covid-19 crisis scenario.

Like many other companies, ADVA decided to suspend its annual guidance for 2020 due to the high level of uncertainty. However, it quickly became obvious that the telecommunication industry would be less affected by the crisis than other industries. The importance of a functioning telecommunication infrastructure was increasing over time and it became even more evident during the lockdowns. ADVA's technologies and services are critical to some of the world's most critical network infrastructures and formed the foundation for secure and reliable data traffic during the crisis. Many system-relevant functions such as emergency communication, remote working and e-learning use ADVA's technology. As a result, the demand from network operators and internet content providers was pleasingly robust. Only certain reluctance with private enterprise customers was experienced. The management board decided to publish new guidance in October, after revenues and profitability increased sequentially in the second and third quarter and visibility improved over the remainder of the 2020 financial year. The management board now expected revenues between EUR 565 and EUR 580 million and a pro forma operating income margin between 5% and 6%.

ADVA reached the guidance with revenues of EUR 565 million and a pro forma operating income margin of 6%. While revenues were at the lower end of the guidance corridor, the pro forma operating income margin met the upper end of the guidance corridor.

The opposing trends in revenues and profitability were partly due to the further weakening of the US dollar against the euro, which was particularly noticeable in the second half of the year. Nonetheless, total revenues increased by 1.5% compared to the previous year.

At the beginning of the financial year, the company suffered high losses due to additional costs of maintaining the supply chain, shifting high-margin revenues to the following quarter and additional expenses resulting from the cost-reduction program. However, ADVA was able to make up for these effects in the second quarter and further increased profitability over the course of the year. The cost improvement measures took effect and demand for higher-margin products increased. The software and service stake in particular grew to over 20% of total sales for the first time. The network synchronization technology area also had a successful business year. The pro forma operating income also benefited from less travel and marketing activities and a weaker US dollar. Finally, the pro forma operating income margin increased by 1.5 percentage points compared to the previous year. In absolute terms, the pro forma operating income was EUR 33.8 million, an impressive increase of 36.4% compared to 2019 (2019: EUR 24.8 million).

Net debt stood at EUR 25.5 million at the end of 2020, a significant improvement of 58,2% compared to 2019 (EUR 61.1 million). This exceeded the original goal of reducing net debt in the single-digit percentage range. Moreover, excluding the application of IFRS 16, the company achieved a net liquidity position of EUR 2.3 million. This is particularly due to significantly higher profitability compared to 2019. In addition, the company made scheduled repayments of EUR 18.5 million and fully repaid the revolving credit facility, which, as risk mitigation measure had been fully utilized by EUR 10.0 million in the meantime. Consequently. With a leverage below one ADVA improved its very solid balance sheet position and financial headroom. Against this background, the management decided in January 2021 to prematurely terminate the KfW credit line for the amount of EUR 40.0 million.

As for customer satisfaction, ADVA uses the net promoter score to track progress. With just over 50%, the company was able to significantly improve the value from the previous year (44%) and was again able to exceed the high positive level of at least 40% aimed at by the management board. Customer.guru (https://customer.guru/net-promoter-score) - a net promoter score survey and benchmarking tool - provides estimates for ADVA’s peer group. According to this portal, ADVA’s net promoter score is more than 10 percentage points higher than the best score in this peer group.

Looking at the Covid-19 pandemic, economic experts expect the economy to recover in the course of the second quarter of 2021 and assume a sufficient immunization of the population through the vaccination measures from autumn at the earliest. Nevertheless, the medium and long-term consequences for individual economies cannot yet be assessed. Consequently, the risks to supply chains and on the demand side will remain. However, the current crisis substantially changed the view of the importance and relevance of various industries and has shown that high-performance communication networks are systemically relevant. Politics and business recognized that communication infrastructure plays an essential role in solving major social and economic problems and in shaping a sustainable future. ADVA is the only remaining European specialist in optical transmission technology and network synchronization. Growing security concerns with foreign manufacturers have created new opportunities and unique selling points for ADVA that will further strengthen the company's market position in the future. With the investments made in recent years, ADVA’s technological set-up is well prepared for the transformation of networks with respect to cloud, mobility, 5G, automation and security. In addition to the high-quality performance features of optical data transmission, precise network synchronization technology and programmable cloud access solutions, the service portfolio also provides increasing added value. ADVA develops, manufactures and supplies communication technology for the digital future. The addressable market for ADVA is expanding steadily and reached approximately USD 16 billion in 2020. According to estimates by industry analysts, it will grow to USD 17 billion by 2024, while the possible additional opportunities resulting from the shift from Asian suppliers (especially Huawei) to European suppliers are not quantified (see also the chapter “market, target customers and growth drivers”).

The company established a mid-term strategy aiming on accelerating sales growth and further increasing profitability. The strategy is based on three pillars:

- Increase software and service contribution from currently 23% to over 30%
- Expansion into new markets with differentiated solutions in the areas of network synchronization and Ensemble software solutions. This will result in an increase in revenues with customers outside the group of traditional communication service providers from currently 30% to 40% of total revenues.
- Verticalization in technological value creation with a 15% revenue contribution from the business with optical submodules.

In combination with continued stringent cost management, the management board expects in the mid-term a stable pro forma operating income margin in the high single-digit percentage range.

Against this background and taking into account the planning parameters, personnel and exchange rates, the management board expects annual revenues of between EUR 580 and 610 million for 2021. In addition, the management board expects to further increase pro forma operating income and expects a margin of between 6% and 9% in relation to revenues for 2021. At the end of 2020, net debt after the application of IFRS 16 accounting standards reached EUR 25.5 million. 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 2021, the management board expects a net debt in the single-digit million range.

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 the 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 and opportunity report” section.

Declaration on corporate governance

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) in connection with Principle 22 of the German Corporate Governance Code in the version dated December 16, 2019, ADVA Optical Networking SE is obliged to publish a "declaration on corporate governance". ADVA publishes the "declaration on corporate governance" on its website www.adva.com (About Us / Investor Relations / Corporate Governance).

Meiningen, February 23, 2021

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, 2020

Balance sheet on December 31, 2020

(in thousands of EUR)	Note	2020	2020	2019
Assets				
A. Fixed Assets	3.1.1			
I. Intangible assets				
1. Self-produced industrial property rights and similar rights and assets, and licenses in such rights and assets	3.1.2	101,133		98,506
2. Purchased concessions, industrial property rights acquired for consideration and similar rights and assets	3.1.3	15,509		17,360
3. Goodwill		0		3
			116,642	**115,869**
II. Property, plant and equipment				
1. Land, land rights and buildings, including buildings on third-party land		4,468		4,916
2. Plant and machinery		6,708		6,846
3. Other equipment, furniture and fixtures		714		713
4. Payments on account and assets under construction		149		288
			12,039	**12,763**
III. Financial assets				
1. Shares in affiliated companies	3.1.4	30,437		27,629
2. Loans to affiliated companies	3.1.5	45,857		15,407
3. Investments	3.1.6	0		0
			76,294	**43,036**
B. Current Assets				
I. Inventories				
1. Raw materials, consumables and supplies		12,902		17,181
2. Work in process		1,047		1,410
3. Finished goods and merchandise		35,384		34,479
4. Payments on account		4,897		3,945
			54,230	57,015
II. Receivables and other assets				
1. Trade accounts receivable	3.1.7	50,372		38,077
2. Receivables from affiliated companies	3.1.8	25,857		27,700
3. Other current assets	3.1.9	1,053		3,900
			77,282	**69,677**
III. Cash at banks and in hand			**18,408**	**14,890**
C. Prepaid expenses			**1,030**	**1,994**
Total assets			**355,925**	**315,244**

Balance sheet on December 31, 2020

(in thousands of EUR)	Note	2020	2020	2019
Equity and liabilities				
A. Equity	3.1.10			
I. Subscribed capital		50,497		50,182
(Conditional capital EUR 4,703 thousand)				
(prior year: EUR 4,742 thousand)				
II. Capital reserve		36,612		35,654
III. Retained earnings				
Other retained earnings		2,551		2,551
IV. Accumulated profit		96,155		41,492
			185,815	**129,879**
B. Provisions				
1. Provisions for pension and similar obligations	3.1.11	907		833
2. Tax provisions	3.1.12	635		85
3. Other provisions	3.1.13	11,963		11,771
			13,505	**12,689**
C. Liabilities	3.1.14			
1. Liabilities to banks		72,674		81,500
2. Advance payments received		44		110
3. Trade accounts payable		16,273		30,482
4. Liabilities to affiliated companies	3.1.8	35,850		35,922
5. Other liabilities		9,809		7,134
thereof for taxes		*912*		*878*
thereof for social security		*193*		*260*
			134,650	**155,148**
D. Deferred income			**11,026**	**6,504**
E. Deferred tax liabilities	3.1.15		**10,929**	**11,024**
Total equity and liabilities			**355,925**	**315,244**

Income statement for the period from January 1 to December 31, 2020

(in thousands of EUR)	Note	2020	2019
1. Revenues	3.2.1	378,336	359,304
2. Cost of goods sold	3.2.2/3.2.3	231,596	222,010
3. Gross profit		**146,740**	**137,294**
4. Selling and marketing expenses	3.2.3	28,779	38,641
5. General administrative expenses	3.2.3	18,410	15,220
6. Research and development expenses	3.1.2/3.2.3	92,671	91,820
7. Other operating income	3.2.4	8,787	7,605
thereof currency translation		*6,258*	*5,493*
8. Other operating expenses	3.2.5	8,573	5,971
thereof currency translation		*7,544*	*5,421*
9. Operating income (EBIT)		**7,094**	**-6,753**
10. Income from investments	3.2.6	49,791	4,040
thereof from affiliated companies		*49,791*	*4,040*
11. Income from other securities and loans classified as financial assets		308	1,200
thereof from affiliated companies		*308*	*1,200*
12. Other interest and similar income		0	2
thereof interest income from discounting		-	-
13. Amortization from financial assets	3.2.7	-	1,907
14. Interest and similar expenses		1,351	968
thereof interest expenses from compounding		*50*	*73*
15. Tax expense (benefit) net	3.2.8	1,168	1,957
thereof deferred taxes		*-95*	*1,613*
		47,580	**410**
16. Result after taxes		**54,674**	**-6,343**
17. Other tax expense (benefit), net		11	4
18. Net profit / loss for the year		**54,663**	**-6,347**
19. Profit carried forward		41,492	47,839
20. Accumulated profit		**96,155**	**41,492**

Notes to the financial statements 2020

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 2020 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, 2020, were authorized for issue in accordance with a resolution of the management board on February 23, 2021.

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

Low-value assets will not be fully expensed in the year of acquisition. The option to expense costs immediately has not been used. Self-constructed tangible assets are capitalized at production costs including appropriate material and production overhead costs. General administrative expenses are 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 at their acquisition and production costs if the production of these products is likely to generate economic benefit for ADVA.

Capitalized development expenses are included in the balance sheet position self-constructed industrial and similar rights and assets, and licenses in such rights and assets. In the event that the requirements for capitalization are not met the expenses are recognized in the income statement in the year they arise.

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 acquisition cost 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.

In 2020, provisions for the advance replacement of non-functioning parts were reclassified in the amount of EUR 1,237 thousand to impairments on inventories in order to show them as a value adjustment to inventories. A corresponding reclassification already in 2019 would have led to a EUR 910 thousand lower disclosure under inventories.

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. The bad debt allowance is calculated in accordance with the International Financial Reporting Standard (IFRS) 9. 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 seven years.

In 2020, provisions in the amount of EUR 1,237 thousand for the advance replacement of non-functioning parts were reclassified to impairments on inventories in order to show them as value adjustments to inventories. A corresponding reclassification already in 2019 would have led to a EUR 910 thousand lower disclosure in provisions.

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.

2.3. Currency translation
Conversion into euro 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 Dec. 31., 2020
USD	1.22810
GBP	0.90307
CHF	1.08570
PLN	4.55650
ILS	3.94290
CNY	8.01340
SGD	1.62570
HKD	9.52100
INR	89.88240
BRL	6.35740
JPY	126.57000
SEK	10.05680
AUD	1.60250

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 are estimated according to contractual obligations and past experiences and 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 and rebates 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, 2020, is disclosed in the following schedule:

(in thousands of EUR)	Accumulated Historic cost					Accumulated depreciation				Net book values	
	Jan. 1, 2020	Additions	Disposals/ retirements	Reclassi-fications	Dec. 31, 2020	Jan. 1, 2020	Additions*	Disposals/ retirements	Dec. 31, 2020	Dec. 31, 2020	Dec. 31, 2019
I. Intangible assets											
1. Self-constructed industrial and similar rights and assets, and licenses in such rights and assets	223,315	39,967**	-	-	263,282	124,809	37,340	-	162,149	101,133	98,506
2. Purchased industrial and similar rights and assets, and licenses in such rights and assets	61,654	4,627	2,712	273	63,842	44,294	6,751	2,712	48,333	15,509	17,360
3. Goodwill	284	-	-	-	284	281	3	-	284	-	3
	285,253	**44,594**	**2,712**	**273**	**327,408**	**169,384**	**44,094**	**2,712**	**210,766**	**116,642**	**115,869**
II. Property, plant and equipment											
1. Land, land rights and buildings including buildings on third-party land	11,142	3	-	-	11,145	6,226	451	-	6,677	4,468	4,916
2. Plant and machinery	39,725	3,002	249	-	42,478	32,879	3,065	174	35,770	6,708	6,846
3. Other equipment, furniture and fixtures	5,740	368	72	-	6,036	5,027	367	72	5,322	714	713
4. Payments on account and assets under construction	288	134	-	-273	149	-	-	-	-	149	288
	56,895	**3,507**	**321**	**-273**	**59,808**	**44,132**	**3,883**	**246**	**47,769**	**12,039**	**12,763**
III. Financial assets											
1. Shares in affiliated companies	28,162	2,808	-	-	30,970	533	-	-	533	30,437	27,629
2. Loans to affiliated companies	21,493	46,448***	15,998	-	51,943	6,086	-	-	6,086	45,857	15,407
3. Investments	1,374	-	-	-	1,374	1,374	-	-	1,374	-	-
	51,029	**49,256**	**15,998**	**-**	**84,287**	**7,993**	**-**	**-**	**7,993**	**76,294**	**43,036**
Total	**393,177**	**97,357**	**19,031**	**-**	**471,503**	**221,509**	**47,977**	**2,958**	**266,528**	**204,975**	**171,668**

*Thereof depreciation of additions EUR 5,553 thousand in period 2020.
**In 2020, borrowing costs of EUR 426 thousand (2019: EUR 437 thousand) related to development projects with an expected duration of more than twelve months were capitalized. Borrowing costs were capitalized applying the weighted average rate of the financial liabilities of 1.8%
***Thereof EUR 1,229 thousand of additions and EUR 940 thousand of disposals from foreign currency valuation of loans issued in ILS, USD, CAD and PLN.

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 as well as capitalized development projects are included in the table below:

(in thousands of EUR)	2020	2019
Research expenses	2,542	2,942
Development expenses	130,096	131,321
Research & Development expenses	132,638	134,263
Thereof capitalized development projects	-39,967	-42,443
Total research & development expenses in the income statement	**92,671**	**91,820**

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)	Dec. 31, 2020	Dec. 31, 2019
Customer Relationship MRV	5,946	7,378
Other Software licenses	4,522	2,332
Purchased technology MRV Israel	4,291	5,342
Purchased software technology Overture	750	1,443
Purchased technology Ringo	-	444
Purchased technology Acacia	-	169
Purchased technology FiSEC	-	121
Purchased hardware technology Overture	-	88
Brand Ensemble	-	43
Total	**15,509**	**17,360**

3.1.4. Shares in affiliated companies

On December 31, 2020, ADVA Optical Networking SE held directly or indirectly shares in 19 (December 31, 2019: 24) affiliated companies as follows:

(in thousands)			Equity	Net income/loss (-)	Share in Equity owned directly	Share in Equity owned indirectly
ADVA Optical Networking North America Inc. Norcross/Atlanta (Georgia), USA	USD	*	99,273	15,045	-	100%
ADVA Optical Networking Ltd. York, United Kingdom	GBP	**	14,664	1,111	100%	-
Oscilloquartz SA Saint-Blaise, Switzerland	CHF	*	3,806	828	100%	-
ADVA Optical Networking sp. z o.o. Gdynia, Poland	PLN	**	33,949	3,338	100%	-
ADVA Optical Networking Israel Ltd. Ra'anana/Tel Aviv, Israel	ILS	*	-82,425	10,061	100%	-
ADVA Optical Networking (Shenzhen) Ltd. Shenzhen, China	CNY	**	65,710	5,691	100%	-
Oscilloquartz Finland Oy Espoo, Finland	EUR	*	141	37	100%	-
ADVA IT Solutions Pvt. Ltd. Bangalore, India	INR	*	66,175	-630	-	100%
ADVA Optical Networking Trading (Shenzhen) Ltd. Shenzhen, China	USD	*	1,479	208	-	100%
ADVA Optical Networking Singapore Pte. Ltd. Singapore	SGD	**	3,945	181	100%	-
ADVA Optical Networking Hongkong Ltd. Hongkong, China	HKD	**	5,955	786	-	100%
ADVA Optical Networking (India) Private Ltd. Gurgaon, India	INR	*	149,433	13,585	1%	99%
ADVA Optical Networking Serviços Brazil Ltda. São Paulo, Brazil	BRL	*	2,126	259	99%	1%
ADVA Optical Networking Corp. Tokyo, Japan	JPY	*	88,856	1,975	100%	-
ADVA Optical Networking AB Kista/Stockholm, Sweden	SEK	**	2,208	142	100%	-
ADVA NA Holdings Inc. Norcross/Atlanta (Georgia), USA	USD	*	60,715	49,999	100%	-
ADVA Optical Networking Pty Ltd. Sydney, (New South Wales), Australia	AUD	*	1,553	24	-	100%
ADVA Optical Networking B.V. LA Etten-Leur, Netherlands	EUR	*	272	15	100%	-
ADVA Canada Inc., Ottawa, Canada	CAD	*	148	148	100%	-

* Prepared in accordance with the International Financial Reporting Standards (IFRS) for the period ended December 31, 2020
** Prepared in accordance with local commercial law for the period ended December 31, 2019

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)	2020	2019
ADVA Optical Networking Israel Ltd. Ra'anana, Israel	3,424	3,484
ADVA Optical Networking North America Inc.		
Norcross/Atlanta (Georgia), USA	40,713	11,923
ADVA Canada Inc.		
Ottawa, Canada	1,720	-
Total on Dec. 31	**45,857**	**15,407**

3.1.6. Investments

On December 31, 2020, ADVA Optical Networking SE held 7.1% (prior year: 7.1%) of the shares of Saguna Networks Ltd., Nesher, Israel. In 2019, the investment of 7.1% in the shares of Saguna Networks Ltd. Nesher, Israel, held by ADVA Optical Networking SE has been fully impaired as ADVA does not expect the investment to be recoverable.

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.

In the current financial year, the company did not sell any receivables in relation to a factoring agreement entered in to in 2019 (prior year: EUR 3,865 thousand). The interest expenses associated with this agreement amounts to EUR 0 thousand in 2020 (prior year: EUR 2 thousand).

3.1.8. Receivables from and liabilities to affiliated companies

Receivables from affiliated companies include trade receivables for goods and services of EUR 25,857 thousand (prior year: EUR 27,700 thousand). Accounts receivables from affiliated companies are due within one year.

Liabilities to affiliated companies include trade payables for goods and services of EUR 35,850 thousand (prior year: EUR 35,922 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 228 thousand (prior year: EUR 228 thousand) for rental deposits which are due within five years.

3.1.10. Equity

Common stock and share capital

On December 31, 2020, ADVA Optical Networking SE had issued 50,496,692 (prior year: 50,181,966) 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, 314,726 shares were issued to employees of the company and its affiliates out of conditional capital in 2020 (prior year: 251,011 shares). The par value of EUR 315 thousand (prior year: EUR 251 thousand) was appropriated to share capital, whereas the premium resulting from the exercise of stock options of EUR 958 thousand (prior year: EUR 1,006 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 21, 2024, only once or in successive tranches by a maximum of EUR 24,965 thousand by issuing new common shares in return for cash or non-cash contributions (conditional capital 2019/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 May 13, 2020, resolved the increase of conditional capital 2011/I by EUR 276 thousand to EUR 5,018 thousand. The resolution was registered in the commercial register on May 28, 2020.

Considering the above-described capital transactions, the total conditional capital on December 31, 2020, amounts to EUR 4,703 thousand.

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

(in thousands of EUR)	Share capital	Conditional capital 2019/I	Conditional capital 2011/I
Jan. 1, 2020	**50,182**	**24,965**	**4,742**
Changes due to annual shareholder's meeting resolutions	-	-	276
Stock options exercised	315	-	-315
Dec. 31, 2020	**50,497**	**24,965**	**4,703**

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, 3,047,567 stock options were outstanding per December 31, 2020.

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 41,492 thousand (prior year: EUR 47,839 thousand) and the net profit for 2020 of EUR 54,663 thousand (prior year: net loss EUR 6,347 thousand) resulted in an accumulated profit of EUR 96,155 thousand (prior year: EUR 41,492 thousand) on December 31, 2020. 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:

(in thousands of EUR)	2020	2019
Net of capitalized development projects and its deferred tax liabilities	71,926	70,057
Change of the average interest rate from pension provisions*	65	67
Total profits blocked for dividend distribution	**71,991**	**70,124**

* Pursuant to the HGB, the valuation of pension obligations changed from seven to ten 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

Date of change in investment	Name of investment owner	Threshold limit	Share of voting rights
Jan. 20, 2021	Teleios Capital Partners LLC, Zug, Switzerland	below 15%	12.54%
Jan. 20, 2021	Janus Henderson Group Plc, Saint Helier, Jersey	above 3%	3.29%
Jul. 20, 2020	DNB Asset Management S.A., Luxembourg, Luxembourg	below 3%	2.99%
May 7, 2020	Dimensional Holdings Inc., Austin, Texas, USA	above 3%	4.46%
Feb. 27, 2020	Highclere International Investors Smaller Companies Fund, Westport, USA	above 3%	3.01%
Sep. 25, 2019	Morgan Stanley, Wilmington, Delaware, USA	below 3%	0.06%
Sep. 23, 2019	Duke University, Durham, North Carolina, USA	below 3%	0.00%
Jul. 30, 2019	DNB Asset Management AS, Oslo, Norway	above 5%	5.02%
Jan. 17, 2019	Internationale Kapitalanlagegesellschaft mit beschränkter Haftung, Düsseldorf, Germany	below 3%	2.86%
Nov. 30, 2017	EGORA Holding GmbH, Planegg, Germany	below 15%	14.99%
Jul. 28, 2017	The Goldman Sachs Group, Inc., New York, USA	above 3%	4.39%
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%

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 that results from an actual term of 14 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 dependents.

Analogous to defined benefit plans, the present value of the defined benefit obligations was calculated in accordance with international accounting standards (IFRS/IAS 19) using the projected unit credit method (PUC method). There are no separate assets to cover the pension obligations. This is a direct commitment by the company to the eligible employees.

The following parameters were applied to calculate the present value of the entitlement:

(in %)	Dec. 31, 2020	Dec. 31, 2019
Discount rate	2.25	2.59
Salary level trend	2.00	2.00
Fluctuation	0.00	0.00

No pension adjustments were taken into account when determining the present value and therefore no pension trend was applied. 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)	2020	2019
Present value of the obligation on Jan. 1	**833**	**570**
Interest expense	21	19
Current service cost	90	56
Disbursements to employees	-70	-36
Losses arising from changes in financial assumptions	29	54
Other changes	4	170
Present value of the obligation on Dec. 31	**907**	**833**

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 seven to ten 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 65 thousand (prior year: EUR 67 thousand) was calculated 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 577 thousand (previous year: EUR 264 thousand).

3.1.12. Tax provisions

Tax provisions of EUR 635 thousand (prior year: EUR 85 thousand) include expected tax payments due to fiscal authorities applying current tax rates and tax legislations.

3.1.13. Other provisions

On financial year end, other provisions can be analyzed as follows:

(in thousands of EUR)	2020	2019
Personnel provisions	1,372	1,877
Invoices not yet received	7,622	5,849
Provision for tax audit	156	156
Vacation provisions	392	472
Warranty provisions	1,652	2,793
Derivative	396	336
Audit fees	373	288
Total on Dec. 31	**11,963**	**11,771**

3.1.14. Liabilities

The maturity of the liabilities can be analyzed as follows:

(in thousands of EUR)		Maturity			
on December 31, 2020	Total	within one year	more than one year	thereof between one and five years	thereof more than five years
Liabilities to banks	72,674	25,214	47,460	47,460	-
Advance payments received	44	44	-	-	-
Trade accounts payable	16,273	16,273	-	-	-
Payables to affiliated companies	35,850	35,850	-	-	-
Other liabilities	9,809	8,509	1,300	1,300	-
thereof taxes	*912*	*912*	-	-	-
thereof social security	*193*	*193*	-	-	-
Total liabilities	**134,650**	**85,890**	**48,760**	**48,760**	-

(in thousands of EUR)		Maturity			
on December 31, 2019	Total	within one year	more than one year	thereof between one and five years	thereof more than five years
Liabilities to banks	81,500	19,221	62,279	62,279	-
Advance payments received	110	110	-	-	-
Trade accounts payable	30,482	30,482	-	-	-
Payables to affiliated companies	35,922	35,922	-	-	-
Other liabilities	7,134	7,134	-	-	-
thereof taxes	*878*	*878*	-	-	-
thereof social security	*260*	*260*	-	-	-
Total liabilities	**155,148**	**92,869**	**62,279**	**62,279**	-

Liabilities to credit institutions include financial liabilities from a factoring agreement in the amount of EUR 9,722 thousand (previous year: EUR 0 thousand). Due to the legal assignment of the receivables, this amount is fully secured. The trade receivables sold under this contract continue to be accounted for at ADVA, as the material default risk is not transferred despite the sale until the receivables are settled.

Other liabilities as at 31 December 2020 mainly consist of EUR 5,381 thousand (previous year: EUR 4,081 thousand) for bonus payments to employees and members of the Executive Board, EUR 2,566 thousand (previous year: EUR 562 thousand) for liabilities from licensing agreements, EUR 912 thousand (previous year: EUR 878 thousand) for taxes and payable and liabilities from funded research and development projects of EUR 558 thousand (previous year: EUR 704 thousand).

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 28.88% was applied.

Balance sheet position	Deferred tax category
Self-constructed industrial and similar rights and assets, and licenses in such rights and assets	passive
Goodwill	active
Disagio	active
Purchased industrial and similar rights and assets, and licenses in such rights and assets	active
Inventories	passive
Loans to affiliated companies	active
Provisions	active
Trade accounts payable and liabilities to affiliated companies	passive
Trade accounts receivables and receivables to affiliated companies	active

The corporate income tax loss carry forward on December 31, 2020, amounts to EUR 177,992 thousand (prior year: EUR 184,175 thousand) and the trade income tax loss carry forward amounts to EUR 167,987 thousand (prior year: EUR 176,829 thousand).

Above-listed temporary differences return 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 17,838 thousand (prior year: EUR 17,980 thousand) on tax losses of EUR 61,765 thousand (prior year: EUR 62,258 thousand) which can be carried forward indefinitely.

Total deferred tax assets amount to EUR 20,348 thousand (prior year: EUR 19,954 thousand) and are offset against deferred tax liabilities of EUR 31,277 thousand (prior year: EUR 30,978 thousand).

After netting, the company recognized a deferred tax liability in the amount of EUR 10,929 thousand (prior year: EUR 11,024 thousand)

(in thousands of EUR)	2020	2019
Deferred tax assets	20,348	19,954
Deferred tax liabilities	31,277	30,978

3.2. Income statement

3.2.1. Revenues

In 2020 and 2019, revenues included EUR 34,682 thousand and EUR 29,842 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)	2020	2019
Germany	114,940	101,618
Rest of Europe, Middle East and Africa	141,642	144,239
Americas	75,869	77,299
Asia-Pacific	45,885	36,148
Total	**378,336**	**359,304**

3.2.2. Material expenses

Cost of goods sold includes the material expenses of the company, classified pursuant to section 275 paragraph 2, number 5 HGB. Material expenses totaled EUR 170,129 thousand in the financial year 2020 (prior year: EUR 169,075 thousand). Therefore, EUR 167,487 thousand (prior year: EUR 166,697 thousand) relate to expenses for raw materials and supplies and EUR 2,642 thousand (prior year: EUR 2,378 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 2020, personnel expenses of the company, classified pursuant to section 275 paragraph 2 number 6 HGB, amounted to EUR 50,672 thousand (prior year: EUR 50,044 thousand). Thereof EUR 43,268 thousand (prior year: EUR 42,977 thousand) were related to salaries and wages and EUR 7,404 thousand (prior year: EUR 7,067 thousand) were related to costs for social security. For pension plans, EUR 71 thousand (prior year: EUR 205 thousand) were recognized in 2020.

3.2.4. Other operating income

Other operating income can be analyzed as follows:

(in thousands of EUR)	**2020**	**2019**
Income from currency translation	6,258	5,493
Grants received for research projects	1,514	775
Other	1,015	1,337
Other operating income	**8,787**	**7,605**

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

(in thousands of EUR)	**2020**	**2019**
Income from release of provisions	210	683
Income from derecognition of liabilities	324	331
Income from release of specific provisions for trade receivables	1	28
Others	271	117
Income for other accounting periods	**806**	**1,159**

3.2.5. Other operating expenses

Other operating expenses can be analyzed as follows

(in thousands of EUR)	**2020**	**2019**
Expenses from currency translations	7,544	5,421
Other*	1,029	550
Other operating expenses	**8,573**	**5,971**

*This included expenses for other accounting periods with an amount of EUR 921 thousand in 2020 (prior year: EUR 110 thousand) which essentially results from the derecognition of another asset.

3.2.6. Income from investments

The Income from investments of EUR 49,791 thousand (previous year: EUR 4,040 thousand) mainly results from dividend distributions of ADVA Optical Networking North America Inc. (Norcross/Atlanta, USA) with EUR 40,713 thousand, ADVA Optical Networking Ltd. (York, United Kingdom) with EUR 4,497 thousand, and ADVA Optical Networking (Shenzhen) Ltd. (Shenzhen, China) with EUR 4,581 thousand.

3.2.7. Amortization from financial assets

Certain Financial Assets have been deemed unrecognizable and have been impaired as follows:

(in thousands of EUR)	**2020**	**2019**
Impairment of financial assets of affiliated companies	-	533
Impairment of financial assets of companies with participating interests	-	1,374
Amortization from financial assets	**-**	**1,907**

3.2.8. Income taxes

The company's income tax comprises corporate income tax (Körperschaftssteuer), 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 28.88% (prior year: 28.88%) to effective income tax expense (benefit), net, is presented below:

(in thousands of EUR)	**2020**	**2019**
Result before income tax	**55,842**	**-4,390**
Expected statutory taxes	**16,127**	**-1,268**
Taxes from prior years	91	-113
Tax-effects from unrecognized tax loss carryforwards	-1,929	3,143
Adjustments of deferred taxes from prior years	58	-
Non-deductible expenses and tax-free income	756	19
Tax-free income from dividends	-14,380	-1,167
Permanent deviations from the balance sheet comparison	-15	681
Foreign tax expense	360	457
Effect form trade tax additions	102	135
Effect form trade tax reduction	-2	-9
Change in deferred taxes due to tax rate change	-	79
Other differences	-	-
Recognized income taxes	**1,168**	**1,957**
Effective tax rate	**2.1%**	**-44.5%**

Taxes on income include deferred tax income of EUR 95 thousand (previous year: deferred tax expense of EUR 1,613 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	1,447	657	790	790	-
Obligations from car leasing agreements	1,502	758	744	744	-
Purchase agreements	33,247	29,231	4,016	4,016	-
Other	1,138	1,138	-	-	-
Total on Dec. 31	**37,334**	**31,784**	**5,550**	**5,550**	**-**

The company granted an irrevocable guarantee of GBP 1,500 thousand (EUR 1,661 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 615 thousand) for liabilities of ADVA Optical Networking Singapore Pte. Ltd., Singapore, and a guarantee of CHF 1,000 thousand (EUR 921 thousand) for liabilities of Oscilloquartz SA, Saint-Blaise, Switzerland.

The use of these guarantees is unlikely, as all subsidiaries are controlled 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 2021. In 2020, unrealized losses for these foreign currency hedges amounted to EUR 396 thousand which are recognized as other provision.

The forward exchange transactions that matured in the financial year resulted in a negative net result of EUR 762 thousand.

Declaration about fair value

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

(in thousands of EUR)	Fair value		Nominal value	
	2020	2019	2020	2019
Forward rate agreements	-396	-336	13,745	14,951

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. 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 and chief operating 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 and sales officer	Raleigh North Carolina, USA	-

4.3.2. 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
Michael Aquino	Peachtree City, Georgia, USA	Consultant	-

4.4. Compensation of the management board

In 2020 and 2019, 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 section 285 paragraph 1 number 9a HGB (German statutory regulations) was EUR 2,224 thousand in 2020 and EUR 1,695 thousand in 2019.

The value of benefits granted to the individual board members analyzes as follows:

(in thousands of EUR)	Fixed	Bonus (variable)	Issuance of stock options (variable)	Total 2020	Total 2019
Brian Protiva Chief executive officer	260	335	69	**664**	**468**
Christoph Glingener Chief technology officer and chief operating officer	263	243	69	**575**	**413**
Ulrich Dopfer Chief financial officer	267	219	-	**486**	**399**
Scott St. John Chief marketing and sales officer	267	232	-	**499**	**415**

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 amounting to EUR 578 thousand (prior year: EUR 356 thousand) that are reported as other liabilities on December 31, 2020.

Additionally, a long-term variable compensation amounting to EUR 808 thousand total was agreed. This long-term variable compensation focusses on the sustainable development of the company and 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.

No loans were granted to the members of the Executive Board in 2020 and 2019. As at 31 December 2020, there was a receivable of EUR 6 thousand (previous year: EUR 0 thousand) from a member of the Executive Board, which was repaid in January 2021.

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

	Shares		Stock options	
	2020	2019	2020	2019
Brian Protiva Chief executive officer	401,030	401,030	275,000	285,000
Christoph Glingener Chief technology officer and chief operating officer	-	-	195,000	275,000
Ulrich Dopfer Chief financial officer	500	500	181,667	256,667
Scott St. John Chief marketing and sales officer	-	-	250,000	250,000

On December 31, 2020 and 2019, the options to members of the management board were granted solely out of Plan XIVa and Plan XVIa. The option rights authorize the management board to purchase the said number of common shares in the company once the qualifying period has elapsed. Both plans include a profit limit of EUR 20.00 per option.

The strike price for these option rights is

- EUR 5.15 for 75,000 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,
- EUR 5.76 for 100,000 options granted on May 15, 2020, respectively.

The management board received cash inflows of EUR 687 thousand from the exercise of stock options in 2020 (2019: EUR 118 thousand).

Further information on compensation of the management board is included in the remuneration report in the management Report of the group.

4.5. Compensation of the supervisory board

The fixed compensation to be paid to the supervisory board for 2020 and 2019 totaled EUR 235 thousand, respectively. This amount analyzes across the individual board members as follows:

(in thousands of EUR)	2020	2019
Nikos Theodosopoulos Chairman	100	100
Johanna Hey Vice chairwoman	90	90
Michael Aquino	45	45

The fixed compensation for the supervisory board of ADVA Optical Networking SE is paid out in quarterly installments. The fixed compensation for Q4 2020 amounting to EUR 59 thousand was paid out in January 2021 and is included in other liabilities.

On December 31, 2020, no shares or stock options were held by members of the supervisory board (December 31, 2019: none).

4.6. Employees

The company employed an average of 573 employees and 21 apprentices (prior year: 562 employees and 24 apprentices), divided into the following functional areas:

Employees per functional area	2020	2019
Purchasing and production	161	160
Sales, marketing and service	130	128
Management and administration	95	89
Research and development	187	185
Apprentices	21	24
Total	**594**	**586**

4.7. Auditor's fees

The total fee for the auditor is broken down separately in the consolidated financial statements. In 2020, the other services relate in particular to support services within the scope of the separate non-financial report.

4.8. 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.

4.9. Proposal for the appropriation of the accumulated profit

The Management Board of ADVA Optical Networking SE has decided:

It is proposed to the General Meeting to use the accumulated profit („Bilanzgewinn") of ADVA Optical Networking SE as shown in the adopted annual financial statements of as of 31 December 2020 for fiscal year 2020 in the amount of EUR 96,155,192.61 is being carried forward in full into a new account.

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, 2020, or its financial performance for 2020. Similarly, there were no events considered material to disclose.

6. 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.adva.com).

Meiningen February 23, 2021

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 23, 2021

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 December 31, 2020, and the statement of profit and loss for the financial year from January 1 to December 31, 2020, and notes to the financial statements, including the presentation of the recognition and measurement policies. 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 January 1 to December 31, 2020. 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 December 31, 2020 and of its financial performance for the financial year from January 1 to December 31, 2020 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 § 322 Abs. 3 Satz 1 HGB, 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 January 1 to December 31, 2020. 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 Accounting treatment of internally generated intangible assets

❷ Valuation of shares in affiliated companies

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 Accounting treatment of internally generated intangible assets

① In the Company's annual financial statements, internally generated industrial property rights and similar rights and assets are recognized in the amount of TEUR 101,133 under the balance-sheet item „Intangible assets". 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 2,627 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.

❷ Valuation of shares in affiliated companies

① In the Company's annual financial statements, shares in affiliated companies are disclosed in the amount of TEUR 30,437 under the balance-sheet item "Financial assets".

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, an impairment loss was not recognized 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.

Other Information

The executive directors are responsible for the other information. The other information comprises the following non-audited parts of the management report:

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

- the separate non-financial report pursuant to § 289b Abs. 3 HGB and § 315b Abs. 3 HGB

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

Assurance Report in Accordance with § 317 Abs. 3b HGB on the Electronic Reproduction of the Annual Financial Statements and the Management Report Prepared for Publication Purposes

Reasonable Assurance Conclusion

We have performed an assurance engagement in accordance with § 317 Abs. 3b HGB to obtain reasonable assurance about whether the reproduction of the annual financial statements and the management report (hereinafter the "ESEF documents") contained in the attached electronic file [ADVA_SE_JA+LB_ESEF-2021-02-23.zip] and prepared for publication purposes complies in all material respects with the requirements of § 328 Abs. 1 HGB for the electronic reporting format ("ESEF format"). In accordance with German legal requirements, this assurance engagement only extends to the conversion of the information contained in the annual financial statements and the management report into the ESEF format and therefore relates neither to the information contained within this reproduction nor to any other information contained in the above-mentioned electronic file.

In our opinion, the reproduction of the annual financial statements and the management report contained in the above-mentioned attached electronic file and prepared for publication purposes complies in all material respects with the requirements of § 328 Abs. 1 HGB for the electronic reporting format. We do not express any opinion on the information contained in this reproduction nor on any other information contained in the above-mentioned electronic file beyond this reasonable assurance conclusion and our audit opinion on the accompanying annual financial statements and the accompanying management report for the financial year from January 1, 2020 to December 31, 2020 contained in the "Report on the Audit of the Annual Financial Statements and on the Management Report" above.

Basis for the Reasonable Assurance Conclusion

We conducted our assurance engagement on the reproduction of the annual financial statements and the management report contained in the above mentioned attached electronic file in accordance with § 317 Abs. 3b HGB and the Exposure Draft of IDW Assurance Standard: Assurance in Accordance with § 317 Abs. 3b HGB on the Electronic Reproduction of Financial Statements and Management Reports Prepared for Publication Purposes (ED IDW AsS 410) and the International Standard on Assurance Engagements 3000 (Revised). Accordingly, our responsibilities are further described below in the "Auditor's Responsibilities for the Assurance Engagement on the ESEF Documents" section. Our audit firm has applied the IDW Standard on Quality Management: Requirements for Quality Management in the Audit Firm (IDW QS 1).

Responsibilities of the Executive Directors and the Supervisory Board for the ESEF Documents

The executive directors of the Company are responsible for the preparation of the ESEF documents including the electronic reproduction of the annual financial statements and the management report in accordance with § 328 Abs. 1 Satz 4 Nr. 1 HGB.

In addition, the executive directors of the Company are responsible for such internal control as they have considered necessary to enable the preparation of ESEF documents that are free from material non-compliance with the requirements of § 328 Abs. 1 HGB for the electronic reporting format, whether due to fraud or error.

The executive directors of the Company are also responsible for the submission of the ESEF documents together with the auditor's report and the attached audited annual financial statements and audited management report as well as other documents to be published to the operator of the German Federal Gazette.

The supervisory board is responsible for overseeing the preparation of the ESEF documents as part of the financial reporting process.

Auditor's Responsibilities for the Assurance Engagement on the ESEF Documents

Our objective is to obtain reasonable assurance about whether the ESEF documents are free from material non-compliance with the requirements of § 328 Abs. 1 HGB, whether due to fraud or error. We exercise professional judgment and maintain professional skepticism throughout the assurance engagement. We also:

- Identify and assess the risks of material non-compliance with the requirements of § 328 Abs. 1 HGB, whether due to fraud or error, design and perform assurance procedures responsive to those risks, and obtain assurance evidence that is sufficient and appropriate to provide a basis for our assurance conclusion.

- Obtain an understanding of internal control relevant to the assurance engagement on the ESEF documents in order to design assurance procedures that are appropriate in the circumstances, but not for the purpose of expressing an assurance conclusion on the effectiveness of these controls.

- Evaluate the technical validity of the ESEF documents, i.e., whether the electronic file containing the ESEF documents meets the requirements of the Delegated Regulation (EU) 2019/815 in the version applicable as at the balance sheet date on the technical specification for this electronic file.

Evaluate whether the ESEF documents enables a XHTML reproduction with content equivalent to the audited annual financial statements and to the audited management report

Further Information pursuant to Article 10 of the EU Audit Regulation

We were elected as auditor by the annual general meeting on May 13, 2020. We were engaged by the supervisory board on November 10, 2020. 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.

Meiningen February 23, 2021

PricewaterhouseCoopers GmbH
Wirtschaftsprüfungsgesellschaft

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